2024

CENTER FOR
WATERSHED
PROTECTION

Annual Report

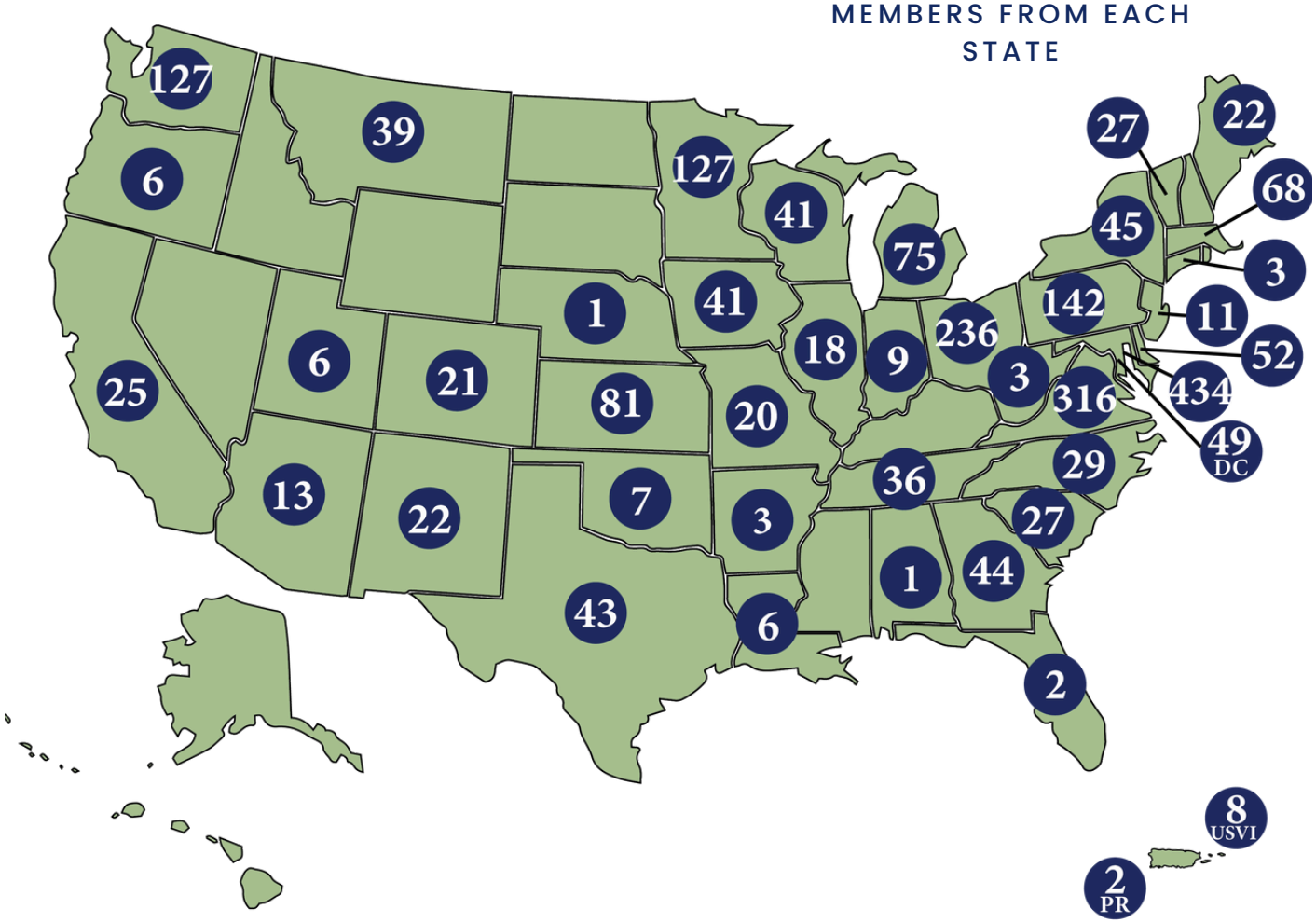
Center for Watershed Protection, Inc.

