

CELEBRATING A NEW SEACOAST REGION RESERVATION

Forest Notes

NEW HAMPSHIRE'S CONSERVATION MAGAZINE

Cool, Clear Water Protecting N.H.'s Most Essential Asset

SPRING/
SUMMER 2017

SOCIETY FOR THE
PROTECTION OF
NEW HAMPSHIRE
FORESTS



SINCE
1901

forestsociety.org

RIVERMEAD

The Mead ■ The Village ■ 150 RiverMead Road ■ Peterborough, NH

A New Adventure...
The Villas
at RIVERMEAD
(Coming Soon)



Contact us today for an update on our New Villas,
or Upcoming Events, and Cottage and Apartment Availability.

info@rivermead.org

Call to schedule a personal visit: 1.800.200.5433

**RiverMead is a Non-Profit LifeCare Community
in the Monadnock Region of New Hampshire**





FEATURES

4 Keeping It Clean

Toxins seeping into New Hampshire wells and a recent statewide drought remind us not to take pure drinking water for granted. The Forest Society and the Manchester Water Works are partnering to safeguard the forest buffers that help keep the drinking water clean and safe for more than 160,000 Granite Staters.

11 Forests for Water

How nature's filtration system works in our woods



On our cover:

Tower Hill Pond, part of the drinking water supply for more than 160,000 residents of southern N.H.

Photo by Jeff Sluder.

14



22



DEPARTMENTS

2 THE FORESTER'S PRISM

Seven years in, why we are more determined than ever to fight Northern Pass.

3 THE WOODPILE

14 IN THE FIELD

15 VOLUNTEER SPOTLIGHT

This steward of the land steers a boat to get there.

16 THE FOREST CLASSROOM

"Please release me, let me go..." (Do you hear your apple trees singing?)

18 PUBLIC POLICY UPDATE

— The Site Evaluation Committee (SEC) explained
— Wetlands mitigation funds should be used for land conservation

22 CONSERVATION SUCCESS STORIES

Conserving the Powder Major's Farm and Forest could not have happened without the commitment of an entire community.

27 NATURE'S VIEW

Why the bitten should be smitten with the black fly.

29 PROJECTS IN PROGRESS

An opportunity to protect drinking water in the threatened Merrimack River watershed.



**SOCIETY FOR THE
PROTECTION OF
NEW HAMPSHIRE
FORESTS**

CHAIR

Deanna Howard, *Etna*

VICE CHAIR

Rebecca Oreskes, *Milan*

SECRETARY

Andy Lietz, *Rye*

TREASURER

Bill Tucker, *Goffstown*

PRESIDENT/FORESTER

Jane A. Difley, *Webster*

BOARD OF TRUSTEES

Charlie Bridges, *New Durham*

John Brighton, *Hanover*

Margo Connors, *Sugar Hill*

Stephen Froling, *Hancock*

Karl Heafield, *New Boston*

Drew Kellner, *Brookline*

Amy McLaughlin, *Exeter*

Karen Moran, *Webster*

Barbara Russell, *New Boston*

Lorin Rydstrom, *Hollis*

Merle Schotanus, *Grantham*

Andrew Smith, *Twin Mountain*

William H. Smith, *Center Harbor*

William Webb, *Holderness*

STAFF

EXECUTIVE

Jane A. Difley, *president/forester*

Maria Stewart, *executive assistant*

FINANCE/ADMINISTRATION

Rebecca Darman, *receptionist*

Michelle Morse, *human resources specialist*

Amy Nichols, *finance specialist*

Tina Ripley, *administrative assistant*

Denise Vaillancourt, *vice president of finance*

MEMBERSHIP/DEVELOPMENT

Linda Dammann, *development assistant*

Pat Fleury, *data processor*

Diane Forbes, *senior director for development*

Susanne Kibler-Hacker, *vice president of development*

Allan Krygeris, *senior technology specialist*

Sara Krzyzaniak, *data processor*

Margaret Liszka, *director of membership*

Ann McCoy, *development specialist*

Barbara Pacelli, *development specialist*

COMMUNICATIONS/OUTREACH PROGRAMS

David Anderson, *director of education and volunteers*

Brenda Charpentier, *communications manager*

Carrie Deegan, *community engagement and volunteers manager*

Jack Savage, *vice president of communications/outreach*

Jenn Seredejko, *land steward program coordinator*

POLICY/RESERVATION STEWARDSHIP

Will Abbott, *vice president of policy/reservation stewardship*

Frank Allen, *building and grounds assistant*

Rita Carroll, *reservation stewardship and policy coordinator*

Steven Junkin, *field forester*

Matt Leahy, *public policy manager*

Nigel Manley, *director of North Country property*

Carl Murphy, *facilities manager*

Carleen Quinn, *retail and events manager*

Gabe Roxby, *field forester*

Wendy Weisiger, *managing forester*

LAND PROTECTION

Reagan Bissonnette, *director of easement stewardship*

Connie Colton, *administrative assistant*

Paul Gagnon, *easement steward*

Leah Hart, *easement steward*

Brian Hotz, *vice president of land conservation*

Tom Howe, *senior director of land conservation*

Lauren Kras, *easement steward*

Ryan Young, *strategic projects manager*

Worth Fighting For

The Forest Society likes to work with others to resolve environmental conflicts. Just as our mission embraces both “the wise use” of forests and “their complete reservation in places of special scenic beauty,” we understand that compromise can be the most enduring solution.

But in some cases there is something at stake that is so precious, so intrinsic to New Hampshire, so iconic to the landscapes we love, that we cannot acquiesce; we must stand our ground.

That was the case when the U.S. Department of Transportation wanted to blast a four-lane interstate through Franconia Notch State Park, which we helped protect. Conserved lands cannot be the path of least resistance just because they are undeveloped and green on the map. The Forest Society was not going to let the Notch be destroyed without a fight.

