



**Great Swamp Watershed Association**  
The Passaic River **WATERKEEPER®** ALLIANCE Affiliate



# Across the Watershed

**Fall-Winter 2019**



*Protecting our Waters and our Land for More Than 35 Years*

## Rolling Knolls

*by Sally S. Rubin, Executive Director*

Join us September 23 from 6-8PM at the Kemmerer Library-Harding Township, 19 Blue Mill Rd., New Vernon, for our next Rolling Knolls Superfund Community Advisory Group meeting. We will hear from the Department of the Interior about the Natural Resource Damage Assessment process. This process identifies actions needed to address injuries to natural resources beyond the Superfund cleanup. We will also hear from Chatham Township's planner, Frank Banisch, about the site's zoning and designation as an area in need of redevelopment.



Congresswoman Mikie Sherrill took a tour of the Rolling Knolls Superfund on August 20 and met with local residents to discuss community concerns. From left to right: EPA Region 2 Administrator Pete Lopez, Congresswoman Mikie Sherrill, NJ DEP Commissioner Catherine McCabe, Chatham Township Committeewoman Tracy Ness, Britten Road resident and Rolling Knolls Community Advisory Group Member Margy Capecelatro, GSWA Executive Director and Rolling Knolls Community Advisory Group chairperson Sally Rubin.

# From the Desk of the Executive Director Are We Pro Development?

by Sally S. Rubin

**N**o!  
Are we anti development?  
No!

What we are is pro environment!

Our advocacy in Long Hill Township is a good example of all of the above.

Several years ago, we opposed a change in zoning at the former Copper Springs Swim Club, now known as Centercourt. The developer sought to fill in the pond and construct four tennis courts on property immediately adjacent to the Great Swamp National Wildlife Refuge. The proposal would have negatively impacted the environment. The zoning change was denied.

Also several years ago, we advocated in favor of a redevelopment proposal at the former Archie's Resale Shop, just around the corner from Copper Springs. The proposal would have reduced impervious surface, cleaned up asbestos contamination, and created stormwater management. The proposal would have improved the environment. Despite our support, the application failed.

And, in 2017 and again this year, we are in favor of the sale of the Long Hill Sewer Treatment facility. The facility frequently exceeds its capacity, bypasses the system's filters, and discharges partially treated sewage directly into the Passaic River. The DEP notified Long Hill that the town must provide a plan for remediation and the ability to implement the plan. The proposed sale would include providing sewer to between approximately 150 to 200 homes on septic

systems. These older septic systems are in danger of failing because of the high water table in Long Hill and climate change. Climate change has created more frequent and more intense rain storms. This causes the soils surrounding the septic systems to be more frequently saturated with rain water which prevents septic systems from functioning properly. Failing septic systems pollute the environment causing increased nutrient and bacteria levels in the local surface waters.

These rain storms are also the cause of the sewer treatment facility exceedances and discharges. The sale of the wastewater treatment system will facilitate improvements to old infrastructure which will reduce stormwater inflow and infiltration and improve reliability of the system, reducing contamination of our rivers and environment. We encourage the residents of Long Hill to support the referendum to sell the sewer treatment plant and facilitate improvements to the system. Passing the referendum will benefit the environment. 🌲

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](mailto:srubin@GreatSwamp.org) so you don't miss out on our new monthly e-newsletters.

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# Across the Watershed

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

GSWA is a member-supported non-profit organization that has been protecting the waters and the land of the Great Swamp Watershed for more than 35 years.

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## Upcoming Events

### **Breakfast Briefing: Proper Recycling - Straight from the Source** **Tuesday, September 17, 8:00-9:30 AM**

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

Well-intentioned but incorrect recycling creates major problems at the recycling plant. Just ask Gary Sondermeyer, VP of Operations at Bayshore Recycling. And you can do just that when you join us for an inside look at recycling and how it all works. Gary will provide us with the first-hand dos and don'ts of curbside recycling (AKA Class A recycling.) We'll also learn about how New Jersey was the first State in the country to require "mandatory recycling" dating back to 1987. Come get the real facts on recycling. This event is free to all GSWA members; a \$10 donation is appreciated from non-member adults, \$5 for children. Registration is required. Register at [GreatSwamp.org](http://GreatSwamp.org) or call 973-538-3500.

### **New Moon Hike at the Refuge** **Friday, September 27, 7:00-8:30 PM**

*Great Swamp National Wildlife Refuge  
Wildlife Observation Center, Long Hill Road,  
Harding Township, NJ*

Come hike the trails of the Wildlife Refuge under a new moon, when the stars are at their brightest! A new moon is the first lunar phase, which means it will not be visible at all. But don't worry, just because it's dark out doesn't mean the inhabitants of the woods have gone to sleep. During this guided hike, we will take advantage of the quiet, early-autumn air by listening for the nighttime creatures of Harding Township, like owls, as they prepare for the change of season. Space is limited so don't wait. This event is free to all GSWA members; a \$10 donation is appreciated from non-member adults, \$5 for children. Registration is required. Register at [GreatSwamp.org](http://GreatSwamp.org) or call 973-538-3500.



*Bales of recycled plastic at the Bayshore Recycling Center.*

Remember to check out our website at: [greatswamp.org/events/](http://greatswamp.org/events/) for additional events.

**Great Swamp Gala & Silent Auction 2019**  
**Thursday, October 3, 2019 at 6:00-9:30 PM**

*Brooklake Country Club, 139 Brooklake Rd.,  
Florham Park, NJ*

GSWA is thrilled to honor Congresswoman Mikie Sherrill at our 2019 Gala & Silent Auction, held at the Brooklake Country Club in Florham Park. Purchase a VIP Premier Ticket for the private reception with our most distinguished guests and enjoy cocktails and gourmet hors d'oeuvres from 5:00-6:00 PM, prior to the start of the Gala at 6:00 PM. Our annual Gala & Silent Auction is our biggest and most exciting fundraising event of the year! The evening will include a lively cocktail hour, a delicious dinner banquet, an expansive silent auction, and remarks delivered by Congresswoman Sherrill. Purchase your ticket at [GreatSwamp.org](http://GreatSwamp.org) or call 973-538-3500. (read more on page 9)

**Tour the Bayshore Recycling Center**  
**Monday, October 7, 10:00-11:00 AM**

*Bayshore Recycling Center, 75 Crows Mill Rd.,  
Keasbey, NJ 08832*

Have you ever wondered what happens to your recycling once it leaves the end of your driveway? This is your chance to discover its journey with your own eyes, step-by-step. Gary Sandermeier, VP of Operations at Bayshore Recycling, will explain it all with this behind-the-scenes tour. Don't miss out on this unique opportunity to get a true understanding of the importance of recycling, and some first-hand do's and don'ts. Registration is required. This event is free to all

GSWA members; a \$10 donation is appreciated from non-member adults, \$5 for children. Space is limited to 15. Registration is required. Register at [GreatSwamp.org](http://GreatSwamp.org) or call 973-538-3500.

