

TIDEWATER PRESS

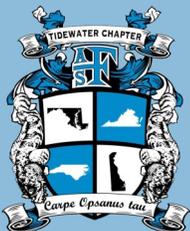
NEWSLETTER OF THE
TIDEWATER CHAPTER OF THE
AMERICAN FISHERIES SOCIETY

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2017 Tidewater Chapter Special Recognition Awards | Sarah Mirabilio

Sara Mirabilio is the chair of the Awards and Scholarship Committee

Each year, the American Fisheries Society (AFS) Tidewater Chapter chooses to honor professionals or conservation organizations making a significant impact to the chapter or to the field of marine fisheries science by-and-large. Three special recognition awards are available for presenting at the chapter annual meeting: Excellence in Fisheries Education, Meritorious Service, and Conservation. The Awards and Scholarship Committee made presentations to two deserving individuals – [Anne Deaton](#) and [Fred Scharf](#) - during the chapter business meeting held late afternoon [on Jan. 26, 2018 at the North Carolina Maritime Museum in Beaufort, N.C.](#)

The **Excellence in Fisheries Education Award** is given to an individual who has achieved

excellence in teaching and student advising in the field of fisheries science, or closely related curriculum, and who also encourages student

participation in AFS, Tidewater Chapter, and other fisheries-related meetings. The 2017 award recipient was **Fred Scharf**, professor in the Department of Biology and Marine Biology at UNC Wilmington.



Fred first got started in fisheries work in the early 1990s, working as a research assistant for Dr. David Conover

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at the State University of New York at Stony Brook. This experience propelled him into two graduate degrees, which were both completed at the University of Massachusetts under Dr. Francis Juanes. With additional experiences working for the Texas Parks and Wildlife Department and as a National Research Council Postdoctoral Fellow, Fred was well prepared in 2002 to accept an assistant professor position at UNC Wilmington.

Fred quickly developed into one of the university's most highly effective educators. He has taught six courses, three of which are in regular curriculum. Fred's Fisheries Biology course is a very popular undergraduate course, and the only of its kind on campus. This course routinely fills up, and without Teaching Assistant support, Fred still prioritizes in-depth and meaningful evaluation of each student. Additionally, the Biostatistics course he teaches for graduates was created by him, based on his observation of the within-department need for quantitative classroom instruction. (And for sharing this expertise, Fred has the privilege of being asked to serve on more graduate committees than he has time for.)

Fred has mentored over ten undergraduate honors students (who each conduct original research and write an honors thesis) and has served as an advisor for over a dozen masters and doctoral students (and several more contributions as a committee

member).

Fred's students are particularly productive, illustrated by a long list of student-led publications and presentations. And serving as final independent validation of Fred's ability to educate, his students are employed in a range of fisheries-related careers, from NOAA scientists, to state and regional biologists – not just in academia.

One of his previous students wrote: "I would like to highlight the humanity and generosity that underscores all of Fred's interactions, and which we believe distinguishes him from other educators. There are numerous examples of Fred opening up his home and getting to know the families of the students he supports. Getting an education from Fred Scharf is a holistic experience—you not only learn how to do excellent science but also learn how to conduct yourself, how to ask thoughtful questions, and, in Fred's own words, to 'be nice, until you have a reason not to be nice!'"

The **Conservation Award** is

given to an individual, resource management agency, business or nonprofit organization that the Tidewater Chapter deems has accomplished notable fisheries or habitat conservation activities.



Photo credit: Jacob Boyd

Mirabilio presents Anne Deaton with the 2017 Conservation Award.

The 2017 award recipient was **Anne Deaton**, Habitat Program Manager for the N.C. Division of Marine Fisheries.

Anne began her career with North Carolina's Shellfish Sanitation Program, surveying shorelines for potential pollutant sources. She then landed a position in Key

Special Recognition Awards, continued from page 2

Largo, Florida at John Pennekamp Coral Reef State Park. Over the course of the next ten years, she conducted research and restoration on submerged aquatic vegetation, coral reefs, mangrove swamps and more.

The Fisheries Reform Act of 1997 overhauled fisheries management in North Carolina. For the first time ever, the Marine Fisheries Commission, Environmental Management Commission, and Coastal Resources Commission had to jointly develop a Coastal Habitat Protection Plan, or CHPP. It really was the first time the state set about addressing habitat and water quality efforts needed to protect, enhance, and restore fish habitat in North Carolina – and, it was the one element of the bill that had broad stakeholder support. Anne was the first hire to the program.

