AMERICAN FISHERIES SOCIETY

DECEMBER 2010 NEWSLETTER

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President's Message

Brrr! I hope this message finds you all in good health, great spirits and staying warm during this winter season.

2010 was another great year for the chapter with highlights including the SDAFS meeting in Asheville, chapter members and students honored at plenary sessions as well as award ceremonies and retirements, four excellent newsletters, webpage revisions, e-requests for chapter project funding and addressing various topics of interest. Job well done!!

I express my sincere appreciation to the members of EXCOM as well as our committee and chapter members for all your hard work and dedication to the chapter. Your tireless efforts continue to strengthen the foundation and progress of our chapter.

Please join me in recognizing the Student Fisheries Subunit at NCSU for another terrific year. The subunit continues to achieve excellence and their ambition is bar none. Check out their webpage @ http://clubs.ncsu.edu/sfs/ or join their listserv http://clubs.ncsu.edu/sfs/listserv.html to be posted on upcoming activities and meetings.

Thank you for the opportunity to serve as your Chapter president. I appreciate your support during this most rewarding experience. I look forward to seeing all of you in February at the 2011 NCAFS Chapter meeting.

Happy holidays to you and yours!!

Kevin J. Dockendorf, President

Secretary-Treasurer's Report

December 2010 Treasury Report

Submitted by Kevin Hining, Secretary-Treasurer

Awards Committee

Call for Chapter Award Nominations

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

The Awards Committee is soliciting nominations from the membership for both of these awards for 2010. If you are aware of a deserving individual or organization, please nominate them! Nomination letters should be no more than two pages long and provide specific information on the accomplishments of the candidates and why they qualify the candidate for the award. Qualifications for the Distinguished Service Award should extend beyond simply doing an outstanding job on regular chapter duties (e.g., officer or committee member responsibilities) and be based primarily on extraordinary efforts or new initiatives.

Please submit nominations to John Crutchfield at john.crutchfield@pgnmail.com, Progress Energy, 410 South Wilmington Street, PEB7, Raleigh, NC, 27601-1551. **Nominations will be accepted until Friday, January 14, 2011**. Any questions, call John at 919-546-2019.

Submitted by John Crutchfield, Awards Committee Chair

Nominations Committee and Ballot

2011 NCAFS Officer's Ballot

The Nominating Committee is pleased to announce that our 2011 candidates for President-Elect are Patrick Cooney and Chris Wood. These men both possess a wealth of fisheries experience and knowledge, and we are fortunate to have them in our Chapter. Please take time to familiarize yourselves with their backgrounds by reading the biographical sketches below. Considering their busy work schedules, the Nominating Committee greatly appreciates their willingness to serve the Chapter in this capacity.

****WIN A FREE PARENT SOCIETY MEMBERSHIP JUST BY VOTING!****

When you cast your electronic ballot for President-Elect, you will automatically be entered in a drawing for an annual parent society membership. That's a $80 chance just for clicking a button and casting your vote! The winner will be announced at the 2011 Chapter business meeting.

Submitted by Chad Thomas, Past President and Nominating Committee Chair

Patrick Cooney, Candidate, President-Elect- *Patrick* Cooney is a Research Scientist in the NC Cooperative Fish and Wildlife Research Unit at NC State University. Patrick investigates life history traits, migration barriers, and distribution patterns of aquatic fauna in Puerto Rico streams. While in North Carolina, he is often mentoring students on research projects in North Carolina's rivers, reservoirs, and estuaries. Patrick earned a B.S. degree in Biology, Marine Science, and Chemistry from the University of Miami, and a M.S. degree in Fisheries and Aquatic Sciences from the University of Florida. Patrick has been an active member of AFS at all levels since 2001 by presenting, judging presentations, serving on committees, and attending annual meetings. Further, he is a founding member of the Florida Student Fisheries Subsection, and served on the planning committees for a Florida AFS Chapter Meeting (2004) and a Southern Division AFS Student Colloquium (2004). For the past 6 years, he has been an active member of the Student Fisheries Society at NC State, and has seen firsthand how integral the State Chapter and the Student Subsection have been to each other's tremendous successes.

