



### This Summer, we:

- Installed 11 blue bird boxes with Cub Scouts from Port Carbon
- Hosted environmental field days for 3 schools in the watershed
- Completed the \$600,000 Mary D Borehole AMD Filtration System
- Won a \$10,000 Toyota Together Green grant to develop watershed youth education
- Hosted our first Teacher Tour to engage local educators with our projects
- Organized a Headwaters Bus Tour with the Schuykill Action Network
- Fundraised over \$15,000 through a Golf Outing Benefit hosted by Lehigh Anthracite

## Schuykill Action Network's Watershed 'Bus Tour' Builds Support for Work in the Headwaters

On June 10, 2013 the Schuykill Headwaters Association partnered with the Schuykill Action Network to lead a full day tour of the headwaters of the Schuykill River with the goal of highlighting successful Abandoned Mine Drainage restoration projects and achieving greater momentum and political support to push new initiatives forward. The tour included a dedication ceremony for the Mary D Borehole Treatment System completed the first week of June in Schuykill Township, and a guided walk around the Silver Creek AMD Treatment System which is being transformed into a recreational park, rain garden demonstration site, and educational trail. After appreciating the potential for projects to address water quality and community awareness simultaneously, guests also spent time in the Pine Knot Watershed examining sites that contribute to the most significant source of metal loading on the Schuykill River. With over 30 people in attendance including representatives from nonprofit organizations, government agencies, local legislators and community members, this watershed 'bus tour' for conservation served as a catalyst and partnership-builder for further work in the Schuykill Headwaters.



Tour attendees walk around the newly completed Mary D Borehole Treatment System and examine iron oxide deposits at the Silver Creek AMD Treatment System.

## Cicada Summer Impacts Eastern Hardwood Seedlings

As we entered our second year of monitoring the survivability of trees planted in Groasis Waterboxxes, the *Magicicada* emerged after seventeen years underground. While much of Schuykill County was alive with the eerie buzzing of cicadas this July, it was the insects' last act that wrought so much havoc on our trees. After mating, the female cicada cuts a series of V-shaped slits in the bark of young twigs into which she deposits eggs. Later, the foliage above the 'injection' dies and drops from the tree, allowing the cicada nymphs to drop to the ground. The cicadas hit a significant portion of our eastern hardwood trees, but luckily we were able to prune back deadwood and noticed significant regeneration.

Are you an educator or school administrator interested in collaborating to design a program or conservation project for your students, class, or biology club?

## Schuylkill Headwaters Hosts First ‘Teacher Tour’

Over the summer, the Schuylkill Headwaters Association has been laying ground-work for more intensive outreach and education in the year ahead. The success of this initiative will depend upon our relationship and shared interests with Schuylkill County public school teachers and other educators. Recognizing this need, we hosted our first ‘Teacher Tour’ on June 25<sup>th</sup>, where Schuylkill Headwaters President Bill Reichert and Outreach and Education Coordinator Sierra Gladfelter led a team of four science teachers from Blue Mountain Middle School’s science department around our filtration system and recreation project at Silver Creek. Our discussions revolved around organizing a field day for the school district’s entire 8<sup>th</sup> grade to spend a morning learning first-hand about abandoned mine drainage impacts on the Schuylkill River and an afternoon engaged in service work to address the issue. While the details of the event are still in development, the Schuylkill Headwaters Association is excited to pursue new partnerships with school districts.

If interested, please email: Sierra Gladfelter at [outreach@schuylkillheadwaters.org](mailto:outreach@schuylkillheadwaters.org) or call (570) 573-2093.



## Rain Gardens in Full Bloom

It has now been five months since the rain gardens at the Silver Creek Recreational Park and Educational Trail in Blythe Township were planted with the help of our National Civilian Community Corps Team! Over the summer, the gardens have become bursting little ecosystems of blooming flowers, buzzing bees and insects, and lush wetlands. Wildlife tracks through the mud prove that the ‘local residents’ have also been appreciating the biodiversity. Check them out for yourself!

## Wetland Experiment with Aquascapes Unlimited Inc.

This summer, the Schuylkill Headwaters Association in partnership with Aquascapes Unlimited Inc of Pipersville, PA has been working to improve the biodiversity and success of the wetland cells of our passive filtration system at Silver Creek. Aquascapes has donated several varieties of native smartweed, which were planted on the level spreaders and limestone berms at our filtration system to establish plant growth and test which species have the capacity to survive in high iron oxide sediment areas. We are also in the initial phases of experimenting with a variety of native emergent plants in our lowest wetland cell with the goal of achieving greater water quality through plant filtration and improving the effectiveness of our abandoned mine drainage system with a more established and biodiverse wetland.