And fight we did! A decade and many lawyers later, the two-lane road through the Notch became the first parkway in the Interstate Highway system.

Fast forward to 2010 when Eversource, aka Northern Pass, proposed a powerline through the heart of the Granite State, a powerline that would scar 40 miles of forest in the North Country with towers up to 135 feet tall, carve apart the White Mountain National Forest and threaten views, property values and landscapes from

Pittsburg down through Franklin and Concord to Deerfield.

This proposed extension cord through the Granite State is neither needed nor the best alternative to achieving even the project's stated goals of bringing cheaper power to our southern New England neighbors. Competing projects include a fully underwater and underground transmission line in Vermont. To protect our landscapes, conserved lands, and the character of our communities, we believe firmly that Northern Pass should be buried along appropriate roadways or not built at all.

Once again there is so much at stake that the Forest Society has taken a stand. Once again we have committed our name, our resources and our experience to a long-term outcome for the good of New Hampshire. We are standing our ground—with your help—to keep protected lands protected and our views filled with trees, not towers.



Jane Difley is the president/forester of the Society for the Protection of New Hampshire Forests.

Society for the Protection of New Hampshire Forests

A non-profit membership organization founded in 1901 to protect the state's most important landscapes and promote wise use of its renewable natural resources. Basic annual membership fee is \$40 and includes a subscription to *Forest Notes*.

Executive Editor: Jack Savage

Editor: Brenda Charpentier

Design & Production: The Secret Agency

Printing: TDS Printing

Forest Notes is printed on elemental chlorine-free Sappi Flo paper with 10 percent post-consumer recycled content. Sappi Flo is made from pulp purchased from suppliers who document sound environmental practices and sustainable forest management.

Permission is required for reproduction of any part of this magazine.

Copyright 2017 SPNHF. US ISSN: 0015 7457.

54 Portsmouth Street, Concord, NH 03301 | Phone: (603) 224-9945 | Fax: (603) 228-0423

E-mail: info@forestsociety.org | Internet: www.forestsociety.org

The Forest Society proudly supports the following organizations:



Cosponsor



Underwriter



Member





The Forest Society welcomed 21 new volunteer land stewards at our annual two-day training this spring. Land stewards are trained to adopt Forest Society reservations and help us to care for them.

Couple Finds New Home for Soaring Owl

When Eleanor and David McCain of Concord were downsizing last summer, they realized they no longer had room for the sculpture of a wooden owl with a 4-foot wingspan that had flown overhead in their previous homes, both in N.H. and Georgia.



"We began thinking about where else it would really fit in," Eleanor said.

The answer came from the place of many "ah ha!" moments, the hairdresser's shop. It just so happened that Eleanor and Jane Difley, president/forester of the Forest Society, share the same hairdresser, Ron Chiasson. A longtime Forest Society member, Ron informed Eleanor about the Forest Society's conservation mission and beautiful Conservation Center. The McCains visited the center and knew they'd found their owl a great place to soar. They donated the sculpture earlier this year.

"Our main thought was that this is an organization that protects the land, which in turn protects the wildlife," Eleanor said. "And we felt that it would be well cared for and well appreciated at the Conservation Center."

The McCains know the artist's name, Ken Young, but little else about him. They bought the owl in 1989 while visiting New Hampshire from their former home in Georgia, where David worked as a timber-peg home builder. The owl was flying at the Woodworkers Gallery in Milford and seemed perfect for the couple's home at the time.

Today, anyone visiting the Conservation Center will see the owl where it silently hunts in the high-ceilinged lobby. If you happen to know anything about the artist, please fill us in by emailing bcharpentier@forestsociety.org. Or just go see Ron, and he'll get the message to the right place.



Nature Photos of Jeff Sluder on Display

A new exhibit by photographer Jeff Sluder will be on display through June 30 at the Conservation Center.

Jeff's "Glimpses from My World" features photos he has collected in the past year in travels to North Carolina, Colorado and closer to his home in Kingston, N.H.

Jeff is a member of the Kingston Conservation Commission as well as a member of the New Hampshire Society of Photographic Artists and the Newburyport Art Association. He also volunteers for the Forest Society.

Exhibit hours are 9 a.m. to 4:30 p.m. Monday through Friday. The Conference Room is used for meetings, so please call (603) 224-9945 before visiting to make sure it's open.

Annual Photo Contest Entries Wanted

Help celebrate conservation by sending in your favorite photos taken on Forest Society reservations or any land conserved through an easement with the Forest Society. The Forest Society's annual photo contest is under way! We're awarding prizes in five categories: Lovely Landscapes, Plants and Wildlife, People Enjoying Our Reservations (or easements), Young Shutterbugs (for kids) and Dog Heaven. Photos should be sent at 1 MB or larger. We'll publish the top 12 photos in an upcoming issue of *Forest Notes*. Email photos to bcharpentier@forestsociety.org. For more details, rules and how to enter go to www.forestsociety.org under the Get Involved tab. ♪

KEEPING IT



CLEAN

An Opportunity to Protect
Our Drinking Water

By Brenda Charpentier





John O'Neil stood within a hundred feet of all the high-tech wonders and feats of engineering that strip colors, odors and contaminants from Lake Massabesic water every minute inside the churning Manchester Water Works treatment plant on Manchester's east side. But to show the most fundamentally important aspect of clean drinking water for the Works' 160,000 customers, O'Neil, the Works' staff forester, headed outside, jumped into his white truck and drove away from all that is state-of-the-art.

A few miles north and across two town lines into Candia, he turned onto a dirt road and rumbled along to a pristine pond—at 250 acres, “lake” may be the better term—surrounded by woods in all directions. When you're there, you almost can't believe the state's biggest city is just minutes away. The place feels like a serene refuge. Even if it didn't have paramount importance to water quality, “It would still be one of my favorite places,” O'Neil said.