Chris Wood, Candidate, President-Elect- Chris Wood is currently the District 8 Fisheries Biologist for the NC Wildlife Resources Commission. After graduating from Appalachian State University in 1998 with a B.S. in Ecology, Chris began working as a technician at NC State University conducting field studies on native freshwater mussels. He then moved to the NC Museum of Natural Sciences where he studied native fishes as a technician for Dr. Wayne Starnes. He completed

his M.S. in 2004 from Appalachian State University and then proceeded to work as an Instructor teaching Biology and Ecology. He then moved to Raleigh, NC where he worked as a research coordinator at the NC State University School of Veterinary Medicine. In 2006 he began working for the NC Wildlife Resources Commission as an Aquatic Wildlife Diversity Biologist and then shifted to his current role managing sport fish populations in the Mountain region. In his spare time, Chris enjoys fishing, boating, deer hunting, gardening, and spending time with his wife and two young daughters. Chris has been active with AFS and the North Carolina Chapter for the last decade and is currently serving as co-chair of the Education and Outreach Committee.

NCSU Student Subunit Report

The NCSU Student Subunit of NC American Fisheries Society (AFS), also known as the Student Fisheries Society (SFS), has been very productive since our last newsletter update.

Service and outreach has always been and continues to be a focal point of SFS. We had a lot of fun teaching children how to cast a fishing rod by using the "Backyard Bass" game and actually catching fish from Lake Raleigh for the National Hunting and Fishing Day sponsored by the NC WRC.

SFS members assist on the Lake Raleigh fishing pier on National Hunting and Fishing Day.

We decided to purchase our own set of Backyard Bass, which we used along with cane fishing poles at a Yates Mill Pond event. SFS members helped out at the Center for Marine Sciences and Technology "local seafood" booth that drew many interested

visitors at the NC Seafood Festival in Morehead City. We also conducted the fall clean-up of our "adopted" Rocky Branch, resulting in quite a few bags of garbage and tennis balls (donated to a local dog park). We are currently writing aquatic science questions for an Envirothon trivia competition. Finally, members have been active volunteering at the NC State Fair and NC Museum of Natural Sciences.

SFS members pose with garbage collected during the fall clean-up of Rocky Branch that flows through the NCSU campus.

We sincerely thank every member that has made all of these activities possible; it truly has been a team effort. While greatly appreciated, this did make it difficult to select just one member for our Annual Service Award. However, we felt that Katie Pierson, our 2010 recipient, stood out given that she was present at nearly every event, provided an influx of new ideas, and was always in a cheerful mood. Thanks for all of your hard work, and congrats Katie! We also wanted to honor individuals for their long-term and consistent dedication and service within SFS. Therefore, we established a "Lifetime Service Award," the award is sincere, although the name is somewhat "tongue in cheek" given the age of the first two recipients. Julie Harris has served on the SFS Executive Committee and routinely volunteers both during her PhD degree and currently as a post-doctoral researcher. Patrick Cooney, an NCSU fisheries biologist, has been extremely valuable to SFS since his arrival, always offering help and providing new ideas. Thanks Julie and Patrick for all of your help over the years!

2010 SFS Service Award Recipients: Katie Pierson for Annual (left) and Patrick Cooney and Julie Harris for Lifetime Service (right) with co-president Josh Raabe.

In addition to service and outreach, SFS provides an opportunity to gain hands-on experience and develop critical thinking skills. We recently sampled Rocky Branch via backpack electrofishing with the help of Bryn Tracy from the NC Department of Environment and Natural Resources. We also sampled the fish community in Lake Raleigh using boat electrofishing to provide additional data that will assist NCSU and NC WRC in managing this small impoundment located on Centennial Campus. At a day-long workshop, members learned about fly-fishing and developed casting skills that they put to use by landing huge trout. We thank The Great Outdoor Provision Company for their outstanding tutelage and discounted price, which was further reduced by SFS. On campus, we premiered the overfishing documentary The End of the Line and then had a very insightful discussion afterwards. Finally, our journal discussion group established this semester has been well attended and successful in expanding our knowledge base and critical thinking skills.

