



BLUE
WATER
BALTIMORE

2021

ANNUAL REPORT

CLEAN WATER.
STRONG COMMUNITIES.

WHAT WE DO

Blue Water Baltimore uses science, education, advocacy, and action to promote clean water and healthy communities.

POLLUTION:



STORMWATER
RUNOFF



TRASH



TOXIC
POLLUTANTS



SEWAGE

SOLUTIONS:



WATER MONITORING:

Regular testing at 49 sites around our watershed by our Waterkeeper team.



COMMUNITY ORGANIZING:

Rallying grassroots support for effective environmental measures.



POLICY CHANGE:

Helping our members use their voices to speak up for clean water in Annapolis and City Hall.



EDUCATION:

Teaching students of all ages, children and adults, about vital clean water issues in our communities.



GREEN STORMWATER INFRASTRUCTURE:

Building and supporting runoff mitigation projects.



HERRING RUN NURSERY:

Raising and selling 32,451 native plants and educating the public on their role in the environment.



TREE PLANTING:

Planting over 1,000 trees in Baltimore City and County to mitigate urban heat islands and beautify the community.



WATERFRONT CLEANUPS:

Deputizing volunteers to remove trash and debris from the shores of our waterways.

2021: LOOKING BACK AND LOOKING TO THE FUTURE

Dear Friends of Blue Water Baltimore:

I am so excited to be a part of such an amazing organization that means so much to the communities we work with in our watersheds. As the new Executive Director for Blue Water Baltimore, I have been encouraged by the work, support, engagement, and commitment of the staff, board, and of course you – our members!

Before you know it, we will be jumping into 2023 and the end of our five-year strategic plan. That means it's a time to reflect on the work of the last five years and create a new road map to how we expand the work of Blue Water Baltimore. Since the inception of the 2018 plan, we have worked to implement high-quality, high-visibility restoration projects; better engage volunteers, community members, and other stakeholders in this work; and use these projects to communicate about and advocate for related clean water needs. We also worked to expand our outreach and education efforts to ensure that residents and community members understand how they can be part of the solutions needed to stop pollution from impacting the health of our shared waterways. More importantly, we have worked to strengthen our organization and empower our staff to be the best that we can be and that will continue in the future with your continued partnership!

In 2021 alone, we investigated nearly 100 pollution reports, collected 1,500 water samples, and celebrated the success of a plastic bag ban in Baltimore City. We removed 11,000 square feet of impervious surface, planted 1,000 trees, and gave away another 900. Herring Run Nursery sold a record-breaking 32,000 plants, we collected 2,480 pounds of trash, and welcomed nine new staff members to the organization, setting the stage to do even more in 2022 and beyond for clean water and strong communities.

We're blessed to be able to do this work, and we couldn't do any of it without you, our own strong community of members, donors, and volunteers. Blue Water Baltimore is stronger than ever, and looking forward to the future. Thank you for your support, and for joining us in our work.



Sincerely,

A handwritten signature in black ink, appearing to read 'T Bridges', with a stylized flourish at the end.

TONY BRIDGES
EXECUTIVE DIRECTOR



A TALE OF TWO TREATMENT PLANTS

Few stories captured our community's attention this year like our work to improve the conditions of the Back River and Patapsco Wastewater Treatment Plants (WWTPs), and few illustrate so well the importance of our watchdog role in maintaining water quality. In Spring of 2021, our water quality scientists sounded the alarm after detecting elevated levels of fecal bacteria around the Patapsco WWTP.

"Our routine water monitoring for tidal waters starts in April every year," says water quality scientist Barbara Johnson. "I noticed the bacteria levels near the Patapsco Wastewater Treatment Plant were unusually high, and alerted our Waterkeeper, Alice Volpitta."

Volpitta worked closely with the Maryland Department of the Environment, who inspected the plants and issued alarming reports for both.

