

EDUCATION AND OUTREACH WORKGROUP

Protecting and restoring Schuylkill waters is the primary goal of the Schuylkill Action Network (SAN). It is vital that everyone who works, lives, and plays in the watershed understands the important role it has in our lives. In 2011 the SAN Education and Outreach workgroup initiated several projects and activities to accomplish this goal while strengthening our network of partners. One of the primary SAN tools is the website: www.SchuylkillWaters.org. Over the past year, the website has been used to promote watershed news, celebrate success stories, raise awareness of critical watershed issues, and provide a communication platform for SAN partners. Several updates were made this year, including a video about the SAN agricultural efforts, watershed news, and project updates.

In 2011, the SAN Education and Outreach workgroup continued its tradition of hosting the annual Drinking Water Awards program, and added a new effort with the Schuylkill Stories Contest. Visit the SAN website to watch a brief summary video about the ceremony and browse photos and winning project details. The workgroup also rolled out its new SAN display banner, which features an embedded video display for showing slideshows, videos, or PowerPoint presentations of SAN workgroup activities and projects. The workgroup is especially proud of the recently published *Green Guide for Property Management*, which highlights various stormwater best management practices for property owners and includes custom-drawn schematics of each of these techniques, which can be downloaded from the SAN website.

STORMWATER WORKGROUP

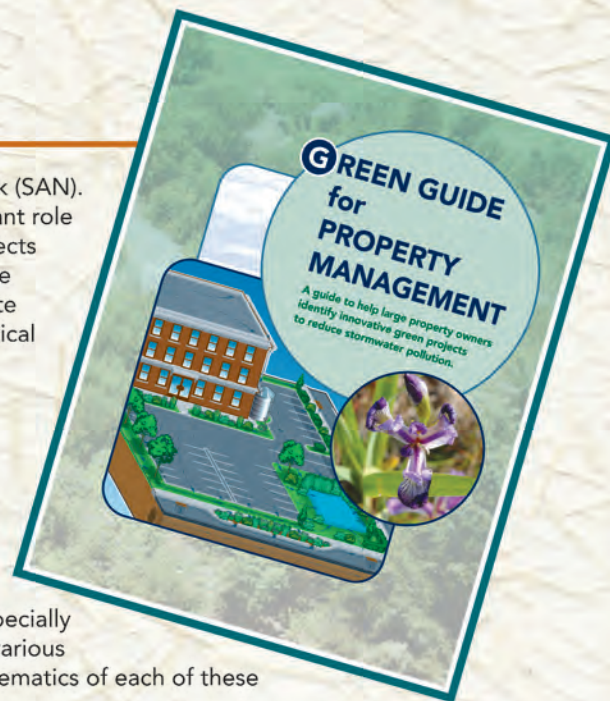
Throughout 2011, the SAN Stormwater workgroup continued its focus on promoting and implementing stormwater projects and sharing information with its network of partners. Through stakeholder meetings for the U.S. Army Corps of Engineers and PA Department of Environmental Protection Regional Watershed Improvement Project, workgroup members were able to participate in the first stage of developing a decision support tool for prioritization of watershed improvement projects in Chester, Montgomery, and Delaware counties.

In July, the workgroup partnered with the Schuylkill Center for Environmental Education to host the 2011 teacher's workshop. The teacher's workshop was expanded to 2 full days (from just one last year) and was attended by 30 watershed educators. This workshop aids the *Schuylkill Action Schools (SAS)* program in recruiting partner schools for Best Management Practices (BMP) implementation. This past year, the SAS program expanded to include both riparian and non-riparian BMPs, which provided a more diverse source of potential project partners and funding opportunities. In 2011 alone, over \$100,000 in funding was received to implement SAS projects at 7 school sites. These projects included riparian buffer plantings and reforestation, invasive species removal, streambank stabilization, conversion of turf grass to meadow, and rain garden installations. In October, over 200 students and their families participated in the Limerick Elementary school project, planting over 100 trees along Landis Creek.

