Middle Anacostia Community Science Water Quality Report

2024

Introduction

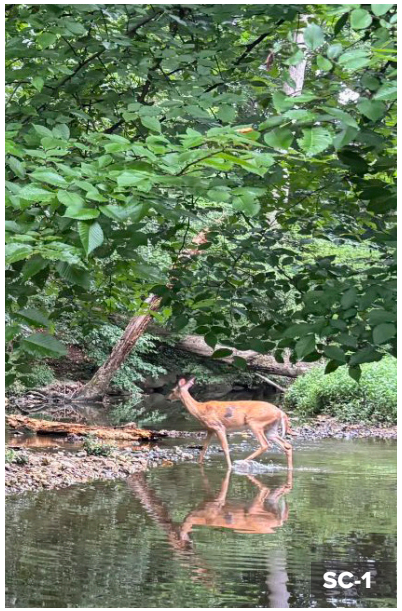
The Anacostia River and its tributaries flow through densely populated areas in Montgomery County, Prince George's County, and Washington, DC, providing recreation opportunities and natural respite within an ever more urban landscape. In the past, the watershed has experienced poor health due to extensive pollution, damaged ecosystems, and lost biodiversity in its streams. In recent decades, however, the watershed and its streams have undergone a resurgence, due to the combined efforts of local residents, nonprofits, institutions, government agencies, and businesses.

As part of its mission to protect, restore, and connect people to the Anacostia River, Anacostia Riverkeeper (ARK) has led a water quality monitoring program across the watershed for the past 5 years. Our community science program in Maryland trains residents to collect water samples and measurements at various sites across the Anacostia River's tributaries in Maryland during the summer months. These sites are picked for their recreational potential- locations that families, cyclists, hikers, or boaters frequent as they enjoy the watershed, as well as areas with a history of degradation. As development continues throughout the watershed and as stakeholders continue to invest in restoring the Anacostia River and its tributaries, collecting this data is essential to improving water quality. This kind of hands-on programming not only provides recreators with up-to-date information on the water they enjoy, but also empowers local residents to become community scientists and informed river stewards.

In 2024, our monitoring efforts in Montgomery County were funded through the Clean Water Montgomery grant by Montgomery County Department of Environment in partnership with the Chesapeake Bay Trust. In the absence of consistent funding, our work in Prince George's County was partially funded by generous individual donors and local watershed groups. In both counties, we relied on strong community partners to complete monitoring and conduct outreach.

Photo by Heidi Scott

Gabe Horchler | QR-1



SC-1

Ben Simasek | NWB-3

Visit anacostiariverkeeper.org to learn more about the program.

What are we monitoring?

Community science monitors collect water samples and measurements biweekly on Wednesday mornings from 15 sites across the upper Anacostia watershed from May to September. These parameters help paint a picture of the recreational water quality and ecological health of these streams.

	Fecal Indicator Bacteria (*E. coli*)	Turbidity	pH
What is it?	*E. coli* is a bacteria that lives in the intestines of warm blooded animals, like humans, dogs, and birds. While *E. coli* can cause sickness in humans, it also is used as an indicator species letting us know when other harmful pathogens might be present.	Turbidity is a measure of how clear the water is. Suspended sediment blocks light to aquatic plants and can also act as a vector for bacteria and other pollutants, so higher turbidity is thought to be associated with higher bacteria.	pH is the acidity or alkalinity of the water. Naturally, the pH of stream water is close to neutral at 7. However, pollution can drive pH either way and create unsafe conditions.
How much is safe?	**Below 410 MPN** *E. coli is measured in Most Probable Number of Coliform Forming Units (MPN) per 100mL for sample.*	**Below 20 NTU** *Turbidity is measured in nephelometric turbidity units (NTUs).*	**6-8** *The pH scale ranges from 0 (very acidic) to 14 (very alkaline).*

