



A NEWSLETTER

from the

CAPE ANN VERNAL POND TEAM

Spring 2021

www.capeannvernalpondteam.org

Email: cavpt@yahoo.com

Speaking of Our Future

We have taught and inspired thousands of people during our 30+ years of activity. Environmental efforts are critical today and for all future generations. Through active conservation and education of children and teens, the Cape Ann Vernal Pond Team has been tackling these issues. Young volunteers have participated in our programs for many years so we decided to ask some of them to write about the ways in which the Team has impacted their lives.

In the end we believe what we are doing is important... it's hard to quantify...it's different for each of us...and for many it's just PURE BLISSFUL JOY!

What the Cape Ann Vernal Pond Team Means to Me

To say that the Cape Ann Vernal Pond Team has impacted my life is beyond an understatement. I have been regularly attending meetings for the past five years and volunteering with the team for three. In this time, the volunteers and animals have always held a special place in my heart.

When I was younger, the meetings were simply a place to



learn about exciting animals, but that changed as I got older. Not only did volunteering give me a place to go and spend my time on something healthy and fun, once I started with the team, teaching about and protecting our ecosystems became vital to my life.

I wouldn't be doing my experience with the CAVPT

justice if I didn't mention the people involved. The people I've met when volunteering have become my best friends and role models. Not only that, volunteering has given me much better people skills than I ever thought I could have. Doing live shows has bolstered my self-confidence tremendously. I honestly believe there is not enough good to say about the CAVPT; the other volunteers and the work they do is quite simply extraordinary.

Torren Shea - 17

What Volunteering for the Cape Ann Vernal Pond Team Means to Me

Helping the threatened animals that are struggling every day. But don't get me wrong, it's not all work. It's really fun to help showcase the snakes down at the block parties. I remember running down to the party as a kid, and frantically looking for Rick's stand, because I knew I would be able to hold the snakes. I have been interested in conservation since I was a little kid, and CAVPT is a perfect way to express that interest. I



love seeing the animals, helping people understand the animals from a different perspective, and raising awareness. To know that I'm helping, and having fun in the process, really pushes me to volunteer.

Aiden Rosell - 13



Being a Cape Ann Vernal Pond Team Member has Been an Honor

Getting to know the snakes and learning about different species and facts every day. Going to the meet-ups to teach interested families and children about a snake's nature and why they are harmless. Rick is so helpful and I've learned so much from him and his experiences of being a professional. I am a relatively new member, but I can't wait to get back to the snakes!

Lassen Ando - 13

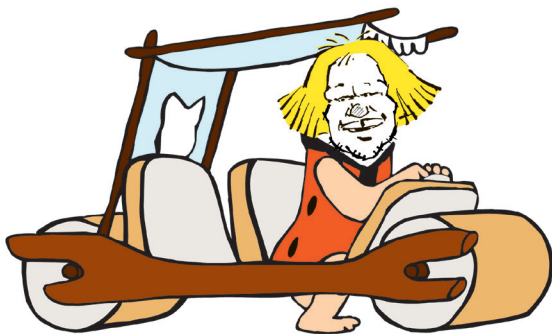




Lila Hawks

Lila Hawks has been volunteering for the Annual CAVPT Yard Sale with her mother Cora since she was old enough to walk. Lila is 17 now and attends Mass. College of Art & Design. She did her video class project about Rick and the Team.

In this casual video conversation, Lila starts at the beginning asking Rick Roth how he developed a lifelong interest in wildlife, especially reptiles and amphibians. He caught his first snake (Northern brown) on the way home from kindergarten and he was hooked. During the interview she slowly uncovers how Rick moved from the Chicago area where he'd spend as much time as he could in the fields, creeks and swamps to Massachusetts where he is the Executive Director of the Cape Ann Vernal Pond Team. She tours Rick's snake world with her camera and is able to pan back and forth from animals to Rick and shows how he feeds and breeds these incredible creatures. It's not just a metaphor that Rick and his snakes are entwined. Through the interview Lila weaves the story of how Rick works with a wonderful Team of Volunteers to learn and preserve what is most important to our lives...the wildlife and habitat that is necessary for survival. Rick and the Team are trying to save our little corner of the universe.



KEEP ON TRUCKING...actually VANNING

White Lightening (our very old van) is getting incredibly tired and is limping along on its last leg. The CAVPT strives to use more sustainable practices as they become available and we believe this is something important and desperately needed.

To truly promote the environmental example we are trying to set, the next step is to get an electric or hybrid vehicle. As we are a non profit, it is necessary to reach out to the community for help with this acquisition. A donation financially or an actual van itself would be greatly appreciated. If you or someone you know could be of assistance... to keep us vanning on... please reach out.

