Friends of the Great Swamp was founded in 1990, a non-profit volunteer organization. Our mission is to preserve and protect the health of the Great Swamp watershed through research, education and conservation.

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The Virginia opossum is not a rodent but an ancient form of mammal related to kangaroos and wombats. They are the only marsupial in North America. The males are called Jacks, females Jills, and the babies Joeys.

They are active at night, prefer to live near wet areas like marshes, swamps and streams but are also completely comfortable living around human dwellings. Opossums are “nature’s clean-up crew”, eating plants, animals (including snakes), fruit, dog food, garbage and dead animals. Attracted to road kill, they are often unable to move quickly enough to avoid being killed themselves. When they forage they attract ticks. Due to their constant grooming, an adult may kill and eat as many as 5,000 ticks in a season. They are not affected by snake venom and are highly resistant to rabies but have a surprisingly short two-year lifespan in the wild.

The opossum or “possum” is about the size of a large house cat and covered in grayish-brown fur except for their ears, pink nose, pink toes and nine-inch-long naked tail. Two beady black eyes peer from a chalky-white face and large delicate ears stand out from its triangular head. Its long narrow jaws contain 50 tiny sharp teeth, more teeth than any other North American mammal. Since they don’t hibernate and their hairless tails and toes are prone to frostbite, possums must find sheltered places to keep warm in the winter.

A female opossum can have three litters of young a year with as many as 25 babies at a time. The tiny, naked and blind babies no bigger than a bumble bee at birth, must crawl up the mother’s fur and into her pouch. They will nurse all snug and safe in her pouch for two and a half months before climbing out and riding around clinging to the fur on her back. There are only 13 nursing spots available in the mother’s pouch and the first and usually the strongest newborns take them all. Only about eight babies will leave their mother four to five months later to start surviving on their own.

When threatened, opossums will run away or try to scare the intruder by hissing, growling, and showing their many teeth in a toothy grin. Sometimes it looks like they’ve been scared to death! When this happens the opossum stiffens, falls over on its side, eyes open, tongue hanging out and drooling while a disgusting green fluid leaks from its back end. The opossum is only playing dead or “playing possum” to fool its enemy. Possums can stay this way for almost four hours before getting up and just walking away.
Pack up your curiosity and let’s take a walk. It really doesn’t matter where, the Great Swamp, or your own backyard. If you stop often and open up your senses, the natural world around you becomes a place of wonder. Wonder should be used as a verb, implying action. “Wondering” is unpacking your curiosity and letting it run free. It connects you to nature and you become a participant. Use all your senses to experience both objects and events, from beetles to unusual cloud formations. Your curiosity should prompt a whole series of questions or “wonderings” and who knows where that will lead you?

When you walk in the Great Swamp Watershed, pay attention to the rocks beneath your feet. Observe the crystalline white rocks in the valley, the layered silvery rocks on the hillside and the black and white banded rocks on the ridge top. With some basic observations and questions, they can tell you the landscape’s story. Do they match the underlying bedrock? If they don’t, where did they come from and how did they get here? What minerals do they contain and how and when were they formed? Perhaps they were part of the 1.3 billion-year-old Hudson Highlands or ocean sediments metamorphosed during the continental collision that formed the Taconic Mountains 500 million years ago. Maybe they’re newcomers that arrived from Canada 25,000 years ago packaged in glacial ice. If you are curious enough to look for answers, the landscape will take on a whole new meaning.

Take a walk in your neighborhood, check out the stone walls built by area farmers. They contain a wide variety of local rocks to study. Have you looked at the ancient life forms growing on the surface of those rocks? The beautiful fan-like patterns that look remarkably like sea weed on a coral reef are lichens. They are really two separate species working together. The tough outer surface is a fungus that protects its partner, usually a blue-green algae that provides their food through photosynthesis. How do they survive extended drought and temperatures from 100 degrees Fahrenheit to below zero on the exposed surface of a rock? Do their different shapes have any special advantages? How do they reproduce or travel to new locations? Survivors of the harshest conditions on the surface of the earth, we might learn some important lessons from them.

Nothing can excite a lifelong interest in nature like personal experience and curiosity. I think wondering is as important as knowing.
Citizen Science: Get Out and Get In!

Have you sometimes wished you were part of the scientific community helping to study, document, and conserve the natural world’s treasures? Especially here in our beloved Great Swamp? Take heart!