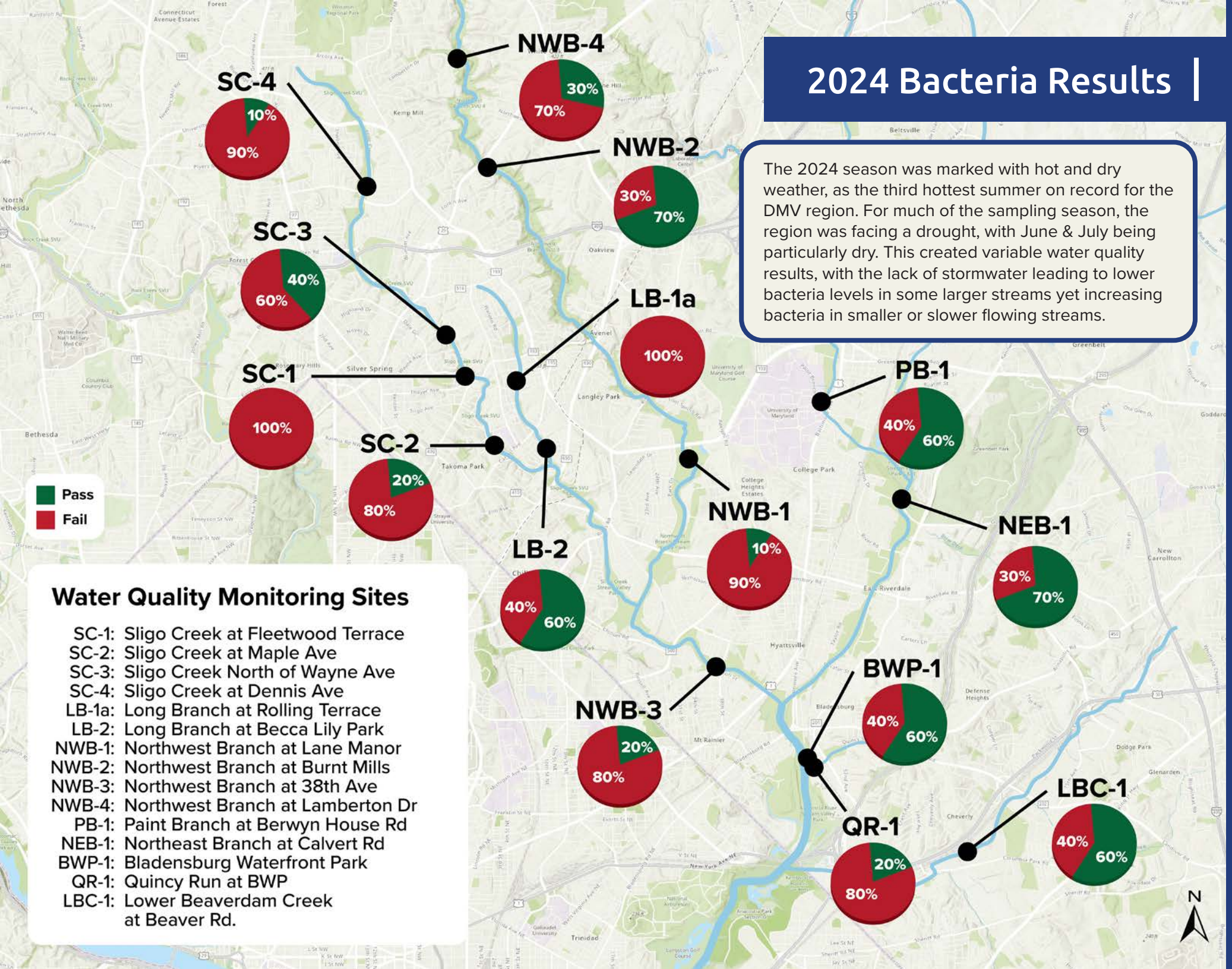
**Other ecological water quality criteria, including conductivity and dissolved oxygen, were also measured at most sites on a monthly basis.*

