



Amy Hennessey, from Environmental Systems Analysis, Inc. with her children, Kaia (age 10), Dylan (age 9), and Mira (age 5) Gross

Protecting, Preserving, Restoring and Celebrating Maryland's South River Watershed

South River Federation hosted two incredible new events this year!

By Francesca King, Office Administrator & Program Asst.

TurtleFest!

On May 19th, SRF together with [Annapolis Harbour Center](#) and [The Terrapin Institute](#), held the first Turtle Fest! Despite the rain, hundreds of families joined us for this fun filled day to celebrate the completion of the Federation's "Impossible Stream" Project and the release of the resident turtles who were moved to a temporary home during construction!

Thank you to all our partners and donors who joined us to cut the red ribbon on this restoration project and the County's stormwater pond retrofit. No one even noticed the rain as they enjoyed the "Turtle Talks", restoration tours, moon bounce, and fish-printing. It was a "Turtlely" awesome event! Thanks to our donors, [Chesapeake Bay Trust](#), [MD Department of Natural Resources](#), [the County's Watershed Protection and Restoration Program](#) as well as the landowner, [Lerner Enterprises, Inc.](#)



Mayo Beach is now open to the public on Sundays.

South By West Rhode River Fest

More than 500 attended our first ever South By West Rhode River Fest at [Mayo Beach Park](#) on June 17th. Special thanks to [Toyota](#), [Waterkeepers Alliance](#), [Anne Arundel County Parks and Recreation](#), and [Bucks Distributing](#) for sponsoring this [SPLASH! Series](#) event that was co-held with [West Rhode Riverkeeper](#).

The day long festival featured live music by local bands, [Guava Jelly](#) and [SwampCandy](#), [Anabel's Mobile Kitchen](#), [Bruster's Ice Cream](#), a beer garden, educational activities and opportunities to swim, paddle and explore the beach!

Over 100 attendees got a chance to use free kayaks and take lessons on Stand Up Paddleboards (SUP). With the help of many volunteers and exhibitors, this inaugural South by West Fest was a huge success! Thanks to [Jeff Holland](#), [the West Rhode Riverkeeper](#), [Bob O'Dell](#) and [Kevin Green](#) for their incredible help with making this event possible. We hope to make this an annual event!



To protect, preserve, restore, and celebrate the South River. Our restoration efforts are locally focused and are driven by sound science. The Federation has completed over 80 projects to improve the South River's streams, wetlands, underwater grass beds and oyster reefs.

Executive Director
Liz Buxton

South RIVERKEEPER
Jesse Illiff

Director of Grants and Operations
Jennifer Carr

Restoration Project Manager
David Lanier

Outreach and Volunteer Coordinator
Nancy Merrill

Environmental Scientist
Sarah Giordano

Office Administrator & Program Assistant
Francesca King

Chesapeake Conservation Corps Volunteer
Shayna Keller

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A Message from the Executive Director



It's been eight months since I took the helm at South River Federation, and I have hit the ground running. In March, we held the most successful South River on the Half Shell event in 14 years raising more than \$75,000 for our programs.

In April, we presented our annual report card showing improvement in the grades for the South River and demonstrating that our restoration efforts are paying off and making a difference in the water quality in the watershed. In addition we held our first ever South By West Rhode River Fest at Mayo with almost 600 attendees. Thanks to Toyota for sponsoring this first ever Splash event! We hope to make this an annual event to encourage more public access to the water!

Despite our success to date, there is still work to be done as we struggle to address hot spots throughout the watershed and continue to address the sediment escapes that many have witnessed during recent torrential rains.

We remain encouraged by the thriving oyster sanctuary in Glebe Bay that is providing habitat for fish and crabs. The Federation is planning to add additional spat (baby oysters) this year with the help of our Marylanders Grow Oyster program volunteers and Chesapeake Bay Foundation.

In the months ahead we are planning more community outreach, implementing more restoration projects, increasing monitoring efforts and advocating for better policies to protect our shared waterways.

