



Winter/Spring 2013

# A NEWSLETTER

from the

## CAPE ANN VERNAL POND TEAM

Website: [www.capeannvernalpond.org](http://www.capeannvernalpond.org)

Email: [cavpt@yahoo.com](mailto:cavpt@yahoo.com)

THE CAVPT IS A HOPELESSLY NON-PROFIT VOLUNTEER ORGANIZATION DEDICATED TO VERNAL POND CONSERVATION AND EDUCATION SINCE 1990.

## Sam Bevins

### *The Metamorphosis of a CAVPT Volunteer*

by Rick Roth

Sam Bevins' first introduction to the Cape Ann Vernal Pond Team (CAVPT) was at one of our snake shows in 2006. Sam, age 8, was already a snake enthusiast, and was quite knowledgeable about the many species of snakes we bring to our shows. I would hold up a snake for the audience to see and ask "What's this?" Sam always knew. By the time he saw his third "Snakes of New England and the World" presentation I had to say, "What's this? Not you Sam." It was only natural for Sam to join the team.



Since then, Sam has participated in lots of snake shows, "Intro to Vernal Ponds" programs, and helped lead our nighttime vernal pond field trips. In addition, Sam surveys the pools to determine whether there's enough amphibian activity to warrant a field trip. He also has gone with me to O'Maley Middle School for "Visiting Scientist Day".

Sam has appeared with the snakes on Cape Ann TV, and much more. He is such a great student that his teachers and school administrators have excused him from class from time to time to volunteer for us!

Meanwhile, the whole Bevins family - mom Diane, dad Jon and sister Kate - have become involved. In fact, they are a mainstay of our core volunteer group. They bring many friends and relatives to volunteer for CAVPT and fill the seats in the audience. Jon says it's one activity the whole family enjoys participating in together. The Bevins family often volunteers for some of our more remote events - Boston, Sudbury, Westborough and New Hampshire, to name a few.

Kate Bevins, 11, began volunteering with the rest of the family at age four. When people see how comfortable she is and how easily she handles snakes, they often say, "I could do that."



Diane says since her involvement with CAVPT she has become aware of biohazards, non-toxic gardening methods, and sustainability in general.

Now 16, Sam attends Gloucester High School. He plays basketball and baseball, and is involved in Student Government. He works and volunteers at The Trustees' Cape Ann Discovery Center at Ravenswood Park and interns at Maritime Gloucester. Sam has just completed his first year on the CAVPT Board of Directors.

Sam says "My work with CAVPT has expanded my interest in all kinds of wildlife, and I like the hands on approach we use in our presentations." Not surprisingly, he is considering a career in the natural sciences, perhaps toxicology.

## DID YOU KNOW...

by Nathan Mineo

Did you know that spotted salamander larvae (*Ambystoma maculatum*) can overwinter in vernal ponds? Rick and I witnessed this phenomenon first-hand in a frequently visited vernal pond on Cape Ann. We ventured out one night this past December and saw dozens of spotted salamander larvae hanging out under the ice. They were about one inch long, had a full set of gills, and clearly had no intention of completing their metamorphosis and emerging so late in the year.



So how common is it for spotted salamander larvae to overwinter in ponds? More importantly, what causes them to overwinter some years and not others? As it turns out, the overwintering of spotted salamander larvae is pretty common and well documented. What isn't as well-known are the factors causing the larvae to overwinter some years and not others. There isn't much in the literature that attempts to investigate the causal factors, and what little there is only speculates as to what might cause larvae to overwinter in the ponds.

Some ponds dry out some years and not others, so of course larvae are not going to overwinter in a pond during a year when it dries out. But the larvae Rick and I observed were in a pond that almost never dries out. One study attributed overwintering larvae to low summer water temperature. The thought being that the lower summer temperatures slow larval growth rates and delay metamorphosis. One could also make the argument that lower water temperatures indicate a cooler summer, which could slow evaporation rates and prevent the pond from drying out completely. Yet another study says that water temperature isn't the whole story. During the 1980s a study of a pond in Rockport MA examined the survival rate of spotted salamander larvae over a three year period. During one of those three years, the pond did not dry out and larvae overwintered. The authors of this study agree that overwintering is likely a result of reduced growth rates (the overwintering larvae in this study were significantly smaller than those that completed metamorphosis in just one season). But instead of attributing reduced growth rates to water temperature alone, they cite another study that shows growth rates are density-dependent. Basically this means the more salamander larvae in the pond, the slower their growth rates. This makes sense because the larvae are all in competition for food. More larvae means more competition, and more competition means less food available per individual larvae, and when there is less food being eaten, the larvae don't grow as fast. Combine high density with low water temperatures and you get overwintering spotted salamander larvae.





