



THE GREAT SWAMP NEWSLETTER

RESEARCH • EDUCATION • CONSERVATION

WATER WORLDS OF THE GREAT SWAMP



Clockwise from upper left: floating bog, swamp, marsh, fen, vernal pool

Volume 21, Issue 2 Summer 2023

Contributors: Paul Andrews, Judy Kelley-Moberg, Kathryn Jaliman, Sharon Nakazato, Mary Rice

Friends of the Great Swamp was founded in 1990, as 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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CHAIRMAN'S CORNER

By Ken Luhman

Unpredictable Water Levels

"How is the water level in the Swamp River?" I get asked this question frequently by paddlers. The water level in the swamp is contingent on many factors, including rainfall, snow melt, and cooler temperatures. However, the predictability of the seasonal water levels has changed over the last few years.

Usually, the water levels are highest in early spring through early summer. Due to mild winters, warmer weather, and lack of steady rainfall, this has not been the case. FrOGS even had to wait for rain in order to run one of our spring paddles this year due to low water levels. If this pattern continues, scheduled spring paddles may only be possible after rainstorms.

Summer paddles are the most enjoyable for many reasons, with beautiful flora and fauna and agreeable weather being a few. Unfortunately, water levels typically reach their lowest and can drop several inches daily due to warmer temperatures, less rainfall, and rapid evaporation. The fallen trees in the swamp's rivers start appearing as the water level falls, which also makes summer paddles difficult. Sometimes, a few heavy storms are all that are needed to allow us a week or so of good paddling.

The fall season, October through December, has been a promising time for paddling. Fall colors and wildlife activity are truly a joy to experience this time of year. The temperatures are cooler, and we typically

get decent rainfall. Water levels are more likely to stay consistent, and there is generally much less evaporation. These are ideal conditions for paddling The Great Swamp. However, morning paddles are not recommended due to duck hunting season starting in mid-October (I highly suggest wearing orange during hunting season).

Recently, the winter months have also been a great time to paddle. With above-normal temperatures, more rain than snow, and little freezing and ice, it has made for a relaxed, peaceful winter paddle. I personally love paddling in an early light snowfall, which turns The Great Swamp into a magical winter wonderland.

I hope you enjoy this newsletter issue that focuses on the diverse water worlds in The Great Swamp. Good luck with our 'Where in the Swamp' contest!

Feel free to contact me if you need to check the water level before going out on a paddle (frogspaddle22@gmail.com). Be safe, and happy paddling!

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Friends of the Great Swamp is an organization dedicated to preserving The Great Swamp through educational programs, scientific research, conservation, and by making all aware of this wonderful resource in our midst.



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The generosity of our members and supporters extends FrOGS' reach and effectiveness.

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WATER WORLDS OF THE GREAT SWAMP

By Mary Rice and Paul Andrews

One defining characteristic of The Great Swamp wetland is its water. If you think it is all the same, (one 20-mile long “swamp”), then think again! Within The Great Swamp watershed are numerous water worlds, all with their own diverse soil, landscape, water chemistry, vegetation, and animal life. In addition to the obvious swamp, these wetland worlds include marshes, fens, bogs, and vernal pools. Often these terms are used interchangeably, especially swamp and marsh, but each has specific characteristics. Let’s take a close look at each of these wonderful wetland worlds in our backyard.

A **swamp** is a forested wetland, dominated by trees or other woody plants. Swamps are slow moving rivers, and those of you who have paddled in The Great Swamp will have noticed the undulating river down the middle with a weak current. In a swamp, unlike some other types of wetlands, the water table is above the surface and the land is permanently saturated. The red maple swamp in the Patterson area was once the largest red maple forest in New York, but has declined significantly due to beaver activity over the last 20 years. The shady understory vegetation is dense with silky dogwood, spicebush, ferns, and skunk cabbages.

