



Organized in 1990

VIRGINIA CHAPTER *of the* AMERICAN FISHERIES SOCIETY

Inland Fisheries and Aquatic Resources of Virginia

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Winter Edition 2011

Newsletter Date: December, 2011

A Winter Rant from the Prez: More Straight Talk from President Skub

Greetings chapter members,

With 2011 soon coming to an end and the Christmas season upon us now, I hope that you have fared well this year and have accomplished much as a student, on your job or basically in your goals for life during 2011.

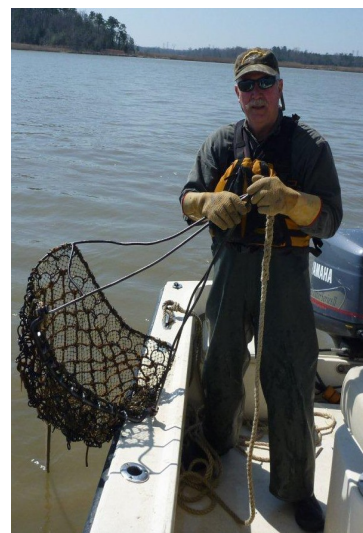
Your EXCOM committee and committees within the chapter have been busy lately in preparing for our VT/ VCAFS annual meeting at VT in early 2012. Our last meeting with the Virginia Tech AFS Chapter was in 2008 and if our upcoming meeting has the same awesome student participation and program content this year as it did

in 2008, you don't want to miss this gathering of two great chapters. I hope you will make plans to attend. Plan now and make lodging accommodations as soon as you can if you are traveling to the area.

I ask that you take the time to vote in an upcoming email election that will be coming soon for new 2012 Virginia AFS chapter officers. Elected officers will be Treasurer, Secretary and President -Elect (2013). Also, now is the time to submit the names of candidates for the Eugene W. Suber Professional Biologist Award and the Natural Resources Conservationist/ Citizen Award. In addition applications are being accepted for recipients of the Robert E. Jenkins Under-

graduate Scholarship Award and the Robert D. Ross Graduate Scholarship Award. All applications and nominations can be sent to me (see email at end of

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President Skub knows how to dredge up the good stuff.

The Virginia Chapter of the American Fisheries Society is a subunit of the [American Fisheries Society](http://www.americanfisheries.org). The chapter was established in 1990 to provide fisheries professionals in Virginia with increased access to AFS; encourage the exchange of information among fisheries and other aquatic resource professionals; provide a forum for the discussion, debate, and resolution of aquatic resource issues within Virginia; and serve the Commonwealth by providing expert scientific knowledge to allow for informed decisions concerning the use and development of the state's natural resources.

The Chapter website can be found at www.faculty.virginia.edu/vcafs/

The Summer Rant from President Skub (continued)

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rant). Guidelines and applications can be found on our VCAFS website.

Work continues by our Outreach committee on what promises to be an excellent future publication. Initiated earlier this year by the committee was the preliminary work on the formation of a Freshwater Fishes of Virginia Field ID guide. A team of eight or more committee members are continuing to compile more than 200 species of fish into a colorful and descriptive booklet. The waterproof booklet will have the potential to be quick fish ID key for students, biologists and fisherman. Funding in 2011 was provided by Dominion and work on the booklet will continue in 2012.

Finally, the EXCOM has made an effort to make sure all our chapter members are receiving email notifications through the listServ. If you know of a friend or co-worker who is still not getting chapter mails notifications on meetings, electronic elections and this news letter, please contact Robert Humston at humstonr@wlu.edu.

I wish you a Merry Christmas and a Happy New Year. See you at our Virginia Tech meeting in 2012.

Bob "Skub" Andrews

Robert S. Andrews, Biologist III
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Robert.Andrews@dom.com



**VIRGINIA CHAPTER of the
AMERICAN FISHERIES SOCIETY**

Inland Fisheries and Aquatic Resources of Virginia

Nominations Sought for Chapter Awards!