Inside this Report

Mission

A 501(c)3, nonprofit organization, the Center for Watershed Protection (CWP) advances clean water resources and healthy ecosystems through responsible land and water management

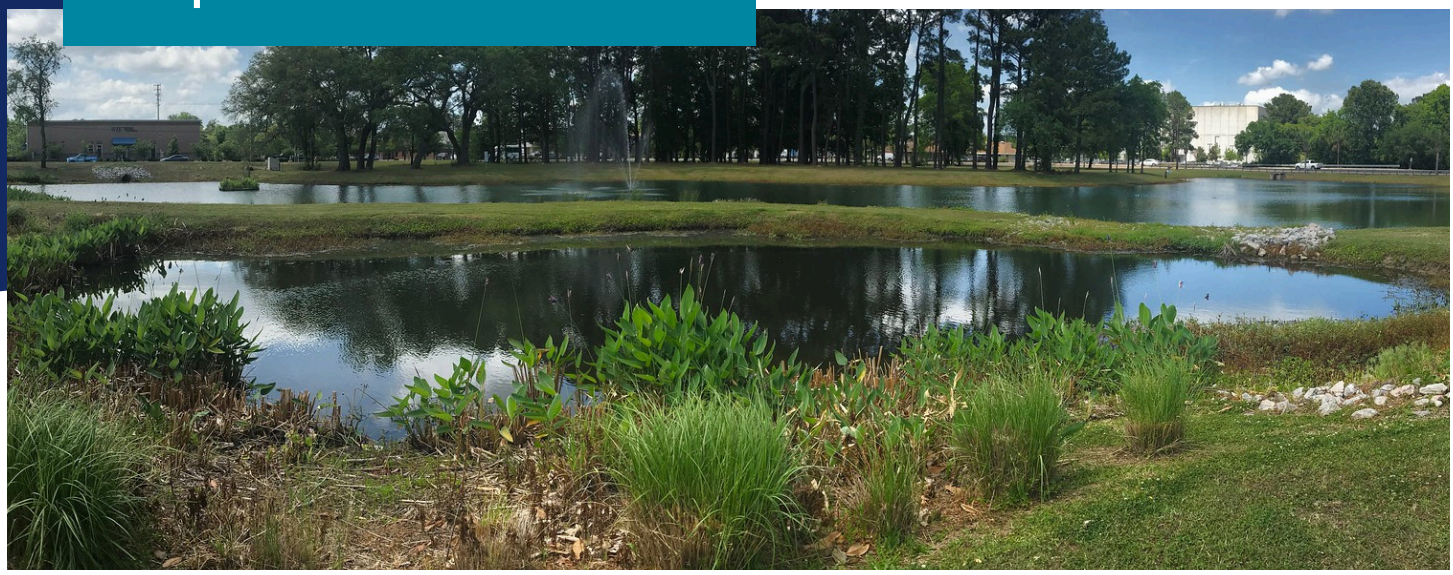
NUMBER OF ON-THE-GROUND PROJECTS AND MEMBERS FROM EACH STATE



Geographic Expansion

Project work in Pennsylvania represents over a quarter of all CWP projects, while our impact in other geographic areas, such as the Caribbean, the Gulf of Mexico, Michigan, & Missouri, has also grown.

Impact



PROMOTING THE ADAPTION OF RESPONSIBLE LAND & WATER POLICIES, PROGRAMS, & PRACTICES

7 Watershed assessment & planning projects

13 Municipal stormwater permit program assistance projects

16 Stormwater retrofit planning, design, & construction projects

7 Individualized training projects

5 Projects to help communities target & design the most effective stream restoration

47 Projects providing technical assistance to communities on watershed & stormwater management

17 Projects that incorporated climate resilience

14 Projects that address problems & solutions for rural agricultural watersheds

LEADING THE NATION IN ADVANCING SCIENCE-BASED SOLUTIONS FOR WATERSHED MANAGEMENT

5 Applied watershed & stormwater research projects

3,145 People reached through the first National Watershed Research project

EDUCATING, CONNECTING, & GROWING OUR COMMUNITY OF WATERSHED PRACTITIONERS, REGULATORS, & LEADERS

2,199 Center for Watershed Protection Association members

230 Attendees at the 2024 National Conference in Kansas City, Missouri

1,350 Professionals reached through the CWP National Webcast series

126 Individuals trained through the Clean Water Certificate Program

9,223 Social media followers

Welcome

Dear Friends,

In 2024, the Center for Watershed Protection (CWP) experienced unparalleled growth in grants, particularly through the Infrastructure Investment and Jobs Act, and including awards in training, community support, and broad-based environmental efforts. Through these opportunities, we made steady progress on our 2021-2025 Strategic Plan that reemphasizes our four program areas: Watershed and Stormwater Services, Training, Membership, and Research.

