



AMERICAN FISHERIES SOCIETY

NOVEMBER 1998

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MINUTES OF THE 1998 ANNUAL BUSINESS MEETING
NORTH CAROLINA CHAPTER OF THE AMERICAN FISHERIES SOCIETY
BETSY-JEFF PENN 4-H CENTER, REIDSVILLE, NORTH CAROLINA
JANUARY 22, 1998

DETERMINATION OF QUORUM: President Hugh Barwick called the meeting to order at 10:40 a.m. It was determined the membership present did not constitute a quorum. A motion to suspend the rules was made by David Yow and seconded by Duane Harrell. President Barwick recognized NCAFS Chapter Past-Presidents in attendance, and recognized Scott Van Horn as the current Southern Division President. Tom Wilcox and Bud La Roche, members of the Virginia AFS Chapter, were in attendance and were welcomed by President Barwick.

SECRETARY-TREASURER'S REPORT: The minutes of the 1997 Annual Business Meeting were published in the June 1997 newsletter. A motion was made by Tony Mullis to accept the minutes and treasurer's report as printed. The motion was seconded by Jim Rice and passed unanimously. Chad Thomas reported there were 128 paid members of the NCAFS Chapter in 1997. The treasurer's report was read, and is attached.

COMMITTEE REPORTS:

Newsletter Committee: Newsletters were printed in June and October of 1997. Bob Goldstein was recognized by Hugh Barwick for his dedicated service as newsletter editor. Bob noted that Shari Gunter did all the work, and Shari was given a round of applause. [Thanks!] Bob then urged members to increase their contributions of fisheries-related articles and information.

Local Arrangements Committee: President-Elect David Yow recognized Shari Bryant and Doug Besler for their help organizing this year's meeting which was attended by 49 NCAFS Chapter members.

Program Committee: David Yow recognized John Crutchfield for his willingness to moderate Wednesday's technical session, and thanked Scott Loftis and Lawrence Dorsey for their multi-media assistance. President-Elect Yow thanked the judges and presenters for their involvement in this year's technical session. This year's Best Student Paper Award was given to Kim Sparks for her presentation, -Identification of major spawning habitats used by American shad (*Alosa sapidissima*) in the Roanoke River, North Carolina. Kim was presented with a plaque, a student membership to the American Fisheries Society, and a journal subscription.

Environmental Concerns Committee: No report.

Education Committee: Chair Bob Curry reported the Education Committee did not formally meet during 1997, but had discussed various topics during telephone conversations and informal meetings. The committee had established 4 major objectives for 1997 and they were as follows: 1) Sponsor one continuing education workshop, outside of the annual meeting 2) Provide a demonstration of new technologies in

conjunction with the annual meeting 3) Develop a Chapter display to recruit new members and publicize our organization 4) Sponsor at least one youth fishing clinic. Thanks to the efforts of several NC AFS Chapter members including Bob Goldstein, David Yow and Hugh Barwick, a Fish Disease Workshop was provided by Dr. Edward J. Noga from the NC State University School of Veterinary Medicine. Twenty-four Chapter members attended the workshop. The committee did not apply for continuing education units (CEUs) for this workshop, and suggests future workshops be finalized no later than July of each year to allow sufficient time to complete the CEU application forms for submittal to the Parent Society for approval. Bob reported the committee was able to provide demonstrations on fish taggers, data loggers and mapping technologies in conjunction with the social held at the 1998 chapter meeting on 21 January. The committee had planned to demonstrate how to find fisheries-related web sites on the INTERNET, but could not do so because a phone line connection was not available. Bob recommended that this demonstration be provided at a future meeting. The committee is continuing to work with the Student Chapter to develop a Chapter display. A meeting was held with NCSU sub-unit President Catherine Wannamaker and 2 student chapter members on 12 January 1998 to discuss the display. A completion date of 1 July 1998 was set for the display so it can be used at the 1998 parent society meeting in Hartford, Connecticut. The NCAFS Chapter has designated \$1000 for use on the display.

