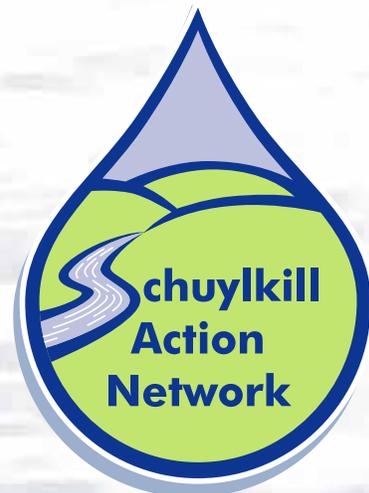


SCHUYLKILL ACTION NETWORK

Protecting Schuylkill Waters • www.SchuylkillWaters.org



Members of the Schuylkill Action Network share information, expertise, and technology to help each other achieve a shared vision of clean water and a healthy environment for the Schuylkill River and its tributaries.

ABANDONED MINE DRAINAGE WORKGROUP

In 2010, the Abandoned Mine Drainage (AMD) Workgroup had an extremely productive year, completing a number of watershed restoration projects while securing funding and resources for future projects. AMD is one of the most serious issues facing the watershed and is responsible for over 25% of its total impairments. Treating AMD is often complicated, expensive, and requires the involvement of a diverse group of partners.

In early 2010, the Schuylkill Headwaters Association started construction of one of its largest projects to date, a treatment system for the Silver Creek Mine Discharge. The \$850,000 project was completed in August and has been treating over 1.7 million gallons of water per day, correcting the water's pH, and removing iron before it enters the receiving stream.

While water treatment is critical to combating AMD, it is equally important to prevent clean water from getting polluted. In the fall of 2010, the AMD Workgroup completed the Wheeler Run Flume project. This leaky flume was replaced with a lined channel, which is now preventing clean water from entering the underground mine tunnels and getting polluted. Aiding in this effort, the Schuylkill Conservation District completed the first phase of the West Branch Pine Knot Watershed Study. This study identified infiltration sites along the West Branch of the Schuylkill River and provided designs for addressing them. This past year, funding for a second phase of the project was awarded, allowing it to continue through 2011.

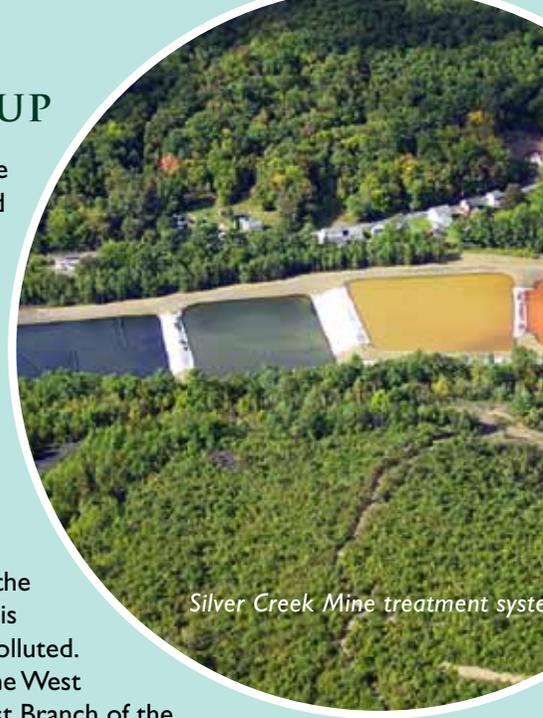
In addition to these successes, over \$650,000 was secured for the Mary D. Borehole treatment system and \$347,000 for the Bell Colliery Phase III Optimization project. Additionally, through the efforts of the Schuylkill Headwaters Association and Schuylkill Conservation District, the AMD Workgroup was also able to plant over 6,000 trees on approximately 6-acres of mine land through the Appalachian Regional Reforestation Initiative. To see other workgroup successes, visit www.SchuylkillWaters.org.

AGRICULTURE WORKGROUP

Agricultural pollution contributes over 30% of all water quality impairments in the Schuylkill Watershed, creating health concerns and environmental impacts to downstream communities. Luckily, SAN partners have been working to implement projects that keep water in the Schuylkill clean, while also allowing farmers to maintain productive farmland.