Similar to a swamp, a **marsh** is fed primarily by surface water run-off with a water table close to the surface. The water tends to be much slower moving than a swamp. Marshes are often found on the edges of ponds and lakes with mineral soils that support herbaceous (non-woody) plants such as cattails, reeds, grasses, and sedges. While often flooded, they can periodically become quite shallow and ponded.



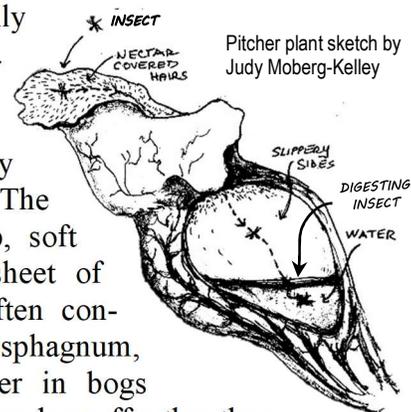
A marsh along Muddy Brook.

A **fen** is a low-lying wetland, often flooded, and supplied by groundwater from a high water table instead of surface runoff. Its vegetation consists primarily of sedges, grasses, and wildflowers with

some peaty organic areas. Fens are often found in flood plains or coastal areas like the land on which Fenway Park was built. In The Great Swamp, the fens are calcareous (rich in calcium carbonate from the underlying marble bedrock), which makes the water basic (high pH, ‘sweet’) and nutrient poor. Fens are hotspots of biodiversity. They often are home to rare plants, insects, and small mammals.

A **bog** is a wetland created by a sealed bottom that collects water mainly from precipitation.

The surface of a bog is unable to support the weight of a heavy object or body. The ground may be deep, soft mud or a floating sheet of matted vegetation, often consisting of plant roots, sphagnum, and peat. The water in bogs comes from rainwater and runoff rather than an underground water table, and is usually acidic (low pH) and anoxic (low in oxygen), which supports an unusual array of plant life such as carnivorous pitcher plants, Venus flytraps, bladderwort, and sundews. For more details about bog life see the article “Gone Boggling with John” in our newsletter archives from Summer-Fall 2015.



Vernal pools, as the name implies, usually appear in the spring when runoff from rain and melting snow collect in a depression with a clay or hardpan base. This water world is essential for many species of breeding frogs, toads, and salamanders emerging from their winter habitats. Because these pools eventually evaporate and have no inlet or outlet, they do not provide a suitable habitat for fish, making them a safe environment for the amphibians to lay their egg masses.



Tadpole sketch by Sharon Nakazato

Swamps, marshes, fens, bogs, and vernal pools are all ecologically important wetlands in The Great Swamp. In your rambles around the watershed, see how many of these water worlds and the diverse flora and fauna that live in them you can identify.

SIGHTINGS IN THE SWAMP

By Judy Kelley-Moberg

FLOWERING NATIVE WETLAND PLANTS

Three midsummer standouts can be found on the bank of the East Branch Croton River in the Town of Patterson's Environmental Park. Please enjoy spotting, drawing, photographing, and protecting these natives in their natural habitat.

CANADA or WILD YELLOW LILY (*Lilium canadense*) is a true lily that blooms in marshes, wet meadows, bogs, and wetland edges (June-August) in the northeastern United States.

A half dozen or more large, bell-shaped yellow and orange flowers dangle in midair above a bed of bright green sensitive ferns next to the Park's boardwalk.

The blossoms hang from several almost invisible stalks that nod downward from the top of an unbranched 3-4 foot stem rooted in a scaly bulb-like corm. The 3-4 inch petals are yellow or orange on the outside and purple spotted on the inside with styles and stamens that extend beyond the petals. At intervals, a whorl of spear-shaped leaves radiates from the main stem. The large flattened seeds are contained in a chambered 2-inch oval capsule and dispersed by the wind.



