

Streamlines

Fall 2020



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**GREEN VALLEYS
WATERSHED
ASSOCIATION**

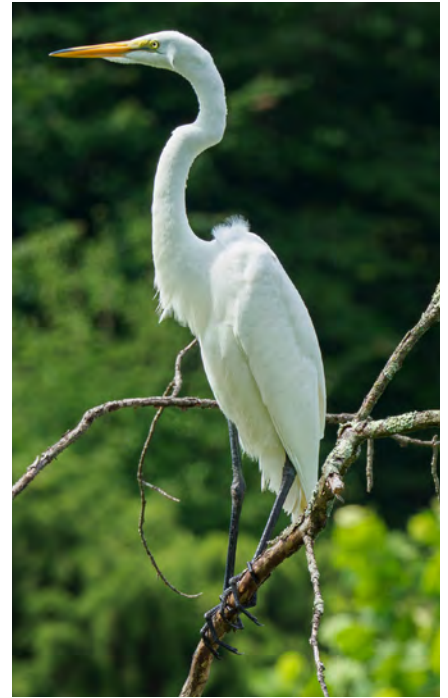
The Value of Open Spaces as Nature Sanctuaries

A group of Great Egrets visited Welkinweir's great pond this summer, and I was thrilled! The first known record for this species at Welkinweir was August of 2015, and this summer's visit was a new species for me!

There is a simple joy in seeing these large and graceful herons. And then there is a deeper joy in knowing that properties like Welkinweir are sanctuaries for local biodiversity. Large fish eating birds like herons need extensive territories of specialized habitat to gather their prey, their needs only increase during nesting and feeding young, and these are often shy birds, easily disturbed in their foraging. When we see Egrets, Ospreys, and Bald Eagles flying over, they are most likely traveling from one foraging ground to another. They need nature sanctuaries to survive!

Like Bald Eagles, Great Egrets were once near extinction. Their return tells us the nature is resilient--that biodiversity will assert itself if given a chance--but that we must provide the sanctuaries where this can happen. For today and for perpetuity.

Victoria Lambach



On the cover, Great Egrets visiting Welkinweir.

2020 Annual Appeal -- Welkinweir Trails Funding

Funds from the 2020 Appeal will provide needed matching funds for grants in hand for upgrades to the trails system, and also initiate a permanent trail maintenance fund--something that is long overdue.

Visitorship to Welkinweir exploded this summer, with many folks coming out to hike the trails! We are currently in the middle of a multi-year overhaul and upgrade to the trails system, which began in 2018 with a professional assessment. In 2019, a conceptual trail plan was prepared to address flaws identified in 2018, properly address the 55 new acres which have been added to Welkinweir over the past 20 years, and route some sections of trail away from sensitive habitat. This year we are working with the Horse-Shoe Trail Conservancy, Penn Trails and the Appalachian Conservation Corp to remove eroding, steep sections of trail, and move more of the HST into permanent protection within Welkinweir. The long-term goal when all the trails are finished is to provide a variety of different loops and challenges, streamlined maintenance, and better access to many parts of the property.

We are also very grateful to all the volunteers and donors over the decades who have contributed to the trail system, beginning in 1997 with materials donations and volunteers for construction of the cedar bridge at the main dam.

It is Easier to Get a Tax Deduction for Donations This Year!

Under the pandemic relief program, taxpayers can deduct up to \$300, even if they take the standard deduction. To make a secure donation online go to www.greenvalleys.org/support

A Safe and Fun Summer Camp

Thank you to all the people who pitched in to make the 2020 Summer Camp possible and above all, safe. Camper groups were limited to 12, with each group having dedicated indoor and outdoor gathering areas and facilities.

Joan and Jim Moore generously provided full access to buildings and grounds at Great Marsh Institute for Wednesday field trips. Parents were able to drop off and pick up 6th & 7th grade campers directly and the weather cooperated!

Special thanks to OJR School Nurse Lisa Bailey who supplied invaluable guidance and monitoring before and during camp.

And to all the campers and their families who cheerfully adapted to numerous safety measures, a big thank you!

Adapting

Multiple GVWA programs have been impacted by the need to develop and implement safe operating procedures. After initial closure for the first half of the year, our wedding rental program was able to proceed with many modifications--very important in that this is the primary source of funding for maintenance of the Estate House and immediate surrounds. This fall, we restarted volunteer sampling, utilizing field procedures which meet all distancing requirements. Our Board and staff are fully engaged with our programs, albeit in some areas more virtually than ever before. **Thank you to everyone** who put their positive energy into keeping operations running safely during the pandemic.