Our monthly meetings have also been solid learning (and social) experiences. Since recently graduating from NCSU, our co-president, Mike Waine, has been conducting hydroacoustic research with the UNC Institute of Marine Sciences to evaluate biological risks of potential wind energy sites in Pamlico Sound, NC. He provided a great synopsis at the October meeting of the exploratory research along the NC coast necessary to determine potential offshore and inshore wind farm locations by considering wind

resource availability and ecological conflicts. Dr. Damian Shea, head of the NCSU Department of Biology, spoke at our November meeting about the Deepwater Horizon oil spill in the Gulf of Mexico, providing interesting insider viewpoints and explaining his research on the spill. Our December meeting was held at the Alley on Hillsborough Street, followed up by our Second Annual Fish Bowl. The NC Cooperative Fisheries and Wildlife Unit edged out teams from Marine, Earth, and Atmospheric Sciences and Fisheries, Ecology and Aquatic Science to keep the bowling pin trophy.

A number of us are gearing up to attend the AFS Southern Division meeting in Tampa Bay, FL in January and the AFS NC Chapter meeting in Charlotte in February. To assist with attending these or other meetings, SFS offered two travel awards. We established a Women and Minorities Travel Award last year, in large part due to a generous donation from Dr. Tom Kwak. The 2010 recipient is Katie Pierson. To encourage participation at and experiencing a professional meeting, we established an Undergraduate Student Travel Award using fundraising proceeds. The 2010 recipient is Sally Petre. Both Katie and Sally are very deserving recipients, as they have been extremely valuable to SFS this year while excelling in their studies. Congratulations!

2010 SFS Travel Award Recipients: Sally Petre for Undergraduate Student (left) and Katie Pierson for Women and Minorities (right) with co-president Josh Raabe.

SFS celebrated its yearly achievements with a hugely successful annual fall social. There was a delicious potluck spread with a fish fry made possible by fish donated by members. In addition to socializing, we had some friendly, but competitive fish races. Dr. Joe Hightower was crowned this year's champion, when his fish went undefeated through the tournament bracket.

We invite all to join our new SFS Facebook Group that serves as a forum for pictures, updates, discussion, and to network with alumni and professional. To learn more and keep up to date with SFS, please join this group, visit our NCSU website and also join our e-mail listserv (instructions on website or e-mail one of us).

Last, but not least, the time has come to pass the SFS torch for the 2011 school year. Our new Executive Committee will be co-presidents Katie Pierson (kjpierso@ncsu.edu) and Jake Hughes (jbhughe3@ncsu.edu), co-treasurers Tamara Pandolfo and Jennifer Archambault, Jared Flowers will remain as secretary, and undergraduate vice-president Matt Stillwell. We thank out-going officers Bethany Galster, Sally Petre, and Benjamin Kornegay for all of their assistance and great work.

This has been another successful year for SFS, and we sincerely thank all of the student members, faculty and staff, local professionals, and NC AFS for attending events and for their volunteering and support. Hope to see everyone at SFS and AFS meetings in the new year!

Submitted by Josh Raabe and Mike Waine, SFS Co-Presidents

North Carolina Division of Water Quality News

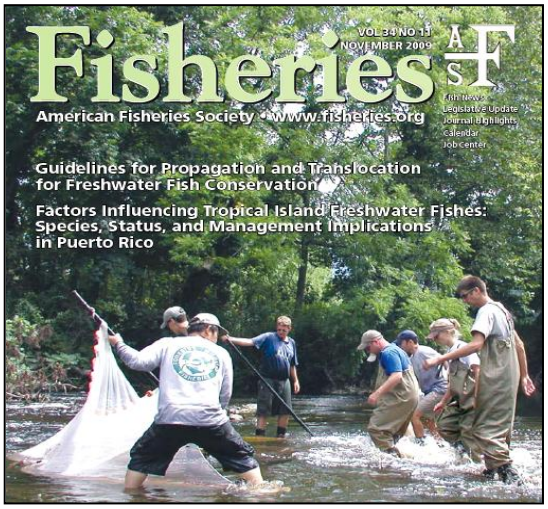
2010 Basinwide Monitoring and Use Attainability Studies
Fish community monitoring activities focused on the Broad River Basin (28 sites) and the Piedmont region of the Neuse River Basin (22 sites). The complete data, ratings, analyses, and reports for these river basins will be available in Spring 2011 at: http://portal.ncdenr.org/web/wq/ess/bau and http://portal.ncdenr.org/web/wq/ess/reports. Files of the indigenous and nonindigenous fauna for North Carolina, updated every spring, may be found at: http://portal.ncdenr.org/web/wq/ess/bau/nativefish.