In 2010, Agricultural Workgroup partners installed several streambank stabilization and riparian buffer restoration projects, restoring over 3,000 feet of streambank. The workgroup was also successful in reducing pathogen pollution (runoff from manure) from farmland. Through a partnership with the Natural Resource Conservation Services (NRCS), the Berks County Conservancy and Berks County Conservation District secured funding to complete two major priority farm overhauls in the Maiden Creek Watershed. On both the Martin and Trexler farms, two new manure storage facilities were installed, barnyard runoff was reduced, and cattle feeding and heavy use areas were stabilized. Streambank fencing and animal crossings were also installed, further improving the water quality of the streams flowing through these properties.

The workgroup also assisted 16 Schuylkill farmers with developing conservation and nutrient management plans. Several data compilation and monitoring projects were also completed, including tracking all recent Agriculture Best Management Practice (BMP) projects in the watershed and monitoring bacteria in the Maiden Creek watershed. Also, last summer, a one-day macroinvertebrate study was conducted in the Maiden Creek, which identified increases in mayflies, caddisflies, stoneflies, crayfish and salamanders, indicating that past work completed by the SAN is successfully contributing to the restoration of these important waterways.



Silver Creek Mine treatment system



Streambank fencing at Trexler farm

STORMWATER WORKGROUP

With record rainfall and snow accumulation, stormwater continued to be a major issue throughout the watershed in 2010. Throughout the year, SAN partners worked to develop tools and programs to help guide municipalities through some of these challenges. For example, Stormwater PA created a multi-media CD toolkit, "Site Design Procedure for Better Stormwater Management", that walks municipal decision makers through the planning, design, and development of projects that protect local waterways from runoff. The Pennsylvania Environmental Council continued to develop an MS4 Management Database System that efficiently tracks projects, manages time and record keeping, and will meet PA DEP reporting requirements. In the sub-sheds, the Perkiomen Watershed Conservancy and Wissahickon Valley Watershed Association found success partnering with municipalities and becoming allies that offered land for BMP installations, flow replacement opportunities, and conservation planning.

During SAN Stormwater Workgroup meetings, many of the presentations brought implementation lessons-learned to life, sparking both partnerships and inspiration in the process. Attendees learned about rain garden and infiltration trench work carried out by the Valley Creek Restoration Partnership, Schuylkill Scrub planning efforts, and MS4 compliance issues in other states. The Academy of Natural Sciences shared its Forested Buffer Prioritization Tool, which is currently under development. If all goes to plan, this tool could eventually become available to watershed planners to help prioritize projects and areas of greatest impact, strengthen grant proposals, and add more environmental value to on-the-ground projects.

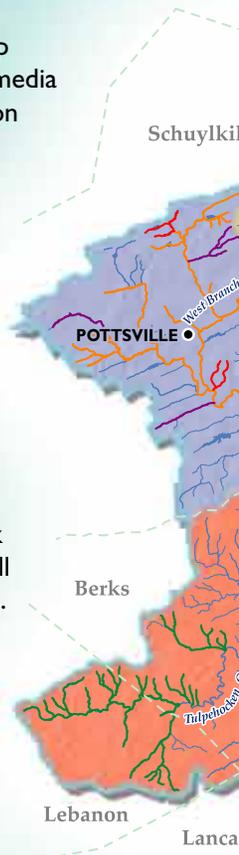
The Schuylkill Action Student (SAS) Program, which focuses on creating riparian buffer habitats and outdoor learning spaces on

school campuses, made headway in identifying school partners for project implementation. In the summer 2010, SAN Stormwater Workgroup members promoted the SAS program to over 40 educators during a successful workshop they helped to organize. The registration for the event surpassed its capacity, encouraging Stormwater Workgroup members to begin planning for a summer 2011 workshop.

EDUCATION & OUTREACH WORKGROUP

Protecting and restoring Schuylkill waters is the primary goal of the SAN and calls for everyone who works, lives, and recreates in the watershed to learn to view the Schuylkill as a resource and understand the important role it plays in our lives. In 2010, the SAN Education & Outreach (E&O) Workgroup implemented projects and activities that set out to accomplish this goal, while also maintaining a focus on strengthening its network of partners. One of the primary tools used to accomplish this was the SAN website: www.SchuylkillWaters.org. Over the past year, the website has been used to promote watershed news, celebrate successes, raise awareness of critical watershed issues, and provide a communication platform for SAN partners. Several updates were added to the site, including the SAN publications page, the ability to add embedded videos and pictures, and the integration of social networking features, including a new Facebook page.

