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We would appreciate your comments on this electronic version of the NC Chapter Newsletter. Please send all responses to Joe Hightower (jhightower@ncsu.edu)

President's Message

People Got the Power!

What makes an AFS chapter outstanding? It's not their size, treasury, geographic location, or their annual meeting. *It's the People!*

And our NC Chapter has an army of dedicated fishery scientists that are generous with their ideas, skills, and time. One duty of our chapter president is to draft an application to be considered for the Best Southern Division Chapter Award...if the president should deem us competitive. This year it's clear that we're competitive, but drafting the application will be difficult.

Why difficult? Because space is strictly limited in the application, and we've done so much!

Some accomplishment highlights of the past year are...

Relevance: Danielle Pender and Dave McHenry led the Environmental Concerns Committee to draft timely resolutions on such ecologically important topics as instream mining and introductions of nonnative aquatic species — and there are more in the works.

Outreach: Past President, Shari Bryant could not have imagined how successful the Chapter Outreach Committee would be when she formed it last year. Their first grand achievement, led by Greg Cope, was the development and production of an informative, educational poster on introduced nonnative aquatic species. This poster has already been sent to agencies and universities throughout the Nation, and further distribution to the public is planned.

Learning: In an oversight, Lawrence Dorsey became a one-man committee to develop and plan continuing education workshops for our chapter. And further, Chapter members have been willing to instruct them. This year's workshop will be an innovative one to update us all on recent advances in technology for fishery science. These workshops are critical to staying current and refreshing us on tools required for the job.

Recognition: We recognize outstanding achievements within our Chapter through formal awards. Jim Rice has led the effort to formalize the way in which we do this, and we celebrate success within our troops.

Community: Christian Waters heads the committee to keep our population numbers up, and he and the Membership Committee have done some fine brainstorming to attract new members and make membership more beneficial for all.

Leadership: Chad Thomas and the nominations committee identify those willing to lead, and they organize elections to select them. It's everyone's responsibility to help select among these nominees, and to facilitate that this year, *we're raffling off a Parent Society Membership* from the pool of voters! Nothing like a few bucks to get folks to the polls!

Communication: The Chapter Newsletter is the twine that holds our net together when we're unable to gather in person, and Dave Coughlan, our editor, is the seamster that weaves the mesh. Joe Hightower and Chris Taylor keep us electronically linked with our Chapter web site. These web masters have used more server space than any other chapter in the Southern Division — we must have a lot to say!

The Future: We learn from our mentors, and we invest in our student members for the future. Alesia Read and the student subunit have completed a flurry of activities this year, ranging from river clean-ups to hosting an impressive line-up of seminar speakers. They're generally a self-sufficient bunch in organizing our annual raffle and hosting a profitable workshop, but if proceeds fall short, our chapter supports their students — financially and otherwise.

The members mentioned above are just a few that have stepped up to contribute this year, and others are a part of these successes. If you're already participating in these efforts — thank you! If you'd like to get more involved, don't wait for a tap on the shoulder — contact the chair of the committee that excites you most!

Finally, as I draft our application for Best Chapter Award, it's clear to me that the formal recognition either way isn't important — it's the people of the NC Chapter that make it *Outstanding!*

Tom Kwak

Minutes of the December 2003 Executive Committee Meeting

The minutes of this and past meetings are available in the quarterly newsletters as a MS Word document link. [December 2003 Minutes](#)

Submitted by Kim Sparks, Secretary-Treasurer

Nomination Committee

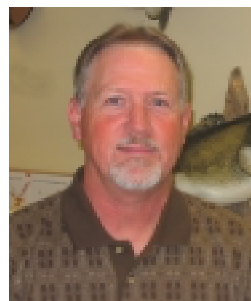
The Nominating Committee is pleased to introduce our slate of candidates for 2004. President-Elect candidates are Duane Harrell (Duke Energy) and Mike Wicker (USFWS). Both of these gentlemen are highly respected and talented individuals with strong fisheries backgrounds and ties to AFS. Two of our finest up-and-coming fisheries professionals will vie for the Secretary/Treasurer position as Brian McRae (NCWRC) and Scott Waters (NCSU) have both agreed to serve if elected.

Read through the biographical sketches for the candidates, cast your electronic ballot, and maybe win a parent society membership! *That's right!* In an attempt to generate higher turnout, the Chapter Executive Committee approved raffling off a parent society membership among all Chapter members that vote. So cast your vote; you may actually be the biggest

winner! Selected candidates for each position (and the raffle winner) will be announced at the 2004 Chapter meeting.

