

WELLSPRING

Your Water. Your Environment. Your Voice.



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FROM THE EXECUTIVE DIRECTOR

A Summer of Impact

by Jim Waltman

The news from Washington on environmental issues has been pretty discouraging lately. I take comfort, however, knowing that there is still a lot of environmental progress that can be made at the state and local levels.

This is particularly true in a state like New Jersey, which has chosen to exceed many of the federal environmental standards by adopting its own state laws and regulations (although it's sometimes a struggle to maintain them—see p.5). Moreover, many of these New Jersey measures authorize towns to be even more protective than the state's rules.

Thanks to the generosity of our members and supporters, the Watershed has had an exceptionally productive and successful summer making environmental progress within our central New Jersey region.

Our policy team has been working with towns to control polluted stormwater runoff (shown on the cover from left, Municipal Policy Specialist Ed Difiglia, Watershed Institute Coordinator Kimber Ray, Policy Director Mike Pisauro, Stormwater Specialist Kory Kreiseder, and Policy Intern Tammy Sands). In mid-June, we secured a breakthrough in Princeton with the adoption of a strong new ordinance to address runoff from new construction projects (see “Policy Team Tackles Stormwater Runoff”, p.3).

At the end of June, we expanded the Watershed Reserve to 950 acres by purchasing nearly 20 acres from the Hopewell Veterinary Group. The newly preserved land is primarily mature forest with a dense understory of native plants.

Also at the end of the June, after months of engaging with the NJDEP, we cheered when the agency formally rejected an application for environmental permits from the Penn-East Pipeline Company. NJDEP cited the company's failure to submit adequate information with its application and made clear it would not “rubber stamp” the project—even if it receives approvals from federal agencies and returns with a new permit application.

In July, we launched the most successful summer camp season in our history. Every single one of the 535 week-long camp slots were filled this summer, and we had long waiting lists for most sessions. Our camp inspires an appreciation for nature and the environment that has propelled scores of children towards eventual careers in conservation and countless others to make lifelong commitments to environmental stewardship.

Complementing summer camp, we hosted two, week-long sessions of our new Watershed Science & Stewardship Academy for 22 high school students and our first ever Watershed Science Teacher Academy for 13 high school and middle school teachers.

Also in July, we reached final agreement with the Hopewell Valley Regional School District on an innovative new educational partnership. Greg Hunter, a science teacher at Hopewell's Timberlane Middle School, will spend a year as a Teacher-in-Residence at the Watershed. During his sabbatical from teaching, Greg will develop new curricula aligned with the Next Generation Science Standards—a project that will benefit both the local district and the Watershed's education program. (see p.4)

Last, but not least, as this newsletter goes to print, after nearly a decade of scientific investigation and advocacy for the removal of abandoned dams on the Millstone River, we are coordinating a mid-August event to celebrate the demolition of Weston Mill Dam (see p.6). The dam has been blocking fish migrations, degrading water quality and imposing a danger to boaters on the Millstone River since first constructed in the mid-18th century.

It's easy to get discouraged reading the national headlines. But there is a lot of good news happening here in central New Jersey. We are extremely grateful to our members and supporters whose generosity has made these successes possible.

FROM COVER

Policy Team Tackles Stormwater Runoff

Princeton neighborhoods are safer from flooding and water pollution resulting from new construction with the recent passage of an ordinance controlling polluted stormwater runoff.

The Princeton Council voted unanimously to approve the measure on June 12 after extensive work by Watershed staff and volunteers to help the town draft the ordinance. The language is significantly more protective than state regulations require.

“This was really a model for advocacy on an issue that was well executed by the Watershed, and I think they are to be commended,” said Councilman Timothy Quinn just before the vote.

Mayor Liz Lempert said the ordinance is a good first step as Princeton continues to work on its program to capture stormwater runoff for the benefit of the town and communities located downstream. “I think it is important to take a step back and realize that when there is a big storm, someone is going to pay,” Lempert said. “And what this ordinance attempts to do is to make that more equitable.”

Runoff from hard surfaces like parking lots, driveways, yards, and buildings is the leading cause of water pollution and flooding in our region. As runoff flows over these surfaces, pesticides, oil, bacteria, and sediment pollute the water.



Flooding from Hurricane Irene, 2011

Princeton’s new ordinance includes most of the recommendations that Watershed Executive Director Jim Waltman made in a January presentation to the town’s Council and in a June presentation to its Planning Board. Highlights include:



Heavy rains and stormwater cause flooding

- New developments that add 400-square-feet of building coverage or hardscape are now required to capture 2 gallons of runoff for every square foot of such impervious surfaces.
- New developments that add 5,000-square-feet of impervious surfaces are required to implement more advanced measures to address both runoff and water pollution.
- Maintenance, inspections and reporting is required of stormwater management systems for larger developments.

The Watershed is pleased to have worked with the Princeton Environmental Commission, the council, mayor and the engineering staff to create the new ordinance, which will help ensure that the flooding and water pollution problems in Princeton don’t get much worse. To address existing concerns, however, more work needs to be done.

We are working with a number of towns to help them improve their efforts to control polluted runoff. To find out how your town is doing on this issue, contact Mike Pisauo, our policy director mpisauo@thewatershed.org.

The Watershed’s work with municipalities is supported by the Geraldine R. Dodge Foundation.

