



Great Swamp Watershed Association

The Passaic River WATERKEEPER® ALLIANCE Affiliate



Across the Watershed

Spring-Summer 2023



Protecting our Waters and our Land for More Than 40 Years

CONDO Development Plan may Significantly DEGRADE our GREAT SWAMP WATERSHED Conservation Management Area

By Hazel England, Director of Education & Outreach, Land Steward

GSWA's 73-acre floodplain forest, known as the Conservation Management Area (CMA) lies along the banks of the Silver Brook, a tributary to the Great Brook, in Harding Township just upstream from the Great Swamp National Wildlife Refuge. Anyone connected to GSWA has heard us speak with pride of our substantial ecological stewardship projects carried out at the CMA over the last twenty years. We have worked incredibly hard to build access for education, research, and recreation, restore the functional hydrology of this property (how

water moves above and below the surface of the soil), and to manage it for increasing biodiversity including threatened and endangered species. In 2020, we completed

Great news! You CAN make a difference! GSWA held an information webinar on **February 23** to educate those interested on what the impacts of the S/K Mt Kemble development in Harding will be, outline the specifics of GSWA's concerns regarding the freshwater wetlands, water quality, recharge and stormwater impacts we believe it will cause. At the webinar, we offered clear and simple guidance on how people can raise their objections to the proposal via comment at the virtual hearing **March 9 from 2-4pm** or in written comment to the DEP.

The webinar was recorded and is available on our website at greatswamp.org. Comments to NJ Department of Environmental Protection outlining concerns can have an impact to limit this environmentally inappropriate development from occurring.

a huge restoration at the site, working in partnership with the USDA's Natural Resources Conservation Service. This restoration expanded and improved temporary surface fed wetlands, known as vernal habitat, around the property and sought to reduce impacts of historic stream straightening and reduce stream erosion from flooding by encouraging the stream to return to more natural flow. *(continued on page 36)*

6th Annual Great Swamp Great Music Festival – Mark Your Calendar!

By Val Thorpe, Director of Communications & Membership

Since May has behaved like August the past two years, we whole-heartedly believe June will bring comfortable temperatures for our **6th Annual Great Swamp Great Music Festival on Sunday, June 25**. The location has been moved to a beautiful, private field in Madison, New Jersey. This year's musical lineup will showcase bands from festivals gone by along with some new talent. Complimenting this great music are food trucks, beer, wine and cider, unique

merchandise vendors, and an afternoon of family-friendly fun in the sun. Mark your calendar and get ready to recharge your batteries as we head into the summer. This music fest is our second largest annual fundraiser in support of clean water and land. Tickets are \$30/adult (\$35 at the gate); \$20/high school and college students (\$25 at the gate); children 13 and under are free. Tickets go on sale soon at GreatSwamp.org – stay tuned! 🎵

Save the date!

Sunday

June 25

12-6 PM (rain or shine)

New Location
Brook Valley Farm, Madison, NJ

Fun for the whole family!
Continuous live music, food trucks, beer-wine-cider, unique merch vendors, so much more...

Tickets: GreatSwamp.org



Know Someone Who Would Like to Become a Member?

GSWA relies on members like you to help protect our watershed's natural resources. Please pass this newsletter along, and encourage your friends and neighbors to join us! visit GreatSwamp.org for more information.

Across the Watershed

is a publication of the **Great Swamp Watershed Association.**

GSWA is a member-supported non-profit organization that protects the waters and the land of the Great Swamp Watershed and Passaic River region.

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GSWA Presents

The Passaic: One River One Community

Please view our 4-minute video that takes you on a journey down the Passaic River from its headwaters in Mendham to Newark Bay where the river meets the sea. Learn more about what we do, how we do it, and why we do it.

Visit GreatSwamp.org/OneRiverVideo

Board of Trustees Updates

By Sally Rubin, Executive Director

GSWA is pleased to announce that **Jordan Glatt** and **David Naidu** have been elected as GSWA Board of Trustees Co-Chairs for 2023.

Jordan is Special Assistant to the President and Director of Strategic Partnerships at Felician University. In addition, along with Nicolas Platt, he is the Co-Shared Services Czar for the state of NJ reporting directly to the Governor. Formerly, Jordan was Director of Strategic Partnerships at the Community Foundation of New Jersey. For the bulk of his career, he was President and CEO of Magla Products, a \$100+ million, nationally recognized household consumer products company selling to all classes of trade. A graduate of Drew University where he later served as a trustee, Jordan is a former two-term Mayor of Summit and served as an at-large councilman in the town. Volunteerism is an important part of Jordan's life. He resides in Springfield with his wife.



Jordan Glatt

David Naidu is a Partner at K&L Gates, a global law firm. He has more than 20 years of experience advising clients on environmental and land-use issues and has been recognized as



David Naidu

a New York Metro Region Super Lawyer and by Chambers. He has written a book on biotechnology and nanotechnology published by Oxford University Press and Lexus/Nexus. He served on Summit Common Council, including two years as Council President, as well as on the Planning Board and Environmental Commission in Summit. David graduated from Vassar College, Cornell University and Georgetown Law School. He is the President of The Summit Conservancy and serves on the Reeves-Reed Arboretum Board. He has lived in Summit for 20 years with his wife, Andrea, and two sons.

We are also pleased to announce that **Meisha Williams Bertels** has joined the Board of Trustees.

Meisha is an experienced digital strategist and social impact advocate who supports commercial and nonprofit organizations as their DEI and marketing expert with her firm Phase One



Meisha Williams Bertels

Strategy, LLC. Over the last 20 years, she has honed her skills working with companies and brands such as Sports Illustrated, FOX, American Idol, Bloomberg, MySpace and United Way. A tireless women's rights advocate, Meisha serves as Board Member for UN Women USA's New York chapter. She firmly believes in the power of paying it forward – allowing everyone from all backgrounds to reach for their full potential. Meisha resides in Maplewood with her husband and son. 🌱

Upcoming Programs and Events

Pi Day Pub Quiz

Tuesday, March 14, 6:30-8:30 PM

Madison Community Arts Center, 10 Kings Rd, Madison, NJ

Come celebrate pi day (3.14) with some pizza “pi” and a lively nature knowledge pub quiz. For all you smarty-pants out there, this is your opportunity to showcase your knowledge of nature, water, and the environment. Play for prizes and bragging rights! Team sizes may range from 3-5 players. General admission: \$20, Students: \$10. Fee includes pizza and soft drinks. Ages 10 and older welcome. Register at GreatSwamp.org or call 973-538-3500.

Native Plants for Pollinator

Webinar Series - Free

What’s the Buzz About Native Bees?

Tuesday, March 21, 7-8 PM

When you see bees buzzing around your garden, that’s a good thing. It means they are doing their jobs... pollinating! Pollination is essential in growing flowers and plants - basically all the food we consume as animals on this planet. Join biologist, pollinator conservationist, and award-winning author, Heather Holm, for a lively discussion about our friends, the bees, and all they do for our ecosystem. Register at GreatSwamp.org or call 973-538-3500.

Vernal Pool Exploration Hike

Friday, March 31, 7-9 PM

*GSWA’s Conservation Management Area (CMA)
91 Tiger Lily Lane, Harding Township, NJ*

The woods are teaming with new life as frogs and other amphibians crowd into shallow puddles of water to breed and lay their eggs. These puddles—better known as vernal pools—provide a perfect opportunity to

learn more about Mother Nature here in New Jersey. But we have to hurry - they disappear quickly! This annual vernal pool exploration provides a fun, outdoor learning experience for kids and adults alike. GSWA members: Free, non-members: \$10 for adults, \$5 for children ages 6-17. Register at GreatSwamp.org or call 973-538-3500.

Stream Assessment Training - Free

Saturday, April 1, 9 AM–12 Noon

Long Hill Township Library, 917 Valley Rd., Gillette, NJ

Unless there’s obvious pollution in the river or stream, to the untrained eye, the water may look healthy. But is it? This free training session, led by Sandra LaVigne, GSWA Director of Water Quality Programs, will teach you how to conduct visual and biological stream assessments, identify macroinvertebrates, and recognize environmental factors that may impact stream health. By the end of the day, you will have the skills you need to conduct your own assessments. Register at GreatSwamp.org or call 973-538-3500.

Native Plants for Pollinator

Webinar Series - Free

GSWA Native Pollinator Plant Sale

Overview

Monday, April 3, 12-1 PM

Join Hazel England, GSWA’s resident pollinator expert, for an overview of the native pollinator plants and plant kits available at our 3rd annual online Native Pollinator Plant Sale opening online on April 3. Learn about the plants you will need to attract pollinators to your garden. To simplify garden design and provide some additional savings, many of the species are also sold in a variety of garden kits. Each kit is designed for specific gar-

For more information on upcoming events and to register, visit ***GreatSwamp.org*** or call **973-538-3500**.

Most events are free or a reduced rate for GSWA members.

Registration is required for all GSWA events.

den sizes and conditions. We will also walk you through our online storefront and simple ordering process. Register at *GreatSwamp.org* or call 973-538-3500.

GSWA's 3rd Annual Native Plants for Pollinator Sale (online)

April 3-28 - Opens Online @ 1:30 PM

(Plant purchase pickup May 6)

GSWA and its many Community Partners will host our 3rd Annual Plants for Pollinators online sale with convenient order pickup at multiple local sites. Order online April 3-28 and pick up your plants May 6. Whether you are looking to expand your garden or you're ready to start one, we've got the native plants you need. And we've taken the guesswork out of it with a variety of pre-packaged plant plugs (young plants) that when placed together, create a beautiful, functioning pollinator garden. Plants can also be purchased in units of plugs. Mark your calendar for April 3 and email *PlantSale@GreatSwamp.org* for more information. Be sure to order early to ensure you get your selection as plants do sell out quickly!

Eat the Weeds:

Garlic Mustard Pesto & Beyond
Thursday, April 13, 6-7:30 PM

GSWA Headquarters, 568 Tempe Wick Rd., Morristown, NJ

Let's get wild! Come make your own pesto using foraged garlic mustard and enjoy other local foraged spring treats while learning how to identify and harvest your own. We will

talk about the benefits of foraging for edible invasive (non-native) species, for example, garlic mustard. Garlic mustard is one of the worst invaders of Northeast and Midwest American forests, reducing the diversity of all species. April through end of May is garlic mustard season so you will be able to easily find it and make your own pesto. Come learn about these and other types of plants where we can reduce their presence simply by eating them! GSWA members: \$10, non-members \$15. Register at *GreatSwamp.org* or call 973-538-3500.

Spring Paddle (2 Sessions)
Saturday, April 15, 10-11:30 AM & 12:30-2 PM

Fisherman's Parking Lot, Lord Stirling Rd., Long Hill Township, NJ

By mid-April, most tree are bursting with buds with their leaves ready to emerge. Birds like pine warblers and woodcocks are migrating back our way. Spring peepers and chorus frogs are calling. Come experience all this and more from a magical place - the middle of the Passaic River at the Great Swamp National Wildlife Refuge. Children 8 and up are welcome. All participants 15 and under must be accompanied by a parent. There are 7 spots available per session - only 2 spots per registration. All participants must be able to swim, be comfortable on the water, and wear clothes and footwear that can (and will) get wet and muddy. Life vests will be provided. GSWA members: \$30, non-members \$40. Register at *GreatSwamp.org* or call 973-538-3500.