Submitted by Chad Thomas, Nominations Committee Chair

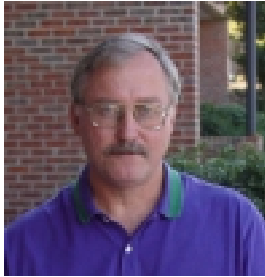
Candidate Biographies and Ballot



Duane Harrell, Candidate, President-Elect

- Duane Harrell has been a fisheries biologist with Duke Power since 1974. During his career with Duke, Duane has been involved with fisheries and biological monitoring programs associated with the permitting, licensing and operation of Duke's fossil, nuclear and hydroelectric generating facilities. From 1997 through 2002, Duane was Manager of Duke's Fisheries section. Currently, he is Manager of the Scientific Support, Biological section, which is responsible for all of the biological monitoring conducted by the company. Prior to working for Duke, Duane served in the U.S. Army from 1971 through 1974, as a First Lieutenant in the Medical Service Corp. Duane received a B.S. degree in Zoology from Clemson University in 1971. He has been an AFS member and

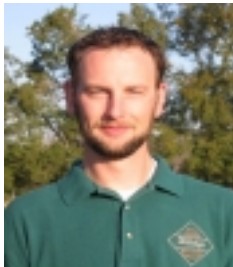
certified Fisheries Scientist since 1984 and has served on a number of Southern Division technical committees.



Mike Wicker, Candidate, President-Elect

- Mike Wicker has been a biologist with the US Fish and Wildlife Service (USFWS) since 1991. His major interest in fisheries restoration is reconnecting anadromous fish to historically important spawning grounds by

either selective dam removal or fish passage. Prior to working with the USFWS Mike worked with the NC Division of Water Quality from 1987 until 1991 where he worked with the NC Fish Index of Biotic Integrity and fish tissue sampling. From 1985 until 1987 Mike worked with Mac Currin and John Miller at NC State University sampling estuarine fish and shrimp. The period from 1979 until 1985 was spent working as a research biologist with the Florida Game and Freshwater Fish Commission where he researched largemouth bass in central Florida lakes and fish populations of the St. John's River. Mike attended NC State University and received dual B.S. degrees in Fishery Science and Wildlife Management in 1977 and a M.S. degree in Zoology in 1979. He was certified as a Fisheries Scientist in 1982.



Brian McRae, Candidate, Secretary/Treasurer

- Brian McRae is a District Fisheries Biologist with the North Carolina Wildlife Resources Commission. As a District Biologist, one of his main duties is to help manage largemouth bass and crappie fisheries in piedmont reservoirs.

Brian has been a member of AFS since 2001 and he received his M.S. in Resource Ecology and Management from the University of Michigan in 2002. He was active in the Michigan Chapter of AFS, and he was awarded the Fishery Alumni Memorial Award from the University of Michigan for his work in fisheries science. In 2002, the Colorado native moved to North Carolina to pursue his career in fisheries management, and he aims to increase his involvement with the North Carolina Chapter of AFS.



Scott Waters, Candidate, Secretary/Treasurer

- Scott Waters is a Research Assistant at North Carolina State University working in conjunction with faculty and graduate students, as well as biologists from the North Carolina Wildlife Resources Commission. He is currently involved with research studying

introduced flathead catfish biology and ecology in North Carolina coastal plain rivers and striped bass

bioenergetics in North Carolina reservoirs. He has been a member of AFS since 1995 and a member of the North Carolina chapter since 1997. He received the Best Student Paper Award in 2000 for his presentation on largemouth bass spawning and mortality in a Puerto Rican reservoir. Scott received his B.S. in Fisheries and Wildlife Biology from Kansas State University in 1997 and his M.S. in Fisheries and Wildlife Sciences in 2000 under the direction of Rich Noble at NC State. Scott and his wife, Angela, have a new son, Camden, and live in Apex.

Visit the [2004 Online Ballot](#) to vote NOW!

2004 NC AFS Annual Meeting Announcement

Please visit the [2004 Annual Meeting](#) site for updated information, meeting announcements and the meeting program.

Submitted by Mallory Martin, President-Elect

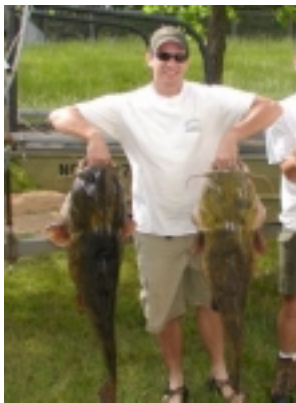
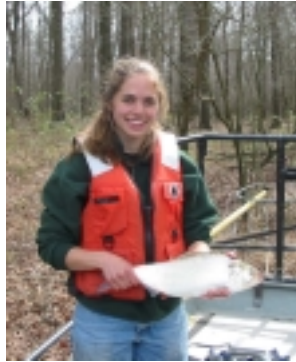
NCSU Student Subunit Report

Hello from the NCSU Student Subunit! Our membership has participated in numerous activities so far this fall. Our sub-unit volunteered to work in the North Carolina Wildlife Resources Commission (NCWRC) Tent at the NC State Fair. It was great to get out and interact with the public and professionals that work for our state. We also had several of our members volunteer for North Carolina Beautiful's Azalea Celebration. North Carolina Beautiful is an organization that is committed to the maintenance of the natural resources of North Carolina. More than fifteen thousand azaleas were donated to over 100 schools, parks and non-profit organizations all over North Carolina to beautify their properties.

