

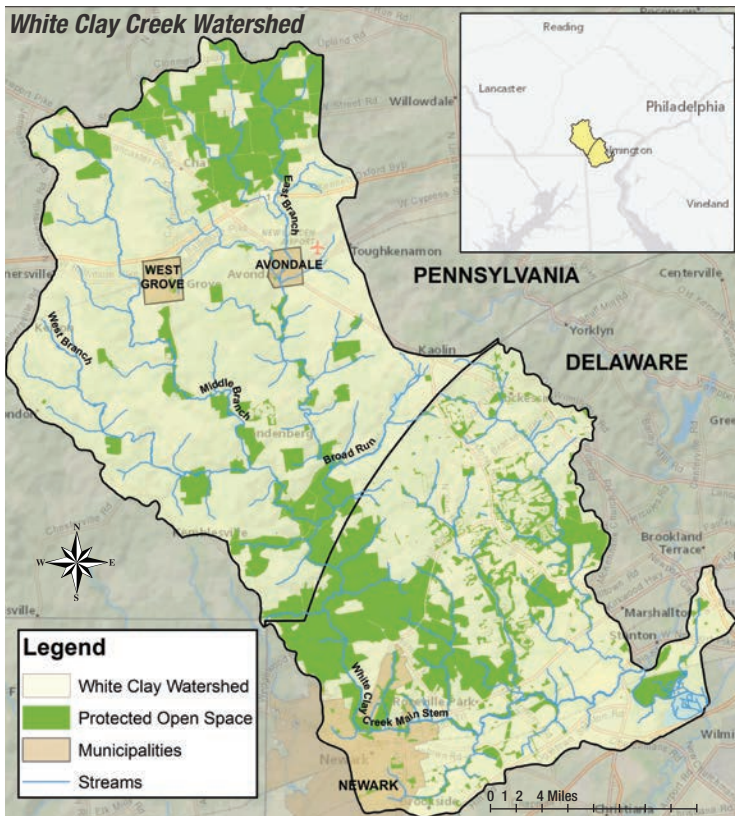


# White Clay Creek National Wild and Scenic River

Steering Committee Update 2019

Promoting clean water through outreach, restoration, and land protection.





The Watershed Steering Committee, which administers the White Clay Creek National Wild and Scenic River Program, presents our 2019 accomplishments to our watershed partners, legislators, and community.

### Planting Trees for Future Generations



Robert Ritrovato, homeowner who initiated the tree planting.

Planting trees is one of the cheapest and easiest things to do to protect the environment. Trees produce a host of services for humans and other living things and they provide these services for free. They filter pollution from the air we breathe and the water we drink. They reduce flooding and erosion, replenish and clean ground water, lower water treatment costs for downstream users, and improve wildlife and pollinator habitat. Trees also store Carbon and help regulate temperatures buffering the effects of climate change. All you have to do is stand in the shade of a tree on a hot summer day to experience their cooling effect. In fact, a recent study published in Science asserted, 'the restoration of trees remains among the most effective strategies for climate change mitigation' (Bastin et al., 2019).

### Partnership Wild and Scenic Rivers

The 1968 Wild and Scenic Rivers Act calls on the nation to preserve select rivers in free-flowing condition. Outstanding rivers are chosen on the basis of their scenic, recreational, ecological, geologic, historic or cultural value.

Most National Wild and Scenic Rivers flow through federal lands, but Partnership Rivers flow through privately held lands or lands owned by local or state governments. The National Park Service provides funds and staff assistance to communities and local and state representatives to protect and manage these rivers for the benefit and enjoyment of present and future generations.

White Clay Creek was designated a National Wild and Scenic River by an Act of Congress signed into law by President Clinton in October, 2000. In 2014, nine additional stream miles were added to the original designation of 190, bringing the total miles protected under the Act to 199 miles.

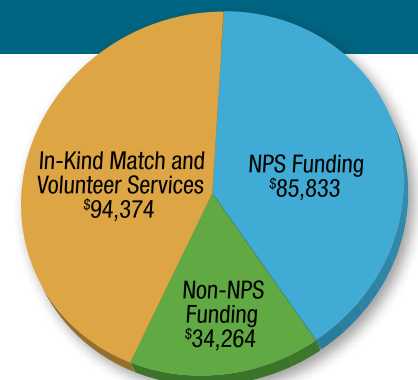
### White Clay Wild and Scenic Maximizes Federal Dollars!

Like all Partnership National Wild and Scenic Rivers, we leverage National Park Service funding with cash and in-kind contributions from state, county, local governments, partner organizations, and the community.