A Tribute to Elaine Husted

This spring we lost a longtime supporter and volunteer, Elaine Husted. Everyone who knew Elaine knew her to be unfailingly kind, generous, compassionate, and witty--as well as a cat lover. In memory of Elaine, a beech tree will be planted in her honor, near the maple grove planted in memory of her husband, Frank. May the memory of her make you smile...as she always did.



Campers explore Great Marsh.
Visit greatmarshinstitute.org

GREEN VALLEYS WATERSHED ASSOCIATION MISSION IS TO PROTECT, PRESERVE, AND RESTORE THE NATURAL WATERWAYS OF NORTHERN CHESTER COUNTY. WE INSPIRE, EDUCATE, AND INVOLVE OUR COMMUNITY TO MAKE A DIFFERENCE FOR THIS GENERATION AND FOR GENERATIONS TO COME.

OUR HEADQUARTERS IS LOCATED IN THE FRENCH CREEK WATERSHED IN EAST NANTMEAL TOWNSHIP AT WELKINWEIR, THE FORMER HOME OF FOUNDING MEMBERS EVERETT & GRACE RODEBAUGH. IT IS FROM HERE THAT THE ORGANIZATION FULFILLS ITS PURPOSE OF WATERSHED PROTECTION, ENVIRONMENTAL EDUCATION, AND LAND STEWARDSHIP.

OPEN FOR VISITING MONDAY TO FRIDAY
9 A.M. TO 4:30 P.M.

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ON THE COVER:
GREAT EGRETS
WELKINWEIR
PHOTO BY ED BACON

MAYFLY Provides Essential Water Quality Data

The scenic Pickering Creek is cherished by residents and visitors alike, rich with history and wildlife. It is also the source of drinking water for the 570,000 customers who rely on the Pickering Reservoir. GVWA is engaged in a long term effort to quantify the strengths of the Pickering as well as the issues which are having negative impacts on water quality.

MAYFLY, developed by Stroud Water Research, is a compact and durable system for collecting a wide variety of continuous data. Equipped with temperature, depth, conductivity and turbidity sensors, four Mayflies in the Pickering Creek are measuring these parameters twelve times an hour, providing vitally needed data on **sediments** and **ions**. **Sediments** observed by the Mayfly sensor are the result of stormwater-driven erosion of soils both on land and along the streams. **Ions** of interest are chloride, sodium, and other components from deicers. The use of deicers has increased steadily over the decades, and as a result the in-stream concentrations of **ions** during wash-off events (storms) can become very high. Recent research is showing that these high levels of ion are toxic to aquatic organisms, yet prior to the Mayfly installations we had no data on peak concentrations in Pickering.



Mayfly sensor bundle maintenance in Pickering by Penn State Ext. Master Watershed Steward George Seeds.
Photo by Penn State Ext. Master Watershed Steward Carol Armstrong

Continuous monitoring for these parameters is needed to capture this type of water quality data effectively. High levels of sediments and ions occur during storms, ramping up as the first flow of stormwater hits the streams, peaking, and then declining as the stream return to normal flow. Mayfly also supplies high-resolution data on stormwater flows, which is essential for ongoing modeling work.

Commercial systems for producing the same data are readily available, but at a much higher cost. Stroud's capable staff have taken components from a variety of sources and engineered a low-cost, highly effective, durable, open-source solution. To learn more about Mayfly, visit <https://www.envirodiy.org>. To see real-time data being produced locally visit <https://monitormywatershed.org/>

GVWA will be installing up to four Mayfly stations into the Birch Run early in 2021. Data collected will be used to understand ongoing stormwater issues such as nonpoint source pollution, flooding, bank erosion, and bridge damage. We will also be assessing the levels of deicer ions entering the streams during winter months. These stations will be maintained by SWS Volunteers. Interested in joining our volunteer monitoring program?

