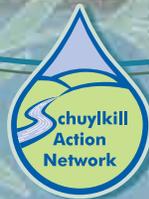




2015
PROGRESS
REPORT

Photo by Katie Paynter



**SCHUYLKILL
ACTION NETWORK**

PROTECTING SCHUYLKILL WATERS
WWW.SCHUYLKILLWATERS.ORG

A sunset view of Schuylkill River running through Philadelphia.

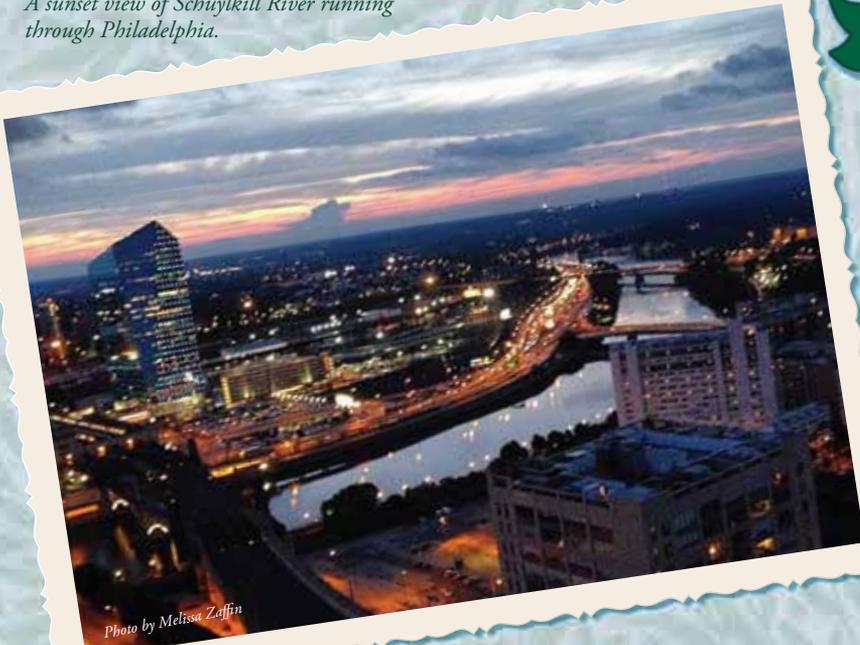


Photo by Melissa Zaffin

INTRODUCTION

In 2004, the Partnership for the Delaware Estuary began coordinating the **Schuylkill Action Network (SAN)** with the shared vision for a clean and healthy Schuylkill Watershed. Since then, the SAN has expanded its membership to include over 150 partners representing federal, state, and local governments, local watershed groups, land trusts, businesses, academics, and water suppliers. Together, these partners share information, expertise, and resources to help achieve this shared vision. The SAN seeks to improve water quality in the Schuylkill River and its tributaries through enhanced communication and collaboration, implementation of high-priority projects, and promoting the long-term stewardship of this wonderful resource.

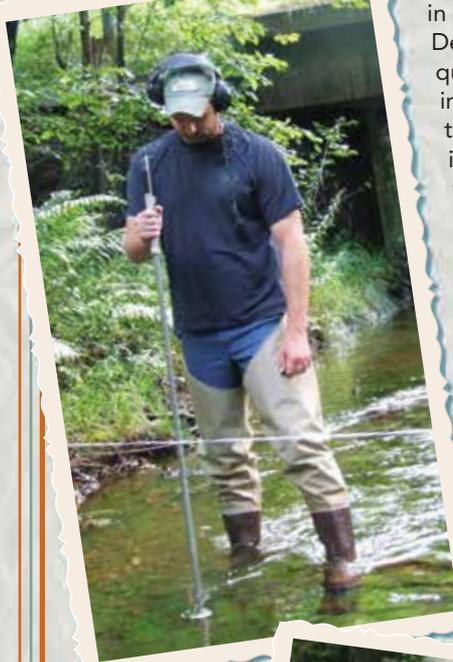
A new liquid manure storage system was installed at the Martin Farm, shown in the before and after photos (right).

ABANDONED MINE DRAINAGE WORKGROUP

Abandoned mines release heavy metals and extremely low (acidic) pH water into streams, creating an inhabitable environment for fish and other aquatic life. All of the abandoned mines in the Schuylkill watershed are located in the headwaters, and flow downstream to the Delaware River. The **Abandoned Mine Drainage Workgroup** continues to improve water quality by installing and optimizing treatment systems, which remove heavy metals and improve pH. Improvements to existing treatment systems continue to be a high priority for the workgroup. The Bell Colliery treatment system near Mary D, PA, is continuously being improved, and the data reveals improved water quality. Untreated water flowing into the treatment system has an average pH of 3.95 with high concentrations of iron, with aluminum and manganese also present. After flowing through the treatment system, the average pH is 6.25 with significantly lower levels of these heavy metals.