Some examples of our work include releasing the first of our National Watershed Research Network projects on Accounting for Climate Change in Post-Construction Stormwater Standards, continuing to expand our Clean Water Certificate program through more Instructor Preparation Programs, and expanding our services to new geographic areas through new members and projects. Other highlights included our 2024 National Watershed & Stormwater Conference in Kansas City, Missouri; Stormwater Training for the District of Columbia; reducing flood impacts in Greenville, North Carolina; assessing lake conditions in Frederick County, Maryland; and building stormwater rebate programs in Oakland County, Michigan.

Our current strategic plan ends in 2025, and regular progress tracking shows we have exceeded many of our goals. For example, membership grew to over 2,000 members, the National Watershed Research Network has begun its second project on Municipal Early Adopters of Climate-Informed Stormwater Management: A Storymap of Case Studies, and we have grown the number of communities served in the Great Lakes region; Pennsylvania; Kansas City, Missouri; and the Eastern shore of Maryland. Our products and services touch 44 states and territories as well as thousands of municipalities.

In 2025, we expect more of the same as we fulfill our commitments to produce usable projects for our audiences and, especially with growing demand in the training sector, to a more diverse geographic sector. As we grow, we invite you all to engage with us in the coming year. We extend a heartfelt thanks to all who have continued to support CWP.

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ACCOMPLISHMENTS- MEMBERSHIP

Membership

A national network of professionals, the Center for Watershed Protection Association (CWPA) advances cutting-edge practices in watershed and stormwater management. As a central hub for collaboration, CWPA fosters the exchange of knowledge, resources, and expertise across the field.

Members enjoy access to a wide range of high-quality training and events, including the National Watershed and Stormwater Conference, the annual Webcast Series, complimentary Lunch & Learn sessions, and more. Additional member benefits include access to CWPA's Career Center—where job opportunities can be posted and explored—and an extensive Online Watershed Library.

With more than 2,100 CWPA members in 2024 from 42 states and 3 countries, we continue to expand our network.

ACCOMPLISHMENTS- TRAINING

Training

CWP's training offerings include the National Watershed and Stormwater Conference, the annual Webcast Series, and the Clean Water Certificate (CWC) Program for Workforce Development, as well as customized online and in-person trainings.

STORMWATER TRAINING FOR THE DISTRICT OF COLUMBIA

CWP maintains a long-standing partnership with the District of Columbia's Department of Energy and Environment (DOEE), delivering customized training on stormwater management for over a decade. In 2024, CWP provided both in-person and virtual technical training for DOEE staff, developers, and development consultants.
Topics covered included:

- Introduction to the Stormwater Management Guidebook
- Calculating the 15-year hydraulic grade line
- Bioretention ponding and overflow calculations
- Stormwater exemptions

Additionally, CWP trained District Department of Transportation employees on designing stormwater management systems in the public right-of-way, and coordinated the development of training for District of Columbia winter maintenance professionals on best practices for more efficient application of road salt. This "Smart Salting" training has the goal of reducing the impacts of excess chloride on local waterways, public health, and infrastructure.

In 2024, CWP also assisted DOEE in analyzing how to adapt the Stormwater Management Guidebook to better account for climate change impacts. CWP values its ongoing relationship with DOEE and remains committed to supporting the District's stormwater goals of ensuring that the information and requirements in the Stormwater Management Guidebook remain technically sound and up-to-date.

Training

CLEAN WATER CERTIFICATE (CWC) PROGRAM

A workforce development training initiative, the CWC Program prepares individuals for green infrastructure jobs. The program creates a clear pathway to employment in the stormwater industry and gives participants an opportunity to explore potential green career paths.

The CWC Program expanded its reach and impact significantly in 2024. A total of 14 training sessions were conducted, equipping participants with practical skills in green infrastructure construction and maintenance, while 121 certificates were awarded to participants who successfully completed the program. Training partners included Groundwork New Orleans, Louisiana Green Corps, Thrive New Orleans, and Groundwork Rhode Island, among others.

The program also successfully received reaccreditation from the ANSI National Accreditation Board (ANAB), a subsidiary of the American National Standards Institute (ANSI). This reaccreditation, which occurs every five years, is granted following a successful surveillance review.