Use Attainability Studies (the reclassification of a waterbody to Outstanding Resource Waters, High Quality Waters, or Trout waters) were conducted on 4 sites on the Cane River (Yancey County, French Broad River Basin and summarized in the NC AFS September 2010 newsletter), 4 sites in the upper Yadkin River and Buffalo Creek watersheds (Caldwell County, Yadkin River Basin), 5 sites in the Tuskeegee Creek watershed (Graham County, Little Tennessee River Basin), and 20 tributary sites to the Little Tennessee River between Cowee Creek (Macon County) and Sawmill Creek (Swain County).

Richland Creek Re-Introduction Project (Haywood County, French Broad River Basin)

Richland Creek, draining southwestern Haywood County in the far western reaches of the state, is the largest tributary to the Pigeon River before it flows into Tennessee. The creek is on DWQ's §303 (d) list of impaired waters due to historic and long-term poor water quality, hydrologic modifications, and habitat degradation. However, recent watershed enhancement projects upstream from Lake Junaluska have resulted in improvements in the stream's water quality. And although positive changes in the biological integrity of the fish community were documented between 2001 and 2007

(e.g., increases in overall species diversity and abundance, and decreases in the percentage of tolerant fish), further improvements are hampered by the existence of the Lake Junaluska dam which has been a barrier to upstream fish re-colonization and migration since 1913. To restore the biological integrity of the fish community and ultimately remove Richland Creek from the §303 (d) list, a multi-partner re-introduction project began in April 2010 funded in part by the American Recovery and Reinvestment Act. This innovative project (i.e., removing a stream from the §303 (d) list and restoring the biological integrity of the stream by re-introducing indigenous species, long absent from the watershed) is a cooperative effort among DWQ, NC Wildlife Resources Commission, Haywood Waterways Association, and the University of Tennessee-Knoxville. The low-cost water quality project involves the collection, transport and release of fish of several species twice a year for three years or until the species establish permanent, reproducing populations. The Richland Creek project is patterned after the successful and on-going bi-state Pigeon River Recovery Project (http://fwf.ag.utk.edu/Sites/Pigeon/Webpages/history.asp; led by UT-Knoxville, TN DHEC, TNWRA, and NCWRC) with guidance from George *et al.* (2009).



This year almost 5,000 fish representing seven species (Warpaint Shiner, River Chub, Mottled Sculpin, Rock Bass, Fantail Darter, Greenfin Darter, and Tuckasegee Darter) were released at two access sites (Vance Street Park and Boyd Avenue) upstream from Lake Junaluska. Source populations, from within the French Broad River system, were the Pigeon River above Canton, Richland Creek below Lake Junaluska, Jonathans Creek , and the Swannanoa River. Volunteer participants included staff from UT-Knoxville, NCWRC, DWQ (Asheville Regional Office & Biological Assessment Unit), Haywood Waterways Association, Haywood Community College (Fish & Wildlife Management Technology Program), Western Carolina University (Contemporary Fisheries Science Course), TVA, USF&WS, Evergreen Packaging Company, and the Catawba & French Broad River Keepers. For a podcast of the project, please click on: http://www.fws.gov/asheville/htmls/podcast_transcripts/Richland-Creek.html or http://www.fws.gov/asheville/podcasts/Richland%20Creek.mp3.

Submitted by Bryn H. Tracy

News from Around North Carolina

NC AFS 2011 Annual Meeting Announcement,
Submitted by Mike Abney, President Elect

The 2011 NC Chapter of the American Fisheries Society annual meeting will be held at the Drury Inn & Suites-Northlake on the north side of Charlotte beginning with a Monday (February 21) evening welcoming social, and lasting to Wednesday, February 23. Tuesday will begin with a continuing education workshop in the morning followed by a technical session after lunch and an evening social with the student raffle. We will continue presentations Wednesday morning and finish up with the annual business meeting.