Pat Jackman | BWP-1
Photo by Heidi Scott

Claire Barlow | PB-1

2024 Bacteria Results

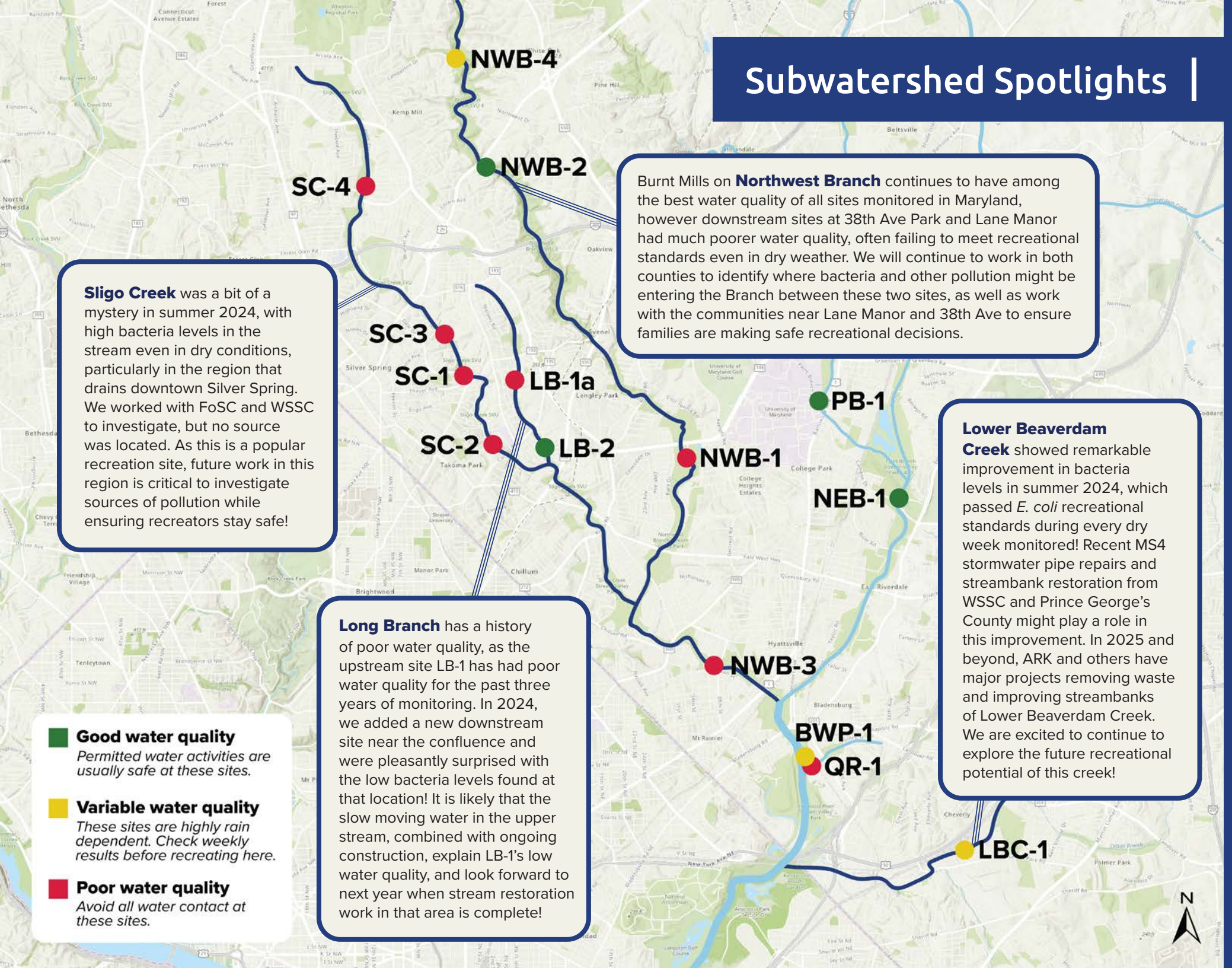
The 2024 season was marked with hot and dry weather, as the third hottest summer on record for the DMV region. For much of the sampling season, the region was facing a drought, with June & July being particularly dry. This created variable water quality results, with the lack of stormwater leading to lower bacteria levels in some larger streams yet increasing bacteria in smaller or slower flowing streams.