**How's the Water?
GSWA 2022 Water Quality Report Card
Free Zoom Webinar
Friday, April 21, 1-2 PM**

How's the water? That is the most common question we get from onlookers when we are out collecting water quality samples. Join Sandra LaVigne, GSWA's Director of Water Quality Programs, for a re-cap of the stream updates and water quality data results from 2022. Bring your questions. Register at GreatSwamp.org or call 973-538-3500.

**Signs of Spring Hike @ Rifle Park
Sunday, April 23, 12-2 PM**

Garret Mountain Reservation, 8 Mountain Ave, Woodland Park, NJ

Situated on a ridge 500 feet above sea level, Garret Mountain Reservation offers several overlooks with panoramic views of northern New Jersey and New York City that you can't see from anywhere else in Passaic County. Join us on a journey through the trails of this beautiful reservation. Along the way we will check out the 19th-century Lambert Castle, the current home of the Passaic County Museum. We'll also hike through Rifle Camp Park which sits on the ridgeline of Garret Mountain. You'll also catch a glimpse of American history - this spot served as an excellent location for George Washington's troops to observe British movements during the Revolutionary War in 1780. For you birders, this is the beginning of the spring warbler migration. Bring your camera and wear your hiking boots for this unique and historic hike. Register at GreatSwamp.org or call 973-538-3500.

**Madison & The Chathams Yard Sale
Saturday, April 29, 9 AM-2 PM**

Madison and Chatham residents, when you host a yard sale at this community event, your address and sale items appear on a digi-

tal, printable map. The map will be linked to GSWA's website and publicized far and wide to potential shoppers. Your tax-deductible \$10 registration fee benefits GSWA! Everyone else, mark your calendar to get out and shop sustainably. Happy sales to you! Register at GreatSwamp.org or call 973-538-3500.

**Members Only Twilight Hike
Wednesday, May 10, 6-8 PM**

Great Swamp National Wildlife Refuge – Bluebird Lot on Pleasant Plains Rd.

Thank you for being a GSWA Member! To show you our appreciation, we want to take you on a special behind-the-scenes hike at the Great Swamp National Wildlife Refuge. Come out and benefit from the wealth of natural history knowledge from your GSWA hike leaders. This time of year, flowers are in bloom, birds like red-bellied woodpeckers are nesting everywhere, wood froglets can be seen in mass around the vernal ponds, and we may even spot a red fox. We will be on the lookout for all this and more. Register at GreatSwamp.org or call 973-538-3500. This hike is free and available to GSWA members only.

**Paddle @ Great Piece Meadows
(2 Sessions)**

Tuesday, May 23, 4:30-6pm & 6:30-8pm

Great Piece Meadows, 2 Camp Lane, Fairfield, NJ (Meet at Fairfield Parking lot)

Enjoy a peaceful late-day or evening paddle as we head up into Great Piece Meadows with a small group of people to explore a central portion of the Passaic River. The preserved area of Great Piece Meadows is known for its slow, quiet twists and turns. It's home to wildlife such as great blue heron, salamanders, turtles, mink, muskrat and more. Children 8 and up are welcome. All participants 15 and under must be accompanied by a par-

ent. There are 7 spots available per session – only 2 spots per registration. All participants must be able to swim, be comfortable on the water, and wear clothes and footwear that can (and will) get wet and muddy. Life vests will be provided. GSWA members \$30, non-members \$40. Register at GreatSwamp.org or call 973-538-3500.

Paddle the Passaic (2 Sessions)
Thursday, June 8, 5-6:30 PM & 7-8:30 PM

Essex County Environmental Center, 621 Eagle Rock Ave, Roseland, NJ

Enjoy a peaceful evening or night paddle in the lower Passaic River region. Children 8 and up are welcome. All participants 15 and under must be accompanied by a parent. There are 7 spots available per session – only 2 spots per registration. All participants must be able to swim, be comfortable on the water, and wear clothes and footwear that can (and will) get wet and muddy. Life vests will be provided. GSWA members \$30, non-members \$40. Register at GreatSwamp.org or call 973-538-3500.

Jockey Hollow Night Hike
Wednesday, June 21, 7-9 PM

Jockey Hollow section of Morristown National Historical Park, 600 Tempe Wick Road, Morristown, NJ

Celebrate the first evening of Summer, also the longest day of the year, with a hike through the woods of historic Jockey Hollow. We will look and listen for owls and other

nightlife creatures as fireflies take to the sky. Later we will relax by a roaring bonfire and hear stories that 18th century colonists told around their own campfires and learn about their views on the darkness. Don't miss out on this unique opportunity with two highly experienced and knowledgeable GSWA naturalists, Hazel England and Ginger VanRyzin, along with Eric Olsen, Park Ranger and local historian. Space is limited and it will fill up fast! GSWA members: Free, non-members: \$10 donation appreciated for adults, \$5 for children. Registration is required. Register at GreatSwamp.org or call 973-538-3500.

Great Swamp Great Music Festival
Sunday, June 25, 12-6 PM

Brook Valley Farm, Madison, NJ

Gather your friends and family, grab some lawn chairs, and come celebrate summer with an afternoon of live music at our 6th Annual Great Swamp Great Music Festival. The location has been moved to a beautiful, private field in Madison, New Jersey. This year's musical lineup will showcase bands from festivals gone by along with some new talent. Enjoy good food, adult beverages, and a variety of merch vendors. This event is our second largest annual fundraiser in support of clean water and land. Tickets: \$30/adult, \$20/student, children 13 and under are free. (At the gate: \$35/adult, \$25/student). Tickets go on sale soon at GreatSwamp.org – stay tuned! 🌲

Please be sure to let us know if you change your e-mail address. Send a note with your name, address, and old e-mail address to srubin@GreatSwamp.org so you don't miss out on our e-newsletters.

GSWA Bids Farewell to Former Board of Trustee and Advisory Council Member, John J. DeLaney, Jr.

By Nancy Rago, Membership and Social Media Manager

The Great Swamp Watershed Association (GSWA) is deeply saddened by the loss of Advisory Council member, **John 'Jay' DeLaney, Jr.** who passed away November 20, 2022, after a short illness. We offer our condolences to his wife, Debra; two children, Andrew and Erica; and the entire extended DeLaney family.



John 'Jay' DeLaney, Jr.

Jay DeLaney was a lifelong resident of Morristown and a great champion for the city before, during and after his two terms as Mayor of the Town of Morristown from 1998 to 2005. GSWA staffers remember Jay as a dedicated champion for the Great Swamp Watershed Association, too. He was passionate about our mission and vision and was always seeking opportunities where he could help further our programs and events, advocacy projects, and stewardship initiatives.

In 2015, Jay joined the newly formed GSWA municipal advisory group, known as the Great Swamp Upper Passaic Municipal Alliance. The purpose of this group was to create an ongoing, collaborative discussion with local government representatives on the environment, planning, zoning, and other common interests. As a former mayor and law part-

ner at Lindabury, McCormick, Estabrook & Cooper, Jay's municipal and legal knowledge was a valuable asset to GSWA. The group was able to bring in outside speakers on topics like zoning ordinances, deer management, storm preparedness, and flooding and stormwater management with a goal of knowledge sharing. At the time, Jay's enthusiasm was captured in this archived press release, "I was so excited to see this event in Morristown, which is a hot and exciting town in terms of development and zoning. It was wonderful to get people together from the various towns in the region to hear... Frank Banisch present the latest in NJ zoning trends, to share their common ideas and problems, and to discuss and work together on solutions for the region. Events like this will make our region even a better place to live and work."

In 2016, Jay was asked to join the GSWA Board of Trustees where his passion for local environmental issues continued to be felt. Jay attended many of our Galas, our largest annual fundraiser, and always brought guests to introduce to our organization and further our cause. No matter if the weather was rainy or sunny, GSWA's Great Swamp Great Music Fest was a great venue for his love for com-



munity and people to shine. Jay had the gift to make people laugh and feel at ease. If you had met Jay before, he had a great recall of the event you met or conversation you had which always made you feel remembered. Jay served on the GSWA Board of Trustees and was serving on the Advisory Council at the time of his passing.

Jay DeLaney will be greatly missed by GSWA, but we are thankful for his leadership, friendship, guidance, and wisdom. Jay's passion for community service was evident by the civic, charitable, and professional boards he served and impacted. In a final philanthropic act from Jay, the Great Swamp Watershed Association was mentioned in his obituary for charitable donations in lieu of flowers. The number of contributions we received to memorialize Jay speaks volumes to how much he was admired. We have collected the Memorial Notes included with the donations and shared them with his wife,



Jay DeLaney at Music Fest

Debra. We are pleased to announce that we will be honoring Jay at the 2023 GSWA Gala and Silent Auction to be scheduled soon for October.

We end with a bit of an Irish proverb... "How we shall laugh at the trouble of parting, when we meet again." 🌲

Hot Spots

By Sally Rubin, Executive Director

Spring Brook potential development

GSWA has been advised that there is a development proposal pending that would put 16 homes and 10 affordable housing apartments on approximately four acres of property currently owned by Spring Brook Country Club at the intersection of 202 and Spring Brook Road in Morris Township. No plans have been submitted as of February 1, 2023, however, GSWA, along with several neighbors and members of the club are concerned and following this potential development closely. The property drains into ponds on the Club property and ultimately into Footes Pond in Morristown and then into the Great Swamp. Although

no plans have been submitted, the marketing materials appear to have significant imperious coverage to accommodate 16 carriage homes along with the building for 10 affordable apartments.

Rolling Knolls Superfund

There is no update on this important site in Chatham Township. Although this continues to delay the ultimate clean up of the property, it also means that the EPA has not selected a remedy which would be unacceptable to the community. We continue to wait for additional information, including results of additional PFAS testing. 🌲

How General George Washington Used Rivers to Save the Nation

By John Neale SAR

Living and traveling in New Jersey, we often find ourselves crossing the Passaic, Hackensack, Hudson and Delaware Rivers. They are scenic to look at, but it's easy to take for granted how important they are to our lives and survival. Similarly, while we celebrate 4th of July with picnics and fireworks, we may not fully understand what we're celebrating. The details of what the Patriots endured during the fight for America's liberty and independence can easily get lost over time. One of those details is how General George Washington used rivers during the Revolutionary War to protect the Continental Army, escape from the British, and ultimately win a key battle that changed the course of the war.