The program represents a significant milestone and affirms CWP's ongoing commitment to quality and compliance with ANSI/ASTM E2659-18. Annual surveillance by ANAB helps ensure the program continues to meet rigorous accreditation standards.

CWC's reach expanded in part through the addition of the Instructor Preparation Program, which authorizes qualified candidates who successfully complete the program to serve as CWC trainers. In 2024, the Instructor Preparation Program began transitioning to a virtual platform, enabling instructors to complete training modules at their own pace. This shift is expected to expand instructor capacity and increase program accessibility across the country.

Finally, CWP initiated an analysis of industry needs to help ensure that the CWC program's learning objectives align with these needs as they continue to evolve. This assessment will guide future curriculum updates and help maintain program relevance.

Watershed & Stormwater Services

CWP provides consulting services directly to state and local governments, watershed organizations, environmental consultants, and other clients. We also secure grant funding to provide free technical assistance to local governments and non-profits. These projects build the capacity of communities to protect and restore their watersheds and comply with clean water regulations.

STORMWATER SUPPORT IN PENNSYLVANIA

CWP's technical assistance to Pennsylvania communities on stormwater management expanded greatly over the past year. Much of this assistance involves helping municipalities with activities related to their stormwater permits and programs through direct consulting and grant funds. In 2024, CWP:

- supported nine municipalities directly on their municipal separate storm sewer system (MS4) programs, including annual reporting, written program development, training, stormwater infrastructure mapping, outfall field screening, best management practice inventory and inspection, and the creation of online mapping tools;
- began work on two projects focused on water quantity, as lead on the Chester County Act 167 Stormwater Management Plan and as a subconsultant on the Bucks County Act 167 Stormwater Management Plan;
- completed research for Pennsylvania Department of Transportation as a subconsultant on the use of Chesapeake Bay Expert Panel Protocol 5 for outfall stabilization pollutant reduction crediting;
- implemented a basin retrofit project with Continuous Monitoring Adaptive Control technology in Lower Moreland Township, Montgomery County, PA through funding from the William Penn Foundation;
- developed outreach materials and provided public meeting facilitation for the Perkiomen Creek Watershed Mapping and Flood Study;
- provided technical assistance to nine additional organizations, mainly multi-municipal collaborations, through funding from the Campbell Foundation;
- provided over 30 stormwater trainings and presentations statewide; and
- developed the PA MS4 Collaboration Toolkit which provides a clear, step-by-step roadmap for Pennsylvania municipalities to work together on stormwater management and achieving water quality goals.

"I wanted to congratulate you and your team on the outstanding work on the MS4 Collaboration Toolkit website. After exploring the site, I'm impressed with how comprehensive and user-friendly the website is. The platform is thoughtfully designed, making it a valuable starting point for anyone looking to initiate an MS4 partnership. I'm confident this will help many municipalities establish productive collaborations moving forward."

-Jeff Colella, Stormwater Division Manager, Wyoming Valley Sanitary Authority

EVALUATING STORMWATER RETROFIT POTENTIAL TO REDUCE FLOOD IMPACTS & IMPROVE WATER QUALITY IN GREENVILLE, NORTH CAROLINA

CWP assisted East Carolina University with an approach to identify stormwater basins in need of maintenance and basins where retrofitting can improve water quality and reduce flood impacts in the City of Greenville, North Carolina. Greenville experiences pervasive challenges with flooding and stormwater runoff and many older areas of the City have no stormwater management facilities or use outdated systems such as dry detention basins, which are generally not designed for stormwater pollutant removal. Few of the City's several hundred dry detention basins have been mapped and therefore limited information on their functionality exists. The goal of this project was to address the need to locate and assess unmapped dry detention basins across the City, with a specific emphasis on reducing flood impacts and improving water quality underserved communities.

East Carolina University developed a GIS-based machine learning approach to identify and map 214 previously unmapped dry detention basins and evaluated a subset of the identified basins in the field. Of the ponds evaluated for maintenance needs, only a quarter of them were considered well-maintained, while two required immediate attention. CWP led a stormwater retrofit assessment for a subset of the identified basins. CWP's retrofit assessment identified and prioritized a total of 34 retrofit opportunities, consisting of five primary approaches that would enhance stormwater volume and water quality, including wetland conversion, bioretention, infiltration, wet ponds, and tree planting. The City of Greenville now has a better inventory of their dry detention basins that were previously unmapped to inspect for maintenance purposes. CWP plans to continue work with East Carolina University next year on a research project to advance GIS-based methods to estimate shallow water table depths in Greenville which will help to further inform suitability for stormwater retrofits based on groundwater depth constraints.

