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**President's Message**

Spring has sprung! I know for many of you the Covid-19 outbreak has caused you to adapt, change, or cancel your normal spring operations. This is a strange and confusing time. With all the new challenges it can be quite overwhelming, especially on top of a hectic spring sampling schedule. So instead of dwelling on negatives I want to talk about how amazing our NCAFS community is.

NCAFS is a family that loves and looks after each other. I think I've always known this, but it was made apparent to me recently. Many of you know that I was not able to attend the NCAFS meeting in New Bern. It started out as a very exciting reason—the birth of my daughter. However, Elliott's health began to decline and things quickly went from excitement to fear and anxiety. Many of you may not have even realized it, but there were several Chapter members that stepped up and said "Don't worry about NCAFS, we got it. Go do what you need to do." The meeting went well from all accounts I've received. I can't thank you enough for your help and I'm happy to announce that Elliott Angler Ricks is doing well since her surgery.

In our current Covid-19 situation, while we can't see each other as much as we would like, I know we are checking on each other. I've received calls, emails, posts on Facebook, and other social media where we are reaching out.

*Continued on page 2...*

We are all doing the things I'm doing with my own family. I wanted to take a moment to let you all know that I know these are strange and anxious times, but we are blessed to have a group that cares about each other.

Be safe and keep up the good work,

Ben

*Submitted by Ben Ricks, NCAFS President*

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## **Treasurer's Report and Meeting Recap**

### **Balances as of March 26, 2020:**

NCAFS Wells Fargo Checking Account: \$11,903.80

NCAFS PayPal Account: \$40.86

RRCC Wells Fargo Saving Account: \$4,044.49

Edward Jones Ichthus (Student) Fund: \$24,368.84

Edward Jones General Fund: \$46,695.92

2019 was a very active and successful year for NCAFS! We updated the Procedures Manual to include updated responsibilities for the ExCom. We also added information about the new undergraduate awards and the new procedures for applying for small and large grants. We implemented this new system for the first time this year which includes having applicants fill out and submit an application for donations by the deadlines of April 1 and November 1. This new process includes a timeframe for when applicant will receive a response from the ExCom. In general, we feel these changes have created a more seamless and transparent process.

A financial proposal that allows the Treasurer and ExCom flexibility when making management decisions was also approved at the 2020 business meeting. The final budget for the previous year will be presented at the business meeting during the treasurer's report every year and open to review. The proposed budget for the current or following year will also be presented at the annual business meeting. This proposal, in addition creating an annual budget, will provide ExCom the necessary tools to manage finances based on chapter needs, long term goals, and annual fluctuations in income and expenses.

As of February 2020, the NC Chapter of the American Fisheries Society has a total of 53 NCAFS-only members and 71 NCAFS + AFS members for a total of 124 active members (subject to change). Of our membership, 26 are students, 82 are professional members, and 16 are retirees or lifetime members. Thank you to everyone who paid their dues!

Our annual meeting was held February 4-6 in New Bern. There were 84 meeting attendees (21 students, 4 retirees, 56 professionals, and 3 non-members) and 34 workshop attendees (4 students, 30 professionals, and 4 non-members). The total cost for the meeting was \$5807.03 and the total revenue (including meeting registration and workshop fees and donations) was estimated to be \$9665.00. Thus, the chapter gained approximately \$3857.97 in revenue from the meeting! Thank you, again, to all our sponsors. Thank you to all the members for making this another successful and fun meeting!

The revised meeting minutes for 2019 are available on our website, under the 2020 meeting tab. The 2020 business meeting minutes are also available (<https://nc.fisheries.org/2020-ncafs-meeting/>). The 2020 meeting minutes include all the committee reports, a list of income and expenses during 2019-2020, and the final approved proposal. For any questions regarding meeting minutes, finances, or procedures, please contact Kelsey Roberts at [kelsey.roberts@ncwildlife.org](mailto:kelsey.roberts@ncwildlife.org).