Teacher-In Residence Project Launched

A Hopewell Valley Regional School District teacher has been named the inaugural Teacher-in-Residence at the Stony Brook-Millstone Watershed Association. Greg Hunter, a 6th grade science teacher at Timberlane Middle School, will review and align the district K-8 science curricula with the Next Generation Science Standards while working with the Watershed education staff to create investigative experiences for use in our programming for central New Jersey Schools.



Greg Hunter and Edu. Director Jeff Hoagland

Dr. Thomas A. Smith, Superintendent of Schools for the Hopewell district, was eager to join in this new initiative. “Helping students think critically, while engaging them in science, builds scientific literacy. This partnership is a huge step toward that goal.”

Mr. Hunter jumped at this opportunity. “This is a really unique opportunity to build my skills as a science educator. I will be engaged with a wide variety of learners and teachers, and gain from these varying perspectives. I also enjoy the prospect of sharing and growing my expertise and passion for the Next Generation Science Standards.”

During his yearlong sabbatical from daily teaching, Mr. Hunter will work fulltime at the Watershed. He will work directly with district teachers, providing professional development, designed to strengthen fluency in the new standards with an enhanced focus on science practices. With the Watershed education staff, he will examine opportunities for investigative studies and civic engagement. These activities will be designed and tested throughout the year. The Watershed is uniquely positioned for this partnership with our scientific expertise, 950-acre living laboratory, LEED-Platinum Watershed Center with its science lab, and our outreach into the community.

“One of the clear benefits of this partnership,” said Watershed Education Director Jeff Hoagland, “is a cross-fertilization, where both parties, understanding the challenges and opportunities presented by these new standards, grow through collaboration, resulting in a community of learners who can fluently engage in scientific practices.”

Jim Waltman, Executive Director, said, “We’re thrilled to have Greg join us and devote his talents to developing educational tools that will energize the next generation of science leaders. We are excited by this novel partnership, which will enrich the programs we provide for dozens of schools each year.”

It’s Never Too Late to Learn

Learning the Language of Nature is a series of naturalist courses for adults that breathe new life into the environment around us. Professional instructors make learning fun and easy with small class sizes and niche topics. Upcoming courses include a focus on water ecology and life cycles of trees. Discover a new understanding and appreciation for the living systems all around us.

Each course includes six evening classes and three Saturday morning field trips. No tests, papers, or projects are assigned. All that is required is interest and attendance. Enrollment is limited to 15 people. Learn more and register online at thewatershed.org/adults.



Students enjoy a discovery field trip

Freshwater Wetlands Face New Threat

The New Jersey Department of Environmental Protection (NJDEP) has proposed changes to the state's program of protecting wetlands that the Watershed believes would weaken existing protections for these critical areas.

In our densely developed state, remaining wetlands serve a critical role in protecting both people and our natural environment. Wetlands act as sponges that absorb rain and stormwater runoff, and are vital in filtering out pollution and controlling flooding.

Wetlands also provide valuable habitat for wildlife, including threatened and endangered species.

New Jersey's wetlands, under pressure by development, have been reduced **by 45%** since the 1800s, raising the importance of preserving what remains.

The proposed changes by NJDEP would allow developers to get permits with less regulatory oversight and could threaten the state's efforts to protect its remaining wetlands.

"We are taking away nature's ability to protect us – this is foolhardy at a time when we are being inundated with more flooding," said Jim Waltman, Executive Director of the Stony Brook-Millstone Watershed Association.

The state's 700-page rule proposal essentially would overhaul the Freshwater Wetlands Act, which was passed in 1987. NJDEP officials claim the rule change would cut unnecessary rules, add flexibility and offer more consistency with other state and federal environmental programs.

The Watershed agrees with critics, who have said the proposed changes would speed up and simplify the developers permitting.



NJ wetlands face a threat of encroaching development

PennEast Currently in Limbo

The proposed PennEast Pipeline—which would need to receive approvals from both federal and state agencies before it could proceed—currently has nowhere to go. At the end of June, after months of engaging with the New Jersey Department of Environmental Protection (DEP), the Watershed applauded when the agency formally rejected the pipeline company's application for a water quality certificate and freshwater wetlands permits.

DEP cited the company's failure to submit adequate environmental survey information with its application and made clear it would not consider a new application without substantial new information. Private property owners along the proposed pipeline route who are resisting the seizure of their property, have understandably refused access to their land by the company's surveyors.

The landowners' resistance could be stymied if the Federal Energy Regulatory Committee (FERC) grants the pipeline company eminent domain authority, which would allow the company access to these properties. As this newsletter goes to print, however, FERC lacked a quorum to make such a decision and the U.S. Senate had not scheduled a vote on nominees to FERC.

Weston Dam Removed from Millstone River

After nearly a decade of scientific investigation and advocacy for the removal of abandoned dams on the Millstone River, contractors were preparing to demolish the Weston Mill Dam as this newsletter went to print.

Like other dams on the Millstone and Raritan Rivers, the Weston Dam unintentionally blocks the passage of American shad and other migratory fish, degrades the natural river ecosystem, and poses a safety hazard to recreational boaters.

