

# Potomac Headwaters Leaders Of Watersheds—2013 Report



## Cacapon Institute— CI

From the Cacapon River to the Potomac to the Chesapeake Bay we protect rivers and watersheds using science and education. Founded in 1985, Cacapon Institute (CI) has grown from a local watershed research and protection group to an organization reaching a broad audience across the Mid-Atlantic. Our online Potomac Highlands Watershed School is used by tens of thousands of students. Our science projects include watershed research and urban tree canopy studies. Urban trees are the trees we live with, the trees that grace our neighborhoods, towns, parks, schools and roadsides.

As problem solvers CI develops real-world conservation projects. We facilitate community and school based hands-on watershed conservation across the Potomac Highlands, Shenandoah Valley, and downstream to the Bay. Since 2009 Cacapon Institute has coordinated the Potomac Watershed Partnership. PWP is dedicated to protecting the lands and water of the Basin. CI is an active participant in the WV Chesapeake Bay Tributary Team and Chesapeake Bay Program.

## PHLOW History

CI began PHLOW in 2008 in partnership with the WV Corporation for National and Community Service under the Future Leaders of Watersheds program. Over the years PHLOW has had many funders but, since 2011, it has been largely funded by the USDA Forest Service and the National Fish and Wildlife Foundation. PHLOW has spread from its WV base and now includes schools in Western Maryland and the Shenandoah Valley.



Through PHLOW, CI teaches students about watersheds and the problems and causes of non-point source water pollution, especially stormwater runoff pollution. Students are then empowered to identify problems on their campus and in their community and implement best management practices to address the problems.

## Supporting Programs for PHLOW



PHLOW draws on technical and material resources from many funders and organizations. CI is building synergy between federal, state and local programs to enhance K-12 environmental education that will foster an environmentally literate generation of youth. PHLOW supporters include WV Bay Tributary Team, NOAA and Chesapeake Bay Program, US EPA, Potomac Watershed Partnership, the MARPAT

Foundation, Evenor Armington Fund, and Virginia Environmental Endowment, and CI's members.

CI oversees WV Project CommuniTree, a partnership funded by the USDA Forest Service. CTree supports PHLOW by providing trees and educating students on trees' importance in reducing stormwater runoff pollution. CTree promotes tree plantings and education on public lands through volunteerism in the Potomac Headwaters of West Virginia (Berkeley, Jefferson, Morgan, Mineral, Hampshire, Grant, Hardy, Pendleton Counties). Technical assistance is provided by CI and West Virginia's Conservation Agency, Division of Forestry, and Division of Highways.

## PHLOW 2013 Schools

Berkeley Springs High  
Blue Ridge Primary  
Brandywine Elementary  
Capon Bridge Middle  
Frankfort High School  
Martinsburg South High  
Mill Creek Intermediate  
Moorefield Intermediate

Mountain Ridge Intermediate  
Musselman High  
Shepherd University  
Spring Mills Middle  
Paw Paw Schools  
Petersburg Elementary  
Petersburg High  
Wildwood Middle



## Petersburg Elementary School, Grant County



The 5<sup>th</sup> grade class, along with science teacher Julie Colaw, designed and installed a 300 square foot rain garden. This is the first project in the design of an outdoor learning lab at the school that will continue to grow in the coming years. The 5<sup>th</sup> grade

students worked together to design individual plans for the large space; these projects were compiled into one master plan for the space. The rain garden was constructed and installed in April. In the months leading up to the rain garden installation students used CI's Potomac Highlands Watershed School to learn about watersheds,



benthic macro-invertebrates, and sedimentation during classroom lessons using the Potomac Highlands eSchool. They made connections between the rain garden and improvement of water quality in Lunice creek directly behind the school.



## Wildwood Middle School, Jefferson County

Teacher Caroline Moffat engaged her 7<sup>th</sup> grade honors science classes in designing and installing a 135 square foot rain garden and planting three trees. The rain garden

area is located at the base of the visitor parking lot. Students learned that all of the stormwater runoff pollution flowing from the parking lot could be captured by a rain garden and trees rather than flowing directly into a storm drain and to local waterways. Students designed blue prints for the space and selected native plant species that would be in bloom during the school year. Students were able to see the impact they made on the school grounds and for the local stream system.



## Capon Bridge Middle School, Hampshire County



The 8<sup>th</sup> grade class, along with teacher Linda Mowry, planted fourteen trees on campus. The trees helped to beautify the school and control erosion. The students then grew native grass seeds in the classroom to plant on an eroding slope by the football field. A forty square foot rain garden was installed near a storm drain at the front of the school. Students learned the benefits of trees and how they will help the campus. This multiday project helped to reduce stormwater

runoff and erosion from the school grounds and made an instant impact at the school.



# Musselman High, Mill Creek & Mountain Ridge Intermediate, Berkeley County

## Musselman High

Students from the W.E.T. Club (Watershed Environmental Team), led by teacher Deb Stevens, designed and installed a hillside erosion project. A living sign was designed with blue rug junipers in the letters of "MHS" with red mulch and bricks. This sign will evoke school pride while decreasing erosion. Club students planted an additional ninety-four native plants in the existing three tiered rain garden and planted fifty red cedar whips. Musselman High students used CI's eSchool during an education day for the 5<sup>th</sup> grade classes at Mill Creek and Mountain Ridge Intermediate School.