Thank you for the outpouring of support and enthusiasm in our mission.

Liz Buxton

Who to Call



Questions about dredging, clearing in wetlands:

Maryland Department of the Environment Water Management Administration Compliance Program

410-537-3510

Report fish kills, lesions:

Department of Natural Resources' Fish Health Hotline

888-584-3110

Questions about tree clearing, sediment runoff, illegal building:

AA County Critical Area Hotline

410-222-7777

To report oil spills or other hazardous waste spills:

Maryland Department of the Environment Haz-Mat Response Office (24 hrs/day)

1-866-633-4686

Concerns about anything unusual in South River Watershed:

South River Federation Riverkeeper Jesse Illiff

410-224-3802 ext. 203

Call before you cut!!!

410-222-7441

Bringing Healthier Water to the Health Department

By David Lanier, Restoration Project Manager

The stormwater gully behind the Anne Arundel County Health Department off Truman Parkway was severely eroding due to intense stormwater flows draining from the surrounding parking lot and roads. The water flowed quickly down the steep hillside and continually carved the gully wider and wider, carrying sediment and pollutants into Broad Creek. You wouldn't know it was only an ephemeral stream (stormwater-driven) from the way water roared through after a hard rain.

How to control such a significant amount of parking lot stormwater down a very steep slope posed quite an engineering challenge! In the end, a combination of in-ground water storage tanks under the parking lot and a massive 15 foot tall vertical drop structure connected to a pipe were installed to convey the water to a lower elevation. This was done to reduce the velocity of the water before it entered the rest of the site.



Newly installed cascading step-pools to filter the water behind the Health Department

The stormwater then undergoes treatment through multiple step pools to remove nutrients and sediments, the two worst pollutants for the South River, by being filtered through a series of cascading sand and gravel step-pools ringed with wetland plants. Frogs and toads have already reproduced in the pools and we look forward to seeing all the new frogs emerge from the pools!

The project (952 ft long) is modeled to remove annually 45.607 tons of total suspended solids, 195.8 lbs of Total Nitrogen and 56.17 lbs of Total Phosphorus from reaching the South River. Thank you to our construction contractor, **Resource Restoration Group**, for being such fantastic problem solvers and getting this project across the finish line. We are grateful to **Chesapeake Bay Trust** and **Maryland Department of Natural Resources** not only for funding this project, but agreeing to fund the second, even more degraded gully, on the other side of the Health Department!

Broad Creek is the 2nd most polluted creek on the South River (behind Church Creek) and as such it has been a major priority for restoration by the Federation. This was the Federation's 5th major restoration project in addition to 8 smaller ones in the Broad Creek basin.

Changing Tides:

Suzanne Martin, Director of Development, and Josh Carey, Restoration Project Manager, recently left the Federation. Both of them helped the Federation grow and develop during a period of rapid growth and we are very grateful for their years with us and wish them luck on their future ventures. We are also excited for Shayna Keller to start her Federation adventure as our Chesapeake Conservation Corps member for 2018-19. Please ask her about her time spent as an educator for Walt Disney World's Marine Conservation Department!



Suzanne



Shayna



Josh

What's Killing Our Fish?

By Sarah Giordano, *Environmental Scientist*

We are saddened to report that this past July, we had one of the worst South River fish kills in a decade. Numerous eye witness accounts of dead cat fish indicated a mortality of approximately 150 total fish. Our monitoring showed a fairly large “dead zone” in the upper river, where dissolved oxygen levels were too low to support fish. Bottom feeders like Brown Bullhead Catfish were particularly affected as dissolved oxygen tends to be lower at the bottom of the river.

Nutrient pollution from fertilizer, leaking sewage and septic systems, and exposed dirt is the main cause of these inhospitable living conditions. Nutrients, like nitrogen and phosphorus, fuel plant growth and support the base of our aquatic food web. However, in excess, they can cause systemic problems for the River, particularly by encouraging too much algae growth. After a period of intense growth, these small plants reach the end of their short life span. They sink to the bottom of the river and are decomposed by bacteria that use up a tremendous amount of oxygen, leaving little for other organisms.

