Spring 2018

Harris Hearsay

THE HARRIS CENTER FOR CONSERVATION EDUCATION

Hancock, New Hampshire

Garter Snake photo: Brett Amy Thelen

Our Mission

A member-supported nonprofit organization, the Harris Center for Conservation Education is dedicated to promoting understanding and respect for our natural environment through education of all ages, direct protection and exemplary stewardship of the region's natural resources, conservation research, and programs that encourage active participation in the great outdoors.

In this issue...

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You can help ensure a grand future for the Monadnock Region by naming the Harris Center as a beneficiary in your will or estate plan. Anyone can make a bequest, and no amount is too small. For more information, contact Jeremy Wilson at (603) 525-3394 or wilson@harriscenter.org.

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Our warmest thanks go out to everyone who has made a donation to the Harris Center's Annual Fund or to our Membership drive. If you've yet to give, we hope you'll reflect on the widespread benefit to all as you consider making a contribution. If you'd like to make your donation online, please visit our website. For other ways to donate, please contact Diana at (603) 525-3394 or jacobs@harriscenter.org. We appreciate your support!

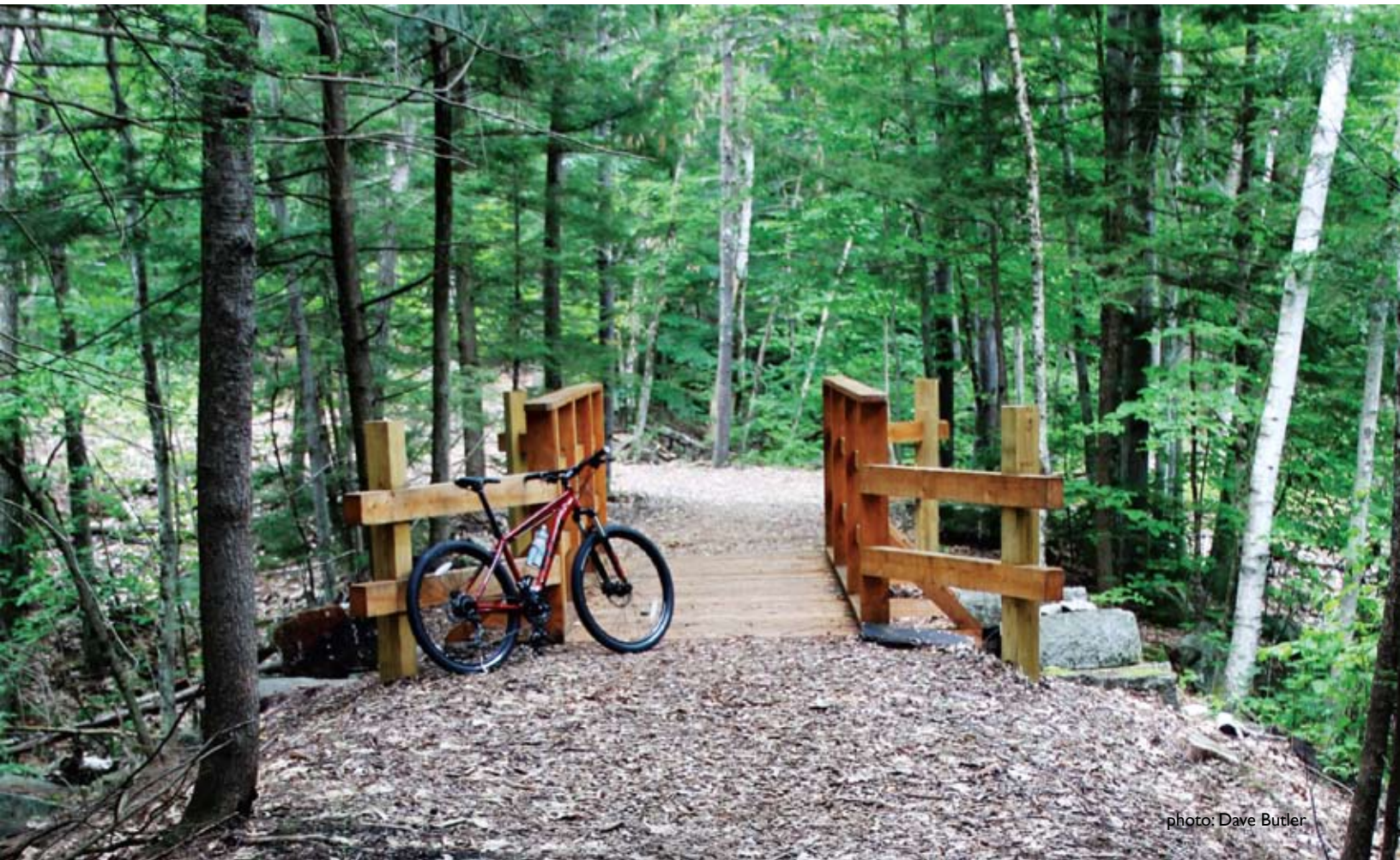

photo: Dave Butler

My "At Least One Adult"

by Susie Spikol Faber, Community Programs Coordinator and Teacher-Naturalist

I couldn't be happier. I'm kneeling on the side of Old Dublin Road in Hancock. On my hands and knees, I'm bent over a small, dark pile on the edge of a snow bank. I've discovered a prize. After days of searching the deep snowy woods, it was laying at the edge of the road, waiting for me all along. My treasure, a twisty mound of fur and bones — fisher scat, found at last.

It's not so much the scat that's making me happy, although I'm thrilled as always to find a new addition to my collection. For me, this time, it's more about who's standing next to me, who I've brought out here to show my discovery. I wouldn't even have a scat collection if not for my companion. He taught me everything I know about scat, which is now saying quite a lot. He leans over for a look, for a confirmation. And I love his answer: "Well, it could be, but maybe not."

