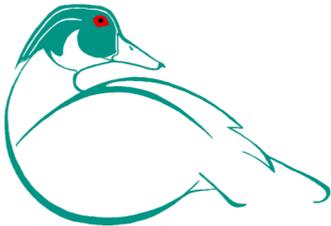


# Potomac Headwaters Leaders Of Watersheds— 2014 Report



## Cacapon Institute

**From the Cacapon River to the Potomac to the Chesapeake Bay we protect rivers and watersheds using science and education.**

Founded in 1985, CI has grown from a local watershed research and protection group to an organization reaching a broad audience across the Mid-Atlantic.

Our vision is a future where polluted watersheds are history. As educators we teach students first and then, through them, we reach the larger community. As problem solvers we find solutions and build partnerships to address environmental problems. As fact finders we research watershed issues of importance. As foresters we are creating healthy communities alive with trees.

We coordinate the [Potomac Watershed Partnership](#) working to protecting the lands and waters of the Potomac River Basin. CI is an active participant in the [WV DEP Chesapeake Bay Program](#) and contributes to the [EPA Chesapeake Bay Program's](#) Education and Forestry work groups in Annapolis.

CI established [PHLOW](#) in 2008 working in Hampshire and Hardy counties of West Virginia. Over the years PHLOW has had many evolutions and supporters but since 2011 our primary partners have been the WV DEP, the [National Fish and Wildlife Foundation](#), and USDA Forest Service. Spreading from its WV base PHLOW now includes schools in Western Maryland and the Shenandoah Valley.



PHLOW has many varied outreach platforms but focuses on three curriculums:

- **Grow-a-Garden** teaches students about watersheds and non-point source water pollution, especially stormwater runoff pollution. Students then participate in a rain garden planting on their school grounds. Students learn the benefits a rain garden has for their local watershed and the broader Chesapeake Bay Watershed.
- **Growing Native** focuses on collecting and growing native tree species. Education sessions cover topics of tree structure, species diversity, and the importance trees have on watershed health. Students pot-up native tree seeds or tree whips (two year old seedlings) in a Grow-Out Station at their school. Students then nurture the seedlings and monitor their growth until they are large enough to be planted.
- **Plant-a-Tree** is composed of an education session focused on the overall importance of trees within both urban and rural environments. The hands-on conservation is comprised of a native tree planting on their school grounds to decrease stormwater runoff pollution, increase wildlife habitat, and benefit the environment overall.

## Supporting Programs



PHLOW utilizes technical and material resources from many organizations. PHLOW supporters include WV Bay Tributary Team, USDA Forest Service, NOAA and Chesapeake Bay Program, US EPA, Potomac Watershed Partnership, Evenor Armington Fund, Virginia Environmental Endowment, and CI's members.

CI oversees [WV Project CommuniTree](#), a partnership of the WV Chesapeake Bay Program. CTree supports PHLOW by providing trees and educating students on trees' importance in the environment and community. 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, WV Conservation Agency, and WV Division of Forestry.

**Maryland:**

- Boonsboro Elementary
- Fountain Rock Elementary
- Greenbrier Elementary
- Lincolnshire Elementary
- Pleasant Valley Elementary
- Sharpsburg Elementary

**Virginia:**

- Riverheads Elementary

**West Virginia:**

- Capon Bridge Middle
- Charles Town Middle
- Eagle School Intermediate
- Frankfort High
- Greenwood Elementary
- Hardy County Childcare Center
- Keyser Primary
- North Fork Elementary
- North Jefferson Elementary
- Orchard View Intermediate
- Paw Paw Schools
- Petersburg Elementary
- Ranson Elementary
- Saint Joseph School
- Shepherd University
- Shepherdstown Elementary
- Slanesville Elementary
- South Jefferson Elementary
- Spring Mills Middle
- T.A. Lowery Elementary
- Washington High
- Wildwood Middle

# South Jefferson Elementary School

Students worked with Cacapon Institute and Ranson Kohl’s employees to install a rain garden on the school’s playground as part of their Earth Day Celebration.

South Jefferson spent the school year focusing on the history and culture of West Virginia so themes and symbols were used to represent WV throughout their rain garden. Stepping stones were added to the layout to ensure students of all ages can explore the garden and learn about native plants, animals, and WV history.