Although a fishing clinic was not held during 1997, several sub-unit members participated in a CATCH clinic training session with Katrina McDougald from the North Carolina Wildlife Resource Commission's Division of Education. Russell Wong with the sub-unit is working to coordinate some type of clinic in early spring or fall 1998. Bob Curry presented an update on the AFS professional certification program as outlined in the August 1997 issue of Fisheries. The 2 new categories of certification will fall under the titles of Certified Fisheries Professional and Associate Fisheries Professional. Effective 1 July 1998, each certified professional will have 5 years to accumulate 100 points toward recertification. Points fall into 4 different categories including continuing education, written reports, oral presentations and service to society. Changes in the educational requirements needed for certification will take effect in 2002. At the conclusion of the Education Committee report, Bob thanked the members of the committee for their assistance and then resigned as Chair so he could concentrate on chairing the Local Arrangements Committee for the 1999 AFS Annual Meeting. President Barwick accepted Bob's resignation, and thanked him for his hard work toward the development of educational opportunities for the Chapter's members. Student Sub-unit Report: Jim Rice reported the NC State student sub-unit has scheduled spring meetings and is currently lining up speakers. Nominating Committee: Duane Harrell reported that the candidates for President-Elect were Chris Goudreau and Dave Coughlan. Although the election was close, President-Elect for 1998 is Dave Coughlan.

OLD BUSINESS:

1999 AFS Annual Meeting: Bob Curry reported \$5,000 contribution to the 1999 meeting was made by Duke Power Company during 1997. Bob reported assistance was still needed on some of the 1999 meeting subcommittees. Local Arrangement Subcommittees and their chairmen are listed on page 10. The Local Arrangements Committee will meet 17 February 1998 at the Adams Mark Hotel to discuss subcommittee responsibilities and to tour the facilities. Poster artist Duane Raver has agreed to develop the artwork for the meeting, and is working on an 18x24 acrylic painting of a striped bass and red drum in a natural environment. Nick Parker will generate the poster which will be distributed by AFS. It is still unclear as to how the artwork will be used on T-shirts and prints. Proposed budget for 1999 meeting must be presented at the August 1998 meeting in Hartford, Connecticut. Subcommittee chairs will be responsible for developing budgets and submitting them to Chad Thomas for presentation to the AFS Governing Board. Hugh Barwick reported the Fund Raising committee is waiting on information requested of the parent society before fund raising efforts can continue. Hugh remarked that fund raising success can be increased if we can guarantee contributors that a portion of the proceeds raised will be used in North Carolina. A motion was made by David Yow to attempt to secure excess funds for use in functions within NC. The motion was seconded by Kim Baker and passed unanimously.

Joint Meeting with the Virginia Chapter: Tom Wilcox and Bud La Roche of the Virginia Chapter invited us to hold a joint meeting with their Chapter in 1999. President Barwick has accepted the invitation, and the new president-elects from each chapter will look for meeting sites. The Virginia Chapter will host the meeting; possible locations mentioned were Danville, Emporia and Kerr Lake.

NC Rivers Symposium: President Barwick reported the 1998 NC Rivers Symposium has been postponed until after the 1999 AFS Annual Meeting. Rich Noble pointed out that Kelly Duffield (NCSU Department of Forestry's Continuing Education section) was looking to organize natural resource oriented programs and may be a good contact.

NEW BUSINESS: - None

INSTALLATION OF NEW PRESIDENT: President Hugh Barwick installed David Yow as the new 1998 NC AFS Chapter President.

NEW PRESIDENT'S COMMENTS: New President David Yow thanked Hugh Barwick for his service in 1997, and presented him with a Past-President plaque. President Yow remarked that the needs of the members and the resources should come first, and requested members contact him concerning issues important to the Chapter. President Yow then made a motion to adjourn the 1998 Annual Business Meeting. The motion was seconded and passed. The meeting was adjourned at 11:45 a.m.

Minutes respectfully submitted by: Chad D. Thomas, Secretary-Treasurer January 23, 1998

**NC CHAPTER OF THE AMERICAN FISHERIES SOCIETY
TREASURER'S REPORT
January 25, 1998**

Beginning Balance (February 21, 1997):	4229.71
Income:	
Annual Meeting (1997)	7213.00
Annual Meeting (1998)	2227.00
AFS Chapter Dues	203.00
Fish Disease Workshop (1998)	360.00
Total Income	10003.00
Expenses:	
Annual Meeting (1997)	5594.26
Annual Meeting (1998)	2876.38
Newsletters (June/October 1997)	224.51
Plaque/Certificate (1997 meeting)	25.00
GIS workshop refund	40.00
Best Student Award (1997 journal/membership)	70.50
Check order	5.75
Monterey Chapter raffle donation (print/frame)	142.57
Seed Money for 1999 Annual Meeting	1000.00
Plaques/Certificates (1998 meeting)	45.00
Total Expenses	10023.97
Ending Balance (January 25, 1998)	4208.74