Citizen Science, sometimes called “community science” or “cooperative study”, is public participation in science research. It’s a great way for individuals, families, or groups to engage with nature while making a meaningful contribution to science or even to environmental health. Here are a few ideas for citizens in the Great Swamp community.

**WINTER**

**The Great Backyard Bird Count**

For more information, contact: citizenscience@audubon.org or gbbc@cornell.edu

Birdwatching is a favorite pastime in winter. The Great Backyard Bird Count (GBBC) is an international citizen science event held annually for four days in the middle of February from a Friday through a Monday. The next one will be February 14-17, 2020.

GBBC began in 1998 as a joint partnership between the National Audubon Society and Cornell Lab of Ornithology in an effort to capture a worldwide count of bird populations. It’s fun and easy. Participants can count on any or all of the four days, for 15 minutes or as long as they like, on a walk or at a birdfeeder. Volunteers submit checklists which helps researchers learn more about how birds are doing, and how to protect them.

**SPRING**

**Amphibian Monitoring**

For more information, contact: Laura Heady, NYSDEC, woodlandpool@dec.ny.gov

A few of us have participated in this and have found it addictive! We go out on a rainy early spring night and help amphibians avoid road mortality while crossing to their breeding grounds in woodland pools. We also count every one we see, dead or alive.

The “Big Night” as it is affectionately called by volunteers, is never the most comfortable weather, because it’s cold and rainy, but seeing the rarely-seen mole salamanders, wood frogs, and spring peepers, is a thrill.

Why do they cross the roads? Migration distances to woodland pools can vary from a few hundred feet to more than a quarter of a mile. Unfortunately, forest hibernation places have been separated from wetland breeding grounds by roads and driveways.

The Amphibian Migrations and Road Crossings project is part of a larger Hudson River Estuary Program initiative to partner with local communities to conserve the diversity of plants, animals, and habitats that sustain the health and resiliency of the entire estuary watershed.

**FrogWatch USA**

Visit www.aza.org for more information

Do you or your kids love frogs and toads? If so, you can learn their calls and help in the conservation efforts!

You don’t have to be a frog or toad expert to become a volunteer, says the AZA (Association of Zoos and Aquariums) that developed the program. All you need is an interest, a willingness to become a trained volunteer, and a commitment to monitor a wetland site over multiple evenings throughout the breeding season (February-August). Trainings teach volunteers frog and toad call identification and reporting. They are hosted by local FrogWatch USA chapters, but now online training courses are available for those who don’t live near one of the 140+ chapters in the US.

The Great Swamp adds to the excitement: you can listen for the call of the rare recently-named Atlantic Coast leopard frog (*Rana kaufeldi*), a frog which was actually discovered because of its unique call!
SUMMER

Water Quality Studies
Contact jmutter98@aol.com to sign up.

What better way to appreciate the Great Swamp than by being right in it? FrOGS has conducted water quality studies in the Great Swamp tributaries for many summers. We are always looking for volunteers to help! We conduct a brief training on collecting data and macroinvertebrates from the streams. The data and specimens are sent either to DEC or a professional environmental lab for analysis. It allows us to see how the various tributaries in the watershed are changing over time, how healthy they are, and what environmental impacts the waters are experiencing.

Invasives Strike Force
Visit www.lhprism.org/invasives-strike-force

Lower Hudson PRISM (Partnership for Regional Invasive Species Management), sponsored by the NY/NJ Trail Conference, focuses on controlling the introduction, spread, and impact of invasive species to protect the biodiversity and natural ecosystems of the Lower Hudson region.

As a Strike Force volunteer, you’ll learn easy ways to identify a set of invasive plants commonly found along the trails and how to record information about their locations. During the summer months, you’ll hike pre-selected trails and collect data on the plants you observe. It’s a great opportunity for learning, a nudge to get out and walk, and a boost to the local environment because volunteers help spot invasive plants so that PRISM can schedule work days to remove them before they become established.

Invasives Strike Force EcoQuest
Join the team at www.inaturalist.org/projects/invasives-strike-force-ecoquest

Do you love taking pictures with your smartphone? Do you love being outdoors and searching for interesting critters and plants in nature? Or maybe you just love scavenger hunts? To help you build up your knowledge of invasive species in our region, Lower Hudson PRISM offers a monthly challenge which keys in on (a) focal invasive species. Each month, you can find and document an invasive plant or animal (and their native counterpart!) by taking and sharing photos via iNaturalist.