Water Quality Monitoring Sites

SC-1: Sligo Creek at Fleetwood Terrace
SC-2: Sligo Creek at Maple Ave
SC-3: Sligo Creek North of Wayne Ave
SC-4: Sligo Creek at Dennis Ave
LB-1a: Long Branch at Rolling Terrace
LB-2: Long Branch at Becca Lily Park
NWB-1: Northwest Branch at Lane Manor
NWB-2: Northwest Branch at Burnt Mills
NWB-3: Northwest Branch at 38th Ave
NWB-4: Northwest Branch at Lamberton Dr
PB-1: Paint Branch at Berwyn House Rd
NEB-1: Northeast Branch at Calvert Rd
BWP-1: Bladensburg Waterfront Park
QR-1: Quincy Run at BWP
LBC-1: Lower Beaverdam Creek at Beaver Rd.

Subwatershed Spotlights



Burnt Mills on **Northwest Branch** continues to have among the best water quality of all sites monitored in Maryland, however downstream sites at 38th Ave Park and Lane Manor had much poorer water quality, often failing to meet recreational standards even in dry weather. We will continue to work in both counties to identify where bacteria and other pollution might be entering the Branch between these two sites, as well as work with the communities near Lane Manor and 38th Ave to ensure families are making safe recreational decisions.

Sligo Creek was a bit of a mystery in summer 2024, with high bacteria levels in the stream even in dry conditions, particularly in the region that drains downtown Silver Spring. We worked with FoSC and WSSC to investigate, but no source was located. As this is a popular recreation site, future work in this region is critical to investigate sources of pollution while ensuring recreators stay safe!

Long Branch has a history of poor water quality, as the upstream site LB-1 has had poor water quality for the past three years of monitoring. In 2024, we added a new downstream site near the confluence and were pleasantly surprised with the low bacteria levels found at that location! It is likely that the slow moving water in the upper stream, combined with ongoing construction, explain LB-1's low water quality, and look forward to next year when stream restoration work in that area is complete!

Lower Beaverdam Creek showed remarkable improvement in bacteria levels in summer 2024, which passed *E. coli* recreational standards during every dry week monitored! Recent MS4 stormwater pipe repairs and streambank restoration from WSSC and Prince George's County might play a role in this improvement. In 2025 and beyond, ARK and others have major projects removing waste and improving streambanks of Lower Beaverdam Creek. We are excited to continue to explore the future recreational potential of this creek!

Good water quality
Permitted water activities are usually safe at these sites.

Variable water quality
These sites are highly rain dependent. Check weekly results before recreating here.

Poor water quality
Avoid all water contact at these sites.

Growing Partnerships

In 2024, we were thankful for two partnerships with local academics, which helped our community scientists expand their impact while monitoring the Anacostia and its tributaries. Our community scientists were trained to grab extra samples while out on Wednesday morning, which were transported to partner labs for additional analysis. While we don't have data from these yet, follow Anacostia Riverkeeper on social media to see results later this winter!

CONSERVE Lab

University of Maryland School of Public Health

We partnered with Dr. Amy Sapkota and others from the CONSERVE lab to look deeper into microbial contaminants through the watershed. Our volunteers at 10 sites across the watershed grabbed extra samples, which were then processed at the UMD School of Public Health lab. Researchers will analyze the bacteria in these samples for vibrio bacteria, antimicrobial susceptibility, and metabolic activity. They will also perform Microbial Source Tracking to determine if the *E. coli* found comes from human, dog, bird, or other sources to help us take the next step towards reducing bacteria in our waterways.