GSWA's mission is to educate people on how important rivers and clean water are to our daily lives. Similarly, Washington in 1776 understood how critical rivers were for survival. For example, rivers helped to keep Washington and the Continental Army safe from the British. When the Revolutionary War heated up, Washington was able to move his army strategically across rivers like the Passaic to elude capture from the pursuing British forces. While the first shots of the American Revolution were fired at Lexington and Concord in April 1775, the war had moved to New York by August 1776. Washington's army was faced with the largest battle of the Revolution in Brooklyn. Even as defeat seemed certain for Washington, the East River provided his Continental Army with a vital nighttime escape route and ensured they could continue the fight for freedom.

However, the British continued to pursue the Patriots. They reached Fort Washington on the banks of the Hudson River and captured it in November 1776. Washington had already crossed the Hudson River to safety and watched the fort fall. British General William Howe then issued an order to "clear the rebel troops from New Jersey." With that, the invasion of New Jersey began as the 5,000 British and Hessian troops ferried across the Hudson on barges. They began landing near New Dock Landing (present-day Alpine) to capture Fort Lee. Upon learning of the invasion, Washington and General Nathanael Greene quickly ordered the fort's evacuation. Continental troops made a hasty evacuation, leaving behind important supplies and artillery. This was the start of their 12-day retreat across New Jersey, using the two main bridges that existed at the time. They narrowly escaped by heading first to New Bridge, the only bridge that crossed the Hackensack River, which remained a strategic river crossing throughout the American Revolution. Washington and his retreating Continental Army then reached the Passaic River. They crossed over the wooden Acquackanonk Landing Bridge into what is now the city of Passaic. At the time, this was the only bridge in the area that crossed the Passaic River.

It was during Washington's retreat that Thomas Paine composed his pamphlet "The American Crisis," which began with the phrase, "*These are the times that try men's souls.*" As it turns out, Paine wrote these famous words in Fort Lee. The pamphlet was published in December 1776, and Paine's words surely resonated with the Patriot forc-

es. His previous pamphlet, "Common Sense," had been published a year earlier and was known to have been a powerful influence on the drafters of the Declaration of Independence.

This clearly was a desperate time for Washington's army. They arrived in early December to the banks of the Delaware River where they spent five days moving troops and supplies across the river into Pennsylvania. Since Washington knew the river was the only thing that could keep the army safe, he ordered the confiscation of all boats for miles up and down the Delaware. This prevented the British forces from following them into Pennsylvania. Although the Delaware River provided Washington's troops with temporary safety, they were demoralized from the many defeats and retreats of the previous months. In fact, the army's size had diminished greatly in the past six months. To make matters worse, the enlistments of many of these men were due to expire at the end of the year, which would likely result in Washington losing much of his remaining army. What's more, the colonies' faith in the army, and in Washington as its commander-in-chief, was at an all-time low. Under these trying circumstances, Washington decided to attempt an extremely bold and risky move: crossing the Delaware River back into New Jersey to make a surprise attack on the Hessian garrison at Trenton.

The plan was to cross the Delaware River on Christmas night, then march nine miles to Trenton and attack the Hessians before the sunrise to maintain the element of surprise. However, a bad winter storm made for difficulties with the crossing, and it took Washington almost 10 hours to move all of the men, horses and cannons across the river. Perseverance accomplished what at first seemed impossible. Following a successful battle, the Continental troops piloted their boats back across the river safely into Pennsylvania, along with hundreds of prisoners and captured supplies. This was a spectacular accomplishment that gave the Patriots the kind of momentum Washington needed.

The American Revolution would last eight years, with more battles taking place in New Jersey than anywhere else due to its location between the British-held New York City and Patriot-held Philadelphia. Washington persevered and conquered many obstacles, utilizing the rivers to protect the army and identify escape routes that saved them from ultimate defeat many times throughout the war.

Today, as we cross these rivers, keep in mind not only how important it is to protect them for the sake of clean water. Also keep in mind how critical these rivers were to the safety and success of Washington's army as they battled to secure a new nation. 🌲

John Neale ~ SAR (John is a Son of the American Revolution with more than eight ancestors fighting for freedom in the Revolution), President NNJC.org, founder and creator of The NJ American Revolution Geo~Trail and njpatriots.org., former GSWA board member / advisory member.

For more information see the NJ American Revolution Geo-Trail website njpatriots.org. A statewide geocaching program which details many historic NJ locations.

The Edith H. Hahn Animal and Wildlife Preservation Fund of Thrivent Charitable Impact and Investing®

by Lynne Applebaum, Director of Institutional Relations

It is wonderful to work for an organization that teaches you something new every day.

Each grant proposal that I write enables me to better understand the depth and impact of GSWA's mission in the Passaic River region. The health of its lands and waters affects each of the inhabitants who call it home – humans, animals, wildlife – both great and small.

The research I recently conducted to write a grant proposal to the **Edith H. Hahn Animal and Wildlife Preservation Fund of Thrivent Charitable Impact and Investing* (Thrivent Charitable)** led me to further explore the symbiotic relationships of the water and land resources and the many creatures who inhabit this region. We are particularly gratified that this organization identified GSWA through research, recognizing a possible alignment in goals of “restoration of wildlife habitat and/or preservation, endangered or critical habitat.”

Edith H. Hahn Animal and Wildlife Preservation Fund of Thrivent Charitable has supported the International Fund for Animal Welfare, Born Free USA and Friends of the Mississippi River. The fund is committed to helping institutions whose missions include the health and well-being of the animals and wildlife, many of whom live in habitats that are threatened.

The Passaic River tributaries flow through the Great Swamp National Wildlife Refuge, a rare

and diverse ecosystem that provides essential habitat for over 800 species of plants and animals. The work of GSWA supports all the wildlife and plant-life that reside in or migrate through the refuge by ensuring that the water that enters the refuge is clean and healthy for all its inhabitants. GSWA works every day to protect and preserve the water and land resources of the Passaic River region for all the inhabitants who live here.

To date, work that has been done at GSWA's Conservation Management Area (CMA) has provided new habitat for the animals and wildlife who live there. Native plants and shrubs that have been planted quickly become populated with aquatic insects and amphibians, and the predators that feed upon them. Salamanders, spring peepers and wood frogs provide unique viewing and educational opportunities for visitors. Berries and seeds from installed native plantings can spread by wind and creatures beyond our property boundaries, acting as a reservoir of native plants to adjacent forests. The CMA is home to

(continued on page 15)



Photo Credit: Ginger Van Ryzin

New Easement Donation

by Sally Rubin, Executive Director

GSWA is thrilled to announce that in December 2022, we accepted the donation of a conservation easement of Passaic Riverfront property.

The 2.5-acre easement, part of a larger multi-acre parcel in Bernards Township, contains multiple habitats including Passaic River frontage, floodplain and wetland forest, and rich warm season meadows, as well as an agricultural area. By restricting this land from future development in perpetuity, including the possible addition of another house on the parcel, GSWA is fulfilling our water quality protection mission, minimizing impervious cover, non-point run off, and other pollution that might have emanat-

ed from a new house so close to the river, while protecting valuable palustrine habitat. The viewshed of those paddling along the upper Passaic also remains protected from unsightly structures close to the banks, which are prohibited in the terms of the easement. GSWA, as a nonprofit nationally accredited Land Trust, is well suited to accept donations, easements and other parcels that help to protect the land and water of the Great Swamp and Passaic River watershed. We thank the property owners for thinking of us with their generous donation. If you or anyone you know has land they may be interested in donating, please contact Sally Rubin at srubin@greatswamp.org. 🌿

Have You Considered Including GSWA in Your Estate Plans?

Designating the Great Swamp Watershed Association as a beneficiary in your will is a sure way to continue your support for our work and sustain it long into the future.

Specific language in your will should of course be reviewed with your attorney. For more information on GSWA's Planned Giving program, please contact Sally Rubin, Executive Director at (973) 538-3500 or srubin@greatswamp.org.

The Edith H. Hahn Animal and Wildlife Preservation Fund of Thrivent Charitable Impact and Investing® *(continued from page 14)*

many exceptional plant and animal species, including several state and federally designated threatened species like the barred owl and swamp pink.

Additionally, the important relationships GSWA has with entities such as Great Swamp National Wildlife Refuge, myriad partnerships with towns and green teams for the Native Pollinator Plant Sale, and many

others, all lead to the ultimate goal - preservation of our local natural environment. With supporters such as the **Edith H. Hahn Animal and Wildlife Preservation Fund of Thrivent Charitable**, we will ensure future generations of ALL the inhabitants of the Passaic River region will have healthy, clean water and land so that they can continue to exist and thrive. 🌿

What's Been Scurrying Around the Conservation Management Area?

By Ginger VanRyzin, Education, Land Steward, and Water Quality Associate

Back in August, GSWA received funding for trail cameras to use around our trail systems at the Conservation Management Area (CMA) on Tiger Lily Drive in Harding Township. Every month, the trail cameras are cleaned and, depending on the footage, they are either kept in place or moved to another area. Since the cameras were installed, we are happy to say that multiple species have been documented at the CMA.

Residents of the CMA are active throughout the day, with diurnal animals like wrens, nocturnal species like raccoons, as well as crepuscular animals (meaning they are most active at dawn and dusk) like the red fox. Because of this, it is important that our cameras have multiple different lenses, able to capture footage around the clock.

As the months passed, we soon realized that some critters were much more photogenic than others. We had a family of wrens nest not far from a camera set up on the green trail, and as they foraged they were so interested in the trail cam that they had to get a closer look. Unfortunately, it was so close that they were not in focus!

Foxes, on the other hand, are much better models. When passing by the camera, many would notice the small noise that is emitted when the cam-

era is triggered, catching the fox stopping in its tracks like this one. As a top predator, the presence of foxes on our property is a good sign that the ecosystem at the property is healthy.

A family of raccoons have also settled at the CMA, enjoying a midnight stroll across the Silver Brook bridge. With bountiful food, such as mussels, crayfish, berries and insects, this mama raccoon (continued on page 17)



Welcome Melanie Hertgen – GSWA’s New Office Manager and Event Coordinator

Melanie joined the GSWA team in early 2023 as the new Office Manager and Event Coordinator. Prior to joining GSWA, she interned at several nonprofits and most recently returned from Montana, where she spent 11 months as an AmeriCorps outreach coordinator at Missouri Headwaters State Park. She learned about the importance of protecting and advocating for public lands by leading school field trips, coordinating interpretive/educational events, and working on land improvement projects. Melanie graduated from The College of New Jersey in 2020 with a B.A. in International Studies and a minor in Political Science and French. At GSWA, Melanie manages office duties, coordinates the annual gala fundraiser, and plans periodic fundraising, social, and program events throughout



the year. We look forward to all that Melanie has to bring to this position. 🌲

What’s Been Scurrying Around the Conservation Management Area? *(continued from page 16)*

has been able to raise two healthy very cute kits.

Bears, coyotes, squirrels, great blue herons, turkeys, and deer have been captured on camera, all of which are species native to the Great Swamp.

A big thank you to The Hyde and Watson Foundation for providing funding for these cameras. If you or someone you know are interested in donating to GSWA for stewardship and research gear, please reach out to lapplebaum@greatswamp.org. 🌲

Interested in Volunteering?

