



Vol. 4, No. 4

The Quarterly Newsletter of Sound Rivers

Fall 2018

## Water Spotlight The Lower Neuse River

By Katy Langley

The Neusiok word, “Neuse,” means peace. Floating down the river or fishing from the bank is very peaceful, though the water quality of the Neuse is quite tumultuous.

The Neuse Basin has so much to offer by way of recreation, economics, and tourism, and is a drinking water resource for many communities. At 275 miles, it is the longest river entirely contained in North Carolina. The lower portion of the basin also has an interesting and varied landscape; the river transforms from free

flowing river to a slower moving, brackish estuary ending at the Pamlico Sound where it holds the record for widest river in the country at 6 miles across.

Estuaries provide vital nursery habitat for many species of fish. In the Neuse, approximately 2,750 acres of estuarine water is home to species including shad, catfish, and bass. Over 90%

of commercial seafood in North Carolina is caught in the Albemarle-Pamlico Estuary. These waters are also home to coastal birds, oysters, crabs, plants, and more. The natural beauty of the area combined with the presence of wildlife makes it a popular draw for kayakers and anglers. Alligators are a common sight and dolphins and sharks have even been spotted as far upstream as New Bern.

Unfortunately, the quality of the water is not quite as picturesque as the river itself. For decades the

Neuse basin has been polluted from municipal and agricultural processes. The rivers and streams that make up the Neuse basin wind through towns and agricultural lands, whose runoff amounts to serious problems for the river.

Stormwater runoff introduces many various pollutants into the river system including nutrients, bacteria, heavy metals, hydrocarbons, sediments, and more. Most of these are fairly obvious as harmful to the environment, however, the most damaging is the least

expected one: nutrients. We all know the old adage, “too much of a good thing is a bad thing.” In the case of nutrients like Nitrogen and Phosphorus, it is a disastrous thing. Nutrients fertilize the algae in the water which leads to algal “blooms.” After the algae dies, the decomposition process uses up the oxygen in the water leaving little to none for fish and other aquatic

creatures. These events, combined with warmer water temperatures in the summer months, lead to large and devastating fish kills.

These massive fish kills pose risks to human health and negatively affect recreation and tourism. In July of 2015 an estimated 150,000 fish died as a result of low oxygen levels, creating a dead zones in the water, and we have seen many fish kills - smaller, but still significant - in recent years as well. There have also been larger kills like in 2016 where estimates put the

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Sunset on the Lower Neuse

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# Greetings from Leadership



## Happy Harvest!

by Heather Deck

Fall is my favorite time of year. I enjoy reminiscing about summer memories made while saying

goodbye to the sweltering days of July and August. I hope many of you were able to enjoy the bounties of the Tar-Pamlico and Neuse Rivers these last few months; either by swimming, boating, enjoying delicious local fish and seafood or just capturing a lovely summer scene while strolling along a waterfront. I also hope that many of you found our new program, Swim Guide, a useful tool as you planned your summer activities on the rivers. The program ran from Memorial Day to Labor Day and provided weekly water reports regarding safe swimming conditions. Look inside to read about the volunteers that made our weekly water reports possible. If you are interested in participating next year, simply email [volunteer@soundrivers.org](mailto:volunteer@soundrivers.org).

Even though our summer volunteer monitoring program has ended, there are still a number of ways to be involved and support clean water efforts:

Vote in November! Your voice and support for clean water is critical in elections. See our Fishing for Facts section information on additional ballot measures

Sign the petition to protect the Clean Water Act - for more information, visit page XX

Become a NC Pipeline Watch volunteer - for more information, visit page XX

Volunteer for Oyster Roast in November

Sign up for our weekly e-news for other take action opportunities at [soundrivers.org](http://soundrivers.org)

I hope to see many of you at our 33rd annual Oyster Roast, on November 10th in Washington. This annual event is not only fun for all ages, it provides critical financial support for the work of your Pamlico-Tar Riverkeeper. This is another great way to be involved with Sound Rivers.

