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**President's Message**

I have a confession to make. I am resistant to social media. Usually my life goes on and I rarely think about it, except when someone asks me if I saw a post on Facebook – which I probably didn't. But I just started a new job and was confronted with it again when a coworker told me his office was right around the corner from mine, and that he's sent me his Skype ID so we could communicate. His office is right around the corner from mine. Can't we just talk to each other? Do we have to Skype?

I know I am showing my age, and I have dutifully set up my new Skype account so I can communicate with coworkers. But I'm still not entirely sure how to make better use of social media. I have a hard time separating the wheat from the chaff. I absolutely do want to see pictures of friends and family, but I don't always have time to review pictures of what they had for dinner or analyze their political opinion of the day. I can barely manage my personal e-mail account and try to find time every few months to go through and unsubscribe from lists so I can read and respond to personal e-mails when they find their way through.

But many people are making good use of social media, and there seems to be lots of evidence that it is beneficial. When you have a minute, Google "Science and Social Media" (yes, I like the Internet and I'm young enough to use Google in a sentence like it's a verb). You'll find lots of articles about how social media can be used to increase awareness of scientific research and results, as well as encourage overall communication. It is also

interesting to Google “crowdsourcing and science”, which will return articles about how you might make use of an interested public that are walking around with expensive data collection devices that have access to the Internet (smart phones).

These ideas are not new to fisheries science. Now go to the program for the national AFS meeting in Portland this August (<https://afs.confex.com/afs/2015/webprogram/start.html>) and search for “social media”. Fifteen talks come back. If you have the opportunity to go to the meeting, try to check out some of these talks and see how we can take advantage of these ideas in North Carolina.

Since I’ve started a new job, you can no longer reach me at my North Carolina Wildlife Resources Commission e-mail address, but you can still use the email address for me that is on our website ([ksparks1@nc.rr.com](mailto:ksparks1@nc.rr.com)). I hope you are all having a wonderful summer!

*Submitted by Kim Sparks, NCAFS President*

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## **It Takes a Chapter: 2015 Shad in the Classroom Success!**

The 2015 Shad in the Classroom Program continued to be a huge hit with teachers and students alike. Twenty-seven classes at 22 schools participated in the program: 5 elementary, 15 middle, and 7 high school classes. Guest lecturers for the teacher training were Ben Ricks (NCWRC), Dr. Jesse Fisher (NCSU), and Dr. Wilson Laney (USFWS). Teachers were provided information about American Shad life history, restoration, and management. They



*Jesse Fisher, teacher workshop dissection lecture  
(photograph by Danielle Pender)*

received equipment and instructions for rearing American Shad in their classrooms and learned ways to incorporate shad and aquatic ecology into their curriculum. Teachers learned hands-on fish anatomy, morphology, and dissection lessons and participated in shad printing (Gyotaku) and Shad Scent exercises.

American Shad eggs were generously provided by Jeff Evans and staff at the Watha State Fish Hatchery and Stephen Jackson and staff at the Edenton National Fish Hatchery. Classes received their eggs in April and raised them for one or two weeks,

while conducting multiple lessons based around the American Shad, exposing students to important science and math concepts. Twenty-five of the classes released their larval fish in the Neuse River basin and 2 released in the Roanoke River at Weldon.

The learning experienced by the students while rearing the shad is “priceless” as stated by many teachers. Students are fascinated that they are working with actual life and that what they are learning in school is actually applicable outside of school. We have received such great feedback on the program from the teachers throughout the 2015 program year.

“The chemical testing helped them understand words they had heard before but didn’t have any meaning behind.”

“The learning experience cannot be replaced by any simulation or video.”

“The students have been inspired by the classroom shad and seem to think more about how their actions impact the environment.”

There are many valuable educational aspects of the program; however, big favorites are the fish anatomy, morphology, and dissection lessons. The North Carolina State University Student Fisheries Subunit deserve tremendous praise for their assistance

this year. Twelve students, post-docs, and researchers from the Chapter volunteered to conduct these lessons: Ani Popp, Caitlin Bradley, Casey Grieshaber, Dylan Owensby, Gus Engman, Hunter Wainwright, James Wehbie, Dr. Jared Flowers, Jennifer Archambault, Dr. Jesse Fischer, Kevin Hining, Tiffany Penland, and Tomas Ivasauskas.