The pond, Tower Hill, is part of the network of ponds and streams in the watershed that all collect rainwater and feed Lake Massabesic. The forested land around Tower Hill Pond is part of the 8,000 acres acquired incrementally by the Manchester Water Works (MWW) over the past 140 years and managed to be a natural barrier to contaminants.

These trees are rooted regiments, the first line of defense against threats to clean drinking water for people in Manchester, Auburn, Bedford, Derry, Goffstown, Hooksett and Londonderry whose faucets connect to the MWW's water distribution system. But not just for them. The water these forests filter also impacts the Merrimack River—the drinking water source for 600,000 people—and the private wells of thousands more homeowners in the region.

Because of a partnership between the Forest Society, the MWW and the city of Manchester, the more than 1,870 acres surrounding Tower Hill Pond will soon be permanently protected from future development. In a project that will have repercussions for the entire at-risk Merrimack River watershed, the Forest Society is working to raise \$1.9 million to purchase a conservation easement from the MWW. The easement purchase will protect the land and enable the MWW to purchase more land in the watershed to strengthen the forest barrier for water quality.

Why a Conservation Easement?

The first question people often ask about this kind of project is, “If the MWW already owns the land, why does it still need to be protected?”

The answer is that no legal safeguards exist to prevent future decision makers from selling pieces of MWW land during a time of political or financial pressure. The land is vulnerable.

“A short-term financial crunch could have long-term effects on the drinking water,” said Brian Hotz, the Forest Society's vice president of land protection. “By purchasing source water lands over the years, Manchester is ahead of many cities that have not done so and have had to deal with contamination problems, but the purchasing is just the first step. Through this conservation easement, the Forest Society will hold the development rights to the land around Tower Hill Pond into perpetuity, making the protection permanent.”

Time to Act

New Hampshire has three of the top four watersheds in the country that are projected to experience the most change in water quality as a result of increasing development on private forest lands.



The distance between Tower Hill Pond and Lake Massabesic is insignificant from a watershed perspective.

“Some people might argue, ‘Well, so what if they develop along the shores of Tower Hill Pond? You’re still far away from the shores of Lake Massabesic,’” O’Neil said.

Lovely as it may be, Tower Hill Pond is basically used as a holding tank, with a gate at one end that’s raised each fall to let water flow through a series of streams directly into Massabesic.

“The truth of the matter is that if this area was developed, runoff from fertilized lawns, paved roads with road salt, nutrients from septic systems, farm waste—it would all eventually end up in Massabesic and have a big impact on water quality,” O’Neil said.

All of that is already close, since suburban developments have been built aggressively right up to MWW’s borders over the last 30 years and the demand is high for buildable land in the area.

“We have preserved a very pristine source,” O’Neil said. “We still have to add chemicals to disinfect and remove particles, but if the water quality was poor, then the costs would go up. Why throw up your hands and let the water quality degrade, only to have to take out all the contaminants later?”

New Purchasing Power

For the MWW, selling the easement provides capital to continue to buy land in the watershed. The easement was the impetus behind a couple of projects already. Most notably, the MWW is buying a 2.5-acre commercial lot on the shore of Lake Massabesic, off Manchester Road in Auburn. It’s the site of a former welding business with an associated junkyard. It could have been subdivided into two commercial lots and redeveloped; instead, the MWW will *undevelop* the site, ridding it of the pavement, planting trees and vegetation where fuel storage tanks and heaps of industrial trash had been stored. It’s a huge score for a cleaner, healthier water supply.



Top left: John O’Neil, the watershed forester for the Manchester Water Works, oversees stewardship of the Works’ 8,000 acres of land.

Center: The project protects a network of wetlands, such as this beaver pond, in the 1,870-acre easement area.

Top right and above: Bike riders enjoy the miles of fire roads around the pond; a fly fisherman casts for his supper.

Photo (top left) by Brenda Charpentier; photos (center and right) by Brian Hotz; photo (left) by Jeff Sluder.



This 2.5-acre, former industrial lot (above) near the shore of Lake Massabesic will be purchased and reforested by the Manchester Water Works. Selling the easement on 1,870 acres will yield the capital the Works needs to continue its 140-year history of reforesting land around Lake Massabesic and Tower Hill Pond.

Fundraising Progress Report

The Manchester Water Works project has received wide-ranging and enthusiastic support. The Forest Society has raised \$1.65 million toward the \$1.9 million project cost thus far and is seeking donations to raise the remaining \$250,000 to buy the conservation easement on 1,870 acres.

The project's importance for safeguarding public drinking water has led to the awarding of several state-administered grants, including a flagship \$900,000 grant from the Water Supply Land Protection Program, administered through the N.H. Dept. of Environmental Services [DES].

"We are very enthusiastic about this project," said Holly Green, who coordinates the grant program for DES. "Land conservation is by far the most effective way to protect drinking water quality and quantity, and this 1,870 acres—with its 6.3 miles of perennial streams and over two miles of shoreline on Tower Hill Pond—is an important puzzle piece."

Grants have also come from the N.H. Land and Community Heritage Investment Program [LCHIP], the N.H. Aquatic Resources Mitigation Program and the Merrimack Conservation Partnership.

We are seeking additional grants and private donations to close the gap and complete the project by June 30, 2017. If you would like to help this project succeed, please see page 29 for information on how to donate. Thank you!

"The easement has allowed us to budget for these types of projects, where we had not been able to in the recent past," O'Neil said.

The current 1,870-acre easement project is just one in a series envisioned by the MWW, said MWW Director Phil Croasdale. He said the MWW's board of commissioners and staff are excited at the opportunity to expand and strengthen the natural buffers to the ponds, lakes and streams in the watershed.