**Columbus Day Hike at the Refuge**  
**Monday, October 14, 10:00 AM - 12:00 PM**

*Great Swamp National Wildlife Refuge  
Orange Trailhead (North), approx. 77  
Meyersville Rd., Green Village (Harding  
Township) NJ*

School's closed. What better way to celebrate Columbus Day than with a crisp, Autumn hike at the Refuge. GSWA Education Associate, and thoroughly knowledgeable tour guide, Adam Palmer, will take you through the Orange Trailhead and share his knowledge of the plants and critters of the refuge as they prepare for the approaching winter. Dress for the weather. This event is free to all GSWA members; a \$10 donation is appreciated from non-member adults, \$5 for children. Registration is required. Register at [GreatSwamp.org](http://GreatSwamp.org) or call 973-538-3500.

**Breakfast Briefing: Ed Potasnak - League of Conservation Voters**  
**Tuesday, October 15, 8:00-9:30 AM**

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

Join us for a conversation with Ed Potasnak, Executive Director of the NJ League of Conservation Voters, as he reviews pending legislation (Senate Bill 1073: The Clean Stormwater and Flood Reduction Act)

*(more events on the next page)*

## **Upcoming Events** *(continued from previous page)*

to make our neighborhoods cleaner, greener and safer, and can help create good, local jobs. This event is free to all GSWA members; a \$10 donation is appreciated from non-member adults, \$5 for children. Registration is required. Register at [GreatSwamp.org](http://GreatSwamp.org) or call 973-538-3500.

### **Change of Colors Hike**

**Saturday, October 19, 10:00 AM – 12:00 PM**

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

October is the perfect time to head outdoors and check out all the vibrant colors of autumn, and Garret Mountain is the place to be. Hazel England, GSWA Director of Education & Outreach, Land Steward, will take you on a journey through the trails, identify the many varieties of trees and plants, and present to you the breathtaking Paterson Falls. Situated 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. Be sure to grab your camera and fill up your reusable water bottle. Wear your hiking boots and dress for the weather. This event is free to all GSWA members; a \$10 donation is appreciated from non-member adults, \$5 for children. Registration is required. Register at [GreatSwamp.org](http://GreatSwamp.org) or call 973-538-3500.

### **Stream Assessment Training**

**Saturday, October 26, 10:00 AM – 2:00 PM**

*Location to be determined*

Interested in becoming a stream monitoring volunteer or just learning more about stream health? This is the training for you! An indoor classroom session teaches you how to conduct visual stream assessments and recognize environmental factors that may impact stream health. An outdoor session lets you practice your new-found skills at a local stream site. By afternoon, you will be a fully trained visual stream assessment volunteer and ready to conduct an assessment! Bring a pair of boots and clean shoes to change into. There will be a short walk to reach the stream. Tools and supplies are provided. Preferred volunteers are 15 or older. Includes indoor and outdoor sessions. This training will be conducted in conjunction with the AmeriCorps New Jersey Watershed Ambassador Program. Registration is required for this free training session. Register online at [GreatSwamp.org](http://GreatSwamp.org) or call 973-538-3500.

### **Friendraiser: FALL-FEST HARD CIDER TASTING!**

**Tuesday, November 5, 5:30-7:30 PM**

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

Nothing reminds you it's Autumn quite like apples and cider. Come experience all things fall at our cider tasting. Sample eight varieties of cider, including spiced, barrel-aged, fruit and others, some of them local. We will pair them with delightful snacks including apple treats. This event is

free to all non-members, and it's free to all GSWA members who bring a non-member guest. C'mon out and sample the tastes of autumn. Registration is required. Register at [GreatSwamp.org](http://GreatSwamp.org) or call 973-538-3500.

**(Wo)man's Best Friend Hike at the CMA**  
**Saturday, November 9, 1:00-3:00 PM**

GSWA Conservation Management Area (CMA), 83 Tiger Lily Lane, Morristown, NJ- Calling all pooches! Grab your family and a leash, and c'mon out to the CMA for a crisp, pre-winter hike. Join Education Associate Adam Palmer to get some fresh air and sniff new smells. This is your day! We only ask that you play nice with other dogs, remain on your leash for the full hike, ask your humans to bring you some water in case you get thirsty, and clean up after you. There is a limit of 15 pups (but no limit on the number of humans) so shake a leg and register today! This event is free to all GSWA members; a \$10 donation is appreciated from non-member adults, \$5 for children. Registration is required. Register at [GreatSwamp.org](http://GreatSwamp.org) or call 973-538-3500.

**CMA Stewardship and Restoration Update and GSWA Annual Meeting**  
**Wednesday, November 13, 6-7:30PM**

*Kemmerer Library – Harding Township, 19 Blue Mill Rd., New Vernon, NJ*

Join us for wine and cheese and see what we've been up to at our Conservation Management Area on Tiger Lily Lane in Harding. Since our recent acquisition of 20 new acres, making our property over 70 contiguous acres, we have been busy. Work completed at the property from more than 2,000

volunteer hours this year includes expanding our education areas to accommodate larger classes, felling more than 20 trees to block old hunting roads, creating 500 feet of board walk for trails, and planting 1,000 native trees and shrubs. Hear about what else we've been working on as an organization. We are always hard at work on advocacy, education and water quality monitoring, in addition to our land preservation and stewardship efforts. Please join us. Registration is required. Register at [GreatSwamp.org](http://GreatSwamp.org) or call 973-538-3500.