*NCSU grad student, Tiffany Penland, dissection lecture, Broughton High School (photograph by Jane Forde)*

Because of these volunteers and the generosity of fish donations (over 250 fish – thank you Dr. Rich Noble, Dr. Phil Doerr, Dr. Jim Rice and fellow anglers, Mary Henson [NCSU Grad Student], and the NCWRC’s Armstrong Hatchery), we were able to facilitate the dissection lecture for 18 different classes (823 students!). We were fortunate that all teachers that requested a dissection lecture at their school were accommodated. Casey Grieshaber and Mary Henson helped coordinate the NCSU graduate students for the anatomy-



*NCSU grad student, Casey Grieshaber dissection lecture, Brogden Middle School (photograph by Christina Livingstone)*

“I have some kids who don’t like bugs and squishy things. They were skeptical about dissection. However, during the actual lesson, many biologists were born. Kids who didn’t want to do the dissection got fascinated by what they saw and found. They’ve referenced the experience many times in the weeks we’ve been working with shad and other fish.”

“It was the highlight of the student’s year.”

“The dissection was AWESOME! The kids loved it.”

“Some of the kids said it was the best day ever!!”

Shad in the Classroom was very successful again this year. Teachers and students provided positive feedback on all aspects of the program. We received invaluable assistance from partners and volunteers helping with the deliveries of eggs, attendance at releases, and educational lectures. Working with this program is a positive experience for all involved.

“It is what science should be about—actually carrying out an experiment, collecting data, analyzing data, applying concepts you have learned to a real world issue.”

dissection lectures. We are very grateful to the Chapter and for the fish donations, which led to the great success of this activity. All teachers that were able to participate in this class reported that the activity enhanced the learning experience for their students.

The fish dissection is a highly appreciated component that we have added to the program. One of the high schools (South Iredell High School) started an Ichthyology Club because of this program and the fish dissection.



*Bob Curry, NCWRC - wildlife lecture demonstration for East Wake Middle School and Wake Forest Middle School at Milburnie Dam (photograph by Michelle Amato)*

Melissa Dowland, Megan Chesser, and I give a big thank you to all of the many volunteers, particularly the NCAFS Chapter and the NCSU Student Fisheries Subunit!

If you would like to be involved in the program next year, please contact Danielle Pender at [danielle.pender@naturalsciences.org](mailto:danielle.pender@naturalsciences.org)



*The Expedition School release at Gold Park on the Eno River (photograph by D. Pender).*

*Submitted by Danielle Pender, Shad in the Classroom Program Specialist with the North Carolina Museum of Natural Science.*

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## **NCWRC to Host Upcoming 2015 SEAFWA Conference**

Make plans now to join us for the **69th Annual Conference of the Southeastern Association of Fish & Wildlife Agencies** hosted by the North Carolina Wildlife Resources Commission, November 1-4, 2015, in Asheville, NC. The theme for the 2015 SEAFWA conference is **Conserving Large Landscapes**; conference details can be viewed at: <http://www.seafwa.org/conferences/2015/>.



Abstracts for non-peer-reviewed posters and oral presentations for Education/Outreach, IT/Licensing, Law Enforcement, and Legal disciplines have been highly encouraged for submission in addition to the Fisheries and Wildlife technical sessions. The deadline for submitting abstracts for general oral presentations and posters was **July 17, 2015**.

Several exciting symposia are planned in the following areas:

- **Human Dimensions:** This symposium offers insights into the ways human dimensions research can inform management on how to adapt to these social pressures. It will highlight examples of human dimensions research applied to management decisions and facilitate increased interaction among human

dimensions researchers and specialists in SEAFWA member states and other conservation related organizations.

- ***Large Landscapes and Biodiversity Conservation in the South:*** In this symposium, speakers address US Forest Service research studies related to ecosystems that are especially vulnerable to broad scale changes and implications for fish and wildlife species that depend on them.
- ***Identifying state frameworks for large-scale conservation of at-risk species in the Southeast:*** The objective of this panel is to seed a broader conversation about the emerging and evolving frameworks that states might employ in the Southeast to achieve large-landscape and species conservation objectives. Speakers on the panel will provide insight into regional and national trends, review the multiple factors that have influenced the design and uptake of different conservation approaches in the past, and identify barriers and opportunities for implementation of new conservation frameworks.
- ***Landscape-Scale Wildlife Habitat Conservation and Local Government Land Use Planning:*** This symposium will provide case studies and lessons learned to wildlife agencies and professionals so that they may assess the effectiveness of investing in wildlife habitat conservation through local land use planning.
- ***Building a Fish Passage Community of Practice through Case Studies and Lessons Learned:*** This symposium aims to help develop a fish passage community of practice throughout the Southeast by highlighting successful dam removal projects, identify lessons learned and recommend key factors to minimize the intimidation often encountered around dam removal projects.
- ***Southeast Conservation Adaptation Strategy:*** This symposium will present recent progress and identify important next steps for key elements of this conservation adaptation strategy, 1) network of landscapes and seascapes, 2) conservation collaborations, and 3) landscape change information.