At the summer meeting, the workgroup toured Villanova University's BMP demonstration sites with Dr. Robert Traver. In addition to viewing the various stormwater projects on the campus, we learned about Dr. Traver's newest study on quantifying evapotranspiration as a component of BMPs. This study shows promise for urban applications where infiltration is not an option and could have an impact on the future of green infrastructure design.

All SAN member organizations were creative and productive throughout the year. Thousands of trees were planted by the TreeVitalize program; the Wissahickon Valley Watershed Association forged ahead with dam removals and basin plantings; the Perkiomen Watershed Conservancy implemented rain garden and tree planting projects; and the City of Philadelphia made great strides with the promotion of their *Green City, Clean Waters* program, installing demonstration projects throughout the city. The success of many of these projects was a result of community participation and the donation of time from many individuals.

Tree planted at Limerick Elementary School.



Green Guide for Property Management booklet.

PATHOGENS WORKGROUP

In 2011, the SAN Pathogen Workgroup focused on the task of identifying and resolving 'wildcat' sewers (sewage pipes that drain directly to the river or stream) and malfunctioning on-lot sewage disposal systems. While improvements have been made over the last 10 years to correct these problems, ailing infrastructure, identification of new problems, and changes in treatment technologies will keep this group's work in high demand.

One example of success can be found in Tamaqua, PA. In Late 2010, PA Department of Environmental Protection identified 81 suspected unpermitted discharges to Wabash and Panther Creeks. The department worked with the borough of Tamaqua to verify the discharges and to develop a compliance schedule to connect them to the borough's sewer systems. The workgroup also continued its work on upgrading the Reading Sewage Treatment Plant, the largest municipal discharger to the Schuylkill. In 2005, a Consent Decree was entered into to upgrade the plant, but due to significant economic issues for the city, the compliance schedule for the upgrade is currently being renegotiated. This activity continues to be a high priority for the workgroup.

Over the next several years, the workgroup will make every effort to maintain the current level of coordination and communication among wastewater treatment compliance practitioners, and work to identify new opportunities to improve compliance and reduce threats to drinking water. The workgroup will also maintain its focus on reducing illegal discharges, supporting and promoting the Delaware Valley Early Warning System (a pollution event notification system), and supporting planning efforts aimed at reducing pathogen introduction in the watershed.

AGRICULTURE WORKGROUP

SAN's agriculture projects are designed to treat excessive loadings of nutrients and contaminated runoff in cropland and livestock facilities. In 2011, the Agricultural Workgroup had an exciting and productive year, putting "boots on the ground" to complete a long list of projects that reduce agriculture pollution and help improve the health of the watershed. The Berks Conservancy, a non-profit organization, has partnered with the Natural Resources Conservation Service (NRCS) and the Berks County Conservation District to complete many of these projects.

With financial assistance from the NRCS, several charitable foundations, and private companies, the workgroup partners were able to install 6,500 feet of streambank fencing, protect 5,870 feet of streambank, complete 48 Conservation and Nutrient Management Plans, install 3 manure storage facilities and barnyard retrofits, and develop 5 Comprehensive Farm Management Plans.

In addition to these projects, local water suppliers from Aqua Pennsylvania, Kutztown, Reading, Philadelphia, and Western Berks have offered their support to the workgroup's source water protection efforts. They have been instrumental in providing assistance with project funding and implementation, invasive plant removal, watershed monitoring, and planning. Their support not only helps to reduce runoff from farmland near their drinking water intakes, but also helps protect the overall health of the watershed.

There is proof that these efforts are improving water quality! This past summer, a multi disciplinary team conducted stream sampling for the second consecutive year. Macroinvertebrate sampling observations noted progress in the health of tributaries to Maiden and Saucony Creeks. The presence of mayflies, caddisflies, stoneflies, and crayfish indicate that the work completed by the SAN is successfully contributing to the restoration of these important waterways. A summary of the team's observations can be found on the SAN website.



An example of streambank fencing.

Planting trees to restore a riparian buffer.