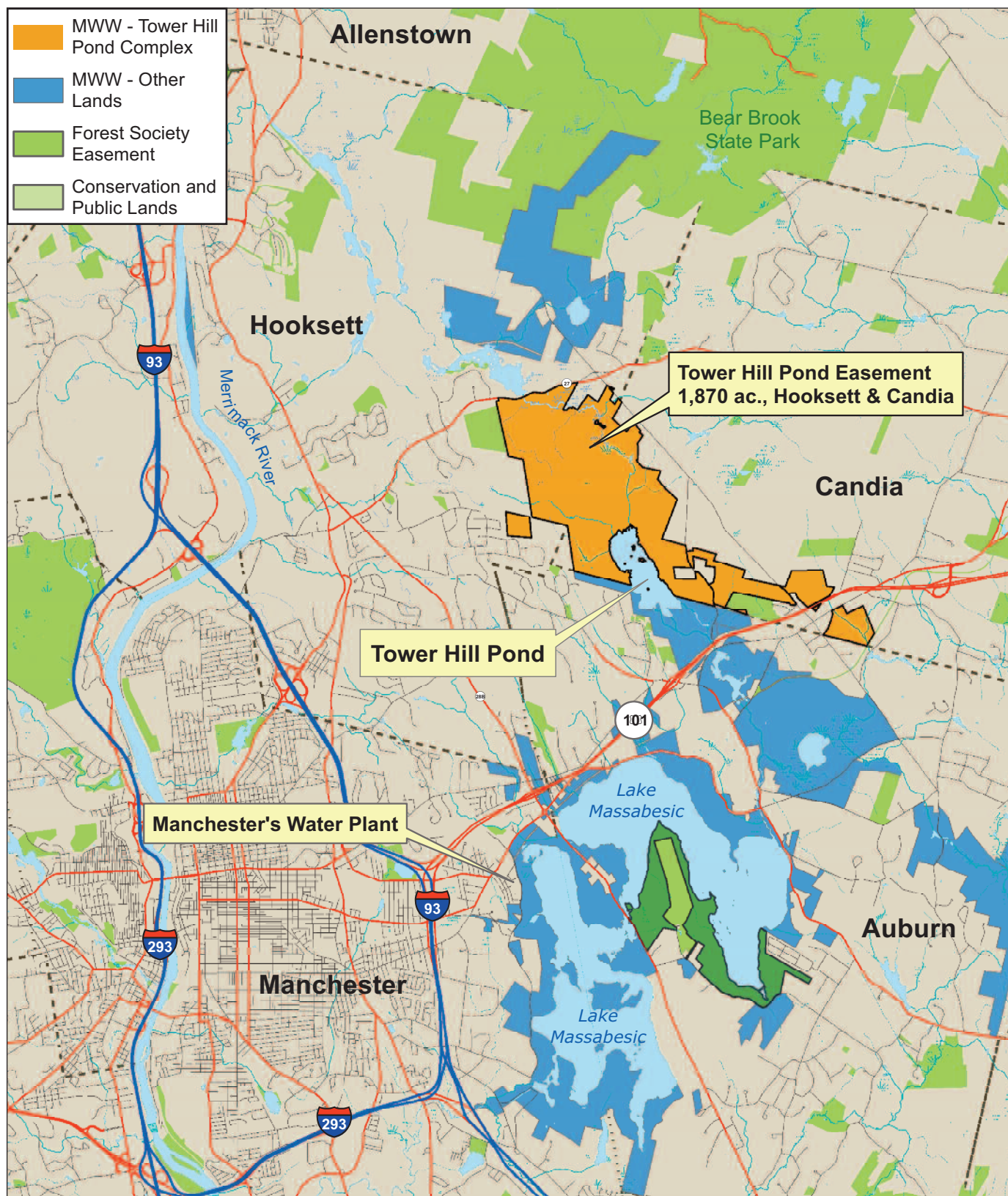
"The Manchester Water Works hopes to continue to develop conservation easements on additional lands owned by the Manchester Water Works to provide the opportunity for additional protection of privately owned properties within the Massabesic watershed," he said.

The Swamp Buyers

Besides being the forester for the MWW land, O'Neil is a student of its storied past, which began when the City of Manchester designated Lake Massabesic as its water source back in 1871. Before that, he said, they took water from the Merrimack River, but it had become too polluted, and cholera was a lethal threat. Back then, there were no treatment plants to take toxins out of the water, just screens to filter it as it was drawn from the lake. So the MWW began buying land in the watershed to protect the water, first around Massabesic, then along the major brooks, streams and ponds feeding it.

Most of that land was farmland, which the MWW converted to forest with the assistance of the UNH Forestry program. They planted white pine, mainly, to soak up water, filter it and hold it longer than pasture land could. Seedlings were readily available at state nurseries and a market for pine timber was well established.

At first, the MWW's biggest problem was Massabesic's popularity for boating, swimming and vacationing.



The easement covers 1,870 acres of forested land in Candia and Hooksett, surrounding Tower Hill Pond. surrounding Tower Hill Pond in Candia and Hooksett.

DID YOU KNOW?

“Water utilities spend 19 times more on water treatment chemicals every year than the federal government invests in protecting lakes and rivers from pollution in the first place using techniques such as conservation of forest land.”

– Center for Watershed Protection



People sometimes portage their small boats to Tower Hill Pond from several gated entrances to the area. The easement will ensure that the land being conserved around the pond remains open to the public for recreation even if it should ever be sold in the future.

“The mills were booming in the 1800s and Manchester was a hub of commerce, so people flocked to Massabesic and started building cottages and hotels on the lake,” O’Neil said.

The outlook improved after the state Legislature banned swimming in the water supply in 1889. Later, Prohibition slackened the recreation business, followed by the Great Depression of the 1930s. Then car ownership exploded and people could drive farther away to play. As Massabesic’s popularity waned, the MWW was able to buy and undevelop—or “rewild”—most of the Massabesic shoreline.

The industry of the area changed, too, and as it did the MWW was able to buy many former mill sites along the rivers and streams.

It also bought wetlands that few others at the time wanted.

“We were buying up the swamplands, so people loved to see us coming,” O’Neil said.