## Watershed Addresses bring the Importance of River Resources Home at the 2013 Bear Creek Festival

On May 19<sup>th</sup>, the Schuylkill Headwaters Association sponsored an activity at the Annual Bear Creek Festival hosted at the Schuylkill County Fairgrounds in an effort to raise environmental awareness among youth in the county. Schuylkill Headwaters Board Members and Outreach and Education Coordinator, Sierra Gladfelter, interacted with students to help them locate their 'Watershed Address' on a map of Schuylkill County's many miles of rivers and streams. After identifying their most immediate waterway, youth were given postcards on which they were asked to draw a picture of what the watershed looked like where they lived. The greatest gift of this activity was the conversations that took place while the kids were drawing and coloring about the benefit of water resources, the students' own experiences recreating on the Schuylkill, and what can be done to keep streams healthy. Inspired by this activity's success, the Schuylkill Headwaters Association will strive to continue to design relevant lessons with real takeaways that build a sense of resource ownership among youth in Schuylkill County.



Students show off their Watershed Postcards

Photograph: Bill Reichert

## Bluebirds and Cub Scouts: Building a Future for Conservation

This summer, the Schuylkill Headwaters Association partnered with the Port Carbon Cub Scout Pack to build eleven blue bird boxes using kits supplied by the Pennsylvania Game Commission. The Port Carbon Cub Scouts constructed and decorated the boxes as part of their conservation requirement and then brought their projects to the Silver Creek Recreational Park and Educational Trail in Blythe Township where the Schuylkill Headwaters Association assisted in attaching the boxes to posts around the treatment system and rain gardens. Outreach and Education Coordinator, Sierra Gladfelter, also designed a lesson for the kids around blue bird lifecycles. All participants mutually agreed to make the Cub Scout Blue Bird Box program an annual event. This year, the Schuylkill Headwaters Association hopes to expand our program to include wood duck boxes and engage older Boy Scouts in building other waterfowl nesting platforms.



Port Carbon Cub Scouts proudly install their hand-decorated blue bird boxes at Silver Creek.



## The Benefits of Bringing Kids Straight to the Stream



**Schuylkill Conservation District interns Katie Coleman and Alexa Kramer collect macroinvertebrates for school group programs**

In May, the Schuylkill Headwaters in partnership with the Schuylkill County Conservation District organized hands-on field days for multiple school groups from Schuylkill and Berks Counties. Each day was structured around the coursework students had been studying in their science classes. With 5<sup>th</sup> graders from Hamburg, we discussed basic water quality and took students wading in the Schuylkill River with nets to retrieve macro-invertebrates and used taxonomic keys to analyze the health of the river based on the insects they found.

Working with students from Pine Grove High School, we were able to further expand our lesson on water quality ranking, by having students circulate through three unique stations with specimens collected at different streams in the area. Since many students were familiar with the streams in their own backyards and had even fished them, they demonstrated an earnest interest in figuring out the water quality of the streams and how they compare to one another. Having witnessed the benefit of such hands-on education, the Schuylkill Headwaters Association plans to actively expand its relationship with local school districts and plan more watershed ‘field days’ during the coming academic year.

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## Outreach and Education Coordinator Sierra Gladfelter attends Outward Bound Educators Course



Photograph: Jen Raymond

This August, the Schuylkill Headwaters’ Outreach and Education Coordinator Sierra Gladfelter attended a weeklong canoe expedition through the Delaware Water Gap with a team of educators and public school teachers from the greater Philadelphia area. The program, sponsored and led by guides at the Philadelphia Outward Bound Center, was designed to build a cohort of educators interested in environmental youth education through applied and interactive programming in the outdoors. In addition to paddling 40-plus miles of the Delaware River,

Sierra participated in team building exercises and learned facilitation techniques to apply in school programs and youth events hosted by the Schuylkill Headwaters Association.

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## Sierra Gladfelter Awarded Toyota TogetherGreen Fellowship to run youth program—Schuylkill Acts and Impacts: An Expedition to Inspire Watershed Action

The Schuylkill Headwaters Association is celebrating the recent news that Outreach and Education Coordinator Sierra Gladfelter was awarded a \$10,000 Toyota TogetherGreen Fellowship sponsored through a partnership by Toyota Inc. and the National Audubon Society. The grant recognizes Sierra’s past and potential leadership as an outdoor educator and environmental leader and will support her in the design and implementation of a weeklong watershed expedition for high school students on the Schuylkill River examining environmental impacts and participating in conservation service work. Over the course of the next 9 months, Sierra will be building partnerships in the wider Schuylkill Watershed, further designing curriculum and reaching out to public and private schools between the headwaters and Philadelphia for student applicants.

For more information or to get involved please contact Sierra Gladfelter at [outreach@schuylkillheadwaters.org](mailto:outreach@schuylkillheadwaters.org) or call (570) 573-2093.

