



This Spring we:

- Planted **5,000** native wetland plants with **250** students
- Built a **5,000** square foot rain garden
- Planted **17,000** trees across Schuylkill County
- Removed **50** bags of trash from the Port Clinton beach
- Hosted a NCCC team for 3 weeks

Blue Mountain Green Vision Rain Garden Is Planted!

The physical installation of the rain garden associated with the Blue Mountain Green Vision Initiative was completed at the Blue Mountain Elementary and Middle School campus on Wednesday, May 21, 2014. This involved the direct participation of more than 240 middle school students and fifteen high school students over the course of four days in planting 5,000 native wetland and wildflower plants in the retrofitted stormwater detention basin. Additionally, over 150 arborvitae donated by a local landscaping business were planted along the soccer field adjacent to the rain garden to reduce runoff and act as a living fence. In addition to the \$5,000 Chesapeake Bay Trust K-12 Environmental Education Mini grant that we received to support this project, the Schuylkill Headwaters Association and our partners at the Blue Mountain School District were able to leverage the grant to fundraise an additional \$500 from PPL Electric, \$700 from various community members, and multiple trees and plants donated in kind from various individuals and local nurseries including Tim Hill at the Four Seasons Landscaping & Nursery, the Schochary Ridge Nursery, the Lehigh Valley Garden Center, and Frank Bolinsky Sr. of Frackville.

During each of the four rain garden installation days, students were broken into a series of smaller groups, which rotated every 40 minutes. This allowed the students to do a walking tour of the school ground's micro-watershed, discuss erosion and sediment control from the perspective of Schuylkill Conservation District representatives and engineers involved in the design and layout of stormwater systems, test water quality in a saturated stormwater basin on the school campus, and examine soil composition to discuss its role in infiltration. Students also visited Albright's Woods adjacent to the school campus to examine the biodiversity in tree and plant species and discuss rates of infiltration in a forested environment versus the turf/pavement landscape common across the school grounds.



Blue Mountain students plant wetland plugs and construct a rock filter at the rain garden site.

Each of the stations that the middle school students circulated through were led by members of the Blue Mountain High School Green Club with support from middle school and high school science teachers. This allowed for direct interaction and mentoring between students in the Green Club and rising eighth graders who will be moving up to the high school in the following academic year and will have opportunities to be more actively involved in extracurricular activities and participate in more applied science through planning of future Blue Mountain Green Vision projects.

During the planting of the rain garden, the high school students who had planned the rain garden design and researched plant characteristics, instructed small groups of eighth graders on how to plant the plugs and explained why each species was selected (i.e. wildlife value, attraction to pollinators) and/or being planted in a certain zone of the basin based on its root hydrology. This also allowed the high school students to manage the installation of the rain garden according to their design, while providing them with an opportunity to practice leadership and teaching skills.

Blue Mountain Green Club members pose with SHA staff in front of the completed rain garden.



Following the rain garden's installation, middle school science teachers returned with all students that had participated in the early stages of the project's installation so that they could witness the combined work of their peers and see the rain garden in its completed state. The middle school teachers will continue to use the rain garden as a teaching tool to illustrate concepts discussed in their science curriculum in a more meaningful way.

Additionally, high school Green Club members have dedicated themselves to monitoring the rain garden and plant growth on a daily basis throughout the remaining academic year and over the summer.



The rain garden one week after being planted.

The greatest success of the installation of this rain garden involved in the broader Blue Mountain Green Vision is the way in which it has built interest and commitment among students, teachers, and community members alike in participating in and leading more robust stormwater demonstration projects across the campus in years ahead. Through this project, the Schuylkill Headwaters Association has successfully expanded our partnerships to build a dynamic collaboration between the Schuylkill Headwaters Association, the Orwigsburg Borough, the Blue Mountain School District, the Orwigsburg Lions Club, and the Schuylkill Conservation District. Additionally, SHA

and Blue Mountain School District have secured \$8,000 through a Department of Environmental Protection Environmental Education Grant (\$3,000) and Water Resources Education Network (WREN) grant (\$5,000) to support more extensive stormwater demonstration projects in 2014 and 2015.



Left: Volunteers planting trees at the Michael Coal site. Right: NCCC team on a tour of AMD sites.