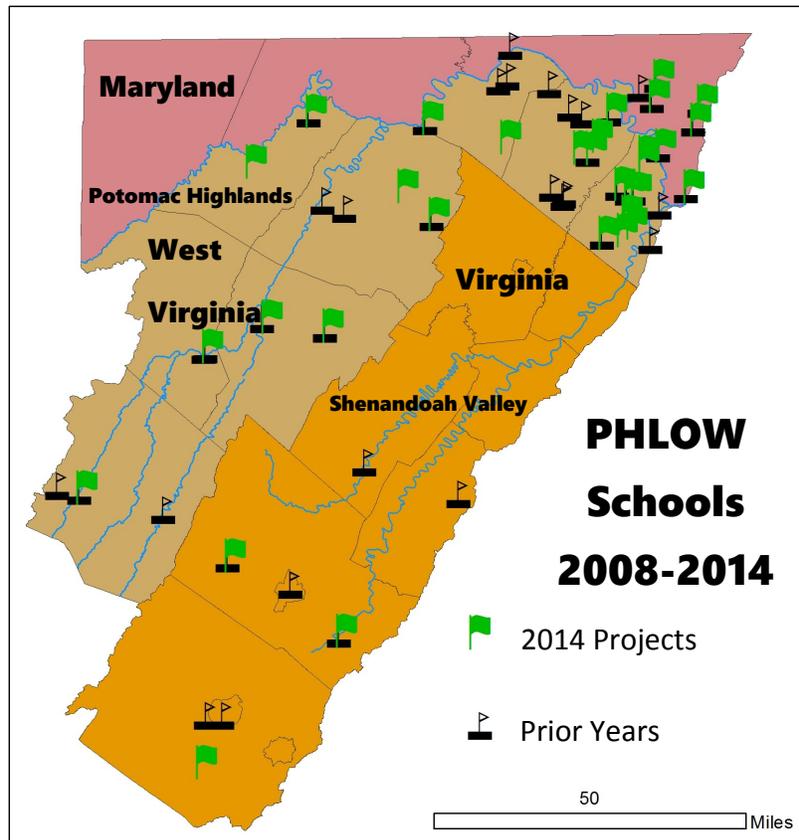


Students, from 3<sup>rd</sup> through 5<sup>th</sup> grade, rotated outdoors during their gym class to plant. Students briefly discussed what a rain garden is, what the benefits are for the school and environment, and the proper way to plant. They worked together in partner-groups to methodically accomplish the large task of planting 120 native plants. There were a total of 270 students that participated in this project.



Kohl’s employees signed up to volunteer through their [Kohl’s Cares](#) program. Many of the volunteers were “Roadrunners” as students and they felt it was important to give back to their school. Volunteers helped to transport and then arrange the plants in the garden prior to the students’ arrival outdoors. Their help was essential to the students’ success.

All of the students and volunteers had fun and left their legacy at the school for years to come. This project demonstrates that a school can make a positive impact on the environment and bring members of the community together.



# 2014 Quick Facts



## Charles Town Middle School

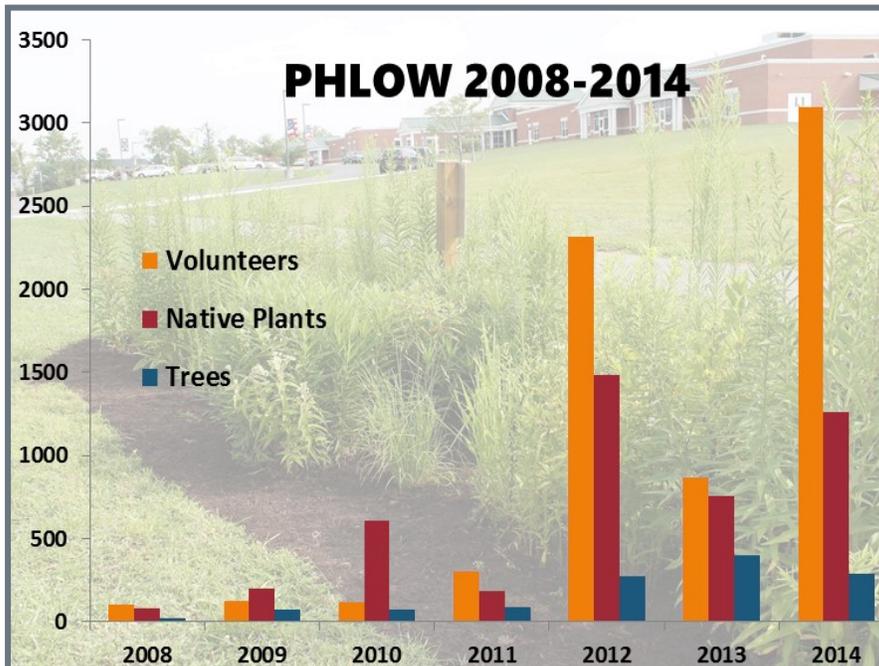
During the spring of 2014 the Science Club installed a 250 gallon cistern at the student entrance to address stormwater flooding issues. The cistern is now part of a greater project that includes a rain garden and a second, 275 gallon, cistern.

