Spring 2021

Harris Hearsay

News of the Harris Center and Our Work in the Community

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Our Mission A donor-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...

From caterpillars to bees to fireflies, we're all abuzz for pollinators! Join us for one — or all — of our special pollinator programs this spring. *Learn more and register at* harriscenter.org.

photo © Zoe Clarke

We'll be starting to offer in-person outings again during the warm months. Stay tuned!

▼ *Eastern Bluebird* © raven.digital

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 throughour planned giving program, Bobcats Forever Legacy Society. 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.

BOBCATS FOREVER
LEGACY SOCIETY
HARRIS CENTER
PLANNED GIVING

Small Pleasures

by Susie Spikol, Community Programs Director and Teacher-Naturalist

photo © Walid Hassanein

A tiny feather swirls down through the trees, until a sharp-eyed 4th grader catches it. Not much bigger than an eyelash, it draws us in. Everyone wants a chance to touch this wild wisp of life. We hardly walk a yard before we find another small treasure. This time, on our hands and knees, we sift through the hard bits of acorn shells until one girl holds up a nub of the yellow nut. We see the grooves where sharp, hungry teeth have gnawed the acorn down. My students chomp their teeth behind their face masks, as if they are the little mouse who ate this nut. They want to take a bite out of life today.

photo © Mary Richmond

We don't move an inch before another piece of wild captures our attention: a fuzzy woolly bear caterpillar waking up in the warm hands of a nine-year-old.

We are caught up in the details today, and for once it's not a bad thing to be in the weeds. Over this past year, we have tightened our circles of experience. A global pandemic will do that to you. We are living a new language, when pods mean more than peas and Zoom is not an old TV show some of us used to watch. Hunkered down in our own burrows, we long for nights on the town, fireworks on crowded hillsides, and wide-open hugs. But there is something surprisingly joyful in our now-tiny worlds.

We are noticing things around us that we might once have been too busy or distracted to see. Cardinals at the break of day and bobcats wandering through our yard when we'd normally be in our offices, classrooms, or out on the town. I hear from my neighbors when the Red-winged Blackbirds are back, and how they watched an otter fishing off the last ledge of ice in the pond.

We take breaks from our work and our virtual worlds to walk on the roads and trails of our neighborhoods. Along the way, there are more things to see, smell, hear, and touch than any screen can promise. Who needs a trip to a faraway exotic location when there's a pair of yellow-orange slugs mating on the corner of my raised garden bed, or the spicy fragrance of damp pine needles and soft musky earth after a spring rainstorm?

It's the small things now that have my heart, and keep me rooted here.

The pandemic reset expectations, and in some ways it has been a good thing. It brought us home, to our own woods, backyards, and neighborhoods. We start gardens and light campfires, feed the birds, hike every nearby trail and mountain. We pay so much attention to the neighborhood squirrels that we name each one, and feel lightheaded when we hear the first songs of spring. These little things never felt so good. We've become old-fashioned homebodies, dusting off pastimes from a simpler era like fishing, picnics, and family bike rides.

photo © Kathy Thayer

This past year has been one long meditation on letting go, slowing down, and settling in to exactly where we are. As our world reopens and we get caught up in rushing about from work, school, errands, sport practices, parties, and traveling, I hope we don't forget the little things from the past year — the unfolding of the first bright dandelions, the soft underfeather of a chickadee, the way our hands can wake a sleeping woolly bear.

Land Stewardship

Monitoring the SuperSanctuary

by Alivia Acosta, Conservation Easement Monitoring Intern 2019-2020

▲ ***Alivia Acosta***

For the past two summers, I have been discovering the diverse landscape of the Harris Center's SuperSanctuary as a conservation easement monitoring intern. Along my travels I have encountered numerous streams to cross, a mama bear and her two cubs running down an old logging road, a wide range of friendly pups willing to greet me at landowners' driveways, the biggest black cherry my partner and I have ever laid our eyes on, and more breathtaking, gigantic boulders than I can remember.

▲ ***Jaquith Brook*** photo © Brett Amy Thelen

Having grown up in an urban area, these wild encounters were new to me — but there was something strangely instinctual about wandering through and watching the forest. This primordial feeling was comforting at times, especially as I found myself walking down the narrow paths of easement monitors past. Nevertheless, I often had a pair of Tibetan chimes on my vest because there was comfort in knowing that its jingles were greatly decreasing my chances of coming face to face with a startled animal. The one time I did stumble across that mama bear and her cubs, my chimes happened to be in my pocket. I had been walking past piles of scattered moose scat and thought that if I silenced my jingles then maybe I'd come across the moose. While I never did lay eyes on it (or on a bobcat, for that matter), I did see signs of both species during my explorations.

◀ ***Bailey Brook Falls*** photo © Brett Amy Thelen

As with any grand adventure, there were times when the glory and enchantment of the wild woods fell far behind me. The tedious terrain would chip away at my sanity and a feeling of pointlessness would begin to seep in. In those moments, I thought that no one in their right mind would venture this deep into the woods, and wondered if my presence was somehow threatening the pristine nature of these conserved lands. Each time, my sense of purpose would return when I refocused my thoughts on the benefits that are provided by a collective of small things. I would reflect on the teachings of great conservationists and remind myself that all it takes is one person to begin enacting change.