**NC CHAPTER OF THE AMERICAN FISHERIES SOCIETY
EXECUTIVE COMMITTEE**

- President:** David Yow, North Carolina Wildlife Resources Commission, 57 Hilltop Road, Asheville, NC 28803, Telephone: (704) 274-3646 E-mail: yowdl@mail.wildlife.state.nc.us.
- President-Elect:** Dave Coughlan, Duke Power Company Environmental Center, 13339 Hagers Ferry Rd., Huntersville, NC 28078, Telephone: (704) 875-5236, Faxform: (704) 875-5032 E-mail: djcoughl@duke-energy.com.
- Secretary-Treasurer:** Chad Thomas, North Carolina Wildlife Resources Commission, 106 Sycamore Lane, Elizabeth City, NC 27909, Telephone: (919) 335-4961, E-mail: thomascd@mail.wildlife.state.nc.us.
- Past-President:** Hugh Barwick, Duke Power Company Environmental Center, 13339 Hagers Ferry Rd., Huntersville, NC 28078, Telephone: (704) 875-5459, Faxform: (704) 875-5038, E-mail: dhbarwic@duke-energy.com.

1998 ABSTRACTS

Utility of scales and whole otoliths for aging largemouth bass in North Carolina.
D. Besler, North Carolina Wildlife Resources Commission.

Fishery managers routinely collect scales from black bass for the purposes of age determination; however, the validity of this data is often unknown. Scales and sagittal otoliths were collected from largemouth bass in the spring and summer of 1997 from the Chowan River, Neuse River, B. E. Jordan Reservoir, W. Kerr Scott Reservoir, Hyco Reservoir, Tillery Reservoir, and Santeetlah Reservoir. Ages, mean total length at age, and between reader precision were compared between scales, whole otoliths, and otolith sections. For comparison purposes in this study, otolith section ages were considered correct. Overall, 57% of scales aged were incorrect; the majority of those overestimated their age. Scales ages became significantly different ($\alpha=0.05$) from otolith section ages on all water bodies between 152- and 406-mm total length. When data for all water bodies was combined, scale ages became significantly different from otolith section ages at 127-mm. Whole otoliths were relatively accurate estimators of largemouth bass age, but underestimated age in fish less than 300-mm total length. Differences in mean total length at age between scales and otolith sections were found in 5 of the 7 water bodies sampled and all occurred by age-2. When data from all water bodies were combined, significant differences in mean total length at age were found by age-1. No significant differences in mean total length at age were found between whole otoliths and otolith sections for any individual water body or when all water bodies were combined. Average percent error and coefficient of variation were 5-7 times higher when largemouth bass were aged with scales. Scales as a whole were ineffective in aging largemouth bass in this study, particularly those age classes most important for management decisions.

Identification of major spawning habitats used by American shad (*Alosa sapidissima*) in the Roanoke River, North Carolina.
K. L. Sparks and J. E. Hightower, North Carolina State University.

American shad abundance has declined substantially in North Carolina since the late 19th century, due presumably to overfishing and habitat loss. In the Roanoke River, more than 350 kilometers of mainstem spawning habitat was lost in 1895, when a hydropower facility was constructed at rkm 221, the present site of the Roanoke Rapids Dam. The significance of this impediment has been unclear, however, because prior studies suggest that the spawning migration did not extend beyond rkm 167. We used radio telemetry to

demonstrate that American shad migrate to the base of the Roanoke Rapids Dam and that they are present in the Roanoke Rapids area through out the spawning season. Upon river entry, several telemetered fish migrated rapidly (mean = 0.99 km/hr) to the Roanoke Rapids area. Upon reaching the Roanoke Rapids area, individual fish remained in areas that were less than 1.0 km², where spawning presumably took place. These areas were generally shallow with submerged rapids. We also performed weekly egg sampling and we collected eggs identified as American shad eggs at Roanoke Rapids in late May and early June. We observed American shad in the river when water temperatures were 15-25°C, which is consistent with observations from other systems. However, the American shad migration in the Roanoke River occurred later in the year than in neighboring systems, presumably because water temperatures in the Roanoke River warmed more slowly due to the large impoundments above the dam.

Distribution and characteristics of spawning habitat used by striped bass and american shad in the Neuse River, North Carolina.