Our subunit will once again be responsible for writing the Aquatics section of the Envirothon Test. The Envirothon is a quiz bowl with an environmental twist for middle and high school students from all over North Carolina. It is our privilege to assist in such a worthwhile endeavor. The Envirothon helps young students express their knowledge on hot environmental issues and then gain recognition for it!

As for the rest of the semester, we have had some guest speakers come share their work with us, including Jody Duggins, wildlife photographer for the NCWRC. Jason Edwards, NCSU Junior, informed us of the resources he gained from attending a Project Learning Tree workshop. Project Learning Tree's purpose is to teach educators how to teach environmental issues in an interesting, hands-on manner. Fred Harris, Chief of Inland Fisheries for NCWRC, and, of course, former President of our Society, shared his ideas and thoughts on where young professionals should focus their efforts in the field of Fisheries. I am also pleased to announce the incoming officers for 2004 (check out their mug shots)! The newly

elected officers for our student sub-unit are Summer Burdick (President), Lori Davias (Vice President), Ed Malindzak (Secretary/Treasurer), and Jason Edwards (Undergraduate Vice President).



NCSU Student Subunit officers. Clockwise from top left: Summer Burdick, President, Lori Davias, Vice President, Jason Edwards, Undergrad VP Ed Malindzak, Secretary-Treasurer.

We are currently preparing for the annual Chapter meeting in February. Thanks to our healthy treasury, we should be able to curb lodging and per diem costs for all students interested in attending. We are hoping to have a large student contingency! See you there!

Please check out the sub-unit web page at http://www.ncsu.edu/stud_orgs/sfs/ to learn more about our group and upcoming activities. The sub-unit list serve is the best way to stay up to date on fisheries related happenings at NCSU. Directions on how to subscribe are available at the web site.

Contact Alesia Read (anread@unity.ncsu.edu) if you have any questions about Sub-unit events.

Submitted by Alesia Read, Past Student Subunit President

Education Committee

As part of the annual chapter meeting, a continuing education workshop on Fisheries Technology will be held from 8 a.m. - 12 p.m. on Wednesday, February 4, 2004 at the Renaissance Hotel in Asheville. The registration fee

for the workshop is \$5 for professionals and free for students. Invited vendors from the "high-tech" realm of fisheries research and management will present information about new products, emerging technologies, and new applications of existing products. This is not a trade show. We'll be able to interact directly with corporate representatives from Biosonics, Grant Engineering Systems, YSI, and other "high-tech" companies to discuss their products and applications. Don't miss this opportunity to see the latest and greatest gizmos available for fisheries research. Register early!

As always, I would appreciate any comments or suggestions regarding items for the Education Committee. While I have focused primarily on continuing education for members, there are other ways we as a chapter can provide education outside of our membership. If anyone has any suggestions, please contact me at dorseylg@vnet.net or 704-986-6109.

Submitted by Lawrence Dorsey, Education Committee Chair

Environmental Concerns Committee

If Chapter members would like to participate in addressing any issues or have ideas or suggestions please contact Dave McHenry at E-mail: david.mchenry@ncwildlife.org or use the comment form on the ECC web page.

Submitted by David McHenry, Environmental Concerns Committee Chair

News from around North Carolina

AFS News from Past-President Fred Harris – The Governing Board has approved a Board of Directors to oversee the Fisheries Conservation Foundation. AFS members include Gus Rassam, Ira Adelman, Larry Nielsen, Steve Berkeley and Fred Harris. The Foundation will serve as the outreach arm of AFS. A web site is being developed and should be accessible soon. Fundraising is underway and we are soliciting pre-proposals for the initial project(s) that will be funded in 2004. This is an exciting undertaking for our Society as we strive to make technical information available in a non-technical format to policy makers, the general public, educators and students.

AFS is critically evaluating our procedures for managing the Hutton Program. As the program grows we'll need to get stronger participation by our chapters, particularly in the recruitment of students and mentors.

Recently the Fish & Wildlife Service announced it is joining the Forest Service as a major financial supporter of the Hutton Program.

SEAFWA 2004 News from Steve Leach, SCDNR – The South Carolina Department of Natural Resources invites you to the 58th Annual Southeastern Association of Fish and Wildlife Agencies Conference, Hilton Head, SC, October 30 – November 3, 2004. The fisheries session will include posters and oral presentations of peer-reviewed manuscripts on marine, estuarine, and freshwater fisheries topics, including but not limited to management, research, and culture. Case histories are particularly encouraged.

Written manuscripts for peer review are required for presentation in open technical sessions. Abstracts are required for consideration for poster presentation. Manuscripts must follow Guidelines for Southeastern Proceedings (SEAFWA Instructions to Authors), available online at www.dnr.state.sc.us/seafwa or www.sdafs.org/seafwa/authors.htm, or by contacting the Fisheries Associate Editor (Dr. John Galvez) or Fisheries Program co-Chairs (Scott Lamprecht or Steve Leach). For poster abstracts, follow the instructions for abstract preparation as defined in the SEAFWA Instructions to Authors. The deadline for manuscript submission for oral presentation, and abstract submission for poster presentation is April 30, 2004.