There was no road map for how this would go down. Mike Street, who became the Habitat Section Chief, and Anne strong-armed the plan into... existence, with the first draft passing in 2005. Mike retired soon thereafter (2008), and for near a decade since, Anne has led the CHPP through two, five-year updates. She also has led the identification of strategic habitat areas in all regions of the coast.

One of her nominators wrote,

“Under her leadership, the CHPP has survived budget and personnel cuts, with State agencies and regulatory commissions (in whatever form they may exist) still actively participating in various committees, contributing to the updates, and implementing CHPP recommendations. She is

an excellent leader and an excellent scientist. And, she really, really cares about the health of our coastal fisheries habitat.”

In other awards business, outgoing Tidewater Chapter President Sally Roman, a fisheries specialist with the Marine Advisory Services at the Virginia Institute of Marine Science, officially inducted Dr. Paul Rudershausen, research scholar at North Carolina State University, as the 2018 president of the Chapter. The ceremony included the traditional “passing of the Toadfish.”

Then, as his first presidential act, Rudershausen presented Past-President Roman with the “gavel award” for her leadership of the chapter in 2017.

One additional award was presented at the business meeting – a special presidential service recognition award by Rudershausen to Jacob Boyd, recently promoted to Section Chief for Habitat

Enhancement for the N.C. Division of Marine Fisheries, for his assistance to himself in arranging the 2017 annual meeting while on extended leave from work from late-summer to mid-fall.



Outgoing American Fisheries Society Tidewater Chapter president, Sally Roman, “passes the toadfish” to Paul Rudershausen, thereby inducting him as the 2018 president of the chapter at the annual Chapter business meeting held on Jan. 26, 2018 at the North Carolina Maritime Museum in Beaufort, N.C.

Student Presentations Carry A Successful Chapter Annual Meeting | Sara Mirabilio



Student presentations once again carried a successful American Fisheries Society Tidewater Chapter annual meeting. A total of 27 presentations—21 posters and 16 oral papers—were evaluated and scored by 12 volunteer judges. Certificates and cash awards were presented during the awards banquet held the evening of Jan. 26, 2018 at the Core Sound Waterfowl Museum and Heritage Center on Harkers Island, N.C.

In the poster category, the judges selected these winners:

First Place (\$200): **Lauren**



Clance, a recent graduate of

University of North Carolina Chapel Hill with a Bachelor of Science in Biology and temporary technician in Joel Fodrie's lab at Chapel Hill's Institute of Marine Science, for her research on the effect of edge-to-area ratios of marsh habitat and seasonality on energy content of juvenile fishes.

Second Place (\$100):



Christopher Moore, a doctoral student under April Blakeslee, assistant professor in the Department of Biology at East Carolina University, for his research on how to use parasite diversity in a common host fish – the Naked Goby (*Gobiosoma bosc*) – to evaluate anthropogenic impact.

-Third Place (\$50): **Cara**



Schweitzer, a doctoral student under Brad Stevens, professor of environmental science at the

University of Maryland Eastern Shore, for her evaluation of the effectiveness of reflex action mortality predictor (RAMP) in Black Sea Bass (*Centropristis striata*) bycatch within the commercial trap fishery.

Oral presenters were equally as talented, and in the student oral paper category, the judges selected these winners:

-First Place (\$200): **Vaskar**

Nepal KC, a doctoral student advised by Mary Fabrizio at the Virginia Institute of Marine Science / College of William & Mary's School of Marine Science, for



his examination of salinity tolerance of invasive Blue Catfish (*Ictalurus furcatus*) and implications for dispersal in the Chesapeake Bay region.



Second Place (\$100): **Ella Rothermel**, a master's student in Dave Secor's lab at the University of Maryland Center for Environmental Science Chesapeake Biological Laboratory, for her research on seasonal migrations of Striped Bass (*Morone saxatilis*) and Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*) through the Maryland Wind Energy Area.



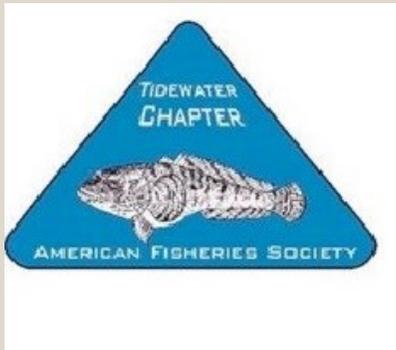
-Third Place (\$50):

Katelynn Lankowicz, a master's student under the

advisement of Hongsheng Bi, associate professor at the University of Maryland Center for Environmental Science's Chesapeake Biological Laboratory, for her research on use of sonar imaging to quantify forage fish abundance and distribution in the Patuxent River waterscape.

