



NEWSLETTER

June 2007

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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 – Kent Nelson

“The times they are a changin’”, sang Robert Zimmerman (aka Bob Dylan.) Nothing is truer in North Carolina where the state’s population is estimated to surpass 12 million by 2030, an increase of about 55% over the 8 million total in 2000. Major increases in the growth of the Raleigh, Charlotte, and Wilmington urban areas are expected to continue. What will be the impacts of this growth on fisheries and other aquatic resources? Increased demand for water, requests for inter-basin transfers, riparian habitat loss, and degraded water quality and instream habitat can be expected. It is a bleak vision from an environmental perspective, but our chapter has a role. As the question goes, “How do you eat an elephant?” “One bite at a time.” We need to be advocates for water quality, maintenance of stream flows, and riparian habitat protection. Can we succeed? Only if a significant proportion of the public recognizes the importance of environmental quality and demand that politicians preserve and enhance it. Developing public support and appreciation for aquatic resources is an important goal that can be achieved through outreach. From my perspective as an administrator with the Wildlife Resources Commission, there is no better way to instill conservation ethics than by introducing children to fishing. Recruiting anglers has a secondary benefit – fishing licenses sales translate into Sport Fish Restoration dollars which provide major support for managing state fisheries, conserving habitat, and funding cooperative research projects with universities. Expenditures by resident and non-resident anglers in North Carolina of \$459.4 M in 2001; are certainly a force to be reckoned with. Are there benefits to the chapter and aquatic resource conservation from establishing closer ties with traditional and non-traditional user groups? While picking our political battles and maintaining existing educational activities, we should look for new outreach opportunities to promote aquatic conservation. Have a great summer!

Kent Nelson

Secretary-Treasurer's Report

[Minutes of the 2007 Annual Business Meeting](#)

News from around North Carolina

Habitat Enhancement News from Hugh Barwick, Duke Energy - Duke Energy in cooperation with the NC Wildlife Resources Commission has implemented a Habitat Enhancement Program whereby government agencies, nonprofit organizations, and individuals associated with nonprofits have an opportunity to apply for funds that can be used to enhance, create, and protect fish and wildlife habitat along the Catawba River in North Carolina. This program is funded by Duke Energy and a fee charged to individuals and residential marina developers seeking permits to build piers in the Catawba River lakes. Anyone wishing to participate in this program will be required to complete an online application that details the proposed habitat enhancement project and associated costs, and submit it for evaluation to a panel of scientists that will make the final decisions regarding the project's worthiness and ultimately the amount of the monetary reward. Projects eligible for funding may fall into a wide range of categories from the planting of native vegetation to the erection of osprey platforms and wood duck boxes. Applications are currently being accepted from May 1 through July 31 for consideration in 2007. Additional details on this program and an online application are available at <http://www.duke-energy.com/lakes/habitat-enhancement-program.asp>.

Snakehead Report from Lake Wylie, submitted by Jacob Rash, NCWRC - On 17 May 2007, the perpetual issue of illegally introduced species was visited once again when an angler reported an encounter with an unusual fish from upper Lake Wylie. Upon receiving the report, biologists contacted its originator and learned of the circumstances surrounding the catch and release of the 31-in, 13-lb fish. In addition, multiple photographs were provided, which allowed NCWRC and USGS biologists to confirm that the reported fish was a northern snakehead *Channa argus* (see photograph).

Subsequent sampling efforts failed to capture the reported fish or any other snakeheads, but the NCWRC has created an outreach initiative to educate the public and solicit their assistance. A

press release was issued on 30 May 2007, which alerted media to the recent report and instructed the public on what to do if they catch a snakehead. In addition, www.ncwildlife.org contains updated information on snakeheads and directs readers to further information regarding the ills of illegally introduced fishes. Finally, instructional flyers that help anglers differentiate between bowfins and snakeheads have been posted at landings and tackle shops around Lake Wylie; these flyers also direct anglers to retain the fish, freeze it or place it on ice and contact the NCWRC.

Snakeheads are still surrounded by sensationalism, so media outlets quickly followed this story; multiple newspaper and television stories relayed the report and the NCWRC's request for assistance. Thus, we are looking forward to this summer with points of optimism: 1) public participation will serve as an effective ally in the effort to evaluate snakeheads in Lake Wylie; and 2) the public will understand the negative impacts of all illegal fish stockings.