## Mill Creek Intermediate

Two 5<sup>th</sup> grade classes worked to install a 120 square foot rain garden and planted fifteen trees on the campus. The trees provide stormwater mitigation while also beautifying the student pick-up area. CI did a follow up lesson after the planting with the students to show the importance of decreasing stormwater runoff pollution and how their rain garden and trees are making an impact throughout the watershed.

## Mountain Ridge Intermediate

The 5<sup>th</sup> grade students, led by teacher Beth LeGrand, planted fifteen trees

around the campus and planted ninety-seven native plants in a 120 square foot rain garden. The rain garden is located outside the art classroom and near the student pick-up area. Plans for the rain garden include working with the art students to draw and paint pictures of the native plants in bloom. Students actively participated in water the trees and rain garden throughout the year.

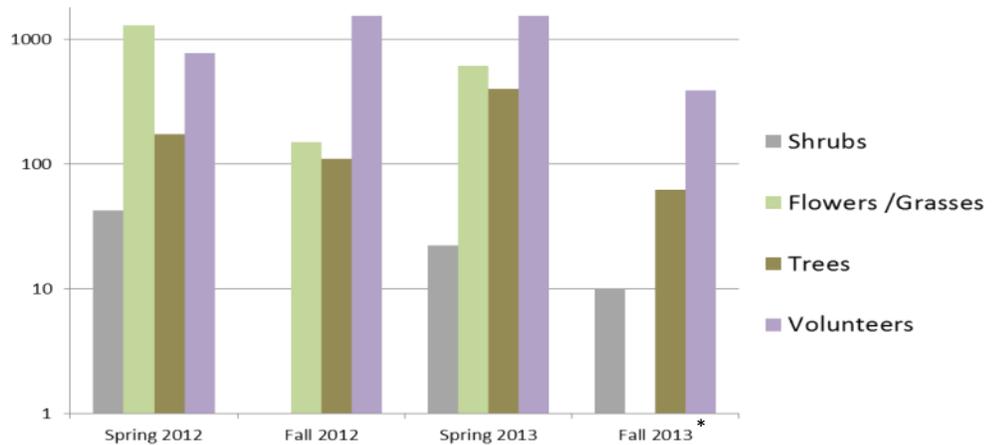


## Accomplishments

### Quick Facts

- 1,511 Student Leaders
- 1,017 ft<sup>2</sup> of Rain Gardens
- 639 Native Plants Installed
- 607 Flowers/Grasses
- 32 Shrubs
- 460 Trees Planted
- 11 New Schools
- 3 New WV Counties

## PHLOW Partners' School Projects



\* the focus was on maintenance.



### PHLOW 2013 Goals:

- Plant 449 Trees
- Install 9 Bioretention
- 15 Schools Improve Stormwater Management
- Engage 1,650 Students and Adult Volunteers
- 8 WV Counties
- 5 MD or VA Counties

### Accomplishments to Date:

- 997 Trees Planted
- 10 Bioretention
- 24 Schools Improve Stormwater Management
- > 2,800 Students and Adults Engaged
- 8 WV Counties
- 1 MD County; 2 VA Counties



## Spring Mills Middle School, Berkeley County

Students that participated in the original rain garden planting project in spring 2012 at Spring Mills Middle gathered their Girl Scout Troop to participate in a



maintenance day in August. The two student leaders, that are now in high school, showed the younger Scouts how to keep the project healthy and beautiful. Twelve students along with five adults worked to pull weeds and apply a new layer of mulch to the rain garden. The Troop joined in a discussion on the important role the

rain garden plays in reducing stormwater runoff and used it to identify plant species.



## Mill Creek Intermediate School, Berkeley County



The new class of 5<sup>th</sup> graders, along with lead teachers Kelly Rutherford and Emilie Gosnell, participated in a rain garden maintenance day. The two classes rotated in four smaller groups to work on maintenance. The first two groups pulled

weeds and the final two groups applied new mulch. Prior to going outside, all the students participated in an hour long educational lesson about watersheds and the important role their rain garden is playing for the

health of the Opequon Creek watershed prior to working outside. Students enjoyed their day of service and discovering the role of the native plants. The students are excited to care for the rain garden during the school year.

## Capon Bridge Middle School, Hampshire County

The Environmental Club, led by Linda Mowery, mulched twenty-four trees that were planted in the spring of 2012 and 2013 on the school grounds. Sixteen students worked in two teams on opposite sides of campus to complete the task in forty minutes. A small group of four students worked together to mulch the forty square foot rain garden

that is located at the front of the school where it can be seen by students, parents, and visitors. After the mulching project students took place in an open discussion of potential projects to be accomplished in spring 2014. Students showed interest in installing a rain barrel at the school to contribute to water

conservation and assist with watering their trees and rain garden.



Want to see more PHLOW?

Click on the "Projects Blueprint" at [www.cacaponinstitute.org/middle.htm](http://www.cacaponinstitute.org/middle.htm)



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