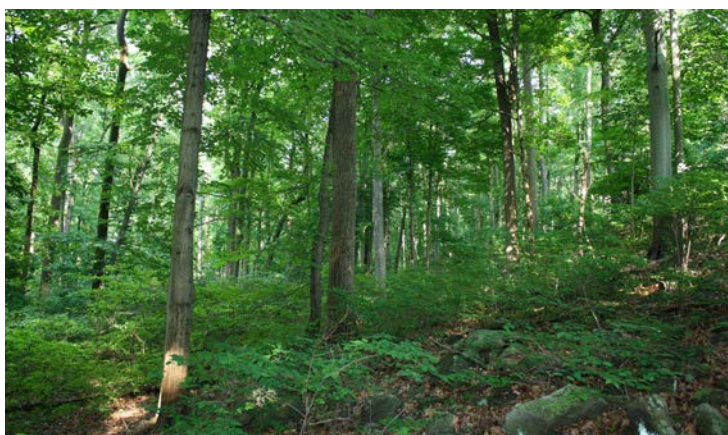
Since the spring of 2012, Watershed scientists have been conducting baseline monitoring upstream and downstream of the dam, investigating water chemistry, macroinvertebrates, and fish populations with the U.S. Fish and Wildlife Service. We will continue to do so after the dam is removed to monitor the ecological response.



The Weston Mill Dam sat below the Causeway Bridge

This past year, the Watershed recorded the first American shad to reach the Weston Dam since the removal of the downstream Calco Dam. We are eager to chart the recovery of migratory fish runs in the Millstone River.

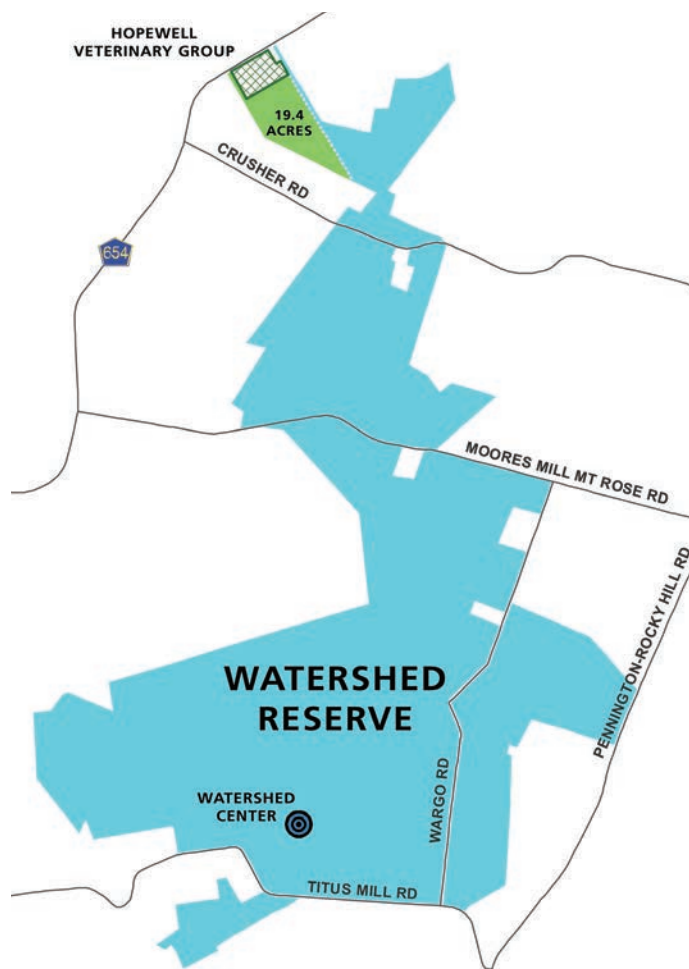
Watershed Reserve Expands to 950 Acres



The Watershed purchased approximately 20 acres on the Mount Rose Ridge from the Hopewell Veterinary Group. The June 21 land acquisition expands the Watershed Reserve to 950 acres.

This 19.4 acre parcel preserves some of the most environmentally sensitive and biologically diverse habitat in Hopewell Township.

Jim Waltman, Executive Director of the Watershed, said the purchase was two years in the making. "This acquisition protects a relatively rare patch of old forest with a dense understory of native plants and few invasive species," Waltman said.



Fall 2017 Calendar

Prepare for an exciting autumn of activities at the Watershed Center, featuring events and environmental programs for everyone. Be a part of the magic that makes our work so special. Clean water and a healthy environment depend on you. We hope you will join us for one of our upcoming events. Call 609-737-7592 or email bnc@thewatershed.org to get started! Unless stated otherwise, all programs meet at the Watershed Center, 31 Titus Mill Road, Pennington.

Pre-Registration required. Credit cards accepted by phone. **Members** of the Stony Brook-Millstone Watershed Association are eligible for discounts on most program registration fees. Membership starts at \$35 and helps to protect clean water in central New Jersey.

Refund Policy: A full refund will be made if notice of cancellation is received by phone at least 48 hours before a program. No refunds or credits will be given after that time. All returned checks incur a bank fee. Membership transactions are non-refundable.