Confidence in myself and the courage to do what is right guided me throughout my adventures and have since become two attributes that I hope to always carry with me. After my final summer with the Harris Center, I was offered a job working as the Volunteer Development Coordinator for the Appalachian Trail Conservancy. Most of my work in this role can be accomplished from the comfort of my own home, but I am hopeful that my time exploring and enjoying the communities within the Harris Center's SuperSanctuary has not reached its end. My partner and I plan on exchanging our wedding vows at the Harris Center and remaining part of this wild landscape for years to come.

Editor's Note: Once a landowner has placed a conservation easement on their property, the Harris Center is responsible for ensuring that the terms of the easement are upheld, year after year, even if the property changes hands. Annual monitoring visits are required for all of our 100+ conservation easements.

Monitoring involves contacting landowners to set up a visit, reviewing easement language and old monitoring reports, visiting the property (often with the landowner) to walk the boundaries and note any significant ecological changes, writing up a report, and sharing it with the landowner. Over the years, the Harris Center has hired well over 50 land interns to help us with this enormous and critical task. Many of them, like Alivia, have gone on to careers in conservation.

The Buzz on Blooms

▲ ***View from the Norway Pond Boat Launch*** **This photo was taken on August 17, 2020, the date of an observed cyanobacteria bloom.** photo © Karen Seaver

CYANOBACTERIA MONITORING

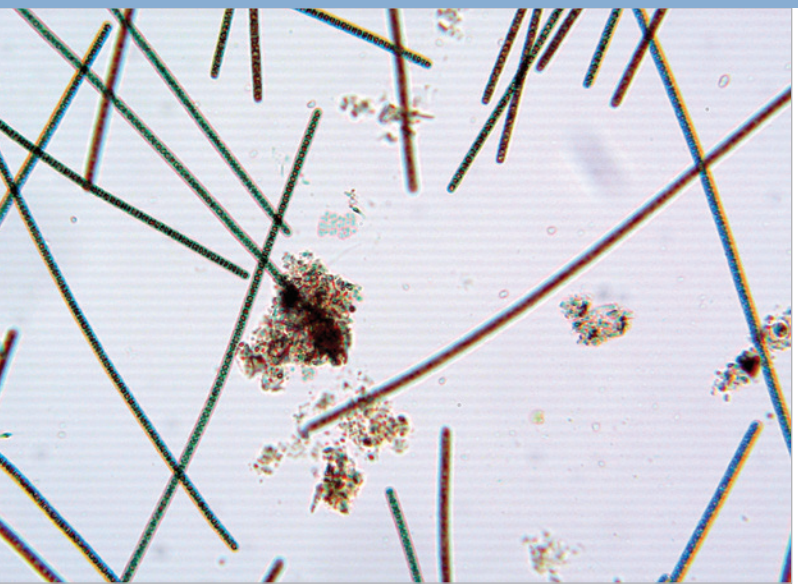
What to Look for at the Lake

by Karen Seaver, Staff Ecologist

For many of us, time "down at the lake" is swiftly approaching, and with it comes welcome observations: painted turtles basking on rocks, fish jumping above the waterline, herons stalking among the reeds. But how much do you wonder about what else is in the water? Our local lakes are teeming with microscopic life vital to the functioning of freshwater ecosystems, though they rarely grab our attention — that is, until their populations swell to a size that's difficult to ignore, and the microscopic becomes macroscopic.

Cyanobacteria are one such group of tiny local lake life. The modern descendants of ancient microbes that had significant effects on Earth's atmosphere and ecology during our planet's earliest days of supporting life, cyanobacteria have evolved in freshwater ecosystems across the globe. All lakes and ponds now have their own native and natural contingent of cyanobacteria, which are commonly present at both the surface and in deeper water. In the past, cyanobacteria have been referred to as "blue-green algae," though cyanobacteria are not true algae, as they lack a nucleus in their cells.

Populations of cyanobacteria often proliferate in response to human impacts. Blooms, or visual evidence of large amounts of cyanobacteria growth, are increasing in frequency and severity in many places, including lakes and ponds in the Monadnock Region. Cyanobacteria populations can grow rapidly in response to warming water temperatures, as well as nutrient inputs — especially nitrogen and phosphorous — through both point pollution (such as leaky sewage systems) and non-point pollution (such as fertilizer runoff). Blooms



▲ ***Oscillatorales*** **A photo of the cyanobacteria from the Norway Pond bloom in August 2020, as viewed through a microscope. To the naked eye at the pond surface, this type of cyanobacteria looks like neon-green strings.** photo © H. Marie Lawrence

can pop up quickly, during the day or even at night. They may have a variety of visual appearances, from brightly colored globules and feathery streaks to hazy clouds of cells. Some are ephemeral, meaning the "bloom boom" busts and subsides quickly, while others can persist for longer time periods.