\$500 Robert D. Ross Graduate Scholarship In Fisheries and Related Aquatic Sciences

The Virginia Chapter of the American Fisheries Society invites applications for a \$500 graduate scholarship in fisheries and related aquatic sciences. The deadline for applications is January 15th, 2012. The scholarship will be awarded at the Chapter's annual meeting in February 2012. Criteria for the scholarship are as follows:

- The applicant must be a graduate student in fisheries, biology, or a related aquatic science program at an accredited Virginia university.
- The applicant should demonstrate academic excellence at both the undergraduate and graduate levels as well as promise for future contributions to fisheries and aquatic resource conservation.
- Preference will be given to applicants who wish to pursue a career in fisheries or related aquatic fields and who have demonstrated interest in professional activity in addition to required academic activities.

Applications should consist of (1) a letter from the applicant (not to exceed 500 words) describing his/her background in fisheries and related sciences, the significance of his/her research to management/conservation of fisheries and aquatic resources, and career aspirations, (2) copies of transcripts from all institutions of higher learning attended, and (3) two letters of recommendation, at least one of which should be from the applicant's major advisor.

\$500 Robert E. Jenkins Undergraduate Scholarship In Fisheries and Related Aquatic Sciences

The deadline for applications is January 15th, 2012. The scholarship will be awarded at the Chapter's annual meeting in February 2012. Criteria for the scholarship are as follows:

- The applicant must have junior or senior class standing at an accredited Virginia college or university.
- The applicant should be pursuing a 4-year degree and should demonstrate in his/her letter of application a desire to pursue a career in aquatic resource management or conservation, or in a field consistent with these areas.
- The applicant should demonstrate academic excellence.

The scholarship is for one academic year but may be awarded to the same student for up to two years. Applications should consist of (1) a letter from the applicant (not to exceed 500 words) describing his/her background, qualifications and interest in fisheries or related aquatic sciences, (2) copies of transcripts from all institutions of higher learning attended, and (3) one letter of recommendation from a professor in the applicant's major field of study.

Application materials can be found on the VA-AFS website at:

http://faculty.virginia.edu/vcafs/awards_scholarships.htm

Please direct questions to Bob Andrews: Robert.Andrews@dom.com

[Nominations Sought for Chapter Awards!](#)

Eugene W. Surber Professional Fisheries Biologist and Natural Resource Conservationist/Citizen Awards

The Virginia Chapter of the American Fisheries Society is seeking nominations for the following 2011 awards:

Professional Fisheries Biologist Award:

Given to a professional fisheries biologist based on either a number of years of significant contributions to the field of fisheries science or on the basis of a single very significant contribution during the calendar year.

Natural Resource Conservationist Award:

Given to a citizen or non-fisheries professional who has demonstrated outstanding protection or enhancement of aquatic resources on their property or who has made significant contributions to the protection of aquatic resources within the state of Virginia.

Nomination forms can be found on the VA AFS website at:

http://faculty.virginia.edu/vcafs/awards_scholarships.htm

Please mail completed forms or direct your questions to:

Bob Andrews

Dominion Environmental Biology

4111 Castlewood Road

Richmond, Va 23234

Questions can be addressed to Bob Andrews

(804) 271-5308

robert.andrews@dom.com

Annual Meeting 2012

Please join us on January 31 – February 2, 2012, at The Inn at Virginia Tech and Skelton Conference Center in Blacksburg, Virginia, for the 2012 Joint Annual Meeting of the Virginia & Virginia Tech Chapters of the American Fisheries Society!