Lodging Reservations – Room rates are $79.99 a night plus tax, single or double occupancy. Reservation information will be provided in the fall and winter newsletters. For details on the hotel go to: https://wwwc.druryhotels.com/PropertyOverview.aspx?Property=0138 and follow links for the Charlotte - Northlake location.

For our specific group website and reservations go to:
http://www.druryhotels.com/Reservations.aspx?groupno=2090126

Note that our departure date is listed as the 24th due to "un fixable" scheduling software. Our meeting will actually finish up around lunch on the 23rd.

Third Call for Papers – Students and professionals are highly encouraged to contribute oral presentations for the annual meeting. Topics may include completed projects, works in progress, and case histories. All presentations will be scheduled for 20 minutes, including a 5-minute period for questions. Please send all abstracts electronically to Jeff DeBerardinis at jeff.deberardinis@ncdenr.gov by January 21, 2011. Abstracts should include presentation title, author names, and addresses (including phone and e-mail if available). Please limit the text to no more than 250 words. It is assumed that the first author listed will be the presenter unless otherwise noted. If you are a student presenter, please make note of that on the abstract. Abstracts will be listed in the meeting program in the order that they are received. For additional information feel free to contact Jeff by e-mail or by telephone (919-743-8473). Stay tuned to the annual meeting link on the Chapter website for updates!

Continuing Education Course – The Continuing Education course for our 2011 meeting will occur from 8-12 on Tuesday, February 22. Dr. Tom Martin of Western Carolina University will lead a hands-on introduction to the use of R for statistics and graphics. R is a free, open-source, software environment for statistical computing and graphics (http://www.r-project.org). Fisheries examples will be used to help you become familiar with some of R's capabilities.

The cost of the workshop will be $10 for regular members and free for students. All attendees need to register for break planning purposes.

Course participants are encouraged to bring a laptop. The workshop will include installation of required software, including the menu-driven R Commander package,

which makes R easier to use. If you plan to participate and have a particular statistical operation that you routinely need to perform, let Tom know for possible inclusion in the workshop (tmartin@wcu.edu).

Volunteer Needed – A volunteer is needed to serve as the recycling coordinator at the 2011 Annual Meeting. Duties include bring large trash cans and bags to the meeting to cart away bottles and cans. Please contact Mike Abney (Michael.Abney@duke-energy.com) if you can fill this need.

Meeting Sponsors:

AFS 141st Annual Meeting Announcement
Forwarded by Kim Baker

SAVE THE DATE and plan now to attend the 141st Annual Meeting of AFS **September 4-8, 2011 in Seattle**. The 2011 meeting theme is *New Frontiers in Fisheries Management and Ecology: Leading the Way in a Changing World*. See the AFS 2011 meeting website for up-to-date details throughout the upcoming year.

The Local Arrangements and Program Committees are developing an exciting array of technical, social, and networking opportunities. Be sure to give yourself time to take in the local sights - Seattle is the jumping off point for incredible outdoor and cultural recreation opportunities throughout the beautiful Pacific Northwest.

The 2011 **Call for Symposia and Papers** can be found at the "Abstract and Symposium Proposal Submission" tab (http://afs.confex.com/afs/2011/cfp.cgi). We invite you to organize a symposium from your area of interest to help make this the best AFS meeting ever. Please help by putting us in touch with individuals whom we can contact to discuss your organization's support.

Go to http://www.fisheries.org/afs2011/sponsor.php for a list of AFS 2011 **Sponsorship and Trade Show** opportunities and benefits, and encourage your organization to sign on now.
We look forward to seeing you in Seattle next September. Don't hesitate to contact us if we can answer any questions.

Local Arrangements Co-Chairs:
Cleve Steward, Larry Dominguez

Program Co-Chairs:
Craig Busack, Dave Ward

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

As mentioned in the Chapter's June and September 2010 newsletter, there are approximately 215 indigenous, described and undescribed species of freshwater fish in North Carolina. Of these, 26% are considered imperiled as either state or federally listed Endangered (17), Threatened (17), or Special Concern (22). 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 second of several 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 fishes.