See you on the River!

*Heather Deck*

## Lower Neuse River Cont. from P.1

death toll between 200,000 to a million. Fish kills are a regular occurrence on the river and have been for years. It has become a fact of life, but a fact that should not be accepted, While there are rules in place to manage the amount of nutrients within the river system, it is clear that these rules are not strict enough to be effective.

Despite the problems facing the Lower Neuse River and its estuary, it is still a vital resource for those living in the basin. Beyond the basic needs of drinking water and food, economic uses and tourism, the river is worth protecting. The Neuse river, as its name suggests, provides a sense of peace, something we all need in our lives. It's a feeling that should be shared and passed on for future generations. It is estimated that the Neuse River is one of the oldest in the country at 2 million years old. Around 14,000 years ago Native Americans were settling along the banks of the river. New Bern was established as the first capital of North Carolina due to the import opportunities provided by the river. The river has been here long before us and will remain long after we are gone. The Neuse River belongs to all of us. It's there for us to enjoy and it's our responsibility to be good stewards of all that it has to offer.

## Upcoming Events

Visit [soundrivers.org](http://soundrivers.org) for more info

**Saturday, November 10, 2018- 33rd Annual Oyster Roast**  
Washington Civic Center, Washington, NC

**Tuesday, November 27, 2018- Giving Tuesday**  
Check back at [SoundRivers.org](http://SoundRivers.org) for info!

**Tuesday, March 12, 2018- Taste of Coastal Carolina**  
New Bern Convention Center, New Bern, NC

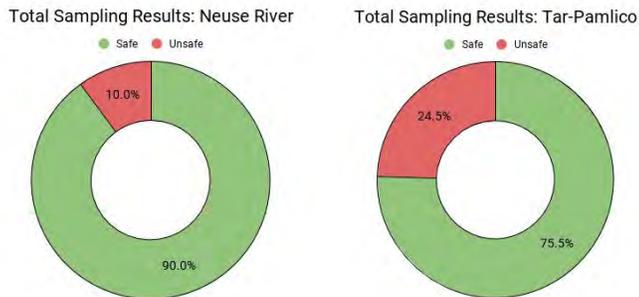
# Your Rivers!

# Event Spotlight

## Swim Guide Wraps Up Summer Season

By Matt Butler

Starting Memorial Day Weekend, Sound Rivers sampled popular recreation sites each week to bring recreational water quality recommendations to the public based on fecal bacteria indicators. Our network of volunteers coordinated by our two interns, Katie McQuillan on the Lower Neuse River and Duncan Anderson on Tar-Pamlico River, collected enough data to make some assessments on basin health. On the Tar-Pamlico, we found that, on average, sites pass the EPA bacterial standard 74% of the time, with most of the regular failures occurring at Bath Creek, Broad Creek, and the Pungo River near Woodstock Point.



Overall the level of bacteria in the Lower Neuse has been slightly better than the Tar-Pamlico, with samples coming back healthy 89% of the time. Seven sampling sites were healthy 100% of the time. Of the sampling sites with routinely high levels of bacteria, all were located on the Trent River and the majority occurred at River Bend, but Brices Creek, Lawson Creek Park, and Pollocksville also revealed high levels of bacteria during the summer.

For both basins, we have compared our bacterial numbers to precipitation, evaluating to see if heavy rainfall prior to sampling (that could lead to polluted runoff into streams and rivers) is an effective indicator that a site sample will come back with high levels of bacteria. At the Tar-Pamlico problematic sites, and the Trent River at River Bend, there was a weak relationship between these metrics, meaning there were many days where high bacterial levels appeared without large amounts of rain leading up to sampling. This suggests that the elevated levels of bacteria may be from localized wildlife and/or improper boat fecal disposal.