# Kestrel Educational Adventures Update

by Jessica Kagle, Kestrel Program Director

As usual, the Kestrel instructors and volunteers have been roaming the North Shore causing "controlled chaos" and making nature connections during school hours. Our focus this year has been on transformative programs that connect students to nature, and build lasting naturalist skills.

We partnered with The Trustees of Reservations to offer "Curiosity Companions," a program for young children. We took the Ayers Ryalside first graders on their first exploration of the marsh outside their school, where they were surprised to find a plethora of salt marsh dependent plants and animals. A group of homeschooling families came together for eight sessions this fall and winter to learn about the natural world. Our adventures took us to many woodlands, including the Crane Beach dune forest and Chebacco Woods. Rockport Elementary students learned to find and map microclimates in their own town woods, comparing slight temperature differences with changes in plant and animals species in each place. Kestrel is now offering winter programs. In Ipswich, Cuvilly Arts and Earth Center preschool children have been exploring native and introduced species on their own site, and the Rockport Daisy Girl Scouts acted out the life cycles of amphibians and reptiles. We have more great adventures ahead!

On the special projects front, Tim Ferguson Sauder of Return Design and

a Rockport Elementary School parent, received a major grant from Sappi Paper Company to collaborate with Kestrel to develop an ecology role-playing card game. Four Kestrel naturalists have worked with Tim and his student team to design cards that educate about New England wildlife and work as a set to form a challenging game. Kestrel received a sizeable grant from the Francis R. Dewing Foundation to develop "Exploration Kits" for educators. Binoculars, video cameras, field guides, GPS units, ponding gear, and other supplies will be made available to local educators. Our hope is that these kits will inspire educators to use the land near their schools as learning environments. We also partnered with the Cape Ann Community Cinema, and look forward to fund-raisers showing environmental documentaries at this cozy venue.



Students at Crane Beach for Kestrel's Inquiry Science Series

Corinne Brauer and Jessica Kagle are now the Program Co-Directors. They have been scheming and inventing new games and programs all fall and winter. Visit Kestrel's webpage at [www.kestreleducation.org](http://www.kestreleducation.org) to contact them and schedule a program, or shower Kestrel with unlimited funding.

## Third Annual Benefit Concert and Silent Auction



**A Benefit Concert & Silent Auction**  
for the CAPE ANN VERNAL POND TEAM  
and Kestrel Educational Adventures

**November 3, 2012**  
The Essex Room at Woodman's  
Rt. 133, Essex, MA

General Admission \$20 + Cash Bar  
Doors Open 7 pm  
Music Starts at 8 pm

Tickets Available at:  
ShowClix.com • 888-718-4253  
Gloucester Music  
Toad Hall Bookstore

For more info go to:  
[www.capeannvernalpond.org](http://www.capeannvernalpond.org)

Everyone had a great time! *Entrain* revved up the house with their music and energy. Then there was wild raffle and auction action.

We'd like to thank everyone for their generosity and support, making this a successful and fun event.

Check the CAVPT website and our Facebook page for 2013 concert info

**Our concerts have it all...**




**Fun!**

**Music!**



**Auction!**

**Dancing!**



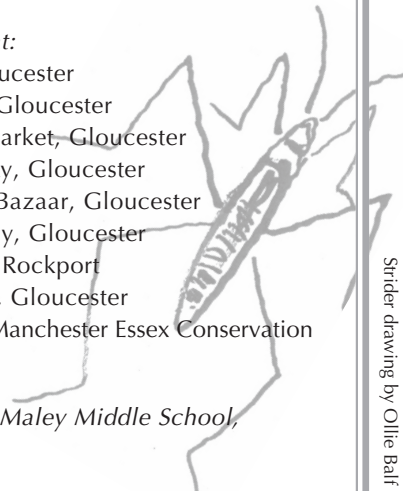
**Special Thanks to Our Generous Sponsors**