Schuylkill Water Stewards

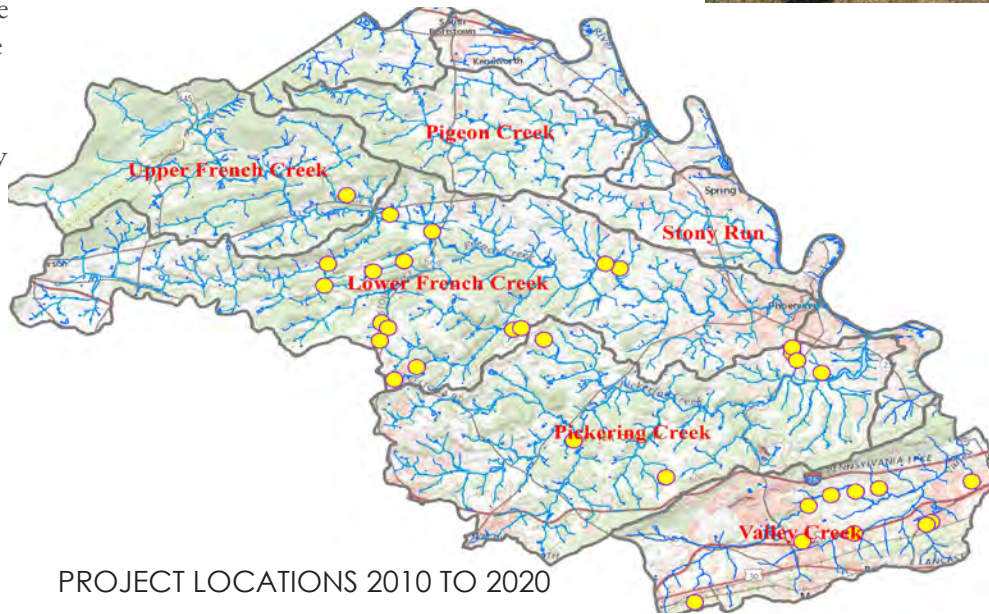
Our Schuylkill Water Stewards training resumes in spring 2021, in a significantly revised format. Class dates will be posted in January at www.schuylkillwaterstewards.org. Over this past summer staff has been developing a new structure for education and training programs. This structure will leverage the new skills people have for online meetings and self-paced learning, while featuring improved hands-on training, field trips, and stewardship roles. Thanks to Eric Hughes for his work on developing these new programs this summer.

Restoration Projects Across Four Watersheds

Green Valleys and partners have steadily increased restoration work over the past decade. These projects are primarily designed to protect and restore water quality by improving the hydrologic cycle, reduce non-point source pollution and stabilize stream banks. Secondary goals can be quite diverse, for example creating habitat, reducing water temperatures, or improving aesthetics. At riparian buffer sites, we are restoring trees and shrubs along stream corridors and in wetlands. At agricultural restoration sites, we are working with landowners to identify and implement practices which reduce soil and nutrient losses and improve operations. At green infrastructure sites, we are working to reduce and treat stormwater coming from impervious surfaces while providing interpretative signage.



These projects have already become a major component of GVWA's annual budget, and this will only increase in the coming years. The area where Green Valleys works is 160 square miles, and there are many worthy projects ahead. This work is important, and we will continue to feature projects as they occur.



PROJECT LOCATIONS 2010 TO 2020

Key factors supporting this growth are new partnerships and improved access to funding from many sources.



Austin Unruh, Crow & Berry Land Management. Buffer planting and wetland enhancement at Brightside Farm Park, 2020. Partners: Charlestown Twp EAC, Chester County Conservation District, FPCCT & Chester County Open Space (easement holders), Theurkauf Planning & Design, Keystone 10 Million Trees Partnership / Chesapeake Bay Foundation, Audubon PA / Fairmount Conservancy, National Fish & Wildlife Foundation, William Penn Foundation. Photo Carol Armstrong, Charlestown EAC

Wet Years, Accelerating Stream Bank Erosion

Accelerated stream bank erosion was widespread in 2018 & 2019. The reason for this was these were extraordinarily wet years in southeast Pennsylvania, with excess precipitation of 50% in 2018 and 25% in 2019. The ground was saturated much of the time, and many rainstorms became flooding events with raging streams, impassible roads and dramatic bank loss.

Sediment being released into our streams from bank erosion are a major cause of water quality issues, making the water brown and silty. Fish are very stressed by these events. Stream bottoms are smothered in sediment, creating an ideal environment for growing bacteria (regrettably), and nutrients (nitrogen and phosphorous) held in the stream banks are released into the stream, further impacting water quality.



Extreme bank erosion in Pine Creek in Pickering Creek. Undercut vegetation overhanging freshly exposed bedrock geology.

Climate Change Ahead

These two wet years have afforded a look ahead at what unchecked climate change likely has in store for our watersheds in the next decades. We are already living with increased temperature and rainfall. *Average* rainfall is projected to increase 8 to 12 % in just the next thirty years, and extreme rainfall events will also increase. Local trout habitat will decline, while stormwater and sediment impacts on our watersheds increase. The near term impacts from climate change are “baked in”, but longer-term impacts can be avoided if the current excessive rates of greenhouse gas emissions into our atmosphere are curbed.