Adult Education

SEPTEMBER 27 | OCTOBER 18 | NOVEMBER 15

Out There: Voices from the Wild

Wednesdays, 7:30–9:00PM, Adults, Fee per session: \$10pp; College students free with valid college ID

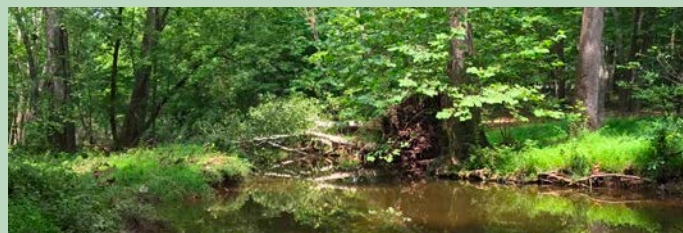
Facilitator Jeff Hoagland invites you to enjoy this unique and relaxed reading group in exploring the wide and varied terrain of nature writing, wildness and wilderness. Each month, readers will receive some poems and prose focused on a specific topic. Autumn topics: September – Wendell Berry; October - Birds; November – Mountains. Sign up for individual sessions or all 3. Light refreshments.

SEPTEMBER 6 & 7

Problem-Based Learning Workshop: Water Pollution

Wednesday & Thursday, 8:30AM – 4:00PM each day, Adults, \$45 per person

Are you a non-formal educator working with students in grades 6-12? Have you thought about using problem-based learning (PBL) with your students but aren't sure where to start? This 2-day workshop will explore the environmental issue of non-point source pollution through multiple disciplines with an emphasis on science and social studies. Participants will learn the basics of using PBL, how it supports the Next Generation Science Standards and how to integrate PBL into your education programs. Fee includes breakfast and lunch both days. Visit www.thewatershed.org for more info. Additional questions, contact Roberta Hunter, roberta.hunter@rutgers.edu.



Fall Language of Nature Series

Deepen your understanding of, and appreciation for, the natural world. *Courses consist of 6 weeknight classes and 3 Saturday morning field trips.* Classroom sessions at the Watershed Center focus on the science of our natural world, including evolution, classification, and ecological interactions. The field trips focus on identification and observation skills of species, habitats and behavior. *No tests, no papers, no stress!* Register online, www.thewatershed.org/adults.

SEPTEMBER 12 – OCTOBER 17

Ecology of New Jersey's Rivers, Streams, Lakes & Ponds

Tuesdays, 7:00-8:30PM, Adults, \$245 (\$195 for members)

Saturday morning field trip dates: Sept. 23, Oct. 7 and 14

Instructor: Dr. Olaf Jensen, Assistant Professor of Marine and Coastal Sciences, Rutgers University

Learn all about limnology and nutrient cycling, aquatic invertebrates, taxonomy and biology of freshwater fishes in New Jersey, and more.

SEPTEMBER 18 – NOVEMBER 2

Trees of New Jersey & Their Lives

Mondays & Thursdays, 7:30-9:00PM, Adults, \$245 (\$195 for members)

Evenings: Sept. 18, 28, Oct. 5, 16, 26 and Nov. 2

Saturday morning field trip dates: Oct. 14, 21 and Nov. 4

Instructor: Bill Brash, Director (retired), Mercer County Soil Conservation

Discover how trees really grow. Brush up on your tree identification, branch out among the forest ecosystem and immerse yourself in soils, topography, and drainage in the life of a tree.



Adult and Family Programs

SEPTEMBER 9

Rain Barrel Workshop in Franklin Township

Saturday, 10:00AM-12:00PM, Families (children 5yo+), Fee per barrel: \$30

At Franklin Twp Municipal Building: 475 Demott Ln, Somerset, NJ 08873

The Franklin Township Environmental Commission and the Watershed Association partner for a workshop about rainwater harvesting at home! Learn about water quality in NJ, watershed protection, and 'river-friendly' actions you can implement at home. In addition to building a rain barrel, attendees will be given instructions for installation, care, and appropriate uses. Thanks to L'Oreal USA for donating barrels! Contact Brittany Musolino at bmusolino@thewatershed.org to register.

SEPTEMBER 9

Mercer County Insect Festival

Saturday, 1:00-4:00PM, Families, Free

Look for the SBMWA Teacher-Naturalists at this annual event sponsored by Master Gardeners of Mercer County. Held at the Mercer Education Gardens, 431A Federal City Road, Pennington. Learn more at www.mgofmc.org. Registration not required. Walk-ins welcome!

SEPTEMBER 22

Creepy Spider Night Hunt

Friday, 7:30-9:00PM, Families (children 5yo+), Fee per person: \$15 (\$10 for members)

Crab spiders, jumping spiders, wolf spiders, orb and funnel weavers and more! Join our annual night hunt with nocturnal naturalist Jeff Hoagland. We will navigate the trails of the Watershed Reserve using our flashlights in search of many different types of spiders.

SEPTEMBER 23

Eco-Printing and Dyeing: Plant Material

Saturday 10:00AM-3:00PM, \$85/\$60M (+\$15 materials)

Take a walk to collect leaves, barks, nuts, berries and blossoms then use them to form a dye bath and create one-a-kind wearable art. A materials fee of \$15.00 paid directly to the instructor will cover all supplies including two scarves or bandanas. Bring a bag lunch to enjoy during a brief break. Participants should wear comfortable shoes and bring items such as onion skins, berries, blossoms, and flat rusty metal objects for experimentation. Registration is online at www.artscouncilofprinceton.org.

SEPTEMBER 23

Family Botany Saturday

10:00-11:30AM, Families (children 5yo+), Free

Meander through field and forest to discover our fascinating plant neighbors. Learn basic identification skills and browse through our favorite field guides. Learn the key to discovering the secret lives of plants. Co-sponsored by Washington Crossing Audubon Society.