Please contact Christian Waters, SEAFWA 2015 Program Co-chair, if you have any questions about general oral presentations or posters. Christian can be contacted by telephone at (919) 707-0223 or by email at [christian.waters@ncwildlife.org](mailto:christian.waters@ncwildlife.org)



The mountains of western North Carolina will be beautiful this time of year. Please plan to make extra time before or after the conference to enjoy Asheville and the diverse attractions in the surrounding area. We look forward to seeing you in Asheville!

*Submitted by Bob Curry, NCWRC Inland Fisheries Division Chief*

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## **NCAFS Executive Committee Meeting Minutes and Treasurer Report**

The NCAFS Executive Committee (EXCOM, Kim Sparks, Brena Jones, Mike Gangloff, and Bryn Tracy) held an EXCOM Meeting *via* conference call on May 26, 2015. Highlights from the meeting include:

**2016 Annual Meeting, possible Joint Meeting with VA** - Unanimous vote by Executive Committee to hold the 2016 meeting with the Virginia Chapter in Danville, VA on February 23-25, 2016.

**NC Aquatic Nuisance Species Management Plan Response** – A review and letter of support by NCAFS Executive Committee is in progress. Kim will work with Ben Ricks (Environmental Concerns Committee Chair) to finalize the letter of support and mail to NC ANS Committee.

**Boone South Fork New River Water Withdrawal** - Mike held a meeting with City of Boone's Sustainability Team and briefed them upon concerns regarding impacts to the aquatic ecosystem of the South Fork New River. Presented educational material about impacts on aquatic habitat upstream of proposed intake; recipients were very interested and positively responsive to information, expressing desire to keep riverine health a priority. NCAFS Environmental Concerns Committee will table a possible position statement on the issue for the time being.

### **Finance Updates**

Balances of the Chapter's financial accounts as of May 25, 2015 are:

NCAFS checking and savings (now combined into one account) \$5,741.48  
Edward D. Jones Account 2 -- \$42,920.10  
Edward D. Jones Account 1 (AKA The Ichthus Fund) – \$33,376.15  
Robust Redhorse Conservation Committee -- \$6,445.61

### **Membership Input Needed - Possible split of the Secretary-Treasurer office**

One item brought up for discussion was why the Secretary-Treasurer offices are held by one person, an arrangement for the Chapter dating back to 1988 (<http://nc.fisheries.org/who-we-are/history/>). On June 11, 2015 *via* e-mail, EXCOM contacted Dr. John Boreman, the AFS Constitutional Consultant, and asked him:

*“Can we split the position and if so, how can we accomplish this?”*

Dr. Boreman, replied (via e-mails on June 11 and 12, 2015) stating: *“I reviewed the Chapter's Bylaws and Procedures, and both will need to be changed to accommodate your intention of splitting the Secretary-Treasurer position. Since it is a change to the bylaws, membership will eventually need to vote, after the changes are approved by your EXCOM.”*

EXCOM would like to hear the opinions of NCAFS members, positive or negative, on the subject. Please call or e-mail your comments to one of us.

*Submitted by Bryn Tracy, NCAFS Secretary-Treasurer*

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## **Spotlight on Students and Young Professionals**

### **Gary Pandolfi**



*Gary Pandolfi, a graduate student at Appalachian State University, displaying an Eastern Hellbender captured during a recent field survey (photograph by Mike Gangloff)*

Gary Pandolfi is a native Appalachian and avid outdoorsman who grew up in the mountains near Burnsville NC. He spent his formative years hunting bear, deer and turkey and familiarizing himself with all things mechanical.

After enrolling at Appalachian State University in the fall of 2009 and briefly flirting with degrees in engineering and physics, Gary wisely decided on a biology major. He joined the lab of Dr. Michael Gangloff in Fall 2011 and quickly became enamored with freshwater field ecology while assisting Dr. Gangloff's graduate students with their research in mountain streams including the New and Watauga rivers. Once the proverbial 'hook' was set, a career in aquatic biology became inevitable.

During the past four years he has ascended the ranks from undergraduate volunteer to technician, laboratory manager and eventually graduate research assistant while assisting Dr. Gangloff with research in four states and more than a dozen river basins.

Gary is currently an intern with the U.S. Fish and Wildlife Service in Asheville and his Master's thesis research project is focused on the habitat ecology of Appalachian Elktoe Mussel in the Nolichucky River Drainage. He has presented results of his research at 15 scientific conferences and aspires to a career in freshwater resource management.