"Atlantic" Highfin Carpsucker, *Carpiodes* sp. cf. *velifer* (undescribed taxon)
Current Status: Special Concern, Proposed Status: Endangered

(photograph courtesy of W. C. Starnes, NCSM)

Description The Atlantic drainage form of this large thick-bodied sucker has only moderately elongated anterior rays on the dorsal fin (as opposed to Mississippi and eastern Gulf Coast drainage forms that have these rays extremely elongated). It can be differentiated from other thick-bodied suckers by a triangular subopercle that is widest below the middle, an open anterior fontanel, and a small fleshy knob at the tip of the lower lip. The tip of the lower jaw is nearly under the anterior nostril (well before it in other carpsucker species) and the snout is blunt and very rounded. Nuptial tubercles (tiny to medium-sized, usually pointed protuberances developed during the breeding season) cover the head except for the opercle and cheeks. Body color is dull gray to brown dorsally and silvery on the sides and ventrally; the fins are silvery and are often slightly tannish medially. Adults range in length from 225 to 500 mm total length (Rohde et al. 2009); the largest Atlantic drainage specimen in the collection of the North Carolina State Museum (NCSM) is slightly less than 450 mm total length.

Range The Highfin Carpsucker (*C. velifer*) occurs in the Mississippi and lower Missouri drainages and in other Gulf of Mexico drainages from the Florida panhandle to Alabama (Lee and Platania 1980). The "Atlantic" Highfin Carpsucker is restricted to the Piedmont and Coastal Plain of North Carolina, South Carolina, and Georgia (Rohde et al. 2009). The only known North Carolina populations occur, or occurred, in the Pee Dee River

below Blewett Falls Reservoir (Anson-Richmond counties) and in the Cape Fear River between Lock and Dam No. 3 and Sugarloaf Landing (Bladen County) (Menhinick 1991; NCSM database queried 11/01/2010). In the Pee Dee drainage, the species was infrequently reported from Blewett Falls Lake in 1986 and in the river below the Blewett Falls Dam in Chesterfield County, SC in May 1977 (PE 2006). Only a single specimen from the Pee Dee River in North Carolina is vouchered at the NCSM (Catalogue No. 31697, collected June 20, 1956) despite intensive sampling of that river in recent years. Another specimen from the Pee Dee River in South Carolina is vouchered at Tulane University (Catalogue No. 175146, collected May 30, 1979). Unvouchered specimens and records are reported from the Catawba River chain-of-lakes (Menhinick 1991) and the species very likely formerly occupied the Santee River drainage in North Carolina based upon extant populations in South Carolina (Rohde et al. 2009). The record reported for "Mississippi" Highfin Carpsucker from Apalachia Lake in Cherokee County, NC (Messer 1966; Menhinick 1991) is considered questionable.

Habitat The Highfin Carpsucker prefers clean water and firm substrate of larger streams and reservoirs and is much less tolerant of siltation and turbidity than other carpsuckers (Etnier and Starnes 1993; Pflieger 1975; Pflieger 1997). Although it prefers moderately deep water, the Highfin Carpsucker may also be found in shallow backwater areas. In the Santee and Savannah River drainages in South Carolina, the "Atlantic" Highfin Carpsucker occurs in rivers over sand and gravel with a moderate current (Rohde et al. 2009).

Life History and Ecology Based on typical Highfin Carpsucker populations from the Mississippi River drainage, sexually mature fish migrate upstream to smaller tributaries and spawn in July-August over deep gravelly riffles (Pflieger 1975; Pflieger 1997). The "Atlantic" Highfin Carpsucker probably spawns earlier; in the Pee Dee River, a ripe male in spawning condition was collected in April 1999 from the tailwaters below Blewett Falls Dam (PE 2006). In the Escambia and Choctawhatchee rivers in Florida, males dominate the electrofishing catch in winter and spring; during the summer and fall females are predominate, as males may have moved downstream by that time (Beecher 1977). Total lengths of the Highfin Carpsucker from the Illinois River in Oklahoma are approximately 210, 290, 310, 330, 360 mm for the first five years, respectively (Carlander 1969).

