New England Forestry Foundation
Conserving Forests for Future Generations

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Forests—Where Spring Comes to Life!
Celebrating Biodiversity in the Woods
Dear Members and Friends,

Don’t you love those vernal pools and other soggy spots with skunk cabbage shoots poking up amid the brown of littered leaves and marking the first signs of spring? Or, the catkins popping from birch trees and the blushing maples sprouting seedlings? And the peepers incessantly announcing their presence and Red-tailed Hawks screaming, diving, and “air dancing” with mates as they scope out nesting sites?

In this issue of our newsletter we highlight the eagerly-awaited bursts of spring and the importance of these seasonal rhythms to our ecosystem. The changes in the forest landscape as spring arrives are a spectacle of rapid change and rebirth. They provide a lush and living laboratory for learning and exploration.

Education is central to our work and we have much to learn from our backyard forests. Included in this newsletter is an article by our volunteer, Professor Scott Shumway of Wheaton College and his students studying that quintessential rite of spring — the vernal pool — at our Wile Forest in Westborough, MA. And, we explore how sustainably managing forests contributes to plant and animal diversity and the concerns presented by forest fragmentation.

The forests around us are constantly changing — changes we need to understand, monitor, learn from and in turn educate others. This is important work for all, but especially for us at New England Forestry.

As always, we are grateful for your interest and support that furthers our education efforts and all that we do. With the arrival of spring, we are optimistic for continued success and are excited by the new opportunities on the horizon.

Best regards,

Timothy A. Ingraham
President

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Spring is coming—a time of renewal and rejuvenation for all, especially after a long New England winter. Our forests are brimming with activity, from animal and bird migrations to woodland blossoms, and the arrival of vernal pools. The signs of life are everywhere waiting to be discovered . . .

At New England Forestry Foundation, we work to ensure the environmental and ecological health of our forests. Simply put, the healthier our forests, the greater degree of biodiversity residing in our woods. We invite you to explore the diverse flora and fauna in our 137 community forests located throughout New England. A few suggestions include the:

- **Chamberlain Reynolds Memorial Forest**, 150 acres on beautiful Squam Lake in Center Harbor, New Hampshire, the spectacular site for award-winning film, *On Golden Pond*. Enjoy the boardwalk for birding opportunities.
- **Dorothy Frances Rice Sanctuary for Wildlife**, 276 acres in the Berkshire town of Peru, Massachusetts. The property has a large pond and a well-groomed trail system that traverses a variety of habitats.
- **Bliss Woods**, 86 acres in South Freeport, Maine features diverse habitat, tranquil woodland scenery, and excellent trails that connect to abutting conserved lands.
- **Lincoln Davis Memorial Forest**, 605 acres in Sharon, New Hampshire, with stunning views of Mount Monadnock. Moose, bear, and deer are common across the area and the forest also features a 27-acre blueberry patch.
- **Hawk’s Hill Demonstration Forest**, 188 acres in East Barnard, Vermont with five miles of trails for hiking, including two self-guided nature trails. A brook and three ponds are also available for fishing.

As the sights and sounds of nature come alive this spring, we hope you venture out and enjoy the natural world in our conserved and sustainably-managed forests. Visit [www.newenglandforestry.org](http://www.newenglandforestry.org) for our “Find a Forest” section offering information on all of our community forests.
Maintaining diversity is an important part of maintaining healthy systems. Rich ecosystems provide a multitude of services, including nutrient cycling, air and water filtration, soil formation, climate stability, food, pharmaceutical resources, and recreational opportunities.

Unfortunately, current rates of habitat loss and forest fragmentation impose a substantial impact on species worldwide. Fragmentation increases the number of small, isolated patches in the landscape. These habitat islands subsequently support fewer numbers of species and experience much lower rates of immigration and emigration. As a result, they are far more susceptible to extinctions than larger, intact tracts of land.

Trends indicate that conserving both larger parcels and the corridors connecting core areas, which allow species to move unencumbered, is critical to maintaining biodiversity. At New England Forestry Foundation, our land protection priorities are to save outstanding examples of New England’s forested landscape in its many forms. Accordingly, higher priority is given to properties that abut land already in conservation to maintain large parcels, as well as lots within corridors that provide key stepping stones for wildlife movement and migration.

After we identify and acquire a property, our forest management activities help maintain a diversity of habitats in the landscape. Varied silvicultural treatments create a matrix of early and older successional ages, which provide resources for a greater variety of species. For example, in group selection harvests, trees are removed in small groups, which mimics a small-scale natural disturbance. These groups are typically less than one-half acre in size, and are repeated every 15 to 20 years.