Every purchase was an individual negotiation; eminent domain has never been used.

“Right now we have over 400 individual deeds that comprise our 8,000 acres,” O’Neil said.

The MWW’s land acquisition has slowed nearly to a halt in the last 10 years, as MWW’s tax bill increased in proportion to the acres it amassed. Selling conservation easements represents an avenue to reinvigorate the acquisition of protective acreage in the watershed.

For the Forest Society, the project is an opportunity to facilitate the conservation of land in the critical, high-priority Merrimack River watershed, of which the Massabesic watershed is a part. The same water that flows into Massabesic also flows into the Merrimack River—the drinking water source for some 600,000 people, and the heart of the watershed designated as “most threatened by development in the nation” by the U.S. Forest Service.

“The Merrimack River and water quality are central to the Forest Society’s history and reason for being—we were founded to stop the degradation of this river and others by flooding and erosion caused by unsustainable logging in the White Mountains,” Hotz said. “The threat is no longer from the White Mountains being poorly logged; it is from residential development in the Merrimack River watershed. If we are successful in this effort, the entire region wins big.”

The NH Dept. of Environmental Services has delineated hydrology-based protection areas around community wells and surface water intakes at drinking water reservoirs. These areas are less than **16 percent protected at present. A little more than 19 percent of these areas are already developed with roads and other land uses**, and no regulatory mandate exists to require further protection of these lands.

– From a 2012 report from the NH Association of Conservation Commissions



Forests for Water

How nature's filtration system works in our woods

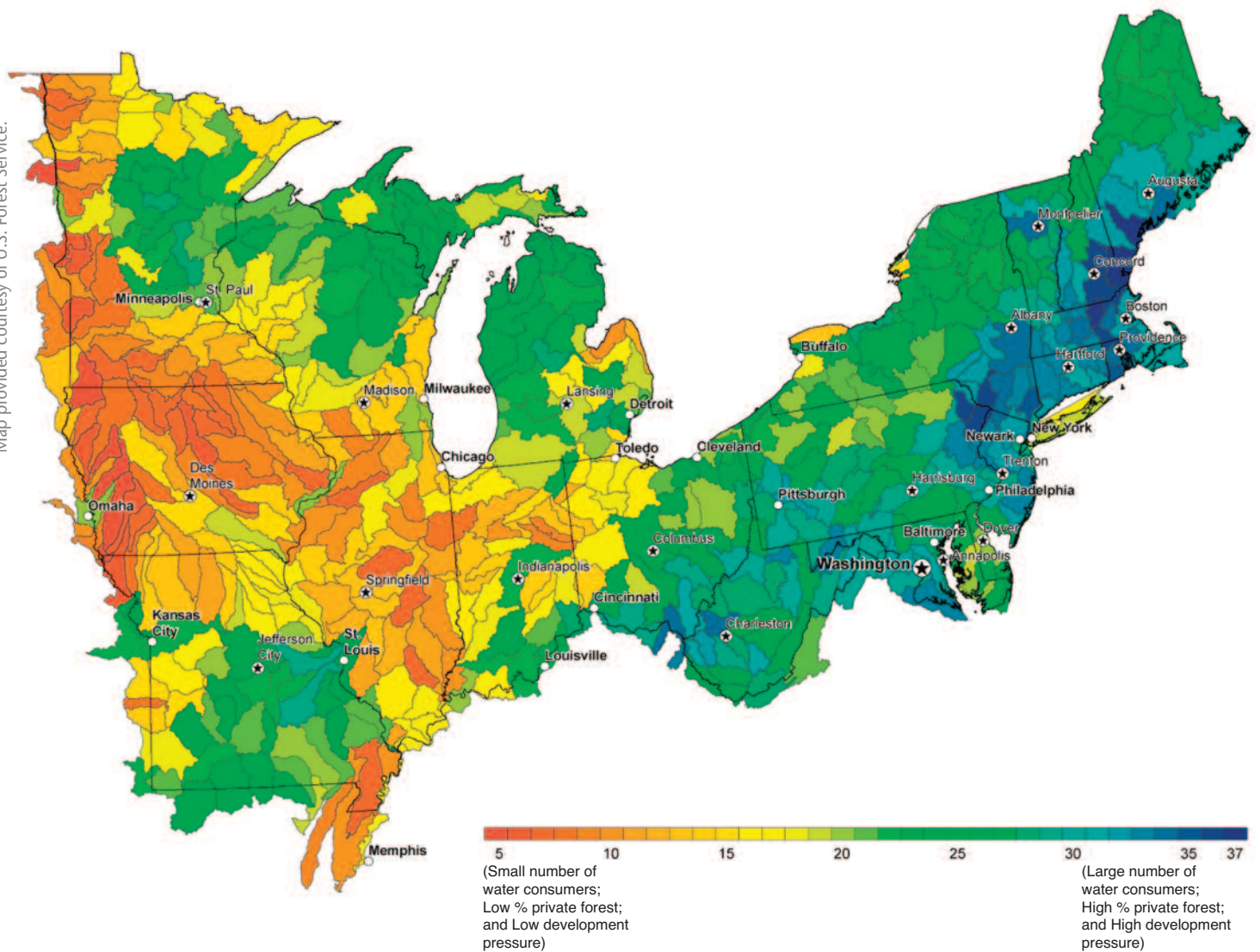
By Marcy Lyman

New Hampshire is endowed with two valuable natural assets: productive forestland and abundant water. Though the relationship between these two resources has long been recognized, it is becoming increasingly important to understand and to value.

For well over a century, people have conserved and managed forests to protect drinking water. The communities of Manchester, Keene, Gorham, Concord and Hanover acquired land and managed it to protect drinking water well before the science we now have told them to. But forests provide other services as well. We learned from lessons in the White Mountains. The extensive clear cutting and forest fires that occurred there at the turn of the last century resulted not only in a scarred landscape, but also in streams choked with silt. Downstream mill owners, depending on water to power their mills, experienced too much water from floods in the spring and little to no water in the summer.