If you are interested in getting actively involved in efforts to protect and preserve the watershed, GSWA has a number of volunteer opportunities (see GreatSwamp.org/volunteer/).

Please send an email to info@GreatSwamp.org if you would like to volunteer.

Take it to the Banks – Riparian Buffers

By Sarah Hunt, Education, Land Steward, and Water Quality Associate

Riparian Zones are the border between land and water. They are ecologically distinct from fully aquatic or fully upland ecosystems, and healthy riparian zones

fertilizers have an increased risk of running off into our waterways in rainfall or snowmelt. Healthy soils contain microbes and organisms that hold nitrogen and phosphorus that the plants need. These organisms not only retain these nutrients so they can't be washed away by storms, but they also serve the function of recycling decayed plant matter so it can be used by future crops.



have multiple levels of vegetation. The term “Riparian Buffer” refers to a riparian zone that is intentionally preserved or restored in order to prevent pollution from reaching a waterway. Despite this distinction, the terms are often used interchangeably and refer to similar or identical ecosystems, since they serve similar functions regardless of human involvement.

The earliest cultures worldwide began on riverbanks thanks to the rich, fertile soil in these areas. Ancient agriculture served as a cornerstone to these civilizations, and towns were built up around the resources provided by both the fields and the rivers. Farming continues to benefit from being near water, but unfortunately modern agricultural practices have many negative side effects on the waterways.

Monoculture agriculture, tilling, and irresponsible irrigation can all contribute to depleted soils in farmland. This leads to the need for added fertilizers. Whether natural (manure, blood meal, compost, etc) or synthetic (Potassium Sulfate, DAP, etc), applied

What does this have to do with our streams? When excessive fertilizers get washed into our streams and lakes, they can cause the overgrowth of aquatic species. This may sound like a good thing, but algae and cyanobacteria can overgrow to cause harmful “algal blooms” that lead to advanced eutrophication. Not only can these create toxins that make the water unsafe for swimming and fishing, but they also block out sunlight causing the death and decay of other aquatic plants. The process of decay can reduce the oxygen content of the water and make it impossible for fish and other aquatic organisms to breathe.

This reduction in life and diversity of waters is hugely harmful and can be difficult to remediate. Prevention through responsible use of fertilizers and healthy riparian buffers is the best course of action. If agricultural fields of crops or grazing animals run up





roots absorb a large amount of water that is transported to the leaves and evaporated, reducing the runoff from rainstorms and slowing the movement of nutrients so they can be absorbed before reaching the stream. Like crop plants, they also absorb these soil nutrients and use them in building chlorophyll, dna, and storing and transferring energy.

Grasses and wildflowers use all these same nutrients, but have the added bonus of incredibly deep, hairlike root systems. These can act as a net to slow initial runoff while absorbing nutrients. Along the edge of agricultural fields these act as a first defense, and in the understories of trees they fill in gaps to filter more pollution.

Restoring these areas can start with simply not mowing directly up to a stream bank. Small steps like allowing native plants to grow and planting a few tree seedlings can be a great start. However, due to the common presence of invasive plant species, full restorations can involve planting and years of maintenance. Once a healthy riparian buffer is established, it can provide beauty for visitors, habitat for native plants and animals, and protection from pollution.

If you'd like to purchase a range of grasses and wildflowers for a riparian restoration project, check out our Native Plant Sale in April. We have resources on how much water and light each plant needs, so be sure to keep this in mind based on how close to the water you will be planting and what other plants are present.

(continued on page 21)

against the river, there is nothing stopping excess nutrients from flowing into the river. Luckily, riparian buffers have a number of attributes that act as a cleanup crew to these pollutants.

The multiple levels of riparian ecosystems are all crucial in efficient pollution control. These levels start from the soil up and include microbes, fungi, grasses, wildflowers, shrubs, and trees. The role of microbes in riparian buffers is similar to those in fields. They function in decay and recycling of nutrients for availability to plants. Fungi serve an important role in moving nutrients from nutrient dense to nutrient poor zones in exchange for sugars from plants. This is beneficial because they can absorb excessive nutrients so that they don't reach the waterways, and also ensure their use by plants in a different area.

Trees and shrubs are essential in holding a riverbank stable. Eroded banks can straighten the flow of a stream, leading to a shorter overall waterway with less variation in habitat and flow types. These wide and often shallow



Connecting with Nature: Lessons from the Indigenous in Montana

By Melanie Hertgen, Office Manager and Event Coordinator

Like many people, I have always felt a deep connection to nature, animals, and the great outdoors. This “spiritual” connection certainly shaped the way I chose my career path, having interned at an environmental non-profit and worked 11 months in Montana as an AmeriCorps member working at two state parks, spending most of my time outdoors. Hiking on weekends, floating in the river, backpacking, and searching for wildlife became some of my favorite activities while out west. Of course, as someone who loves to spend time outdoors, this instilled a sense of responsibility in me to become an environmental advocate. Now, I have recently joined the amazing GSWA team hoping to continue my career in environmental stewardship.

During my time in Montana, not only did I learn the importance of protecting public lands, but the ways in which we can accomplish that through learning about our history and traditional ways of life. I was able to listen to and speak with many Native Americans from various tribes in Montana. One thing that stood out to me was how they spoke about our natural world with such great admiration and respect. Long before the climate change movement began, Natives were certainly among the first environmentalists to recognize the significance of sustainable living and land stewardship. Their spiritual connection to our planet, including all living and nonliving things allowed them to live an incredibly sustainable life. They believed that all species including humans, wildlife, plants, and even rocks were connected and had a purpose in our natural world. They only took



Missouri Headwaters

what they needed from their environment and prevented over-consumption by leaving enough resources for the next generations to come. It was also interesting to learn that Native Americans often held ceremonies to honor the animals that they killed for use of food, shelter, and tools. It was evident they respected all species, as they never wasted any part of an animal they hunted. It is no surprise that their ecological footprint was almost nonexistent!

However, the European settlers had a different idea in mind. They viewed their new environment and home as something to conquer, as opposed to something they could live alongside in harmony. Soon after colonization, Native Americans found it difficult to continue their way of sustainable living. We can certainly see this same attitude in our society today- those who take so many resources from the planet without giving anything back in return. This, of course, leads to overconsumption of natural resources, harming ecosystems

(continued on page 21)

Habitat Restoration Project at Wigwam Brook in Watsessing Park

Photos and Text by Luis Vieira

In September 1-3 of 2021, hurricane Ida swept through the Watsessing Park in Bloomfield, and created major flooding in the area. The strong currents at Wigwam Brook in the park knocked down many standing canes of invasive Japanese knotweed and uprooted others.



Watsessing Park Restoration - January 2023



Watsessing Park Restoration - White Snakeroot in Bloom October 2022

This allowed an opportunity for the Friends of Watsessing Park Conservancy to consider restoring a section of the brook bank and reclaim about a 100 foot area to plant native plants.

The signage in the Restoration Area indicated that another Habitat Restoration Project had taken place around 2005-7, but due to lack of maintenance the knotweed had come back.

Due to the persistence of the current restoration team, the areas are being successfully restored with river oats, white snakeroot, bluewood aster, switch cane, rudbeckia maxima, blue violets, black-eyed susans, common milkweed, swamp milkweed, joe pyeweed, American elderberry, eastern bluestar, river wild rye, goatsbeard, woolgrass, rose mallow and other native plants. 🌲

Connecting with Nature: Lessons from the Indigenous in Montana (continued from page 20)

and wildlife, and ultimately leading us to the current climate crisis we face today. The difference in attitudes of both sides is a clear indication of our current global issue- how on earth can we heal the planet if so many have no care or respect for our natural world?

Including Native peoples' opinions and traditional views of sustainability in conversations addressing climate change is crucial as we can incorporate these traditional practices into our climate policies. Having deep

respect for our environment is only the first step to correcting many of the wrongdoings we've caused, and we must acknowledge that our attitude towards our surrounding environment can affect our actions in our day to day lives. My time in Montana was not only an educational experience but a spiritual one, and I'm extremely grateful for how it has further shaped the way I view the world- that we are not owners of the natural world, but rather an important part of it. 🌲

GSWA Studies PFAS in our Streams

By Sandra LaVigne, Director of Water Quality Programs

PFAAS – per and polyfluoroalkyl substances – are a group of over four-thousand compounds considered “forever chemicals.” Perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) are two examples of PFAS that have been the topic of studies and are now regulated at the state and federal levels (Figure 1.) PFAS are

accumulation in the environment and waterways throughout the world.

PFAS have been linked to increased cholesterol and uric acid levels in the blood, a decrease in immunoresponse to vaccinations, low birth weight, and certain types of cancers. These issues were brought to the forefront of the public attention with the release

of the movie “Dark Waters.” This movie highlights the true events surrounding Robert Bilott’s class action lawsuit against DuPont. The ground and surface waters of a West Virginia town had been

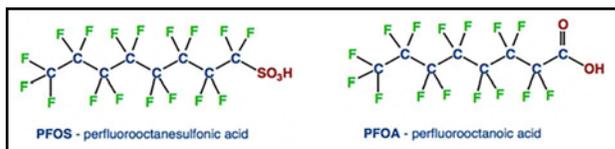


Figure 1: PFOS and PFOA structure courtesy of USEPA

formed of long-chain fluorocarbons, bonds between fluorine molecules and carbon. This is one of the strongest bonds known in chemistry. The short, single, ionic bond that forms is what makes these chemicals so persistent in the environment. It is also what made them a chemical of choice for certain manufacturers; they were long-lasting and strong. Since the mid-1940’s these chemicals have been used in a wide range of products from non-stick cookware to firefighting foams. As a hydrophobic (water-resistant) chemical, they are commonly found in water and stain-resistant fabrics that are used for raincoats, carpets, and furniture. They have also been used in personal products like deodorant, lipstick, and sunscreens.

Studies have shown that these chemicals can have adverse health effects. They are slow to move through the environment and when absorbed or consumed they are slow to move through living organisms. This means that they can build up through repeated exposure. The longevity and widespread use of these chemicals have led to their accu-

contaminated due to PFAS pollution originating from the DuPont plant.

In 2016, the EPA issued health advisories for PFOA and PFAS in drinking water setting the lifetime health advisory limit of 70ppt (parts per trillion). In December of 2022, they updated the advisory, lowering the amounts of both PFOA and PFOS and adding an advisory for GenX (figure 2.) GenX is a newer PFAS that was developed with a shorter fluorocarbon chain in response to growing concerns about the impacts of PFOA and PFOS. A lifetime health advisory is a non-regulatory advisory designed to offer “a margin of protection against adverse health effects” at a given rate of exposure over a lifetime (EPA, 2022.) In 2018, NJDEP issued regulations for PFAS in drinking water which included PFOA, PFOS and PFNA (figure 2.) Comparing the EPA advisory to the NJDEP regulations, it is noted that the units are different parts per trillion for the EPA and parts per billion (ppb) for NJDEP. As a comparison, 1 ppb is equal to half a teaspoon in one olympic swimming pool and 1 ppt is equal to



Figure 2: EPA Advisory and NJDEP PFAS Regulations

1 drop of chemical in twenty olympic swimming pools. So a very small amount of PFAS can have a big impact on a water sample.

