



SOUTH FORK NATURAL HISTORY MUSEUM (SOFO)

SOFO's Bi-Weekly Newsletter

NATURE NEWS



SOFO STAFF PHOTO

VERNAL POOLS

By Jake Kushner

As we take our winter walks through the woods, we may notice small pools forming in low areas or depressions in the earth. These small wetlands found in forested areas are called vernal pools. Vernal pools are concentrated in the northeastern states, an area known as the "Glaciated Northeast" because they crept south as glaciers from the arctic and scoured out depressions in Earth's surface.

Vernal pools are defined by several characteristics. One of the first is their unique hydrology. They are seasonal, fill with snowmelt and rainwater, and reach peak water depth in spring, hence the name "vernal". By summer, most of these ponds are dry. These dry periods result in a unique biological community, another defining characteristic. Vernal pools lack fish populations as seasonal drawdowns in water limit the ability of fish to survive. They are isolated, with no inlets or outlets, and no connections to other bodies of water. Finally, vernal pools are shallow and small, rarely deeper than 3-feet or larger than a quarter of an acre.

Given their small size and seasonal-

ity, it might be difficult to recognize their importance. These pools are a critical breeding habitat for various amphibian and invertebrate species. Here on the South Fork, vernal pools are utilized by mole salamanders, such as the state-endangered Eastern Tiger Salamander, or frogs, such as the Wood Frog.

Unfortunately, vernal pools are disappearing from our landscape. Wetlands are vulnerable to development, runoff from agriculture, pollution, and overuse from a recreational aspect. However, the first step in protecting vulnerable habitats is to educate the public about the value of these unique wetlands.



SARAH NOVARRO PHOTO

MOLE SALAMANDER

MIGRATION

By Jake Kushner

As an amphibian lover and naturalist here on the South Fork, I eagerly wait all year for the late winter and early spring months. Once they arrive, I am constantly checking the weather forecast for those warm, rainy nights. If I get lucky and the weather conditions are right, I grab my boots and flashlight and venture out into the woods in search of vernal pools. You might be

wondering why, or think this sounds a little crazy, but there is an exceptionally good reason for these nighttime adventures: to see our elusive mole salamanders.

Mole Salamanders are a group of salamanders that belong to the Ambystomatidae family. These salamanders get their name from their unique fossorial lifestyle. Members of the mole salamander family spend most of the year in underground tunnels and burrows, hidden from our view. In fact, some species spend 97 percent of the year underground, only emerging for a roughly two-week window. Underground, these salamanders live sedentary lifestyles, feeding on invertebrates such as insects and earthworms. Once late winter rolls around these animals begin to get active. When temperatures start to hit the high 30s and low 40s, and the ground saturates with rain, the salamanders emerge from their underground lairs and travel to vernal pools to breed and complete their lifecycle.

Once in the pool, males deposit their spermatophores on the vegetation and eagerly hope a female will choose to mate with him. The females will store the spermatophores in their cloaca, resulting in fertilization. Eventually, these females will deposit large gelatinous egg masses along the bottom of the pond. When the breeding season is complete adult salamanders retreat to their underground lairs, not to be seen again until the following year.

If you come across migrating or breeding salamanders please use caution and avoid disturbing these sensitive species during an extremely critical stage of their life cycle.

[JOIN / RENEW](#)

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SOFO is happy to announce that, in line with the issuance of the latest State Executive Order, we are now able to offer our outdoor nature walks for up to fifty (50) people, which includes our staff. Please note that we will atw all times follow stringent six-foot distancing separation protocols required by the Department of Health for the safety of our participants and environmental educators. We will provide masks and gloves for all attendees. Please dress appropriately for tick protection. [Please check our website calendar for more details about upcoming nature walks.](#)

JOIN OUR BACKYARD WATCH CITIZEN SCIENCE PROJECT

We are calling on all of our young environmentalists to observe and document nature awakening in your own backyards. We ask you to send us pictures of your findings with the date you discovered them, and your name and any notes you would like to include. We are happy to feature observations sent in by our fellow environmentalists with details about the nature sightings they shared with us. Please send your photographs and notes to info@sofo.org. Stay safe and be on the look out for Nature news in your backyard!



JENNIFER SENFT PHOTO

WHITE-BREADED NUTHATCH

(*Sitta carolinensis*)

Of the four Nuthatch species found in North American forests, the White-breasted Nuthatch (*Sitta carolinensis*) is the most widespread across the continental US and is the only nuthatch found in our area year-round. This male White-breasted Nuthatch is not confused but facing in its preferred foraging position. Nuthatches commonly forage upside down across tree trunks looking for tasty insects or nuts and seeds that they hid earlier in the year. During the winter, they frequently visit bird feeders that provide large seeds, nuts, and suet but stick close to flocks of chickadees and tufted titmice for added predator detection. The thick bill of nuthatches helps them pry insects from wood crevices and 'hatch' seeds and nuts from the hulls after wedging the food in tree bark.