Why an Oyster Toadfish for the Tidewater Chapter? | Ron Klauda

The Oyster Toadfish (*Opsanus tau*) is the official logo/mascot of the Tidewater Chapter of AFS. And, as you might expect, there is a story behind how that all came to be. Here is what I remember, with a little help from some old notes, about what happened.



I was one of the Chapter EXCOM members who participated in the creation of a new Chapter logo over 26 years ago. John Cooper, Rick Eades, Dean Fowler, John Merriner, Paul Miller, Roger Rulifson, Joe Smith, and Ron Southwick were also involved. The pursuit of an official Chapter logo started way back in early November 1991. One major goal of this effort was to create a new logo to adorn the cover of the Chapter's Procedural Manual being developed at that time.

The first version logo, drawn by a MD/DNR illustrator, Lamar Platt, was basically a rectangular frame filled with 10 finfish and shellfish

species. The displayed 'critters' were swimming or crawling in and out of the frame. This logo idea was eye-catching and paid homage to many important fishes, but it was busy.

So, a second version logo, also drawn by Lamar Platt (as were all subsequent logo versions), featured a map along at the left edge of the rectangular frame showing the coast lines of the three original Chapter states (Maryland, Virginia, North Carolina), and a single Shortnose Sturgeon swimming across the coastline of North Carolina. Most EXCOM members preferred this single species logo design versus the multi-species version. But, no surprise, some also thought that other fish species like American Shad or Tidewater Silverside or even Striped Bass were more appropriate choices.

The EXCOM continued to exchange opinions on the developing Chapter logo. Sometime during the winter of 1991-1992, the oyster toadfish emerged as the EXCOM's preferred candidate species for the new logo. Outgoing Chapter President, John Merriner, asked me to solicit input from our members.

The March 1992 issue of the Chapter's newsletter contained a 12-question survey that was mailed to all members. With regards to a new Chapter logo, Question 11 asked:

"Is the attached tri-state with fish plus design acceptable to you as a logo for the Tidewater Chapter? yes/no." Question 12 asked: "Do you like the Oyster Toadfish (Opsanus tau)? yes/no. If no, please suggest another species. We can either use the same species all the time, or change species as desired. What do you think?"

Like many surveys, response to our March 1992 survey netted only 12 responses, a meager 9.5% return rate. Eight of the 12 respondents said "Yes" to Question 11. Six of the respondents liked the oyster toad, while six preferred one of 11 other fish species. We received mixed responses to the question about changing or not changing the fish species featured as the Chapter logo. Between March and May of 1992, after what I dimly recall was a bit of arm wrestling and the consumption of several good brews, the Chapter EXCOM reached agreement and selected the oyster toad for

Oyster Toadfish, continued

the new official Chapter logo. In June 1992, this very distinctive-looking (a few of us might say 'attractive') and definitely memorable fish was introduced to the membership and the rest of the world on the cover of the Chapter's Procedural Manual.

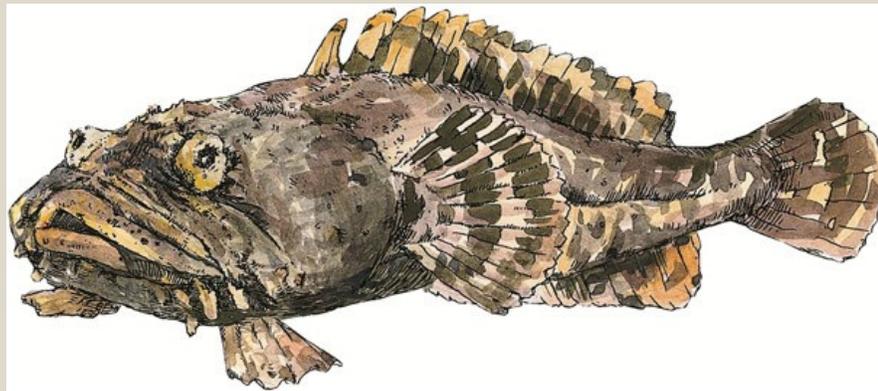
If I may speak for the members of the EXCOM back then and those few Chapter members who weighed in on the logo ideas, we all felt the need for something a little different. We preferred a fish that was not of commercial or recreational importance, or even an ecological dominant. We wanted a fish on our logo that would represent the unique character of the Tidewater Chapter---as it was back then and as it still is today: a group of folks who are

serious about fisheries science but also fun-loving and enjoy laughing together. I think most of us fish heads smile, and some may even laugh, when we cast our eyes on an oyster toad's countenance. And yet, the oyster toad is very good at what it does. So, the oyster toad and the Tidewater Chapter seemed to be a good fit back in 1991-1992---and

also today, 2018.