**Post-Turkey Day Hike**  
**Sunday, December 1, 9:00 AM – 12:00 PM**

GSWA Conservation Management Area (CMA), 83 Tiger Lily Lane, Morristown, NJ

We all did it – we went for that extra helping of mashed potatoes... used a little extra whipped cream on our pumpkin pie... There's no shame in that, especially when you head outside for a post-Thanksgiving hike and walk it off! Join Hazel England, GSWA Director of Education & Outreach, Land Steward, and come check out all the great work our volunteers have been doing throughout the year as we take you on an end-to-end tour of the CMA and contiguous trails. Enjoy the new boardwalks across the trails, and marvel at the new native plants that have replaced the invasives. You won't want to miss this Thanksgiving treat! This event is free to all GSWA members; a \$10 donation is appreciated from non-member adults, \$5 for children. Registration is required. Register at [GreatSwamp.org](http://GreatSwamp.org) or call 973-538-3500. 🌲




# A Surprise Bequest!

by Wade Kirby, Director of Development

Not long ago I received a phone call from the American Friends Service Committee in Philadelphia. They told me that the “Great Swamp Association” was the beneficiary of a Charitable Remainder Annuity Trust, but they wanted to verify we were indeed the organization intended by the now deceased donor. With one phone call we learned that we would be the recipient of this generous philanthropic legacy through the wishes of Dr. Edward F. Babbott.

In the words of the New Jersey Conservation Foundation, Edward Babbott has been termed a **Conservation Trailblazer**. He was a passionate environmentalist who believed the power of nature could inspire young people to love and appreciate plants, animals, air, water and natural lands. In 1992, Ed’s family established the Babbott Education Fund which is dedicated to helping young people learn about the environment and land conservation through internships and education programs. As a result, students from across New Jersey gain experience in everything from working with endangered species on preserved lands to meeting with lawmakers in Trenton on environmental legislation. In the 1960’s, Ed joined the grassroots effort to save the Great Swamp in

Morris and Somerset counties and prevent its conversion to an international “jetport.” The Great Swamp National Wildlife Refuge, a body of land now encompassing nearly 8,000 acres federally protected from development was born as a result of those efforts. The Great Swamp Committee, one of the groups spearheading the fight against the jetport, eventually became the New Jersey Conservation Foundation. Ed joined its board of trustees in 1968 and served for 44 years, becoming the organization’s longest-serving trustee. Ed’s love for the Great Swamp continued throughout his life. At age 93, Ed and his daughter Margaret co-authored “Into the Great Swamp,” a book of photography and poetry highlighting the beauty, wildlife and mysteries of the swamp.

Edward Babbott’s legacy and tireless work on behalf of the environment continues. Innumerable students have benefited from the opportunities he has provided for conservation education. How will the Great Swamp Watershed Association use this generous bequest? That question is yet unanswered, but let this serve as an inspiring example for others to consider a legacy gift for ongoing education and protection of the beauty that surrounds us. 

## 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](mailto:srubin@greatswamp.org).



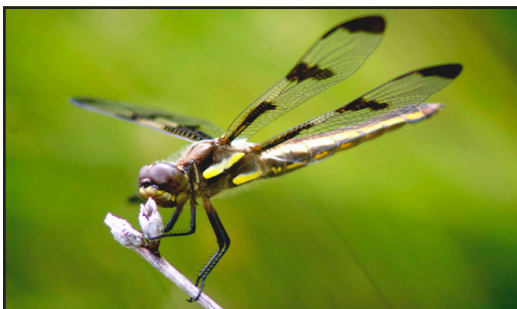
# 2019 *Gala*

## A Party you Don't Want to Miss!

**Thursday, October 3<sup>rd</sup>**, is a date you don't want to let slip by. Hundreds of your friends, neighbors and municipal representatives will be gathering at Brooklake Country Club in Florham Park for the party of the year—the **2019 Great Swamp Gala and Silent Auction**. The event begins at 6PM. We hope you'll join us and meet our honoree, Congresswoman Mikie Sherrill! Tickets are on sale at [GreatSwamp.org](http://GreatSwamp.org). Purchase a VIP Ticket and mingle with our most distinguished guests at our intimate VIP Cocktail Reception from 5-6PM.

There will be champagne and premium open bar for your enjoyment, a delectable variety of passed hors d'oeuvres to savor, fun games, and our exciting silent auction filled with tons of fabulous prizes. The auction offers

something for everyone, from vacation destinations, great dining experiences, sports tickets and memorabilia, to beautiful artwork, fine wine, and so much more! There's also an exciting Live Auction segment! A three course sit-down dinner follows at 7:30PM but the auction action keeps going, thanks to mobile phone bidding. Friends and family at home can find our auction online as well and bid in real time! Watch our website for an auction preview late September.



**We are delighted this year  
to be honoring**

**Congresswoman Mikie Sherrill!**

The money raised by our Gala helps GSWA continue and expand our important water-quality monitoring, land preservation and stewardship, environmental education, and advocacy programs. If you're interested in advertising or would like to print your congratulations to GSWA or Congresswoman Sherrill, contact us or visit our Gala ticket page online.

Help GSWA even more by participating in the special vegan incentive at the event. Four

GSWA supporters have pledged to donate \$75 to GSWA for every vegan meal served at the Gala! As an additional enticement, the main course recipe has been specially designed for us by ac-

claimed plant-based chef, Leslie Durso, and promises to be delicious.

**We expect a sellout crowd,  
so buy your ticket now!  
See you at the party!**

**Questions?** Contact our Gala Coordinator, Debbie Rice, by email at [DRice@GreatSwamp.org](mailto:DRice@GreatSwamp.org) or give us a call at (973) 538-3500, Ext.-14. 🌲

# Fashion Conscious Plants at the CMA?

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

Any recent walk around the trails of the Conservation Management Area on Tiger Lily Lane in Harding will reward the hiker with views in every direction of fluttering pink and orange flags, streaming gaily from the plants they are tied to in a variety of bows, wraps and knots. Why the new fashion accessory for these usually inconspicuous green and leafy native plants?