ABANDONED MINE DRAINAGE WORKGROUP

In the headwaters of the Schuylkill River, past coal mining activity has caused over 200 miles of rivers and streams to be polluted by Abandoned Mine Drainage (AMD), which is responsible for over 25% of stream impairments in the watershed. During 2011, the AMD workgroup continued to make progress to address this issue and restore the Schuylkill headwaters.

One of the best ways to keep clean water from getting polluted is to prevent the water from flowing through the abandoned mines and getting contaminated as AMD. In 2011, the AMD workgroup continued with the West Branch infiltration study and related remediation projects. This effort identifies areas of water loss in the West Branch of the Schuylkill River and completes projects that prevent surface water from infiltrating into the mine pool. The workgroup also began the design of two treatment systems to address the Mary D Borehole discharge and provide an upgrade to the Bell Colliery limestone drain. Both projects, which total more than 1 million dollars, should be under construction in 2012.

The AMD workgroup is also looking to the future, ensuring that funding is available to maintain current treatment systems and address new priority discharges. The workgroup started developing a Qualified Hydrologic Unit Plan for the Watershed. This plan will make AMD discharges in the Schuylkill eligible for new federal remediation funding.

In addition to mine drainage remediation and planning, the AMD workgroup participated in several mine land reclamation projects. The Schuylkill Headwaters Association worked in partnership with the PA Department of Environmental Protection to restore 2 former mining sites and participated in the Appalachian Regional Reforestation Initiative, planting over 6,000 trees on reclaimed mine lands. Together, these projects and initiatives are leading the way to a cleaner river and healthier watershed.

WATERSHED LAND PROTECTION COLLABORATIVE

Land protection is one of the most important ways to protect the vital water resources of the Schuylkill Watershed. Facilitating this can often be challenging and expensive, so members of the SAN Watershed Land Protection Collaborative workgroup looked for unique ways to accomplish this goal. SAN land protection projects promote and implement activities that lead to the conservation of the highest priority lands for drinking water protection. This past year, the collaborative worked with the Schuylkill River Heritage Fund advisory board to implement a pilot Land Transaction Assistance Program. This program focuses on the permanent protection of priority watershed land and provides matching grants of up to \$4,000 to assist with transaction costs for land protection projects within the Schuylkill River watershed. In 2011, two projects were funded, helping to protect 140 acres of land valued at over \$340,000.

The collaborative also initiated its municipal outreach program, which focused on outreach to 20 priority townships that have a high percentage of high-priority land. Letters were mailed to each township, introducing them to a variety of land conservation options, and were followed by individual outreach by local land trust partners. In 2012, the collaborative will develop programs and acquire resources to help its members conduct more focused municipal outreach and facilitate activities that will protect these important watershed areas.

DRINKING WATER AWARDS

On May 5, 2011, at the 7th annual scholastic awards ceremony, SAN honored elementary through high school students for their outstanding achievements in protecting Schuylkill River water quality. The varied projects, each aimed to keep the Schuylkill River a clean and plentiful source of drinking water for generations to come, included planting a campus rain garden and wildflowers to filter water as it percolates into the ground, collecting water chemistry data in a tributary, and learning about stormwater erosion and aquifer recharge.

The 2011 Drinking Water award winners were: **Hereford Elementary School** (elementary school recipient), **Amy Goldfischer** (middle school recipient), and **Upper Perkiomen High School** (high school recipient).

The ceremony also included the SAN's first attempt to engage today's tech-savvy generation through an online video contest. The winning cinematic trilogy was created by students from the Miquon School. With a touch of humor and a liberal dose of whimsy, the videos highlight the importance of clean water and a healthy river. The winning videos can be viewed on the SAN website at www.schuylkillwaters.org/stories.

Stream monitoring in the West Branch of the Schuylkill River.



Drinking Water Award recipients from Hereford Elementary School.