## Raquel Fagundo

Raquel Fagundo grew up in West Virginia in a nature-loving family that traveled the country to visit as many national parks as possible. From an early age, she knew how important conservation was to protecting biodiversity and ensuring the well-being of human societies. This realization fueled her passion for learning about the natural world and attracted her to the Biology Department at West Liberty University (West Virginia) where she completed her undergraduate education in spring 2014.

At West Liberty University, she learned to conduct field research and, with Dr. Zachary Loughman, co-authored the paper describing *Cambarus hatfieldi*, the Tug Fork Crayfish, an endemic species whose native range has been heavily impacted by resource extraction.



*Raquel Fagundo, a graduate student at Appalachian State University (photograph by Mike Gangloff)*

In June 2014, Raquel joined Dr. Michael Gangloff's lab at Appalachian State University to continue her education. She is currently working on a Master's Thesis examining phylogeographic and ecophenotypic variation in the freshwater mussel genus *Elliptio*. This group is believed to be diverse but exhibits a bewildering range of phenotypic plasticity. The goal of Raquel's thesis is to understand how genetic relationships within *Elliptio* have been shaped by the geological and geomorphic history of the southeastern US. After graduating, Raquel would like to work as a conservation biologist for a resource management or non-profit agency and vows to never stop learning!

*Submitted by Mike Gangloff, NCAFS President Elect*

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## **NC Fisheries Biologists Collect More Awards**

We apologize for the belated announcement, but wanted to recognize the achievements of these outstanding members of our NC fisheries community! Earlier this year, the North Carolina Wildlife Resources Commission's (NCWRC) Division of Inland Fisheries announced the hardworking recipients of their 2014 special awards.

**Corey Oakley** - Longtime NCAFS member and NCWRC's Piedmont Sportfish Research Coordinator Corey Oakley was named Outstanding Biologist of the Year.

In 2014, Corey contributed significantly to the Division's fisheries management program. Specifically, Corey developed, helped implement, and analyzed creel surveys at Jordan Reservoir, Randleman Reservoir, and Roanoke Rapids Reservoir as well as substantially advanced the NCWRC Reservoir Creel database. Further, Corey initiated the surveys to officially evaluate the American Shad and Striped Bass fisheries in the Pee Dee River. He serves as the point-of-contact for the Hybrid Striped Bass fishery at Lake Norman. As such, he has worked diligently with local groups and anglers to obtain hybrid Striped Bass to assist with the evaluation of this new fishery.



Corey was instrumental in conducting a region-wide Triploid Grass Carp tagging project that involved stocking fish at four different locations. Corey has been a terrific liaison for university research as he helped develop a number of projects, including studies on White Bass and Tilapia. At a statewide level, Corey fostered discussions related to Striped Bass and White Bass management that will promote sound, collaborative management in the future. Additionally, Corey has developed a draft Community Fishing Program Management Plan. This is a statewide plan that involved collaborating with many District Fisheries Biologists where sometimes controversial or difficult decisions were necessary.

**Doug Hinshaw** - McKinney Lake Fish Hatchery's Doug Hinshaw was named Outstanding Technician of the Year.

In 2014, Doug designed and provided clear and concise specifications for a new fish transport tank which resulted in a seamless construction process and a terrific end product. Doug was also deeply involved with the Robust Redhorse propagation program. Specifically, he modified or built appropriate holding tanks and screens and researched and implemented new feeding regimes. In its first year, the program was a resounding success and will continue for years to come as a result of Doug's hard work and effort.



**Jeff Evans** - Watha Fish Hatchery Superintendent Jeff Evans received a prestigious 2014 Career Achievement Award.

Throughout his career, Jeff has consistently met or exceeded goals for production at the Watha State Fish Hatchery. Jeff was first tasked to produce American Shad for restoration efforts in the Roanoke River basin in 1998. This initial year was successful as 481,000 fry were stocked into the Roanoke River by utilizing strip-spawned broodstock. However, Jeff was not satisfied with these results and he began to investigate different techniques to improve shad production. As a result of his efforts,



over 8.6 million American Shad were produced through tank spawning methods utilizing hormone injections and flow-through well water between 1999 and 2006. Additionally, Jeff has been indispensable to efforts to preserve the Magnificent Ramshorn Snail, believed to be extirpated from the wild.