So how did the oyster toad grow from being on our logo to becoming the Chapter's mascot? Well, here's the rest of the story. A few years after the new logo was created, several Chapter members wanted more than just a drawing of an oyster toad to put on Chapter letterhead, procedural manuals, web pages, meeting materials, etc. They wanted something more tangible too---a mascot and something that could also become the center piece of a new Chapter award.

I knew and still know Bill



Richkus, a fisheries scientist here in MD who retired a few years ago from Versar Inc., an environmental consulting company. Bill was and probably still is a good taxidermist. In late 1998, somebody from MD/DNR (I don't remember who) caught a nice-sized oyster toad in Chesapeake Bay that came to me.

I asked Bill if he would stuff

and mount the beauty on a nice wooden plaque for the Chapter, and he did---for \$110.

On March 13, 1999, Bill's creation, the Chapter's first Coveted Oyster Toadfish Award, was presented to John Olney at our annual meeting in Gloucester Point, VA. That started an annual tradition that continues to this day. The mounted oyster toad is passed from one Chapter President to the next, along with the responsibility to keep it safe while in their possession. This passing of the Coveted Oyster Toadfish Award acknowledges the hard work

of the President-Elect and his/her transition to President, and also ensures a sense of continuity between our leaders.

The last time I took a long look at our beloved oyster toad,

it was looking a bit worse for wear. Perhaps it's time for the Chapter EXCOM to talk about getting a new oyster toad stuffed and nicely mounted on an engraved wooden plaque for the traditional passing ceremony, and then retire the original specimen to the Chapter's museum---or other safe place, so it doesn't deteriorate any further.

Virginia Update | Gail Schwieterman



Spotted Seatrout (*Cynoscion nebulosus*) are a light-tackle angler favorite from Maryland to Florida and throughout the Gulf of Mexico. These fish offer excellent table fare and inhabit inshore waters, making them both accessible and a popular target. Unfortunately, Spotted Seatrout are vulnerable to “winter kills.”

When water temperatures drop below 40 degrees, a common occurrence in the northern part of their range in Virginia and North Carolina, Spotted Seatrout are known to die in large numbers, having a negative impact on the overall population health. When a cold front hits, the fish generally move to deeper water or migrate south to avoid the sharp drop in temperature, but some do not make it quickly enough.

These fish kills are largely unpredictable and can lead to high levels of natural mortality, but Spotted Seatrout have generally rebounded well due to their early maturity and high reproductive capacity. This past January, the Spotted Seatrout

population in Virginia and North Carolina suffered another major winter kill due to sustained freezing temperatures.

Jingwei Song, a doctoral student at Virginia Institute of Marine Science (VIMS), has mixed feeling about winter kills: on one hand, he is an avid recreational angler and feels disheartened to see high natural mortality in Spotted Seatrout. On the other hand, as a geneticist, he sees that winter kills present excellent opportunities to study natural selection in action. Previous studies have shown two genetically distinct populations of Spotted Seatrout along the U.S. east coast: a northern (Virginia, North Carolina) and a southern (South Carolina to Florida) population. This finding, however, was based on presumably neutral genetic markers (loci not directly under selection). It is unknown whether the two populations show evidence of selection at functional loci. Identifying genetic mechanisms of adaptation is a goal of central importance in evolutionary biology, yet few studies have succeeded in documenting the links between molecular variation and organismal fitness in natural populations.

Song’s research aims to improve our understanding of natural selection using Spotted Seatrout

populations as a model system, and consists of two complementary parts: genetics and physiology. In the genetic portion of his study, state-of-art DNA sequencing technology is being used to discover genes (loci) that are potentially involved in local adaptation to cold winters. To do this, he is looking for loci that are more divergent than average between the two populations being studied (outlier analysis).

In the physiology portion of the study, intermittent-flow respirometry is being used to measure the metabolism of Spotted Seatrout from the two distinct genetic populations. Fish are placed in semi-closed chambers with controlled water temperatures designed to mimic natural cold stuns. Oxygen concentrations are monitored during these tests, and can be used to calculate the fish’s metabolic rate. Preliminary results suggest that the northern population may be both physiologically and genetically adapted to living in colder waters.