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Woodman's of Essex



## Last Year We...

- Led our usual nighttime vernal pond field trips
- Worked on vernal pond certification
- Presented "Intro to Vernal Ponds" at:  
Cape Ann Discovery Center at Ravenswood, Gloucester  
Great Falls Discovery Center, Turners Falls
- Presented "Vernal Ponds" at:  
Peabody Essex Museum, Salem
- Presented "Snakes of New England and the World" at:  
Beeman Memorial Elementary School, Gloucester  
Earth Fest at Lynn Woods, Lynn  
Riverfest, Wolbach Farm, Sudbury  
Sawyer Free Library, Gloucester  
Waquoit Bay Reserve, Falmouth  
Westborough Community Land Trust, Westborough
- Presented Vernal Pond/Snake Exhibits at:  
Gloucester Pride Stride, Gloucester  
(we had walkers, too)  
James F. Leonard School, Lawrence  
North Quincy High School, North Quincy
- Held a Vernal Pond Workshop and Field Trip with:  
The Trustees of Reservations at Agassiz Rock
- Held a Vernal Pond Field Trip with:  
Essex County Greenbelt Association at the  
Tompson Street Reservation
- Presented Snake Exhibits at:  
Animal Crackers, Gloucester  
Annisquam Sea Fair, Gloucester  
Cape Ann Farmers' Market, Gloucester  
Gloucester Block Party, Gloucester  
Gloucester Sidewalk Bazaar, Gloucester  
Maritime Heritage Day, Gloucester  
Toad Hall Bookstore, Rockport  
Toodeloos! Toy Store, Gloucester  
Manchester Art Fair / Manchester Essex Conservation  
Trust, Manchester
- Visiting Scientist Day at O'Maley Middle School,  
Gloucester
- Had a wicked-scary pumpkin-carving event at the  
Cape Ann Discovery Center, Gloucester



Strider drawing by Ollie Balf

## FEATURED CREATURE

### Spotted Salamander

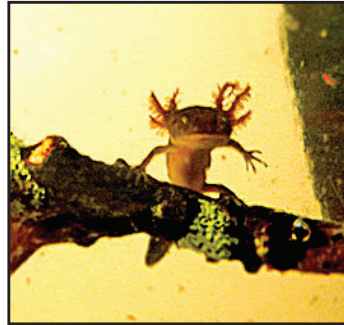
**SCIENTIFIC NAME:** *Ambystoma maculatum*

**SIZE:** Adults: 6 - 7.75" Record 9.75"

**LIFESPAN:** 20 years

**RANGE:** All of New England and most of the eastern U.S.

**DIET:** Earthworms, snails, slugs, insects, spiders, larval and adult beetles.



Photos by Colleen Anderson

Aquatic spotted salamander larva (left). Those feathery-looking things growing out of its neck are gills. A newly metamorphosed spotted salamander (right) is 2.5" long. Now a land animal, the gills are gone and the lungs are fully functional.

#### DESCRIPTION:

- Habitat: Moist woods, beneath stones and logs. Prefers deciduous or mixed woods and shallow woodland ponds. Terrestrial hibernator. Usually breeds in vernal ponds.
- Relative abundance: Common- though secretive. Populations declining due to habitat destruction and over-collecting.
- Breeding: Mass breeding migrations to pools occur from March to early April throughout New England. Eggs are laid in large masses of jelly, sometimes milky, sometimes clear, attached to underwater stems. Each female lays one to ten masses. About 100 eggs per mass.
- Eggs hatch: 31-54 days, depending on water temperature
- Larval period: 61-110 days. Usually metamorphose into adults from July to September. They are known to overwinter as larvae.
- Comments: Nocturnal, usually found above ground only during migrations to and from breeding pools. Individuals have been found up to 1/4 mile from the nearest breeding pool.
- Spotted salamanders are considered, for the purpose of certification, an obligate vernal pond species. Their egg masses are proof of the existence of a vernal pond, as long as the pond meets physical requirements, such as a confined basin depression with no permanent inlet or outlet.

Reference: *Amphibians and Reptiles of New England, Habitats and Natural History.*  
DeGraaf and Rudis

**Don't miss any of our exciting upcoming events!**

**check out our website at:**

**[www.capeannvernalpond.org](http://www.capeannvernalpond.org)**  
**and Like Us on Facebook**

## Field Trips

### Rainy nights and flashlights

Every spring CAVPT members lead nighttime field trips to the ponds to see the amphibian-breeding activity. Check your flashlights, get new batteries, and put your rain gear on the hook by the door. To avoid habitat destruction and critter disturbance, we limit the number of participants on each trip. We also ask that you leave your dog at home. Interested? **Email us at [cavpt@yahoo.com](mailto:cavpt@yahoo.com).**

## Maritime Gloucester

Maritime Gloucester is happy to support crepuscular and nocturnal vernal ponders through use of its bulk-mailing permit. Maritime Gloucester has something for everyone – maritime history, a locally-stocked aquarium, sails on the Schooner Ardele, science education, beautiful views of the harbor, gorgeous museum shop, and more. Visit them Memorial Day through October at 23 Harbor Loop, Gloucester. [www.maritimegloucester.org](http://www.maritimegloucester.org)



## Isn't it Always the Year of the Snake?

February 10<sup>th</sup> marked the beginning of the Year of the Snake on the Asian calendar. We thought we'd take this opportunity to tell you about CAVPT's interest in, and work with, snakes. But first, a little about the ancient tradition.