Ruby-throated hummingbirds are important pollinators as they can hover to access the downward-facing bell. The wings of large butterflies can also pick up and deposit pollen. All parts are edible and threatened by browsing deer. The buds, flowers, seeds, and roots were gathered as food and for medicinal uses by Native Americans.

TURTLEHEAD or SNAKE-HEAD (*Chelone glabra*) is member of the plantain family that blooms from July to September in wetland edges in eastern North America.

Hidden in the growth along the stream bank is a 2-3 foot native plant with opposite-paired, narrow-toothed leaves on a square stem. The tip of the stem is crowned with a cluster of bulb-shaped white flowers. The two-lipped, white, sometimes pink-

tinged flowers have an upper lip that arches over the lower lip and closely resembles the swollen beak of a large turtle.

Bumblebees strong enough to pry open the inch-long, two-lipped corolla are the primary pollinators. The springing motion of the stiff lower lip as the bee struggles to gain entry often makes it look like a turtle eating the bee headfirst! Butterflies and hummingbirds visit older looser blossoms. The fruit from the fertilized flower is a small paper-covered capsule that contains square-winged seeds. The plant is unpalatable to deer and was primarily used in Native American and folk medicines to expel worms.



CARDINAL FLOWER (*Lobelia cardinalis*) is a member of the Bellflower Family that blooms July to September in marshes and wetland edges in the middle, southern, and eastern United States.

Named after the bright red robes of Roman Catholic Cardinals, it's hard to miss the scarlet-red blossoms opening from bottom to top on 2-4 foot spikes. Fine-toothed lance-like leaves dress the stem, but it is the flower shape that is really interesting. The petals of each flower are divided into two lobes. Two upright petals form the upper lobe and three large petals form the lower lobe, which extends outward like a shelf. Five scarlet stamens join to form a slender tube that extends above the corolla topped by a tiny white tip made from its anthers that dusts flying visitors' heads with pollen.



The colorful flowers may attract many insects, but are only pollinated by hummingbirds, butterflies and moths with long proboscises that can navigate the length of the tube to reach the sweet nectar. Its seeds are stored in two-celled pods which open at the top for dispersal. Although there were some Native American medicinal uses for the plant, the flower is potentially toxic to humans.

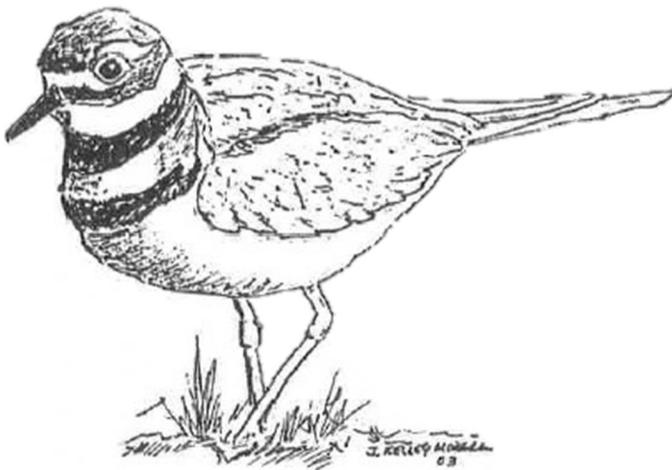
LET'S GO TO THE ARCHIVES! 20-10-5

Do you ever remember articles, interesting facts, information, news, or photos from old FrOGS newsletters and regret that you did not save your copies so you could refresh your memory? Fret no more! All 52 issues of our Great Swamp Newsletter are now available on our website. On the [Resources](#) menu, click on “Great Swamp Newsletter” (<http://frogs-ny.org/great-swamp-newsletter/>). Furthermore, there is now a searchable index of the content in all the newsletters to help you find that article you were fondly daydreaming about (open the link: “Newsletter Index”). Here are some treasures in our vault from past years.