SEPTEMBER 27

Politics of Water Art Exhibit

6:00-8:00PM, Adults, Free

Join us for the opening reception and panel discussion for the "Politics of Water", on display through November. View reflections of 23 artists upon the politics of water locally, nationally and globally. More at thewatershed.org/gallery.

OCTOBER 1 | NOVEMBER 5 | DECEMBER 3

First Sunday Environmental Film Series

Sunday, 1:00PM, Adults & Families, Free - Walk-ins welcome

OCTOBER 7

Watershed to Watershed Bike Tour

Saturday, 9:00AM-12:00PM, Adults and Families (children 12yo+), Free

Explore the Lawrence-Hopewell Trail (LHT) by bike as part of the River Days celebration sponsored by the William Penn Foundation. Starting with morning refreshments at the Watershed Center, we will bike the LHT to Lawrenceville and back, picnic lunch provided. We will find the dividing line between the Delaware River and the Millstone River watersheds, and enjoy the natural world along this growing pathway.

OCTOBER 21

Habitat Photo Challenge

Saturday, 10:00-11:30AM, Families (children 5yo+), Free

Sharpen your observation skills and discover hidden hideaways on this exciting photo challenge and game. Use your own camera/phone and try our vintage Polaroid cameras. Co-sponsored by Washington Crossing Audubon Society.

OCTOBER 27

Volunteer Pumpkin Carving

Friday, 6:30PM, Families (children 12yo+), Free

We're carving scores of Jack O' Lanterns in preparation for our Halloween Night Hike. Bring your own carving tools and get creative! Bring a pumpkin to donate if you are able.



OCTOBER 28

The Origins of Halloween Night Hike

Saturday, Hikes every 15 minutes from 6:00-8:15PM

Families (children 5yo+); Fee per person: \$18 (\$15 for members)

Join us on a journey through the woods on a crisp autumn night. You will follow your guide on a trail of glowing Jack O' Lanterns; along the way you stop to meet the characters in an Irish Folktale that unfolds along the path. The founders of New Jersey's Original Jack O' Lantern Night Hike are bringing their 30 year tradition to a new home at the Watershed. While other Halloween programs are designed to frighten, our goal is to educate and enchant. Guided hikes begin every 15 minutes; last hike begins at 8:15PM. Space is limited in each hike; pre-registration and pre-payment are required.

NOVEMBER 4

Your Wildlife Neighbors

Saturday, 10:00-11:30AM, Families (children 5yo+), Free

Is your yard a habitat for native wildlife? Explore techniques to invite desirable critters to your yard, as well as ideas for keeping others out of your garden. Children will make a feeder from recycled materials. Co-sponsored by Washington Crossing Audubon Society.

NOVEMBER 9 & 10

Fall STEAM Ahead! Mini-Camp

Thursday & Friday, 9:30AM-4:00PM, children 6-12 years old. Fee per day per child: \$95 (\$80 for members); sibling/ multi-day discounts available

All public schools in New Jersey are closed...so spend the day exploring science, technology, engineering, art and math with the Teacher-Naturalists! The Watershed Center and Lab will be 'home base' but children spend part of each day exploring outdoors. Registration and pre-payment are required. Sign up for one day or both - extended care available at extra fee.

DECEMBER 9

Winter Bird Walk

Saturday, 9:00-11:00AM, Families (12yo+), Free

Join Education Director Jeff Hoagland on a hike of the Watershed Reserve in search of wintering birds. Bring binoculars and dress for possibly muddy or snowy walking conditions. Co-sponsored by Washington Crossing Audubon Society.

Scout Programs

Registration and prepayment are required.

SEPTEMBER 9

Monarch Morning

Saturday, 10:00AM-12:00PM, Daisy and Brownie Girl Scouts with family, \$7 per registered Girl Scout or Adult; includes patch for girls.

Join us to learn about the incredible migration of the Monarch butterflies as well as conservation efforts. Our Teacher-Naturalists will demonstrate tagging and releasing of Monarchs. Register directly with Girl Scouts of Central and Southern New Jersey www.gscsnj.org/registration. Search for Monarch Morning.

SEPTEMBER 9

Junior Girl Scout Geocache

Saturday, 1:30-3:30PM, Junior Girl Scouts, \$7 per registered Girl Scout or Adult

Discover the fun of geocaching! Girl Scouts will learn the basics of using a GPS unit and navigate through the woods. Register directly with Girl Scouts of Central and Southern New Jersey www.gscsnj.org/registration. Search for Junior Geocache.

SEPTEMBER 23

BSA 'Soil & Water Conservation' Merit Badge Workshop

Saturday, 1:30-4:30PM, Boy Scouts 11-17yo, \$20 pp

This workshop will cover a wide range of topics helping the boys acquire the Soil & Water Conservation Merit Badge. Out on the trails with Merit Badge Counselor Jeff Hoagland, boys will learn the importance of conservation practices and take part in a conservation service project.

OCTOBER 6

Girl Scout Twilight Geocache

Friday, 7:00-9:00PM, Cadette, Senior and Ambassador Girl Scouts, \$10 per registered Girl Scout or Adult. Includes campfire and snacks

Enjoy the fun of geocaching under the stars! Girl Scouts will learn the basics of using a GPS unit. Using your GPS and flashlight, you will navigate through the night to our rendezvous campfire in the woods. Register directly with Girl Scouts of Central and Southern New Jersey www.gscsnj.org/registration. Search for Twilight Geocache.