Algae blooms are also a leading cause of death for our underwater grass beds, which not only produce oxygen, but also act as important filters and habitats for aquatic organisms. The nutrient fueled algae can block sunlight from reaching grass beds by forming dense patches in the water above plants or by growing directly on the blades of underwater grass. Last year the South River lost all of its 14.85 acres of summer time underwater grasses.

Native species: *Brown Bullhead Catfish*



What Can You Do?

In such an urbanized watershed, the actions of individuals living here make a big cumulative impact. To help heal the River, we all need to take certain small steps, like not fertilizing our lawns (or at the very least, checking the rain forecast first), picking up after pets (even in our own yards), getting your septic system inspected, and reporting large areas of exposed soil to the County.

Remember, **Exposed Soil = Pollution**. Check out the County's 311 app to learn how to make this process a snap.

Total Nitrogen and Phosphorus Remain Stable But In Excess: Yearly Averages

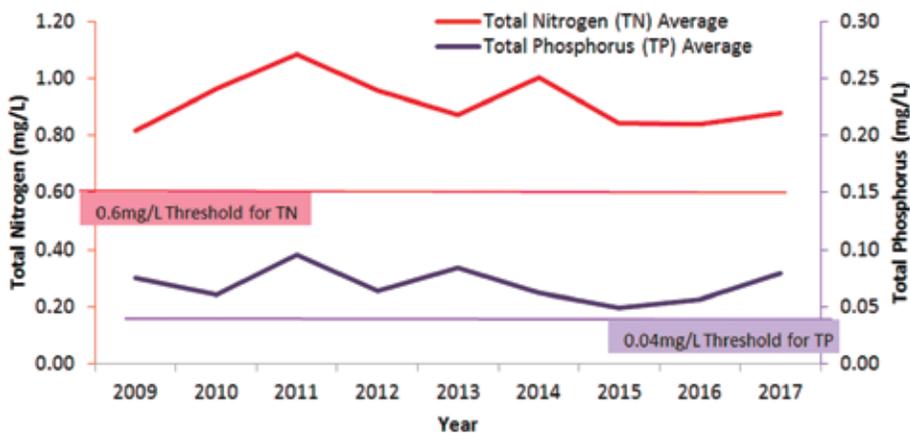


Figure 1. Concentrations of Total Nitrogen (mg/L) and Total Phosphorus (mg/L) for each sampling season (March –October) were averaged for 2009-2017. This monthly averaged surface and bottom nutrient data was retrieved for DNR's tidal station, located just downstream of the Rt. 2 bridge.

According to data from Maryland's Department of Natural Resources (DNR), nutrients levels have stayed relatively stable, but outside of the range considered “healthy”, over the last eight years. The fact that we have not seen improvement is slightly disappointing until you realize that the County's population increased by 42,000 people since 2009. That's roughly the size of Annapolis! With the increased population, the Federation is concerned that nutrient pollution will worsen (especially as the Mayo peninsula development moratorium is lifted).

for the greener good
stats **greengive**

12 GreenGive Partners raised
\$188,860 from **662** community donations
\$29,707

of this will go directly to a cleaner South River!

Thank You!!

Best Local Non Profit

BEST OF 2018 PARTY *Again!*

We are so proud to be voted the best for the 3rd year in a row!

Volunteer Power!



Beth Supple with son, Will, and daughter, Claire plants shoreline grasses on Turkey Point

The first half of 2018 has been busy. We have reached out to 2,100 at outreach events, fairs and festivals, and actively engaged 650 volunteers (380 students), who provided 1,500 of volunteer hours.

Trees, Shrubs, Wetlands and Grasses!

We have hosted 28 events involving 360 volunteers, 200 of which were students, who planted trees, wetlands, and shoreline grasses. We also led four stream clean ups involving 66 volunteers. We are grateful for the logistical help that **Alliance for the Chesapeake Bay** offers us as a participating organization in Project Clean Stream.