Song believes that an understanding of the distribution of adaptive variation of Spotted Seatrout can ultimately ensure sustainable management and conservation of this important recreational resource.

North Carolina Update | *Jacob Boyd*



Tagging fish is a common method for addressing specific issues related to migration/movement, mortality, and harvest. Having direct estimates of fishing mortality, estimates of natural mortality, and biological data increases the ability to assess fish stocks. Many fisheries have an unknown rate of mortality for discards which makes it difficult to management each stock sustainably.

1956 with the North Carolina Division of Marine Fisheries (NCDMF) starting to tag in 1973. Red Drum (*Sciaenops ocellatus*) have been tagged by the NCDMF since 1983 with flounder (*Paralichthys* spp.) tagging studies beginning in 1980.



The NCDMF have tagged over 12 species of fish for 45 years and counting. The current tagging program was established in 2014 to standardize protocols and methodologies for the various tagging studies. The program uses a variety of methods to complete the objectives of estimating tag-retention rates, tag reporting rates, mortality estimates, migration, etc. for each species. The methodologies utilized include: conventional tagging (annual fishing mortality), post-release tagging mortality, double tagging (annual tag retention rates), and high reward tags (annual tag reporting rates).

Due to the large number of tagged fish needed annually, both temporally and spatially, NCDMF tags fish throughout the state all year long.

Aside from the important data tagging fish provides, the tagging program generates great collaborative research with the public, fishermen, academia, and other state and federal agencies.

With the increasing number of recreational fishermen, the number of dead discarded fish is also increasing



leading to a greater impact on various species. Size and possession limits are drivers of discards in recreational fisheries. For more precise estimates of discard mortality, researchers try to tag as many fish as possible to increase tag returns.

In North Carolina, various species of fish have been tagged for many years to gain valuable information. Striped Bass (*Morone saxatilis*) have been tagged in North Carolina since

\$100 REWARD

CUT OFF TAG
TAG #
CALL 1-800-682-2632

ANGLERS, LOOK FOR TAGS IN YOUR CATCH!
 Rewards given for tag & fish recapture information.

CUT OFF TAG
TAG #
CALL 1-800-682-2632

CHECK BOTH SIDES OF THE FISH!

Some fish may have more than one tag. To receive a reward you must report the tag number (or numbers), the fish species, length, date & location of catch.

Mail Tags to:
 N.C. Division of Marine Fisheries
 Attn: Tagging Program
 P.O. Box 769
 Morehead City, N.C. 28557

REWARDS FOR REPORTING TAGS

Red Tag: \$100 Reward - Tag must be cut off fish & returned to the N.C. Division of Marine Fisheries.

Yellow Tag: Hat, towel, \$5 or other reward, & one entry into the N.C. Division of Marine Fisheries end-of-year drawing.

Report Tagged Fish To:
 1-800-682-2632

For More Information:
<http://portal.ncdenr.org/web/mf/tagged-fish>

Have Questions?
tagrecap@ncdenr.gov

The success of this program depends on reports of tags and capture information. Combining tag-return data with catch-at-age data collected by NCDMF, estimates of mortality and population size are greatly improved compared to traditional age structured computer models alone. Greater accuracy in estimates of stock status results in more informed and responsive management of fisheries.

Maryland News | *Bob Murphy*



Off-shore Wind Energy Projects Supporting Research

Offshore wind energy development is rapidly becoming a reality for the Atlantic coast. With 11 leases for commercial-scale wind farms, the Bureau of Ocean Energy Management (BOEM) is poised to significantly advance renewable energy in the United States. However, sites slated for the development of Wind Energy Areas (WEAs) also overlap with habitats historically important for fish and fisheries. Despite the potential for offshore wind to provide reliable renewable energy assets, the installation and operation of wind turbines could lead to biological impacts and generate fisheries conflicts. Due to several federal statutory regulations, BOEM is currently funding an array of studies that seek to understand fish distribution and behavioral responses before, during, and after WEA construction.

In order to establish baseline information on seasonal fish movement and habitat selection in mid-Atlantic shelf waters, BOEM has invested more than \$1.5 million in four fish telemetry research projects. These active studies in New York, Delaware, Virginia, and Maryland rely on acoustic receivers deployed offshore to detect acoustically tagged fish species of concern. Atlantic sturgeon are a focal species for



all four studies and are a high priority due to their endangered status. Individual projects are also investigating the incidence and abundance of commercially and recreationally important species such as striped bass, black sea bass, and skates. The relative inaccessibility of shelf waters has prevented the in-depth investigation of these species' behaviors in their

habitats and migration corridors in the past. However, the prevalence of acoustically-tagged species and data-sharing agreements between researchers will enable more representative and meaningful analysis of critical fish movements and behavior.