The workgroup has been busy moving forward in its stream restoration plans for the West Creek, by designing and constructing systems to keep stream base-flow from getting into the underground mine pool. The group has also been working creatively to keep coal silt residue out of the river by exploring opportunities to restore floodplains in areas where coal silt has been collecting for decades.

The Abandoned Mine Drainage Workgroup is monitoring water quality in the Mill Creek and the West West Branch watershed discharges to develop strategies, along with a cost estimate for construction and maintenance. The data will be used to develop a Qualified Hydrologic Unit Plan, giving way to more federal funding opportunities. An exciting outcome of this planning effort will likely be a design of a treatment system of the Oak Hill/ Pine Knot Mine pool, the largest source of abandoned mine pollution to the Schuylkill River. The workgroup is partnering with Pennsylvania Department of Environmental Protection and Penn State University to develop what may become the largest abandoned mine treatment system in the state.



The Abandoned Mine Drainage Workgroup tests water quality at Bell Colliery.



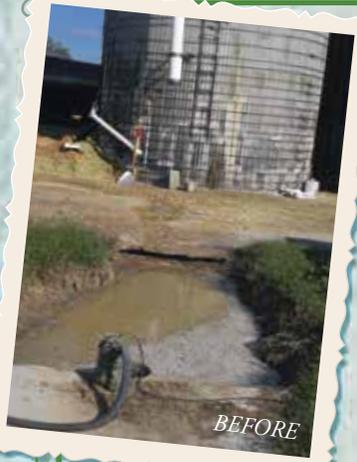
A group of young volunteers at this year's Schuylkill Scrub.

AGRICULTURE WORKGROUP

The **Agriculture Workgroup** works with farmers to install practices that help restore and protect our streams. The main goal is to keep clean rain water away from areas where it can get polluted. These projects also help farmers become more productive and profitable by better managing resources they need in order to farm. This past year, the Agriculture Workgroup received a new boost of funding from the William Penn Foundation as part of the Delaware River Watershed Initiative, which is investing in restoration work in the Tulpehocken, Maiden, and Manatawny Creek Watersheds. This funding, leveraged with other grants, such as the Berks Watershed Restoration Fund, the Schuylkill River Restoration Fund, and the federal farm bill program, has allowed this group to complete four farm projects in the Maiden Creek Watershed. These projects took a whole-farm approach, addressing all pollution issues on the farm, by installing practices such as conservation and nutrient management planning, liquid and solid manure storage facilities, rain gutters, cattle fencing, and riparian buffers.

The workgroup also focused on public education and outreach by highlighting completed projects and educating farmers about practices they can implement on their farm. In August 2014, over 50 people participated in an agricultural tour, visiting some projects that were completed over the past several years. The Berks County Conservation District, Berks Conservancy, and Stroud Water Research Center held several workshops for farmers, teaching them about what they can do on their farms to keep our streams healthy. In 2014, the SAN was recognized for efforts in improving water quality and received the "Leadership in Action" award from Penn State's Agriculture Council.

Additionally, late last year, members of the workgroup collaborated on a regional initiative to secure additional federal funding for agriculture restoration and protection work in the Delaware River Basin. As a result, two grants were awarded under the U.S. Department of Agriculture's Regional Conservation Partnership Program, bringing over \$13 million to help address this very important issue.



EDUCATION AND OUTREACH WORKGROUP

Educating people and engaging them in improving the watershed is one of the most important aspects of achieving our goal of a clean and healthy Schuylkill River. The SAN continues to coordinate the Schuylkill Scrub, an annual watershed-wide cleanup initiative running from March to May. The Schuylkill Scrub is now coordinating with Keep PA Beautiful in their Great American Cleanup of PA. This gives Scrub cleanup groups access to free trash bags, gloves, safety vests, and free or reduced trash pickup/drop-off. In 2014, there were over 100 cleanups and over 1,500 volunteers who helped clean up the Schuylkill watershed.

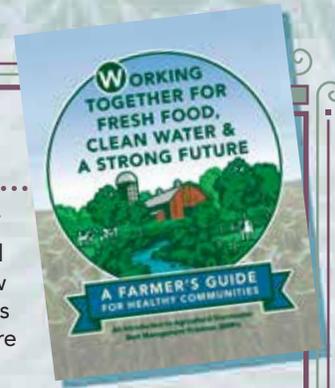
This past summer, the **Education and Outreach Workgroup** also developed and distributed *A Farmer's Guide for Healthy Communities*, a guidebook for agricultural best management practices. This guide has been extremely popular with the agriculture community and provides farmers with suggestions and ideas to reduce pollution on their properties.