Unlike the western zodiac, which is divided into 12 months, the Asian zodiac is divided into 12 years with each year represented by an animal. The snake is the sixth animal in the zodiac. Originally the zodiac circle was also used to tell time and describe directions in addition to defining the year. Based on the lunar calendar, the new year falls on the second new moon after the winter solstice.

Traditionally, it was a 15-day long holiday that, like Easter or Passover, seemed as much a celebration of spring as of a specific holiday. In 20<sup>th</sup> century China, the communist government shortened the holiday and began calling it the Spring Festival in an effort to transition to the western calendar. It remains, however, the most important holiday of the year. Centuries-old customs continue to include household spring cleanings and use of loud noises (drums and firecrackers) to scare off the bad old spirits and welcome in the new.

A snake in the house is considered a good omen because it means that your family will not starve. People born in the Year of the Snake are thought to be profound thinkers who approach problems logically. Now, what does that have to do with the Cape Ann Vernal Pond Team?

CAVPT Executive Director, Rick Roth, has long been known as the Snakeman and has been presenting snake shows for decades (he's wicked old). When CAVPT was formed Rick noticed that his snake show volunteers were CAVPT members, the shows were incorporated into CAVPT programs, and Snakes of New England and the World was born. Snake shows have become one of our most popular programs and the fees we collect help to keep us afloat. That's the simple explanation, but snakes and the shows fit our mission in other ways. Spring is a time of peak vernal pond activity and, not coincidentally, the time when most of our vernal pond presentations take place. By summer we transition to our snake programs. Vernal ponds feed more forest wildlife than any other kind of wetland; snakes are only one of dozens of woodland creatures that use vernal ponds. Many local species, including ribbon, garter, black racer, milk, and hognose snakes have been seen at vernal ponds and are known to exploit them as a food source.

As an environmental organization we strive to educate the public about local habitats. Snakes are one way to do that. We are working to expand our repertoire to include birds and mammals that use vernal ponds by chipping away at the required permits and housing needs of these various animals. We hope to bring you other species in the future.

Sources: [www.HanBan.com](http://www.HanBan.com), [www.History.com](http://www.History.com), [www.ChineseCulture.about.com](http://www.ChineseCulture.about.com), [www.Japanese.about.com](http://www.Japanese.about.com)



*These feet hit the street for the 2012 Pride Stride*

## With a Little Help From Our Friends...

Last year CAVPT and Kestrel Educational Adventures held two yard sales. In May CAVPT held a sale at St. Peter's Square in Gloucester, and in August Kestrel held another at the Beverly Common. Thanks to the generous donations of friends and families they were very successful. A special thanks to Mac Bell for providing the space at St. Peter's Square, and the City of Beverly for allowing use of the Common.

We are planning our 2013 yard sale for the end of May. Please set aside your stuff and we'll put it to good use! Ask friends, neighbors, and businesses for donation items too. Don't forget, even little things mean a lot, but we'll also graciously accept big-ticket items such as time-shares, yachts, and luxury automobiles.



*We keep leaving Rick in the swamp, but he keeps finding his way back.*

### Grants & Donations

#### In 2012 We Received Grants From:

- *The EnTrust Fund*, \$7500
- *The William P. Wharton Trust*, \$4000
- *New England BioLabs Corporate Donations*, \$2000
- *The Norcross Wildlife Foundation*, \$250
- *Thanks to all who responded to our annual appeal with your generous donations, and thanks to those who donated otherwise. We especially like those matching workplace donations.*

*We are proud, elated, and grateful to have over fifty volunteers generously donating their time and energy to make CAVPT grow and flourish.*

### Certification Update

Over the past year CAVPT certified 16 more pools. Funding was provided through grants from the William P. Wharton Trust and The EnTrust Fund. Once again, Dan Wells from Hyla Ecological Services Inc. assisted us. The pools certified were in Rockport and Gloucester as well as a pool located on the property of the New England Wildlife Center in South Weymouth. This year we were able to use the new on-line services, the Vernal Pool & Rare Species Information System, established by the Natural Heritage & Endangered Species Program (NHESP). This new web-based mapping and submittal service has greatly simplified the certification process by allowing all certification and mapping data to be submitted on-line for review. The NHESP, part of the Massachusetts Division of Fisheries and Wildlife, is responsible for the conservation and protection of wildlife that is not hunted, fished, trapped, or commercially harvested in the state. The Program's priority is protecting the 176 species of vertebrate and invertebrate animals and 256 species of native plants that are officially listed as Endangered, Threatened or of Special Concern in Massachusetts.