Butterfly Count Program
Visit www.naba.org

The North American Butterfly Association has run the Butterfly Count Program in the United States, Canada, and Mexico since 1993. Each of the approximately 450 counts consists of a compilation of all butterflies observed at sites within a 15-mile diameter count circle in a one-day period. The annually published reports provide a tremendous amount of information about the geographical distribution and relative population sizes of the species counted. Comparisons of the results across years can be used to monitor changes in butterfly populations and study the effects of weather and habitat change on North American butterflies.

CONCLUSION

One of the great benefits to volunteers in Citizen Science is that knowledge about wildlife is expanded. Citizen Science projects/events open up a range of ideas and allow public engagement in scientific discourse.

Many resources are available for learning more about and locating projects/events. You can do MonarchWatch, wild turkey surveys, Project Feederwatch, the Lost Ladybug Project, and more. Check out the DEC website, where you will find projects for both children and adults. Several are seasonal while others are conducted year round. Once you start looking, you will find hundreds to choose from! Get out there and make a difference.
Research Update

HABITAT MANAGEMENT FOR THE RARE NEW ENGLAND COTTONTAIL
By Drew Eline

Once abundant across the landscape, New England cottontails now sparsely occupy the few remaining thickets. In the past half century, these native rabbits have declined by over 86 percent, fighting against habitat loss and fragmentation, as well as competition with the non-native eastern cottontail. New England cottontails aren’t fighting alone however, as researchers and organizations are working to help populations by improving the young forest habitat they desperately need. FrOGS is one of these pioneers, working with partners to create and improve shrubland habitat that not only fits the needs of New England cottontails but is beneficial for other young forest-reliant wildlife while excluding the introduced eastern cottontail.

Drew Eline, a graduate student at SUNY College of Environmental Science and Forestry, is working in partnership with FROGs to investigate the response of New England and eastern cottontails to this new habitat management. By trapping and radio-collaring these rabbits, Drew is getting a better understanding of how New England cottontail are responding. Early findings are promising for our imperiled rabbit: New England cottontails are spending more time in the improved thickets while the non-native eastern cottontail is not spending as much time in them, leaving more habitat for our native New England cottontails to multiply. Though only a year into the study, she thinks things are looking up for our native cottontails.
Michael Musnick came from Cape Cod each month this summer to monitor the wood turtles and box turtles he’s been studying for many years.

He thought the tiny transmitter he placed on a nine-month-old box turtle fell off due to a growth spurt that dislodged it and wondered if this might be why so little is known about the early years of box and wood turtles. “Lucretia”, a wood turtle who had spent all of her life within the same 100-foot area near Haviland Hollow Brook, suddenly moved to a new location. She’s been there for three months and Michael is curious about where he’ll find her next.

This summer, the thick growth of phragmites at the Appalachian Trail study site kept him from locating turtles and replacing transmitters. “Jane Bond” another wood turtle, can apparently move back and forth under Route 22 and can still be found in the same spot in the stream near the railroad tracks.

Michael has also been working on a series of maps that illustrate the seasonal paths of each monitored turtle. They wander much further than previously thought and use a wide variety of habitats.

The Leaves are Turning—
Come Celebrate the Great Swamp with FrOGS

JOIN US ON SATURDAY, OCTOBER 19 OR SUNDAY, OCTOBER 20—OR BOTH DAYS!

The FrOGS Annual Fall Celebration of the Great Swamp is a community day—and one for all ages. Young and young-at-heart can watch raptors in flight, make bird feeders for winter birds and sculptures of a Great Swamp animal. They can learn about how water moves through the Great Swamp watershed, determine whether a stream’s water is clean or not, and learn about reptiles, butterflies and other swamp wildlife. There will be special short programs on turtles, pollinator gardens and of course, the hawks and owls.

The Art Exhibition captures the beauty and essence of the Great Swamp. FrOGS young artists display their works and their interpretations of the swamp. Painters and photographers display their prize-winning works as well. All adult works are for sale and a portion of the proceeds go to support Friends of the Great Swamp and its research, education and conservation efforts.

The Annual Fall Celebration of the Great Swamp is held at Christ Church on Quaker Hill in Pawling (17 Church Road, Pawling, NY). On Saturday we open at 11 AM, on Sunday at Noon.
Rick Saracelli has been devoted to the Environmental Park for more than 40 years and is excited about the boardwalk project. He has patrolled the park at least once a day on foot, bicycle or his car. Part of his job is monitoring the town permitted groups that use the launch and he has also taken on the job of “river keeper” clearing the river channel of downed trees. He paddles his kayak down the river in the summer and skis the frozen river in winter. Over the years he has led many nature hikes and river trips because of his knowledge of the park’s history, its habitats and the plants and animals that live there. The Environmental Park trail is a pleasant place for a walk and kayakers and canoeists can enjoy the river thanks to “Ranger Rick”.