20 Years Ago (Spring 2003)

“The Nature Conservancy in partnership with FrOGS and our other conservation partners announce the preservation of an important area in the ‘Heart of the Swamp’. A conservation easement on 124 acres includes Red Maple Swamp habitat, wet meadows, land along the East Branch Croton River, and upland woodland”. In addition, news of the donation of a pristine 5-acre parcel by the Dykemans to The Nature Conservancy was reported.

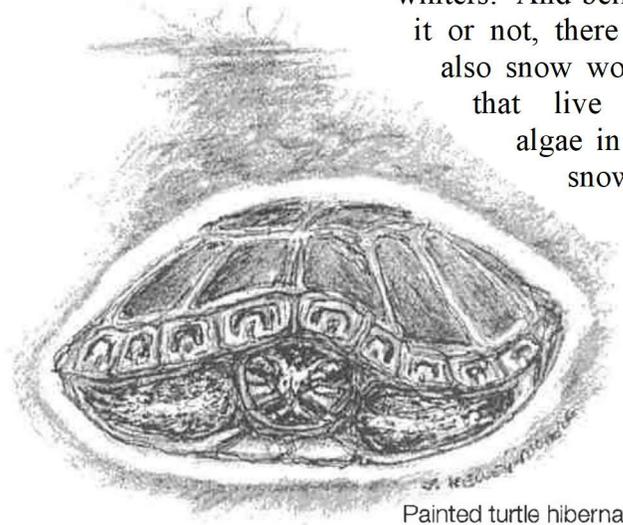
This issue also included a story on fishing in the Swamp in which James Pollack recalled catching a 35-lb carp in 1925 when he was 9 years old. An article about the raucous killdeer explained how the female fakes injury to distract predators from her nest.



Killdeer sketch by Judy Moberg-Kelley, 2003

10 years ago (Winter 2013)

The feature article described animals that overwinter in The Great Swamp. Mammals, butterflies, turtles, birds, and amphibians all live here through the winters. And believe it or not, there are also snow worms that live off algae in the snow!



Painted turtle hibernating
Sketch by Judy Moberg-Kelley, 2013

5 years ago (Winter-Spring 2018)

The feature article was “Let’s Talk Turkey”. We learned that you can tell a tom turkey’s mood by the color of his fleshy head. “The very top is a chalky blue/white. Rings of small fleshy red bumps, or ‘caruncles’, start at the back of the head and cover the neck, ending with several large fleshy pouches on the breast. The ‘dewlap’ or ‘wattle’ is a flap of skin attached to the throat. Atop the beak near the forehead, nestled in a cluster of short bristles, is a



small cone of flesh called a ‘snood.’ When alarmed or excited, blood engorges all these fleshy parts and they turn cherry red...”

Look up the article to read the rest!

WHERE IN THE GREAT SWAMP?

This body of freshwater (a lentic system) was likely created by farmers who dammed a stream circa 1900, flooding a marshy area to provide ice for a growing dairy business. The water and its surrounding 44 acres provide breeding habitat for a variety of ducks, teal, kingfisher, and green heron. It is a migratory stopover for Canada geese, green-winged teal, ring-necked ducks, black ducks, and mallard ducks, and home to the osprey, solitary sandpiper, scarlet tanager, and wood thrush. Along the towering cliffs that make up the ridgeline to the left, early inhabitants occupied rock shelters and left their pottery shards for us to ponder. One can find beech trees, cinnamon ferns, liverworts, laurels, spicebush, and winterberry in the deeply-shadowed forest. The parcel was acquired by FrOGS in 2004 with a grant from the North American Wetlands Conservation Act (NAWCA) with assistance from the landowners, Putnam County Land Trust, and The Nature Conservancy.



If you can name this location, write us at P.O. Box 373, Pawling, NY 12564 or send an email to info@frogs-ny.org. Please describe what special meaning or remembrance the location has for you. The Editors will choose their favorite response and send the winner a free T-shirt or cap from our donation site (<https://friends-of-the-great-swamp.square.site/>).