Rationale for Designation Based on its previously described morphological distinctions and the hydrogeographic remoteness, from the Mississippi and Gulf Coast drainage Highfin Carpsucker, the "Atlantic" Highfin Carpsucker may represent an undescribed taxon. The distinctiveness of the "Atlantic" Highfin Carpsucker indicates they very likely do not represent introductions from Mississippi or Gulf Slope river basins. The Pee Dee River population may already be extirpated. The population and taxonomic status of the Cape Fear population is uncertain at this time (latest records from 1997) but is under investigation by staff from the NCWRC, NCSM, and Tulane University. It is hoped that targeted efforts will reveal the continued presence of a Cape Fear population and facilitate genetic investigations that will be taxonomically definitive. The limited distribution with no apparent potential for recolonization in either the Pee Dee or Cape Fear River drainages would indicate that State Endangered is the appropriate status for the species.

Recommendations Field survey efforts should concentrate on appropriate habitats in the Cape Fear River between Lock & Dam No. 3 and Sugarloaf Landing (Bladen

County) and possibly areas upstream of Lock & Dam No. 3 (Cumberland-Harnett counties) where spawning may occur. Any specimens collected should be carefully documented and vouchered (and a fin clip tissue sample preserved in ethanol for DNA studies before preserving the specimen in formalin) with the NCSM.

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The Steven Berkeley Marine Conservation Fellowship
Forwarded by Kim Baker

This fellowship was created by AFS in 2007 to honor the memory of Steven Berkeley, a dedicated fisheries scientist with a passionate interest in integrating the fields of marine ecology, conservation biology, and fisheries science to improve fisheries management. Berkeley was a long-time member of AFS and a member of the first Board of Directors of the Fisheries Conservation Foundation. The fellowship comprises a competitively based $10,000 award to a graduate student actively engaged in thesis research relevant to marine conservation. Research topics may address any aspect of conservation; a focus on fisheries issues is not required.

For more information and application requirements see:
http://fishweb.ifas.ufl.edu/mfs/index_files/Berkeley_Fellowship.htm

Send electronic applications and recommendations, to be received no later than **February 1, 2011** to**:** Howard Williams, hwilliams@fisheries.org

Meetings of Interest

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

2011 19th Annual Southern Division AFS Spring Meeting – January 13-16, 2011, Tampa, FL. http://www.sdafs.org/meetings/2011/default.htm

2011 Joint Annual Meeting of the South Carolina American Fisheries Society and the South Carolina Fisheries Workers Association – February 9-10, 2011, Santee State Park, http://scafs.org/events.php

2011 American Society of Limnology and Oceanography (ASLO) Aquatic Sciences Meeting– February 13-18, 2011, San Juan, Puerto Rico USA

2011 North Carolina AFS Chapter Meeting – February 21-23, 2011, Charlotte, NC. http://www.sdafs.org/ncafs/AnnualMtg.htm

2011 Tidewater AFS Chapter Meeting – March 10-12, 2011 Virginia Institute of Marine Sciences.
http://www.vims.edu/research/departments/fisheries/tidewater_afs_2011/index.php

2011 American Society of Ichthyologists and Herpetoligists (ASIH) – July 6-11, 2011, Minneapolis, MN. http://www.asih.org/annualmeetings

141st Annual Meeting of the American Fisheries Society– September 4-8, 2011, Seattle, WA.
http://www.wabc-afs.org/team-2011/

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

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

Employment Opportunities

Ph.D. Research Assistantship, Exploring the Causes and Consequences of Intersex Fish, North Carolina State University

Issue: Endocrine disruptors in aquatic systems are increasingly common and widespread, and consequences to fish populations and communities may be significant. This research project combines aspects of ecology, fisheries biology, and ecotoxicology in an effort to assess the causes and consequences of intersex fish in North Carolina waterbodies through a combination of field and laboratory research. Selected graduate students will work with state agency biologists and faculty in the Department of Biology and the Department of Environmental and Molecular Toxicology at NC State University.