Brices Creek, Lawson Creek Park, and Pollocksville sites displayed a strong relationship between rain prior to sampling and fecal bacteria levels,



**Saturday, November 10 ~ 6pm ~ Washington Civic Center**

Sound Rivers is gearing up for our longstanding tradition in eastern NC, our Annual Oyster Roast! Sound Rivers' 33rd Oyster Roast will be held this year on November 10th. This is the best party in eastern North Carolina, and one of our largest fundraisers, helping to support the crucial work of the Pamlico-Tar Riverkeeper and other Sound Rivers programs.

This year, the event will feature unlimited steamed oysters served under the stars, craft beer from Duck Rabbit and Uptown Brewing Company, live music from 3WB, chili & chowder, and the best Silent Auction on the Pamlico River!

Tickets are now on sale at [soundrivers.org](http://soundrivers.org) or by calling 252-946-7211. Early bird pricing is \$50 for members and \$55 for non-members, and ends October 15th.

**VIP is back in 2018!** VIP Tickets will be available for \$100 and include early entry (5pm) for the first crack at the oysters, wine tasting, stainless steel Sound Rivers pint glass, raffle ticket, and more!

## Help Make Our Silent Auction A Success!

Do you have an item, service, or experience you'd like to donate to the auction? The Silent Auction is a major part of the Oyster Roast's success – we hope you'll consider donating an item, or help us reach out to local businesses! To donate an item or get involved with the Silent Auction, email [corinne@soundrivers.org](mailto:corinne@soundrivers.org) or call 252-637-7972.

## Swim Guide, Cont.

indicating stormwater runoff from the surrounding area is a contributor to fecal bacteria pollution. Based on these results, we can determine that while rain before sampling was sometimes a good indicator of fecal bacteria levels, other more localized sources also played an important role.

This summer, we've been able to engage with thousands of members of the public each week with our results and through our volunteers. We're currently working on securing funding to make this a recurring program each summer and to expand it to the Raleigh area. We hope the community will look for Swim Guide next summer!

# Advocacy Updates

## Atlantic Coast Pipeline Updates

### Legal Action and Stop Work Order

On August 16th the Southern Environmental Law Center (SELC) filed suit on behalf of Sound Rivers and other groups against the Federal Energy Regulatory Commission (FERC) for authorizing the Atlantic Coast Pipeline (ACP) without proper consideration of the environmental and community impacts or public need of the pipeline.

The previous week FERC issued a stop work order to ACP after other required federal permits were vacated by an recent court order. At the same time, FERC also denied conservation groups petition to reconsider the decision approving ACP. This was actually good news since, after a long delay, it opened the door for the public to be heard in court.

At least one commissioner had concerns about this decision. FERC Commissioner Cheryl LaFleur had this to say in her opinion about the denial, "I did not support the Commission's underlying order authorizing the ACP Project because I concluded the project as proposed was not in the public interest."

Sound Rivers looks forward to a thorough judicial review of FERC's actions and the impacts of ACP.

### NC Pipeline Watch Initiative Launched

Sound Rivers, together with our partners at the Sierra Club, Winyah Rivers and Cape Fear River Watch, has recently launched North Carolina Pipeline Watch. We will be training volunteer observers and local residents to monitor ACP construction activities for pollution issues and regulatory compliance violations.

A similar effort recently created enough public pressure in Virginia to halt construction of the Mountain Valley Pipeline in that state, after volunteers reported more than 150 violations to the Virginia DEQ.

The ACP has not yet received all required approvals. Advocates continue to oppose its construction at both the Federal and State levels, as do our colleagues in both West Virginia and Virginia. When construction begins again, we will be watching to make sure our streams and rivers are protected.

**Go to [ncpipelinewatch.org](http://ncpipelinewatch.org) to volunteer, or host a training in your area!**

**Fishing for Facts:** *Your source of information on NC legislation impacting our rivers (As of Sept. 5th)*



There will be 6 proposed constitutional amendments on the ballot this November and two of them have direct implications for our environment.