ASSESSING LAKE & WATERSHED CONDITIONS IN FREDERICK COUNTY, MARYLAND

CWP led a project to comprehensively assess and characterize conditions in four Maryland lakes and their watersheds to inform future management planning and decision-making. The project was commissioned by the Lake Linganore Association who manages four private lakes—Lake Linganore, Lake Merle, Lake Anita Louise, and Lake Marian—for its growing community of approximately 17,000 residents in Frederick County, Maryland. While the lakes offer aesthetic enjoyment and many recreational opportunities to residents, they suffer from problems such as excessive sedimentation and frequent algae blooms that can limit community enjoyment and heighten risks to residents.

CWP worked with partners Hood College Center for Coastal and Watershed Studies and Aquatic Environmental Consultants to:

- collect and review existing lake and watershed data;
- host a community meeting and survey to gather input from residents about lake uses, problems, and goals;
- conduct fishery habitat and population surveys;
- conduct a macrophyte survey to evaluate shoreline emergent, floating, and submerged aquatic plants;
- sample water quality at different lake depths during the growing season to develop seasonal vertical profiles; and
- collect diel vertical profiles of pH to evaluate the extent to which elevated pH conditions induce internal release of phosphorus from bottom and nearshore sediments.

Using the existing and newly collected data, the team characterized water quality, fisheries, and aquatic plant conditions in each lake and identified known or potential causes of lake problems. The final assessment report identifies an overarching set of goals for the lakes along with specific objectives and preliminary strategies for achieving these goals in each lake. The recommended strategies include a mix of in-lake and watershed management strategies that range from regulatory or programmatic changes to site-specific protection and restoration projects with a focus on actions and land on land managed by the homeowners' association. In the coming year, CWP will be helping the Lake Linganore Association to prioritize the top watershed management strategies for each lake and provide additional detail on where and how these strategies will be applied.

BUILDING THE RAINSMART REBATES PROGRAM IN OAKLAND COUNTY, MICHIGAN

CWP assisted the Oakland County, Michigan Office of the Water Resources Commissioner and the Clinton River Watershed Council in developing the RainSmart Rebates Program. RainSmart Rebates is a residential pilot program that offers homeowners in the George W. Kuhn Drainage District in Oakland County up to $2,000 for implementing sustainable stormwater practices like rain gardens, tree planting, and rain barrels.

CWP developed the scope, technical specifications, and online tracking system for the RainSmart Rebates Program. This included conducting research and interviews with staff from other successful programs to develop a proposed framework, creating technical specifications for the types of stormwater practices funded through the program, and working closely with the Oakland County and Clinton River Watershed Council team to develop a customized, online system using Esri's Survey123 and other ArcGIS Online capabilities to power the collection, assessment, and implementation tracking of RainSmart Rebates projects.