The ribbons serve to help easily identify the more than 1,050 native shrubs and trees that have been installed around the 73 acre Conservation Management Area stream corridors as part of our ongoing restoration efforts, and as a direct result of a grant received from the collaboration of the Watershed Institute, Sustainable Jersey, and The Nature Conservancy's Roots for Rivers Program. Flagged plants can easily be tracked to measure deer browse, (very little given our herd reduction program and 30 acre

enclosure at the site), counted in subsequent years for survivorship, and be easily identified if they might need to be watered (though we have had no need to worry on that front this season!). Plants, purchased from Pinelands Native Nursery with Roots for Rivers grant funds, have been installed along the Silver Brook and its tributaries and wet swales by hundreds of stewardship volunteers over two months of hard labor.

First, the hard work of readying the site had to be accomplished- this was especially tough given the often wet and muddy conditions that prevailed this spring. Drove of volunteers cleared invasive shrubs and trees such as multiflora rose, Japanese honeysuckle, European privet and Japanese barberry that were occupying the streambanks in the locations where the native plants would be installed. Cut invasive stems were dabbed with herbicide from "buckthorn blaster"

applicators to kill the roots of the invasive plants, leaving the soil as little disturbed as feasible. Huge piles of cut invasive shrubs began to appear as the transformation took place. Often volunteers worked in waders from the stream itself to ensure thorough removal of the invasive tangles hanging over the riverbanks. Then wheelbarrow loads filled to bursting with native plants were trundled back to the planting site, hauled nearly ¾ mile back through muddy trails in many cases. The plants were dressed



Plants from Pinelands Native Nursery to be installed along Silver Brook and its tributaries.





*Volunteers clearing invasive shrubs and trees.*

in their sartorial pink, orange or blue ribbons and the backbreaking work of planting them correctly began. Holes were dug into the heavy clay soils, widened and carefully deepened, ready to welcome seedling, 1, 2 or 3-gallon sized root balls of blueberry, witch-hazel, maple, oak and more. More than 20 days of invasive removal and replanting, by more than 350 volunteers have resulted in the transformation of great swaths of the streambanks into native clad areas.

These native plants, though small now, will grow, and in the absence of deer (which we manage through herd reduction programs and fencing), spread their seeds and fruits in time, reducing soil erosion, filtering and slowing rain as it falls on them, shading streams to moderate the water temperature and providing valuable habitat along the



*Cut invasive stems dabbed with herbicide.*

upper sections of the Great Brook tributary to the Passaic.

We thank the Watershed Institute, Sustainable Jersey, and The Nature Conservancy's Roots for Rivers Program for their support of this important work. 🌲



*More than 350 volunteers spent over 20 days clearing invasives and planting native plants.*

# Climate: Hows, Whys, and What's in Store for New Jersey

*By Kristina Necovska, GSWA Membership Associate*

**G**reat Swamp Watershed Association's ongoing-lecture series bring you a treasure trove of information by knowledgeable experts in their fields. GSWA's most recent talk was a memorable one as a primer on the mechanisms of climate change and a detailed report on what New Jersey can expect across multiple sectors. We welcomed Dr. Krassi Lazarova, Associate Professor of Physics at Centenary University and former EPA climate modeler, for a detailed overview on the complex processes of climate and how it will affect us here in the Garden State. Dr. Lazarova holds a Doctorate of Physics from Drexel University with a specialization in meteorology.

## **Earth and Venus**

Dr. Lazarova's talk opened with a discussion of interplanetary conditions, a first for the GSWA speaker series. She explained how we know what we know about Earth's climate, by citing NASA's study of the Venusian atmosphere. Venus is our sister planet in so many ways; having a similar size, density and distance from the sun, but whose wildly different atmosphere results in it being the hottest place in the solar system. Turns out that possessing an atmosphere nearly exclusively of carbon dioxide results in a surface temperature of 740 K (467 °C, 872 °F)! After a thorough discussion of how carbon dioxide prevents thermal energy from escaping back into space, we begin our overview of Earth's rapidly warming cli-

mate and what we can expect to see here in New Jersey.

## **Natural or Anthropogenic?**

There are natural and anthropogenic causes for climate change. Scientists from a wide array of disciplines can draw conclusions which are consistent between their respective expertise of natural cyclical processes of Earth - from over the short term (the last 140 years) to long-term (hundreds of thousands of years). The data which diverges wildly from these consistent patterns begins to take shape starting from 1980 onward. Scientists isolated three anthropogenic sources; the fossil fuel industry, agriculture, and deforestation. These three sources affect the planet's concentration of one primary greenhouse gas – carbon dioxide.

## **Effects:**

Many of us already know about some of the general trends we can expect to see across the Eastern US; frequent heat waves, extreme weather (higher highs and lower lows), heavy rains, sea level rise. But what are other effects you might not aware of... changes in fisheries, outbreaks of viruses, fungal diseases and insects, as well, will affect ecosystems as well as human communities. The Northwest is likely to see many of the same effects as the East with more erosion, mudslides, wildfires and reduced water supply and resulting decreased agricultural



yields. Many cities across the US are likely to see temperature related health impacts.

### **New Jersey's Changing Climate:**

Dr. Lazarova spent considerable time forecasting just what New Jersey can expect in a number of areas; farming, healthcare, and infrastructure. Her forecast for New Jersey was interestingly not all doom and gloom as you might expect. Yes, we will see more hot days, more flooding, and wetter Springs and Winters. But we may also see a longer growing seasons for certain crops, including more favorable conditions for vineyards due to wetter Springs and drier Summers. For healthcare, the forecast is more serious: we can expect vulnerable populations of people disproportionately affected by climate related health issues. Hospitals can expect a higher frequency of emergency room visits by people who cannot afford to see healthcare providers on a regular basis, and increasing incidents of respiratory illness, heat-related illness (dehydration, heat-stroke), and more allergies as a result of a longer pollen season. Finally, we can also expect a higher incidence of insect borne pathogens such as Lyme, Zika, and West-Nile virus.

Southern New Jersey will experience a unique set of challenges caused by a rising sea-level and, truth be told, is currently undergoing these challenges now, such as beach erosion. Lowlands will be submerged by a rising water table due to rising sea level, particularly salt marshes in between Cape May and the Meadowlands, and salt water infiltration of previously freshwater systems will negatively affect forests along the coasts.

New Jersey's infrastructure is being affected as well; flood maps are being re-

drawn, higher storm surges, risks to power grids, and wastewater management will be seen. Higher wind speeds will affect portions of the state with large trees and as a result property insurance rates will increase.