Nothing in this life is absolute; even this fur-twisted scat escapes our complete knowing. And this is the something else my companion has taught me: that nature is always filled with mystery, even when you think you know what it is you're seeing.

Meade Cadot is the person standing with me looking at the suspect scat, and he's the true prize. You may know him as the retired Director of the Harris Center and the architect of the SuperSanctuary, as an advocate for all things wild. But for me he's my "at least one adult."

In her book, *A Sense of Wonder*, Rachel Carson writes, "If a child is to keep alive his inborn sense of wonder, he needs the companionship of *at least one adult* who can share it, rediscovering with him the joy, excitement, and mystery of the world we live in." Of course, Carson is right in all respects but one. Why just as a child? As adults, can we not also be inspired by the company of a mentor who reawakens our curiosity? Meade Cadot is this for me, and that's why I'm kneeling next to him in the snow, showing him the scat I had hoped belonged to a fisher.

But a word of caution, don't drive with this man. It's certifiably dangerous. He's easily distracted by the world around him and will drive off the road at the slightest hint of a bittern's call, swerve into oncoming traffic just to follow the disappearing shadow of a gray fox.

Instead, get out and walk with him. He'll share with you all the things you'd miss if you went without him. Like how the bear bites a telephone pole to leave its calling card or how the pungent smell you thought was skunk was really a red fox marking its territory, or even how the retreating glacier scratched the rock you're standing on, and how you can bend down and touch the scar. He'll fill your pockets with a love for this world that you didn't know you could ever even hold.

Meade Cadot, intrepid woodland guide
photo: Brett Amy Thelen

And at the end of the day, just when you think you've learned it all from him, he'll leave you realizing that you can't possibly know it all. He'll leave you with a "but, maybe not" as a reminder of something else Rachel Carson wrote: *Those who dwell among the beauties and mysteries of the earth are never alone or weary of life.*

Spring Scenes

from the SuperSanctuary

▲ **Investigating the Forest Floor** Great Brook School students search for insects with teacher-naturalist John Benjamin. photo: Ben Conant