During the construction phase of wind energy development, noise due to increased vessel traffic and pile-driving could cause

physiological stress, avoidance, or evacuation by various fisheries species. Although publications on fish hearing thresholds and the impacts of noise exist, there is still little known about how fish may respond to these anthropogenic sound inputs. These economically important species are model study

organisms due to their potential vulnerability to noise disturbance; Black Sea Bass are believed to communicate acoustically and longfin squid have advanced sensory and neurological capacities. Power cables associated with WEA development could also affect species behavior and distribution in outer continental shelf habitats. Seabed-deployed power cables transmit power

Maryland News | *Bob Murphy*

Off-shore Wind Energy, continued from page 9

from turbines to shore facilities and are known to generate electromagnetic fields (EMFs) that may attract or deter invertebrate communities and species like sharks and rays that are electro-sensitive. Current studies focused on the Mid-Atlantic shelf aim to evaluate impacts of the Cross Sound Cable that connects New England and Long Island grids on elasmobranch species and American lobster.

Once wind turbines are in place, they will likely create lasting changes in the habitat of the Atlantic shelf. Foundations will provide permanent structure that could promote the settlement of diverse invertebrate communities, creating foraging and refuge grounds that attract fisheries species. Although BOEM does not currently have any investments in projects examining habitat creation due to turbine installation, anecdotal evidence from recreational fishermen at the Block Island Wind Farm off Rhode Island shows schools of fish aggregating around turbine foundations. Effects of WEAs on benthic habitats and fish communities will need to be monitored as offshore wind development continues to gain

momentum. However, the wealth of baseline behavior and incidence information generated by supported research will facilitate the most informed evaluation of offshore wind's future effects on fish and fisheries throughout the East coast region.

Thirty Years of Tidal Freshwater Fisheries

Fishing has gotten better in tidewater. The Maryland Department of Natural Resources compared recreational angler catches and preferences (May through October) for the two largest tidal freshwater fisheries (Potomac River and rivers of upper Chesapeake Bay) in the Chesapeake Bay watershed between 2017 to those performed 30 years ago.

In the past 30 years, angler preferences may have changed because of establishment of two invasive food fish species (Blue Catfish and Northern Snakehead) and widespread promotion of catch-and-release fishing for sport fishes such as largemouth bass. MD DNR conducted 335 angling interviews spread across eight places in Maryland's tidal freshwater of Potomac River and

nine places in upper Chesapeake Bay.

Recreational anglers spent an estimated 13,541 angler-hours



on Potomac River in 2017, which was at least 20-times less than that reported in 1990 and 1994. Another big difference on Potomac River was harvest *rates* of catfish, which has soared from 0.03 fish/angler-hour to 0.37 fish/angler-hour. Many also harvested snakeheads, which has become a new but very small fishery for Potomac River.

Angler effort in upper Chesapeake Bay in 2017 (23,301 angler-hours) was similar to that measured in 1987 (20,878 angler-hours). One measurable difference in the fishery was that for spending by anglers. Recreational anglers spent, on average, \$14.97/trip in 1987 (\$32.19 in 2017 dollar value) in the upper Chesapeake Bay. In 2017 it is estimated they spent

Continued on next page

Maryland News | *Bob Murphy*

Off-shore Wind Energy, continued from page 10

\$53.86/trip in the upper Chesapeake Bay. Catch rates for catfish have changed little in the upper Chesapeake Bay (0.10 fish/angler-hour to 0.18 fish/angler-hour), possibly because blue catfish have only recently invaded that area. Additionally, very few people caught or harvested snakeheads, which has also just recently invaded that area.

Recreational anglers spent their time targeting Largemouth Bass (38.6 percent) and catfish (23.4 percent). These top ranks are similar to those of anglers about 30 years ago. Catch rates for these two top targets are now at least twice as high for recreational anglers. This may be owed, in part, to more abundant resources or to better targeting practices. The proportion of harvested fish has not noticeably changed, possibly reflecting little change in angler attitudes toward harvesting. During 2017 recreational anglers invested an estimated \$51,748,860 into fishing tidal freshwater of Potomac River and the upper Chesapeake Bay. This value underestimates

investment into the fisheries because it does not include that invested by Black bass tournament anglers or Black bass tournaments, themselves.