### **We CAN Affect Change**

In the face of these changes, there are two overall approaches; mitigation and adaptation. Applying one or the other will only take us so far. Mitigation can slow these climate effects through stabilization of greenhouse gases. Regulating the emissions of greenhouse gases will allay some of the most severe effects but Dr. Lazarova proposes also increasing carbon sequestration in tandem. Ecosystems will adapt to gradual change, but we must first slow the rate of change. Adaptation is necessary because certain changes are inevitable at the current rate of carbon emissions we have seen so far. New Jersey must prepare for excessive flooding by developing stormwater management and improving infrastructure resiliency in the face of severe storm events. Eliminating development in the highest risk locations will ensure that human lives are spared the effects, adapting building regulations to plan for higher wind speeds and improving water storage and use for existing communities.

### **The Big Question, When?**

While climatologists can say with certainty these effects will occur, there is disagreement over their timing - whether one decade or three, or five years' time remains to be seen. Their severity will of course depend on how well prepared we are to face these challenges.

*(continued on page 14)*

# Thank you FirstEnergy Foundation and JCP&L

*by Rick Porter, Director of Institutional Relations*

Great Swamp Watershed Association (GSWA) is pleased to announce it recently received a grant award from the FirstEnergy Foundation/Jersey Central Power & Light Company (JCP&L) in the amount of \$7,500. The support of the Foundation and JCP&L will allow GSWA to move forward in the coming year with its plans to continue improving and expanding

its highly-respected water quality monitoring and environmental education programs. These programs bring an awareness to the citizens of our communities of the vital link between their health and the health of our waters and lands. We are proud to be working every day to build healthier, safer and more viable communities for current and future generations of families in New Jersey. 🌲



Shown at the recent check presentation at GSWA's headquarters in Morristown, N.J. are Sally Rubin, Executive Director; Carol Bianchi, Regional Affairs JCP&L; and Rick Porter, Director of Institutional Relations.

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## Climate: Hows, Whys, and What's in Store for New Jersey *(continued from page 13)*

Dr. Lazarova ended her talk by answering a poignant question by a young member of a local volunteer organization who asked "What can I tell my peers when they say 'Planting trees doesn't help climate change?'" Dr. Lazarova answered "Plants eat carbon dioxide. Every single tree who grows leaves is

eliminating CO2 gas from the atmosphere and every single one does make a difference."

To access a condensed version of her talk, the statistics, graphs and resources used by Dr. Lazarova, or to view other lecturers GSWA hosted in the past please visit [greatswamp.org/publications/](https://greatswamp.org/publications/) 🌲

# Plastic Bag Bans

*by Sally Rubin, Executive Director*

**M**any local municipalities are considering a plastic bag ban. Indeed, several local towns including Chatham Township and Chatham Borough, Madison, and Morris Township, will be introducing such ordinances this fall and we commend them. They would be joining the approximately 50 other New Jersey towns that already have some form of ordinance banning plastic, including Jersey City and Hoboken. Just this August, Paramus, known unofficially as the state's retail capital, banned single use plastic bags and polystyrene (Styrofoam) from the borough.

However, based on a recent Recorder Newspaper article I read, it seems like some local municipal officials are doing the "political two step". You know, dancing around the issue...


Yes, it's complicated, but so is life. And, yes, it's being taken up at the state level, but we know that a statewide ban will take a lot more time. Act now municipalities and then revisit the issue if, and when, a statewide law is passed. Worry less about enforcement. Just do the right thing.

Of course you should have public hearings and of course you should involve the business community. But, there are 50 examples in New Jersey for guidance and many more from out of state that you can look to. I'm sure we can find a way to

address any "unintended consequences" one municipal official seems so concerned about.

People will not stop grocery shopping if you institute a plastic bag ban and/or start charging for bags if the shopper forgets their reusable bag. And no, we don't expect to eliminate plastic altogether, but let's at least start at the check out counter.

I won't name names for the municipal officials quoted as wanting to study the issue to death or who express concern over economically stressing their local businesses or who want to wait for the state to do something, but I will call out my friend Mayor Paul Vallone in Far Hills (which unfortunately doesn't have a grocery store!). Mayor Vallone is quoted in the Recorder Newspaper article as saying "I understand that consumers need a method of transporting their goods back to home, but at the same time we have to be mindful of the impact that these products have on our landfills, on our oceans and on wildlife." Well said Mayor.

So, all you GSWA supporters reading this, please encourage your municipal officials to "get on the ban wagon" and ban plastic bags and help improve our environment. Meanwhile, you can start now and remember to bring your own reusable bags with you! 

# Microplastics – Part Two

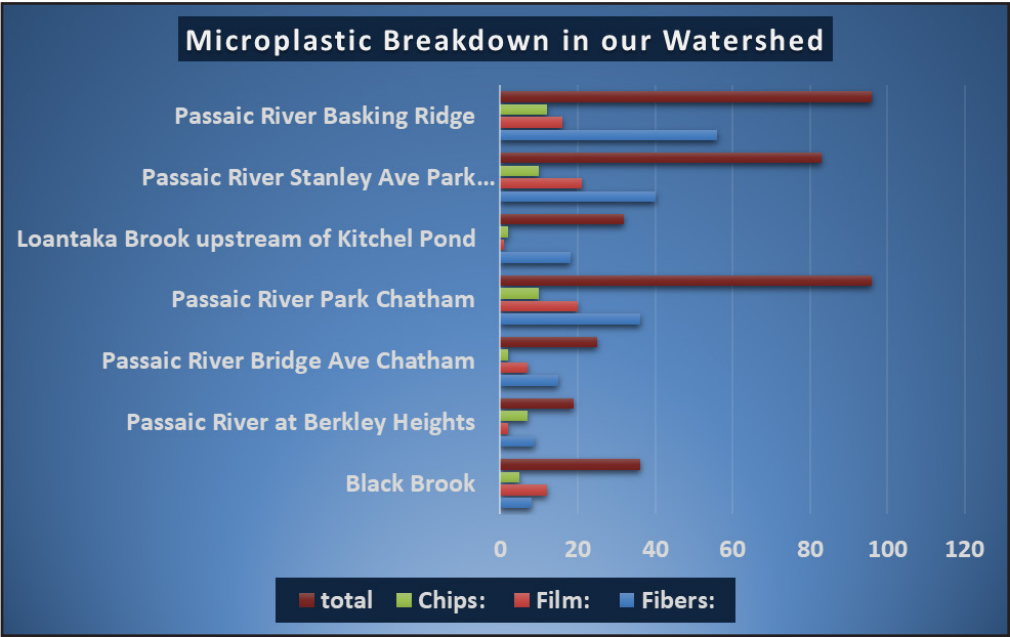
by, Sandra LaVigne, Director of Water Quality Programs

In 2018 we began our pilot study of microplastics in our local surface waters. We sampled ten sites throughout the watershed and upper Passaic River to gather baseline data on how much and what types of plastics we had. This initial study allowed us to develop sampling protocols for use in small shallow surface waters, like the headwaters of many of our streams, where little sampling had been done previously for microplastics. In the graph below are some of the compiled results from that sampling.