The Southern Division of the American Fisheries Society, Student Affairs Committee has graciously provided support for student travel that will cover lodging expenses for a limited number of students attending the 2004 SEAFWA meeting.

NCAFS Award Nomination News from Jim Rice, NCSU - 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 **Fisheries Conservation Award** recognizes non-Chapter members who have distinguished themselves by service or commitment to the Chapter or the fisheries resources of North Carolina.

The Awards Committee is soliciting nominations from the membership for both of these awards for 2004. 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 Jim Rice at jim_rice@ncsu.edu or NCSU Zoology Department, Box

7617, Raleigh, NC, 27695-7617. **Nominations will be accepted until January 23, 2004.** Any questions, call me at 919-515-4592.

Student-Mentor Dinner News from Alesia Read, NCSU - Keep your eyes open for an upcoming opportunity during the Annual Chapter meeting for students and professionals to have dinner and chat! Details will be coming soon! There will be a section to fill out on your registration form to include interest in serving as a mentor for a student at the meeting. This includes purchasing dinner for a student, sharing your wise advice about topics in the field of fisheries, and serving as a possible point of contact in the future. Students, this is your opportunity to start networking! It is sure to be a fun time! If you have any questions, please feel free to contact Alesia Read at <mailto:anread@unity.ncsu.edu>.

Museum of Life and Science News from Chad Hallyburton, NCSU - The American Fisheries Society's *Equal Opportunity Section* estimates that fewer than 6 percent of current fisheries professionals are minorities, and that only 16 percent are women. A quick look around the room at any gathering of fisheries scientists confirms the need for increased diversity in the profession.

A grant from the Burroughs-Wellcome Foundation will create opportunities for the NCAFS to address issues of diversity by reaching out to high-school students with an interest in science. MODELS (Mentors Opening Doors; Experimental Links to Science) is a new project developed by Durham's Museum of Life and Science in partnership with regional universities and scientists. Over the course of 3 years, MODELS will pair 18 high-school students (*Museum Youth Partners*) with professional environmental scientists and advanced graduate students working in a variety of disciplines. The high-school students will learn about current issues and research techniques in the environmental sciences, will conduct original summer research projects, and will create educational programming to transfer their new knowledge to the broader community.



Museum Youth Partners sorting a seine haul catch

Scientists and graduate students can participate in MODELS in four ways:

- 1) hosting the MODELS students in the lab or field to demonstrate current research and share information on scientific careers;
- 2) leading a science/career discussion/presentation/activity for students at a Museum training session;
- 3) serving as a mentor (via phone/e-mail) for original student research projects; and/or 4) participating in an annual Environmental Science Career Day at the Museum.



Chad and the Museum Youth Partners invite you to become a part of MODELS

This is a great opportunity for professionals to share their passion for fisheries science with the next generation of scientists, and requires a minimum commitment of time. Participating scientists and graduate students will be supported by Museum staff, and limited financial support is also available. To learn more about the MODELS project and how you can become involved, contact Chad Hallyburton, (919) 220-5429 ext. 353, or chadh@ncmls.org.

Comprehensive Wildlife Conservation Plan News from Salinda Daley, NCWRC - The N.C. Wildlife Resources Commission has the responsibility of leading the development of the state's Comprehensive Wildlife Conservation Plan (Plan), a requirement of recent federal conservation funding for traditionally under-funded fish and wildlife species (the State Wildlife Grants Program). The Plan is intended to serve as a resource and a tool to guide species conservation activities into the future.

The following elements are required of each state's Plan: 1) information on the distribution and abundance of species indicative of the diversity and health of the state's wildlife, 2) location and description of their habitats, 3) descriptions of problems affecting those species and priority research and survey efforts needed, 4) other conservation actions needed (e.g., habitat restoration, population management, land acquisition), 5) proposed plans for monitoring species and habitats, for monitoring the effectiveness of the proposed conservation actions, and adaptive management procedures. Thus, one of the

greatest challenges in developing this Plan is to integrate cohesively all of the existing resources and efforts that support the required elements into a document that will be a useful tool for conservation planning. Within this framework, aquatic species concerns likely will be addressed within the context of the state's 17 river basins.

Already, many biologists with the Commission and biologists from other agencies (e.g., the NC Museum of Natural Sciences, NC Natural Heritage Program, NC Division of Water Quality, NC Division of Marine Fisheries) have provided technical expertise on aspects of the Plan development process. Opportunities for input and feedback will extend in even greater circles as the development process continues. In fact, the Commission has recently begun planning for an information and stakeholder input meeting to take place in early 2004. If you are interested in participating, please contact Salinda Daley at the Commission (919.773.2881 x 250, salinda.daley@ncwildlife.org). To learn more about the State Wildlife Grants program and the Comprehensive Wildlife Conservation Plan requirement, visit the Teaming with Wildlife web site (www.teaming.com).