Programs for Children

SEPTEMBER 18 | OCTOBER 16 | NOVEMBER 20

Tiny Tot Walks with Ms. Allison

Third Mondays, 10:30-11:30AM, (children 18-36months) (with an adult), Class fee per child: \$15 (\$10 for members)

You are never too young to start exploring outdoors! You and your toddler will experience nature as we share walks on the Reserve, art activities and story time. Tiny Tot walks provide a fun introduction to animals, plants and nature in general. Dress for fickle fall weather because we always go outside. Class size is limited and registration is required. All children must be walking and accompanied by an adult.

NEW! Home- School Nature Classes

Fourth Mondays 10:00 -11:30AM (children 5-12yo)

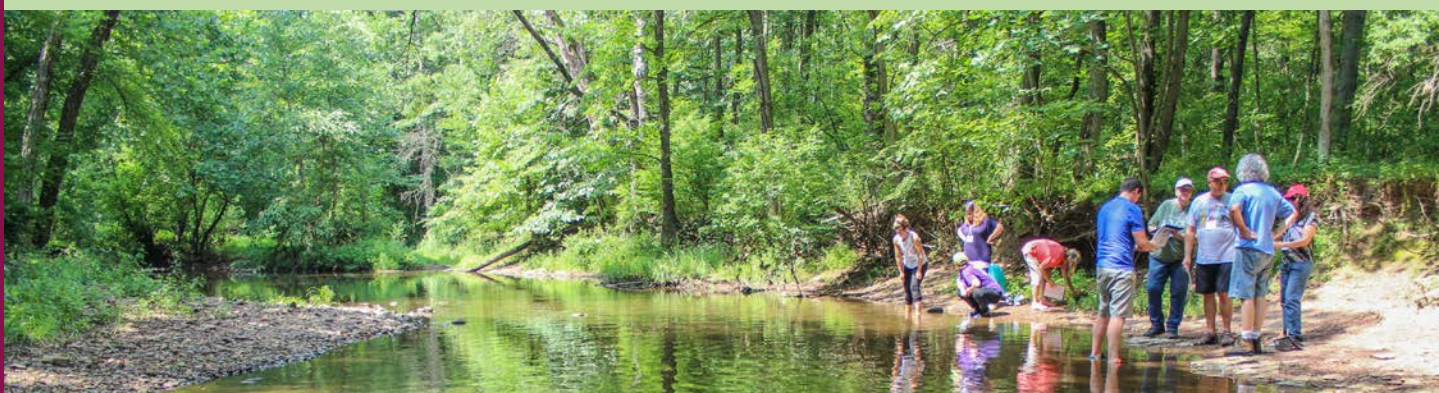
Class fee per child: \$15 (\$10 for members)

We are dedicating one Monday per month to families who home school their children. Each month we will offer a different topic. Students will be divided into two groups to ensure the activities are age appropriate.

SEPTEMBER 25 – Incredible Insects

OCTOBER 23 – Animal Adaptations

NOVEMBER 27 – Native American Life & Lore



Summer Preschool Nature Classes

Tuesdays, 10:00-11:30AM and Wednesdays, 1:00-2:30PM; Weekly topics, choose one day. Class fee per child: \$15 (\$10 for members). Register and pre-pay for 5 classes, receive the 6th class free.

Children 3-5 years old learn about nature while exploring the out-of-doors with a Teacher-Naturalist. Each class includes outdoor exploration, stories and simple crafts. A parent must stay with any child younger than 4. Registration required – sign up for individual classes or save when you register and pay for 6 classes! Come dressed for active outdoor activities.

SEPT. 12 & 13- Spiders

SEPT. 19 & 20- Monarch Madness

SEPT. 26 & 27- Goodbye Summer, Hello Fall

OCT. 31 & NOV. 1- Skeletons

NOV. 7 & 8- Snakes Alive

NOV. 14 & 15- Oh Deer!

NOV. 21 & 22- Animal Superheros

NOV. 28 & 29- Who? Owls!

DEC. 5 & 6- Eye See You!

DEC. 12 & 13- Star Gazers

Watershed Nature Shop

Weekdays, 9:00AM-5:00PM | Weekends, 10:00AM-4:00PM

Why not do your shopping at the Watershed Center while supporting clean water? November 25 is Small Business Saturday, a chance to show your love for our gift shop, which will feature new and unusual gifts for the holidays, including nature themed and hand-made items. Open on weekdays from 9:00AM-5:00PM and weekends 10:00AM-5:00PM all year long! Grab a hand painted ornament, green gadgets, or unique jewelry for that special someone.



The Watershed Nature Shop has gifts for all ages

At the Water's Edge- Jacob's Creek

by Jeff Hoagland

I stumbled into Jacob's Creek back in 1970 when they extended our road into the rural landscape about a half mile to the east of my house. This immediately changed the nature of my explorations and adventures. Following the dusty red shale road extension to its dead end, I found a vast no-man's-land of botanical obstacles. In the distance, the wavering green foliage of a forest offered an undeniable invitation. Accepted.

Wading, crawling and weaving through the multiflora rose and barbed wire was a valued badge of courage as a pre-adolescent. Perhaps it still is. It requires a combination of mystical connection with landscape and blind enthusiasm. The crimson lacerations on my legs were testimony of my bravery (or stubbornness) and my sense of adventure. Once through the fallow farmland, I entered a woodland lush with birdsong and descended a gentle slope, drawn further by the sound of water.