By October, working with pro bono attorneys from the Chesapeake Legal Alliance and Barley Snyder, we gave notice under the Clean Water Act that we intended to take legal action, and in December we filed suit over the illegal pollution discharges coming from both the Patapsco plant and the much larger one on Back River. These two facilities are the largest wastewater plants in Maryland, and their performance has huge implications for their namesake tributaries and the entire Chesapeake Bay.

Both of these rivers are regularly used for recreation, and Back River in particular is a magnet for boaters who spend their free time on the water, enjoying the benefits of their waterfront community.

"Everything we do is on the water," says resident Sarah Bundy. "Fishing, Fourth of July parties, swimming, paddle-boarding." Bundy became interested in the quality of the water around her home after her 12-year-old son became ill with an ear infection, and she joined the Back River Restoration Committee (BRRC), eventually becoming a board member.

BRRC contacted Blue Water Baltimore for information about the plant, and in October, water quality scientist Barbara Johnson gave a presentation about the pollution and the hazards it posed for residents. It was the first time anyone had told Back River residents and boaters about the extent of the problem.

“They were illegally discharging,” says BRCC’s Desiree Greaver, who lives with her husband on the waterfront. “Nobody had known, and we’re in this water every day.”

On the heels of a troubling episode where community members witnessed partially untreated sewage solids floating in the river, the state stepped in to take charge of the Back River plant. More than a year after BWB first tipped off the Maryland Department of the Environment about illegal discharges, inspections at both plants continue to find appalling conditions – equipment overwhelmed or not working, pollution controls bypassed, and failures at every stage of the process, confirming residents’ worst suspicions.

The lawsuit continues, and in June 2022, the city entered an agreement with the state to formalize the takeover order at the Back River plant, but didn’t address the Patapsco plant. Blue Water Baltimore continued to be involved on several fronts:



Our federal Clean Water Act lawsuit, which calls on the city to promptly fix illegal discharges at both plants, post warnings at affected waterways, and properly test discharges from the plants.



The state-level lawsuit, which operates on a parallel track and seeks a legally-binding agreement between the City, State, and BWB to bring the plants back into compliance.



The launch of a successful community science pilot program on Back River, which trains residents to take their own water samples and gets residents involved in safeguarding their own waterway.



Advocating for fixing the plants with federal funds available through the Bipartisan Infrastructure Act and American Rescue Plan Act, so that the burden doesn’t continue to fall on city taxpayers alone.

These issues have repercussions beyond neighboring properties, but nearby residents have a front row seat and a constant reminder of the failures at the plants.

“I just want to get it cleaned up,” says Bundy. “We bought our property knowing we’re downriver from a wastewater treatment plant, and I understand there’s a risk that comes with that, but this is unacceptable. They need to be held accountable.”



Alice and Barbara trained dozens of residents of the Back River to collect water samples in time to get bacteria results before Memorial Day weekend recreation. We hope to grow this new community science program to more neighborhoods in the coming year.

“They were illegally discharging. Nobody had known, and we’re in this water every day.”



GETTING SALTY ABOUT STORMWATER

The brackish waters of the Chesapeake strike a delicate balance, as fresh water flows into the Bay through its tributaries to meet the salt water coming up from the confluence with the Atlantic Ocean. It's what makes the Bay a unique habitat for the creatures who live here.

Salinity is closely related to the specific conductance of a water sample—how well it conducts electricity. Distilled water, with few dissolved salts and other solids, conducts electricity poorly, while seawater, heavy with dissolved salts, conducts it very well. Everything else is somewhere in between, and conductivity should remain fairly constant in a thriving waterway, making it a good indicator of overall health.

"Conductivity can be used as a measure of impervious surface and its impacts," says Waterkeeper Alice Volpitta. "In an urban ecosystem, the specific conductance of the water will increase whenever there are more dissolved particles in it, and those particles come in a lot of shapes and sizes. It's not just road salt, although that's part of it. It's about stormwater runoff—all the things that get washed off the land into the streams."