The plastics we found in our original study were divided into three groups; chips, which come from larger plastics such as water and

soda bottles; film, broken down from items such as single use plastic bags; and fibers, which enter the water from the breaking down of synthetic fabrics as they go through the wash. Overall, the majority of plastics were found in the film and fiber categories.

Based on our findings, and with generous backing from the Leavens Foundation and The Watershed Institute, GSWA has begun a more in depth study to further determine the quantities and types of plastics that are in our local waters. In August we began sampling at 17 locations, chosen using the data from the original study, and with updated protocols. Based on meetings with other local



Graph credit: Sandra LaVigne, Director of Water Quality Programs



watershed organizations, including Raritan Headwaters, we improved our sampling protocols and chose further locations that might help determine sources for some of the plastics in the waters.

Samples will be sent out to a university laboratory for more in-depth processing which includes a process of removing all organic materials, such as leaf litter and algae. This will allow for a better and more accurate count of microplastics present as well as to better determine what the source of the original plastic was (film, bottles, polystyrene containers, straws, etc.).

GSWA is working to utilize this data to help local municipalities promote ordinances to reduce plastic usage in our communities. We have shared our data with other organizations such as Madison Environmental Commission and the Coalition for the Delaware River Microplastics Working Group and worked with them to spread public awareness and reduce individual plastic consumption and waste.

Here are some of the ideas we shared with the public:


- Use reusable bags – not just at the supermarket but wherever you shop
- Use mesh bags for your produce at the farmers' market or supermarket
- Bring your reusable coffee or tea mug to the coffee shop and ask them to fill it instead of a disposable cup with a plastic lid
- Put a reusable bag with a few reusable storage containers in your car and bring them into a restaurant if you might have leftovers to bring home
- At restaurants, ask for a drink with no stirrer or straw. If you like to use a straw, bring a reusable one
- Carry your own travel cutlery in your car for take-out or on-the-go eating
- And support local business that are making changes to reduce their plastic use



Ben Wolkowitz, former Chairman of the Board of Trustees at Great Swamp Watershed Association, passed away on August 2, 2019. We extend our sincere condolences to his friends and family.

Ben served on our Board of Trustees and served as Chairman from 2010 to 2011. He loved living in our area and the environment and wanted to make it an even better place to live.

Ben served his community on the Madison Town Council from 2012 to 2018. He was also active in the Madison Rotary Club. Ben held a doctoral degree in economics from Brown University, taught economics at Tulane University and was a Section Chief at the Federal Reserve Board. He was a retired Morgan Stanley Managing Director.

Ben is survived by his wife, Lois, his children, Rachel and Jacob, and four grandchildren. 

# Great Swamp Great Music Festival is a Big Success



By Val Thorpe, Director of Membership and Communications

**"The scene that day was all color, joy, play, music, friends old and new, beach balls, beer, dancing, everything absolutely picture-perfect."**

—Kit Stinson,  
GSWA Advisory Council member and  
Music Festival Promotions Committee

Sunday, June 9 was a spectacular day of bright blue skies and puffy white clouds for our 2<sup>nd</sup> Annual Great Swamp Great Music festival; leaps and bounds better weather than last year's inaugural event. We were thrilled to hold the festival once again at the picturesque Hartley Farms Polo Field in Harding Township, thanks to the generosity and hard work of Nicolas Platt, GSWA Board Chairman. Serving as our second largest fundraiser of the year, the event was a big success, drawing a crowd of nearly 650.

With the expansion of a fifth band and an additional hour, music lovers enjoyed five hours of grooving to the sounds of classic rock, blues, reggae, and more. Solo artist and GSWA Advisory Council member, Jeff Webb, kicked off the afternoon event and also entertained the crowd between band sets. The bands, Lenox Underground, Log-Jam, Not Enough Jeffs, Purple Hayes, and The Gammon Brothers all generously donated their time and talent, and they really brought it!

The field was filled with spectators of all ages relaxing on blankets and chairs. Others set up under the big tent to grab some shade. Children of all ages enjoyed the frisbees, jump ropes, and beachballs scattered around the field, and there was friendly competition

with the cornhole games provided by two of our sponsors.

Along with the fabulous music, attendees enjoyed delicious food from a variety of vendors, beer and wine available for purchase, and unique items for sale by our local merchandise vendors. In addition, there were lots of free perks including plentiful potable water provided by New Jersey American Water, caricatures drawn on the spot, tickets to the MARS Essex Horse Trials, and even free parking.

This year we even pampered some VIPs who purchased a VIP festival package at our Gala silent auction. These VIP guests enjoyed a private pop-up tent with prime stage viewing, food, wine, and additional privileges. Look for this special VIP festival package at our upcoming Gala silent auction, taking place on October 3<sup>rd</sup> at the Brooklake Country Club in Florham Park.

Overall, the Great Swamp Great Music Festival was a full afternoon of lively music and big smiles. Stay tuned for next year's date and be sure to join us!