*Submitted by Kelsey Roberts, NCAFS Secretary/Treasurer*

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## Chapter Awards



*Jake Rash presenting the Jerry R. Finke Distinguished Service Award to Lawrence Dorsey*

Several awards were handed out at the NCAFS meeting in New Bern. The Jerry R. Finke Distinguished Service Award is awarded to a member who has distinguished themselves through service to the Chapter, American Fisheries Society, or the fisheries profession. The recipient in 2020 was Lawrence Dorsey. The Richard L. Noble Best Student Paper award went to Riley Gallagher (NCSU) for his presentation, "*Linking Acoustic Telemetry and Population Genetics to Investigate Stock Structure of Atlantic Cobia.*" Finally, the W. Don Baker Best Professional Paper award was bequeathed to Chris Wood for his presentation, "*Managing a Brown Trout Tailrace Fishery in North Carolina.*" Congratulations to all awardees!



*Jake Rash presenting the Richard L. Noble Best Student Paper Award to Riley Gallagher*



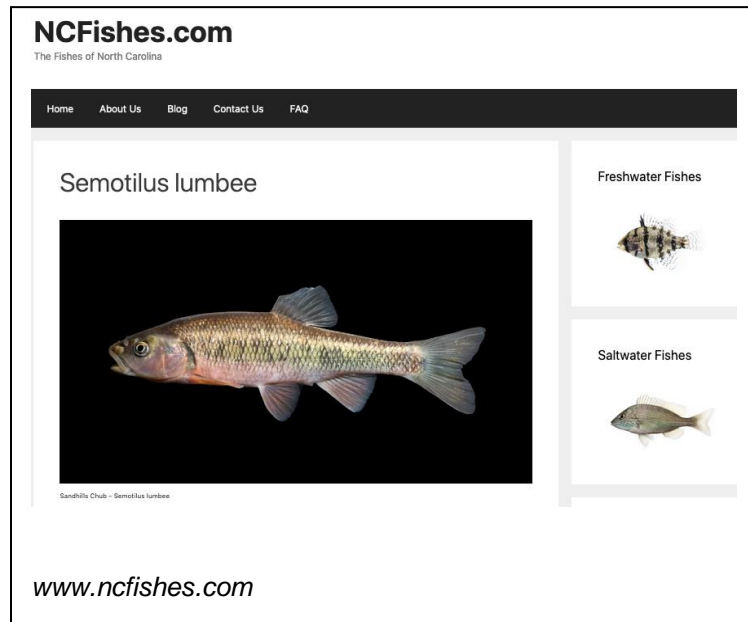
*Outgoing Past-President Tyler Black presenting a certificate of appreciation to Jake Rash for his service as president.*

*Submitted by Tom Kwak and the NCAFS Newsletter Review Team*

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## New Website: North Carolina's Freshwater, Estuarine, and Marine Fishes

Scott Smith, Fritz Rohde, and Bryn Tracy are working in their spare time to develop a website with identification information, distribution maps, identification media, and



photographs of the fishes of North Carolina. In December of 2019, they placed the first working draft of the site online at [www.ncfishes.com](http://www.ncfishes.com). They are currently collecting photographs and testing various layouts and page structures. Although mainly targeting the freshwater fishes of the state, they have also compiled a list of the known marine fishes (~750 species) from museum, agency, and personal records. They will be adding to the site as time permits, with the goal of having it fully functioning by the end of 2020.

Submitted by Scott Smith

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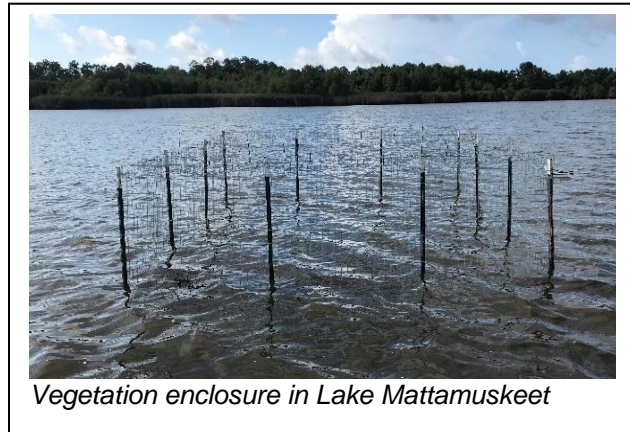
## Restoring Lake Mattamuskeet's Aquatic Vegetation

The Lake Mattamuskeet benthos is barren no more! At least, not entirely. In 2019, NC State University graduate student and SFS member, April Lamb, led a team of volunteers in transplanting over 1200 aquatic plants as part of an experiment to evaluate the lake's potential for revegetation in its current state.