In 2010, the SAN E&O Workgroup also continued the tradition of hosting the annual Drinking Water Awards program. New for 2011, the workgroup announced the Schuylkill Stories Video contest and supported other watershed education projects including the Philadelphia Spokesdog Competition, the development of a Green Guide for Commercial Properties, and the Schuylkill Scrub. In 2011, the workgroup will be rolling out its new SAN banner, which will feature an embedded video display for showing slideshows, videos, or PowerPoint presentations of SAN workgroup activities and projects.



Maintaining a riparian buffer



WATERSHED LAND COLLABORATIVE WORKGROUP

Protecting the waters of the Schuylkill River also requires us to protect the land. In 2007, the SAN Watershed Land Collaborative (WLC) Workgroup developed the Schuylkill Watershed Lands Prioritization Tool, which identifies key watershed lands most important for protection. The GIS-based tool combined a variety of ecological criteria critical for clean water and compared it to land that is most likely to be developed. The friction areas, where these two features overlap, were identified as priority lands. Finding opportunities and initiating measures to protect these lands was a primary focus of the WLC in 2010.

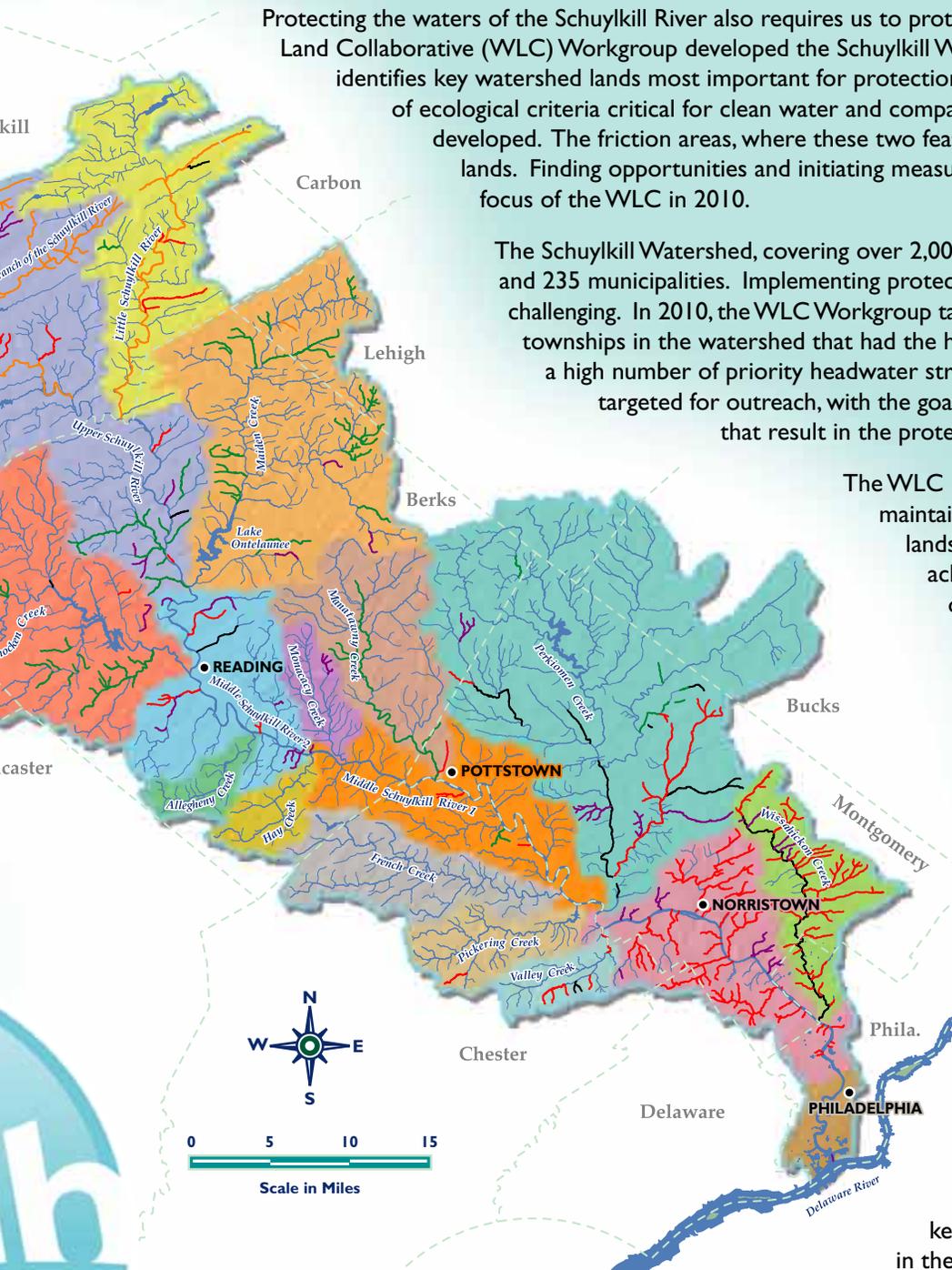
The Schuylkill Watershed, covering over 2,000 square miles, encompasses 11 counties and 235 municipalities. Implementing protection measures on this large scale can be challenging. In 2010, the WLC Workgroup targeted their efforts by identifying 20 townships in the watershed that had the highest percentage of priority lands and a high number of priority headwater streams. In 2011, these townships will be targeted for outreach, with the goal of working locally to implement measures that result in the protection of priority watershed lands.