The system that carries rain water from the streets into our streams is closely regulated, with its own set of permits, which currently don't do enough to promote green stormwater infrastructure that provides a buffer between roads and streams, filtering out many of the salts, toxins, and other pollutants.

In December, BWB and the Chesapeake Bay Foundation filed a petition for judicial review of permits issued by the Maryland Department of the Environment to Baltimore City and County, asking for more protective requirements that would address the polluted stormwater runoff



that causes flooding and contributes to sewage backups and overflows.

Major changes in conductivity can be an indication of abnormal discharges into the water. At testing sites like Dead Run, a tributary of the Gwynn's Falls that runs close to Security Boulevard in west Baltimore, our team noticed that conductivity shoots up in winter, as salt and other pollutants wash off the roads.

"We see all the sites spike in winter," says water quality scientist Barbara Johnson, "but the ones next to roads skyrocket. The rapid increase of salts in freshwater can have a lasting effect on the ecosystem. It can invite invasive salt-tolerant species into the waterway and harm native freshwater species."

Once salts have made their way into the water, the only remedy is time, according to Volpitta.

"We are consistently seeing really poor conductivity scores in all of the non-tidal streams we monitor," she says, and the issues get worse further downstream, in what are often marginalized urban neighborhoods. Blue Water Baltimore has been working at several levels to combat the problem of stormwater runoff.

Over the last year, we planted over 1,000 trees in and around Baltimore City, and gave away another 900 trees, to increase the urban tree canopy and combat runoff. We installed rainwater cisterns, bio-retentions, and conservation landscaping at churches and schools, including Brown Memorial Park Avenue Presbyterian, The St. Elizabeth School, Knox Presbyterian Church, People's Community Lutheran Church and the Watershed Public Charter School. In 2021, we removed 11,000 sq feet of impervious surface!

We educated City Council members, community groups, and partner organizations about why it's so hard to install green stormwater infrastructure in the city, and how we could easily change that through policy amendments.

When newly issued stormwater permits continued to let municipalities off the hook for pollution and flooding, we went to court to advocate for our neighbors and waterways.

"Green Stormwater Infrastructure helps to reduce flooding of our neighborhoods and filter out contaminants that would end up in our streams if not treated," says Darin Crew, senior manager of operations. "These projects also improve neighborhood aesthetics by transforming pavement into natural landscapes and can create public spaces for neighborhood socialization."



*If you're interested in making your home, business, or congregation more stormwater friendly, visit our **Herring Run Nursery** for native plants, rainwater collection options, and advice on clean-water landscaping.*



CHALLENGES FOR THE FUTURE

While most of the work Blue Water Baltimore does is not directly related to the causes of climate change, in recent years the organization has begun advocating for measures that will reduce or mitigate the effects of a changing climate. Since Blue Water Baltimore is a hyper-local organization, you might not expect us to be involved in the global climate change movement. But every issue we work on – stormwater runoff, urban tree canopy and heat islands, sewage backups, even invasive species – can be expected to get worse as more rain, heat, and extreme weather events threaten the progress that has been made in Baltimore's watershed and the Chesapeake Bay region. Climate change is a real threat to both our waterways and the lives of our most vulnerable neighbors.

"The climate crisis is worsening environmental injustices in Baltimore," says BWB's Advocacy and Outreach Senior Manager, Taylor Smith-Hams, "including sewage backups during heavy rainfall and inequitable tree canopy distribution that exacerbates the urban heat island effect in predominantly Black neighborhoods. As Blue Water Baltimore works to improve the city's crumbling stormwater and wastewater infrastructure, protect and grow our tree canopy, and restore the region's water quality, we are also advocating for reductions in local emissions and investments in equitable climate resiliency."

This year, Smith-Hams gave testimony in the City Council on a package of climate-related bills requiring cool roofs on new buildings, purchasing zero-emission city vehicles, and setting goals for Baltimore to be carbon neutral by 2045. Blue Water Baltimore also organized community members to submit more than two thousand letters in support of the bills.