▲ **Jaquith Rail Trail Grand Opening**
Rain couldn't dampen the spirits of the 60 people who attended the ribbon-cutting ceremony for the new Jaquith Rail Trail. This 1.5-mile segment of the old Manchester & Keene Railroad line runs from Jaquith Road in Harrisville to Jaquith Road in Hancock, and is open to non-motorized recreation. Heartfelt thanks to the many extraordinary partners who helped make this trail a reality!

photo: Francie Von Mertens

▲ **Discovering Worms** It's always a fun day when Harris Center teacher-naturalist Jaime Hutchinson comes to Robin's Nest Nature Preschool! On this day in May, the preschoolers learned all about worms. photo: Ben Conant

◀ **A New Life for an Old Bridge**
In order to open the Jaquith Rail Trail, we replaced a long-gone, 50-foot bridge over Jaquith Brook with a recycled steel truss that was once used as an auto bridge in Roxbury, NH. The steel trusses were installed by a crane and volunteer crew from American Steel and Precast Erectors.

photo: Russ Cobb

Salamander Party Tricks

by Brett Amy Thelen, Science Director

I once heard of a biologist with a clever party trick: regardless of where or when a given party was taking place, he claimed that he could produce a wild salamander in 15 minutes or less, and more often than not, he delivered. I suspect he never tried this at any New Year's Eve parties in northern Vermont, where salamanders are wintering well underground, and where the ground itself is buried under several feet of fresh powder. At the same time, I'd wager that much of his success was due to a single species: the red-backed salamander (*Plethodon cinereus*).

This redbacked salamander was found in one of the Harris Center's SPARCnet study plots, which are monitored for salamanders each spring and fall by students and citizen scientists.

photo: Ben Conant

This small, slender salamander (also known as a "redback") has disproportionately small legs and is often, though not always, distinguished by a rust-red stripe running the length of its back and tail. Redbacks spend their lives under logs and in deep underground burrows, dining on earthworms, ants, mites, and other small, subterranean delicacies. The females demonstrate remarkable maternal devotion, aggressively defending their eggs against predators for the full month until the young hatch out – a display of parental care that is quite rare among amphibians.

What redbacks lack in size, they make up for in abundance. A landmark 1975 study at Hubbard Brook Experimental Forest in northern New Hampshire found that the biomass of red-backed salamanders – just that one species – was more than twice that of all the bird species in their study area combined. While you're picking your jaw up off the floor, consider this: more recent research suggests that this figure may have been an underestimate, as redbacks spend more of their time in underground burrows than they do near the surface, which makes it difficult for us surface-dwelling humans to accurately measure their abundance. And they're not just found in the deep woods: redbacks are common in backyard wood piles, suburban forests, and even urban parks.

In short, they're everywhere. This makes them an ideal study organism for biologists interested in tracing the effects of climate change and land use on forest health.

Enter SPARCnet or, for the longwinded among us, the Salamander Population Adaptation Research Collaboration Network, a group of researchers and educators founded to dig deeper into the impacts of anthropogenic stressors on woodland amphibians.

At its core is an elegant study design – easily replicated, simple enough that 4th graders can use it to collect meaningful information, flexible enough to serve as a springboard for headier academic research — comprised of small wooden "coverboards" that appeal to redbacks as sources of shelter. There are 30 SPARCnet sites, from Virginia to Michigan to Ontario, including the one I manage at the Harris Center. Each monitors a series of coverboards for salamanders in spring and fall, when redbacks are more likely to be active near the surface.

At some sites, for example at universities, researchers mark and measure each individual salamander in order to gain detailed data about salamander movements, longevity, and population density. At sites hosted by schools and nature centers, like ours, surveys simply involve lifting up each board and counting how many salamanders we find. Taken together over the long term, the two techniques may reveal how red-backed salamander populations cope with changing precipitation, temperature, and soil conditions stemming from climate change.