C. A. Beasley and J. E. Hightower, North Carolina State University.

Striped bass and American shad within the Neuse River, North Carolina, historically migrated up to 435 river kilometers (rkm) upstream to spawn. However, migration has been impeded since 1952 by the construction of a low head dam at river kilometer 225. To determine the fraction of tagged fish that migrated upstream of the dam and to determine characteristics of selected spawning habitat, we implanted sonic transmitters in 25 striped bass and 25 American shad in 1996-97. We determined preferred depth, flow, and substrate by measuring those characteristics at randomly selected sites and sites where spawning was observed. Over the two year study only three telemetered individuals (all striped bass) passed the dam. Spawning was observed for both species primarily in the area directly below (within 200 m) the Quaker Neck Dam, in addition, American shad spawning behavior was observed in an area approximately 3 rkm above the dam. Habitat preference was determined by comparing habitat variables within river sections used for spawning with habitat variables from randomly selected locations throughout the Neuse River. Striped bass selected areas with significantly higher flow (0.5 ms⁻¹) and increased concentrations of gravel than in randomly sampled areas. American shad selected areas that were significantly shallower (1.2 m), with slower water velocities (0.16 ms⁻¹), and greater concentrations of gravel and cobble than the distribution of these variables in random samples.

Planned modifications to the North Carolina Index of Biotic Integrity.

B. H. Tracy, North Carolina Division of Water Quality.

The North Carolina Index of Biotic Integrity (NCIBI) is a modification of the Index of Biotic Integrity initially proposed by Karr (1981) and Karr et al. (1986). The Index has been used since 1990 by the North Carolina Division of Water Quality as one of the tools to assess a stream's biological integrity by examining the structure and health of its fish community. It is also one of the ways by which a stream's Use Support Status is measured. During the past seven years, approximately 400 streams have been sampled while employing standardized collection methods across most of the state's river basins. As more interested parties inside and outside the NCDWQ have commented upon or used the NCIBI, it has become apparent that revisions to how the Index should be used, it's metrics, and final ecological classifications may be warranted.

An assessment of biological integrity using the NCIBI is calculated from 12 metrics, including species richness, trophic composition, abundance, fish condition, and reproductive success. The values provided by the metrics are converted into scores on a 1, 3, or 5 scale. It is believed that the 12 metric scores and the resultant integrity class determination are a measure of the ecological health of the stream. However, the ecological health often does not directly correlate 1:1 to water quality as evaluated by the benthic invertebrate monitoring program. Metrics which will be revised include the maximum native species richness and maximum species abundance tri-sected plots, the number of native species of sunfish and trout, adult trophic guild

assignments and percentages, and pollution tolerance values. Flexibility in the sampling protocol is also being considered (e.g., the method for the determination of multiple age groups for each species and the total distance shocked where fish abundance clearly exceeds the expected score for the size of stream's watershed). A Survey on the strengths and weaknesses of the NCIBI will be distributed for researchers to complete after the presentation.

The effects of Hurricane Fran on the fish communities of selected streams in eastern North Carolina.
N. Medlin, North Carolina Division of Water Quality.

The ecological health of fish communities in several wadeable streams in eastern North Carolina was assessed to determine any effects on these communities from Hurricane Fran. High flows and extremely low dissolved oxygen concentrations were the major stresses emanating from the storm. The low dissolved oxygen levels attributed to widespread fish kills in eastern North Carolina following Hurricane Fran. An abundance of deadfalls, continued high water levels, swamp streams with water in the flood plain, and time constraints, narrowed the number of streams actually sampled to six - Otter Creek, Moccasin Creek, Bear Creek, Falling Creek, Core Creek, and Moseley Creek. The fish communities at these six sites were sampled during October 28-31, 1996 using methods developed for the application of the North Carolina Index of Biotic Integrity (NCIBI). The data collected indicated that the fish communities in two of the streams, Falling Creek and Bear Creek, were severely impacted by Hurricane Fran, while the communities in the other streams showed little change from before the storm. The streams with impacted fish communities apparently experienced more prolonged high water and low dissolved oxygen levels than the streams with little impact.

Summary of state fish kill activity for 1997.
M. T. Hale, North Carolina Division of Water Quality.

Kill events occurring in 1997 were investigated, reported, and tracked for the second full year under the new DWQ protocols. The protocols continued to perform well as a tool for tracking kill events and appear to be fully adopted by the various state agencies responsible for field investigations. Several improvements to DWQ fish kill tracking efforts have been implemented in the past year--movement of the data into more powerful database software, establishment of a kill event webpage, pathological assistance from the NCSU Vet School, and additional support from the Neuse River Response Team.