SCHUYLKILL RIVER RESTORATION FUND

In 2011, the Schuylkill River Restoration Fund distributed \$400,000 to implement 8 projects that will improve the health of the Schuylkill River Watershed, which is a source of drinking water for over 1.5 million people. Exelon Nuclear contributed a total of \$215,480 to this year's fund, while the Philadelphia Water Department donated \$100,000. The Partnership for the Delaware Estuary, a first time contributor, allotted \$10,000 specifically for land protection transactions.

The following organizations received funding for projects in the Schuylkill:

Berks County Conservancy – Agricultural Improvements: 3 Berks County Farms – \$97,755

This project will address agricultural pollution on three farms in Berks County by installing streambank fencing, animal crossings, and manure storage facilities; and will restore riparian areas by planting native trees.

Greening Greenfield – Green Roof Installation – \$50,000

This project will help to manage stormwater runoff by installing a green roof at the Albert M. Greenfield School in Philadelphia.

Maidencreek Township – Willow Creek Habitat Restoration – \$30,000

This project will help to stabilize an eroded streambank and restore six acres of riparian buffers along a section of Willow Creek by planting over 1,500 native trees and shrubs.

Montgomery County Conservation District – Schuylkill Action Students:

Stony Creek Restoration – \$55,000

This project will reduce stormwater pollution and stabilize an eroded streambank along a tributary to the Stony Creek.

Schuylkill Headwaters Association – Wagner Run Project – \$99,450

This project will stabilize the stream channel of Wagner Run in order to prevent water from flowing into the mine pool, getting contaminated, and exiting the Pine Knot AMD discharge.

The Schuylkill Project – Shawmont Restoration Project – \$60,000

This project will help reduce stormwater runoff, plant native vegetation, and preserve and protect the Shawmont waterfront and natural greenway in Philadelphia.

Berks County Conservancy – Oley Hills Land Protection Project – \$4,000

This project will provide assistance in conserving a 78-acre property in Pike Township, Berks County with a conservation easement.

East Pikeland Township – George Lang Property – \$4,000

This project will provide assistance in conserving 62.47 acres of wetland, farm pasture, and woodland along Oysterville Creek, an Exceptional Value stream, with a conservation easement.

Grant recipients were selected by a committee comprised of representatives from Exelon, the Delaware River Basin Commission, Philadelphia Water Department, U.S. Environmental Protection Agency, PA Department of Environmental Protection, Partnership for the Delaware Estuary, and the Schuylkill River Heritage Area.

BECOME A WATERSHED PARTNER

Since 2006, the Schuylkill River Restoration Fund has funded projects that protect and restore the water resources of the Schuylkill watershed. Since its inception, over 1.6 million dollars have been invested through this program to complete 23 water quality improvement projects addressing many watershed problems associated with abandoned mine drainage, agriculture pollution, and stormwater runoff. This fund is also helping to protect critical watershed land through the newly formed Land Transaction Assistance Program.

By participating as a fund donor, you can be assured that your contributions will be targeted at high-priority projects that will result in measurable improvements to the watershed. Over the past 6 years, all money distributed through the fund has been matched by over 50% of other public and private dollars. All contributions are tax-deductible and can be targeted to certain geographic regions or to address specific watershed issues. To learn more about the fund and find out how you can become a watershed partner, please contact Tim Fenchel at the the Schuylkill River Heritage Area.