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## Looking Ahead—Call for Partners!

As Sierra Gladfelter transitions from an AmeriCorps Internship at the Schuylkill Headwaters Association into a more direct position, her efforts to expand the organization's outreach and especially education and youth initiatives will take greater priority. In addition to organizing June 2014's summer youth program Schuylkill Acts and Impacts: An Expedition to Inspire Watershed Action, Sierra is seeking to collaborate with public and private school teachers and administrators across Schuylkill County.

The Schuylkill Headwaters Association offers **Teacher Tours** for educators interested in visiting some of our projects and assessing how a field day or classroom project could be integrated into their curriculum. We are already working with science teachers directly to implement student-driven **Ecology Assessments and Improvement Projects** at some of our locations to explicitly address **PA Keystone Biology and Ecology Standards** through **hands-on education** and **in-the-field learning**. We are also increasing our outreach to **Boy Scout Troops** interested in participating in **service work**, organizing river or illegal dumpsite **clean-ups**, or partnering on **Eagle Scout Projects**. Please contact Sierra Gladfelter at [outreach@schuylkillheadwaters.org](mailto:outreach@schuylkillheadwaters.org) or call (570) 573-2093 for more details or with questions.

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## Lehigh Anthracite Golf Outing to Benefit Schuylkill Headwaters

On Wednesday, July 10<sup>th</sup>, 2013 Lehigh Anthracite hosted its second annual benefit golf outing at the Valley Country Club in Sugarloaf, PA. The Schuylkill Headwaters Association and Saint Luke's Miners Memorial Hospital split the funds generated during the day. The event's generous host, Lehigh Anthracite, rented the golf course, organized refreshments and prizes and invited participants and corporate sponsors. At the end of the day, the event generated over \$15,000 each for the Schuylkill Headwaters Association and the Saint Luke's Miners Memorial Hospital.

Lehigh Anthracite has long been a notable partner and collaborator in watershed restoration work in the Schuylkill River's headwaters. Lehigh Anthracite mines over 500,000 tons of anthracite coal a year from their 8,000-acre mine in the Tamaqua area—the largest surface mining permit in Pennsylvania. However, Lehigh Anthracite not only meets their permit requirements for extraction and reclamation of coal resources, but goes above and beyond to make their footprint on the land and watershed as small as possible. In fact, this year at the Schuylkill Action Network's 10<sup>th</sup> Anniversary celebration, Lehigh Anthracite was recognized for their efforts as a business that invests in the land and communities it relies on. The Board and members of the Schuylkill Headwaters Association would like to extend our deepest gratitude to Lehigh Anthracite and all the sponsors and participants at the 2<sup>nd</sup> Annual Golf Outing event who continue to make our conversation and water quality work possible.

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## Upcoming Events...Saturday, September 7, 2013 8:00-12:00 am

**The Return of the American Chestnut: Tremont Borough Community Center**  
The Schuylkill County Conservancy is hosting a workshop about efforts to restore the American Chestnut in our Eastern hardwood forests. Researchers and project partners will take attendees on a tour of a recently planted chestnut plantation on reclaimed mine land in Schuylkill County. **Attendance is \$5, including refreshments and transportation. Contact Wayne Lehman (570) 622-3742 Ext. 120.**



## CONTACT US:

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**Saturday, October 12, 2013: 9:00 am-3:30 pm**

### **Fall Bus Tour to Spotlight Farm Operations.**

Join the Schuylkill County Conservation District on a agricultural circuit where you will have the opportunity to visit Schuylkill County-proud farms and learn more about local food grown in your own community! **Attendance is \$15 per person. Contact Missy Seigfried at the Schuylkill County Conservation District to save your seat (570) 622-3742 Ext. 111.**

**Saturday, October 19, 2013: 10:00 am-12:00 pm**

### **Schuylkill Headwaters' Public Tour of Recent Projects**

Come to a tour of our two most recent achievements at the Schuylkill Headwaters Association: the \$600,000 Mary D Borehole Filtration System completed this June which filters 1,000 gallons of water per minute and the retrofitted Bell Colliery AMD Restoration Phase III system which will improve the quality of over 800 gallons per minute of highly acidic water with low pH. The tour will be led by project designers and experts on water quality, and illustrate the combined impact that these two systems will have on the main branch of the Schuylkill River.

The tour will meet at the intersection of Valley Street and Walnut Street between Brockton and Mary D off of Rt. 209. Just look for signs! For more information and to RSVP please contact Bill Reichert at **570.622.3742x118** or **wreichert@schuylkillheadwaters.org** or Outreach and Education Coordinator Sierra Gladfelter at **outreach@schuylkillheadwaters.org**.

### **Schuylkill Headwaters Association, Inc.**

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