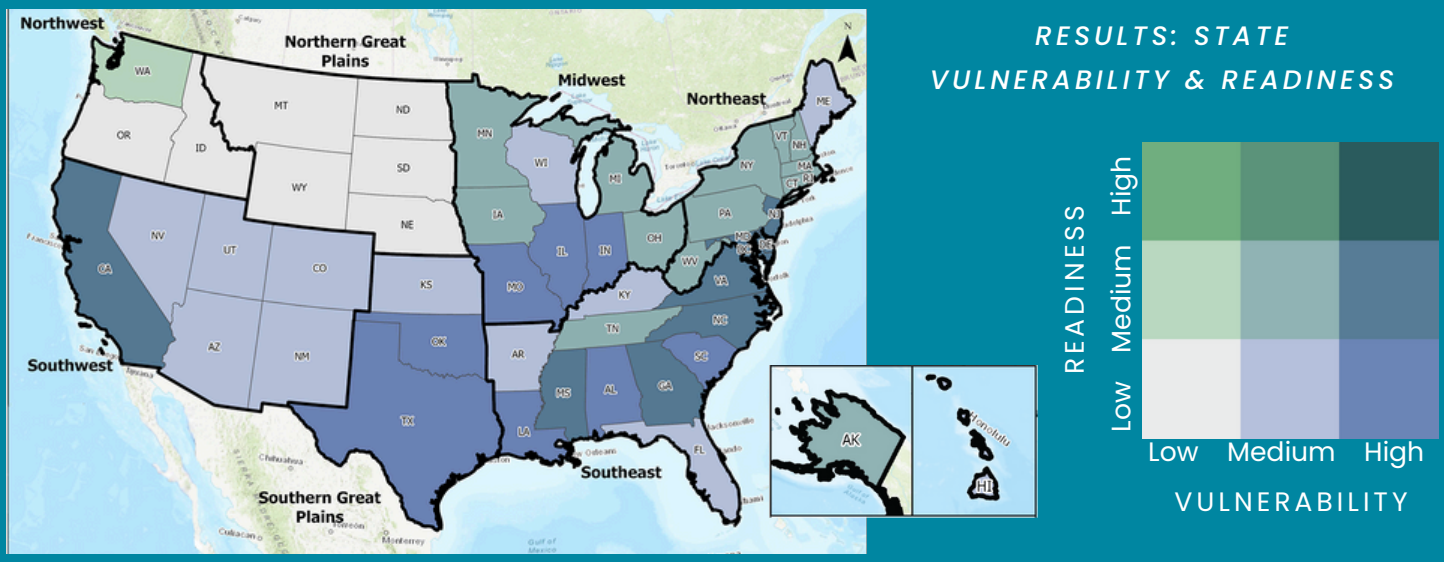
As the first residential rebate program for stormwater projects in southeast Michigan, the program has received overwhelming interest from residents and a waitlist has been initiated for all new applications pending the availability of additional funding. Oakland County is considering an expansion of the RainSmart Rebates Program to include additional geographies and/or additional types of properties such as businesses and commercial properties in the future.

Research

CWP conducts applied research to better understand the impact of land use activities on our water resources and advance best practices to prevent and alleviate harm. Our strength lies in translating science into practical guidance for policymakers, scientists and other professionals.

ADAPTING STORMWATER MANAGEMENT FOR A CHANGING CLIMATE

In 2024, CWP released the products from the first project of the National Watershed Research Network, a collaborative that helps communities achieve clean water and healthy watersheds by funding applied research on topics determined by its members.



The unprecedented rate of change in global climate patterns has important implications for stormwater managers; yet, incorporating climate information into stormwater management has been a challenge for many communities. Through this project, CWP reviewed existing state post-construction stormwater standards to provide a clearer understanding of how each U.S. state currently approaches climate resiliency in stormwater management.

A review showed that more than half of states have outdated or inadequate stormwater standards (often lacking a statewide manual entirely) irrespective of climate change, while the rest of the states are only moderately prepared to adapt to a changing climate.

Many of these states expect to see impacts from increasing precipitation, drought, high temperature, and/or sea level rise and also anticipate significant urban growth over the next 25 years, which will only exacerbate these impacts. The products of this work include a white paper summarizing the study results with specific recommendations for strengthening each state's requirements and a tool that local and regional agencies can use to evaluate and improve their own stormwater standards.

The National Watershed Research Network will build on this project by identifying innovative approaches used by municipalities at the local level. The result will be a Storymap of case studies highlighting early adopters of climate-informed stormwater management. These case studies will provide concrete examples with practical details to help other communities increase stormwater resilience.