While fish kills events in 1996 were largely the result of hurricane effects, 1997 events were the endpoints to more typical water quality problems. These include low DO, algal blooms, sewage spills, and possible effects from *Pfiesteria*.

The Effect of Water Quality on the Hatching Success of Blueback Herring Eggs in the Chowan River Basin.
C. T. Waters, North Carolina State University.

The fishery for river herring (alewife *Alosa pseudoharengus* and blueback herring *A. aestivalis*) within the Albemarle Sound basin has been declining since the 1970s. Overfishing, water pollution, and habitat loss have been suggested as causes of this decline. The objective of this study was to examine the effect of water quality on the hatching success of blueback herring eggs. Plexiglas incubators were used to measure hatching success in situ. Trials were conducted within the Chowan River, which has historically accounted for up to 85% of total Albemarle Sound river herring landings. Of these landings, blueback herring account for about 85%; therefore, I focused on the eggs of blueback herring. I combined eggs and milt obtained from running-ripe fish, and placed incubators containing fertilized eggs at eleven sites throughout the Chowan River

basin. In 1996 and 1997, I measured water temperature, dissolved oxygen, pH, and conductivity once each day at every site, and measured nutrient concentrations once per trial. To measure polychlorinated biphenyl congener (PCB) and pesticide concentrations, I deployed low-density polyethylene samplers at each site in 1997. I observed significant differences in percent hatch among sites with site means ranging from 26% to 89%. Lower hatch rates were observed at sites located on smaller streams, when compared to sites on the mainstem of the Chowan River and major tributaries. Based on correlation and regression analyses, dissolved oxygen appears to be the primary factor resulting in differences in hatch among sites. Of the water quality parameters, including PCBs and pesticides, dissolved oxygen was the only parameter that was not within documented levels for the normal development of blueback herring eggs.

Professional Exchange Program

The North Carolina Chapter of the Wildlife Society has participated in a professional exchange program since 1995. As part of this program, NCTWS has helped sponsor biologists from Smolensk Lakeland National Park in Russia to spend approximately two weeks in North Carolina, exchanging ideas and experiences with our resource professionals. The North Carolina Chapter of AFS has been approached with the idea of sponsoring a Russian fishery biologist for a similar visit. Cost to the chapter would be approximately \$1,000.00 for airfare, visa and other expenses, plus any room and board. Member host sponsors have offset most of the cost of room and board for NCTWS-sponsored individuals in the past, and NCAFS members might also be willing to host the Russian fishery biologist during his visit.

This exchange program has proven mutually beneficial for both visiting and sponsoring professionals in the past. The NCAFS Executive Committee feels that such a professional outreach would be a worthwhile project for the Chapter this year, but we need to involve ourselves in the program as soon as possible. If you would like to comment on NCAFS participation in this program, or if you would be willing to host the visiting biologist for a day or two, please contact David Yow at (828) 274-3646 or e-mail YOWDL@mail.wildlife.state.nc.us for more information.

Student Subunit of the North Carolina Chapter AFS

The NC State Student Fisheries Society has expressed interest in formally establishing a Student Subunit of NCAFS. There are currently about 15 active members of the NC State group, and other universities including Western Carolina University have students who actively participate in NCAFS activities. The establishment of a Student Subunit would continue the Chapter's tradition of supporting fishery science students and involving them in professional activities. Student Fisheries Society president Chris Taylor has contacted AFS and NCAFS regarding procedures for establishing the Subunit, and more information on the process will be available for review and discussion at the Chapter business meeting in January. We envision the Subunit encompassing all interested fishery science students in the state, with working groups from each university meeting as a subunit during the Chapter' annual meeting. Contact Chris Taylor, jctaylo4@unity.ncsu.edu for more information on the Student Subunit.

1999 North Carolina AFS Meeting

Meeting: The 1999 annual NCAFS Chapter meeting will be a joint effort with the Virginia Chapter. Our colleagues to the north are hosting the meeting, which will be held Jan. 26-28, 1999, at the Howard Johnson's Hotel in Danville, VA. The program will include contributed papers and two continuing education workshops. The registration fee is \$50.00 (\$25.00 for students) and includes technical sessions, breaks, Tuesday night social, and Wednesday lunch. The Tuesday morning workshop is titled "Balancing public and professional

values" and will be taught by Dr. Steve McMullin, Virginia Tech. The second workshop, scheduled for Thursday afternoon, is a statistics refresher to be taught by Dr. John Rawlings, Professor Emeritus, NCSU. Each workshop will cost \$25.00.