Photograph Courtesy of Tim Stewart

Education Section News from Steve Lochmann, University of Arkansas Pine Bluff - Some time ago, I issued an invitation to play a game with the Education Section of AFS. I posed the question, "What is the largest bony fish known to science?" Hey, we're fish squeezers, we're supposed to know this sort of stuff, right?

A gut reaction for some was to suggest the whale shark *Rhincodon typus*. This could have been reinforced by the April 2006 cover story from Natural History entitled, "The Biggest Fish, Unraveling the Mysteries of the Whale Shark" (Wilson 2006). Chen et al. (1999) reported that *R. typus* can reach a maximum length of 20 m and a maximum weight of approximately 34,000 kg, but

this is not the correct answer to our question. Sharks after all, are cartilaginous, not bony fishes. Two species, *Arapaima gigas* from the Amazon and *Pangasius gigas* from the Mekong would be good guesses. They are *gigantic* by most standards. However, these two are both shorter than the oarfish *Regalecus glesne* at approximately 11 m (Eschmeyer et al. 1983) and lighter than the ocean sunfish *Mola mola* at approximately 2300 kg (Novak 1982). So what is the answer?

I hope you consider this a *thought* question, rather than a *trick* question. A clue to the answer is the phrase “known to science.” Fossilized remains of *Leedsichthys problematicus* were excavated from a clay pit in Peterborough, England beginning in June 2002. This Middle Jurassic species from the family Pachycormidae was first estimated to have grown to more than 20 m (Martill 1986). Jeff Liston, dig leader for the excavation, conservatively estimates the size of the newest specimen to be approximately 15 meters. This estimate is based on morphometric ratios, and the newly hooded Dr. Liston points out that such an estimate does not really indicate the maximum size to which *L. problematicus* could have grown. Regardless of the exact length, it seems clear that *Leedsichthys problematicus* is the largest bony fish known to science. Congratulations to those who knew the answer or took the trouble to find it!

The Education Section of the American Fisheries Society strives to improve the quality of education for fisheries students and scientists and to promote exchange of education information, techniques, and materials among educators and among educational institutions. The Section also recognizes the importance of continuing education and professional development. If you embrace these goals, perhaps you should consider becoming a part of the Education Section.

References

Chen, C.T. , K.W. Liu, and S.J. Young. 1999. Preliminary report on Taiwan's whale shark fishery. Pages 162-167 in S.L. Fowler, T. Reid, and F.A. Dipper, editors. Elasmobranch biodiversity, conservation and management. Proceedings of the International Seminar and Workshop in Sabah, Malaysia. IUCN, Gland, Switzerland.

Eschmeyer, W.N., E.S. Herald, and H. Hammann. 1983. A field guide to Pacific coast fishes of North America. Houghton Mifflin Company, Boston, Massachusetts.

Martill, D. M. 1986. The world's largest fish. *Geology Today* 2:61–63.

Novak, J. 1982. Comparison of two different methods of growth values computation illustrated on rudd scales (Pisces: Cyprinidae). *Vestník Československa Spolecnost Zoologicka* 46:25-32.

Wilson, S.G. 2006. The Biggest Fish, Unraveling the mysteries of the whale shark. *Natural History* 2006(4):42-47.

C.W. Watson Award News submitted by Fred Janssen, SDAFS – Nominations are being sought for the 2007 Clarence W. Watson Award. This annual award will be presented at the Southeastern Association of Fish and Wildlife Agencies Annual Conference in Charleston, West Virginia, October 21-24, 2007.

The Clarence W. Watson Award is the most prestigious award given in the Southeast and is presented to the career individual who, in the opinion of the Award Committee, has made the greatest contribution to wildlife or fish conservation during the previous year or years. Consideration includes research, administration, law enforcement, I&E, wildlife management, fish management, teachers, and students. Preference is given to nominees in the Southeast. The award is a mounted bronze plaque presented jointly by the Southern Division of the American Fisheries Society, the Southeastern Section of the Wildlife Society, and the Southeastern Association of Fish and Wildlife Agencies.

