

White Clay Creek National Wild and Scenic River

Steering Committee Update 2020

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

Welcome to the White Clay Creek National Wild and Scenic River Program Update. The Watershed Steering Committee presents our 2020 accomplishments to our watershed partners, legislators, and community.

Catching Rain, One Drop at a Time

The White Clay Creek watershed is a major drinking water source, but polluted runoff from rain events makes cleaning the water for consumption incredibly costly and difficult. Stormwater pollution occurs when precipitation, such as rainfall, picks up harmful substances (road salts, oil, chemicals, and other debris) and carries it untreated to our waterways. This nonpoint source pollution, which doesn't come from one specific location or origin, is difficult to regulate, yet can be a major cause of river impairment.

In a healthy stream, vegetation in riparian areas, such as forests and meadows near the riverbank, slow down rain as it gradually soaks through soils. This percolation allows pollutants to filter out while also replenishing groundwater. In developed areas, the speed and intensity of rain runoff intensifies over concrete and other impervious surfaces, runoff has no time to filter out pollutants. Because stormwater is the largest source of pollution in White Clay Creek and because so much of the watershed is privately owned (88%, UDWRC), the Catch the Rain Program was founded in 2016.

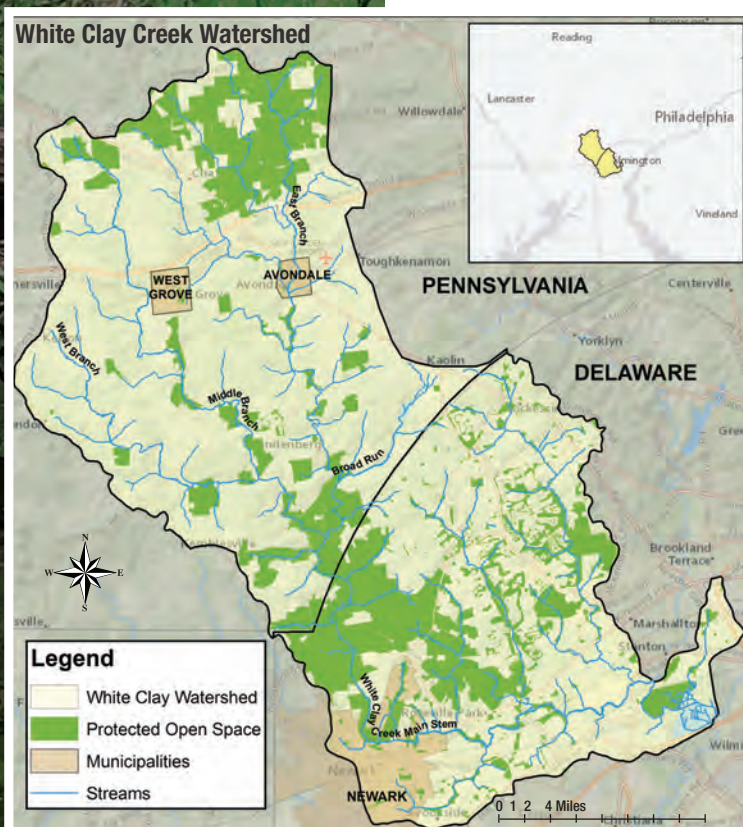
The Catch the Rain Program hopes to improve water quality by providing monetary incentives for the voluntary implementation of nature-based solutions to stormwater management. The program reaches out to watershed residents, homeowner

associations, and municipalities to provide technical and financial support for the installation of nature-based practices. Nature-based practices have other benefits as well, including enhanced community beauty, increased property values, improved drinking water quality and vital habitat for birds and pollinators.