Call for contributed papers: We encourage all attendees to contribute papers on any fishery-related management or research topic. Completed projects or work in progress may be discussed. We especially welcome presentations by graduate students on the results of thesis research. The Program Committee will attempt to group additional papers by topic based on subject matter. We request that presenters provide their name, affiliation, e-mail address, project title, and an abstract to the Program Committee by December 15, 1998. We understand that abstracts for 'works in progress' may be necessarily brief but they will assist the Program Committee in scheduling titles. After December 15 we may solicit additional speakers to fill any spaces left in the program.

Awards: NC Chapter members will be judged for Best Paper and Best Student Paper Awards. Papers will be judged on the following topics: Quality of Research Problem, Analysis and Interpretation, and Quality of Presentation. Please remember that non-student chapter members are needed to make these awards work. If you attend the meeting, you may be asked to help judge these papers. We appreciate your assistance!

Mail or e-mail submissions to:

David J. Coughlan - NCAFS Program Committee at Duke Power Co., MG03A3
13339 Hagers Ferry Road Huntersville, NC 28078
djcoughl@duke-energy.com or (704) 875-5236

If you are not helping out with Chapter activities, please reconsider. I know that you are too busy at work, your kids are young and need you at home, and most of us are difficult to work with, but we do need and would appreciate your help. Please think about volunteering for some of these ambitious Chapter activities for 1998-99. Working with Chapter members to accomplish common goals is an easy way to get to know fellow members and to develop friendships. It can also be a learning process that will provide you with opportunities to help you develop professionally. So some time in the coming months, take a chance and volunteer for some Chapter activity.

Thank you! Dempsey Hugh Barwick

1999 National AFS Meeting

Plans are progressing rapidly for the 1999 national meeting of the AFS to be held Aug. 29 - Sept. 2 at the Adam's Mark Hotel in Charlotte. The theme of the meeting is "Integrating Fisheries Principles from Mountain to Marine Habitats". Bob Curry, NCWRC, is the Local Arrangements Chair and Andy Dolloff, Virginia Tech, is the Program Chair. Symposia proposals and individual paper contributors should send their material to Andy as the third call for papers has been posted in *Fisheries*.

The Social calendar includes a Welcoming Social featuring a low-country boil (Sunday night), the traditional Trade Show Social (Monday night), a night of racing and BBQ at the Charlotte Motor Speedway (Tuesday night), and plenty of local flavor for spouses and guests during times when AFS events are not planned. The "Official" 1999 meeting T-shirt has been designed and displayed (worn) at the 1998 Meeting in Hartford, CT. The pocket T-shirt is 100% cotton and features a full color rendition of the meeting poster on the back. T-shirts will be on sale at the NC/VA joint meeting for \$15.00 and proceeds will help defray the costs of the national meeting. And speaking of costs...

Fundraising efforts are progressing. To date, we have contacted 44 companies as potential sponsors of the 1999 Meeting and have received \$12,000. Contributors so far include the Broyhill Foundation, Carolina Power and Light, Duke Power, and Virginia Power. We have another \$15,000 promised in early 1999. More than 20 of the companies contacted have indicated an interest in participating in the meeting at some level, but have not committed to an amount. Now is a very good time to make contacts, because a lot of companies are completing their 1999 budgets and starting to allocate funds. If you have contacts with companies that are potential sponsors, please let Hugh Barwick know (dhbarwic@duke-energy.com or (704) 875-5459). Fund raising is crucial to our goal of having a quality meeting while maintaining an affordable registration fee.

We will be discussing and planning for the National meeting while in Danville. If you are not on a committee yet, please consider joining one. Your assistance, in whatever capacity you desire, will be greatly appreciated by the Local Arrangements Committee. Bob Curry or any of the sub-committee chairs listed below will be happy to give you more information:

<u>NAME</u>	<u>TITLE</u>	<u>AFFILIATION</u>
Bob Carline	President - AFS	Pennsylvania State University
Bob Curry	General Chair	NCWRC-Division of Inland Fisheries
Andy Dolloff	Program Chair	Dept. of Fisheries and Wildlife
Frank McBride	Chair: Registration	NCWRC-Division of Inland Fisheries
Duane Harrell	Chair: Tours, Trans. & Info.	Duke Power Company
Chad Thomas	Chair: Budget/Finance	NC Wildlife Resources Commission
Dick Christie	Chair: Audio Visual	SC Dept. of Natural Resources
Joe Hightower	Chair: Home Page	NC Coop. Fish and Wildlife Unit
Shari Bryant	Chair: Printing/Signs	NC Wildlife Resources Commission
Marla Chambers	Chair: Hospitality	NC Wildlife Resources Commission
Joe Mickey, Jr.	Chair: Welcoming and Protocol	NC Wildlife Resources Commission
Don Degan	Chair: Exhibits and Displays	Aquacoustics
Kim Baker	Chair: Raffle	Duke Power Company
Dave Coughlan	Chair: Social Activities	Duke Power Company
Hugh Barwick	Chair: Fund Raising	Duke Power Company
Tony Mullis	Chair: Accommodations	NC Wildlife Resources Commission
Kim Iverson	Chair: Public Relations	SC Dept. of Natural Resources
Betsy Fritz	AFS Finance Director	American Fisheries Society

CALL FOR PAPERS and REGISTRATION
Virginia Chapter/North Carolina Chapter Joint Meeting
American Fisheries Society
January 26-28, 1999
Danville, Virginia

Mark your calendars for the upcoming Virginia Chapter/North Carolina Chapter Joint Meeting of the American Fisheries Society (AFS) in Danville, Virginia at the Howard Johnson's Hotel (102 Tower Drive just off U.S. 58). The meeting will be an outstanding opportunity for exchanging ideas, and presenting research and management papers concerning fishery issues (e.g. environmental, management, ecology, natural history, mussel/fish interactions, etc) in Virginia and North Carolina. To reserve a room at the conference rate of \$47 single or \$55 double, call (804) 793-200 by January 12 and be sure to mention the American Fisheries Society. Information on the meeting is also available on the Virginia Chapter AFS web site at http://wajdab.dgif.state.va.us/va_afs/index.html. The current schedule for the meeting is:

Tuesday, January 26

Workshop: Balancing public and professional values in fisheries management--part 2,
Dr. Steve McMullin, VA Tech
Technical session I
Evening Social

Wednesday, January 27

Technical sessions II and III
Virginia Chapter and North Carolina Chapter business meetings
NC-VA Dutch treat dinner at a local establishment

Thursday, January 28

Technical session IV
Workshop: Basic statistical methods, Dr. John Rawlings, NC State emeritus

CALL FOR PAPERS

Submission deadline is December 15, 1999 with notification of acceptance by January 4, 1999.

Abstracts for presentations should be submitted electronically to smcmulli@vt.edu or on a 3.5" diskette (WordPerfect or Microsoft Word). The text should be a 200-word statement of objectives, principal results, and conclusions. Work in progress will also be considered. Send submissions to David J. Coughlan, President-Elect, NC Chapter AFS, Duke Power Co. - MG03A3, 13339 Hagers Ferry Road, Huntersville, NC 28078; (704) 875-5236; 975-5032 (fax). Abstracts should include the name of the presenter with address, phone number, and e-mail. A brief biographical sketch for a 20-30 second introduction is also needed. Presentations will be scheduled for 20 minutes including a 5-minute question/answer period. Students are encouraged to attend and submit papers. "Best Paper" and "Best Student Paper" awards will be presented. All abstracts will be posted on the Virginia Chapter web site.

Statistics Refresher Course:

The North Carolina and Virginia Chapters will be offering a statistics refresher course at the upcoming joint chapter meeting to be held in January 1999. The course will be taught by Dr. John Rawlings, Professor Emeritus of Statistics, NC State University. The course will cover a review of basic statistical assumptions and elementary and advanced parametric statistical techniques. Course material that will be reviewed in the four-hour course include:

Central Tendency of Data and Measures of Dispersion
Types of Data Distribution
Parametrical Statistical Test Assumptions
Comparison of Two Sample Means
Comparisons of more than Two Sample Means

Analysis of Co-variance
Mean Separation Procedures
Linear and Multiple Regression
Chi-square Test

Fisheries and other environmental data sets will be used in teaching the course and statistical output using PC SAS® will be displayed on a computer-linked overhead screen display. Each participant will receive a detailed handout on the material reviewed in the course. The course fee is \$25 and interested individuals can register using the registration form for the 1999 annual chapter meeting. A minimum of 20 registrants will be needed to teach the course and the course can be used as AFS continuing education credits. If you have any questions, contact John Crutchfield at (919) 362-3557.