Urban Watersheds Lab

Smithsonian Environmental Research Center

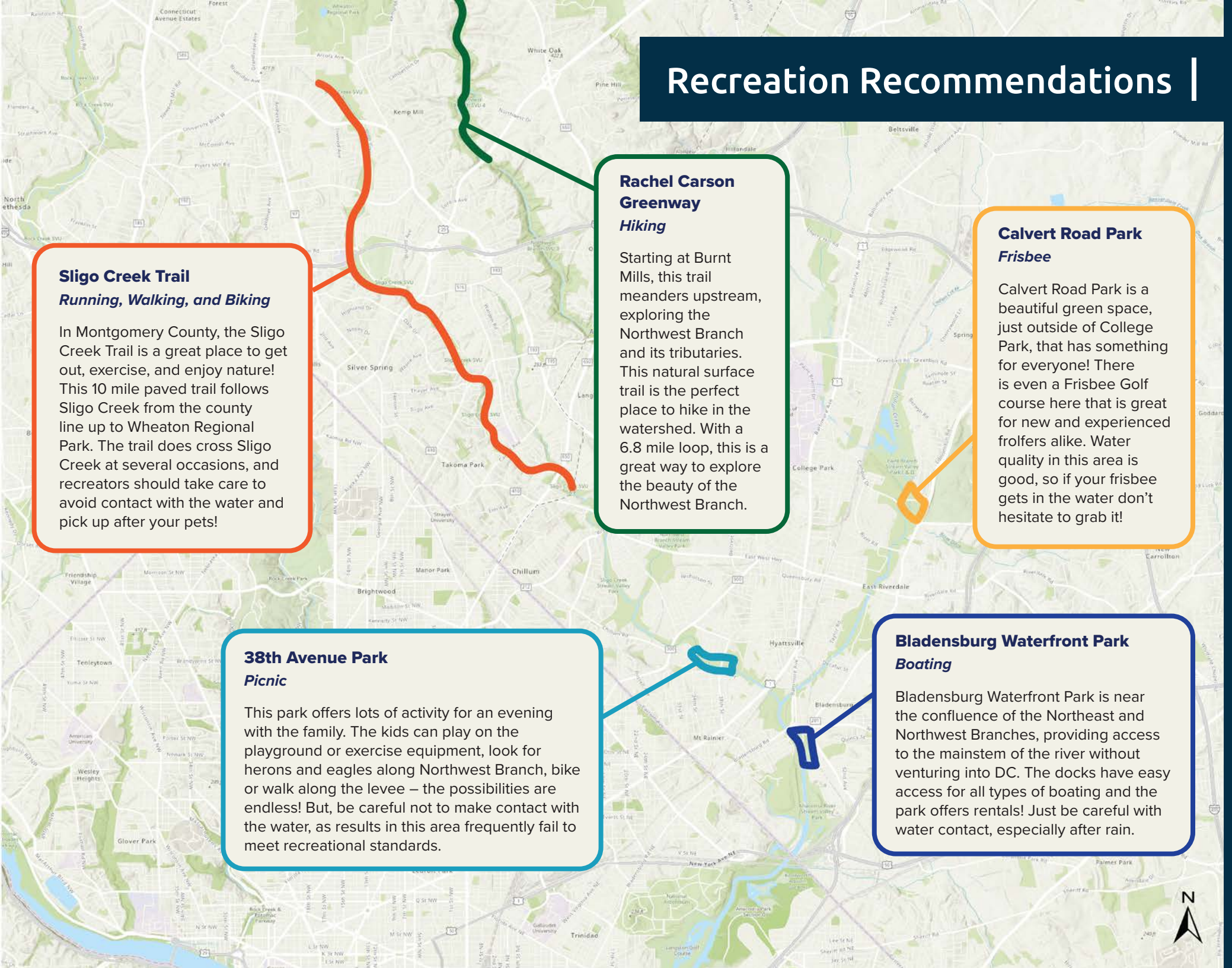
This summer, we continued our partnership with Dr. Rebecca Hale at SERC to examine nutrient cycling in the Anacostia watershed. Each week, our volunteers collected three additional samples, including a grab sample for both Nitrogen and Phosphorus analysis, as well as a filtered sample for dissolved organic materials. We are excited to share that this partnership with SERC will grow next year to include a larger project to build predictive models of *E. coli* in the watershed!