NCDWQ News from Bryn Tracy - Impacts of a Trout Farm Discharge: The impacts of a trout farm discharge on the fish community in the West Fork French Broad River in Transylvania County were investigated by NCDWQ in August 2003. A one-half mile segment of the river is on the Impaired Streams List because of the discharge. Typically, the river would have low biological productivity and despite the discharge, specific conductance in the river is still extremely low -- ~10 µmhos/cm. In 1990 a study by Staff from the NCWRC and NCSU (Jim Borawa, Jim Rice, Jeff Hinshaw, and Skip Thompson) determined that the discharge greatly stimulated the density and biomass of Rainbow trout, Brown trout, and Blacknose dace in the receiving stream. The production was generally greatest immediately below the discharge and declined with distance downstream.



Brown trout from the West Fork French Broad River
In 2003, the results were the same as those in 1990. In fact, the fish were hiding out in the same pools and snags as their forefathers! Schools of Brown trout, many

greater than 300 mm TL and several as long as 550 mm TL, were common below the discharge (see picture). Clearly, the impact of the discharge artificially enhanced and stimulated the upper trophic level fish production in the river.

The native fish community in the lower part of this watershed also seemed to have been altered by the nonnative species and by the long-term management of the stream as a popular trout stream. Only three natives (Blacknose dace, Greenside darter, and Swannanoa darter) were collected in the lower part of the watershed in 1997. At least 15 additional species including Mountain brook lamprey, Saffron shiner, Mirror shiner, Warpaint shiner, Telescope shiner, Fantail darter, Redline darter, Greenfin darter, Gilt darter, and Mottled sculpin, had been previously known from this watershed.

Since these early studies were conducted, facility operators have done a better job of capturing the waste solids on the farm rather than discharging them into the stream. The trout chow was also changed in the early 2000s to a feed with more efficient conversion from feed to fish flesh. The feed is also now more water stable and floats atop the raceways until eaten rather than settling out in the bottom of the tanks. The recent data will be evaluated by DWQ's Collaborative Assessment of Watersheds and Streams Program to determine if additional Best Management Practices can be employed so that hopefully one day this segment of the river will be removed from the Impaired Streams List. For further information on this study, contact Bryn Tracy (bryn.tracy@ncmail.net).

Fourth Creek TMDL Stressor Study: As part of the development of a Total Maximum Daily Load (TMDL) Stressor Study for Fourth Creek (Yadkin River Basin, Iredell and Rowan counties), the fish communities at several sites were evaluated during July 2003. A 9.5 mile reach of the stream is on the Impaired Streams List because of sediment and turbidity.

During the past several years flows in Fourth Creek have been extreme – from as little as 1 cfs during droughts to more than 4,000 cfs during the winter of 2003. The stream also has elevated conductivity, turbidity, and fecal coliform bacteria, and degraded instream and riparian habitats (see picture). The sources of these stressors (causes of impairment) are the historic poor landuse practices in the watershed, the current urban landuse practices surrounding the City of Statesville, the erosive soils throughout the watershed, and the wastewater treatment plant.



Eroded bank along Fourth Creek

The fish fauna was rather depauperate in species and individuals. Despite having a watershed area of more than 83 square miles, only 25 species have been documented from it and no more than 15 species have been collected at any site at any particular time. At most sites, the number of species and the number of fish collected were only about one-half the number expected for a stream of its size. Almost one-fourth of the known species from the watershed (Common carp, Red shiner, Fathead minnow, Channel catfish, Green sunfish, and Spotted bass) are not native to the river basin. More than one-half of the species are also classified as tolerant. Intolerant species known to occur in the middle portion of the river basin (Piedmont darter, Highback chub, and Fieryblack shiner) are absent. The dominant species at most sites was the Bluehead chub; a species generally indicative of some nutrient enrichment.

Staff with the Modeling/TMDL Unit of DWQ have developed a draft TMDL for turbidity for the watershed. Preliminary calculations have determined that a 50 percent reduction in the total suspended solids loading in the watershed will be required just to attain the Water Quality Standard of 50 NTU (Nephelometric Turbidity Units). Results of this study will be presented at a public meeting in Statesville in 2004. For further information on this study, contact Bryn Tracy (bryn.tracy@ncmail.net).

For further information on the Division's on-going fish studies, please visit the Biological Assessment Unit's web site <http://www.esb.enr.state.nc.us/BAU.html>.

2004 AFS Award Nominations and Application Forms – The AFS offers a host of awards to dedicated and deserving fishery professionals. These include the Award of Excellence, Carl R. Sullivan Fishery Conservation Award, Distinguished Service Award, Excellence in Public Outreach, Meritorious Service Award, Outstanding Chapter Award, President's Fishery Conservation Award, William E. Ricker Resource Conservation Award, and the Student Writing Contest. Please visit the AFS Awards website for qualifications and application material.

http://www.fisheries.org/html/Professional_Development/Awards/awards_society_2004.shtml .