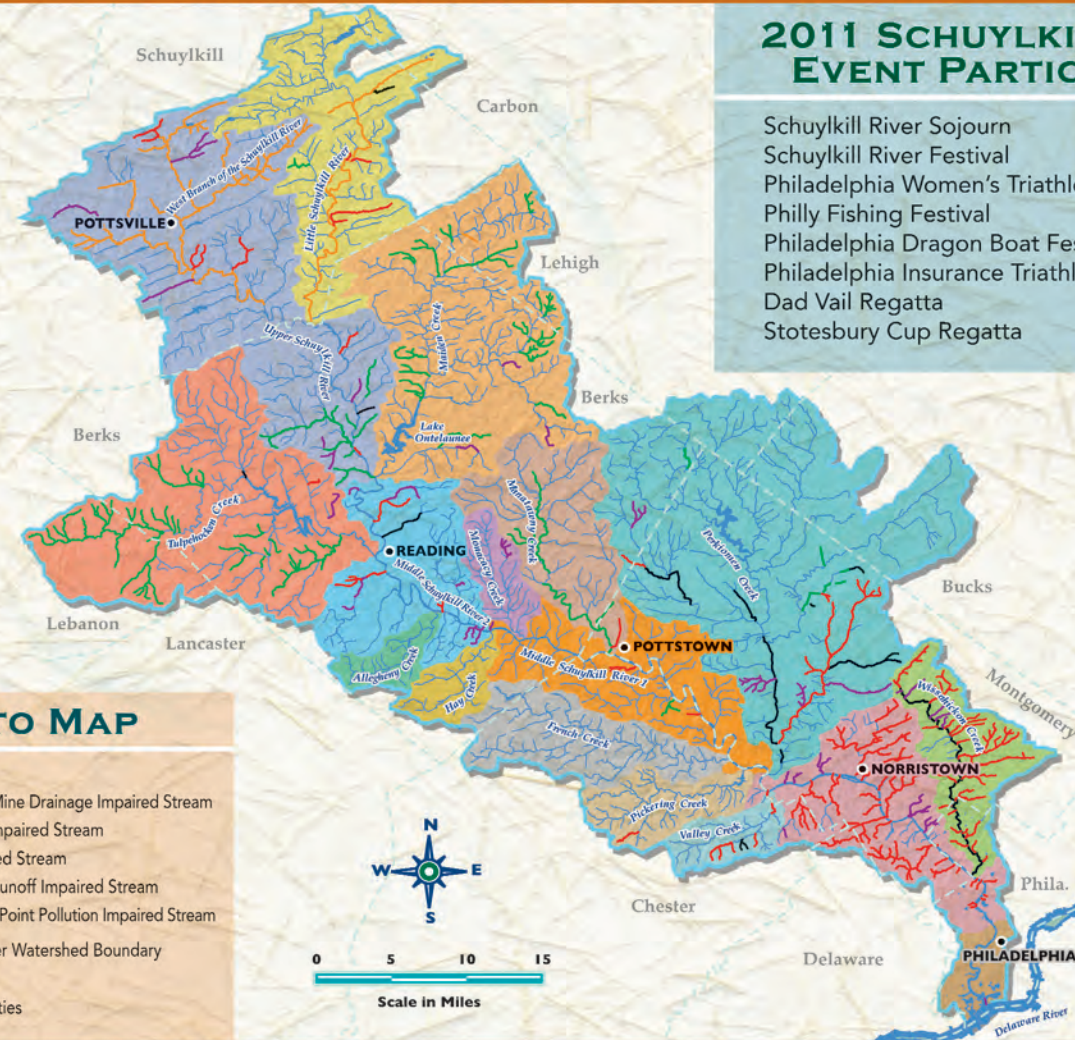
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SCHUYLKILL RIVER
NATIONAL & STATE HERITAGE AREA

"They say it takes a village to raise a child, but it takes a whole watershed of citizenry to really protect a watershed as beautiful as the Schuylkill."
— Carol Collier, Delaware River Basin Commission

MAP OF THE SCHUYLKILL RIVER WATERSHED



2011 SCHUYLKILL RIVER EVENT PARTICIPANTS

Schuylkill River Sojourn	226
Schuylkill River Festival	4,500
Philadelphia Women's Triathlon	1,234
Philly Fishing Festival	50
Philadelphia Dragon Boat Festival	60 teams
Philadelphia Insurance Triathlon	4,000
Dad Vail Regatta	3,400
Stotesbury Cup Regatta	5,000