Further upping the intrigue surrounding cyanobacteria is their potential for toxin production. Though a few strains are widely known for "cyanotoxins" that can negatively impact human health, the vast majority of cyanobacteria species are not capable of producing these chemicals. The relative risk of toxin exposure is hard to assess, since not all strains of the same species will produce cyanotoxins. This makes the identification of toxin-producing strains challenging, even for well-trained researchers. When blooms occur, if there are toxin-producing strains present, the concentration of toxins can pose risks to humans (and other animals) who ingest or inhale these molecules.

Cyanobacteria Monitoring at Norway Pond

Over the past two years, the Harris Center has been working with the Norway Pond Commission and local volunteers to monitor cyanobacteria in Norway Pond in Hancock. From June through September, we conducted bi-weekly pond perimeter surveys by kayak to look for visual evidence of blooms. We also collected water samples to a depth of 3 meters, and used fluorometry to ascertain levels of phycocyanin, a pigment that indicates the presence of cyanobacteria. In addition, each month we performed a vertical plankton net tow to capture microscopic fractions of lake life, allowing for the identification of cyanobacteria and other pond-dwelling microbes by microscope.

This local effort complements the water quality monitoring conducted through the Volunteer Lake Assessment Program (VLAP), and a similar monitoring plan is being developed for the 2021 season.

Cyanobacteria Blooms in 2020

Several notable blooms occurred in local waterbodies in 2020. There is the propensity for this trend to continue in 2021 as well.

At Norway Pond, a neon-green bloom of several cyanobacteria species belonging to the genus *Oscillatorales* dramatically popped up during the week of August 17, 2020, and then abated less than a week later.

Lake Nubanusit experienced its first-ever observed bloom on the late date of November 11, 2020, this bloom consisted primarily of cyanobacteria belonging to the *Dolichospermum* genus. Though the Nubanusit bloom was fleeting, it caught the attention of many concerned lake lovers.

▲ ***Nubanusit Bloom***
photo © Peter Nott

In both of these cases, public alerts were issued by the NH DES Harmful Algal and Cyanobacteria Bloom Program.

As you enjoy our lakes and ponds this summer and fall, stay sharp for cyanobacteria! Your observations can make a difference in alerting authorities to potential water quality issues and help keep the public safe and informed.

See a Cyanobacteria Bloom? Here's What to Do Next

If you think you're seeing a cyanobacteria bloom, you should avoid wading or swimming in the affected waterbody and keep pets out of the water. If you have made contact with the water, be sure to wash your hands thoroughly. Note your location and take several pictures of the bloom, which can help with identification. Report your observations to both federal and state agencies:

- **Bloomwatch** is a program run by the EPA that is available both as a mobile app and as a website (cyanos.org/bloomwatch).
- The **New Hampshire Department of Environmental Services (NH DES)** encourages the public to submit bloom photos, along with information on the location of the observed blooms. You can report blooms through their Harmful Algal Bloom (HAB) hotline at (603) 848-8094 or HAB@des.nh.gov.

A Message of Thanks to Our Supporters

by Lisa Murray, Outreach Manager

Gifts of the land: clean water, fresh air, nesting eagles, meadows rich with wildflowers, bears lumbering through woods and fields, birdsong, woodland pools alive with salamanders and frogs, earth that is rich with life and decay. Earth that is healthy. **These are the gifts you help protect.**

Gifts of the mind: community science projects that help migrating amphibians safely cross busy roads; biologists counting hawks from a mountaintop, adding to an international body of research on migration trends; college interns studying and stewarding local land; community members learning about everything from taxidermy to stargazing to the New England cottontail. A community that is informed and engaged. **These are the gifts you make possible.**

Gifts of the heart: children experiencing the thrill of finding squirrel caches filled with acorns from the trees surrounding their schoolyard; middle school girls developing a supportive network of other science-minded teens; high schoolers learning about native plants and contributing to habitat health. Children from preschool through high school who learn to love the earth and its inhabitants – and are inspired to be their keepers. **These are the gifts you give to the children, to your community, to our planet. *Thank you.***

Your gifts to the annual fund support all of this and so much more. The Harris Center simply couldn't provide environmental education programming in 30 Monadnock Region schools, offer more than 100 diverse programs for people of all ages, protect more than 24,000 acres of land, and coordinate engaging conservation research projects each and every year without your help. It takes a lot people who understand that there are no quick fixes, but that consistent, steadfast care for our environment — and cultivation of the stewards and scientists of the future — is absolutely essential. Fifty-one years and counting. We're in this for the long haul. **Thanks for being with us on the journey.**

50TH FUND UPDATE

We are so grateful to all of you who donated to our 50th Anniversary Fund, for a grand total of $864,179. This fund will enhance stewardship of our lands and trails and be a catalyst for cutting-edge projects for many years to come. From a turtle headstarting program in the schools to a migration research station to an educational nature almanac, the 50th Fund is already being put to great use. More innovative projects are in the works, so stay tuned!

harriscenter.org/donate

Dawn Chorus *by John Benjamin, Teacher-Naturalist*