CONSERVE Lab | BWP-1

MST Sampling | NWB-3

Dr. Hale and Georgine Prokopik | Filtering Demo

Recreation Recommendations



Sligo Creek Trail

Running, Walking, and Biking

In Montgomery County, the Sligo Creek Trail is a great place to get out, exercise, and enjoy nature! This 10 mile paved trail follows Sligo Creek from the county line up to Wheaton Regional Park. The trail does cross Sligo Creek at several occasions, and recreators should take care to avoid contact with the water and pick up after your pets!

Rachel Carson Greenway

Hiking

Starting at Burnt Mills, this trail meanders upstream, exploring the Northwest Branch and its tributaries. This natural surface trail is the perfect place to hike in the watershed. With a 6.8 mile loop, this is a great way to explore the beauty of the Northwest Branch.

Calvert Road Park

Frisbee

Calvert Road Park is a beautiful green space, just outside of College Park, that has something for everyone! There is even a Frisbee Golf course here that is great for new and experienced frolfers alike. Water quality in this area is good, so if your frisbee gets in the water don't hesitate to grab it!

38th Avenue Park

Picnic

This park offers lots of activity for an evening with the family. The kids can play on the playground or exercise equipment, look for herons and eagles along Northwest Branch, bike or walk along the levee – the possibilities are endless! But, be careful not to make contact with the water, as results in this area frequently fail to meet recreational standards.

Bladensburg Waterfront Park

Boating

Bladensburg Waterfront Park is near the confluence of the Northeast and Northwest Branches, providing access to the mainstem of the river without venturing into DC. The docks have easy access for all types of boating and the park offers rentals! Just be careful with water contact, especially after rain.

Looking Ahead

Our data show that water quality in the region is highly irregular, and major improvements need to be made to allow local residents to enjoy their waterways safely. Montgomery and Prince George's Counties need to continue to invest in green infrastructure, both at the regional and residential levels, and enforce stormwater, erosion, and sediment control regulations.

Our monitoring program not only helps us protect the river for all who live and play in the watershed, but also build a collaborative coalition of water stewards who can take ownership of their watershed for years to come. We expanded our outreach efforts this year to share water quality information with more of our community by attending events like farmer's markets and local festivals. Thanks to Neighbors of Northwest Branch and Friends of Sligo Creek, you can now also find fliers on the program and general water quality tips at some of their kiosks. Look out for them next time you're out on the trails!

Want to get involved?

Visit anacostiariverkeeper.org for more information on community science water quality monitoring in the Anacostia watershed. Full data can be found on the Chesapeake Monitoring Cooperative's Data Explorer and, during the summer, weekly results can be found on Swim Guide and social media. Training for the new wave of volunteers will begin in April 2025. If you'd like us to speak to your community group or attend a local event, don't hesitate to reach out.

Email **monitor@anacostiariverkeeper.org** with any questions.

Thank you to our volunteer monitors!

We are so thankful for our coalition of volunteers across Montgomery and Prince George's Counties, who ventured out to sites during rain and hot weather all summer long. These volunteers are our boots on the ground and eyes on the watershed, often reporting pollution or other irregularities so we at Anacostia Riverkeeper can respond and take action. Our program would be sample-less without this cohort of hard-working community scientists, and we are thankful for their service to us and their communities.

Calvin Chrisfield | Community Outreach

Tim Briceland-Betts | SC-1

Amy Yeager | NWB-4