One of the current issues with both regulating and monitoring these chemicals is the creation of methodologies that can accurately measure such minute amounts of PFAS. This technology is still being developed and improved. As this technology is developed, the EPA plans to issue enforceable regulations for PFAS in drinking water supplies by the end of 2023.

In 2022, GSWA, through a generous grant from the Leavens Foundation, undertook to sample and study the levels of PFAS in the surface waters of the Passaic River region. The Passaic River provides a source of drinking water for over two million people throughout the state of NJ. Water drawn from this source undergoes thorough testing and processing to ensure it meets or exceeds all standards set forth by the NJDEP. Our project goal was to collect baseline data on the levels of PFAS in the region and to assess that data for areas of concern. We selected eighteen sample sites – eleven sites included the tributaries of the Passaic within the Great Swamp Watershed and seven sites were selected along the main stem of the Passaic River. In selecting our sampling sites along the Passaic, we aligned the sampling locations where possible with the NJDEP hydro-

logic unit delineations which helped determine the areas where stormwater runoff originates for a given sample (figure 3).

As we began to design our protocols for sampling, we quickly realized that there were many hurdles to

overcome. Due to the minuscule amounts of PFAS that would be required to contaminate a sample we had to ensure that as we

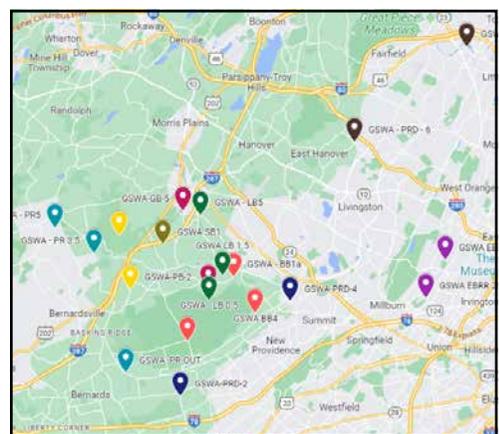


Figure 3: GSWA PFAS Study Sampling Sites - map courtesy of Google

sampled we did not jeopardize our sample integrity. Our original plan was to sample in early spring but we soon realized that we would not be able to wear waders or rain-boots as they likely contained PFAS. The list of things we had to avoid quickly grew to include synthetic fabrics, rain gear, and sunscreen. Even some deodorants were known to contain PFAS. Once we determined what we could wear, we worked with Pace Analytical to create our final sampling protocol. We sampled over two days in early August 2022. Each day we collected both a duplicate sample at one site and a field blank. For the du-



Figure 4: GSWA Associate Sarah Hunt Collecting PFAS Samples

plicate sample, we followed the same protocols twice at a chosen site that was not revealed to the lab. In this way, we were able to check that the lab was able to replicate results with accuracy. The field blank allowed us to ascertain that we

were not contaminating our samples through our sampling methods. Pace sent sealed bottles of sample water that had previously been tested to be PFAS free. While in the field we followed the same protocols that we would with a stream sample but instead of collecting water from the stream we filled our sample bottles with the PFAS free water provided by the lab.

Each sample was tested for 36 different analytes or PFAS compounds including PFOA, PFOS, PFNA (perfluoronanoic acid), and GenX. All results were reported in parts per trillion (ppt.) Of the eighteen sites we sampled, every site tested positive for at least two analytes of PFAS. The sites within four Great Swamp tributaries, Primrose Brook(PB), Great Brook(GB)-and Silver Brook(SB) – a tributary of GB), Loantaka Brook(LB), and Black Brook(BB) ranged between two and twelve positive analytes. The Passaic River(PR) sites ranged between nine and twelve positive analytes increasing as we moved downstream. At each site the analytes that tested positive varied in both the quantity that was present and in

which PFAS were present. With so much data to cover, for the purposes of this article, we focused on the PFAS that are currently regulated by NJDEP and covered by the EPA Advisory.

In the tributaries of the Passaic, PFOAs were identified at every site, and all of the quantities reported fell well below the NJ-DEP drinking water standards (figure 5). The headwaters of Primrose Brook (PB4), located in Jockey Hollow National Park was the least impacted site of the study, with only two analytes identified and the lowest PFOA result at 1.5 ppt. This sample was collected near the headwaters of the stream where groundwater forms a spring that feeds the river. The Black Brook sites BB1a and BB0.5 are

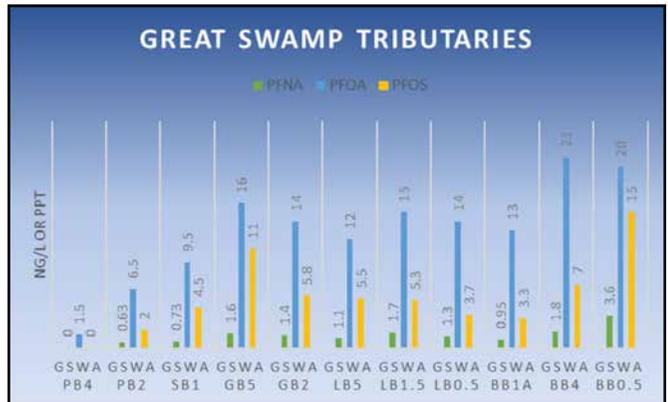


Figure 5: GSWA PFOA, PFOS, and PFNA Data from Passaic River Tributaries

located along the stream up and downstream of the Rolling Knolls superfund site respectively. The data shows an increase of all three of the analytes under review here from upstream to downstream. Further study will be needed to determine if the increase is linked to the superfund site or if other factors such as distance from the site and the low stream flow (due to the drought) impacted the results.

The samples collected along the main stem of the Passaic River show fairly consistent

numbers in the two upstream sites (PR5 and PR3.5) and in Millington Gorge, the outlet from the Great Swamp watershed (PROUT) (Figure 6). As we continue to move down-

drinking water. Anyone who is on a public water service through private or municipal companies has access to the testing results compiled by their water company. Further,

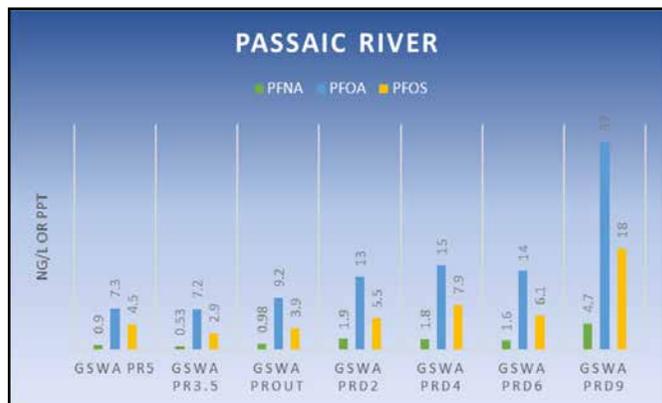


Figure 6: GSWA PFOA, PFOS, PFNA Data from the Mainstem of the Passaic River

stream from Millington through Roseland, the levels of PFAS begin to increase. Below Millington gorge in Basking Ridge, the Dead River merges with the Passaic, expanding the size of the watershed and possibly adding to the PFAS in the waters. Our furthest downstream site was located at Little Falls (PRD9) and saw the highest levels of PFOA, PFOS, and PFNA. The results at this site include the impacts from two more major Passaic River tributaries, the Rockaway River and the Pompton River. This greatly expands the drainage area for stormwater runoff into the river. Upstream along the Pompton River is a superfund site under remediation that was the location of a DuPont facility where PFAS have been identified. Further study will be needed to ascertain whether this has significantly impacted the sample collected downstream of the Pompton Passaic confluence at Little Falls.

PFAS in the stream waters can have an impact on local wildlife as well as the community at large. As we have already discussed, NJDEP has set regulations in place to protect

the regulations require the community to be notified of any exceedances that occur. If your water comes from a well on your property you are responsible for having your well water tested. There are a number of NJ Certified Laboratories that will conduct this type of sampling. Due to the possibility of contaminating a sample as it is collected, be sure to follow any guidelines provided if you are collecting

the sample yourself.

Within the stream system, PFAS can impact wildlife and increases through bioaccumulation as it goes up the food chain. Due to the nature of the chemicals, they move very slowly through living systems and accumulate in tissue and organs. This can have an impact on everything from macroinvertebrates to fish and also the mammals that consume the fish such as mink, raccoons, and osprey.

As scientific data has shown the issues and impacts of PFAS, the EPA has begun to phase out both the manufacture and use of them within the United States. In 2002, the EPA phased out the manufacture of PFOA and PFAS. In January of 2023, the EPA proposed a rule that would impact the use and manufacture of another 300 PFAS. This law would also enforce a formal review of any new chemicals within the PFAS family.

On a local level, we can all work to limit our exposure to PFAS by reducing the items within our homes that contain the chemicals. In the kitchen, cook with cast iron, stainless steel, or ceramic-coated cookware. There

are a number of resources on the internet that will provide lists of manufacturers that produce PFAS-free products with lists that include clothing, furniture, and personal care products. For low levels of PFAS, filters such as activated charcoal and reverse osmosis can do a good job of removing the PFAS from your water. It should be noted that pitcher filters and filters attached to your faucet are not as reliable as the larger under-the-sink or whole-house systems. For the best results on any system, it is important that you follow the manufacturer's instructions for changing the filters on a regular basis. If you have elevated PFAS levels in your drinking water you can also test your water both before and after the filtration system to better understand how your filtration system is working. Bottled water does not guarantee PFAS-free water and we recommend that you test and research your home water for drinking.

Finally, we will talk about advancing methods for cleaning up the existing PFAS in our environment. Significant studies are being undertaken on the best methods for

removing or breaking down these persistent chemicals. New studies have shown that native wetland plants have been efficient at uptaking PFAS from the water column. By utilizing both natural and created floating wetlands we can begin to remediate the PFAS in our waterways. Other studies are looking at the efficacy of wetland soil microbes at breaking down the chemicals in the soils. In a study conducted by Princeton University in the Great Swamp, microbes were found to be already breaking down some of the long chains of fluorocarbons.

As with many previous human innovations, PFAS were designed to improve certain conditions for the betterment of society. However, just as has been seen in the past, sometimes we learn that the improvements can come at a cost. But just as with other issues we have overcome, science and dedication will continue to work to correct the problem and clean up our environment for generations to come. 🌱

References published on greatswamp.org

GSWA Experts Available to Speak to Area Groups

Do you wonder, "What is in my water?" or "What can I do to keep water clean for my children?" These and other questions about water quality, land preservation, and local efforts to protect the environment can be answered by the Great Swamp Watershed Association (GSWA). GSWA speakers give interesting, hands-on presentations that will educate and inspire members of your local club or group. Please contact Sally Rubin, Executive Director, at srubin@greatswamp.org or (973) 538-3500.