From May 9-29, 2014 SHA hosted a National Civilian Conservation Corps (NCCC) team through the AmeriCorps program. Comprised of seven volunteers between the ages of 18 and 24 from communities across the United States, these individuals committed to 10-months traveling together in a van throughout the Appalachian region doing service work at nonprofit organizations to revitalize the community and land. During their visit to Schuylkill County, the NCCC team planted over 8,500 native hardwood trees across reclaimed mine land to address to mitigate flooding in downstream communities and improve regeneration of the native Eastern hardwood forest. The trees were planted on 16 acres previously excavated by Tremont North and Michael Coal Operations. The Hawk Mountain Scout Reservation graciously hosted the NCCC team during their visit to Schuylkill County in exchange for some service work at the camp property. The team was also honored with a Welcome dinner and Thank You supper, hosted by the Schuylkill Headwaters with generous donations from Boyer's Food Markets, GIANT Food Stores, and Mrs. T's Pierogies. SHA is grateful to the NCCC team for their time and labor and our many partners, especially the Hawk Mountain Scout Reservation, which made this project possible.

More Trees Please!

In addition to the 8,500 trees planted by the National Civilian Conservation Corps (NCCC) team in May, the Schuylkill Headwaters Association managed to plant an additional 6,000 seedlings on eleven acres of land reclaimed by Michael Coal Operation with volunteers during two tree planting days hosted in April. On Friday, April 11 and Saturday, April 12, over 50 volunteers from various schools and communities across Schuylkill County dedicated their day to planting trees! Between these events with our volunteers, and an additional 2,500 trees given to Michael Coal staff to plant, the Schuylkill Headwaters Association was able to successfully get a total of 17,000 trees in the ground this spring!

Tie Dying with Iron Oxide

SHA participated in the annual Bear Creek Festival, hosted at the Schuylkill County Fairgrounds on May 18, 2014. To reach attendees and the hundreds of small children with our watershed message in a tangible and meaningful way, SHA staff, board members, and volunteers tie dyed t-shirts designed by the kids using iron oxide. Throughout the day, SHA was assisted by the National Civilian Conservation Corps (NCCC) team as well as students from Saint Clair School District who offered instruction to the participants on tie dye design techniques and explained the broader impacts of abandoned mine drainage on the watershed.





On Saturday, June 7, 2014, ten high school students from communities throughout the headwaters of the Schuylkill River to its terminus in Philadelphia will embark on a week-long expedition throughout the 2,000-square-mile Schuylkill River watershed. This intensive, applied service-learning program, *Schuylkill Acts & Impacts: An Expedition to Inspire Watershed Action*, (which many of you have been hearing about!) is being piloted by the Schuylkill Headwaters Association in collaboration with Outward Bound Philadelphia and over 25 partners and sponsoring organizations.

The team was selected in March of 2014 and represents all

Schuylkill Acts & Impacts team members do team building activities at Orientation.

five counties located within the Schuylkill River watershed. The participants include Margot Shrift (Graduated Senior, Pottsville Area HS), Emma Osenbach (Sophomore, Tamaqua Area HS), Nicholas Trotter (Junior, Pine Grove Area HS), Sean Hnath (Sophomore, Muhlenberg HS), Zachary Germer (Junior, Exeter Township Senior HS), Amy Goldfischer (Junior, Friends' Central School), Brittany Chamberlin (Junior, Springfield Township HS), Matthew Kiesel (Junior, Downingtown Area HS), Tahmid Bhuiyan (Freshman, Science Leadership Academy), and Katherine Laub (Sophomore, Central HS). On Sunday, May 5 the selected team met at Wissahickon Valley Park for a one-day Orientation with Schuylkill Headwaters Association staff and Outward Bound instructors. In addition to providing context for the expedition and an understanding of watersheds in general, the students spent most of the day doing teambuilding exercises and challenges to build rapport and trust among the group. The highlight, for many, was the high ropes course, which involved climbing a telephone pole and leaping into the canopy with the rest of the team belaying below!



The Schuylkill Acts & Impacts expedition will begin on Saturday, June 7 at Locust Lake State Park in the headwaters of the river. The students will participate in a paddle school and go over safety for the two days they will spend canoeing on the Schuylkill River. In Schuylkill Co., the Schuylkill Acts & Impacts team will be touring the No. 9 Coal Mine, located in Lansford, PA and discussing the history of anthracite coal extraction and its legacy along the Schuylkill River. They will also be visiting various abandoned mine discharges and treatment systems constructed by the Schuylkill Headwaters Association and Schuylkill Conservation District to do water quality testing. In Berks Co., the students will study the impacts of agriculture on the Schuylkill Watershed. With the Berks County Conservation District, the team will visit several farms that have installed Best Management Practices (BMPs) on their properties and discuss how these actions have reduced pollution and erosion along tributaries of the Schuylkill River. The students will participate in invasive plant control along riparian corridors with the Berks Conservancy. In Chester and Montgomery Counties, the Schuylkill Acts & Impacts program will target the issues of development, sprawl and land preservation. Students will interact with representatives from the Natural Lands Trust, Green Valleys Watershed Association, Schuylkill River Heritage Area, Valley Forge National Historical Park and Lower Merion Conservancy.