Jeff Hoagland demonstrates the fine art of rock skipping

Like my stream-friend the Steele Run in Washington Crossing State Park, Jacob's Creek runs with little grade, shaded much of its journey by deciduous woodlands on the way to the Delaware River. Both alternate between runs, riffles and pools, but I could swim in the dark pools of Jacob's Creek with the gray shadows of unknown fishable fish. It was a much larger creek. Upstream, I encountered my first monster insect – a hellgrammite. Downstream, there were cattle cooling their hooves on a hot summer day.

This summer, Cedric Lary encountered Jacob's Creek for his first time as the Watershed's Penn Fellow. A recent graduate of Mercer County Community College, Cedric has headed to Swarthmore College as his next step toward a Ph.D., perhaps in astrobiology. It was science and opportunity that brought him to these waters as he initiated the Watershed's stream monitoring program there under the tutelage of Watershed Science Director, Steve Tuorto.

The water quality data that Cedric collected and interpreted was his source of joy. He liked pouring over the numbers looking for trends and patterns in the data and was quite pleased to discover that the creek had relatively good water quality. To Cedric, data collecting out in the field, was a well-deserved break from the analysis that brought him to the Watershed. It also gave him numerous gifts, such as encounters with minks frolicking in creekside grasses or water-pennies gliding patiently over the slippery periphyton coating the rocks. Cedric discovered that these various encounters were just another expression of his data.

High school student Sonja Michaluk arrived at the banks of the Jacobs Creek through a family move. Sonja's love for running water has taken her to Cherry Run and Stony Brook, where she has explored, and collected water quality data since when was in elementary school. Love is also what drove Sonja to testify in public pipeline hearings and to present at the Society for Freshwater Science Annual Meeting last spring in Raleigh, North Carolina.

Sonja, with her friends, and her father, has discovered the magic of Jacob's Creek - the blue heron fishing knee-deep, silently, in the placid pools; the red fox quenching thirst at the water's rocky edge; the heavy, saturated greens of the fern- and moss-covered bluff; the sound of the clear, clean water, running downstream.

All of us arrived at the water's edge due to some necessity. Humanity has this history as well. But for some of us, this necessity is more elemental. Arriving quietly at the water's edge we find community, understanding, and medicine; sometimes more, and sometimes less.

Focus on Devil's Brook

With three monitoring sites along its muddy-bottom main stem and tributaries, the StreamWatch volunteer water quality monitoring program has tracked water quality in the Devils Brook subwatershed for 25 years. Focusing on the most recent conditions, this assessment includes data collected between 2008 and 2016 by StreamWatch volunteers and staff monitors from the New Jersey Department of Environmental Protection.



Devil's Brook winds along an eroded bank of trees

Excess phosphorus has created a chain reaction of negative consequences for several other parameters. While nutrients, like phosphorus and nitrogen, are necessary for a healthy aquatic ecosystem, too much can cause a spike in the growth of algae and other vegetation. Growing beyond their natural amounts, algal die-offs often occur soon afterward which consumes dissolved oxygen, stealing it from aquatic organisms who need it to survive. Though sensitive species disappear from the stream, bacteria, like the indicator species *E. coli*, thrive in these nutrient-rich conditions. The pH values below the standard 6.5 are also very common in Devils Brook, allowing even more phosphorus to become available for plant uptake. Unfortunately, the combination of these factors leads to a fair rating for the Devils Brook subwatershed.

Sixteen percent of the subwatershed is covered in impervious surfaces, like roads, buildings, and parking lots, which is a leading contributor to water quality impacts. This is why we are working diligently across our watershed to develop green strategies to reduce the harmful effects of impervious cover on our waters.



Acknowledgements

Many thanks David and Nicole Wagenblast, Tara Miller, Jennifer and Joanne Wang, Chinmay Sevak, Natalie Martin, Matt Morin, and Daphne Ye for monitoring Devils Brook and its tributaries.

The StreamWatch program is funded by Janssen Pharmaceuticals Inc, RBC Blue Water Project, Colgate Palmolive Company, Dodge Foundation, and the New Jersey Water Supply Authority.

Scorecard

Aquatic Life	🔴
Nitrogen	🟢
Phosphorus	🔴
Dissolved Oxygen	🔴
pH	🔴
Temperature	🟢
Turbidity	🟢
Bacteria	🔴
Impervious Cover	🟡
Overall Rocky Brook Score	🟠

Rankings

🟢=Excellent 🟡=Good 🟠=Fair 🔴=Poor

MEET OUR EXPERTS

Staff, Counselors, and Interns Galore!

The Watershed welcomed new staff this past summer while hosting many bright young camp counselors and interns. Pat Heaney, who arrived in May, is the new Education Manager, succeeding Maryann Polefka, who retired from the Watershed after 13 years of distinguished service. Maryann played a key role in the recent transformation of our organization.

Heaney brings more than 30 years of experience in the environmental education field. At her last position with the Kateri Environmental Center, she developed creative and dynamic programming for special needs and under-served populations. Pat said she is looking forward to expanding the Watershed's events such as the Origins of Halloween Night Hike. Pat's undergraduate work at Ramapo College was in Environmental Studies and she received a Masters degree in Geography from Rutgers University. She serves as president of the Alliance for New Jersey Environmental Education.