At any time of the day in any season you may meet dog walkers, mothers with children, cars carrying kayaks or canoes, artists, bird watchers, bicyclists, cross-country skiers, ice skaters and even the entire Matthew Patterson fourth-grade with their parents on their annual canoe trip in the Great Swamp. Children have been known to do some wading in the river and sometimes folks just drive down the road to the river to sit and enjoy the view.

The $7,000 will fund the materials for a 225 ft. handicapped-accessible boardwalk along the west side of the river south of the boat launch ending in a platform area with a river view. Variations in water levels will determine its final placement. Signage, benches and handicapped parking will also be part of Phase I. Connecting to and improving the existing trails and developing an interactive nature guide will come later.

There will certainly be a need for further study, financing, and the assistance of many local volunteers.

Lauri Taylor, head of Putnam County’s Soil and Water Conservation District obtained a $6,000 environmental grant and was looking for a good project. Rick Saracelli, the Town of Patterson’s Environmental Park Caretaker, suggested using the grant money for a boardwalk in the park and asked that $1,000 from his budget be added to the grant. Lauri Taylor, Rick Saracelli, and Judy Kelley-Moberg (FrOGS) met with Town of Patterson councilman Shawn Rogan to discuss improving the trail in the park and agreed that constructing the boardwalk would be Phase I.

The existing “trail” is accessed by crossing over the Metro-North tracks near the Patterson Recreation Center. Stop at the information kiosk before you follow the dirt road down through the flood plain, past the gate to Peterson’s Greenhouses and the path that wanders over the wooded knoll, then check out the weathered marble blocks next to the road before you reach the trail’s end at the parking area and boat launch by the East Branch Croton River.

Coming Soon
THE PATTERSON ENVIRONMENTAL PARK TRAIL AND BOARDWALK
By Judy Kelley-Moberg
On the morning of July 9, Richard Bottali, Assistant Director of Sustainability and the Environment for Metro-North, had gathered 13 hard-hatted, reflective vest-wearing folks for a “walk over” on the old Maybrook track near Ice Pond. All but five were project directors, building contractors, engineers, trail designers, and wildlife ecologists working on the Maybrook portion of the Empire State Trail System. They were there to discuss the environmental concerns of Judy Terlizzi, chair of the Putnam County Land Trust (PCLT), its environmental consultant Jim Nordgren, Dr. Jim Utter, chair of FrOGS, along with Judy Kelley-Moberg and Bill Clark.

Built in sections on the empty half of the old rail bed, the 23-mile Maybrook Trailway will connect the existing trail in Brewster to the Hudson River trail at Beacon. Share 5, the first section constructed, will start at a trail head on the north-west end of Lake Tonetta, travel along the east side of Ice Pond and end at Route 164. Share 4 will follow the western edge of the Route 311 valley and end at the trail head on Route 292 in Holmes. North of Lake Tonetta, these two sections are part of the Great Swamp Watershed.

Ice Pond’s outlet, Muddy Brook, is a major tributary of the East Branch Croton River and its shrub swamp wetlands are a rest stop for thousands of migratory waterfowl. With the exception of Patterson’s Clough Preserve, the surrounding hillsides, wetlands and Ice Pond are wildlife preserves owned and maintained by PCLT.

Dr. Utter shared his concerns about protecting plants and animals in the wetlands while Judy Terlizzi worried about access to Ice Pond and public safety. Both organizations noted that they had not been contacted about their environmental studies and knowledge of the area before state and federal agencies signed off on the trail’s effect on the local environment.

Justin DiNino, the spokesman for the project, said they would work with PCLT on Ice Pond access issues. He reassured us that there would be no fencing along the trail, minimal fill on the banks and silt barriers to protect the wetlands during construction. Turtle escape ramps were mentioned. He indicated that they would make every effort to preserve the integrity of the environment for the native plants and animals as well as for the natural beauty that will be enjoyed by those who use the trail.

In the meeting everyone listened, a good start for a working relationship. The visitors left with “Swamp Smart” and FrOGS’ brochures, newsletters, the Great Swamp video and a copy of Vignettes of Patterson Past with its history of the area and the railroad.