NEWS IN THE GREAT SWAMP

Have you noticed the crushed-rock road entrance and signage on Cornwall Hill Road just east of the Highway Department? While driving by you might be able to catch the words “State Superfund Program.” This is the site of the Cross-County Sanitary/Kessman Landfill that has been under investigation and/or remediation since 1974. Following landfill capping, site-related contamination was first detected in the wetland sediment in 2003. Monitoring and investigations by NYSDEC between 2017 and 2019 led to a Remedial System Optimization Report, which recommended remediation. Polychlorinated biphenyls (PCBs) were the primary contaminants of concern impacting the wetland area. PCBs were found in surface water and sediment at depths of up to 4 feet.

The goal of the cleanup action for the site is to achieve contaminant levels that protect public health and the environment. The key components of the remedy are:

- Excavation and removal of PCB-contaminated sediment
- Dewatering, processing, and stabilization of excavated sediment, and transport and disposal of stabilized sediment at an appropriately licensed disposal facility
- Restoration of the affected wetland area and disturbed areas of the existing landfill cap, including supply and placement of imported soils, trees, shrubs, selected plants, and wildflowers

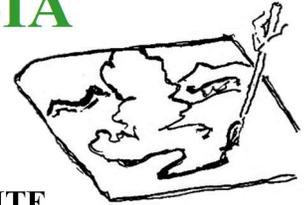
Remedial excavation activities that began in March 2023 are expected to last about 10 months and are estimated to cost close to \$4M. “Green Remediation” opportunities are being incorporated into this Superfund site and include plantings for pollinators, restoration of bog turtle habitat, installation of bluebird boxes, and potentially use as a site for honeybee farming.

Read all the details about this cleanup project at https://www.pattersonny.org/PDFs/2023_Kessman_DEC_Cleanup.pdf



PLEIN AIR PARAPHERNALIA (And Some Other Things)

By Sharon Nakazato



So you would like to try plein air, to combine your love of nature with your joy in art! But plein air brings different challenges — or choices — than working in the studio. The first thing to decide is what paraphernalia, gear, wherewithal, and stuff to take with you. Photographers may be more used to this consideration, while painters and sketchers can feel quite bewildered. Here is a checklist of the minimum necessities and investment you will need along with a few suggestions for useful accessories.

ART SUPPLIES

Something to draw/paint with:

- Pens, pencils, brushes, erasers, small pencil sharpeners
- Pastels, Cray-pas, colored pencils, watercolor pencils, water-soluble crayons
- Watercolors, acrylics, gouache, oils, etc.
- Water or solvents and something to carry them in (plastic jar with screw-on lid, small closable squirt bottle). Remember that paints are usually toxic to the environment so you don't want to discard the water or spirits on the land we are trying so hard to protect! Plan to carry out toxic materials and dispose of them later. It helps to keep a bucket with a lid in the car.

Something to draw/paint on:

- Various papers, paper blocks, canvas, wood, etc. Choose these to match the medium you are using.
- Sketchbooks
- For water-based media on paper (not paper blocks), you may want to tape, clip, or staple the paper to a firm base to prevent buckling.

Something to carry your gear:

- Experiment with various tote bags, shoulder bags, or, if you get more fancy, wheeled carts. Ask yourself how far you will be carrying gear and how you can get it all in one bag if possible.

Other suggested items:

- A viewfinder or croppers, paper towels, an easel if you work standing up (there are also easels you can sit at, but remember you have to transport it), and a beach umbrella to stick in the ground for shade.

ON SITE

- What to sit on? Some sites will have benches, picnic tables, and rocks, but you may need a seat; take a folding chair or stool. There are some light and portable ones available for artists. You may want a camp chair with a place for water cups. Best to make yourself comfortable!
- What to rest your art materials on? Light plastic folding tray tables work well.

