

Program: Stormwater and Green Infrastructure

Water that runs off from hard surfaces like roads, driveways, roofs, and parking lots carries with it a wide diversity of pollutants. This 'stormwater runoff' is the fastest growing source of pollution to the Chesapeake Bay and can be one of the most difficult and costly to remedy. With a large backlog of historic runoff issues and the continual increase in impervious surfaces due to new development and land use changes, the amount of runoff impacting our watershed's streams, rivers, and the Bay has grown. Stormwater is a major source of nitrogen, phosphorous, sediment, and other pollutants.. However, new and innovative practices, policies, and programs are beginning to address the need for preventing and treating runoff from developed areas.



Goal: The Alliance's stormwater program implements projects which help to reduce and treat the volume of polluted runoff that enters local waterways, utilizing green infrastructure and innovative practices that mimic the treatment processes of natural ecosystems. Alliance projects also focus on community-based efforts that engage and educate local residents and help to train and educate local officials, stormwater practitioners and contractors.

Current Alliance Stormwater Projects

DC RiverSmart Homes

Through a partnership with the District of Columbia's Department of the Environment, the Alliance has managed the RiverSmart Homes program for over 5 years. Funded by impervious surface fees, this is the biggest component of the City's River Smart Program. Guided by residential stormwater assessments, the Alliance trains landscape contractors and contracts the installation of rain gardens, conservation landscapes, and pervious pavement to eliminate stormwater runoff from homes in the City.

RiverWise Communities

Using experience gained from work in DC and other cities, the Alliance developed a framework and resource guide for local governments and watershed groups to use to establish and implement residential-scale green stormwater programs in their communities. RiverWise includes guidance for site assessments, specifications for common practices, community social marketing, cost share assistance programs, maintenance and monitoring performance. The RiverWise approach is being demonstrated through projects in Virginia and Maryland.

RiverWise Congregations

In partnership with the Interfaith Partners for the Chesapeake and the Watershed Stewards Academy, the Alliance is working with faith communities to build watershed stewards and leaders in congregations in Anne Arundel County, MD and develop and implement stormwater plans for each property. To date, we have enlisted participation from 25 houses of worship. This project uses the RiverWise Communities approach but also includes education and integration of caring for creation as a core tenet of faith community values. The project has also demonstrated the role of

houses of worship as a valuable focus for reaching out to more diverse communities to build support for action on environmental issues. Sixteen of the 25 houses of worship are predominantly African-American congregations.

Reduce Your Stormwater Website

Runoff from the hard surfaces of individual private homes and small businesses is estimated to contribute as much as 30% of the total stormwater in many locales. Inspiring and supporting individual property owners in their effort to take action is an important part of our strategy. The “Reduce your Stormwater” website is a do-it-yourself resource center that provides easy to use technical information and recommended healthy habits that facilitates reaching this important audience. We are now working on targeted social marketing efforts to measure the reach and effectiveness of the website in specific watersheds in PA and VA. The Alliance will follow up this marketing by purchasing plants and landscape materials for homeowners ready to install rain gardens or other measures to reduce their stormwater in the target watersheds.



READY – Restoring the Environment And Developing Youth

READY demonstrates the value of creating green jobs and involving local communities in stormwater remediation work. With funding support from the stormwater program in Howard County, the Alliance in partnership with People Acting Together for Howard, a local citizen group, designed this model for training young adults as summer construction crews who install rain gardens and other practices as well as perform needed stormwater practice maintenance on community properties in the County. In the last three years, READY has hired and trained 126 young adults who have installed over 100 rain gardens and other watershed protection practices treating over 20 acres of impervious surface. In addition to helping the County meet its water quality goals, READY builds awareness among the community and support for needed stormwater investment while building lifelong environmental stewards.



Richmond ‘Greening the Capital’ and Jefferson Greenway

The Alliance has been working for a number of years with the City of Richmond VA to retrofit the capital grounds and streetscapes surrounding the state capital with green infrastructure and bioretention practices to address runoff from streets and impervious areas. The Jefferson Greenway vision, developed by the Alliance and local partners, is a green street corridor linking the Capital grounds to the James River. This ambitious vision is a multi-year, major capital project which would reconstruct and renovate a major city travel corridor.