So what do we know about forests and their role in protecting our water? A brief look at the science helps us understand the relationship.

- **Forests and forest soils filter nutrients and other pollutants.** Forest soils and vegetation absorb nutrients, such as nitrogen and phosphorus, preventing their leaching into surface waters and impacting water quality. Additionally, forests and forest soils can store some pollutants, transform others into less toxic forms, and filter sediments and other pollutants into less damaging concentrations.
- **Forests protect soils from erosion.** The root systems of forests help anchor the soil, while the layers of vegetation in a forest—from the crowns to the understory to the litter on the forest floor—slows the rate of water falling from precipitation. This in turn reduces erosion and the flow of sediments into surface waters.



• Forests regulate flows of water and water temperature.

As precipitation falls either as snow or rain in a forest, it is taken up by the vegetation and evaporated, absorbed into groundwater or stored in the soil and the litter, from which it is gradually released. These dynamics help regulate and moderate flows of water into surface and groundwater, which prevents flooding during storms, and ensures the availability of water during periods of low precipitation. And we all know how a forest feels on a hot summer day. The shade provided by tree canopies keeps the temperature of water in forest streams cool, which is important for cold water aquatic species like trout.

These “services” that our forests provide are now often referred to as “ecosystem services” and “natural infrastructure.”

New Hampshire’s forests are of particular importance and are now in particular jeopardy. According to a study done by the U.S. Forest Service, “Forests to Faucets,” New Hampshire’s forests ranked among the highest in the country for forestland that is

important to drinking water quality. In a subsequent report, “Forests on the Edge,” the USFS also found that New Hampshire has “three of the top four watersheds in the country that are projected to experience the most change in water quality as a result of increasing development on private forest lands”¹ including the Merrimack watershed which was ranked #1, the Piscataqua/Salmon Falls and the Saco watersheds.

While we have learned from research the role of forests in protecting our water resources, we are also learning more about how development—the removal of forests—impacts our water. When development in a watershed, for example, results in between seven and 10 percent of impervious surfaces (areas with compacted soils or covered by materials, such as pavement, that don’t allow water to soak into the ground), water quality is degraded. When a watershed has 25 percent or more of impervious surface, water quality is significantly impaired.

¹ A Sensitivity Analysis of “Forests on the Edge: Housing Development on America’s Private Forests” Eric M. White, Ralph J. Alig, Susan M. Stein, Lisa G. Mahal, David M. Theobald. United States Department of Agriculture Forest Service Pacific Northwest Research Station General Technical Report PNW-GTR-792 June 2009 https://www.fs.fed.us/pnw/pubs/pnw_gtr792.pdf.

Current Status of Land Use by Watershed²

	Saco	Piscataqua/ Salmon Falls	Merrimack
Impervious Surface	1.2%	4.2%	7.3%
Developed	5.5%	14.5%	19.6%
Conserved	34.7%	13.1%	15.0%

As we work as a state to determine how to protect our water resources, we need to focus on co-investing in “natural” infrastructure such as our state’s forestland *at the same time* we address pressing investment needs to maintain our “hard” infrastructure of pipes and treatment plants. We know now through many studies that conserving and managing forestland reduces the treatment cost for water suppliers. A study conducted by the American Water Works and the Trust for Public Land of 27 water suppliers found that “for every 10 percent increase in forest cover in the source area, treatment and chemical costs decreased approximately 20 percent, and approximately 50 to 55 percent of the variation in treatment costs can be explained by the percentage of forest cover in the source area.”

That information has been convincing enough for water suppliers to invest in land conservation to avoid the cost of new construction or additional treatment. In the 1990s, for example, New York City began an estimated \$1.5 billion investment in land conservation in the 2,000 square mile watershed for its drinking water supply. This decision has avoided an estimated \$6 billion construction cost of a filtration plant that would cost an additional \$250 million annually to maintain.

The Portland (Maine) Water District currently has only to filter the water that comes from its source in the Sebago Lake/Crooked River Watershed. The District recognized that impacts from development pressure would likely require construction of a treatment facility and additional costs of treatment. As a result, the District has partnered with land trusts in the watershed to provide financial support for land conservation projects.

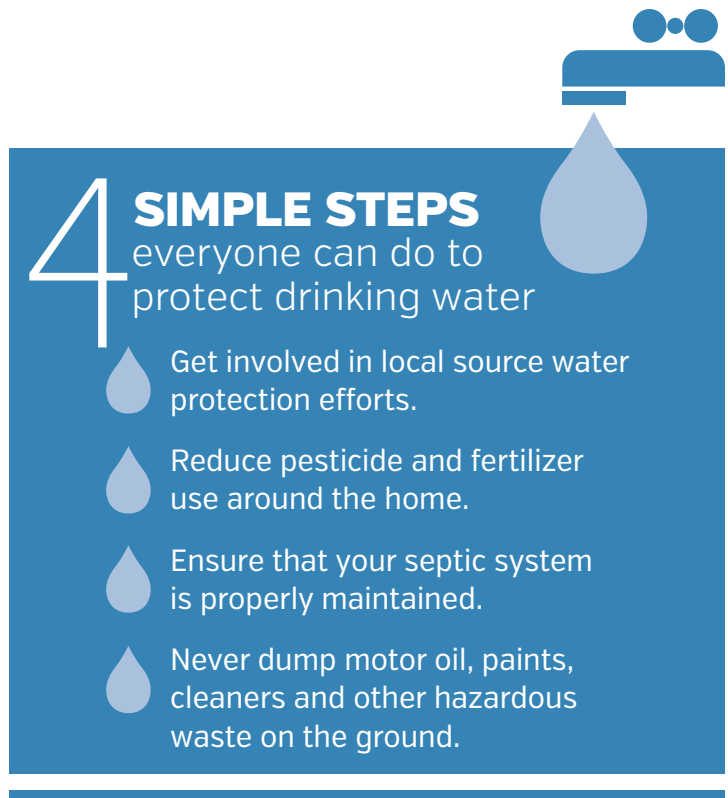
New Hampshire has a long history of conservation of important watershed lands starting with the early initiatives of cities and towns to buy forestland to protect their drinking water. The boundaries of the White Mountain National Forest were identified as the “headwaters of navigable streams and rivers.” Efforts continue today with projects led by the Forest Society and others to acquire and conserve more surface water supply lands serving Manchester and Nashua and the headwaters of the Connecticut River. Other projects include the Town of Durham’s acquisition of the Sprucewood Forest to ensure the quality of future water