ANJEE Award Winner

Hazel England, GSWA Director of Education & Outreach, Land Steward, has received a 2022 Excellence in Environmental Education Award from the Association of New Jersey Environmental Educators (ANJEE). Hazel was nominated by Sally Rubin and Sandra LaVigne and letters of support were sent by several individuals. Here is a sample of what they had to say about Hazel:

Tammy Windfelder, Associate Professor of Biology, Drew University, said, “[Hazel] is an exemplary environmental education professional who has trained and inspired so many. She clearly exhibits what it means to be a leader in the field.”

Tatiana Morales, GSWA intern, student at William Patterson University said, “Hazel England deserves to be recognized as someone who has dedicated her life to environmental education and made an impact on those that have learned from her. It is because of Hazel England and GSWA that I will be pursuing a career in environmental outreach and education and I have never been more excited.”

Daniela Shebitz, Ph.D. , Chair and Professor, Department of Environmental and Sustainability Sciences, Kean University, had this to say, “What amazes me is the true passion that Hazel has for not only protecting the natural environment, but for connecting people of all ages and backgrounds to their surroundings. She brings boundless energy to countless groups of students and greets each one as a new opportunity to inspire

people to make positive changes in their lifestyle and in the world around them.”

And, Karen DeTrolio, teacher of Biology at Madison High

School said this, “[Hazel’s] positivity and enthusiasm about environmental education is contagious, even through e-mail. Hazel is a natural with a love of teaching and a never-ending love for learning.”

Finally, Lydia Chambers, Regional Pollinator Working Group Co-Chair, New Jersey Sustainable Municipalities Alliance said, “Hazel’s educational expertise is a critical component of this [native plant sale program] success. She compellingly builds the case for planting native plants for pollinators and makes it fun, easy, and above all, empowering. Her main message throughout this educational campaign has been: together, we can create pollinator pathways across New Jersey. Together, we can make a difference in the health of our watersheds and our ecosystem. And indeed, she has!”

As you can see this was a very well-deserved accolade. We have always known that Hazel is an outstanding educator and an asset to GSWA and we are very proud to have her contributions celebrated by ANJEE as well. 🌱



GSWA's 2022 Gala Celebration

By Val Thorpe, Director of Communications & Membership

A Gala serves many purposes – it's a social event, a celebration, a fundraiser, and an opportunity to educate our guests... and not necessarily in that order. Last October's Gala & Silent Auction was no exception to the rule, incorporating all those experiences into one enjoyable evening at the elegant Brooklake Country Club in Florham Park.

The evening began with a special cocktail hour for guests who purchased VIP tickets for an intimate gathering prior to the official start of the main event. As the nearly 200 attendees filed in, they sampled hors d'oeuvres, posed for "Polaroid selfies," and perused the over 150 silent auction items up for bid. The auction was a big success in every way!

After brief remarks from Sally Rubin, GSWA Executive Director, and Tony Della-Pelle, GSWA Board Chair, the evening's Key-note Speaker, Olivia Carpenter Glenn, Chief of Staff and Senior Advisor for Equity in Re-

gion 2 of the US Environmental Protection Agency (EPA), took the podium. Ms. Glenn spoke about environmental justice highlighting the inequity that exists regarding clean water and a healthy environment for underserved New Jersey communities and throughout the country. Ms. Glenn shared how pollution, climate change, and other environmental factors have affected these communities, stripping them of their basic human right for clean water, food, and air. It was an eye-opening presentation, and GSWA applauds Ms. Glenn's determination to fight for change.

In celebration of the 50th anniversary of the Clean Water Act, Sandra LaVigne, GSWA Director of Water Quality Programs, educated the audience on the importance of this piece of legislation as it relates to GSWA's mission: to protect and improve the health of the Passaic River through science, education, land preservation and (continued on page 29)



Captain Bill Sheehan, Executive Director of The Hackensack Riverkeeper, and Olivia Carpenter Glenn, Chief of Staff and Senior Advisor for Equity in Region 2 of the US Environmental Protection Agency (EPA)

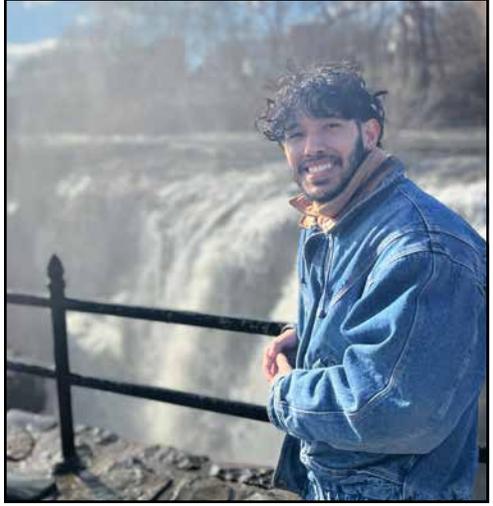


Sally Rubin, Executive Director of Great Swamp Watershed Association, and Congresswoman Mikie Sherrill, representative for New Jersey's 11th Congressional District

Introducing Ryan Lopez

Ryan Lopez, our new semester long intern, is a senior undergraduate from William Paterson University who is majoring in Public Health and minoring in Environmental Science. His love for all things water and interests and how it dictates our lives is what makes him thrilled to intern with us this semester! This passion stems from an experience three years ago during an undergraduate class when he used a kit and tested for macroinvertebrates in the Molly Ann Brook tributary to test for pollution.

“I am grateful for this opportunity to work with the GSWA where I can get hands on involvement. My interest in public health and my passion for environmental work is what led me here and I’m eager to work and learn alongside individuals who are as passionate about the mission as me. I want to use this experience as a foundation for me



for my career path in Environmental Health & Safety!” Ryan will be helping us with water quality, education and stewardship projects throughout the spring. 🌲

GSWA's 2022 Gala Celebration *(continued from page 28)*

stewardship, and advocacy. Sandra closed with a challenge for 50 people to invest in GSWA in commemoration of 50 years, inspiring more donations than anticipated.

It takes many hands to pull off an event of this size. We are grateful to our generous Gala underwriters who made the 2022 Gala possible: **NJ American Water, Atlantic Health System, FirstEnergy, Adrienne & Reed Auerbach, Avelino Law, BASF Corporation, Dixon Energy, Eagle Cliff Real Estate Partners, Agi & Matt Krauser, PSEG, Schenck, Price, Smith & King, LLP, Valley**

Bank, and David & Lisa Welsh.

Additional thanks to our donors, advertisers, supporters, and guests; **Sarah Thorpe** for coordinating our highly successful silent auction; **Paul Mecca** for donating his time and talent to photograph the event; **Pre-school Advantage** for contributing the table centerpieces; our board and advisory council members for acquiring silent auction items, promoting the event, and assisting with various tasks; and our amazing volunteers. 🌲

Kathy Abbott, Advisory Council

By Wade Kirby, Director of Development

Advisory Council member Kathy Abbott grew up in New Jersey and says at a young age she became aware of farms and woods disappearing, replaced by suburban housing. She remembers her mom expressing sadness at the last farm gone from her town, yet the pride in the family as her uncle, a home builder, developed a road of homes a short drive away in New Providence. The tradeoff between the demand for new homes and the loss of open space was already in focus. In fact, the last home Kathy's uncle built was his own house in Long Hill that overlooked the Great Swamp! When Kathy and her husband were looking for a house in 1994, they chose Chatham Township in large part due to its rural character and location next to the preserved land of the Great Swamp National Wildlife Refuge.

In 2000, Kathy, an economist and teacher by trade, joined the Chatham Township Environmental Commission and served for nine years. Through the Commission, she learned of the Great Swamp Watershed Association and joined the GSWA Local Issues Committee, which advocated for leading edge practices in local stormwater management, wetlands preservation, endangered species protection, native plants, and more. Kathy felt in good company in Chatham Twp, where she interacted with residents like Helen Fenske, one of the original heroes that saved the Great Swamp, GSWA founder and Chatham Township Mayor Abigail Fair, and Dot Stillinger, the longtime Chair of the Chatham Twp Environmental Commission and GSWA Board Member. Former GSWA Executive Director Julia Somers also inspired Kathy's work on the Environmental Commission and in forming environmental awareness committees in the

public schools.

Today, Kathy feels the biggest challenge for GSWA is to get people to pay attention to science and the water infrastructure they can't see. She is proud that GSWA gets people outside to see the wonders and productivity of the swamp and the Passaic River. Kathy says that common STEM (science, technology, engineering and math) education programs improve theoretical awareness about the ecosystem, but motivating people to protect our natural resources means getting people off their screens and onto the trails and riversides. These nature immersion activities allow adults and children to more easily engage in "systems thinking" and realize their own impact on everything flowing into the storm sewers and circulating back into the Great Swamp or Passaic River. Everything is connected, she says, but you have to have a visceral feeling for it to really know it.

Kathy feels GSWA's biggest achievement is the progress being made with the EPA for cleanup of the Rolling Knolls Superfund site. In addition, she admires GSWA's efforts to expand its watershed education work downstream to more urban communities. For eight years she worked at the Southern Boulevard School in Chatham Township showing the watershed model to students and leading dozens of volunteers for Earth Day. Her commitment to a healthy environment and land stewardship was enhanced when she served as a Planning Board member and elected official on the Chatham Township Committee in 2012, 2013, and 2014 and again in 2020 and 2021. For the past two years, Kathy has been the Director of a nature-based nursery school called Sprout House, where her children attended and where she previously served *(continued on page 31)*

Kathy Pfeil, Advisory Council

By Wade Kirby, Director of Development

Advisory Council member Kathy Pfeil says, “We moved to Chatham in 1979. One of the first and best discoveries was the Great Swamp National Wildlife Refuge, practically on our back doorstep! Coming from the Midwest, the prospect of living in the most densely populated state was rather unappealing. This unexpected treasure renewed my faith!” What better testimonial to serve as a catalyst for Kathy’s long and devoted relationship with the Great Swamp Watershed Association.

It did not take her long to become intimately involved with GSWA. It was, and still is, a place to recharge, invigorate and explore - and an educational opportunity for both youth and adults. Kathy enjoyed reading our newsletter, *Across the Watershed*, but it was not until 2010 that she found the time to actively participate. She and her husband Alan had recently left Chatham to move into an historic 1865 home in Long Hill Township. Their decorator suggested that their home be included in a historic house tour... a fundraiser for the Great Swamp Watershed Association. Kathy says that when Executive Director Sally Rubin visited, it was an instant connection. Sally was the enthusiastic, personable face of GSWA!

Kathy was never much one for joining organizations. She found most leaders to be intimidating, and rarely interested in others’ opinions. Sally, on the other hand, was genuine, down to earth, and SMART! From that

first meeting she and Alan were *hooked*. They were invited to join GSWA’s Board of Trustees and served two terms. They are currently on the Advisory Council. Both the Board and the Advisory Council are comprised of many local officials, businessmen and women. Indeed, it is a truly eclectic group of like-minded people, all of whom value land preservation, clean water, fresh air, open space, hazardous waste remediation, etc.