By staggering the ages of trees in a stand, this strategy not only creates a sustainable yield of timber, but creates a range in habitat types and resources that can be used by a wider variety of wildlife. By contrast, clearcutting removes an entire stand at one time and
mimics a larger-scale natural disturbance, which then naturally regenerates over time. This strategy is particularly appropriate when creating early successional habitat, the lack of which is causing a precipitous decline in many familiar species, including a number of our native songbirds.

At New England Forestry Foundation, our land protection priorities are to save outstanding examples of New England’s forested landscape in its many forms. As spring settles in, it is the perfect time to explore the diversity that abounds in our woodlands. If you visit a forest that was recently harvested, listen carefully for the rhythmic drumming of the Ruffed Grouse or the familiar “peent” of the American Woodcock. You might also look for tracks of moose and white-tailed deer. At older stands, listen for the high-pitched calls of wood frogs from nearby vernal pools, or perhaps the “squeaky wheel” song of the Black-and-white Warbler. There is no shortage of beautiful melodies and vibrant colors each spring, and we hope our rich history in forestry and conservation will help influence the diversity at these properties for years to come.

White-tailed Deer Assessment at Chase Kimball Memorial Forest in Pomfret, Connecticut

Though maintaining and supporting a variety of wildlife species is important, some species can have a dramatic effect on the entire system. This fact is particularly apparent at our Chase Kimball Memorial Forest in Pomfret, Connecticut, where browsing by white-tailed deer is heavily impacting the forest. In April 2010, Thomas Rawinski, Botanist for the United States Forest Service, conducted an assessment of vegetation at this forest and discovered that as a result of heavy deer browsing, forest regeneration is all but nonexistent.

The main challenge lies in how to restore this forest to a point where it is more resilient and diverse, and thus able to support a greater variety of species and a more sustainable yield of forest products moving forward. Further evaluation is necessary to determine how best to accomplish these goals, but it is clear that even a single species can have a remarkable impact on the habitat and species diversity of an entire ecological community.

New England Forestry Foundation is experimenting with brush piles to foster regeneration of trees. The brush piles essentially cover the young trees, protecting them from the deer, yet they can continue to grow. While we are optimistic of this approach, time will tell if this a viable solution to foster new growth in areas with high deer population.
Each spring, a plethora of wildflowers bloom on the forest floor. This occurs because of the abundant light that shines through empty tree branches in the early spring season, before a canopy of lush foliage arrives.

Wildflowers are not only beautiful to see, but are also a vital component of the forest ecosystem. They are food for many animals and attract insects such as butterflies, moths, bees, and others that pollinate many of our crops. The fruits of wildflowers also provide food for birds and small mammals, which in turn, feed small predators such as weasels, foxes, and hawks.

Forest conservation helps protect threatened and endangered wildflowers so they do not become extinct. Wildflowers are necessary to keep the ecosystem alive, contributing to a robust biodiversity of species.

New England forests are filled with many wildflower varieties. Enjoy a nature-based “treasure hunt” and see if you can locate these species during your next walk in the woods!
Something magical happens in New England forests on the first warm rainy night of spring. Wood frogs and spotted salamanders crawl out of the leaf litter and march toward a vernal pool. They travel not just to any vernal pool, but to the one from which they hatched as a baby. The goal of this migration is to find a mate and regenerate their species. It is a rite of spring for amphibians — and humans — many who gather to witness this annual passage.

Vernal pools are depressions in the ground that contain water for part of the year. Vernal pools dry up, either annually or periodically. Most pools are at their fullest point in the spring, hence the name “vernal” pool. In reality, some flood in the fall and others only dry up every few years, if ever. The important thing is that the pools are free of fish, which if present, would eat the baby amphibians.

Wood frogs and mole salamanders (spotted, blue spotted, Jefferson’s, and marbled) mate, lay eggs, and develop from larvae to adults only in vernal pools. Spring peepers, whose “weep weep weep” calls convey the message that spring has finally arrived, will also breed in vernal pools. However, true credit for the start of spring should go to the wood frogs. As soon as they arrive at a vernal pool, the males begin calling loudly to their mates. Their chorusing sounds like a multitude of quacking ducks. Dozens of frogs calling at once produce a deafening cacophony that can be heard far from the pool. In fact, you may wonder why a flock of ducks is quacking in the woods in the middle of the night. (It is best to keep such thoughts to yourself!)

Once born, the baby frogs and salamanders are in a race against time to develop to the point where they can crawl or hop into the woods before they get eaten, suffocate from lack of oxygen, or the pool dries up. The amount of water contained in a pool and how long it holds water is unpredictable and changes from year to year due to variation in precipitation. Some years are more favorable than others.
For roughly 360 days of the year, these animals crawl about in the leaf litter of the forest surrounding their pools and are rarely seen. How far they venture from their pool is hard to determine. One study found spotted salamanders several hundred yards from their pool.