The SAN has also worked to find new ways to reach people living, working, and playing in the watershed. You can now find SAN on Facebook, Twitter, Instagram, and Flickr. Be sure to like us/follow us to learn about and share the work that's going on to keep the watershed clean.



For the first year, SAN launched its Schuylkill Students Street Art Contest, a contest where students submit artwork related to improving water quality. The winner will get their artwork installed on a stormdrain within their community in Reading, PA.

Additionally, the SAN awarded three schools with Drinking Water Scholastic Awards for their educational programs and class projects to protect drinking water. These three schools are the Cook Wissahickon School, Robeson Elementary Center, and the Montessori School.



PATHOGEN AND COMPLIANCE WORKGROUP

The **Pathogen and Compliance Workgroup** brought together water suppliers, the regulatory community, and non-governmental organizations partners to identify ways to reduce pathogens and other pollutants from entering the Schuylkill River. The workgroup also focuses on education and awareness. The Delaware Valley Early Warning System, created in 2004, continues to be a crucial tool in providing water suppliers with information about upstream pollution and therefore protect the water supply for millions of people downstream. The Pathogen and Compliance Workgroup has strengthened the Early Warning System communication by including additional water quality incidents, such as sewage, oil, and chemical spills, black fly spray, and flood/reservoir events. In 2014, 16 events were reported to the system. Additionally, a tidal spill model for the tidal portion of the Delaware River was incorporated into the Early Warning System.

In April and October of 2014, Berks County Water and Sewer Association staffed and provided outreach information on source water protection at special waste collection events. These events included household hazardous waste, paper shredding, and pharmaceutical waste collection.

This past year, the Pathogen and Compliance Workgroup created a database with information and data on individual wastewater treatment plants in the Schuylkill watershed. This database will help the group identify plants that may need treatment upgrades and assistance with addressing pollutant issues. It will also serve as a reference for the workgroup when waste water treatment plants discharge events are reported on the Early Warning System.



Delaware Valley Early Warning System website.

STORMWATER WORKGROUP

With increasing development in the Schuylkill watershed, stormwater remains a growing concern facing stream health. The **Stormwater Workgroup** worked hard this year to reduce the stormwater problems and spread awareness of new and innovative solutions to reduce stormwater pollution.

The SAN Stormwater Workgroup held one of its quarterly meetings at the Venice Island Performing Arts Center in Manayunk, which included a tour of the innovative stormwater practices recently installed at the site. During the meeting, a discussion took place regarding illegal dumping of grease, food waste, and trash in storm drains at a large shopping mall in the watershed. A subcommittee was formed to develop an outreach plan for this shopping mall that can be applied to other shopping centers.



A student at Christopher Dock High School (left) helps install a rain garden (above).

In March, the group organized its first Green Design \$aves Green workshop, which provided over 60 attendees with information on design process, costs, challenges, and lessons learned for green infrastructure. Presentations from leading green designers and engineers provided property owners with practical information on how to save money while keeping our watersheds healthy. The workshop was held at the Germantown Academy and featured a tour of their green stormwater projects.

The Schuylkill Action Students program helps schools improve both stormwater management on campus and environmental education for students. This year, four schools, including Robeson Elementary Center, Kutztown Middle School, Christopher Dock High School, and Upper Perkiomen High School, completed Schuylkill Action Students projects. Projects included native meadow and rain garden installations, riparian buffers restorations, and tree plantings. Three additional schools have been awarded funding for projects in 2015, including Blue Mountain High School, Conrad Weiser Middle School, and Cook Wissahickon School.



WATERSHED LAND PROTECTION COLLABORATIVE

In 2014, the **Watershed Land Collaborative Workgroup** took on the new challenge of serving as the coordinating entity for the Schuylkill Highlands Cluster area of the William Penn Foundation Delaware River Watershed Initiative to better align and leverage efforts of partners working in this geography. This effort brought both focused collaboration and increased funding, helping protect important watershed lands in Berks and Chester County. Through monitoring, engagement, stewardship, and conservation activities, SAN partners are working to conserve additional land and to engage landowners in protecting natural resources. The workgroup has set a goal to permanently protect at least 1,350 acres of high priority lands within this headwaters area of the Schuylkill River watershed. The Watershed Land Collaborative Workgroup is working to strengthen relationships with local municipalities and increase support for land conservation efforts.