Marine Resources Population Dynamic News forwarded by Jim Rice, NCSU - The National Marine Fisheries Service and Virginia Tech are offering week-long workshops on Marine Resources Population Dynamics graduate students with strong quantitative backgrounds from throughout the Southeast. All expenses will be paid for those students selected, including travel, housing, meals, supplies, etc. Population dynamics will be explored in the context of case studies, one involving harvested fish species and one involving a protected species, such as sea turtles or marine mammal species. The workshop is designed for students with strong quantitative backgrounds and interests, and a basic understanding of ecology. The workshop is scheduled for June 21-25, 2004 and the application deadline is Feb. 20, 2004. <http://www.nmfs.vt.edu/>.

Minority Environmental Leadership Development Initiative News from Dorcetta Taylor, U of Michigan - The Minority Environmental Leadership Development Initiative aims to enhance the leadership and career development opportunities available to minority students and minority environmental professionals. The project seeks to provide information that will help more minority students embark on careers in the environmental field. It is also designed to help minority students and professionals in the environmental field take advantage of networking and mentoring opportunities. The website has tons of environmental resources that you and other environmental professionals might find helpful. Topics of interest include: fellowships, job announcements, internships, job skills and expectations, environmental grantmaking, environmental conferences, professional associations, volunteering opportunities, environmental justice links, and environmental journals and magazines. <http://www.umich.edu/~meldi> .

WATERSHEDSS News from Dani Wise Johnson, NCSU - WATERSHEDSS (WATER, Soil, and Hydrologic Decision Support System), a watershed-level, web-based decision support system, has been updated (<http://www.water.ncsu.edu/watershedss/>) and now includes numerous graphics. This web site provides: 1) Educational information covering diverse topics on water quality, water quality monitoring, land treatment, watershed management, and watershed projects (Educational Component). Subject areas range from pollutants to wetlands. 2) A searchable database of over 6,000 annotated articles on NPS pollution control (NPS Bibliography) developed by the NCSU Water Quality Group over the past 20 years. 3) A decision support system that allows users to conduct a preliminary watershed evaluation (Decision Support). This option

was designed to help users determine the appropriate best management practices (BMPs) and landscape features.

Spotlight on Students and Young Professionals

Beth Shimps, MS Student, NCSU - A native of Winston-Salem, Beth officially donned the Wolfpack colors in 1997 when she began her student career as an undergraduate at NC State. Her broad interests in biological sciences and natural resource management made it difficult to choose a single major – so Beth did two. In 2001 she graduated with B.S. degrees in Zoology as well as Natural Resources with a concentration in Marine and Coastal Resources. Even more impressive, she did it with a perfect 4.0!

During her undergraduate studies Beth fed her curiosity with an unusually wide diversity of research experiences. She spent one summer working at Bowman Gray Medical School doing research on potential drug therapies for osteoporosis using macaques. As a sophomore she received an Undergraduate Research Fellowship from the NC Space Grant Consortium to study gravitational effects on plant physiology with Dr. Eric Davies in the NCSU Botany department. Thanks to that project Beth co-authored her first scientific journal publication before she was a senior in college. She also conducted research with Drs. Russell Borski and John Godwin in the Zoology department on the temperature-dependence of gonad development in flounder, and with Dr. Dave DeMaster in the Marine, Earth and Atmospheric Sciences department on C-14 cycling in Antarctic waters and sediments. Beth spent the summer of 2000 as an undergraduate intern at the Hatfield Marine Science Center in Oregon evaluating the visual predation capabilities of juvenile walleye pollock. Somehow she also managed to find time to volunteer as a tutor and lab teaching assistant, serve as a student senator, and work for Raleigh Parks and Recreation as a youth educator in their Science Afield program, among other things.



Beth Shimps (left) works with fellow MS student Regan McNatt and undergraduate Brian Stynes on the hypoxia experiment tank system

These experiences convinced Beth that she wanted to pursue a career that would focus on human impacts on

natural ecosystems and contribute to more sustainable environmental management. In fall 2001 she began her M.S. studies under Jim Rice in the NCSU Zoology department as part of a larger project evaluating the impacts of hypoxia on estuarine fish and shellfish populations. Beth tackled the challenge of finding a quantitative description of how the probability of mortality changes for juvenile spot and Atlantic menhaden as a function of the level of hypoxia they are exposed to, and how long that exposure lasts, also taking into account the effects of temperature and fish size. Beth secured an NSF Graduate Fellowship to support her studies, conducted the necessary experiments at the NOAA Beaufort Lab, and then used advanced Survival Analysis methods to quantify these complex interactions. Along the way Beth completed a graduate certificate in Geographic Information Systems, to further diversify her portfolio.

Beth recently defended her thesis and will soon submit her manuscript for publication. She hopes to combine her biological background with her statistical and GIS skills in an environmental management career here in North Carolina. Good luck Beth!

Submitted by Jim Rice, NCSU

Kevin Dockendorf, Assistant Fisheries Biologist, NCWRC - *Question:* What do you get when you take an Iowa farm boy, educate him at the University of Florida, and then send him to coastal North Carolina?