A few highlights from 2020 include an 800 square foot rain garden at Paper Mill Park in New Castle County, Delaware, another 800 sq. ft. rain garden (as seen below) located in front of the Avon Grove Public Library in West Grove Borough, Pennsylvania. We supported two stream buffers, a riparian (streamside) tree planting on two acres along the Middle Branch, and a conservation landscape along 100 feet of a small unnamed stream, both located on private lands both located in Franklin Township, PA. The public sites are used as demonstration gardens and training sites for future program applicants.



Rain garden at work during a storm event one month after installation (above); flowering four months after installation (below).



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.

In October 2020 a half day workshop, focused on nature based solutions to stormwater utilizing the Avon Grove Library rain garden as a case study, was provided to sixteen participants representing several municipalities. The workshop was co-hosted by the Christina Watersheds Municipal Partnership and free of charge thanks to an environmental education grant from the Pennsylvania Association of Conservation Districts.

Finally, since the inception of the Catch the Rain program in October 2016, there have been 95 residential and municipal applicants installing a total of 41 practices. The costs for these projects have totaled close to \$82,000, funded through a combination of federal Wild and Scenic funds, grants, and landowner expenses. The program has supported the installation of rain gardens, riparian buffers, and several smaller scale residential practices such as tree plantings, and rain barrel installations. The Catch the Rain Program is a great example of how a developed watershed can implement voluntary projects to improve water quality. Partnerships between conservation organizations, municipalities, and watershed residents are creating positive change in this Wild and Scenic designated watershed.



Welcome, Sarah Bursky, the new National Park Service staff liaison to White Clay Wild and Scenic River! Sarah joined us in February 2020, relocating from Boston, where she served the New England Wild and Scenic Program for four years. Before joining NPS, she worked in the nonprofit sector with several large conservation organizations.

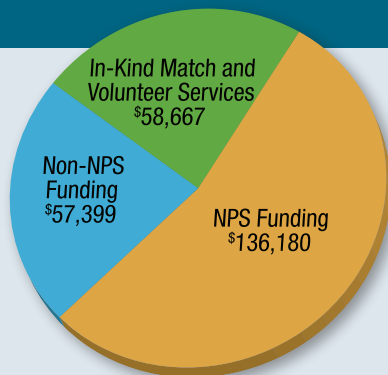
White Clay Wild and Scenic Maximizes Federal Dollars!

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

In 2020 White Clay partners leveraged \$136,180 in federal funds with \$116,065 cash and in-kind services. In other words, every dollar of National Park Service funding spent was leveraged with an additional \$0.85 of outside match and volunteer services.

A special thanks to the following donors of monetary assistance provided to the Steering Committee in 2020: National Park Service (\$150,000), Public Contributions (\$8,322), Brandywine Conservancy (\$3,000), Delaware Department of Transportation (\$1,758) and approximately

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



2020 Program Assistance

Volunteering in the Time of Corona

The success of our programs is defined by our dedicated volunteers, yet 2020 threw us a curve ball, the worldwide coronavirus pandemic. Our water quality monitoring program and volunteer plantings were put on hold temporarily. However, we eventually found a way to conduct our work and do it safely. We even started a new initiative involving a team of volunteers assisting with a visual resource inventory of the watershed.

Each summer thirty sites are monitored throughout the watershed for harmful bacteria and another 6 sites are collecting continuous data on water temperature, conductivity and stream depth. The continuous monitoring sites are visited twice monthly for maintenance and surface water samples are collected monthly and analyzed for sediment, nutrients, and chlorides. Despite a two-month period of no data collection (March-April) we were able to start up again in May adhering to new safety protocols. Furthermore, our volunteer stream steward, Rob Tuttle, spent a good bit of his quarantine time building a new sensor station from scratch after taking a virtual EnviroDIY workshop offered by Stroud Water Research Center. The new station was installed upstream of an existing station to look at potential impacts from a major roadway cutting through forested land. Rob also continued refining the design of a low-cost DIY, cellular controlled storm sampler. This new sampler, installed October 2020, will enable us to collect stream samples during storm events when it is often both difficult and dangerous to get to the site, or in the creek.