Location: North Carolina State University, Raleigh, NC. Depending upon the candidate's interests and career objectives, the appointment may be in the Department of Biology or the Department of Environmental & Molecular Toxicology, both within the College of Agriculture and Life Sciences at NC State University. An appropriate degree major may be selected from Biology, Environmental Toxicology, or Fisheries, Wildlife, and Conservation Biology.

Responsibilities: Research opportunities are flexible and dependent on student interest. Primary objectives include 1) conducting a large-scale survey of systems and species throughout North Carolina to determine the extent of intersex in common fish; 2) conducting intensive, site-specific research associated with spatial and temporal components of endocrine disrupting compounds in selected waterbodies; 3) performing controlled laboratory experiments to examine specific compounds and/or species; 4) assessing intersex in fish through a combination of cellular and molecular analyses. The selected candidate will work with faculty, agency biologists, other graduate students, and technicians as a team member of this multidisciplinary research project and will likely be co-advised by faculty in the Department of Biology and the Department of Environmental and Molecular Toxicology.

Qualifications: M.S. degree in biology, toxicology, fisheries, ecology, or related environmental science field (exceptional students with a B.S. degree and appropriate experience will be considered). Experience in toxicology and/or analytical methods a plus, but not required. Admission is competitive; selected students usually have GRE scores > 1200 and a GPA > 3.5, though exceptions can be made for students with specific skills and experience. In addition, the selected student must be self motivated, enthusiastic, independent, but work well in a group setting, and have the physical ability to travel and conduct field and laboratory research.

Salary (stipend): $19,000/year (12 months), health insurance, full tuition and fees paid.

Starting Date: Available summer (August, though an earlier start date may be possible) 2011.

Contacts: Please e-mail a letter of interest, CV, and unofficial copies of GRE scores and college transcripts along with contact information for three references to Dr. Greg Cope at greg_cope@ncsu.edu. After review and ranking, competitive candidates will be encouraged to apply through the NC State University Graduate School for admission http://www.ncsu.edu/grad/

M.S. Graduate Assistantships

Location: Fisheries, Ecology, and Aquatic Sciences (FEAS) Laboratory, NC State University, Raleigh, NC

Responsibilities: Specific research directions are flexible and dependent upon student interests, but available projects are focused on two issues: movement of coastal largemouth bass associated with habitat availability and hypoxia, and white bass life histories and movement patterns in inland reservoirs. Both projects are collaborative efforts with the NC Wildlife Resources Commission and offer a mix of basic ecology and

applied fisheries management. Projects may combine field and laboratory observation and experimentation with ecological modeling.

Qualifications: Minimum requirements are defined by the Department of Biology, NCSU, however admission is competitive and successful applicants to our laboratory typically have GPA ≥ 3.5, GRE scores ≥ 1200, and at least some field or laboratory experience. In addition, we're looking for students who are motivated, enthusiastic, and work well independently and in a large group. Our laboratory generally has 10-15 members (including faculty, graduate students, undergraduates, and research biologists).

Salary: M.S. Research Assistantships will be provided with a salary of approximately $17,500 per year plus payment of health insurance, tuition, and fees.

Start Date: August 2011.

Contact: Interested students should email a letter of interest, c.v., names of references, and copies of transcripts and GRE scores (official copies not necessary) to Drs. Derek Aday and Jim Rice at derek_aday@ncsu.edu and jim_rice@ncsu.edu. Additional information about the laboratory can be found at http://www.ncsu.edu/project/fish-lab/index.html. Additional information about the Biology Department can be found at http://harvest.cals.ncsu.edu/biology/.

American Fisheries Society Jobs Bulletin http://www.fisheries.org/afs/jobpage.php

American Institute of Biological Sciences http://www.aibs.org/classifieds/index.html

North Carolina State Job Vacancies http://www.osp.state.nc.us/jobs/

Texas A&M job board: http://wfsc.tamu.edu/jobboard/

University of Michigan with multiple job board links:
http://www.snre.umich.edu/node/6989

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. You can also follow current discussions on the SDAFS blog at http://www.sdafs.org/blogs/.