In 2006, a hatchery renovation was initiated to increase production and update the facility. Jeff was instrumental in the design of the new facility and was able to incorporate new technologies needed to meet all of the varied production demands. In 2007, the first full year after completion of the renovations, American Shad production increased to 4.3 million fry as a result of the use of water

temperature control and the recirculation system that the new facility provided. In 2008, there were management concerns about not returning fish collected as broodstock to the spawning grounds. Because of the fish spawning protocols, tank spawned fish had to be sacrificed. In an effort to deal with this concern, Jeff investigated spawning fish without the use of hormone injections. These trials proved to be successful and over 7.5 million American Shad fry were stocked by the Watha Hatchery in 2014.

Jeff has consistently taken on challenging tasks and made the difficult look easy. For example, in order to minimize genetic impacts and to conclusively identify hatchery contributions, NCWRC implemented microsatellite markers for American Shad stocked in the Roanoke River and Striped Bass stocked state-wide in 2010. In order to make Parentage Based Tagging a reality, Jeff had to develop a system to keep individual parent groups separate at the hatchery until stocked. Jeff has successfully managed to maintain discrete groups of fish, and we are now seeing the true hatchery contribution to these river systems. Jeff also created the fin clip catalog numbering system used to maintain chain-of-custody for NCWRC staff and Edenton National Fish Hatchery.

*Submitted by Bob Curry, NCWRC Inland Fisheries Division Chief*

## NCAFS Website Update - Highlighted Meetings of Interest

### Keep Tabs on Nationwide Fisheries and Ecology Conferences on Our Website

In our last newsletter, Communications Committee member and NCAFS Facebook page administrator Jennifer Archambault shared [how to use our unique in-page Facebook feed](#), which she also does a fantastic job populating! In the next part of this series on our continually evolving new webpage, I'd like to point you to our "[Conferences To Watch](#)" page, which will take you to a running calendar of a variety of upcoming meetings/conferences, both familiar and new, covering a diverse array of niches. Check often for updates!




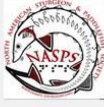

Each listing includes a link to the meeting page, clickable logo, along with important dates and locations, consolidating information at your fingertips. Perhaps you'll discover a working group you'd like to join or a novel meeting to participate in? You've probably noticed the addition of a new badge at the end of each newsletter in the "Meetings of Interest" section, which you can click to take you directly to our conference calendar.

**If you are a meeting organizer or are aware of a relevant conference which is not listed, please contact your webmaster** so it can be added to the list! You can either use the "[Contact Us](#)" form on the site (a link for this is also found on the bottom left of every page on our website) or email me directly at [brena.jones@ncwildlife.org](mailto:brena.jones@ncwildlife.org). Page links and .pdf fliers are all welcome.

*Submitted by Brena Jones, NCAFS Webmaster and Past-President*

### Call to Action!

If you want to contribute, have a story idea or would like us to include something in next quarter's newsletter, email Kevin Hining [kevin.hining@ncwildlife.org](mailto:kevin.hining@ncwildlife.org) or give him a call at

	<a href="#">NCSU Student Fisheries Society</a> First Tuesday of each month Raleigh, NC
	<a href="#">Centennial Meeting: Ecological Society of America</a> August 9-14, 2015 Baltimore, MD
	<a href="#">145th Annual Meeting of the American Fisheries Society</a> August 16-20, 2015 Portland, OR
	<a href="#">8th Biennial International Conference on Ecology &amp; Transportation: "Roads To Resilience"</a> September 20-24, 2015 Raleigh, NC <b>Early Registration: 1 May - 17 July 2015</b>
	<a href="#">Annual Meeting of the Society for Ecological Restoration (Southeast): "Mussels and Mines: Restoring Disturbed Ecosystems of the Southeast"</a> October 14-16, 2015 Knoxville, TN
	<a href="#">2015 Annual Meeting of North American Sturgeon and Paddlefish Society</a> October 19-22, 2015 Oshkosh, WI
	<a href="#">6th Annual Meeting of the Southeastern Association of Fish &amp; Wildlife Agencies</a> November 1-5, 2015 Asheville, NC – Watch the NCWRC preview video!

*Page preview for July 2015*

336-877-1087. Also, if you want to become more involved with one of the many great NCAFS committees then please check the link below for information about each one, contacts, etc., <http://nc.fisheries.org/who-we-are/committees/>

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### **Valuable Links**

The [American Fisheries Society Home Page](#) offers a wealth of links to assist you in your fishy endeavors. Information on ordering AFS books, public outreach, annual meetings, chapter links and joining the AFS can be found there.

This and [archived NCAFS newsletters](#), along with links, [chapter information](#), and [upcoming meetings](#), can be found on [our own website](#).

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