Rob Tuttle installing a stream sensor. ©Shane Morgan

Finally, sixteen volunteers signed up to assist the Wild and Scenic program with conducting a visual resource inventory (VRI) of the White Clay. Despite the White Clay Creek being a National Wild and Scenic River, a scenic assessment has never before been conducted. The VRI is a systematic process developed by the National Park Service for documenting and evaluating scenic resources. Scenery is treated as a resource that can be measured, managed, and protected. The VRI will provide a baseline for monitoring changes over time and evaluating potential visual impacts of new projects in the White Clay. It will also provide a basis for incorporating visual resources in land management and planning. Volunteers attended two mandatory virtual training sessions and one field session this past fall. The inventory will be an ongoing volunteer activity as sites are assessed and new ones are added, but by the conclusion of 2021 we hope to have enough data to include a scenic rating in our State of the Watershed Report which is published every 5-8 years.



VRI volunteer training event at White Clay Creek Preserve. ©Dave Koppesor



Riparian buffer at a farm in New Garden Township. ©Shane Morgan

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.
- Supported land preservation efforts in New Garden and Franklin Township.
- Provided match towards the acquisition of two properties in New Garden Township.

Community Outreach & School Programs

- Hosted a Green Stormwater Infrastructure training workshop for 16 attendees in West Grove, PA.
- Met with 14 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.
- Provided comment to New Castle County, DE on their land use initiatives.
- 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.
- Hosted a live stake installation and Master Watershed Steward Training at New Garden Park.
- Supported a volunteer planting at Judge Morris Estate, White Clay Creek State Park



Volunteer planting at Judge Morris Estate. ©Tern Tipping

- Provided stormwater management articles for the Christina Watersheds Municipal Partnership website, the Partnership Wild and Scenic Rivers Newsletter, and the NPS River Currents newsletter.
- Attended municipal board of supervisors' meetings as needed to reintroduce the Wild and Scenic Program, discuss potential projects, and provide comment on proposed development projects.

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 six remote stream sensors to gather continuous data on conductivity, temperature, depth and turbidity.
- Conducted monthly analysis of nutrients, sediment, chlorides and bacteria at six monitoring locations.
- Submitted data incorporated into the 2020 DNREC Integrated Waters Report.
- Provided funding for a citizen scientist to attend an EnviroDIY workshop at Stroud enabling him to build a stream sensor from scratch that was deployed in the watershed.
- Deployed a low-cost remote storm sampler designed and built by citizen scientists and UD engineering students to be tested throughout 2021.
- Provided year-long field experience to two graduate students at the University of Delaware, and two undergraduate students through summer internships supported by Stroud.
- 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.





13th Annual



White Clay Creek Fest

Virtual

Launching Saturday, May 1st

Celebrate your local Wild and Scenic River by exploring an interactive story map with activities for individuals and families to do on their own time. Explore new hiking trails, visit historic and cultural sites, try fly fishing and MORE. Watch short videos produced by local organizations and discover our rich history, and abundant natural and recreational resources.

Complete five activities or hikes, take a photo of yourself to document it, and visit the White Clay Creek State Park Nature Center before the end of May (2021) to receive a FREE reusable water bottle commemorating Creek Fest courtesy of SUEZ.

Visit whiteclay.org/creekfest to access our virtual Creek Fest starting May 1st.

For information on all of our projects and upcoming events:



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
- Kelley Dinsmore, City of Newark
- Tracey Surles, New Castle County Special Services

- Shane Morgan, Management Plan Coordinator - Staff
- Sarah Bursky, National Park Service, Wild and Scenic Rivers Program, Mid-Atlantic Region

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WHITE CLAY CREEK
National Wild & Scenic River

Ours to Enjoy. Ours to Protect.

PO Box 10, Landenberg, PA 19350



White Clay Creek
National Wild and Scenic River

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Streamside tree planting in Franklin Township, October 2020

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