For those not familiar, Lake Mattamuskeet is North Carolina's second largest lake and the centerpiece of the Mattamuskeet National Wildlife Refuge (NWR), located on the Albemarle-Pamlico Peninsula just north of Swan Quarter. A popular birding spot, Mattamuskeet supports over 250 species of resident and migratory birds, including Tundra Swan, *Cygnus columbianus*, Osprey, *Pandion haliaetus*, and 18 species of ducks. The lake itself is home to a diverse assortment of fishes, despite only averaging 4 feet in depth. This includes sportfish like Largemouth Bass, *Micropterus salmoides*, and Black Crappie, *Pomoxis nigromaculatus*, as well as two diadromous species, the American Eel, *Anguilla rostrata*, and Alewife, *Alosa pseudoharengus*.

The diversity of wildlife found at Mattamuskeet is largely dependent on the lake's overall health. Historically, thick beds of submerged aquatic vegetation (SAV) were ubiquitous across the lakebed and helped stabilize the substrate, cycle nutrients, and provide critical habitat and food sources for birds, fish, and invertebrates. This resource, however, has been in decline since the late 1990's and by 2017, all SAV in the lake was gone. Algae then took over as the lake's primary producers, which meant overall decreases in water quality and clarity. In 2016, the N.C. Division of Water Resources listed the lake on the §303(d) list of impaired waters due to high pH and chlorophyll-a, which are indicators for cyanobacteria harmful algal blooms (cyanoHABs).

Now, in 2020, it is overwhelmingly clear that improving the health of Lake Mattamuskeet (and similar systems facing water quality issues) means taking necessary steps to restore (and prevent the further loss of) aquatic vegetation. April's project, which aims to help guide restoration efforts, first meant building 70 enclosure cages across two bays located in the southwest corner of Lake Mattamuskeet, along the Rose Bay Canal. Cages like these are commonly used in lake restoration and will help to protect transplanted vegetation from hungry turtles and bottom feeding fishes, such as Common Carp, *Cyprinus carpio*.



*Vegetation enclosure in Lake Mattamuskeet*

Vegetation was selected based on known-historical presence in Lake Mattamuskeet, value to waterfowl species, and biological traits that could influence successful establishment and growth in current or slightly improved lake conditions. Two



*James Daw, Bryn Tracy, and Noah Malandra harvesting White Waterlily.*

submergent taxa, Wild Celery, *Vallisneria americana*, and Southern Waterlily, *Najas guadalupensis*, were prioritized as they historically accounted for a majority of the submergent community in Lake Mattamuskeet. One floating-leaf species, White Waterlily, *Nymphaea odorata*, was also selected as it may be less susceptible to stunted photosynthesis from current turbid conditions. Plants were obtained from three sources. Over 90% of *V. americana* was grown by April at NC State University from March 2018 to August 2019, propagated

using stock originally collected from Lake Mattamuskeet. An additional 200 *V. americana* plants, along with all *N. guadalupensis*, were purchased from Wetlands Plant Inc. in Edenton, NC. Finally, all *N. odorata* was collected by hand from refuge-managed impoundments bordering the lake.

To maximize the chance of the submergents rooting in the soft substrate, each plant was hand-sewn into burlap squares and attached to a 1 X 2 m fence panel. This method also made it easy to keep an accurate count of how many plants went into each cage and allowed the entire panel of plants to be submerged at once.



April Lamb with panel of attached vegetation.

Many volunteers aided these efforts, including individuals from NC State University, the NC Wildlife Resources Commission, the Mattamuskeet NWR, the “Retired” category (Bryn), and others from the community. It was truly a collaborative effort that would not have been possible without the good spirits and persistence of these folks, despite the hot and humid conditions. This project was also made possible in part by supplementary funding from the NCAFS Chapter, which helped cover lodging expenses for volunteers and purchase last minute materials needed for planting, such as additional burlap, chicken wire, and cage clips.