Kathy feels the biggest challenge of GSWA is to grow the membership. Our current membership needs more age diversity. Bearing this in mind, Kathy suggests fundraisers and new member activities could focus on each age group. Many parents look for inexpensive family friendly weekend activities. GSWA provides an easy way to become involved and contribute.

Kathy’s pride in GSWA’s biggest achievement lies in addressing and finding solutions for remediation of toxic waste by working with other environmental agencies such as the DEP. She points out the work toward a successful clean-up and repurposing of the Green Village toxic site at Rolling Knolls and its potential future opening as a safe hiking area that could eventually connect with the Meyersville hiking trails.

Kathy, through your dedicated interest and support, we are most grateful for all your help in making GSWA the vibrant organization that it is! 

Kathy Abbott, Advisory Council *(continued from page 30)*

on its board. She’s there because playing outside sets up a lifelong love of nature.

Similarly, Kathy said, she supports GSWA because “it’s where smart, interesting, caring

people look beyond the obvious to understand the infrastructure that gives us clean water, clean air, and beauty. It’s a great place to meet new friends!” 

Adopt-a-Catch Basin Gets Reinvigorated in Paterson

By Sandra LaVigne, Director of Water Quality Programs

GSWA is teaming up with The Nature Conservancy (TNC), with support from NJCF Franklin Parker Small Grants Project, to kickstart our Adopt-a-Catch Basin back into high gear in Paterson. In August of 2019, GSWA worked with the Paterson SMART coalition (Stormwater Management and Resource Training) and members of the community to start the Adopt-a-Catch Basin program in Paterson. By early February of 2020, we had handed out over one hundred catch basin clean-up kits to local residents. However, shortly after that, the pandemic brought our efforts to a halt. Now we are excited to restart this important and impactful program.

Storm drains and catch basins can play an important role in the reduction of local flooding by quickly moving stormwater runoff from streets and through sewers and drain pipes. They can be one piece in the much bigger puzzle of how to reduce flood damage to homes, businesses, and schools in flood-prone areas. For this to work properly, the storm drains, the grills at street level, need to be kept clear of litter and debris. There are two aspects to this issue. The first

is when litter and debris collect on top of the storm drain preventing stormwater from entering the system. When this happens, water can continue to build up at the street level and cause flooding in nearby areas. The second aspect is the litter and debris that filter through the storm drain and end up in the catch basin itself. This litter can clog the drainpipes that allow the water to flow through to the larger system and can also end up in our streams.

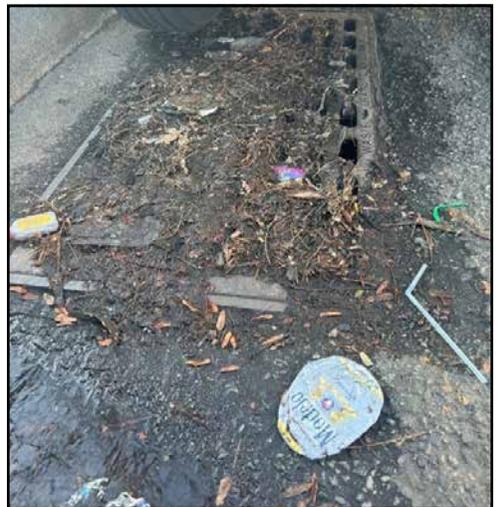


Figure 2: Paterson Catch Basin. Photo by Sarah Hunt, GSWA

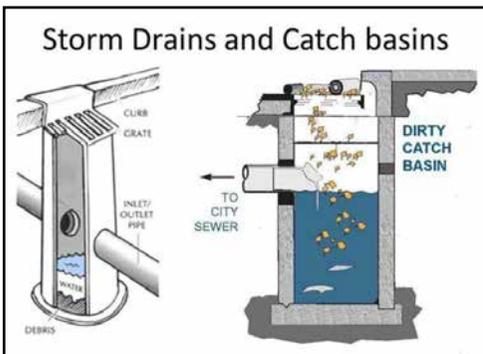


Figure 1: Storm drain and catch basin design. Image courtesy of Goodmanson Construction

In rural areas, storm drains most often connect to pipes that discharge into local waterways. In some urban areas, storm drains connect to a combined sewer pipe system that catches not only stormwater runoff but combines with the grey wastewater from homes and businesses. This pipe then carries the combined stormwater and wastewater to a wastewater treatment plant. In the case of Paterson, the combined flow is carried via pipe to the Passaic Valley Sewerage Commis-

sion for treatment prior to being released into the Passaic River as cleaned effluent. However, when the system is overwhelmed during flooding rain events, the combined sewer overflow (CSO) system can discharge the combined storm and wastewater, untreated into the river to prevent the overwhelming of the wastewater treatment plant.

Our initial program began by holding informational meetings in Paterson on the importance of keeping storm drains clean and handing out safety vests and cleaning kits to residents interested in adopting a catch basin near their home, business, or community center. Our new program will build on this using what we learned from our previous rollouts and taking lessons from other successful catch basin programs in cities like Newark, NJ. We are starting by reaching out to the volunteers who signed up in 2019/20 with a letter letting them know that we are getting the project back on track and a survey that will gather information on how they are doing with keeping their catch basins clean. The letter and survey will be sent in English, Spanish, and Arabic thanks to help from translators at TNC. By making our materials and instructions available in a variety of languages we are hoping that the program will be more easily accessible to a wider range of community members in Paterson.

To build a robust program that the whole community can get involved in, we are working with TNC to build a webpage where participants will be able to keep up with the news, report their clean-up work, and find resources. The goal is to have a place where the community will be able to see what they are accomplishing in their own area to help reduce flooding. It will include a map with both adopted catch basins and strategic catch basins that still need to be adopted. It will also have a sign-up survey where participants

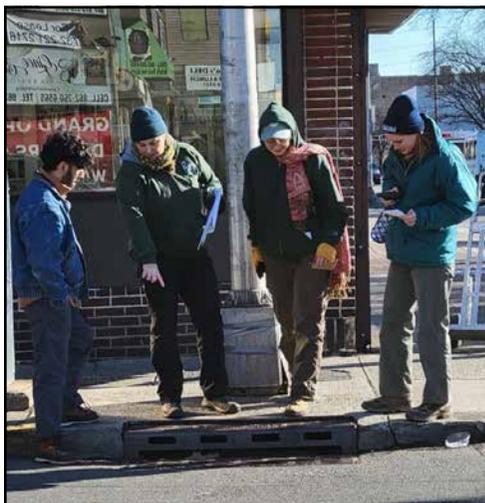


Figure 3: GSWA Staff and Intern reviewing Paterson Catch Basin Locations. Photo by Sandra LaVigne, GSWA

can adopt a basin near their home or business that is not already noted on the map.

In January, GSWA staff went out to verify our map of the existing adopted catch basins and locate target catch basins for new volunteers to adopt. Google forms will be used to collect data from participants on how often they check and clean their catch basins and if there are any issues of concern. As with the letter and surveys to past participants, the website materials will be available in a range of languages to make it as inclusive as possible. With our grant funding, we plan to hand out another seventy-five catch basin clean-up kits to a new group of volunteers.

Our plan is to have a spring kick-off in the Fourth Ward of Paterson in conjunction with other initiatives such as the Green Streets Project. We are working with community groups and leaders to organize a number of opportunities to present the program to the public and hand out our new kits. By working with all of our partners we hope to be able to make a positive impact on reducing flooding and keeping the waters of the Passaic cleaner for everyone. 🌱

Making Way for Pollinators Around the Watershed

By Hazel England, Director of Education and Outreach, Land Steward

As our program staff gear up for our third Plants for Pollinators sale, coming this April, we have continued to expand and improve our program and offerings across every metric imaginable! The sale, which this year kicks off online on **April 3rd and runs through April 28th** with plant pick up the weekend of **May 6th**, has grown each year. In 2021, our first year, planning and developing the sale as we ran it, we were excited to offer 19 plant species and collaborate with 17 partner organizations supporting and amplifying our educational mission. I gave a kick off webinar to 120 people and we sold out our 13,500 plant plugs. We were ecstatic at this initial success, especially amidst the Pandemic. Our second year grew to 28 pollinator attracting species in a variety of sized kits and had 25 different partners. We thought we might be at capacity, selling 23,500 plants, along with hand designed pollinator hats and signs. Yet this year's sale will be our biggest yet!

For 2023, we will offer close to 26,000 individual plants of 36 different species, each sold separately, and also six easy to purchase kits with plants deliberately selected for different yard conditions. [see our kit descriptions on our plant sale website]. We will work with more than 26 partner organizations and groups, selling plants throughout the watershed to an ever-expanding list of municipalities, and educate with four webinars hosted by nationally known speakers and (hopefully!) sell out our plant stock again.

The plant sale has grown by leaps and bounds, and while it leads to great metrics, the bigger and more vital picture is that it means more tiny patches of pollinator friendly plantings appearing around our towns

throughout the watershed. With residential developments comprising around 10-20% of US lands, what homeowners do in their back (and front) yards matters for the future health of native biodiversity. Anyone who has seen our amazing 3D topographic model of the Passaic River watershed sees many green areas, but only some are the federal, state, county, municipal or nonprofit owned lands preserved as parks and preserves. Much of the greens in our area are the lawns and yards of the many homes that comprise the matrix in between these other, larger preserved open spaces. Residential yards can be around half of all green space in suburban environments (*Loram et al, 2007*). So just as individual, tiny flakes of snow gradually amass to carpet a sidewalk, each garden planted with pollinator perennials, native trees and shrubs provides another tiny beachhead of critical native habitat and acts as a connector for pollinators between larger patches of habitat.