The effort by the current General Assembly leadership has drawn ire from many corners, including three former governors and current Governor Roy Cooper. In a rare show of bipartisanship, the Republican and Democratic governors have joined efforts to legally challenge two of the proposed amendments that will result in a shift of power to the legislature, resulting in a significant change in how the state is governed. Current court outcomes suggest the amendments will be on the ballot for voters to decide. Below is information on how two of these amendments, if passed, could impact the protection of our environment.

***~Constitutional amendment protecting the right of the people to hunt, fish and harvest wildlife.*** The impact of this change could be significant as it may call into legal question the state's ability to regulate hunting and fishing including public safety regulations, regulations to protect fish and wildlife habitat and regulations on hunting and fishing methods.

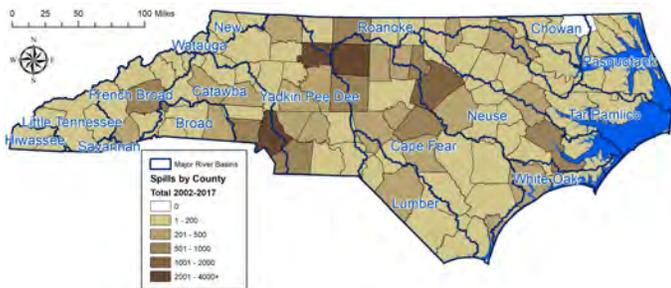
***~Constitutional amendment to reduce the income tax rate in North Carolina to a maximum allowable rate of seven percent (7%).*** This amendment would cap the income tax rate at 7%; the rate is currently at 5.25%. Supporters want to limit future state revenue and opponents note that during a recession, state revenues will fall while demands for services increase. Since the state cannot run a deficit, this would likely result in under investment in our environment and continue the problem of underfunded state's environmental protection programs and agencies.

*\*This article is accurate as of September 5th; visit [soundrivers.org](http://soundrivers.org) for more recent updates on this issue.*

# Advocacy Updates

## Sound Rivers Shines Light On Sewage Spill Epidemic

Over 3.5 million gallons of untreated sewage was spilled or dumped into North Carolina's public waterways between 2002-2017, according to a recent review by Sound Rivers. The analysis found very few penalties were levied against polluters, which are largely municipal entities with unmaintained infrastructure.



Using data from the North Carolina Department of Environmental Quality (DEQ), your Riverkeepers mapped the 25,885 sewage spills that occurred in the state between 2002-2017 -- an average of 1726 spills per year. Areas with higher population densities typically had more sewage spills.

Raw human waste entering our communities and streams is a big concern, not just for the environment but for public health. The problem with these sewer overflows is more critical than just human waste. These spills can contain anything that hasn't made it to a treatment facility yet, including industrial waste. Perfluorinated compounds like GenX and other PFOA substances could be mixed with human fecal matter and urine, not to mention pharmaceuticals and a whole lot of other nasty stuff. Large cities are not the only dischargers to blame. According to the data, even the modestly-sized city of Havelock has reported 13 spills since the end of 2015. Ten of these SSOs occurred from the same manhole, resulting in 324,900 gallons of raw waste entering the community and public waterways.

According to the data obtained by Sound Rivers, DEQ has imposed just \$2,047 in fines against Havelock and for only 2 of the 13 spills.

Our analysis and mapping is believed to be the first of its kind in North Carolina. DEQ relies on self-reporting from polluters and does not make spill data readily available to the public.

Other states utilize more transparent and available records of sewage spills. For example, South Carolina's

## Emerging Contaminants In Your Water

Your Riverkeepers have been monitoring the emerging contaminants situation on your rivers for some time now; you may recognize "GenX" from the news, but there are many other chemicals polluting our river that fall into the same category.

Per- and polyfluoroalkyl substances are forms of perfluorooctanoic acids (PFOAs), a class of synthetic, toxic compounds used to produce products such as non-stick pans. These synthetic compounds that have been produced for decades and can be found in products such as furniture, cosmetics, and food packaging. Once they reach our water supplies they stay for upwards of thousands of years.