Oysters!

Thank you to the 120 oyster growers on the South River participating in **Marylanders Grows Oysters** this year. They are responsible for releasing approximately 200,000 young adult oysters onto the sanctuary reef!

Field Research

Because of our Church Creek Research Grant with the **Smithsonian Environmental Research Center**, we have needed lots of help getting field measurements and samples. Sarah Giordano, our Environmental Scientist has led 20 trips with volunteers already in 2018, including a broader survey of aquatic stream insects.



Project Clean Stream

thank you!

We appreciate the following organizations who participated in volunteer events in 2018.

- Alliance for the Chesapeake
- Box of Rain
- Centro de Ayuda
- Environmental Quality Resource
- Girl Scouts
- Historic London Town and Gardens
- Killarney House Restaurant
- Maryland Conservation Corps (Southern)
- National Aquarium
- READY Program
- Rotary Club of South Anne Arundel County
- St. Andrews UMC Day School
- St. Anne's School of Annapolis
- St. Luke's Episcopal Church
- St. Mary's College Alumni Assoc.
- The Key School
- Turkey Point Island Community
- US Naval Academy Midshipmen

Outreach

We were pleased at the turnout (over 1,100 participants combined!) for our larger events including our annual **South River on the Half Shell Fundraiser**, and **South River Report Card Presentation** as well as the new **TurtleFest!** and **South By West Rhode Fest**. We also hosted seven smaller events (10 -25 people) in communities throughout the watershed. In addition, we tabled or presented at 15 community events, including **Davidsonville Green Expo**, **Watershed Stewards Academy Conference**, and the Terrapin Release with **The Terrapin Institute** at Hillsmere Shores. We really enjoyed teaching about the South River as part of the Earth Day Festivals for **Key School** and **St. Andrews UMC Day School**.

On the Water:

Liz Buxton is leading monthly paddles to explore the creeks along the South River. So far she has paddled Church and Gingerville Creek. Next is Broad Creek on August 18th! All are invited to join her on these South River adventures!

Special thanks to **Mike Krissoff** for donating the "Full Moon", a traditional Chesapeake Style Deadrise, for two sunset cruises on the South River in June for donors. Learn more about his cruises at www.capnmikesfullmoonadventures.com

In addition, we officially held a ribbon cutting ceremony to celebrate the completion of the Living Shoreline at Twin Harbors as well as the "Impossible Stream" project at Annapolis Harbour Center.

Above and Beyond!

A big shout out to **Annie Fuller, Chris Gordon, Miguel Grado, Rich Kuhlman, Megan Robison, Lynn O'Dell, Marvin Solberg, Wayne Martin, Beverly MacWilliams, and Lara Mulvaney** for volunteering for many hours on a consistent basis! Board Members, **Bob O'Dell, Paul Kaladas, and Kevin Green** have also spent many hours with us getting wet and muddy. Thank you to **Home Depot, NEO Pizza, and Pizza Bolis, Rich Kuhlman, Bob O'Dell** and **Alliance for the Chesapeake Bay** for keeping our volunteers equipped and motivated!

Upcoming Events



Paddle Trip

Saturday, August 18th, 9 am - noon

Join Executive Director, Liz Buxton, for a paddle trip on Broad Creek departing from Camp Woodlands. Kayaks, Canoes, and Paddle Boards are all welcome.

Killarney House Fundraiser

Tuesday, September 25th, 5 pm

Eat, drink, and join the Federation staff at Killarney House in Davidsonville, MD.

Take a tour of our recently completed restoration project adjacent to the restaurant. Thank you Killarney for donating \$10 of every set menu meal to the Federation.



Federation Annual Meeting

Tuesday, October 30th, 6 pm

Join us at 6pm at Historic London Town & Gardens for our annual meeting.

Learn about our recent accomplishments and what the future holds for the Federation.

Reception begins at 6pm. Program begins at 7pm.