We'll put your name or company name on our van alongside the CAVPT's. Excellent advertising for you or your business is always a good thing. You can write it off as well since we are a 501(c)(3) nonprofit organization.

FEATURED CREATURE

Northern River Otter

SCIENTIFIC NAME: *Lutra canadensis*

SIZE: Length 3'7" Height 16"

RANGE: All states in the U.S. and all but the northernmost portions of Canada and Alaska

DIET: Fish, frogs, crayfish, salamanders, turtles, snakes, small birds, mammals, earthworms and insects




DESCRIPTION:

- **Features:** Weasel family. Fur is dense and dark brown. Eyes and ears are small, they have short legs and webbed feet. Otters can swim and run on land.
- **Activity:** Peak activity is dawn to mid-morning and evening. Active all year. Den may be a rock crevasse, under a fallen tree, an abandoned beaver lodge, a muskrat dwelling or a dense thicket bordering on water. Their home range is 15 or more miles.
- **Note from Rick:** Not uncommon on Cape Ann. Trackers say they often see prints and slides in the snow. I have found over time that when most people walk through the woods, they couldn't sneak up on a corpse because they're heavy footed and talkative. If you're stealthy you can see otters in some of our vernal pools, and a whole bunch of other cool critters.

Keep in Touch With the TEAM!

Check out our website at:

www.capeannvernalpondteam.org

Like Us on  Facebook Cape Ann Vernal Pond Team

Amazon Smile

In this day and age of virtual technologies, donating to your favorite charity is easier than ever. Most of us frequently make purchases through Amazon. It's fast, convenient, and can be done pretty much anywhere at any time with your smartphone. Thanks to Amazon Smile, when making your online purchases you can choose a favorite charity and Amazon will donate a percentage of your total to them at no cost to you. Please support what we do and consider selecting the Cape Ann Vernal Pond Team as your charity of choice.



Thank you!

What an incredible outpouring of generosity we received from all of our supporters this past year. This is an Extra Special Thank You for keeping us afloat when it seemed so tenuous. Everyone contributed what they could to help our organization survive and this was especially helpful since we virtually had all of our shows cancelled due to Covid-19. It's very touching.

Environmental efforts are critical for our future and our children's future, so we hope you applaud yourselves for being a part of our Team's incredible impact through education and conservation.

Grants & Donations in 2020

Ron & Karen Camile and the Barnes Group Foundation
Martha Farnsworth
Mary Lynne Hedley
Jessica Levesque
Noel Mann
Anne & Steven Parsons
David Ross
Gerry Swislow
Nick & Leah Taormina
William F. Taylor
Diane Vaughan
Several Anonymous
New England Biolabs
New England Herpetological Society
Community Bag Program at Stop & Shop and Shaw's Market
...thanks to Sarah Scott

Unexpected Yard Sale at the Office

Like so many organizations, Covid-19 affected our ability to keep our office and our consignment area "The Shop" open. We realized early on that we couldn't afford the rent at 242 Main St. without income from our paid shows and we let our landlord know. They graciously allowed us to stay in the space through August. The office was overflowing with incredible furniture, housewares and art that people had donated over the course of the past year.

What were we to do with all these treasures?
Have a YARD SALE at the office!

It was a big success. We opened "The Shop" to the public for 3 days and you all showed up with an outpouring of support. We didn't price the items, but let everyone decide what value the items were to them. Everyone was more than generous. Along the way we were able to help some families that had very little and couldn't afford to donate, we were able to "pay it forward". Thanks to all of you who gave to us so we could give to others.

Last Year We....Did some cool and different events because of Covid-19

Like.....

- Snakes of New England video, shot by one of our long time volunteers Kate Bevins. It was uploaded to You Tube and used by Riverfest and the Sawyer Free Library.
- A Zoom snake class for Ben Wildric's students at Brookwood School
- Nurture with Nature live FaceBook Stream about snakes by Jeff Corwin with Rick Roth and Keith Bertone at the New England Wildlife Center
- 11 Nighttime Vernal Pond Field Trips - March 3rd to May 2
- Dow Brook Daylight Savings Walk with IRWA and ECTA - Vernal Pond Field Trip
- I♥Science, Harvard Museum of Natural History - Vernal Pond Display
- 2 Private Birthday Parties - Live Animal Presentations



The CAVPT newsletter committee is powered by
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DID YOU KNOW...?

by Nathan Mineo

Did you know that wood frogs are affected by climate change? I know this fact may seem obvious, but exactly how wood frogs are affected is far less obvious.