Wild Celery growth in February 2020.

In February 2020, April was able to check on the vegetation for the first time since planting concluded in September of the year prior. Incredibly, and despite the less than ideal water conditions and Hurricane Dorian, the plants had not only survived but had grown significantly. The *V. americana* had grown to the very surface of the water and is now easily visible from a kayak. *N. odorata* was likewise visible. These preliminary results are very exciting and will be followed up with a more comprehensive sampling effort later this spring. If you are interested in learning more about the results from this sampling and the project in general, April will be defending her master’s thesis on June 11<sup>th</sup> at 1pm at NC State University (a remote viewing option will also be provided). She is also planning to present these

results at the upcoming AFS Meeting (Columbus, OH) and the 2021 NCAFS Meeting.

*Submitted by April Lamb*

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### **Fritz & Rohde — A Tail of Two or Three Dogs**

[Editor's note: This article was written and submitted by two Chapter members who wish to remain anonymous as do the dog's owners.]



*Fritz (bottom) is a chocolate brown-tan male; Rhode (top) is an English cream-blond female.*

Fred (Fritz) C. Rohde is one of the Chapter's longtime members and one of our State's most valuable ichthyological resources. Despite Fritz's copious contributions to ichthyology, he has never had a fish species named after him. However, one our Chapter members and his wife remedied that situation by naming their two Dachshunds – Fritz and Rohde – because, as the story goes, the wife was so enamored with the names that she wanted to name their two dogs after him!

All flea-bag jokes aside, Fritz is the “top dog” in North Carolina ichthyology. Fritz has been a fixture in fisheries science since 1967 (the Summer of Love) when he got his first job as a Biological Aide in North Central Reservoir Investigations, in Yankton, SD with the U.S. Fish & Wildlife Service. There he was a young pup in a field crew



monitoring the fish populations in reservoirs using gill, hoop, and fyke nets, otter trawls, and seines. Fritz followed the fishery scent to earn his BS in Fisheries & Wildlife with a minor in Botany from Iowa State University in 1971. [Note: my graduate advisor once commented that: “You can’t swing a dead cat over your head without hitting someone from Iowa State”.] In 1979 Fritz received his MS in Zoology-Ichthyology from UNC-Chapel Hill writing his thesis on the “Systematics of the American Brook Lamprey, *Lampetra (Lethenteron) lamottenii* (Lesueur) (Pisces: Petromyzontidae)”. To this day, Fritz remains a Carolina-blue Tar Heel Fan, but unfortunately his fish was buried into synonymy with *Lethenteron appendix* (DeKay 1842). Despite someone taking his favorite bone, Fritz has gone on to author or co-author approximately 95 peer-reviewed journal articles and agency publications, the most recent on the Longear Sunfish in North Carolina (in press); scientifically described two species of pygmy sunfish – Carolina Pygmy Sunfish and Bluebarred Pygmy Sunfish; and co-authored books on the Freshwater Fishes of the Carolinas, Virginia, Maryland, and Delaware and another on the Freshwater Fishes of South Carolina. Fritz is a longtime (founding?) member of the NCWRC’s Scientific Council on Freshwater Fishes, a Fellow and President of the North American Native Fish Association (<http://www.nanfa.org/>), and co-editor of the Association’s journal American Currents. Quite the list of accomplishments for such an ol’ dog.

Which walks us back to the mangy and scratching question: “Why hasn’t a fish been named after Fritz?”. Ichthyologists – if you are reading this, get off the couch and name a fish after Fritz. This white-muzzled pooch deserves it! His namesake wiener dogs would appreciate it, too.

*Submitted by Anonymous Chapter Members*

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### **Updating AFS Dam Removal Policy**

It has been 16 years since the American Fisheries Society released a policy statement on dam removal. Since that policy statement was published, nearly 1,000 dams have been removed in the United States. Given the experience and knowledge that have accumulated since 2004, the society is seeking to create a succinct policy statement that can be used to engage policymakers who are confronted with decisions regarding dam removal efforts. Individuals with experience in any facet of dam removals are encouraged to assist in the effort. More information can be found [here](#).