Meeting Registration

Registration will take place on-site at the meeting. Registration costs are:

\$50.00 Professional Registration

\$20.00 Student Registration

\$20.00 Continuing Education Workshop I — *Essential Statistics for Fisheries Research*

\$20.00 Continuing Education Workshop II — *Introduction to GIS for Fisheries Scientists*
(More info on workshops on the next page)

Lodging

The Inn at Virginia Tech is holding a block of double occupancy rooms at a rate of \$95/night. There will also be a \$3 per day charge for parking (required by the university). Rooms at this rate will be held until Monday, January 2, 2012. Please plan to share your room with a colleague to reduce overall meeting costs. Reserve your room now by calling 540-231-8000 or toll free at 877-200-3360 and specifying that you're with the Annual Meeting of the Virginia Chapter of the American Fisheries Society. For more information, please visit the The Inn at Virginia Tech website at <http://www.innatvirginiatech.com>

Program

Please see the Draft Program-at-a-Glance (PAAG) for a general schedule of meeting activities.

The final program will be available in late December.

Abstract Submission

Oral presentations will be scheduled in 20-minute blocks, which include 3-5 minutes for questions. The poster session will take place during the evening social on Wednesday, February 1st. There is still time to submit an abstract for a technical or poster presentation. See the abstract submission guidelines on the VA-AFS website for more information ([click here for a pdf version](#)). The deadline for presentation abstract submission is January 6, 2012.

Please submit your abstracts to Shannon White at swhite8@vt.edu

For more information, contact Vic DiCenzo at vic.dicenzo@dgif.virginia.gov.

Also, don't forget to start gathering raffle items. Last year's raffle was a great success and we hope this year's will be as well.



**We look forward to seeing you in
Blacksburg in January!**



CE Opportunities:

Workshops at the Annual Meeting

There will be two continuing education workshops offered at the joint annual meeting of the Virginia/Virginia Tech Chapters of the American Fisheries Society in Blacksburg on January 31 – February 2, 2012. Both workshops will be conducted on Tuesday, January 31st. The morning workshop (GIS for Fisheries Scientists) will begin at 9:00 a.m. The second workshop (Statistics for Fisheries Research) will begin at 1:00 p.m. The registration fee for both workshops will be \$20.00 and will be payable on site. As more information is developed about these two workshops, it will be provided.

TENTATIVE WORKSHOP DETAILS:

Introduction to GIS for Fisheries Scientists

Time: 9:00 a.m. – 12:00 noon

Location: Cheatham 217 on VT Campus

Instructors: Shannon White and Tiz Mogollon

Contact: swhite8@vt.edu

This course will cover the fundamentals of GIS with a focus on the application of GIS to Fisheries Science. Particular topics include acquiring data, importing XY coordinates, analyzing watershed characteristics, and creating maps. The majority of the course will be devoted to hands-on use of GIS. No experience necessary, but some knowledge of the layout and commands in GIS is recommended. Maximum capacity is 30. Since there will be a limited number of computer stations available, please contact Shannon White at swhite8@vt.edu in advance to pre-register. The registration fee of \$20.00 will be payable on site.

Essential Statistics for Fisheries Research

Time: 1:00 p.m. – 5:00 p.m.

Location: Fralin Auditorium on VT Campus

Instructors: Robert Humston and Vic DiCenzo

Contact: vic.dicenzo@dgif.virginia.gov

The afternoon continuing education workshop is entitled “Essential Statistics for Fisheries Research” and is being led by Robert Humston and Vic DiCenzo. A survey was sent to all chapter members to help select specific topics that will be covered, and most interest was in foundational methods and real-world fisheries data applications. Examples of topics will likely include analysis of length frequency distributions, growth and condition, catch-per-unit-effort and catch curve analysis. Statistical analyses to be covered to include ANOVA, ANCOVA, correlation, regression and nonparametric procedures. The registration fee of \$20.00 will be payable on site.

Virginia Brook Trout Streams Mostly Recovering From Acid Deposition

By Fariss Samarrai

Virginia's brook trout streams are showing encouraging signs of recovery – in most cases – from the debilitating effects of acid rain, according to the most recent results from a long-term study led by University of Virginia environmental scientists.