Answer: An anadromous corn-fed alligator . . . or maybe Kevin Dockendorf, one of the NCWRC's newest fisheries biologist. Kevin's home state is Iowa, and he began his pursuit of a career in fisheries with a B.S. degree from Iowa State in 1996. His first employment was with Iowa DNR as a fisheries research technician, and it was here that Kevin would begin grooming his skills for work in northeastern North Carolina. For where else but Iowa could one find a job as a creel clerk roving on snowmobile across frozen lakes in search of yellow perch and walleye anglers? Ask him to share with you some of his experiences with anglers (unaware of his coming) as he knocked innocently on the side of some makeshift ice hut in the middle of nowhere. Think illegal activity and you're on the right track. Kevin did manage on one occasion to play the role of hero by rescuing an angler after his truck fell through the ice. Unfortunately, earlier that day one of Kevin's "constituents" had purposefully cut one of his snowmobile's spark plug wires while Kevin was away from his machine. But a skipping motor with one-cylinder is better than no motor at all, and Kevin was eventually able to transport his shivering victim back to civilization.

As his days as Ice Man came to an end, Kevin accepted a job with the Illinois Natural History Survey where he worked from 1998 through 2000. In Illinois, Kevin had

the opportunity to participate in a variety of research projects and spent considerable amount of lab time identifying macroinvertebrates. I'm guessing that this lab work may have helped convince him to leave Illinois and accept a graduate research position with Mike Allen at the University of Florida. At UF, Kevin studied crappie population dynamics on three Florida lakes. But the story gets better. He was also able to participate in an alligator diet study. No joke. One of his last sampling expeditions in Florida involved harpooning alligator with specialized t-bar "tags". The tags, affixed to a very large rope, expand after insertion beneath the skin. The alligator was then bound and a sample collected. Don't ask how they checked for stomach contents. And yes, the alligators were released alive.



Kevin Dockendorf - glad he quit messing with yellow perch!

With a fresh Master's degree in hand, Kevin came to work with the Wildlife Commission as an Assistant Fisheries Biologist in January of 2003. Thinking he had seen it all, he stepped on the bow of an electrofishing boat on the Roanoke River this spring and was left speechless. Catch rates of striped bass exceeding 4,000 fish per hour during the peak of the spawning season will do that to you, especially when 40-pound gravid females are involved. Kevin spent his first summer analyzing creel data from the Chowan River, no doubt daydreaming about his days spent screaming across Iowa on a snowmobile. He has also been instrumental in modernizing the agency's American shad ageing and OTC recovery techniques and has spent many hours excising and grinding otoliths from fry and juvenile fishes. Hopefully this lab time won't send him fleeing North Carolina for foreign lands of excitement and adventure.

Submitted by Chad Thomas, NCWRC

Meetings of Interest

Stormwater BMP Academy - Feb. 10-11, 2004, Gaston County Citizens Resource Center, Gastonia, NC. This Stormwater BMP Academy will give you a design overview of stormwater practices to be used in piedmont

of the Carolinas.
<http://www.bae.ncsu.edu/workshops/Gastonia/index.html>.

2004 Southern Division Spring Meeting – Feb. 26-29, 2004, Bricktown, Oklahoma City, OK.
<http://members.cox.net/gregsumm/>.

13th Annual Southeastern Lakes Management Conference – Mar. 7-10, 2004, Wild Dunes Resort, Isle of Palms, SC. The meeting theme is “Working Together – Sharing Resources”. Suzycole@msn.com.

Fourth World Fisheries Congress – May 2-6, 2004, Vancouver, British Columbia. Reconciling fisheries with conservation: The challenge of managing aquatic ecosystems. <http://www.worldfisheries2004.org>.

2004 Meeting of the American Society of Ichthyologists and Herpetologists – May 26-31, 2004, Norman, Oklahoma. The call for papers will not be mailed unless requested. Meeting information available only at <http://www.dce.ksu.edu/2004jointmeeting>

2004 Meeting of the North American Native Fishes Association (NANFA) - June 18-20, 2004, Riverbanks Zoo, Columbia, SC. NANFA is an unusual mix of academic and agency biologists, amateur naturalists, teachers, and aquarium hobbyists interested in the natural history, ecology, and conservation of native fishes, plants, and invertebrates, and their maintenance and propagation in home aquaria and ponds. For more information, check out the NANFA website at www.nanfa.org or contact Fritz Rohde at fritz.rohde@ncmail.net.

Southeastern Regional Conference on Stream Restoration - June 21-24, 2004, Winston-Salem, NC. This conference will showcase stream and wetland restoration efforts from Maryland to Florida. Professionals from the southeastern US and beyond will have an opportunity to present and discuss topics related to the field of restoration.
http://www.bae.ncsu.edu/programs/extension/wqg/sri/2004_conference/index.html.

River Restoration and Urban Streams Symposium - June 27 - July 1, 2004, Salt Lake City, Utah. The Symposium will be part of the World Water and Environmental Resources Congress.
<http://www.asce.org/conferences/ewri2004/>

134th Annual Meeting of the AFS – Aug 21–26, 2004, Madison, WI. Stay tuned to the AFS webpage for more details. <http://www.fisheries.org/>.