"We're not necessarily working on the root causes of climate change," says Baltimore Harborkeeper Alice Volpitta. "What we're doing is supporting the development of a more resilient city and county that can deal with the inevitable impact of climate change."

In the Baltimore region, climate resiliency looks like stronger stormwater permits that require more green interventions to capture increased rainfall volume to

prevent flooding and sewage backups. It looks like legal enforcement agreements that take the best available science into account when making assumptions about future pipe capacity based on storm intensity and population growth. And while we're advocating for these broader policy and regulatory changes, we can build resilience on the ground by increasing our local tree canopy and green infrastructure to mitigate increased rainfall and combat urban heat islands.

Volpitta says sea level rise, in conjunction with increased rainfall, is likely to exacerbate flooding inland, as stormwater pipe capacity is overwhelmed, leading to more flooded streets and sewage backups in basements.

In 2021, BWB signed on to several successful bills in the Maryland Legislature, including an agreement to switch the state bus fleet to electric vehicles, plant five million new trees in the state, and updating state stormwater regulations to account for climate change.

One of our most important contributions, though, is collecting and maintaining our water sampling data, to showcase the real-world effects of climate change on our local waterways.

"By keeping the pulse on Baltimore streams and rivers, we can tangibly quantify the impacts of climate change," says Volpitta. "We're building a powerful long-term dataset that will prove to be an invaluable scientific, legal, and advocacy resource for years to come."



"A more resilient city and county that can deal with the inevitable impact of climate change."



2021 FINANCIALS

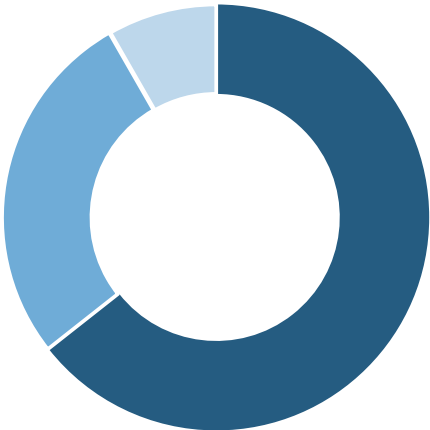
REVENUE

- Private Foundations: \$641,811
- Federal Foundations: \$188,724
- Government: \$462,509
- Corporate: \$82,697
- Individuals: \$423,858
- Program Fees: \$375,916
- Nursery: \$463,006
- Events: \$69,758
- Gross Rents: \$25,183
- In Kind: \$172,998
- (Other: \$8,935)
- TOTAL: \$2,915,395



EXPENSES

- Program Services: \$1,684,872
- General Operating: \$715,574
- Fundraising: \$216,698
- TOTAL: \$2,617,144



OUR GENEROUS DONORS

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Green Spring Valley Garden Club	Maryland Department of Natural Resources (DNR)	Paternayan- Ramsden Fund
Green Towson Alliance	Maryland League of Conservation Vot- ers Education Fund	Paypal
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Patagonia
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REI
Ridgeway Hall
Sideshow
The Ivy Bookshop
Total Wine & More
Union Craft Brewing
West Marine

THANK YOU TO EVERYONE WHO JOINED US IN 2021!

Our members are the lifeblood of everything we do at Blue Water Baltimore. From planting trees, to cleaning streams, to representing our community at city hall and in the courts, you make it all possible.

In 2021, we had more than 2,400 members, too many to list here! We are grateful for your generosity and your dedication to clean water and strong communities.

For purposes of conserving space and paper, individuals who gave in 2021 will be listed online. To access the complete list of 2021 members, visit this report online at bluewaterbaltimore.org/2021

Thank you again, from all of us at Blue Water Baltimore!

OUR BOARD: 2021 AND 2022

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*Vice Chair (2021),
Chair (2022)*

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