"This is good news and real evidence for the value of our national investment in improving air quality," said Rick Webb, a U.Va. environmental scientist in the College of Arts & Sciences and coordinator of the Virginia Trout Stream Sensitivity Study. "At the same time, there is more to be done, and many Virginia brook trout streams may never fully recover."

U.Va., with the support of the conservation organization Trout Unlimited and several state and federal agencies, has been studying the health of Virginia's remote mountain streams since initiating a large-scale survey in 1987. Another such survey was conducted in 2000, and again in the spring of 2010. Quarterly sampling of stream water chemistry also is conducted in 66 streams and regularly in Shenandoah National Park.

The study demonstrates a clear improvement in water quality between the 2000 and 2010 surveys. Little improvement was noted between the 1987 and 2000 surveys. Webb attributes this to a delayed effect of streams' ability to purge acidification that has settled for years into surrounding soils and that continues to leach into streams.

Janet Miller, a graduate student in environmental sciences who analyzed survey data, found that 77 percent of the sampled streams in 2010 were suitable for brook trout reproduction. The 1987 and 2000 surveys showed that only 55 percent and 56 percent, respectively, were suitable for brook trout reproduction.

Webb attributes the improvement to the Clean Air Act Amendments of 1990 that imposed strict regulations on emissions from coal-fired power plants, as well as improvements to technologies that reduce emissions from power plants, automobiles and other machinery.

Between 1990 and 2009, sulfur dioxide emissions from coal-fired power plants declined by 64 percent. Dominion Virginia Power, as a notable example, removes 95 percent of the sulfur dioxide emissions from its largest coal-fired power plant, located at Mount Storm, W.Va., which is upwind of Virginia's mountains and Shenandoah National Park.

Organizers plan to continue long-term monitoring by conducting surveys every 10 years, and have launched a \$500,000 fundraising campaign to support the ongoing studies. They emphasize the importance of maintaining such long-term research on trout streams in Virginia – not only for monitoring their recovery from acid rain, but also for understanding the potential effects climate change and other man-made disturbances.

The Virginia Trout Stream Sensitivity Study is one of the nation's largest and most comprehensive long-term stream chemistry surveys. It is designed to track the effects of acidic deposition (often called acid rain) and other factors affecting water quality and related ecological conditions in Virginia's native trout streams.

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VA Trout Streams Recovering from Acid Deposition

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The brook trout is the only native trout in Virginia and the eastern United States. The fish require clean water to propagate and are highly susceptible to acidity deposited to the water from pollution in the air. Brook trout, and the generally pristine and remote streams they inhabit, are considered indicators of the overall health of the environment.

In the study, water samples are analyzed for sulfate levels and a stream's natural ability to neutralize acidity. The researchers are finding that sulfate levels are dropping in most streams, indicating that air pollution reductions are having a positive effect on the environment. Due to prevailing winds that carry pollution from coal-burning power plants – primarily sulfur dioxide and nitrogen oxides – many mountain streams and forests in Virginia and throughout the Southeast have suffered long-term damage.

A given stream's level of susceptibility to acidification is affected by its bedrock composition and the chemistry of nearby soils. Streams with sandstone or quartzite bedrock – about one-third to one-half of the native trout watersheds in Virginia – are most vulnerable to acid deposition because they do not neutralize acid even years after pollution has been reduced.

During the 2010 survey, 165 volunteers, mostly from Trout Unlimited and some government agencies, sampled 384 streams, which, together with the program's 66 routinely sampled streams, represent about 80 percent of the forested mountain headwater streams in the state that contain reproducing brook trout.

"Through the years this has continued to be a team effort between U.Va. scientists, Trout Unlimited and the U.S. Park and Forest services, the EPA and the Virginia Department of Game and Inland Fisheries," said Jack Cosby, an environmental scientist who co-directs the stream study effort. "We've even received a lab equipment grant from the Dominion Foundation. The cooperation between entities that might sometimes seem to be at odds has been inspiring."