Paddle Trip

Saturday, August 18th, 9 am - noon

Join Executive Director, Liz Buxton, for a paddle trip on Broad Creek departing from Camp Woodlands. Kayaks, Canoes, and Paddle Boards are all welcome.

South River on the Half Shell

Thursday, May 9th

The 15th Anniversary of South River on the Half Shell will be held on May 9th, 2019 at Historic London Town and Gardens. We need volunteers to serve on the event planning committee. Contact Liz Buxton at liz@southriverfederation.net if you can help!



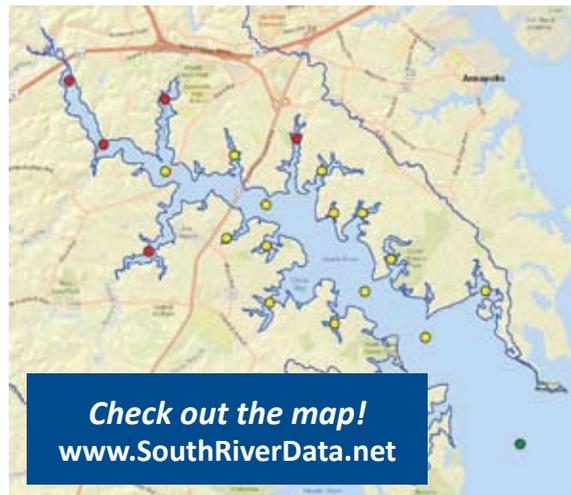
How Healthy is the South River?

By Nancy Merrill, *Outreach and Volunteer Coordinator*

This is the question Federation Staff is most frequently asked. This year, through a grant with Chesapeake Conservancy, the Federation launched its South River Data Map to help answer that question. The data map tracks our keystone data parameters of dissolved oxygen, water clarity and bacteria through time. The map also includes the locations and photos of our various restoration projects, from rain gardens and small installations to living shorelines and large stream restoration projects. The map provides you with a view of the South River as a whole, but also allows you a more in-depth view of individual creeks.

The Federation collects extensive data on the South River, including several water chemistry parameters we track weekly at 21 tidal sites by boat and bi-weekly at 14 stream sites by truck. During the summer, we collect water samples from 11 community water recreational sites as part of Operation Clearwater to sample for harmful bacteria. In addition, we collect biological data through surveys for fish, frogs, birds, aquatic insects, and oysters.

We also have partnered with Smithsonian Environmental Research Center to better understand the cumulative impact of multiple restoration projects in Church Creek.



Check out the map!
www.SouthRiverData.net



Francesca King
Office Administrator
& Program Assistant

All of this data helps us form a picture of the health of the streams and creeks to scientifically target our restoration efforts.

We have been focusing our big restoration projects in our most polluted creeks: Church, Broad, and Beards to reduce the negative impact of polluted stormwater. However, recently Crab Creek, Flat Creek and Bacon Ridge are quickly climbing as restoration priorities due to information we've gathered from monitoring. We've also realized that road salt is causing a greater impact over a longer time period than previously understood.

Please check out the data map at www.southriverdata.net or see it on the Federation's home page at www.southriverfederation.net.
Let us know what you think!

Donations Come In All Forms!

Dan and Patsy Mote have been supporting the South River Federation since 2006. They not only contribute financially, but the Motes also grow oysters to stock the River's oyster sanctuary reef and provide items for our annual auction.

This year they even donated a family member! Their granddaughter, Megan Robinson, a Conservation Biology and Ecology student from Montana State University, interned with us for two weeks in May. After a busy spring, staff appreciated the extra help!

Dan is currently the President of the National Academy of Engineering and served as President of the University of Maryland from 1998 to 2010. His wife Patsy is a major supporter of creative arts programs across the state and is the author of "Great Menus": Seasonal Recipes for Entertaining. They have sailed all over the world, but enjoy entertaining from their home port on Church Creek in the South River.



Why do you support the South River Federation?