Moderate changes in the fisheries of the two largest tidal freshwater areas of the Chesapeake Bay watershed have occurred in the past three decades, including a new but small harvest fishery for Northern Snakehead, greater ability to catch the top two targeted species by recreational anglers, greater catch rates of catfish on Potomac River possibly because of more abundant Blue Catfish, and



much lower angling effort on Potomac River.

Fish Plug Evaluation Study

In 2013, EPA's Office of Wetlands, Oceans, and Watersheds (OWOW) initiated fish plug sampling from whole fish collected at over 360 river sites for a human health fish tissue indicator. Collecting and analyzing fillet plug samples was applied as a more cost effective alternative to obtain mercury data for human health applications than the routine approach of removing entire fillets from each fish in a sample and homogenizing the fillet tissue for mercury analysis. OWOW expanded use of fish fillet plug sampling for mercury analysis during the 2015 National Coastal Condition Assessment (NCCA) by applying this fish tissue sampling technique on fish samples collected from the 225 Great Lakes sites and the 684 marine sites along the coasts of the contiguous United States that were designated for fish sampling. Prior to these EPA surveys, a few states were experimenting with fish plug sampling to monitor mercury contamination in fish. EPA's widespread use of fish plug sampling in these two recent National Aquatic Resource Surveys has prompted more

Maryland News | *Bob Murphy**Off-shore Wind Energy, continued from page 11*

states to introduce this sampling technique into their fish monitoring programs. However, the question remains about whether fish fillet plug sampling and analysis can serve as a reliable surrogate for the traditional approach of homogenizing and analyzing whole fillet tissue to monitor mercury concentrations in fish. Additionally, this study will investigate if it is technically feasible to apply fillet plug sampling and analysis to monitor selenium concentrations in fish.

Tetra Tech, working with the

EPA, is conducting a Fish Plug Evaluation Study to address the fundamental question about comparability of fillet concentration results when analyzing fish fillet plug samples vs. homogenized whole fillet tissue samples for mercury and selenium. Top carnivore species (Largemouth bass and Blue catfish) were target species from the Potomac and Anacostia Rivers in Maryland. Data from this study should allow EPA to determine if fish fillet plug sampling and analysis can be applied as a technically comparable alternative to homogenizing and analyzing

whole fillet tissue samples for these two metals. Depending on the outcome of the study, there could be important cost implications if study data demonstrate that fish fillet plug analysis can serve as a reliable alternative for monitoring levels of mercury and selenium in fish. A positive outcome for the study would be to identify fish fillet plug sampling and analysis as an effective approach that state and federal agencies can use for surveillance and compliance monitoring of mercury and selenium levels in fish at much lower costs.

Treasurer's Report | *Stephanie McInerny*

The Tidewater Chapter made over \$3,000 from the annual meeting in January. This year, the Chapter was able to donate a total of \$800 to the Southern Division annual meeting in Puerto Rico to help with hosting fees and travel expenses for local fisheries professionals. A portion of the travel expenses for our President to attend the Southern Division meeting were also paid.

Annual chapter dues for 2018 are \$10.00. If you are not currently a member of the Chapter but would like to join, a membership form can be found on the Chapter website or you can email me at Stephanie.McInerny@ncdenr.gov. A lifetime membership is available for a

onetime fee of \$150.00. Checks should be sent to:

Stephanie McInerny
TWC Secretary/Treasurer
209 Brigantine Ct.
Cape Carteret, NC 28584

Make checks payable to "Tidewater Chapter AFS".

Current Financial Report

Checking:	\$17,824.44
Mutual Fund:	\$ 1,924.31
Total:	\$19,748.75

Duke University Student Subunit News | Sara Cleaver



This has been a great year for DukeFish's engagement with the Tidewater Chapter. Our leadership team was happy to have many of our members attend the annual Tidewater Chapter meeting in Morehead City this past February. We were able to help President Paul and the team from NC State CMAST by having our students staff the registration tables and help ensure presentations ran smoothly. Overall this was a great experience for our graduate students to engage with the Tidewater community and learn about local fisheries research.

We've been busy building up the DukeFish's presence at both our Durham and Beaufort campuses by focusing on career-related events for our professional master's students. We hosted a career panel with Duke alumni working in fisheries careers. This panel discussion, hosted at the Duke Marine Lab in Beaufort, gave our graduate students the opportunity to hear career advice from alumni working in state government and private sector fisheries careers. We were also fortunate to have alumnus Mike Petony, NOAA Regional Administrator for the Greater

Atlantic Region, talk with our students about fisheries management and his career.