These compounds have been detected in many rivers in North Carolina. PFOAs are just one of thousands of so-called "Emerging Contaminants" that are currently not regulated and neither industry nor our state (DEQ) or federal (EPA) regulators are required to conduct water quality tests for them. Emerging contaminants pose a risk to health and to the environment, yet these chemicals are not yet fully understood.

Through funding appropriated in the state's budget, the North Carolina Policy Collaboratory has begun to study these chemicals. Research teams from universities across North Carolina will be looking at a number of different projects, including:

- 1) Sampling public water sources statewide to establish a baseline and monitoring protocol moving forward.
- 2) Examining air emissions to better understand how air particles may impact water on and under the ground.
- 3) Developing models to predict which private water wells are at greatest risk of PFOAs contamination.
- 4) Assessing the impact of PFOAs on public health and testing the performance of technologies in removing them.

Your Upper Neuse Riverkeeper continues to play an important role in the stakeholder process and is currently sampling the Neuse River for compounds. Only by knowing what chemicals are present, can we then begin the process of eliminating the source of these pollutants.

**We would like to thank the Z. Smith Reynolds Foundation and the Eddie and Jo Allison Smith Family Foundation for their continued support of Sound Rivers and our mission to protect the Neuse and Tar-Pamlico Rivers.**

# Member Minute

## Why I Give, with Dr. Daniel Graham

By Corinne Everett Belch



Dr. Daniel Graham

Dr. Daniel Graham was introduced to Sound Rivers (then Neuse Riverkeeper Foundation) by a former Upper Neuse Riverkeeper, Dean Naujoks. Dr. Graham, a professor of Environmental Law and

Policy at NC State for over 30 years, had taught Dean previously, and Dr. Graham was inspired by him to get involved with the Sound Rivers/NRF.

While Dr. Graham is a professor at NC State, he holds a PhD from UNC Chapel Hill and tells me he pulls for both school's sports teams when possible. He started in political activism early, at age 14, working to end the Vietnam War, promote Civil Rights, and protect the environment. For the past 50 years he has continued his activism in various ways; he is currently a community volunteer in Chatham County, and volunteers for the Haw River Assembly and CORA Food Pantry in Pittsboro. He and his wife of 40-plus years, Zim, enjoy hiking, biking, kayaking and organic gardening around the Jordan Lake area where they live.

When I asked Dr. Graham about his support of Sound Rivers/NRF over the years, he said, "Today I support several waterkeeper organizations because these are Public Trust Waters that local communities depend on. I also like how the Riverkeeper programs reach out to school kids to include them in adopting and protecting these vital gifts of nature."

The most important aspect of Sound Rivers' work, to him, he said, is "involving a diversity of local folks of all ages and backgrounds (and local businesses) with programs and events that combine citizen science-based monitoring with outdoor activities. It is also vital that these programs file lawsuits against polluters, and lobby elected officials to protect clean water—the elixir of all Life."

***"The four laws of ecology (Interconnectedness; Finite Pollution Sinks; No Free Lunch; Nature Knows Best) are not subject to human repeal and must be respected."*** Thank you so much for your longtime commitment to Sound Rivers, Dr. Graham - and as always, thank you so much to all our supporters!

## Volunteer Spotlight: Dick & Becky Leach

By Heather Deck



Becky Leach 2nd from Rt.

Dick and Becky Leach have been an integral part of the Sound Rivers (Pamlico Tar River Foundation) since its beginnings in 1981. Dick was raised to believe that serving one's community is an important part of

being a good citizen. Helping to found, nurture and guide PTRF for many years has been a very fulfilling experience for him. Becky moved to Washington, NC in 1965 and since that time has enjoyed spending time on the Pamlico-Tar River. When PTRF was founded in 1981 she took the opportunity to do something for the resource she felt was threatened on numerous levels.