In 2019 White Clay partners leveraged \$85,833 in federal funds with \$128,638 cash and in-kind services. In other words, every dollar of National Park Service funding spent was leveraged with an additional \$1.50 of outside match and volunteer services.

A special thanks to the following donors of monetary assistance provided to the Steering Committee in 2019: National Park Service (\$120,000), Dockstader Foundation (\$7,500), Public Contributions (\$8,042), Delaware Department of Transportation (\$4,727), SUEZ (\$4,000), Mushroom Farmers of Pennsylvania (\$1,000), University of Delaware (\$500) and approximately

**1,200 hours of volunteer time valued at \$34,014!**



### 2019 Program Assistance



Trees are a natural, cost-effective solution to both clean water and climate resiliency. Every tree you protect or plant is a small, but vital step in the right direction.

In 2019, 300 trees were planted along both sides of a 400-foot length of stream on protected home owner association land in London Grove Township. The project was initiated by a home owner who wanted to learn more about the White Clay Catch the Rain Program, a cost-share program that incentivizes voluntary stormwater practices on private lands. At the initial site visit, the neighborhood was surveyed for opportunities to improve their protected natural lands. After some needed site preparation, the streamside tree planting was installed by about 30 volunteers under the supervision of the Brandywine Conservancy and funding from a TreeVitalize grant.



*Permeable paver retrofit and rain garden installation in the city of Newark.*

Streamside tree plantings are just one of the many potential outcomes from the Catch the Rain Program. The most popular practices installed are rain barrels and smaller tree plantings, but this year the program supported its first permeable paver retrofit in the city of Newark. The homeowner removed and replaced an asphalt driveway with permeable pavers and a rain garden that will capture stormwater before it leaves the property untreated. Each project starts with an initial contact, followed by a site visit, culminating in a site report listing green practices that the landowner can undertake. The landowner selects the project(s) they want to undertake and after a final inspection they apply for rebate. The program has a total of 80 applicants to date, increasing from 12 our initial year (2016) to 31 (2019).

The Catch the Rain Program also supports local governments in their efforts to promote green infrastructure. In 2019 we were awarded funding from the Dockstader Foundation to develop an Impervious Cover Reduction Action Plan for West Grove Borough with assistance from Rutgers University Water Resources Extension. The plan will be presented to borough council and selected practices will be implemented throughout the year along with a public workshop. The program is also assisting New Castle County with a rain garden installation and associated public workshop at a county park to support their environmental initiatives.

Opportunities for watershed improvements are abundant throughout the White Clay. The key is locating willing landowners and providing them with guidance and incentives for installing green practices. The Catch the Rain Program is one mechanism used to facilitate the process, and support and build trust with watershed residents.

## Water Quality Monitoring

Each summer thirty sites are monitored throughout the watershed for harmful bacteria. Samples are collected 5-10 times during the summer recreational season during baseflow (<0.25 inches of rain in prior 48 hours) when most people are using the creek and likely to be in direct contact with the water. While the levels found do not always meet standards set for total body contact (emerging eyes, nose, ears or mouth in the water) they are not unusual for developed watersheds like the White Clay. In developed watersheds, bacteria levels tend to peak after rain washes fecal material from pets, wildlife, agriculture, and failing septic systems into the creek untreated. That does not mean people should avoid contact with the creek, however, proper precautions should be taken to protect themselves, like avoiding water activities after rain events, not swimming if you have any open wounds, and washing your hands after contact with the creek. In conjunction with collecting samples for bacteria concentrations, we are also working with Stroud Water Research Center to conduct microbial source tracking on select samples. Microbial source tracking compares DNA from water samples to DNA of known fecal sources. Information learned by this research will help us in our efforts to reduce harmful bacterial levels in the creek by targeting the main sources.

In addition to summer sampling, year-round data is collected at select sites. Samples are tested monthly for nitrates, phosphates, chlorides, and sediment, all measures of creek health and potential indicators of pollution events. Monitoring stations that take continuous readings of conductivity, water temperature, water depth, and turbidity are also installed at five sites. The information gathered is shared with government agencies and the public to facilitate informed decisions about where and what type of best management practices to install to address local water quality needs.

The Program also supports novel ideas that help us reach our sampling objectives. Over the past year, two volunteer stream stewards, Rob Tuttle and Jeff Chambers,

assisted a group of University of Delaware engineering design students to develop and prototype a low-cost, remote controlled stream sampler. Currently available options are often cost prohibitive to smaller organizations or volunteer groups. A low cost, build-it-yourself remote sampler will enable sampling during storm events when it is often difficult and dangerous to obtain a stream sample. The prototype seen below will be field tested in 2020.