PCLT, FrOGS and the Patterson Historical Society have been invited to add a photo and local information to the trailhead signs. Site-specific interpretive signs will follow.
The exclamations are predictable at most every FrOGS Plein Air Event: “I can’t believe how beautiful this place is, and it’s right here!” “But this isn’t really a swamp, is it? I don’t see any bog…” “Thank you so much for bringing us here!” “Thank you!’ “Thank you!”

The growing number of painters and photographers who have joined the FrOGS Plein Air Group have fulfilled the anticipation of the Visual Arts Committee that artists above all would be supremely prepared to appreciate, even treasure, the nature of the Great Swamp Watershed.

What is “plein air”? It is a concept and practice developed by French artists in the 19th century taking painting out of the studio and predetermined academic formulas and into the “open air.” Enthralled by the beauties of the greater Hudson River Valley, the Hudson River School painters in America later followed with paintings sometimes heavily romanticized, but still from direct observation. We recognize many of the sites they painted. The FroGS Plein Air Group is following some highly respected pathfinders and nature lovers.

Do you have to be a painting pro to participate in these events? Emphatically not! Newbies are not only welcome, they are urged to come, bring even the simplest art materials (pencil and paper, for instance, or i-phone), and, if they choose, be showered with advice and stuff from the more experienced members of the group. All learn from each other, and ideas, techniques, and tips are readily shared round.

Photographers are equally courted to partake in the fun, and in recognition of photography’s unique art form, it has its own category in the Annual Art Exhibition alongside painting (which includes drawing in all forms).

By far the largest attraction, along with the camaraderie, is the chance to spend a glorious day in the natural splendor of the Great Swamp Watershed. Some sites are available to the general public; others are private lands made available for FrOGS-sponsored Plein Air Events. These include some of the most spectacular views in the whole area and are not otherwise accessible.

Plein Air Events are posted on the FrOGS website regularly, and you can add your name to the email list or email coordinator Sharon Nakazato at sharon_nakazato@comcast.net.

If you have photographs or paintings/drawings based upon sites within the GS Watershed, you may wish to submit them for consideration in the Art Exhibition as part of the GS Annual Fall Celebration.
Bully Frogs in the Great Swamp?

You bet! At least in the upcoming Daffodil Press children’s book by authors Doris Tomaselli and Carol Paterno (also illustrated by Doris). What’s Humbert to do when a hefty bully frog crashes the big Dance Competition? (What? You didn’t even know the Swamp had one?) You’ll just have to read and find out!

The book also will feature an afterward for children about bullying by local counselor Jackie Muller, LCSW-R, and an educational introduction to the Great Swamp by FrOGS’ Judy Kelley-Moberg. Suitable for ages 3-9. Stay tuned for a release date in the coming months or follow daffodil-press on FB.

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Calendar of Events

**Fall Foliage Hike**
*Sunday, October 13 (11 AM)*
Enjoy the fall colors at Great Hollow Nature Preserve, New Fairfield, CT. Hike will be led by John Foley, Naturalist and Preserve Steward. Reservations may be made by contacting Laurie Wallace at laurwally@aol.com.

**Annual Great Swamp Celebration and Art Exhibition**
*Saturday, October 19 (11 AM to 5 PM)*
*Sunday, October 20 (Noon – 4 PM)*
At Christ Church, on Quaker Hill, Pawling, NY. A family event not to be missed! See article in this newsletter.

**Hike to Cat Rocks**
*Sunday, November 3 (10:30 AM)*
The hike, led by Ken Luhman, will start at beautiful Nuclear Lake in Pawling and head up the Appalachian Trail to Cat Rocks...for a spectacular view of the Great Swamp. Strenuous; only experienced hikers please! Reservations are required, and can be made by e-mailing Laurie Wallace, laurwally@aol.com

The most up-to-date list of events can always be found on our Facebook page: facebook.com/FrOGS.NY
You can also sign up for email updates via our website: frogs-ny.org
Additional events can be found at: OblongLand.org, PCLT.net and GreatHollow.org

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FrOGS Needs Your Help!
JOIN ~ VOLUNTEER ~ DONATE
The generosity of our members and supporters extends FrOGS reach and effectiveness.
Fill out and return this form or visit frogs-ny.org

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**VOLUNTEER**
- [ ] Annual Celebration  [ ] Canoe Trips  [ ] Mailings
- [ ] Educational Activities  [ ] Citizen Science  [ ] Studies
- [ ] Suggest an activity: __________________

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*So we know whom to thank…*

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UPCOMING EVENTS

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