All southeastern U.S. fish and wildlife conservationists and other interested persons are encouraged to nominate worthy candidates. Nominations should be submitted in the format shown below and should include complete information on the candidate's background; i.e., education, training, noteworthy accomplishments, and particularly, the achievement(s) for which the nomination is being made. The nomination should include, but not be limited to, a description of the accomplishment(s), application in the state and region concerned, time involved, and the amount of aid received from associates. As much information as possible should be furnished to aid the committee in making the selection. A previously unselected nominee may be resubmitted each year.

Selection will be based on specific accomplishment(s) and other information included in the letter of nomination. Nominations should be sent to: Robert Warren, Warnell School of Forestry

and Natural Resources, University of Georgia, Athens, GA 30602; warren@warnell.uga.edu; 706-542-4741 as soon as possible, but **not later than August 1, 2007**. Electronic submissions are encouraged.

Stream Restoration News forwarded by Dani Johnson, NCSU – A new stream restoration web site is available from University of California – Berkeley: <http://restoration.ced.berkeley.edu>

The website includes links to:

- current restoration symposiums and conferences,
- independent research and dissertations related to river restoration,
- results of the California node's research in the National River Restoration Science Synthesis (NRSSS),
- recently published papers on restoration science,
- courses on and off-campus in watershed science and planning, and
- jobs, grants, and post-doctoral opportunities in the field

NCSU Fish Health News forwarded by Joe Hightower, NCSU – The information below describes a new program through NCSU's College of Veterinary Medicine. More information is available on the CVM's Environmental Medicine Consortium web site (<http://www.emc.ncsu.edu/>), and advisors should have details by the start of fall semester.

FISHERIES SCHOLAR PROGRAM APPROVED
An innovative program for attracting top students with interest in aquaculture and fisheries health into the veterinary profession received final approval by the Admissions Committee for the College of Veterinary Medicine at NCSU last week. The first program of its kind, The Aquaculture and Fisheries Scholars Program will offer early acceptance to veterinary college to top NCSU undergraduate fisheries majors interested in fish health careers. The students who participate in the innovative program will benefit from special mentoring and summer experiences. They will be selected for early acceptance based on their academic performance, and their demonstrated focus on fisheries science issues. Fisheries Scholars are guaranteed acceptance into veterinary school upon successful completion of the Pre-Vet prerequisites and by maintaining their grades through their undergraduate fisheries careers. Once in the DVM program they will continue to be mentored by both CVM and FWS mentors and will have opportunities to pursue fisheries related experiences

in their summers. The program is supported by the American Fisheries Society through their Fish Health Section.

AFS Moves to New Book Warehouse, forwarded by Dave Coughlan, Duke Energy

AFS has moved our book warehouse operation. You may now order books by contacting our new orders department operated by Books International.

5 ways to order:

AFS online bookstore: www.afsbooks.org

Phone: 703-661-1570

Fax: 703-996-1010

E-mail: bimail@presswarehouse.com

Mail: American Fisheries Society

c/o Books International

P.O. Box 605

Herndon, VA 20172

Spotlight on Students and Young Professionals

Marybeth Brey, PhD Student, NCSU -- Born in the frozen tundra of the Upper Peninsula of Michigan, this year's NCSU student subunit president has finally made it south and warmed her skin in the sun of North Carolina. Marybeth Brey grew up fishing for lake trout and salmon near her home on the shore of Lake Superior with her parents, one younger sister, two dogs and a horse. Contrary to popular belief, Marybeth is not Canadian. However, from early on her career choices and hobbies may have indicated otherwise. In another life Marybeth spent her summers as a copper mine tour guide, enlightening tourists on the joys of copper mining in a 45°F mine. Weekdays were spent in the dark of the mine while weekends were spent horseback riding, gallivanting through streams, hiking "the woods," and fishing and swimming in the "big lake." Winters were spent competitive figure skating and teaching the sport.