The WLC Workgroup also set its 5-year goal of maintaining or increasing the pace of priority lands protected (at least 4,800 acres). To help achieve this goal, the workgroup is kicking off a land transaction assistance program, providing small amounts of funding to help complete transactions for the protection of priority lands.

PATHOGEN & COMPLIANCE WORKGROUP

In 2010, the SAN Pathogen & Compliance Workgroup focused on its original tasks of identifying and resolving 'wildcat' sewers and malfunctioning on-lot sewage disposal systems. Over the last 10 years, many improvements have addressed these problems, but ailing infrastructure, identification of new problems, and changes in treatment technologies will keep this group's work in high demand in the future.

In the next several years, the workgroup will strive to maintain the current level of coordination and communication provided by wastewater treatment compliance practitioners, while identifying new opportunities to improve compliance and reduce threats to drinking water outbreaks. The workgroup will also maintain its focus on reducing illegal discharges, supporting and promoting the Delaware Valley Early Warning System, and supporting planning efforts aimed at reducing pathogen introduction in the watershed. Additionally, the workgroup will provide assistance in coordinating support for increased pathogen monitoring in the watershed.



Key

- River/Creek
- Abandoned Mine Drainage Impaired Stream
- Agriculture Impaired Stream
- Other Impaired Stream
- Stormwater Runoff Impaired Stream
- Munic./Indus. Point Pollution Impaired Stream
- Schuylkill River Watershed Boundary
- Counties
- Towns and Cities

SAN DRINKING WATER AWARDS

On May 3rd, 2010, four schools in the Schuylkill River Watershed were recognized for developing educational environmental projects that promote awareness of the importance of protecting drinking water sources. Each school was presented with the Schuylkill Action Network Drinking Water Scholastic Award and a \$200 gift-card for classroom supplies as part of EPA's celebration of National Drinking Water Week.

Each of the winning schools took a unique approach to educating their fellow students and community members about clean water and a healthy environment. Projects completed by the students include creating a campus rain garden, which helps to keep clean rainwater out of the sewer system. Students also worked to transform their schoolyard with recycled porous-paving materials, allowing water to soak into the ground rather than wash pollutants into the Schuylkill River. Other students planted native trees along a local stream, which prevents erosion and serves as a filter for pollution.

The school recipients include: Worcester Elementary School (Methacton School District), Albert M. Greenfield School (Philadelphia School District), Perkiomen Valley High School (Perkiomen Valley School District), and Philadelphia University School of Science and Health.