supplies, the Town of Freedom’s Community Forest that protects important surface waters in the Ossipee watershed as well as ground water in the state’s largest stratified drift aquifer.

The USFS/Natural Resources Conservation Service Joint Chief’s Water Quality Initiative for the last several years has supported conservation through easements and best management practices on private land adjacent to the White Mountain National Forest. Conservation planning through the coordinated work of groups such as the Merrimack Conservation Partnership, the Piscataqua Region Estuarine Partnership and the Salmon Falls Collaborative has produced roadmaps for current and future work.

We know that forestland is important to ensure the abundance and quality of the water we now have. We know that conserving and managing forest land for water results in additional benefits to human health and biodiversity, resilience and adaptation to climate change, and opportunities for recreation. We know, too, that conserving land is far less expensive than treating water or repairing flood damage. And we now know what lands need to be conserved—and why—for the future. ♻️

Marcy Lyman is the former vice-chair of the N.H. Water Sustainability Commission and is currently a fellow at the Harvard Forest researching opportunities for new investment in forestland conservation for water services. A former Forest Society staff member, she lives in Manchester.



4 SIMPLE STEPS
everyone can do to
protect drinking water

- Get involved in local source water protection efforts.
- Reduce pesticide and fertilizer use around the home.
- Ensure that your septic system is properly maintained.
- Never dump motor oil, paints, cleaners and other hazardous waste on the ground.

² Based on National Land Cover Dataset and protected areas data maintained by Highstead and Harvard Forest to identify the current level of protection, amount of land already developed, and the proportion of land that is impervious surface for the three watersheds.

5 Easy Hikes in Five Weeks Series — Summer Outings

Co-sponsored by WMUR's "Escape Outside" and Stay Work Play New Hampshire, these hikes are friendly gatherings led by Forest Society staffers and volunteers on Forest Society properties.

Please register for each hike online at forestsociety.org/events, by email to info@forestsociety.org or by calling 224-9945.

FRIDAY, JUNE 23, 3 to 5 p.m.

Explore Creek Farm and the Little Harbor Loop Trail

Portsmouth

See the beautiful coastal forest along the shoreline of Sagamore Creek and the Piscataqua River. Bring the kids for a scavenger hunt!

SATURDAY, JULY 1, 9:30 a.m. to 12:30 or 2:30 p.m.

Hike the Hedgehog Ridge

Deering

See spectacular views of the Contoocook Valley and Mount Monadnock. Half day or full day options!

THURSDAY, JULY 6, 12:30 p.m. to 3:30 p.m.

Johnson Clark Nature Reserve Hike

Bethlehem

See the forestland, agricultural fields and key wildlife habitat on the Johnson-Clark Nature Reserve, one of the Forest Society's conservation easement properties that includes the summit of Lewis Hill.



See the lovely views from the Hedgehog Ridge in Deering on July 1.

FRIDAY, JULY 21, 1 to 4 p.m.

Blueberries and Beautiful Views on the Ashuelot River Headwaters Forest

Lempster

Climb through pine and hemlock forest to the open top of Silver Mountain on the Ashuelot River Headwaters Forest in Lempster.

WEDNESDAY, JULY 26, 10 a.m. to 2:30 p.m.

Hike Mount Major and Help the Forest Society

Alton

Take in the phenomenal views from the top of Mt. Major, with Lake Winnepesaukee, the Belknap Range, and the White Mountains spread out before you. Help (if you wish) beta test our new N.H. Forest Explorer trails app!

New Easement Excursion Series Planned

The Forest Society's Easement Stewardship Department has planned an exciting new series of tours for the public on some of our most scenic and significant conservation easement properties.

Please check for changes/additions and register online at forestsociety.org/events or call us at 224-9945.

Financial support for the Easement Excursion series is being provided by the N.H. Charitable Foundation.

SATURDAY, AUG. 5, 9 a.m. to noon

Lee Town Forest Exploration

Lee

Come along with Forest Society staff and members of the Lee Conservation Commission to see some of the unique habitat and wildlife on this property.



Visit the Brookford Farm in Canterbury on Aug. 26 as part of the new Easement Excursions series.

SATURDAY, AUG. 26, 9 a.m. to noon

Farm Tour along the Merrimack

Canterbury

Meet us for a tour of the innovative and scenic Brookford Farm. We will learn about large-scale organic farming from the farm staff, and why the owners protected their land with a Forest Society conservation easement.

SATURDAY, SEPT. 30, 9 a.m. to noon

Late Summer Hike in the Lakes Region

Ashland

Join us on the Lakes Region Conservation Trust's Homestead Forest in Ashland for a quick but steep and scenic hike to stunning vistas.

Family Educational Series Begins in August

The Bretzfelder Park Family Educational Series is a free annual series of entertaining presentations held at Bretzfelder Park in Bethlehem.

For more information about any of the programs listed below, visit www.therocks.org, email us at info@therocks.org, or call 444-6228.

WEDNESDAY, AUGUST 9, 7 to 8 p.m.

The Squam Lakes Natural Science Center presents "Animal Athletes."

WEDNESDAY, AUGUST 16, 7 to 8 p.m.