Science Club students, 6<sup>th</sup> through 8<sup>th</sup> grade, participated in an education program to discuss the impact their rain garden has on their local watershed and the Chesapeake Bay Watershed. The rain garden and two cisterns capture, store, and treat more than 1,000 gallons of rain water that would otherwise be unhealthy stormwater runoff pollution.



Twenty-four Science Club students, two parents, and three teachers installed 105 native flowers and planted six Black Chokeberries. Students worked efficiently to complete the planting and mulching in just two hours. As a group, students placed their handprints on the newly installed cistern as a reminder of their hard work. The entrance was transformed from a barren problem area that flooded to a visually appealing landscape that is improving watershed health and offering environmental education opportunities. Students will have a chance to care for and study the plants and wildlife for years to come.

South Jefferson Elementary and Charles Town Middle are just examples of the many 2014 PHLOW projects. Stories and photos of all the projects are available by visiting our [Hands-on Projects Webpage](#).



## Growing Native 2014

Seed Collection	
Species	Weight (lbs.)
Oak	169.5
Hickory	13
Dogwood	1.5
Seed Propagation*	
School	# Pots
Eagle School Inter.	107
Ranson Elem.	130
Riverheads Elem.	95

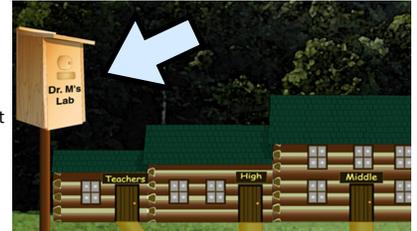
\*in addition to 337 pots planted at schools, 611 seeds were sent home with instructions for planting

# Educational Resources - Martin's Lab



CI staff and teachers devote in-class teaching hours prior to the installation of any hands-on conservation project. The Potomac Highlands Watershed School (eSchool) plays a key role in PHLOW education and hands-on conservation projects. The eSchool offers students the opportunity to explore educational activities by clicking on different animated features. The Virtually Stream Sampler simulates a Save Our Streams assessment. Students can “visit” rivers from the headwaters to the Bay using actual data collected from real-world streams. Stream Cleaner teaches the benefits and costs of best management practices as students build their own landscape. Our Real Time Data Portal, reached through

NOAA's Chesapeake Bay Buoy, accesses current and recorded weather, river, and tidal conditions. Our newest addition is Dr. Martin's Lab, a layout designed to meet teachers' 21<sup>st</sup> Century needs and fit better on a smart phone. Click on Martin's image above or explore this free online educational resource by clicking on the eSchool Tab at [CacaponInstitute.Org](http://CacaponInstitute.Org). Be sure to click on the Wood Duck House to enter Martin's Lab!



## PHLOW - Looking to the Future

CI is pleased the National Fish and Wildlife Foundation is continuing to support PHLOW. Thanks to NFWF and the WV DEP Chesapeake Bay Program PHLOW will keep up momentum. Our goal, by 2017, is to implement 50 school projects that include planting 300 trees, installing 17 rain gardens, 2 rain cisterns and a green roof. More than 6,000 students will be involved in these hands-on conservation projects. PHLOW is improving real-world water quality and fostering a generation of environmentally literate youth. In 2014 PHLOW adopted Growing Native. Growing Native is supported by the USDA Forest Service and is a program of the Potomac Watershed Partnership. PWP is a collaborative of federal, state and local professionals, and volunteers dedicated to protecting the lands and waters of the Potomac Basin. Growing Native engages youth to collect and propagating native tree seeds. Forest and tree cover is the gold standard for watershed health and students learn the benefits and functions of trees. They engage in multi-class education to discuss the structure, importance, and role native trees play in the health of their local watershed and the Chesapeake Bay watershed.

To learn more or apply for PHLOW  
please click on the Education Tab at [CacaponInstitute.Org](http://CacaponInstitute.Org)

**Want to make a difference on your school campus?** We can help! CI has released PHLOW Applications for Grow-a-Garden, Growing Native, and Plant-a-Tree projects. Applications are online now for 2015 projects in spring or fall (proposals due January & August respectively). Click on CI's [Education Tab](#) to learn more or apply.



This is a publication of Cacapon Institute. For more information visit our website or contact:

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