Climate change has a variety of impacts, including changing precipitation patterns. This means that winters may have less snow (and more sporadic snow events), leaving less snowpack and earlier thawing. Snowpack, as it turns out, is very beneficial in a lot of different ways. One way is that it insulates the ground in the winter. Around here, winter temperatures may fluctuate a lot (like 0 degrees one day and 50 degrees the next), but if there is snow insulating the soil, the ground temperature will remain fairly constant. Since wood frogs overwinter by allowing themselves to freeze solid under leaf litter, snowpack is an important aspect of their survival. It's ability to moderate temperatures means that the frogs won't go through multiple freeze-thaw cycles in a winter. This is important because every time a wood frog thaws, its body temperature increases, and it starts to use more energy. The more energy it uses in the winter, the less it has in the spring when it emerges to breed. Remember, wood frogs are one of the first amphibians to emerge, well before their food sources, so their energy reserves have to be substantial for them to survive through their breeding season and then hang on long enough for their food to emerge so they can eat and reenergize. Less snowpack in the winter and earlier thawing can strain the limits of the wood frog's energy reserves, which has a negative effect on survival.

Straining energy reserves likely has a bigger impact on females whose energy demands are greater than males due to the fact that they carry energy-demanding eggs. In fact, Michael Bernard from the University of Michigan, found females that breed after a warmer winter lay 4.3% fewer eggs. The reason for this is thought to be the higher energy usage that occurs during a warmer winter. More energy use in the winter means less energy can be put into producing eggs, thus fewer eggs per clutch.

Many studies about how climate change affects wood frogs focus on this thing called phenological shifts. Basically, this just refers to how the seasonal timing of an organism (wood frogs in our case) changes due to a changing climate. For instance, wood frogs emerge at the end of winter when the ponds are thawed, and temperatures are above freezing (the exact cues that tell wood frogs that it's



time to wake up and get moving are still unknown). When climate change causes temperatures to rise and ice to thaw earlier in the winter, this causes wood frogs to wake up sooner. There are both pros and cons to this, but based on what I've read so far, the pros and cons kind of balance out. Warmer winters means earlier breeding, but that doesn't necessarily mean earlier metamorphosis because the tadpoles of earlier breeding events tend to experience cooler early spring temperatures, which slows metamorphosis. However, even with the delay in development, wood frogs from eggs laid earlier metamorphosed and emerged sooner, which could be viewed as beneficial to the frogs.

Ultimately, the ways in which wood frogs will be impacted by climate change depends a lot on where they are. The disruptions in rainfall and snowpack will be different in different parts of the wood frog's range and have very localized effects. Wood frogs will likely disappear from parts of its range, especially on its Southern edge due to hotter, dryer summers and shorter, warmer winters. Cape Ann experiences a strong ocean effect, which moderates temperatures in both the winter and summer months. I wonder how that ocean effect currently influences amphibian breeding, and how it will change with a changing climate. Will amphibians on Cape Ann be insulated from the negative effects of climate change due to the ocean effect, or will the strain of climate change be amplified because of it?

References:

Benard MF. Warmer winters reduce frog fecundity and shift breeding phenology, which consequently alters larval development and metamorphic timing. *Glob Chang Biol*. 2015 Mar;21(3):1058-65. doi: 10.1111/gcb.12720. Epub 2014 Sep 29. PMID: 25263760.

Fitzpatrick, MJ, Porter, WP, Pauli, JN, Kearney, MR, Notaro, M, Zuckerberg, B. Future winters present a complex energetic landscape of decreased costs and reduced risk for a freeze-tolerant amphibian, the Wood Frog (*Lithobates sylvaticus*). *Glob Change Biol*. 2020; 26: 6350- 6362. <https://doi.org/10.1111/gcb.15321>

If we value wildlife, we must protect vernal ponds.....