Clearly in order for wood frogs and mole salamanders to survive, they must have both vernal pools for breeding and upland forest for when they are not breeding. While state laws protect wetlands from being destroyed, ephemeral wetlands are inherently more difficult to safeguard. In many cases the upland surrounding wetlands receives little or no such protection. Obviously, this is a challenge for the protection of vernal pool amphibians. Local bylaws providing additional protection for uplands is essential to the success of vernal pool protection efforts.

In Massachusetts, vernal pools are protected wetlands, but only if they have first been identified and registered with the Natural Heritage and Endangered Species Program (NHESP). “Certification” of vernal pools involves documenting that pools are used as breeding grounds by amphibians or are inhabited by invertebrates, such as fingernail clams and fairy shrimp. With some basic training, anyone may certify vernal pools. Instructions are available on the NHESP website.

The accessibility and abundance of vernal pools, combined with the overall “wow-factor” of seeing frogs, salamanders, and fairy shrimp, make vernal pools excellent resources for learning about biology. Pools can be studied by everyone from grade school children up to research scientists. The Vernal Pool Research Team at Wheaton College has been studying vernal pools since 1993. What began as a student research project for Heidi Preston (’95) has since involved at least eight professors and dozens of students.

Last spring, three students and Professor Scott Shumway from Wheaton College studied four vernal pools on New England Forestry Foundation’s Wile Forest and the adjacent Libbey conservation land in Westborough, MA. Students collected photographic documentation of fairy shrimp, spotted salamander eggs and larvae, wood frog eggs, tadpoles, and adults in amplexus, and recorded chorusing wood frogs and spring peepers. The results were submitted to NHESP for possible certification. Future research will involve searching for rare blue-spotted salamanders and four-toed salamanders, both of which may occur at this site.

Vernal pools are vital for many amphibians to continue their life cycle. New England Forestry Foundation’s work in conservation and sustainable forest management help continue the success of these species for many years to come.

Scott Shumway is Professor of Biology at Wheaton College in Norton, MA, cofounder of Wheaton’s Vernal Pool Research Team, author of Natural History of the Atlantic Seashore, a director of the Westborough Community Land Trust, and volunteer at New England Forestry Foundation. His book is available on amazon.com.
Generous support from the individuals and organizations listed below has allowed us to continue and expand our efforts to conserve the forest landscape and the environmental, social, and economic benefits it supports. Your contributions are greatly appreciated and are vital to our success. While we have listed gifts of $100 or more, we want you to know that every gift is important to us and helps us fulfill our mission.

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Sample opportunities include:
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- Or let us tailor a special package just for your company!

If you or your company would like to learn more about this promotional program, please contact Jackie O’Connor at 978.952.6856 or joconnor@newenglandforestry.org. New England Forestry Foundation also gratefully accepts corporate matches to your personal contributions. Please inquire with your human resource representative to see if your company provides this benefit.
New England Forestry Foundation Conerves an Additional 1200+ Acres!

For decades, private landowners have chosen New England Forestry Foundation to conserve their forested properties. Our conservation efforts are appealing because our mission and approach are compatible with landowners’ conservation goals and ideals. We are pleased to report our most recent land conservation projects—the Draper, Cooperman, and Burger conservation easements and the Meiklejohn conservation restriction—collectively protect an additional 1209 acres.

The Draper Conservation Easement Project is comprised of five properties located throughout New England, three of which closed this past December. These easements include 73 acres in Heath, Massachusetts; 35 acres in Ashby, Massachusetts; and 192 acres in New Ipswich, New Hampshire. An additional property affiliated with this project is located in Readfield, Maine with 320 acres and is expected to close this spring.

The Cooperman Conservation Easement is comprised of 235 acres of working farm and forestland in Meredith, New Hampshire. This easement was donated by Jeannie Cooperman and abuts private and town-owned conserved parcels, creating a contiguous corridor of 500+ acres of permanently conserved land. The working farm features hay and livestock and is part of a vision to protect the rural nature of this classic New Hampshire town.

The Burger Conservation Easement is comprised of 487 acres located in Chelsea and Vershire, Vermont. This easement was donated by Edward and Sarah Burger and permanently conserves their working farm and forestland. This initiative is part of the Taylor Valley Conservation Project to protect the biologically rich region of east central Vermont.

The Meiklejohn Conservation Restriction is located in Granville, Massachusetts where New England Forestry Foundation has already conserved over 1100 acres. This property is comprised of 59 acres and has a substantial American chestnut seedling orchard as part of The American Chestnut Foundation’s restoration program. This restriction was donated by John and Sarah Meiklejohn.