Surveys consistently find that Americans strongly favor protecting water quality, air quality, and reducing the impacts of climate change. Our elected officials need to get to work on curbing emissions. It is that simple. This is not a technological challenge so much as it is a policy challenge. The wild fires in the west and around the globe are one of many harsh warnings that climate is changing, impacts can be disastrous, and action is needed.

Locally, what GVWA is doing now is develop a clear understanding of how and where stormwater accumulates on land, how that is driving erosion, and identify strategies to reduce stormwater flow and erosion. We are also working to identify and maintain existing habitat for iconic species like brook trout and freshwater mussels. With this knowledge we can begin work to offset near-term impacts from climate change.

Climate change impacts in the Northeast—including extreme precipitation events, sea level rise, coastal and riverine flooding and heat waves—will challenge its environmental, social, and economic systems...
<https://toolkit.climate.gov/regions/northeast>

Pennsylvania Master Naturalists

Pennsylvania Master Naturalist is a statewide partnership initiative that aims to connect people with their local ecosystems through intensive natural science training and local conservation service work. It is a venture directed toward developing a local corps of “master volunteers and service providers” to offer education, outreach and service dedicated to the understanding and management of natural areas within their communities.

Pennsylvania Master Naturalist training at GVWA was initially scheduled for spring 2020, but the decision was made to move the start of training to August, so that the classroom portion could be held outside in the event tent, which allowed participants to space themselves apart and incidentally enjoy wonderful evenings overlooking the great pond at Welkinweir! This group’s work is ongoing and they are currently working on their Capstone Project. We are looking forward to continuing to work with those who have completed the training. The next PMN training will be offered in spring 2022.

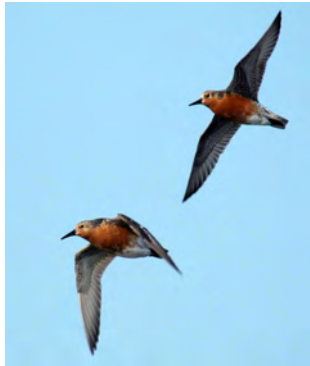
Visit <https://pamasternaturalist.org/>



Master Naturalist Field Trip

MOTUS Tracks Migrating Birds

The MOTUS Wildlife Tracking System is a collaborative research network that uses coordinated automated radio telemetry arrays to study movements of small animals—including birds, bats and dragonflies. Tiny battery powered radios--NanoTags-- are attached to the animals, and the antenna towers collect the signals of the animals as they travel by.



Rufa Red Knot

Rufa Red Knot migrations are one example the data being collected by MOTUS. These remarkable birds travel from the tip of South America to the Arctic and back each year, with the majority of birds stopping over in the Delaware Bay in spring to forage Horseshoe Crab eggs. The station at Welkinweir is detecting tagged birds as they leave Delaware Bay on their way to Hudson Bay. To view data being collected, or learn more about the project, visit <https://www.northeastmotus.com/> !



Hawk perched on MOTUS Tower at Welkinweir. This station was funded by member donations to our 2016 Annual Appeal

THE HEALTH OF OUR WATERSHEDS
HAS BEEN OUR FOCUS FOR OVER 50
YEARS.

Green Valleys Watershed Association
is located in northern Chester County,
Pennsylvania, where our scenic watersheds
are comprised primarily of Exceptional
Value (EV) and High Quality (HQ) waters.
These streams are in the top tier in
Pennsylvania.
They are a precious resource.



JOIN US!

MEMBERSHIP includes newsletter subscription, notice of special events and programs, and reduced rate to special programs, workshops, and Summer Nature Day Camp.

Membership levels:

- Individual.....\$45
- Family.....\$60
- Naturalist.....\$100
- Environmentalist.....\$250
- Protector.....\$500
- Preservationist.....\$750
- Steward.....\$1,000

- I am a: New Member Renewing Member
- I am interested in including GVWA in my legacy planning.
- Please notify me of GVWA volunteer opportunities:

Name _____
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I would prefer to pay with: Check (payable to GVWA)
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**Phone & email needed to process credit card payments. We do not share your information with any other organizations.*

Detach this form and mail with payment to:

Green Valleys Watershed Association
1368 Prizer Road, Pottstown, PA 19465

Online membership also available at
www.greenvalleys.org/support

Dues and contributions are tax-deductible. Green Valleys is a registered charitable organization. Copies of registration/financial information is available by calling 1-800-732-0999. Registration does not imply endorsement.