*Jeff Chambers and Rob Tuttle testing out the initial stream sampler prototype in White Clay Creek.*

Finally, University of Delaware graduate student, Matt Kirchoff, is organizing the monitoring data and watershed information visually through the development of an interactive online map. Users will be able to access information on White Clay monitoring sites and layer this with other available GIS data and watershed information. This tool will aide in the selection of appropriate locations and best management strategies to address local water quality needs. The interactive map, also a powerful outreach tool to communities, legislators, and regulators, will be available on our website this year.

**Adopting a natural area that has been neglected** and removing invasive vines which strangle, smother, and ultimately endanger existing trees, planting new trees and protecting them from deer and voles, installing a rain garden to collect stormwater from your roof, or helping to monitor your local stream, are opportunities that exist throughout the watershed. Municipalities can plan for more sustainable growth through ordinance revisions that better protect natural resources and local citizens can participate in municipal meetings or start an Environmental Advisory Council in their community, such as the Conservation Advisory Commission in the City of Newark which helped to pass Newark's first sustainability plan in 2019. Each individual has the power to act. It can be as elaborate as developing a remote stream sampler or as simple as planting and protecting native trees on your property. What will you do in 2020?

## Land Preservation

- Worked with local organizations and municipalities to plan for future trail alignments in the White Clay Watershed.
- Supported land stewardship services at four watershed locations to protect and promote the establishment of streamside buffers.
- Provided technical assistance to watershed municipalities in planning and management of green stormwater infrastructure.
- Met with large land owners to discuss land conservation and best management practices at the London Grove Open Space Board Annual Dinner.

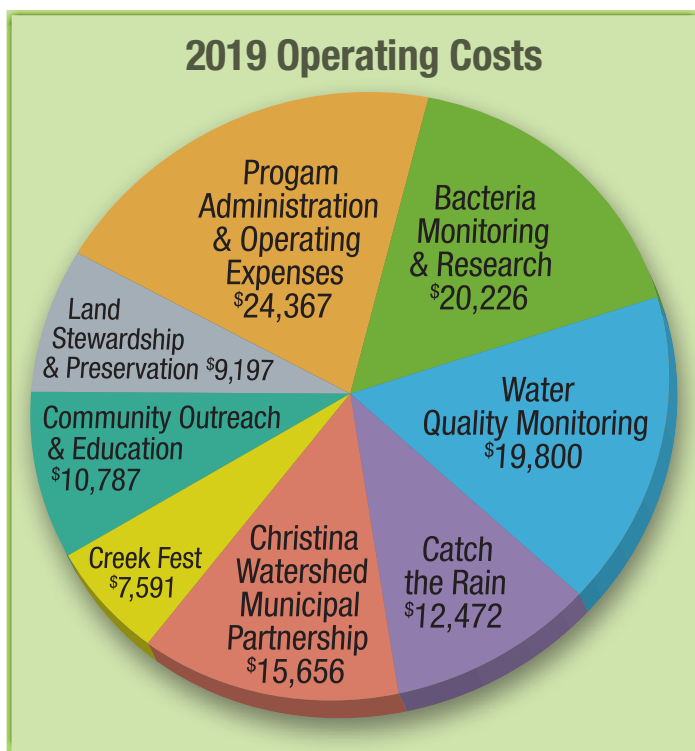
## Community Outreach & School Programs

- Held our annual White Clay Creek Fest; 1,065 event attendees; 30+ exhibitors.
- Presented an overview of the **Catch the Rain Program** at the Delaware River Watershed Initiative Winter Gathering.
- Met with 25 homeowners to discuss green practices they can implement on their property.
- Produced content for the whiteclay.org website, municipal newsletters, Chester County Press, and social media outlets.
- Provided environmental education awards for educational field trips to Stroud Water Research Center addressing the needs of 424 students.
- Supported a new 10-week environmental education elective led by Delaware Nature Society for 30 students at Shue Middle School, Newark, DE.
- Provided comment to the White Clay Creek State Park Master Plan.

- Attended and provided testimony at the New Garden Township cell tower hearings.
- Facilitated the collaboration of municipalities, government agencies and other stakeholders to restore and protect the water quality of streams in the White Clay Creek watershed as part of the Christina Watersheds Municipal Partnership.