Finally, in Philadelphia the Fairmount Water Works and Philadelphia Water Department will lead the students on a comprehensive tour of the challenges facing clean water in the city and demonstrate how these are being addressed through green infrastructure projects. The Schuylkill Acts & Impacts team will also participate in an urban agriculture project with students from Saul High School.

A Toyota TogetherGreen Fellowship awarded by the National Audubon Society was used to leverage support—both financial and in-kind—from more than 25 organizations, agencies and businesses within the Schuylkill River Watershed to make *Schuylkill Acts and Impacts*' inaugural year possible. We are especially grateful to the groups and organizations in the watershed that contributed over \$5,000 to sponsor students on the program! Thank you: TSD Environomics, Inc., Reading Area Water Authority, Green Valleys Watershed Association, Schuylkill Conservancy, Partnership for the Delaware Estuary, Philadelphia Water Department, Lower Merion Conservancy, PA American Water, Schuylkill Conservation District, Schuylkill Trout Unlimited, Schuylkill River National and State Heritage Area, Manayunk Development Corporation, Friends of the Wissahickon, and Tulpehocken Trout Unlimited! This would not be possible without you.

Careers in Conservation: Tours of the Mary D Treatment System

On Thursday, April 24 SHA hosted a tour of the Mary D Abandoned Mine Drainage (AMD) treatment system located in the village of Mary D, PA for a group of students from Minersville High School. This was part of a broader program, YES (Your Employability Skills) to expose students to various career opportunities across Schuylkill County. For the purposes of this tour, SHA President Bill Reichert spoke about the many individuals, and range of jobs—from engineers to contractors to construction workers and scientists—that are necessary to complete the critical AMD work that our organization does in Schuylkill County.



Port Clinton Beach Sweep: Schuylkill County Joins Regional Clean Ups

On Sunday, April 13, 2014 SHA hosted a clean up at the 'Rock' along the Schuylkill River in Port Clinton, PA with 15 volunteers from Penn State Schuylkill, the Blue Mountain Green Club, and Blue Mountain Wildlife, Inc. Over 50 garbage bags of trash were removed from the site in addition to two large tubs of glass bottles and cans, which were taken to Cogle's Recycling. This event was scheduled as part of the Schuylkill Scrub, a critical mass of cleanups hosted throughout the Schuylkill Watershed, and coordinated with the national Great American Clean Up. Between our fall clean up at the same location in November and the remaining refuse removed in April, SHA and our volunteers have removed over 100 garbage bags from the Port Clinton beach before the summer season that sees the heaviest use. Let's keep in clean!

Left: YES
tour for
Minersville
High
School;
Right:
Volunteers
at Port
Clinton
Beach
Sweep



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Transitions: Staff Shifting at the Schuylkill Headwaters Association

Outreach & Education Coordinator Sierra Gladfelter will be leaving SHA at the end of June to attend graduate school at the University of Colorado Boulder. She will be pursuing her Master's in Geography, focusing on community participation in conservation and development. Although her research will take her to rural communities of Nepal's Himalayan mountains, Sierra hopes to apply the lessons she learned during her 16 months with us in Schuylkill County in other rural 'headwaters' communities that face unique but not so different ecological and social challenges. Sierra would like to thank all the amazing individuals, groups, and organizations that she worked beside and collaborated with on projects during her tenure with the Schuylkill Headwaters Association. If you would like to stay in touch or drop her a line in Boulder, CO she can be reached at sierragladfelter@gmail.com.

Sierra will be passing the torch to Alexa Kramer, who is serving for a year through the AmeriCorps VISTA program. Alexa grew up in Pine Grove, PA and graduated from Millersville University in May 2014 with a BS in Environmental Biology and a minor in Geography. In 2013, Alexa interned at the Schuylkill Conservation District and became more interested in a career in conservation. Alexa is looking forward to applying what she studied to real work in the field. WELCOME ALEXA!

Upcoming Events: 2014 PA Abandoned Mine Reclamation Conference, June 26-27, 2014. The conference will be hosted at the Ramada Inn and Conference Center in State College, PA. This year will feature not only technical presentations on AMR and AMD Remediation , but projects done by Power

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