Web Sites For Fisheries Professionals

Joe Hightower

Professional Society information

- <http://www.esd.ornl.gov/AFS/> - AFS
<http://www.uwyo.edu/A&s/Nasc/Wyolab/afscus/cusmain.htm> - AFS Computer Users Section. Includes a Fish Biologists' Guide to Internet Resources, with over 1,100 links to other sites and information on fishery related email lists and news groups.
<http://www.esd.ornl.gov/AFS/jobs.html> - AFS Jobs Bulletin
<http://www4.ncsu.edu/unity/users/j/jhncsu/public/NCAAFSIntro.html> - North Carolina Chapter, AFS
<http://cbl.cees.edu/erf/> - Estuarine Research Federation
<http://www.utexas.edu/depts/asih/index.html> - American Society of Ichthyologists and Herpetologists (ASIH)
<http://www.im.nbs.gov/tws/cse.html> - Software Published in the Wildlife Society Bulletin
<http://www.sturgeons.com/> - The Sturgeon Society

Agencies

- <http://info.er.usgs.gov/doi/avads/announcements/index.html> - US Department of the Interior (USDI) - vacancies
<http://kingfish.ssp.nmfs.gov/> - National Marine Fisheries Service (NMFS)
http://kingfish.ssp.nmfs.gov/tmcintyr/prot_res.html - NMFS Office of Protected Resources
<http://www.nbs.gov/> - National Biological Service (NBS)
<http://www.fws.gov/> - U.S. Fish and Wildlife Service
<http://www.usgs.gov> - USGS
<http://www-nmd.usgs.gov/www/gnis/gnisform.html> - USGS Mapping: GNIS Data Base Query (lat/lon information on towns, rivers, lakes, parks, etc.)
http://wwwnc.usgs.gov/docs/gis_ncgis.html - USGS NC GIS data
<http://ser1dnrcrg.er.usgs.gov/> - USGS Water Resources of North Carolina
<http://fs01svarmd.er.usgs.gov/GLOBAL/> - USGS Water Resources Virginia
<http://www.dwr.ehnr.state.nc.us/home.htm> - NC Division of Water Resources
<http://www.epa.gov/region4/reg4.html> - EPA Region 4 - Atlanta
<http://www.sips.state.nc.us/EHNR/DMF/stocstat.htm> - NC Div. of Marine Fisheries Stock Status
<http://www.saw.usace.army.mil/> - U.S. Army Corps of Engineers - Wilmington District
<http://www.iphc.washington.edu/> - International Pacific Halibut Commission
<http://www.epa.gov/r3chespk/> - Chesapeake Bay Program

Companies of Interest to Fisheries Professionals

- <http://www.fieldworker.com/welcome.html#main> - FieldWorker Products
<http://www.trimble.com/> - Trimble Navigation Limited (GPS receivers)
<http://www.xe.net/lotek/index.htm> - Lotek Engineering Inc. (Telemetry equipment)
<http://www.media-masters.com/sonotronics/> - Sonotronics (Telemetry equipment)
<http://www.hydrolab.com/index.htm> - Hydrolab
<http://www.biomark.com/> - Biomark Inc. (PIT tagging equipment)
<http://www.vemco@fox.nstn.ca/~vemco/> - VEMCO (Telemetry equipment)

Miscellaneous Research Links

- <http://www.bgu.ac.il/life/bouskila/telemetry.html> - Biotelemetry information
<http://www.uni-sb.de/philfak/fb6/fr66/tpw/telem/> - Wildlife Telemetry Information
<http://www.biotelem.org/> - Biotelemetry information (Grant Systems Engineering). Includes links to many telemetry companies.

REGISTRATION FORM
Registration deadline is January 15, 1999

Registration Options:

- \$50.00 - includes all technical sessions, breaks, Wednesday lunch, and both Tuesday social
- \$25.00 - student registration, includes all of the above
- \$25.00 - Balancing public and professional values-part 2 workshop
- \$25.00 - Basic statistical methods workshop

\$ _____ TOTAL ENCLOSED

Are you willing to volunteer at the conference (e.g. moderator, registration or raffle table, etc.)? **YES / NO**

Name _____ Employer _____

Address _____ City _____ State _____ Zip Code _____

Phone _____ Fax _____ E-mail _____ AFS Affiliation _____

Make checks payable to Virginia Chapter-AFS; Send check and registration form to: Dawn Kirk,
Treasurer, Virginia Chapter-AFS, US Forest Service, Glenwood/Pedlar Ranger District, P.O.
Box 10, Natural Bridge Station, Virginia 24579.



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