What a CAVPT membership offers:

- A really neat CAVPT car decal
- CAVPT t-shirts and hats
- Subscription to our annual newsletter
- Email updates of vernal pond activities and events
- Guided field trips to local vernal ponds
- The satisfaction of knowing you are helping preserve these unique and vital habitats

Our programs & activities include:

- Vernal pond certification
- Exhibits & presentations
- Daytime & nighttime field trips
- Certification workshops
- "Intro to Vernal Ponds" Presentation
- Website: capeannvernalpondteam.org
- Scout patch program
- Snakes of New England & the World

Salamander linoleum cut by Isabel Natti



The funding for our programs is provided by:

- Corporate gifts
- Grants
- Sale of our merchandise
- Donations from community members like you
- Memberships

CAVPT thanks the following organizations and foundations for their generous support over the years:

The EnTrust Fund • The Norcross Wildlife Foundation • GoodSearch
New England Herpetological Society • Sweetwater Trust • TD Bank
Toad Hall Bookstore • Gloucester Cultural Council • Sam Park & Company
New England Biolabs • The Bellevue Fund • The William P. Wharton Trust
New England Grassroots Environment Fund • Cell Signaling Technology
Barnes Group • Captain Planet Foundation • The Boston Foundation's Belinda Fund
Brace Cove Foundation

Support the Cape Ann Vernal Pond Team. Become a member or renew today!

Membership and donations can also be completed on our secure website, www.capeannvernalpondteam.org

Membership levels

☐ **Family - \$35.00 (USD)**

Subscription period: 1 year
Yearly membership to CAVPT for a family (2 adults and children)
Gift includes a CAVPT decal & bumper sticker
*Please list names of adults and names/ages of children

☐ **Family - Lifetime - \$350.00 (USD)**

Subscription period: Unlimited
Lifetime membership to CAVPT for a family (2 adults and children).
Gifts include CAVPT decal & bumper sticker, Vernal Pond Field Guide, Shirt or hat
*Please list names of adults and names/ages of children

☐ **Individual - \$20.00 (USD)**

Subscription period: 1 year
Yearly membership to CAVPT for an adult (17 years and older)
Gift includes a CAVPT decal & bumper sticker.

☐ **Individual - Lifetime - \$200.00 (USD)**

Subscription period: Unlimited
Lifetime membership to CAVPT for an adult (17 years and older).
Gifts include CAVPT decal & bumper sticker, Vernal Pond Field Guide, Shirt or hat

☐ **Junior (under 16) - \$10.00 (USD)**

Subscription period: 1 year
Yearly membership to CAVPT for juniors (16 years and younger)
Gift includes a CAVPT decal & bumper sticker

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366 Main St. #2
Gloucester, MA 01930

CAVPT is a 501(c)(3) nonprofit organization. Your contribution is tax deductible



WHO'S AWAKE AT NIGHT...?

Notes From a Field Trip

A beautiful night out in the woods vernal ponding. Every night is so different and unpredictable. The Spring peepers were auricular above all else. You can only use deafening so many times. When we got right next to the pond you could hear the wood frogs calling, they weren't as active as the night before. We saw peeper individuals and pairs everywhere. There were lots of Spotted salamanders laying on the bottom of the pool, and not shy of the lights. The salamanders weren't congressing but there were some small pods along with some areas of fresh spermatophores that were super white scattered on the pond floor. We saw lots of salamander egg masses. No migrating sals but the next phase may be a migration back out to their woodland homes during the next rain. We went to see the fairy shrimp too and they performed admirably for us - so beautiful to watch. The highlight may have been the herd of caddisfly larvae. - Victoria Rolf

Rainy Nights and Flashlights

Every spring Cape Ann Vernal Pond Team members lead Nighttime Field Trips to vernal ponds to see the amphibian breeding activity. Most people have no idea what vernal ponds are or even that vernal ponds exist, but there are hundreds of vernal ponds on Cape Ann. A vernal pond is a fishless confined basin depression with no permanent inlet or outlet with a unique ecology. Vernal ponds provide more food for countless forest species than any other type of wetland. Our focus is on educating the public to understand more about our local ecology.

We encourage you to check out a Nighttime Field Trip if you haven't already. Why at night? Because some of the breeding species are nocturnal and migrate and mate at night. Why all wet? Because some amphibians travel as far as a mile to reach a pond in the spring but only when the ground is wet. If we get a good night, it's an amazing spectacle and really the fun part of vernal ponding.

Put your rain gear, boots and flashlight on the hook by the door. Make sure we have your email to receive notices about our field trips and activities at cavpt@yahoo.com.

This is a fun family event. We follow the CDC guidelines for masking and social distancing.