From an educator's perspective, the SPARCnet surveys are a great opportunity. When we pause for a moment before turning over a coverboard, we feel a gentle rise of hopeful anticipation. If we're lucky enough to turn over a board and find a salamander – or, as happened in a SPARCnet plot at the University of Richmond in Virginia, 11 of them! – there's a thrill of connection and discovery, of seeing the unseen. We hold a small creature in our hands. We participate in the process of science. We begin to understand how it is that scientists know what they know, and we start to wonder our own questions about how the forest works. Perhaps most importantly, we open our eyes to the incredible biodiversity that lies hidden just beneath the surface of our everyday existence. We make the invisible visible.

How's that for a party trick?

This essay was originally published in *Northern Woodlands* "Outside Story" on September 4, 2017.

A Helping Hand for Bats

Little brown bat photo: Ann Froschauer, US Fish & Wildlife Service

by Jocelyn Duffy, Easement Intern and Teacher-Naturalist

On summer evenings, I enjoy watching bats dart through the air over my Peterborough backyard. I love the way they fly, but even more, I love that they're plucking insects straight out of the sky. All eight of New Hampshire's bat species are insectivores, eating up to half their body weight in insects every night – more if they're females with pups. Every year, bats consume millions of mosquitoes, forest pests, and agricultural insect pests across the United States.

If you're a fan of bats like me, you may have noticed that there are fewer of them these days. All New Hampshire bat species are now listed as Endangered, Threatened, or Species of Special Concern – a result of low reproductive rates combined with habitat loss, encounters with wind turbines, and the disease White-nose Syndrome (WNS). WNS has had a particularly devastating impact on the bat species that hibernate in New Hampshire: little brown, big brown, Northern long-eared, small-footed, and tricolored.

According to an April 2018 press release from New Hampshire Fish and Game (NHFG), "[r]ecent surveys for bats in New Hampshire hibernacula, places where bats spend the winter, resulted in biologists finding a total of only 26 bats. In 2008, the same hibernacula had nearly 4,000 bats."

In 2017, I attended a bat conservation and forestry workshop to learn how landowners in New Hampshire can help our remaining bats by providing beneficial habitat. I was glad to discover that managing property to support bats and other wildlife can often be successfully combined with other sustainable forestry goals. All bats need food, water, and shelter, but each species has its own requirements, so it's important to know which species might be in your neighborhood before you start planning any habitat management activities. For example, small-footed bats roost in rock crevices, tricolored bats hang in dense foliage, and Northern long-eared bats roost in cavities and under flaking bark on dead or dying trees. Information sheets with range maps and habitat descriptions for each species are available on the NHFG website.

Some of the bat species found in New Hampshire *(left to right)*: **Big brown bat** *(Eptesicus fuscus)* photo: Lee Elliott; **Northern long-eared bat** *(Myotis septentrionalis)* photo: Tyler Newman; **Small-footed bat** *(Myotis leibeii)* photo: US Fish & Wildlife Service; **Tri-colored bat** *(Perimyotis subflavus)* photo: Justin Boyles

How You Can Help

1. Talk with your neighbors about opportunities for landscape-level habitat management in your community. Can you create more space for bats to forage by adding to an existing meadow next door, rather than creating an isolated opening in your woodland? Is there a pond or large tract of mature forest nearby?

2. Take a close look at your property, with an eye for resources that could be enhanced or protected to support bats. Trees extending above the canopy receive more sun exposure (warm roosts) and provide open flight paths for arriving and departing bats. Large-diameter, older trees are more likely to develop the cavities and crevices important to bats.

3. If you have a forest management plan, consult with your forester to find the best balance between your management priorities. If you don't have a management plan in place, this a great opportunity to assess your property's resources. An excellent planning guide is *Good Forestry in the Granite State*, available online through the UNH Cooperative Extension. The Natural Resources Conservation Service (NRCS) can also provide technical and financial support for bat boxes, riparian forest buffers, and wildlife management plans.

For More Information

Join biologists Sandra Houghton (NHFG) and Jesse Mohr (Native Geographic) for a talk on bats and bat-friendly forestry on **September 20**, from **7 to 8:30 p.m.** at the Harris Center.

"Pollinator of the Year Award" *by John Benjamin, Teacher-Naturalist*