A young girl learns about local wildlife at a landowner engagement event (above), and Schuylkill Water Stewards explore the river (right).

The workgroup expanded its outreach by holding three landowner engagement events which attracted over 120 individuals in 2014. Topics at the events included conservation and stewardship ideas for landowners and opportunities for advancing conservation projects. Additionally, a new volunteer water quality monitoring program called Schuylkill Water Stewards has been implemented with 20 trained volunteers. These volunteers will provide valuable data on water quality, stormwater, wildlife, and habitat in the Schuylkill Highlands and Middle Schuylkill cluster areas, to track the success of best management practices implemented through the William Penn Foundation funding.



The workgroup also continued to expand resources for conservation by working with municipalities to develop open space plans, promoting the Land Transaction Assistance Program, and leveraging vital funding opportunities through the Open Space Institute, PA Department of Conservation and Natural Resource, county farmland preservation programs, and others. The group is currently on track to reach its conservation goal of 1,350 acres over the next two years.

WILLIAM PENN FOUNDATION

In 2013, the **William Penn Foundation** announced its *Delaware River Basin Initiative*, a multi-year initiative to protect and restore waterways that are critical sources of drinking water for millions of people. The Foundation has invested \$35 million in grants for watershed protection throughout the entire Delaware River Basin. The Foundation has prioritized eight sub-watershed "clusters" within the Delaware River watershed. Three of these priority areas are within the Schuylkill River watershed — the *Schuylkill Highlands Cluster* (conservation focus), the *Middle Schuylkill Cluster* (agriculture restoration), and the *Upstream Suburban Philadelphia Cluster* (stormwater restoration). The main goal of this initiative is to protect and improve watershed health by investing in conservation and restoration projects.

Swimmers enjoying the Wissahickon Creek.



Photo by Emily Singleton

SCHUYLKILL RIVER RESTORATION FUND

In 2014, \$337,465 in grants was awarded to organizations to improve water quality in the Schuylkill River and its tributaries through the Schuylkill River Restoration Fund. Funding for these projects was provided by Exelon's Limerick Generating Station, the Philadelphia Water Department, and Aqua PA.

2014 GRANT AWARDS:

- Berks County Conservancy: David Rice Dairy Farm Project, \$80,577**
Objective: Implement agricultural Best Management Practices (BMPs) on a dairy farm along the Maiden Creek in Berks County. **BMPs include:** a six month in-ground liquid manure storage facility, rain gutters, and grazing controls.
- Berks County Conservancy: Martin Farm, \$49,350**
Objective: Install agricultural BMPs on the Earl Martin dairy farm in the Saucony Creek watershed in Berks County. **BMPs include:** liquid manure storage facility, rain gutters, downspouts, and grazing controls.
- Berks County Conservation District: Zimmerman Farm, \$80,577**
Objective: Install an in-ground liquid manure storage pit and two dry manure storage areas, as well as stormwater runoff controls, on a dairy farm in the Saucony Creek watershed in Berks County.
- Borough of Pottstown: Stormwater Infiltration Filters, \$30,000**
Objective: Install water quality infiltration filters at strategic locations to capture pollutants before they can discharge into the Manatawny Creek and Schuylkill River.
- Cook Wissahickon School: Phase II Meadow Restoration, \$37,961**
Objective: Install and maintain approximately 3,300 sq/ft of new meadow with native plantings. The project will be used as an educational program for students.
- Schuylkill Headwaters Association: Blue Mountain Stormwater, \$55,000**
Objective: Install a bioswale and three rain gardens on the campus of the Blue Mountain School District. This unique stormwater project will demonstrate innovative stormwater management BMP's on a community scale.
- Lower Frederick Township: Stonehill Greenway Property, \$4,000**
Objective: Assist in the fee-simple purchase of an undeveloped 2.88 acre parcel lot along Meng Road in Lower Frederick Township. This property will expand the 650 acre Stonehill Greenway, a significant interior forest habitat.



Special thanks to Chuck Kanetsky of the Environmental Protection Agency for all of his help with SAN. Chuck retired this year and was previously the co-chair of the Pathogens and Compliance Workgroup. He also received the Kevin Munley award at the SAN Annual Workshop in November.

SPONSORS & PARTNERS



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**Connecting people, science, and nature
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SCHUYLKILL RIVER
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Delaware River Basin Commission
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Funding for this project was provided by the PA Department of Environmental Protection and the US Environmental Protection Agency through the Drinking Water State Revolving Fund.