Assistant Education Director Maryann Polefka stands with the Watershed's new Education Manager, Pat Heaney



2017 Nature Camp Counselors (from top left), Anthony Argueta, Noah Bernstein, Corley deTuro, Tammy Love, Manny Licata, Malual Mu, Charlotte Heller, Nancy McKeon, David Tattoni, Michelle Perkins, Corinne DelGrande, Reena Coppola, Claire King, & Stephanie Silva

Summer Science Interns (bottom photo) include, Jennifer Cuevas, Nicolas Firbas, Raffia Ahmed, Cedric Lary, & Megan Schupsky



Lisa D'Ambrosio takes on the Watershed Nature Shop

Lisa D'Ambrosio joins the Watershed as our part-time Nature Shop Manager. She's eager to bring some innovative green gadgets and nature items to the Store, so be sure to visit often.

Her retail experience includes volunteering at the former McCarter Theater store and also at the George Street Playhouse, where she handled tickets and sales.

She currently works as an adjunct Assistant Professor at Mercer County Community College in the math department. She was previously Director of the Self-Advocacy Project, serving people with developmental disabilities.

Clean Water Accreditations

Say hello to four new River-Friendly sites in the Watershed! Our team reviewed submissions and projects in June, ultimately certifying two schools, a golf course, and a housing community under our program for businesses. Congratulations to The Pennington School, Princeton Friends School, TPC Jasna Polana, and Hightstown Housing Authority for your dedication to our mission of keeping water clean, safe, and healthy in central New Jersey.

So, how did they do it? Our school program requires the submission of lesson plans and project descriptions, including grades involved and number of students reached. Teachers and administrators essentially create reports of their “river-friendly” activities with help from our coordinator. Both The Pennington School and Princeton Friends School reached the Watershed Level - our highest level of River-Friendly School Certification – by earning points with their engaging and effective eco-focused curriculum.

Hightstown Housing Authority is the stormwater management demonstration site for the Borough of Hightstown, and for good reason. Executive Director Keith LePrevost has worked to capture over 50% of the 3-acre site’s runoff by implementing various green infrastructure techniques. Golf Club TPC Jasna Polana earned recertification under the guidance of Tim Connolly, Superintendent at Jasna, after their certification back in 2005. Their course is dedicated to protecting natural resources and has proven that through landscape-changing projects, such as “zero irrigation roughs” and native wildflower meadows.

The commitment of these partners and willingness to share their efforts is part of what makes the River-Friendly Program effective. Read more about these certifications at njriverfriendly.org/blog. Want to get your local business, school, golf course, or home certified? Apply online at njriverfriendly.org or contact Brittany at bmusolino@thewatershed.org



Personalized River-Friendly Certification Awards

Volunteers Bring Impassioned Art Shows to the ‘Shed



Jess Koehler, Cindy Besselaar and Jennifer Bryson with artist Susan Mania

The Garden Club of Princeton Art Gallery opened in Gorrie Hall in 2016 with a gift from long-time friends of the Watershed, Penny and Ted Thomas. Jessica Koehler and Cindy Besselaar, two artists, are donating their time and talent by chairing the volunteer gallery committee. They serve as volunteer curators for the Gallery and have helped the Watershed launch two successful shows, “H2O” in the fall of 2016 and *Remnants of the Land* by Susan Mania this past spring.

In September, the Watershed will host “The Politics of Water” featuring artists whose work reflects upon the politics of water locally, nationally or globally. This exhibit was previously featured at the Woodrow Wilson School of Public and International Affairs at Princeton. The opening is scheduled for Wednesday, September 27th. For more info, visit thewatershed.org/gallery.

Stormwater Word Search

When it rains, water carries pollution into streams and rivers. Learn about some of these common dangers in this stormwater word search. Find the hidden words in the grid below by searching up, down, forward, backward, and diagonal.

R	T	S	D	C	S	S	O	A	P	S	E	L	P
R	O	M	F	O	A	E	S	C	L	R	T	T	O
U	L	A	I	I	T	T	S	S	E	O	S	T	L
N	L	O	D	L	O	E	C	T	T	A	A	M	L
O	T	R	T	S	R	O	T	O	H	F	W	E	U
F	S	T	E	L	A	I	L	C	I	S	T	O	T
F	C	P	G	A	L	L	M	S	T	A	E	D	I
W	S	L	A	S	R	A	T	R	I	E	P	N	O
P	E	P	L	A	S	T	I	C	S	E	L	C	N
R	N	N	S	E	D	I	M	E	N	T	D	T	E
L	S	I	I	S	R	I	O	S	L	R	T	W	N
C	H	E	M	I	C	A	L	S	P	C	I	S	P
E	E	P	E	S	T	I	C	I	D	E	S	C	I
R	E	S	L	E	P	A	N	S	L	W	C	W	E

WORD BANK

CHEMICALS

LITTER

OILS

PESTICIDES

PET WASTE

PLASTICS

POLLUTION

ROAD SALT

RUNOFF

SEDIMENT

SOAPS

Keeping water clean, safe and healthy is the heart of our mission.

We work to protect and restore our water and natural environment in central New Jersey through conservation, advocacy, science and education.

Visit us online to show your support. Stay informed, get involved, donate.
www.thewatershed.org

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