BEFORE YOU LEAVE HOME

- Wear comfortable, weather-appropriate clothing
- Eat or bring food with you, or both
- Hydrate and bring fluids to drink
- Apply sunblock and bring a wide-brimmed hat
- Practice good tick-bite prevention (bug repellents, light-colored clothing, long sleeves, pant legs tucked into socks)
- Tip: Put what you can in your fueled-up car the night before so you'll remember what you forgot when you wake up in the middle of the night and not when you are more than halfway there.
- Charge your cell phone and bring it! Use it to take photos to remind yourself when you are back in the studio of what you were after out there.

FINAL ADVICE

Above and beyond all, this is supposed to be fun! You're giving yourself the opportunity to immerse yourself in nature, to make discoveries and try things. No hurry, you can always finish or paint from your drawings or photos in the studio. Hopefully, whatever you take away with you will remain as a memory of a very special time.

I am happy to answer questions, help you get started or get involved.

Sharon Nakazato

845-612-1046

sharon_nakazato@comcast.net

P.O. Box 373 • Pawling, NY 12564

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CALENDAR OF EVENTS

Plein Air Dates

Sunday, July 30 (from 9:00 am onwards) Deer Pond Farm
Thursday, August 10 (from 9:00 am onwards) Great Hollow
Thursday, August 17 (10:00 am – 4:00 pm) Great Hollow
Wednesday, August 23 (from 9:00 am onwards) Ray Lake
Tuesday, Aug 29 (from 9:00 am onwards) Deer Pond Farm

Contact: Sharon Nakazato at 845-612-1046,
sharon_nakazato@comcast.net

Gordon Douglas Nature Reserve (west) Hike

Sunday, July 23 (9:00 am)

Branching off the Appalachian Trail we will walk roughly 6.3 miles over 4 hours through the reserve using very few trails. This is considered a challenging hike intended for experienced hikers. We will be exploring rocky cliffs, passing a large glacial erratic, and hiking diverse terrain to the mountain top for a spectacular view. Packing lunch is recommended along with plenty of water. We will meet at the Metro-North Appalachian Trail parking lot off Route 22 at 9:00 am

Maybrook Trailway Bike Ride

Sunday, August 13 (9:30 am)

FrOGS will be leading a Bike Ride on the Maybrook Trailway. Meet at 9:30 am in Holmes at the Trailway parking lot off of Route 292. We will ride south passing through areas of The Great Swamp and will be gone 1.5 hours. Rain date will be August 21.

North Flow Paddle

Sunday, September 10 (10:00 am)

We will depart from the DEC launch site on Wheeler Road in Wingdale at 10:00 am. We will paddle up river (south) on the Swamp River and then back north to visit the great blue heron rookery. No children under 16 allowed. Bring your own kayak or use our canoes. Paddle is dependent on weather and a good water level.

For all events, please contact Ken Luhman at frogspaddle22@gmail.com. Paddling events have fees.

Pawling Nature Preserve Hike

Sunday, September 24 (9:00 am)

A moderately challenging incline for the first ¼ mile, the rest of the hike is random terrain with beautiful views covering approximately 6 miles and taking 3 to 4 hours. Hike will start at 9:00 am from the Sprague Road entrance to trails in Wingdale, NY. Rain date will be October 1.

Last Hurrah Fall Paddle

Sunday, October 8 (9:00 and 11:30 am)

We will depart from the DEC launch site at Wheeler Road in Wingdale. Launch times 9:00 and 11:30 am. We will paddle up river (south) on the Swamp River and then back north to visit the great blue heron rookery. No children under 16 allowed. Bring your own kayak or use our canoes. Paddle is rain or shine.

Art Show Submissions Due!

Monday October 2

See the Call for Artists for details.

Fall Celebration

Saturday – Sunday, October 21 – 22

At Christ Church on Quaker Hill. Mark your calendars now! Premier Art Show, educational exhibits and talks, games for children, swamp animals, kayak raffle. Fun for all ages!

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