Each of our kits are comprised of five different species. They offer both specialist and generalist insects nectar, pollen, and larval food sources from early spring until frost. Many also offer vital overwintering habitat in stems or seedheads for larval or other dormant life stages. Over time as these plants grow and spread, they begin to support an entire food web, bolstering and supporting many struggling native species. Larval caterpillars and pollinator insects act as valuable food sources for songbirds, small mammals, and other vital native wildlife currently in decline. Research shows that declining species such as migratory songbirds need habitats filled with predominantly native plants. As our January webinar speaker Dr. Desiree

Narango shared from her research in suburban Washington DC, while some non-native garden plants may support reduced numbers of insect species, gardens stocked with ornamental species are providing the equivalent to wildlife of a fridge stocked with nothing



Native plants support:

- Higher insect diversity
- More highly specialized insects
- Higher abundance and biomass

>5x more caterpillar species

2-3 times higher caterpillar abundance and biomass

*Narango et al. 2017 Biological Conservation
Burghardt et al. 2010 Ecosphere*

Credit Desiree Narango

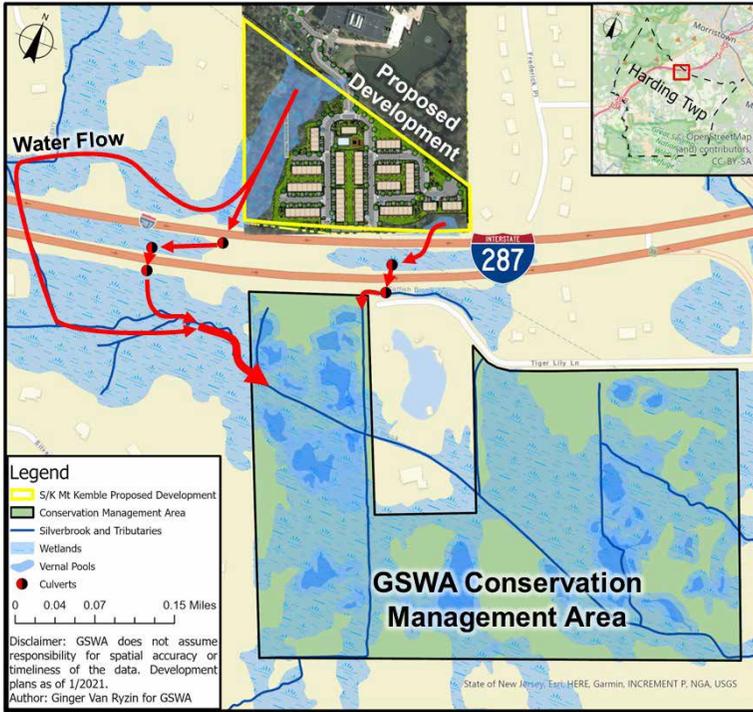
but junk food. It might look appealing, but it doesn't provide the nutrients or calories that you need. Songbirds preferred breeding in yards with more native plants, grew their babies faster, and fledged more young in those yards. Most songbirds require insects at some point in their annual cycle, mostly to feed their growing families, and the research definitively showed that gardens that don't robustly support native insect populations just don't support native birds. (Narango et al. 2018, *Proceedings of the National Academy of Sciences*) No amount of hanging bird seed feeders changes that.

We have seen through the success of our first two plant sales, and the huge attendance at our webinars providing detailed advice on how best to garden to support pollinators, that there is a huge untapped desire from folks to learn more about filling the gaps in native biodiversity that we are seeing occur. It may seem like buying a few tiny plants won't make a difference, but we see our purchasers use the planting their native pollinator gardens as a springboard to learning and doing more to support pollinator species. Our website resources [find them at greatswamp.org/native-plant-sale/] are expanding to support the more than 700 native plant sale purchasers

and any other interested readers in deepening knowledge. For this year, we will be re-organizing our web resources to make them easier to search, and more comprehensively linked to other helpful resources. For example, new this year we will provide information on some of the major pollinators each native plant species we sell benefits. We'll provide information on native trees and shrubs that best support native invertebrates, and link to other great resources on pollinator identification, provide "how to" guides for gardening, and other ways to bolster and expand the value of your backyard. All this falls squarely in our mission of helping Passaic River residents live watershed friendly, and supporting biodiversity is a huge part of that mission.

If you are not yet on our Plant for Pollinators specific mailing list, reach out to us at plantsale@gmail.com, or register for our March 21st webinar, hosted by acclaimed Naturalist and author Heather Holms, [greatswamp.org/events] You'll receive our Make Way For Pollinators newsletters, and other helpful pollinator related news throughout the year. So go ahead, Plant it! They will come, and you will be supporting a host of interesting and invaluable species as you beautify your yard for you and for wildlife. 🌱

CONDO Development Plan may Significantly DEGRADE our GSWA CMA (continued from page 1)



Unfortunately, the CMA now faces a huge threat from proposed upstream condominiums which will convert woods to pavement and rooftops, significantly increasing impervious surface cover and increased stormwater volume, likely resulting in downstream flooding, added nonpoint pollutant loading and erosion of both Silver Brook and Great Brook.

The proposed S/K Mt Kemble development is for a 96- unit residential multi-family condominium complex, including affordable housing, with community clubhouse, playground, pool and dog park. It's currently a 15.5-acre, triangular shaped forested parcel, butting up to Route 287 on one side, wetlands on another side and Mt Kemble office complex in the front. **GSWA is not anti-development or anti-affordable housing. Indeed, we strongly support affordable housing when properly located. We be-**

lieve that locating this development on this site, with the environmental impacts it will cause, is inappropriate.

We are pursuing our environmental issues and comments about water quality impacts with DEP's Watershed and Land Management Division of Watershed Protection and Restoration. So did many other individuals and local organizations. Our concerns were specific and varied, but some of our major concerns are as follows:

- Encroachments into freshwater wetlands, encroachments into and alteration of the wetland transition areas (buffers).
- In some cases, these wetland encroachments would necessitate importing large amounts of fill that would be needed to recontour buffer areas or will be covered by impervious surfaces.
- Significant increases in pollutant loading to Silver Brook due to the fact that the

portion of the site proposed for development is currently fully wooded. We would also expect measurable increases in sediment, phosphorus, nitrogen, and salt loading to Silver Brook.

- Potential lack of recharge of any of the site's post-development runoff. This will result in increased flood volume hitting the Silver Brook and a reduction in base-flow during fair weather as this runoff rushes away from impervious surfaces and is no longer absorbed.
- Changes to the Northeast Water Quality Management plan map of sewerage coverage to include the development, creating significant additional effluent discharge, through the Woodland Wastewater Treatment Plant, into Loantaka Brook, adding additional nutrients to this already impaired tributary of the Passaic River.
- Potential significant long-term hydrologic alterations of this headwater stream and the adjacent riparian floodplain areas and wetlands.
- Possible impact to threatened and endangered species such as wood turtle and Indiana bat.

DEP received numerous public comments on the proposed amendment, along with requests for additional public meetings, and extension of the public comment period. Due to this barrage of comments, DEP determined a public hearing on the proposed amendment was warranted. This is great news!

It allows all of us to present our concerns at a virtual hearing to the DEP on March 9 from 2-4pm. Additionally, written comments can be submitted to DEP by March 23, 2023. The DEP hearing specifically cov-

ers the addition of 9.3 acres of the parcel- the development envelope- to the sewerage coverage area map of the Northeast Water Quality Management plan. This may seem like an obscure technical detail, but approving this amendment would remove one more hurdle to this potential development. The DEP hearing on March 9 will cover the addition of the acreage of the proposed residential units to the Northeast Water Quality Management Plan sewer coverage map, as well as provide an opportunity for those who feel strongly about this issue to let their voices be heard. The DEP has not yet issued the permits necessary for the construction of this development, we hope after they hear our grave concerns about its impacts they will determine not to do so. **GSWA is not anti-development, but we do want to ensure that any development does not compromise either the short-term or long-term ecological status or water quality of the Great Swamp and its tributary streams.**

Details on how to access the March 9 hearing will be made available at nj.gov/dep/wqmp/wmpnotices.html one day before the public hearing on March 9.

Interested persons may submit written comments on the proposed amendment to the DEP at New Jersey Department of Environmental Protection, Division of Watershed Protection & Restoration, Bureau of NJPDES Stormwater Permitting and Water Quality Management, Water Quality Management Planning Program, PO Box 420, Mail Code 501-02A, 501 East State Street Trenton, New Jersey 08625-0420 or at the email: wqmp.publiccomments@dep.nj.gov.

Comments should reference Program Interest No. 435442, Activity No. AMD200007 and must be submitted within 15 days after the public hearing. 

Financial Report: Statement of Activities for the Fiscal Year Ended June 30, 2022

by Sue Levine, Director of Finance

INCOME

Individual Contributions	\$ 340,426
Foundation Support	\$ 242,258
Government Grants	\$ 18,674
Corporate	64,500
Annual Events (Gross)	154,958
Endowment transfer in (4% draw) - see Note 1	61,888
Programs	132,483
Misc Income & In-Kind	30,710
Total from Primary Operations	1,045,897
Covid Support	-
Total Operations	1,045,897

EXPENSES

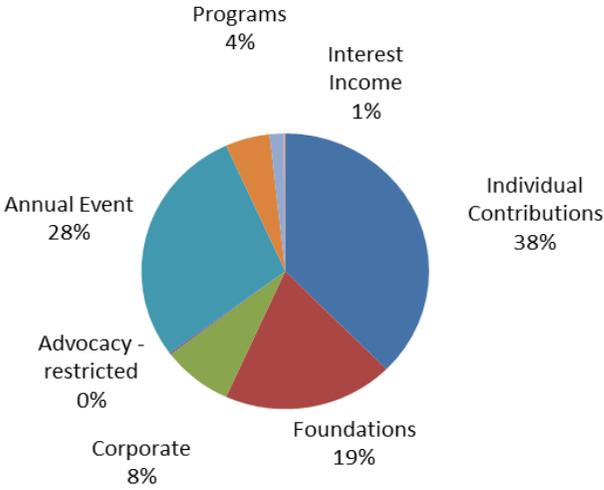
Programs:	
Water Quality and Monitoring	\$ 187,861
Education and Outreach	\$ 367,482
Advocacy	\$ 135,009
Land Use	\$ 174,865
Total Program Expense Note 4	865,217
Management and General	70,567
Fund Raising	98,731
Total from Primary Operations	1,034,515

SURPLUS/(DEFICIT) - see Note 1,2 (a) \$ **11,382**

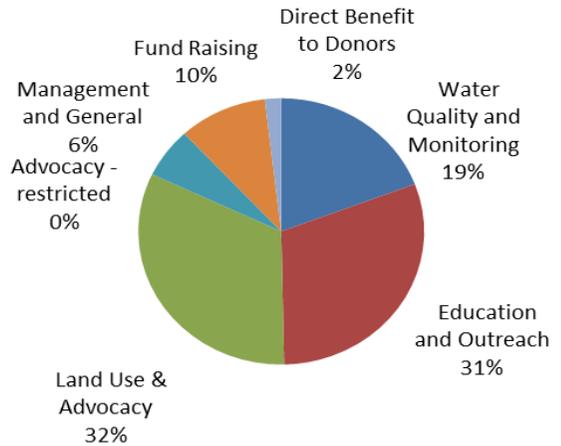
ENDOWMENT ACTIVITY

Board Designated Endowment Market Value Prior Year Note 3	\$ 1,450,683
Investment Income & Interest Earned (b)	38,784
Gain/Loss on Investments (c)	(230,763)
Net change - see Note 2	(191,979)
Transfer to Operational Funds Note 1	(61,888)
Endowment Market Value at Fiscal Year End	\$ 1,196,816
Market Value Beginning of the Year Operational Funds Invested	\$ 299,980
Change to Operational Funds Invested	27,858
Market Value End of Fiscal Year Operational Funds Invested	\$ 327,838
Total Funds Invested 6/30/2022	\$ 1,524,654

INCOME



EXPENSES



Note 1:

The organization did not use 4% allotted to operations from the endowment. The funds were set aside as Invested Operational Funds. These funds include the Endowment Transfer 4% and market changes.

Note 2:

To tie to the audited financial statement's "change in net asset" line, you need to add (a), (b), and (c) above.

Note 3:

The Endowment has \$65,080 permanently restricted funds

Note 4:

Depreciation of \$8,492 is included in program expenses



Great Swamp Watershed Association

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