We are grateful to our generous sponsors, who helped make this all possible: Normandy Real Estate Partners, Peapack-Gladstone Bank and Peapack Private Wealth Management, Debra & John Apruzzese, Atlantic Health System, Delta Dental of New Jersey, Glenmede Investment and Wealth Management, Adrienne & Dillard Kirby, the Community Foundation of New Jersey, Investors Bank, Ralph & Lynn Jones, Matt & Agi Krauser, and Van Thorne, as well as our other generous sponsors. 🌲


## Our Next Big Adventure on the Passaic

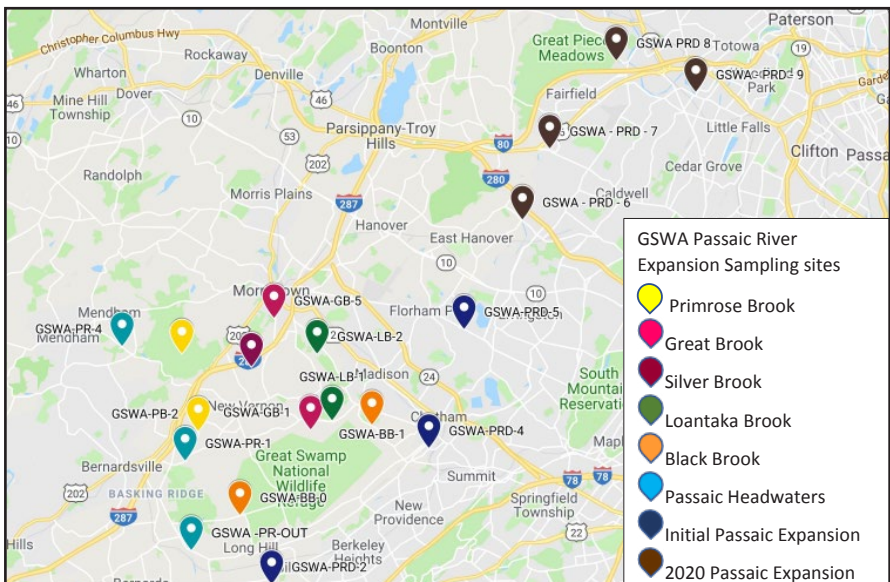
*by, Sandra LaVigne, Director of Water Quality Programs*

In 2017 GSWA expanded our mission statement to encompass the Passaic River from source to sea. Since that time, we have expanded all aspects of our organization; land preservation and stewardship, education, advocacy, and water quality monitoring. For the past (almost) three years, we have been sampling downstream of the Great Swamp Watershed as far as Livingston. With the help of our Stream Team volunteers, new and old, we have collected visual assessments, chemical samples, macroinvertebrate samples and bacteria samples at five sites along this stretch of the river. With three years of data on the records, it is now time to make our next jump downstream.

In 2020, we will make our next leap down the Passaic River. While consolidating some of the first expansion sites, from five down to

three, we will be adding four new locations through Little Falls. This expansion will include drainage basins from the Whippany, Rockaway and Pompton Rivers, three major tributaries along the Passaic as well as protected areas like Great Piece Meadows. The expansion will include four new sampling sites for our quarterly chemistry sampling, two to three visual assessment locations, a minimum of two new bacteria sampling locations and site dependent, two new macroinvertebrate sampling sites. Below, the map indicates our new proposed sampling spots in brown.

If you are interested in joining our Stream Team volunteers and helping collect the important data that will tell us about this new stretch of the Passaic, please contact Sandra LaVigne vi email for more details. [sandral@greatswamp.org](mailto:sandral@greatswamp.org) 



# Plastic Bag Challenge Update

*by Hazel England, Director of Education and Outreach, Land Steward*

In February's newsletter, I wrote of our family's 2019 resolution to reduce our plastic bag use through our plastic bag reduction challenge. To wean ourselves from reliance on single use plastics, our household began monitoring and recording each instance (and who in our family) was bringing these bags into the house. The challenge spread to the GSWA staff, and many conversations about what situations were still causing us to fall off the wagon, and encouragement to further alter behaviors to minimize plastic use ensued. GSWA has focused energy on raising awareness of how plastics in the environment and specifically in our Passaic waterways could be linked to impaired water quality and on ways that homeowners can recycle effectively and reduce reliance on plastics. We are expanding our plastic monitoring along the Passaic River and gathering knowledge about how plastics enter the water cycle. The news has also been full of sobering articles on the seemingly pristine environments where microplastic fragments and fibers are showing up. Nine months in, here's how my family is faring with our own plastic reduction attempts.

In the spring we stopped updating the chart we had meticulously maintained- weeks went by without anyone succumbing to a plastic bag infraction and it felt redundant! Buoyed, we vacationed to the Dominican Republic and were quickly sobered when we saw the enormous and all-pervasive use of plastic bags in developing countries. Plastic was everywhere we looked and impossible

to avoid. It was impossible to purchase desserts or drinks except in thin film gray and white striped plastic bags. Fruit from street vendors- pre-bagged for hygiene. Fresh squeezed cane juice- bagged ready to drink. Our lovingly packed reusable shopping bags seemed a drop in the bucket compared with the plastics wrapping every food item we consumed. We questioned how Dominicans had purchased anything before the advent of plastic. Woman in bodegas purchased small daily quantities of sauces and salsa from large glass jars, decanted into plastic bags ready for use at home. In the past they probably arrived ceramic cup in hand for the same purchase. We saw that in rural areas trash collection was nonexistent and the primarily plastic based trash was simply burned at the edge of town, escaping bags fluttered from every branch of the trees along the roads where garbage burned. It was a little hard not to be deflated about the impact of our own behavior change on such a widespread global issue.

Our travels highlighted just how ubiquitous plastic is to people's daily lives and the true difficulty of reducing reliance on something that provides convenience and cost effectiveness. It does indeed often come down to ease versus effort. Our trip, however, did galvanize our family to further reduce our own plastic use- as this was behavior we were in control of. I now happily smile at the checkout clerk as I pass my produce directly to her, sans bags. We're using waxed cotton covers and small glass containers to ditch

*(continued on page 23)*



# Flooding Really Stinks in Paterson

by Sue Levine, Paterson SMART facilitator

“My yard is flooding and if that is not enough, as the water recedes, I have toilet paper remnants in my yard, my basement, and on the street.” This is not a quote you want to hear!

Paterson, an historic city founded in 1791, has a combined sewer system so when it floods, raw sewage is making its way onto the streets, yards and basements of the residents and businesses of Paterson. When there is flooding or extreme weather conditions, the sewage is also making its way into the Passaic River through 23 outfalls within the city. Paterson is 1 of 21 cities in New Jersey that have a combined sewer system. These cities are working with NJDEP to develop a long-term control plan to reduce the water flow from the city sewer systems into the rivers.