Local Assistance in MS4 Planning and Implementation *(Blair and five counties in the Harrisburg, PA region)*

Pennsylvania faces unique local challenges in compliance with stormwater permits and development of the programs needed to address these needs. As a true commonwealth with thousands of small jurisdictions, many local governments lack the capacity or the resources to meet their stormwater needs. The Alliance has been facilitating collaboration among municipalities to foster a regional planning approach, develop shared outreach tools and joint financing strategies, and to train local practitioners and municipal staff to enhance BMP implementation; ultimately saving the jurisdictions money and creating a more effective approach. He 6 counties contain over 100 separate MS4 jurisdictions.



Stormwater Partners Retreat

Each year the Alliance works with the Stormwater Network to host a gathering of over 100 stormwater professionals, local program managers and regulators, design engineers and non-profit groups to encourage collaboration and shared learning and advance innovation in the field of stormwater management approaches and practices. The retreat has been instrumental in encouraging a watershed approach to addressing stormwater issues and accelerating implementation of stormwater BMPs and programs.



Chesapeake Bay Stormwater Training Partnership

Working with the Chesapeake Stormwater Network and Center for Watershed Protection, the Alliance is bringing advanced stormwater training to professionals in the design, installation, maintenance, and inspection of urban stormwater retention practices. In its first five years, the CBSTP has delivered more than 90,000 person-hours to more than 10,000 stormwater professionals. The Alliance also supports the Partnership's online presence. The workshops are designed for local governments, stormwater professionals, and practitioners who are looking to advance their programs through new technologies or management strategies.

Affiliated Projects

The Alliance is also “getting their boots dirty” in PA by working closely with municipalities implementing public stormwater BMP demonstration projects. The Alliance develops BMP conceptual designs, detailed planting plans, and maintenance guides specific to each project site to promote long-term care and efficiency. Most recently, staff has worked in Cumberland County on enhancing Lemoyne Borough's rain garden streetscape and has been a pivotal partner in designing three large projects in Hampden Township PA. The Alliance works closely with the municipalities, maintenance staff, engineers, and volunteers on these projects.

Who are our Partners?

Our primary partners in the stormwater program are local and state governments. These partners are the primary source of funding for this work. In every project, we also work with a variety of

local watershed organizations and citizen groups, homeowner associations, stormwater consultants, professionals, engineers, churches, schools, and other public/private entities.

Who Benefits?

Local governments and states benefit by receiving assistance in accomplishing their goals for stormwater reduction and water quality improvement. Local residents, homeowners and businesses have also received funding and technical help to improve their properties with green stormwater practices. Professionals, consultants, and contractors have benefited from education and training and in some cases have benefited from local business opportunities in the restoration economy.

Potential Funders:

Primary funding is provided by local governments (DCDOE, Howard County, City of Richmond, etc.). With the advent of stormwater fees, local sources are expected to continue to dominate funding. In addition, state government water quality trust funds (including MD Watershed Restoration Trust Fund, VA DEQ State improvement fund, PENNVEST, PA Growing Greener, etc.) are supporting the installation of larger practices. National Fish and Wildlife Foundation and Chesapeake Bay Trust have been the primary supporters of program development, planning, training, and local community engagement efforts. Funding from EPA through the Chesapeake Bay Program provides core support for NFWF funding programs. Corporate foundations have also supported a variety of projects in Virginia.

Measuring Performance:

Primary metrics for these projects have been the number of practices (like rain gardens) installed and the water quality metrics associated with these stormwater practices such as TN/TP/sediment reduced, impervious area treated, volume of runoff captured. In addition, more qualitative measures include people or contractors trained, green jobs created, partners engaged, public recognition (newspapers, etc.) and adoption of lasting programs created and carried out by partners.

Geographic Scope:

Potential for implementation is Bay watershed wide with focus on the more urban areas. By virtue of our office locations, a predominance of work is located in the Annapolis/Baltimore/DC area, communities in Richmond and tidewater VA, and Harrisburg (Capital Region, Lancaster and York Cities), PA. Targeted local watersheds and communities with MS4 permits are likely future communities of focus.