KEY TO MAP

- 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



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215-685-6300
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www.FairmountWaterWorks.org



www.state.nj.us/drbc



DEPARTMENT OF ENVIRONMENTAL PROTECTION
www.depweb.state.pa.us



www.epa.gov/region03

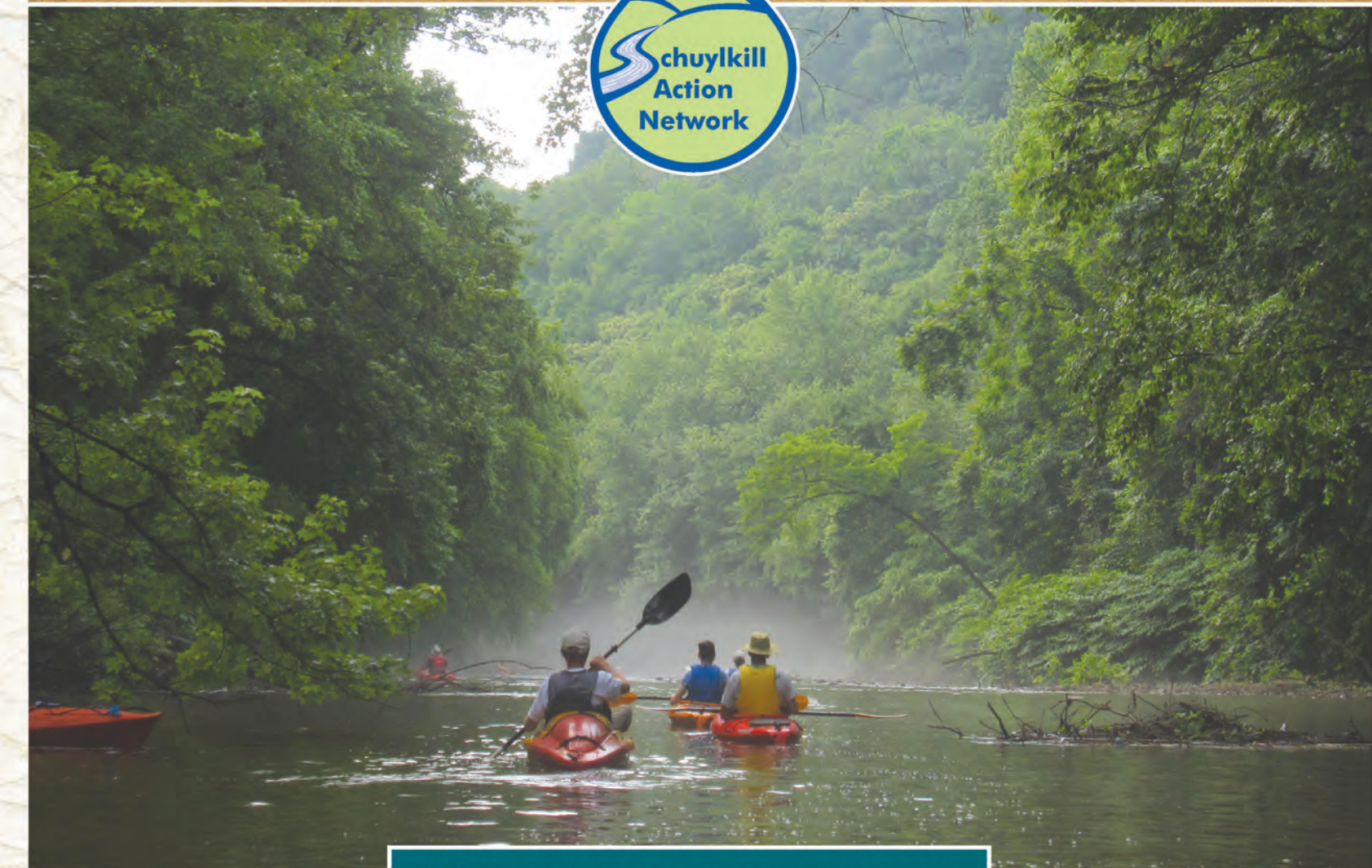
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SCHUYLKILL ACTION NETWORK

Protecting Schuylkill Waters • www.SchuylkillWaters.org



2012 PROGRESS REPORT

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.