CRYSTAL OAKES PHOTO

BUNKER SKULL

(*Brevoortia tyrannus*)

This mostly cleaned fish skull was found at the end of November and shows the amazing articulating ability, and almost delicate bone structure of a filter-feeding fish known locally as Bunker, or Atlantic Menhaden (*Brevoortia tyrannus*). The many articulating bones in the skull allows the jaws to open very wide and funnel large amounts of water into their mouth and through their gills. Comb-like structures on the mouth side of the gills (called gill rakers) are used to trap zooplankton (microscopic floating animals); the larger the fish, the larger the gill rakers, which trap larger zooplankton. This was one of many fish that washed up on beaches around the East End; the New York State DEC is analyzing data collected at the different die-off sites to determine why the fish died in such large numbers. Die-offs in the past have been linked to low dissolved oxygen in warm shallow waters with too many fish, temperature changes, lack of zooplankton to feed on, or occasionally pollution. From autumn to early winter Bunker should migrate out of shallow coastal waters to deeper water 20 to 30 miles off the coast, ranging from New Jersey to the Carolinas, to spawn. The eggs and small fish will eventually drift into bays, estuaries, and salt marshes, where they will live until their first autumn and first migration.



PAUL KING III PHOTO

RIBBED PINE BORER

(*Rhagium inquisitor*)

These 'nests' were found under the loose bark of a rotting log and they belong to pupating, long-horn beetles called Ribbed Pine Borers (*Rhagium inquisitor*). Most long-horn beetles are not considered pests to a forest's healthy trees because they prefer to use dead or severely damaged trees to raise their young, which helps turn a dead tree into healthy soil hummus. The Ribbed Pine Borer is sometimes considered a pest as it will use freshly cut logs to raise their young; the resulting tunnels lower the wood's value for use as lumber. The adult Ribbed Pine Borers are active from April to October, feeding mostly on flower pollen. Females lay groups of 20 eggs in bark crevices of newly dead trees; the larvae hatch in a little over a week and burrow deep into the dead wood where they will feed for almost a year and half. During the second autumn, the larvae work their way out to just beneath the bark where they tear strips of wood to make a barrier around themselves. The larvae pupate into adults over winter, then wait until spring before emerging. The arrow is pointing to a pupa case.

FEBRUARY 17 - FEBRUARY 24, 2021 PROGRAMS

[Please visit sofo.org/calendar/ for more details.](#)

KEY: A-Adults, T-Teens, C-Children, F-Family, AA-All Ages, *Live Animals

OUTDOOR NATURE ADVENTURES WITH SOFO ENVIRONMENTAL EDUCATORS

Winter School Break - 10:30AM - 11:30AM

For Children of All Ages

WEDNESDAY, FEBRUARY 17

What do Bugs do in Winter?

FRIDAY, FEBRUARY 19

Learn How to Identify Animal Signs.

FRIDAY, FEBRUARY 19, 7PM - Online Video Bat Conservation on Long Island — Long Island Natural History Conference.

SATURDAY, FEBRUARY 20, 10AM - Zoom Live Animal Presentation, The Butterflies and the Bee: Prepping for Pollinators at Home! with entomologist Jeffrey Petracca, from the Long Island Aquarium: All Ages, (some of them may be of more interest to an older crowd (gardeners and home owners).

SUNDAY, FEBRUARY 21, 10AM - SOFO's Young Birders Club: Ages 8-18.

OUR YOUNG ENVIRONMENTALISTS SOCIETY (YES!) NEWS

Our YES! Group meets bi-weekly via Zoom. Click here to see the latest projects and activities!

sofo.org/yes/

SOFO's SHARK RESEARCH and EDUCATION PROGRAM NEWS

The sharks are back! Click here to follow the latest developments and upcoming shark tagging expeditions.

sofo.org/sofos-shark-research-education-program/

YOUNG BIRDERS CLUB

Our Young Birders Club meets the third Saturday of every month and is open to anyone ages 8-18 who is interested in learning about birds. We concentrate on birding in local areas since Long Island has so many great habitats that are home to a wide variety of species.

We remain very appreciative of your support, and we welcome you to visit us at the Museum. Reservations only by calling the Museum at 631-537-9735. Daily sessions from 10-11:30 and 1-2:30. Please watch for announcements on our social media pages [facebook.com/sofomuseum](https://www.facebook.com/sofomuseum) and [instagram.com/sofomuseum](https://www.instagram.com/sofomuseum), and feel free to email us at info@sofo.org so we can keep connecting as we all continue to explore our natural world and strive to raise environmental awareness by providing the inspiration and tools for all of us to become caring and responsible stewards of our planet.