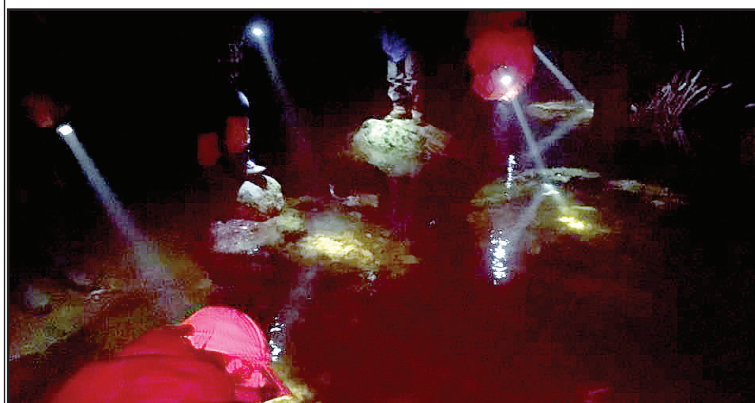


Photo credit Susan Boyé

Predaceous Diving Beetle

Otherwise officially entitled Dytiscidae, they have an orange ring around the body, are about an inch long, and they bite! They can be a pretty fast swimmer in a vernal pond - especially when homing in on some prey.



Photo credit Shay Cajoleit

Fairy Shrimp

Back swimming crustaceans perform a beautiful under water ballet.



Spotted Salamanders

Spotted salamanders usually start their migration from the woods where they live to the pools where they breed in March. They are nocturnal, and it generally happens on rainy nights, because they don't like it when their skin gets dry. The beautiful yellow spots and their placement on the body are unique to each individual, so if you wanted to you could tell them apart and name them.



Photo credit Susan Boyé

Wood Frog

Photo credit Victoria Rolf



You can clearly see the dorsal ridges starting behind the pretty eyes and running to the legs. They can be orange, green, brown or almost black. When the males are calling they make a sort of quacking sound that sounds more like a duck than a frog. They are usually the first frogs you hear in March.



Spring Peeper

This male Spring peeper is one of the many we hear blowing out a deafening peeeeeep. Pound for pound these small amphibians are said to be one of the loudest animals on earth. Male Spring peepers make the calls that can measure 110-120 decibels and be heard up to one mile away! Wonder how they make that sound? They squeeze their lungs with their nostrils and mouths shut and the air flows over their vocal sacs, which are located on the throat. Females choose mates based on the speed and volume of these calls.



Photo credit Christian Kishida

Cape Ann Vernal Pond Team
366 Main Street #2
Gloucester, MA 01930

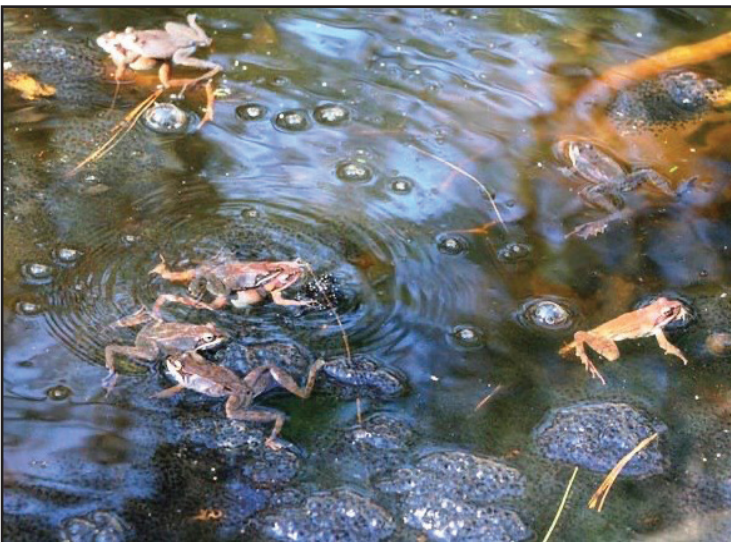
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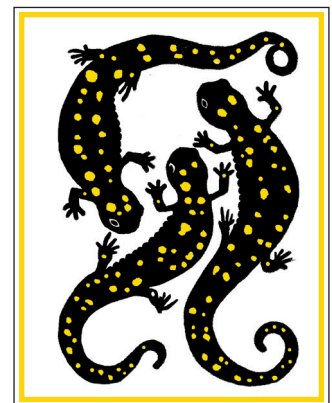
Block print by Isabel Natti

The Need for Protection...

The temporary nature of vernal ponds often belies their importance. Countless plants and animals live in vernal ponds. Insects, amphibians, reptiles, birds and mammals visit to drink, feed, breed and nest. Some species, such as spotted salamanders, wood frogs and fairy shrimp are totally dependent on this habitat.



A chorus of wood frogs



Salamander print by Isabel Natti

How to Protect...

The best way to protect vernal ponds is to own the property. The next best way to protect them is to certify ponds with the Natural Heritage & Endangered Species Program. Certification applications are now done online and include photographs and field observation data. To learn more go to www.capeannvernalpondteam.org or check out the Vernal Pool Association's website at www.vernalpool.org