Data from the survey helps scientists determine the health of headwater streams throughout western Virginia. The U.S. Environmental Protection Agency and other federal and state agencies use such data to inform resource management and to develop, evaluate and recommend national air pollution control policies.

"It's a cause for hope that so many people share a determination to protect and preserve our brook trout streams and the natural world they represent," Webb noted. "The remarkable volunteer contribution to the trout stream surveys over more than two decades is a real testament to this determination."



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Visit us on the Web at:
<http://faculty.virginia.edu/vcafs/>



Upcoming Meetings / Events / Deadlines:

- AFS Southern Division Meeting, Jan. 26-29, Biloxi, MS. <http://www.sdafs.org/meetings/2012/invite.html>
- VA / VT Chapter AFS Joint Meeting. Jan. 30 –Feb. Blacksburg, VA. Abstracts due Jan. 6! See page 5 for details!**
- Virginia Water Conference 2012 -- March 4-6, 2012 -- Holiday Inn Select Koger Conference Center, Richmond, VA -- Organized by the Virginia Lakes and Watersheds Association -- www.vlwa.org
- Tidewater Chapter AFS Annual Meeting. March 8-10, Beaufort, NC. http://www.sdafs.org/tidewater/AFSTidewater/Annual_Meeting.html
- AFS National Conference Abstracts Due — MARCH 9.
- Environment Virginia Symposium -- April 10-12, 2012 -- Lexington, VA -- www.vmi.edu/environmentva
- World Fisheries Congress. May 7-11, Edinburgh, Scotland. www.fisheries.org/blog/6th-world-fisheries-congress-wfc-2012
- National Conference on Engineering and Ecohydrology for Fish Passage, June 5-7, Amherst, MA.
- AWRA's 2012 Summer Specialty Conference: Riparian Ecosystems IV: Advancing Science, Economics and Policy -- June 27-29, 2012 -- Denver, CO -- <http://awra.org/meetings/Summer2012/riparian.html>
- 142nd Annual Meeting of the American Fisheries Society, August 19-23, Twin Cities, MN. <http://www.afs2012.org>
- 2012 Stream Restoration Conference -- October 15-18, 2012 -- Wilmington, NC http://www.bae.ncsu.edu/training_and_credit/workshops.php
- 32nd International Symposium of the North American Lake Management Society -- November 7 - 9, 2012 -- Madison, WI -- <http://www.nalms.org/>

Recent & Forthcoming Papers of Interest:

- White, S.L., C. Gowan, K.D. Fausch, J.G. Harris, and C.W. Saunders. 2011. Response of trout populations in five Colorado streams two decades after habitat manipulation. *Canadian Journal of Fisheries and Aquatic Sciences* **68**:2057-2063.
- Berntson, E.A., R.W. Carmichael, M.W. Flesher, E.J. Ward, and P. Moran. 2011. Diminished reproductive success of steelhead from a hatchery supplementation program (Little Sheep Creek, Imnaha Basin, Oregon). *Transactions of the American Fisheries Society* **40**:3
- Erisman, B.E., L.G. Allen, J.T. Claisse, D.J. Pondella II, E.F. Miller, and J.H. Murray. 2011. The illusion of plenty: hyperstability masks collapses in two recreational fisheries that target fish spawning aggregations. *Canadian Journal of Fisheries and Aquatic Sciences*. **68**:1705-1716
- Yiping Ying, Y.C., L. Lin, and T. Gao. 2011. Risks of ignoring fish population spatial structure in fisheries management. *Canadian Journal of Fisheries and Aquatic Sciences*. **68**:2101-2120
- Milbrink, G. T. Vrede, L.J. Tranvik, and E. Rydin. 2011. Large-scale and long-term decrease in fish growth following the construction of hydroelectric reservoirs. *Canadian Journal of Fisheries and Aquatic Sciences*. **68**:2167-2173.