In an effort to engage more with other research institutions in the Triangle area, we brought Duke students on a tour of the NC State Fish Barn to learn about hybrid Striped Bass and tilapia aquaculture and aquaponics from NC State research faculty.

We continue to support our local Community Supported Fishery, Walking Fish, Every Thursday,



fresh, locally harvested seafood is brought to the Triangle area from Beaufort. We proudly support Walking Fish and our members volunteer to help with the distribution of shares every week. Our continued engagement with Walking Fish has been a great way for our volunteers to interact with fishermen. Last fall, we were able to host a Walking Fish-DukeFish Shrimp Boil Happy Hour for all students

at the Nicholas School of the Environment at Duke, featuring local brews and sustainably-caught NC shrimp.

This Spring we will continue our annual involvement in Duke's Ocean Awareness Week and host our crowd-pleasing fish print activity at Duke's Earth Day festivities. We are looking forward to returning to the North Carolina Seafood Festival this upcoming Fall, please stop our booth if you're in the area!

Best,

Chrissy Hayes and the rest of the Duke Fish Leadership Team.



DukeFish at the Core Sound Waterfowl Museum for the 2018 Tidewater

Runde Awarded Eileen Setzler-Hamilton Memorial Scholarship | Sara Mirabilio

Sara Mirabilio is the chair of the Awards and Scholarship Committee

The Eileen Setzler-Hamilton Memorial Scholarship is awarded to a graduate student currently enrolled in a fisheries science or closely related curriculum who has displayed a commitment to excellence in research, teaching, professional undertakings, public education, and community service. This award was created in 2003 to remember Dr. Eileen Setzler-Hamilton, a long-time member of the American Fisheries Society and fourth president (1989) of the Tidewater Chapter. This award really is about a “coastal scientist enthusiast” who passionately engages with other students and the public out of the beauty they feel privileged to witness each day in the field. That, was Eileen.

Recipients receive a certificate and a \$600 scholarship – up from the longstanding \$500 amount. The award is presented at the Chapter annual meeting. The 2018 “Eileen Award” was presented to **Brendan J. Runde** during the awards banquet held the

evening of Jan. 26, 2018 at the Core Sound Waterfowl Museum and Heritage Center on Harkers Island, N.C.



Brendan is a doctoral student at North Carolina State University. Under the advisement of Dr. Jeff Buckel, he is investigating varying management approaches to offshore reef fish species.

What was most striking about Brendan’s scholarship application was his “giving back” to research and public communities. As an undergraduate, he was the fundraising chair, streams concern chair, and vice president of the Virginia Tech Chapter of the American Fisheries Society; he helped organize professional speakers and directed a cleanup of local

waters. As a graduate student, he has co-organized two workshops for coastal graduate students and professionals - one from Dr. Ken Pollock on sampling design, and one from Dr. Joe Hightower on multistate Bayesian modeling.

Brendan’s outreach and service to the community also is at a high level. His advisor noted, “Given his excellent communication skills and desire to give back to community, I have put him in charge of our laboratory’s public outreach during the Big Rock Blue Marlin tournament.” Brendan also volunteers regularly for K-12 activities. For example, he presented at a “teen science café” on his path to becoming a graduate student, as well as organized and ran a fish sampling and dissection event with middle school students.

Worth noting was his service to the most recent annual meeting; he arranged most all of the food and beverages, as well as the raffle. The Chapter acquired over \$5,000 worth of merchandise – a truly remarkable feat! Thank you, Brendan!

AFS Tidewater Chapter Executive Committee

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2018 AFS Annual Meeting Takes Place in Atlantic City!

The Mid-Atlantic Chapter invites you to attend the 148th Annual Meeting of the American Fisheries Society – Communicating the Science of Fisheries Conservation to Diverse Audiences. The meeting will take place in Atlantic City, New Jersey from August 19-23, 2018. There is plenty to see and do in this exciting city.

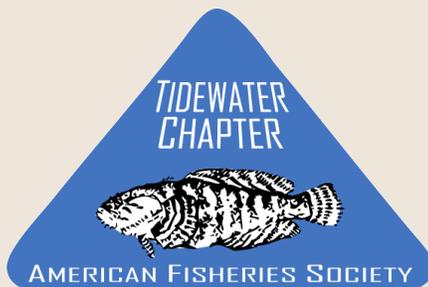
Visit <https://afsannualmeeting.fisheries.org/> for more information.

**COMMUNICATING THE SCIENCE OF FISHERIES
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AUGUST 19-23, 2018



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