## Watershed Monitoring and Projects

- Monitored 30 sites to analyze fecal indicator bacteria concentrations.
- Supported microbial source tracking at select sites to broaden our understanding of contributing fecal pollution sources.
- Managed five remote stream sensors to gather continuous data on conductivity, temperature, depth and turbidity.
- Conducted monthly analysis of nutrients, sediment, chlorides and bacteria at five stream locations.
- Provided funding for a University of Delaware engineering design class project with assistance from two citizen scientists.
- Provided field experience to two undergraduates/post graduates through summer internships supported by Stroud and Delaware Nature Society, and two University of Delaware graduate students.
- Supported two University of Delaware graduate students in field sampling and GIS mapping.
- Worked with USGS to determine locations for five new Next Generation Water Observing Systems to be installed in the White Clay Creek in 2020.
- Assisted National Parks Service with monitoring development proposals and permit applications for potential impacts to the White Clay Creek and its tributaries as designated streams within the National Wild & Scenic Rivers System.







## Upcoming Community Events 2020

### White Clay Cleanup

April 4

### White Clay Creek Fest

May 2

### Tree Planting

May 2

### Wild & Scenic Program Meetings

March 10

June 9

September 17

December 8

### Public Rain Garden Installation

Spring 2020

### Catch the Rain Workshops

Fall 2020

For information  
on all of our  
projects and  
upcoming events:



[www.whiteclay.org](http://www.whiteclay.org)



WhiteClayWildandScenic



WhiteClayWS

The Watershed Steering Committee, with our local and state partners, is charged with promoting the long-term protection of the White Clay Creek watershed and its resources in Pennsylvania and Delaware through the implementation of the Watershed Management Plan. The Management Plan Coordinator position was added in 2002 to assist the Committee in project and administrative duties.

The White Clay Creek watershed contains some significant natural areas and outstanding values which enabled the watershed to achieve its federal designation as a Wild and Scenic River. The Wild and Scenic Rivers Program supports projects that protect the watershed through community outreach and education, open space preservation, restoration, and research.

### White Clay Creek Wild and Scenic Steering Committee Members:

Ed O'Donnell, *Delaware Co-Chair, Fly Fishers*

Don Peters, *Pennsylvania Co-Chair, New Garden Township*

David Hawk, *Treasurer, White Clay Watershed Association (WCWA)*

Thomas Zawislak, *President, WCWA*

Martha Narvaez, *University of Delaware Water Resources Center*

Kristen Travers, *Delaware Nature Society/WCWA*

Douglas Janiec, *Sovereign Consulting Inc./WCWA*

John Goodall, *Brandywine Conservancy*

Kate Raman, *Natural Lands*

Rachael Griffith, *Chester County Planning Commission*

Rick Mickowski, *New Castle County Conservation District*

Aileen Parrish, *London Britain Township*

April Schmitt, *Friends of White Clay Creek Preserve*

Jennifer Egan, *University of Maryland Environmental Finance Center/WCWA*

Cori Trice, *Chester County Conservation District*

Tom Coleman, *City of Newark*

Tracey Surles, *New Castle County Special Services*

Shane Morgan, *Management Plan Coordinator - Staff*

Jamie Fosburgh, *Chief, National Wild and Scenic Rivers Northeast Region, liaison to Wild & Scenic Watershed Steering Committee*



Animal Behavior and Conservation Connections show at the 2019 White Clay Creek Fest. (Photo by Rob Tuttle)

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Funding for this publication provided by the National Park Service.





## WHITE CLAY CREEK National Wild & Scenic River

*Ours to Enjoy. Ours to Protect.*

PO Box 10, Landenberg, PA 19350

**Saturday May 2<sup>nd</sup> 12:00 – 4:00 p.m.**

**Carpenter Recreation Area,  
White Clay Creek State Park**

*The family event of the spring!*

Celebrate your local Wild and Scenic River with live music by Unity Reggae, birds in action with Animal Behavior and Conservation Connections, guided nature hikes, kids crafts, local food trucks, colonial history re-enactors, fly fishing demonstrations, native gardening displays, and MORE.

FREE reusable event water bottles provided by SUEZ to the first 200 attendees.

Co-hosted by White Clay Creek State Park and White Clay Creek Wild and Scenic River Program.

**For More Community Events Visit:**

**[www.whiteclay.org/new-events](http://www.whiteclay.org/new-events)**



## White Clay Creek National Wild and Scenic River

Steering Committee Update 2019

**Streamside tree planting in London Grove Township, June 2019**

Streamside buffers reduce flooding, replenish groundwater, and remove pollutants that would otherwise flow to local waters.