*Submitted by the NCAFS Newsletter Review Team*

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## ETYFish Project

*What's in a name? That which we call a rose,  
By any other word would smell as sweet.*

Had Romeo not been so infatuated in Shakespeare's *Romeo and Juliet*, perhaps he would have answered Juliet's question. What is in a name? Much is in a name, if that name is scientific nomenclature. Scientific names have not only been used to describe some [physical trait](#), [behavior](#), or [locale](#), but also to slight one's [colleague](#). Head over to the [ETYFish](#) website to get the backstory on your favorite fish names. A species is highlighted each week, but we recommend you catch up with February 19, 2020 (Smallmouth Bass) and February 26, 2020 (Freshwater Drum).

*Submitted by the NCAFS Newsletter Review Team*

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## Great Smoky Mountains National Park Stream Guardian

Since 2018, the National Parks Service has published three volumes of [Stream Guardian](#), documenting fisheries resources in Great Smoky Mountains National Park. Members are encouraged to check out all of the issues; but especially [Volume 3](#) for its article on Willis King. Willis King was a man of firsts—he was the first fish biologist to study the fisheries resources in the park, later becoming the first fish biologist for the North Carolina Division of Game and Inland Fisheries (the precursor to the Wildlife Resources Commission), the first Executive Director of the Wildlife Resources Commission (on a temporary basis before Clyde Patton), and the first WRC Fish Chief.

*Submitted by the NCAFS Newsletter Review Team*

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## Good Work!

[Guillette, T. C., J. McCord, M. Guillette, M. E. Polera, K. T. Rachels, C. Morgeson, N. Kotlarz, D. R. U. Knappe, B. J. Reading, M. Stryner, and S. M. Belcher](#). 2020. Elevated levels of per- and polyfluoroalkyl substances in Cape Fear River Striped Bass (*Morone saxatilis*) are associated with biomarkers of altered immune and liver function. *Environment International* 136:105358.

[Clark, K., D. Pender, M. N. Peterson, K. Stevenson, D. Lawson, and R. Szczytko](#). 2020. Reaching underserved populations through a fisheries education program. *Fisheries* 45(3):113-172.

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## Stories of Interest

### [Chinese Paddlefish declared extinct](#)

The first large-fish extinction of the Anthropocene.

### [Toxic “forever” chemicals flow freely through Cape Fear River](#)

Exposé on emerging compounds in Striped Bass.

### [World’s largest cavefish discovered in India](#)

As quickly as we lose a fish, we gain a fish.

### [Inland fisheries collapsing in the Tonle Sap](#)

Never heard of Tonle Sap? You have plenty of time to learn. Saddle up for a trip to Cambodia.

### [Species making a comeback](#)

NCAFS President Ben Ricks takes us on a trip to sample river herring.

### [Releasing a fish isn’t as simple as tossing it overboard](#)

Great popular press on catch-and-release techniques, with a nod to NC research.

### [Bring back Muskie](#)

NCAFS member Scott Loftis on a restoration plan for the French Broad River.

### [The future of aquaculture](#)

The company that owns Google will soon own the sea.

### [At sea during a pandemic](#)

Boats are returning from sea with full holds and nowhere to sell. Impacts from COVID-19.

### [Recreational fishing banned in Washington](#)

More impacts from COVID-19.

### [Waived fishing license requirements in Missouri](#)

More impacts from COVID-19

### [USFS closes facilities in WNC](#)

More impacts from COVID-19.

### [Social distancing with North Carolina Shad](#)

Feeling bummed with most of the articles above? The author has a suggestion.

*Submitted by the NCAFS Newsletter Review Team*

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## Call to Action!

If you want to contribute, have a story idea or would like us to include something in next quarter's newsletter, e-mail Kyle Rachels [kyle.rachels@ncwildlife.org](mailto:kyle.rachels@ncwildlife.org) or give him a call at 252-548-4938. 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, annual meetings, chapter links and joining the AFS can be found there.

[Click to view dates & deadlines](#)

**UPCOMING MEETINGS**  
In Fisheries & Ecology

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

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