Second National Conference on Coastal and Estuarine Habitat Restoration – Sept. 12-15, 2004, Washington

State Convention & Trade Center, Seattle, WA. The goals of the conference will be to:

expand our collective ability to restore habitat through small to large scale projects; build the restoration industry products and services crucial to success in restoration; and catalyze new levels of exchange and collaboration between businesses, government, non-profit organizations, scientists, educators and volunteers.
<http://www.estuaries.org/>.

Wild Trout Symposium VIII – Sept. 20-22, 2004, Yellowstone National Park, Old Faithful Inn, WY. Diverse interests associated with trout fisheries will share their viewpoints on wild trout management and related public policy, exchange technical information, and seek ways of cooperatively advancing the conservation of wild trout resources. <http://www.wildtrout8.com>.

58th Annual Southeastern Association of Fish and Wildlife Agencies Conference – Oct. 30-Nov. 3, Hilton Head, SC. www.dnr.state.sc.us/seafwa.

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. djcoughl@duke-energy.com

Employment Opportunities

North Carolina Sea Grant Announces Fellowship Opportunity - North Carolina Sea Grant is accepting applications for a fellowship opportunity for students nearing completion of an advanced degree program in natural resources or marine sciences. The one-year Marine Fisheries Fellowship provides a \$26,000 stipend. It is open to graduate or post-graduate students who are enrolled in master's, doctoral or professional degree programs at southeastern universities and colleges (MD-TX). The selected fellow will be placed in May 2004 with the North Carolina Division of Marine Fisheries (DMF). The fellow will analyze historical juvenile finfish monitoring data sets, with a focus on evaluating the monitoring programs. Applications must be submitted no later than **February 20**. Send a personal and academic resume; a statement — no longer than two pages — giving reasons for applying and educational/career goals; a copy of undergraduate and graduate transcripts; and two letters of recommendation from professors with knowledge of applicant's academic performance. Travel for interviews will be at the applicant's expense. Jeffrey Buckel, a North Carolina State University assistant professor of zoology, is coordinating the selection process. Selection will be announced in April.

Mail application package to Jeffrey Buckel, Sea Grant Marine Fisheries Fellowship Program, Center for Marine Sciences and Technology, 303 College Circle, Morehead City, NC 28557. For additional information about the fellowship, contact Buckel at 252/222-6341,

jeffrey_buckel@ncsu.edu or Louis Daniel, NC Division of Marine Fisheries, 252/726-7021, louis.daniel@ncmail.net.

Robert J. Goldstein & Associates, Inc. – Robert J. Goldstein & Associates, Inc. (RJG&A), a small environmental consulting company in Raleigh, N.C., in business since 1985, is seeking a full time expert in Rosgen methods with training through level IV to support our expansion into stream restoration projects. IFIM experience or mussel federal certifications are pluses. Federal wetland delineation experience expected. The successful applicant will also work with team members to prepare state and federal environmental assessments (EAs) mostly for public water and wastewater projects, and for some highway projects. RJG&A is a small business and equal opportunity employer.

BS or MS. Send resume, salary history, and salary requirements by email to rgoldstein@rjgaCarolina.com. Feel free to telephone 1-800-407-0889 with questions.

Youth Program Educators at the Museum of Life and Science, Durham, NC – Youth Programs Educators (3 positions @ 20-30 hours/week) will provide oversight of weekly after-school and/or weekend programs offered by the Museum's Youth Partner Program. Youth Programs Educators will supervise high-school Youth Partners employed in individual programs and will assist the Youth Programs Manager in the management of grants supporting various programs. Responsibilities include : Present high-quality informal hands-on inquiry-based science and math programs to young children and Museum visitors, Coordinate participation of Youth Partners in grant funded activities, Transport Youth Partners employed in individual programs, using Museum vehicles, and; Maintain communications and cooperation of program partners.

Mail or fax cover letter and resume to: Museum of Life and Science, PO Box 15190, 433 Murray Ave.

Durham, North Carolina 27704. FAX (919)220-9639 or come by and fill out an application. NO PHONE CALLS PLEASE

"The Museum of Life and Science is a private not-for-profit science center that aspires to cultivate discovery by providing engaging experiences because we value curiosity, sharing science and growth"

USFWS Fisheries Technician Positions in Alaska for the 2004 Field Season - The application period for Fisheries Internships will close on February 28, 2004. All adventurous and enthusiastic individuals interested in pursuing a career in fisheries are encouraged to apply. See the Sept. 2003 NCAFS Newsletter or contact Nick Hetrick (907) 246-3442 or by e-mail at nick_hetrick@fws.gov.

Fishery related jobs can be found on the AFS web site at: <http://www.fisheries.org/jobs.html>. This site also offers links to job postings on non-AFS web sites.

If you have a fishery-related job opening and would like to post it in the next NCAFS Newsletter, please send your announcement to the newsletter editor. djcoughl@duke-energy.com

Valuable Links – Courtesy of AFS

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/>.

Additional links can be found courtesy of Dr. Mike Allen and the Southern Division, AFS. <http://www.sdafs.org/links/msallen1.htm>