When asked why they support the South River Federation, Mr. Mote responded:

“ The Federation actually takes decisive action on cleaning up the creeks, testing the water, engaging the community, targeting problems and taking serious steps to dramatically change the health of those sites. That is what is different about the Federation. If it

were not for them, Church Creek would still be a polluted and poisoned creek, among the worst on the Chesapeake with nobody rolling up their sleeves to clean it up. ”

We are so grateful to have Dan and Patsy in the Federation family, and thanks to their generosity we are able to have an even bigger impact on the River!

Donation Form

Your support will help the Federation heal the River



Name _____

Family members _____

Address _____

City/State/Zip _____

Tel. home _____ work _____ cell _____

Email _____

Homeowners Association _____

Closest body of water _____

Occupation _____

Payment Information

Check payable to South River Federation VISA MasterCard

Card # _____ Exp. _____

Signature _____

Online Donations can also be made at www.southriverfederation.net

Giving Levels

- Advocate — \$30
- Friend — \$60
- Wood Duck — \$125
- Blue Crab — \$275
- Terrapin — \$500
- Other _____

Join the Guardian Society

- Bacon Ridge Circle — \$1,000 - \$2,499
- London Town Circle — \$2,500 - \$4,999
- Quiet Waters Circle — \$5,000 - \$9,999
- Thomas Point Circle — \$10,000 and above

Please clip out form, enclose check if applicable, and mail to:
South River Federation, 2822 Solomons Island Road, Suite 202, Edgewater, MD 21037

South River Federation, Inc. is registered as a 501(c)(3) non-profit organization. All donations are tax deductible to the fullest extent of the law.





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Blacknosed Dace found for the first time at MVA restoration site

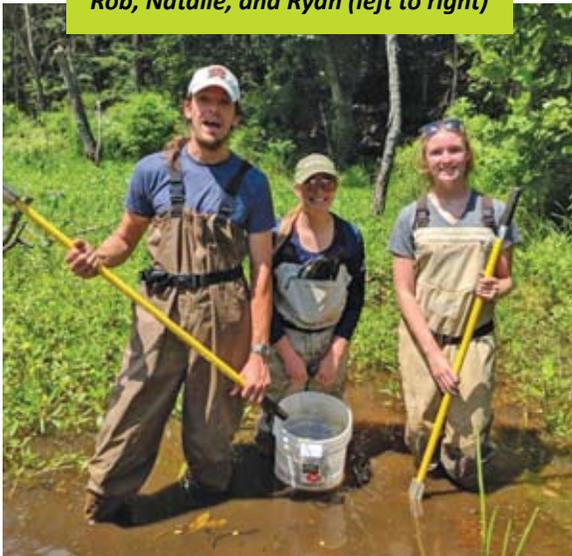


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Our Interns Thank You!

Because of your generosity, the Federation was able to fund part-time summer internships for our restoration and monitoring programs. It's a win-win. They get their feet wet (literally) in the world of environmental non-profits, and we get help in the field and get to teach and inspire the next generation of environmental stewards. They have already made a huge dent in our to-do list. Stop and say hello if you see them out in your community!

Rob, Natalie, and Ryan (left to right)



Natalie Johnson — “I am a biology student at Stevenson University. I grew up spending my summers on the Patapsco River and love to go boating and fishing all along the Chesapeake. One thing that I have really enjoyed doing this summer is Operation Clearwater so that I can help to let communities know if their waterways are safe to swim in.”

Robert Pavlik — “I graduated from the University of Maryland in December 2017 with a degree in Environmental Science and Technology, specializing in Natural Resource Management. In addition to being a Federation intern, I am currently working as a horticulture assistant at Historic London Town and Gardens, where I do landscaping and plant care. I've always enjoyed working outdoors, and am pursuing a career where I can continue to do so. My current career goals are focused on gaining more knowledge and experience in the fields of restoration, horticulture, and hydrology.”

Ryan McClellan — “I am a South River High School STEM student, primarily helping out with monitoring. I love being out on the boat – it's really fun. It's fascinating to learn how to use the scientific monitoring equipment.”