Award winning students from Worcester Elementary School



RIVER EVENT STATISTICS

Schuylkill River Sojourn	216 participants
Schuylkill River Festival	4,000 participants
SheROX Philly Triathlon	1,500 participants
Philly Fishing Festival	200 participants
Dragon Boat Races	122 teams
Philadelphia Women's Triathlon	668 participants
Philadelphia Insurance Triathlon	4,000 participants
Dad Vail Regatta	3,500 participants
Stotesbury Cup Regatta	5,500 participants

Schuylkill River Sojourn



STRATEGIC PLANNING

Over the years, the SAN realized many of its successes due in large part to its prioritized approach to watershed restoration and protection. The SAN embraces the idea that lasting and effective projects originate from thoughtful and comprehensive planning. This past year, the SAN planning committee continued with this strategy as it worked to update its strategic plan for the next 5 years.

During the summer 2010, an online survey was created and three regional listening sessions were held in Pottsville, Reading and Norristown. In total, over 100 individuals participated in the strategic planning process, providing feedback and guidance on strategies for protecting and restoring the Schuylkill River Watershed.

Strategic Planning listening session



While the primary mission of the SAN has remained the same, both new strategies and priorities have been established for each of its goal areas. In order to accomplish its progressive agenda, the SAN will work to:

- Secure sustainable funding and resources for SAN priority projects,
- Involve new partners and maintain the active participation of existing partners, and
- Identify and eliminate the barriers that frustrate our watershed restoration and protection efforts.

The plan also identifies strategies that foster collaboration and integration of activities between workgroups, including a network-wide focus on restoring and protecting riparian buffers and an increased focus on engaging municipal governments and water suppliers in source water protection. The plan is being finalized in early 2011 and will be made available on the SAN website.

SCHUYLKILL RIVER RESTORATION FUND

In 2010, the Schuylkill River Restoration Fund (SRRF) distributed \$222,500 to implement four projects that will improve the health of the Schuylkill River Watershed, which is a source of drinking water for over one million people. The fund was made possible by contributions from Exelon Nuclear and the Philadelphia Water Department.



Volunteers plant a tree at Albert M. Greenfield School

Lower Providence Township – Five storm water basin retrofits – \$40,000

The township is implementing Best Management Practices on five township-owned stormwater basins in the Perkiomen Creek watershed. The process of naturalizing these basins includes removing low-flow concrete channels, removing invasive species, and planting native trees, bushes and grasses.

Greening Greenfield – Schoolyard storm water project – \$50,000

Stormwater improvements are being made to the south play yard of the Albert M. Greenfield School, located on Chestnut Street in Philadelphia. Work includes the removal of impervious asphalt surfaces, installation of infiltration beds and porous paving areas, and the construction of a demonstration stormwater bio-retention area.

Berks County Conservancy – Martin Farm Agricultural Improvements – \$52,500

This project addresses and remediates dairy farm manure on a top-ranked NRCS Berks County farm. The farm is located on the high-quality classified Saucony Creek, a tributary of Maiden Creek. Project implementation includes construction of a 90-foot diameter manure storage facility, a heavy use area for manure storage collection, and barnyard runoff controls.

Schuylkill Headwaters Association – Glendower Breach Abandoned Mine Drainage Project – \$80,000

This project repairs and restores a breach of the Glendower Pond, which allows non-point source AMD pollution to enter the West Branch of the Schuylkill River. The project enables water from the pond to return to the pre-existing stream channel and avoid contact with coal sediment.

HELP GROW THE FUND

For over five years, the Schuylkill River Restoration Fund has been helping support projects that restore and improve the waters of the Schuylkill River. In 2011, the Fund will celebrate a major milestone as it invests its one-millionth dollar in the watershed and realizes the completion of over 15 priority projects. Since its inception, all money distributed through the fund has also been matched by over 50% of other public and private dollars.

In 2005, Exelon Nuclear's Limerick Generating Station partnered with the Schuylkill River Heritage Area to establish the Fund. This past year, the Philadelphia Water Department (PWD) joined the effort with a contribution of \$100,000. In 2011, both Exelon and the PWD are continuing to invest in the fund and are jointly calling on other businesses and industries that rely on Schuylkill waters to join in this endeavor. To learn more about the fund and find out how to contribute, please contact:

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www.phila.gov/water
www.FairmountWaterWorks.org



www.state.nj.us/drbc/



www.depweb.state.pa.us/river/czmp.htm



www.epa.gov/region03/

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.