Mr. Wells also generated some great maps that locate all certified pools and potential vernal pond habitat on Cape Ann. This will help to target prospective pools located in more threatened locales that need certification and increase efficiency in the area of planning and surveying.

We are always looking for a few more half-cocked volunteers to join us in certification fieldwork. If you think you have what it takes let us know. It's a great way to get out and see the wilds of this beautiful landscape.

**The CAVPT newsletter committee is powered by**



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332 Main St., Gloucester  
978-282-7878



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

What a CAVPT membership offers:

- A really neat CAVPT car decal
- 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
- Posters
- "Vernal Ponds" video
- Website: [capeannvernalpond.org](http://capeannvernalpond.org)
- Scout patch program
- Snakes of New England & the World

Salamander linoleum cut by Isabel Natti



Photo by Nathan Mimeo

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:

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

For school programs, including Ponds in the Classroom, contact our sister organization, Kestrel Educational Adventures: [www.kestreleducation.org](http://www.kestreleducation.org).

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

The Cape Ann Vernal Pond Team is a non-profit volunteer organization dedicated to vernal pond conservation and education since 1990. Our focus is vernal ponds. The issue is the preservation of wildlife habitat, which ultimately is about the health of the planet.



Photo by Lynne Holton

*Breeding wood frogs and wood frog egg masses*

CAVPT is a 501(c)(3) non-profit organization  
your contribution is tax deductible

[www.capeannvernalpond.org](http://www.capeannvernalpond.org)

Name \_\_\_\_\_

Street \_\_\_\_\_

City, State, Zip \_\_\_\_\_

(address required if paying by credit card)

Phone \_\_\_\_\_ Email \_\_\_\_\_

☐ Send me email updates about field trips and events

☐ Yes! I'd like to be a volunteer

☐ Lifetime Membership \$200

**Annual Membership**

☐ Individual \$20      ☐ Family \$35      ☐ Junior (under 16) \$10

☐ Additional donation \$ \_\_\_\_\_

☐ Check enclosed: \$ \_\_\_\_\_ Payable to: Cape Ann Vernal Pond Team

☐ Charge my credit card (Visa, MC, Amex, Discover)

CC # \_\_\_\_\_

exp date \_\_\_\_/\_\_\_\_ CVV code (on back of card) \_\_\_\_\_

Signature \_\_\_\_\_

(required if paying by credit card)

Please detach this form and mail with your donation to:  
Cape Ann Vernal Pond Team  
P.O. Box 12, Rockport, MA 01966



Cape Ann Vernal Pond Team  
P.O. Box 12  
Rockport, MA 01966

Return Service Requested

Non-Profit Organization  
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Gloucester, MA  
Permit No. 21



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.

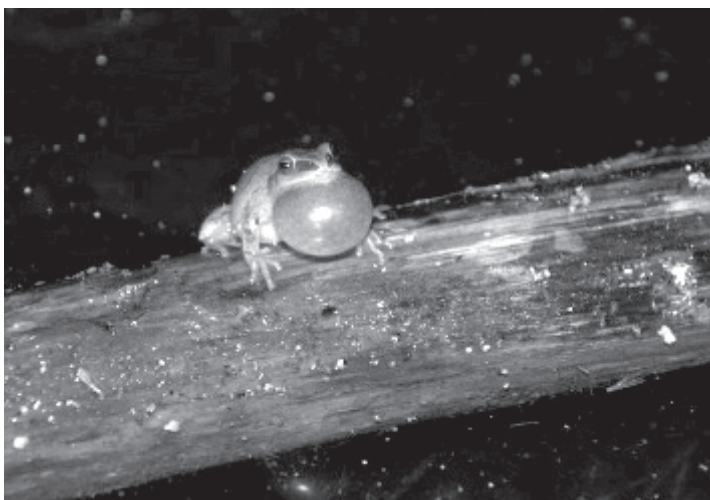


Photo by Nathan Mineo

Come see us this spring! CAVPT leads nighttime field trips to witness the annual migration and breeding of wood frogs and spotted salamanders...see inside, or our website, for more details.

## ***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 application reports include photographs, maps and field observation forms. To learn more go to [www.capeannvernalpond.org](http://www.capeannvernalpond.org) or check out the Vernal Pool Association's website at [www.vernalpool.org](http://www.vernalpool.org)



Monarch print by Isabel Natti