Paterson SMART, facilitated by GSWA, is a community-based collaboration advocating for green infrastructure to improve water quality and reduce combined sewer overflows, using stormwater management and education. GSWA has worked with the community and has completed numerous green infrastructure projects at several Paterson Schools. These projects have a long-term impact and are both educationally and environmentally beneficial. The

programs have been such a success that 10 new schools have expressed interest in developing an educational plan with Hazel England of GSWA and Liz Pyshnik of Rutgers Cooperative Extension Water Resources Program.

Paterson SMART also works closely with the Paterson Green Team, led by Martha Arencibia and Francis Harrison, as well as Paterson Councilwoman Ruby Cotton, to educate the community on the combined sewer issue and to identify actions the community can take to help address the flooding and associated problems of the combined sewer.

On August 3<sup>rd</sup>, the Paterson community rallied together at Barbour Park on Fair Street to rollout the Adopt a Catch Basin initiative. The Paterson catch basin adoption program was a huge success with residents throughout the six wards taking on the challenge to keep the rivers and sewers cleaner by maintaining a catch basin near their home. The Adopt a Catch Basin program was supported by ANJEC and NJ Futures – Sewage Free Streets and Rivers. 🌱



Nancy Grier, Linda Scott, Martha Arencibia, Mayor Andre Sayegh and Chrystal Cleaves. Members of the Paterson Green Team join with Mayor Sayegh at the inaugural Adopt a Catch Basin barbecue in Barbour Park on August 3.

# By the Numbers – What’s Happening at the Conservation Management Area

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

All things experienced at the Conservation Management Area over the last 18 months have been one of superlatives, by whatever metric you measure with! 2018 was the wettest year in New Jersey since records began, and the 12 months to this July, the second Wettest 12-month period, with approximately 66” rainfall received in each 12-month spell. Since GSWA staff are now using the area much more for teaching and programming, with more than 1,100 K-12 students visiting in 2019 alone, we are super aware of this set of superlative conditions! (See the photo showing our trail entrance under water from this winter). We have had days when our trail system was impassable due to flooding, and programs were by necessity relocated to other nearby sites perched on higher ground.

To help plan for more stable future use in a changing, more dynamic climate, where the wets are likely to be wetter, and we can expect to continue to see above average precipitation,



Conservation Management Area trail entrance under water from winter 2018-2019.

we need to ensure that the trails at the CMA are increasingly resilient to these conditions. Our stewardship plans for 2019 entailed the creation of many additional sections of boardwalk to help address this issue. We were awarded a grant by the New Jersey Conservation Foundation Franklin Parker small grants program to create raised boardwalk along almost 500 feet of trail at the entrance to our trail system. This will continue to allow access to the CMA even during wetter spells.

Our amazing GSWA volunteers have been incredibly active this year, providing another outstanding number. We have had almost 2,000 hours of volunteer labor at the site since March, provided by a combination of high school students, corporate volunteers, local companies, community members, long-time GSWA volunteers and eager interns. This enthusiastic, high energy labor pool has helped us build more than 340 feet of new boardwalk across the entire trail system to ensure dry feet along trails that had been muddy quagmires last fall. These were often trails that had never previously experienced muddy conditions. To further enable trail access, almost two miles of our trail system has been woodchipped over this stewardship season, involving endless wheelbarrows of mulch spread deeply to quash muddy trails.

Since our trail system has both expanded and is connected to the Harding Land Trust trails, allowing three to four miles of hiking, we have built four more benches for hikers to rest and admire the views around the trail system as they take a much-needed break.

Our volunteers have removed thousands of invasive shrubs and herbaceous plants from almost four acres over the last year, allowing native species to thrive, and the forest understory to redevelop. As mentioned elsewhere in this newsletter, we have also been busy planting, and another impressive number is the 1,050 shrubs and trees that have been planted around the site this year. Even our use of bug spray has been in the superlative column this year, and it may be the first year in my 15 at the organization that we used more than 50 cans of mosquito repellent!!

Even as we look back on this 2019 field season with its impressive numbers of volunteers, yards mulched, boardwalk feet built, insecticides sprayed or shrubs planted, the

most impressive number of all is the number of students who have benefited from the improvements at the trail system.

Any aching muscles on the part of staff and volunteers are well worth it, when a student from an urban school, who might never before have experienced a trip into the “swamp”, as they call it, gets to flip a log lying alongside the trails and find and hold a salamander for the first time, or stand underneath a swamp white oak tree and watch a catbird picking blueberries off a shrub planted last year by our intrepid volunteers. We encourage you to take a walk along the trails of the CMA over the coming months and see the results of our year of amazing numbers from 2019 for yourself! 🌲

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### **Plastic Bag Challenge Update** *(continued from page 20)*

zip lock bags for snacks and have become zealots over our reusable straws and mugs! I purchase items more mindful of their packaging, even switching to products or sizes sold in currently recyclable containers, and give gifts of reusable products to friends. Our family has realized we can't change the world, but we are in control of changing our own behavior to tread lighter on it, and we can advocate to others to do the same.

As I write this, the World Health Organization (WHO) just released the first new assessment of the potential risks to humans of microplastics in drinking water. ([who.int/water\\_sanitation\\_health/publications/microplasticsindrinkingwater](https://www.who.int/water_sanitation_health/publications/microplasticsindrinkingwater)) The report, which summarizes microplastics occurrence in the water cycle, potential health impacts from exposure and the mode of entry, concludes that as yet there is no evidence of direct human health impacts from ingesting plastic particles but cedes that

much more research needs to be conducted. The WHO reports that larger microplastics- (150 micrometres - hair width) seem to be of lesser concern than nano plastics (less than 1 micrometre) which may pass through the walls of the digestive tract. The report concludes “Based on the limited evidence available, chemical and microbial pathogens associated with microplastics in drinking water pose a low concern for human health. Although there is insufficient information to draw firm conclusions on the toxicity of nanoparticles, no reliable information suggests it is a concern.”

Bruce Gordon, one of the authors of the WHO report, suggests that the best way to address the problem is to reduce plastic pollution by phasing out single use plastics and promoting recycling and the use of alternatives. We totally agree Bruce, and GSWA will continue to put energy into education and study that does just that! 🌲



## **Great Swamp Watershed Association**

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