If Dick and Becky have been an integral part of PTRF/Sound Rivers, they have been an absolutely essential part of the PTRF Oyster Roast since the very first one. Dick remembers that the first oyster roast was done as a "FUN RAISER."

It's obvious that today's oyster roast has become a much-larger affair that requires the help of many dedicated volunteers. Becky has volunteered every year except one. She loves that the occasion brings together a great group of people who care about the river and want to protect it. It has been Becky's job to make the hot sauce and to help serve it and melted butter to the attendees. Becky's sauce is famous among the oyster-eating crowd, but don't ask her what's in it! The recipe is a well-protected family secret.

Both Dick and Becky have deep ties to the waters of the Pamlico. Becky states, "It is important to me that the waterways are healthy for fish, wildlife and the people of Eastern North Carolina." Dick grew up in Washington and has been very fortunate to have lived on, or very near, the river all his life. They both agree that the spirit of volunteerism has been essential to the success of Sound Rivers and its predecessor organizations and are proud to be counted as a part of that spirit.



Dick Leach, right, with Keith Hackney

# Riffles & Runs

## Volunteers Needed for Summer Program

Have you ever noticed an odd smell, green color, or fish kills along the Tar-Pamlico River and wondered what was causing it, or if contact with the



water was safe? And have you wanted to try your hand as a scientist? If so, you can volunteer with our citizen science water quality monitoring program this summer and help answer those questions! Sound Rivers is looking for local volunteers to collect water quality samples to test for levels of bacteria on the Tar-Pamlico River. These bacteria are commonly found in the gastrointestinal tracts and feces of warm-blooded animals and humans, and are the best indicators of the presence of pathogens in surface waters. The results will be shared through our website and a smartphone app called The Swim Guide so you can check conditions on the water.

Your participation will engage and educate the community, giving people the means to participate in stream monitoring, be active in restoration, and most importantly, to help us notify the public of health concerns associated with using the rivers and streams to boat, fish, or swim. The program will also help Sound Rivers advocate for the proper enforcement of environmental laws.

Volunteers will receive training in sampling techniques and use of testing equipment before sampling begins. The monitoring program, based in Washington, NC, promises to be fun and fulfilling for volunteers who are willing to commit to the necessary training and weekly sampling at their site for 14 weeks over the summer. If this sounds like something in which you'd like to be involved, please contact Sound Rivers at 252-946-7211.

### Interested in volunteering?

We need Water Trail Stewards, Oyster Roast Committee Members, Kids River Fest Volunteers, River Cleanup volunteers, Envelope-stuffing volunteers and more! Find out more - email [volunteer@soundrivers.org](mailto:volunteer@soundrivers.org)!

## Sound Rivers Stormwater Program Grows



Sound Rivers partnered with Edgecombe Community College to build this created wetland on campus.

Polluted stormwater runoff is the number one cause of water pollution in North Carolina. In most cases, stormwater either does not receive any treatment before it enters our waterways or is inadequately treated. Polluted water creates myriad of costs to the public and to our wildlife. As the saying goes, "we all live downstream."

In January, Sound Rivers was notified that we received an Environmental Enhancement Grant (EEG) through the NC Department of Justice. This grant will continue stormwater work throughout the Neuse and Tar-Pamlico River Basins. With the addition of this grant, by the year 2020, we will have assessed stormwater management on 24 public school, community college, or private college campuses throughout our basins. Furthermore, Sound Rivers will have a significant amount of funding through the EEG grant to begin implementing much needed stormwater remediation projects.

## Spring is a Wonderful Time to Paddle

### Sewage Spills, Cont. from P.5

Department of Health & Environmental Control maintains a website updated with information about spills as they are reported. Sound Rivers believes that North Carolinians deserve a modern notification system and more detailed reporting so people that are boating, fishing and swimming in our rivers can know when raw sewage is dumped into our communities and environment. Your Riverkeepers will keep you up-to-date on this issue on our website, in our weekly e-news, and in future editions of Currents.

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