After realizing that the rest of the world didn't experience the 32 feet of snow a year that Eagle River, MI did, Marybeth started her journey south to Central Michigan University where she took field classes at CMU's biological station on Beaver Island in Lake Michigan. This is where her sights were finally set on a major in Ecology. After a stay as a student at Exeter University in England and a mind-lapse as a sorority girl, she graduated with her B.S. in 2003. The next year was spent as a technician for the Michigan Department of Natural Resources Great Lakes Fisheries Research Station

in Charlevoix, MI and a volunteer at the Jordan River Fish lake trout hatchery. While she conducted diet analyses of lake trout, a newfound passion for food web dynamics and invasive fish species emerged. This interest developed into a master's project in conjunction with Eastern Illinois University (Bud Fisher) and the Michigan DNR analyzing ten years of lake trout diets in Lake Michigan and the incorporation of the invasive round goby into lake trout diets. From 2004-2006 summers were spent in the "resort-town" of Charlevoix in an office with a view of the beach, and the school year was spent in the "corn-desert" of Charleston, IL organizing the department's seminar series and becoming its Distinguished Graduate Student of the Year in 2006. Marybeth finally left Illinois in August 2006 for the labs of Drs. Jim Rice and Derek Aday at North Carolina State University. Currently, Marybeth is serving as president of the AFS student subunit until 2008. Her dissertation research, conducted in collaboration with biologists from the NC WRC and Duke Energy, focuses on dynamics of the Lake Norman food web and the consequences of interactions among native and introduced fishes including alewife, threadfin shad, white perch, largemouth and spotted bass, striped bass, crappie, bluegill, and many others. If she has her way, Marybeth will graduate with her Ph.D. by 2011. Some day she hopes to grow up and have a "real job" in academia.



*Marybeth Brey with a nice lake trout
– is that Lake Norman?*

Meetings of Interest

137th Annual Meeting of the American Fisheries Society– Sept. 2-6, 2007, San Francisco, CA.

<http://www.fisheries.org/afs2007/>. **Attention students:** Travel awards for minority and female students are available through the AFS Equal Opportunities Sections. For more information visit <http://www.fisheries.org/units/eos/>. Applications are due May 15th.

Introduction to the Taxonomy and Pollution

Ecology of Aquatic Insects-- Sept. 12-14, 2007 -

Surry Community College, Dobson, NC. Benthic macroinvertebrate larvae (aquatic insects) play key roles in many regulatory water quality programs in North Carolina. Not only are these insects used to detect water pollution problems, but are also used to determine if streams are perennial features, and are proposed for use in stream restoration projects as success criteria. Despite the value of this group of organisms in North Carolina's regulatory programs, very little is known about these bugs. This workshop will introduce the participants to the basic ecology and taxonomy of aquatic insects. We will spend most of the time learning family level identification of mayflies, stoneflies and caddisflies (or EPT); however, other groups also will be discussed. Please visit our website for more information and to register online:

http://www.ncsu.edu/waterquality/taxonomy_workshop.html

Wild Trout IX Symposium - Sept 16-19, 2007, Holiday Inn, West Yellowstone WY. Sustaining Wild Trout in a Changing World.

www.wildtroutsymposium.com/.

River Course IV - Oct. 8-10, 2007, Asheville, NC **Stream Restoration Project Implementation and Evaluation.** For detailed information and to register on-line visit:

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

2007 SEAFWA Conference – Oct. 21-24, 2007, Charleston, WV.

2007 Mid-Atlantic Stream Restoration Conference

– November 7–8, 2007, Rocky Gap State Park, Cumberland, MD. Abstracts due May 31, 2007.

http://www.canaanvi.org/canaanvi_web/events_ed.aspx?collection=cvi_works

Stream Restoration Construction Training - Dec. 3-5, 2007, Raleigh, NC. For detailed information and to register on-line visit:

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

AutoCAD Use for Stream Monitoring and 3-D Stream Restoration - Dec. 10-14, 2007, Raleigh, NC

Jane S. McKimmon Center, NC State University. For detailed information and to register on-line visit: <http://www.ncsu.edu/srp/workshops.html>

2008 Southern Division AFS Spring Meeting – Feb. 28-Mar. 2, 2008, Wheeling, WV.

River Course I, II & III - Spring 2008, Raleigh, NC

Stream Classification & Assessment - March 18-22, 2008

Stream Restoration Design Principles - April 15-17, 2008

Advanced Stream Restoration Design Principles - May 6-8, 2008

If you are aware of meeting information that would be beneficial to the membership of the NCAFS, please send it to the newsletter editor for inclusion in the next newsletter. ksparks1@nc.rr.com

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/>.