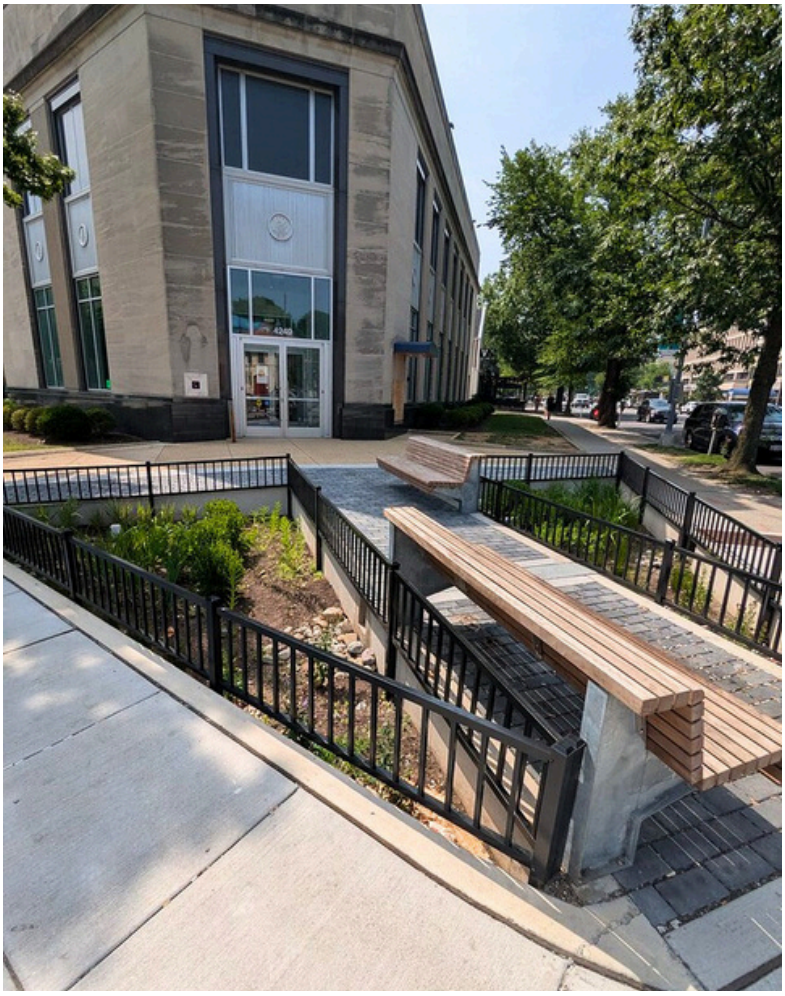
EMPOWERING SUSTAINABLE URBAN LANDSCAPES WITH BIOCHAR

CWP's work to demonstrate and advance innovative stormwater management strategies recently focused on the use of biochar, a carbon-rich product made from organic matter through a process that involves heating the material in a low-oxygen environment, to enhance the effectiveness of stormwater management facilities and reduce cost. Research shows that adding biochar to the filter media of a stormwater management practice can increase soil water holding capacity and water infiltration, improve soil fertility in nutrient-poor soils, filter metals, and prevent the movement of bacteria into waterways.

CWP led a 2.5 year project to accelerate the rate and scale of biochar amendment applications in urban areas within the Chesapeake Bay watershed to support runoff reduction and improved water quality. This work involved:

- Providing evidence and support for biochar amendment specifications and crediting by regulatory agencies
- Delivering comprehensive education about the many benefits of biochar, increasing understanding and adoption of this sustainable resource
- Creating a Community of Practice that provides local and state agencies, researchers, and organizations access to resources and expertise to help them develop and operate biochar projects
- Providing technical assistance to implementation partners for sourcing certified, quality biochar along with specifications for the use, installation, and maintenance of biochar-amended projects

CWP worked with core partners Infinite Solutions, University of Delaware, and the United States Biochar Initiative, along with numerous implementation partners. This initiative was funded by the US Environmental Protection Agency through the National Fish and Wildlife Foundation.



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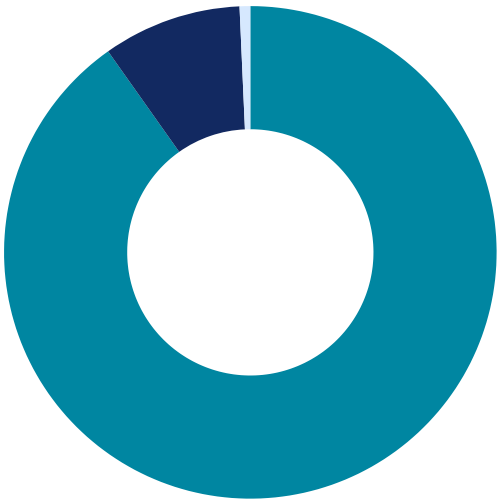
Financials

REVENUES

- Other Grants: 35.6%
- Local Government Partnerships: 26.0%
- Private Foundation Grants: 15.8%
- Federal Government Grants: 8.7%
- Workshops: 4.8%
- Investment Income: 4.1%
- Membership Dues: 2.6%
- Advertising & Sponsorships: 1.6%
- Interest Income: 0.5%
- Individual & Corporate Donations: 0.2%
- Subscriptions: <0.1%



EXPENSES

- Program Services: 90.2%
- Administrative & General: 9.1%
- Fundraising: 0.7%

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