Eric Pinder, author of *Life at the Top* and *If All the Animals Came Inside*, presents stories and humor from the top of Mount Washington.

WEDNESDAY, AUGUST 23, 7 to 8 p.m.

N.H. Fish and Game wildlife biologist Kristine Rines presents "The Truth about the Eastern Coyote."

Save the Date:
The Forest Society's annual meeting is Sept. 16.

Visit www.forestsociety.org for more events

A Global Perspective on New Hampshire Forest Stewardship

By Jack Savage

Brad Rohdenburg figures it was no accident that he became a volunteer land steward for the Forest Society. He had heard fellow airline pilot Bob Macentee, a land steward in Deering, talk about the program, which trains volunteers to help take care of the Forest Society's more than 180 Forest Reservations statewide.

"Before we took off on one flight, I mentioned to Bob that I might be interested in being a land steward," Brad recalled. "By the time I turned on my phone after we landed at our destination, I had an email from Carrie [Deegan, the program coordinator at the time] telling me that I had been assigned the Bear Island Forest and was all signed up for training!"

Like many of the Forest Society's more than 160 volunteer land stewards, Brad loves to spend time in the woods, "hunting, fishing or just puttering around." For him, the volunteer work only adds to his enjoyment.

"If you like being outdoors, this is a way to have a mission," Brad said. "I like having a mission—for me it makes it more interesting than just a walk in the woods."

That "mission" may be slightly different depending on the needs of the Forest Reservation. Bear Island Forest is unique in that it's on an island in Lake Winnepesaukee, which means that Brad, who lives in Meredith, sets out by boat—usually his canoe—to get there.

Brad also enjoys the ongoing training that is made available to volunteers and was pleased to be selected for one of the first classes of the new Volunteer Easement Monitor Program (VEMP). VEMP volunteers help the Forest Society's staff monitor some of our more than 700 conservation easements on land owned by other parties, such as towns, other conservation organizations, or private landowners. VEMP volunteers need to be familiar with the



Photo by Jenn Seredejko.

Brad Rohdenburg paddles his way to and from Bear Island as a volunteer land steward for the Forest Society. Ajax was his 150-pound Great Dane, who would accompany Brad on some of his monitoring visits. "He was all alive in the woods," Brad recalled, "but he was well trained and always stayed right with me."

terms of the conservation easements on the property, and they need to be able to locate boundaries and other property features.

"I've really been impressed with all of the training," he said. "Navigation is what I do for a living," he observed, so it's natural for him to translate some of those skills into monitoring a boundary of a large property using GPS. In Brad's case, he couldn't wait for the snow to melt this spring so he could get out on a large remote tract in Tamworth owned by The Nature Conservancy on which the Forest Society holds an easement.

Brad developed his outdoor ethic growing up hunting with his father, and he embraces the Forest Society's "wise use" approach to land stewardship.

"I really like the Forest Society's philoso-

phy of land use—sustainable use in a variety of ways," he said.

As a pilot of international flights, Brad gets to see the world regularly from 40,000 feet, which gives him a particularly global perspective on stewardship.

"I've been flying over Mongolia, Siberia a lot. Looking down over the Arctic never gets old," he said. "I find it remarkable that some of our passengers never even look out the window to see something few people on Earth have had a chance to see."

"I've been flying over Greenland for 30 years now," he added. "I've watched as ice caps have been disappearing. It's real."

Once home, he trades the high-tech environment of a B-787 flying over the North Pole for simple walks in the woods. That's how, he said, "I keep my world in balance." ♪

Making the Cut

Apple tree releasing and pruning enhance fruit production for wildlife

By Brenda Charpentier

Jessica Seaton of Epping had read enough about caring for apple trees to feel comfortable cutting off the dead branches from her trees, but she knew they would produce more fruit—for wildlife and for her family—if she improved her pruning skills. That motivation brought her to a Forest Society apple tree pruning workshop in Grantham in early spring.

After sawing off branches from some practice trees under the guidance of instructor Nigel Manley, Jessica was ready to get to work on her own trees.

“I feel much more confident now,” she said. “I was a little shy about cutting, and I think I’m going to be a bit more aggressive.”

The Forest Society offers several workshops each year to assist landowners and volunteer land stewards in their stewardship activities. Chainsaw safety, trail maintenance and how to lead guided hikes are some of the other workshops offered.

Wild apple trees grow all over New Hampshire, including on most conserved properties. They are an important food source for wildlife, even for species you might not expect. We all know bears and deer seek out apples. But coyotes, foxes, fishers, snowshoe hares, porcupines, squirrels, mice, bobcats, chipmunks and birds are just as likely to make an easy meal of them.

Workshop instructor Manley, who manages the Forest Society’s Rocks Estate in Bethlehem, has seen all of the above taking advantage of the apple trees on the Rocks’ 1,440 acres, where some 180 apple trees benefit from an annual pruning as well as treatments of lime and fertilizer. His stories of wildlife sightings near apple trees are a big part of the entertaining nature of the workshops, but Manley’s goal is to give people the skills and confidence to prune annually. To do that, novice pruners need to recognize that there are multiple



Above: Dennis Sawyer of Deering prunes a tree during the workshop. (No birds were using the old nest.) Apple trees can be pruned anytime of year, but many people choose early spring when buds won’t get knocked off. Later spring, summer and fall are ideal times to release apple trees from encroaching brush and other trees.

Right: Pruning can reveal fire blight, a quickly spreading disease that should be pruned off of a tree.



strategies that could work for each tree, and that perfection is not necessarily... fruitful! (Sorry, couldn’t resist!)

“Even imperfect pruning is better than no pruning,” Manley said. “It can look quite drastic if the tree hasn’t been pruned for a while or has never been pruned, but that’s okay—it’s important to just do something.”

Pruning gets rid of diseased, broken and unproductive limbs, branches and shoots while encouraging a strong tree structure in which plenty of air and light can penetrate. Or, as Manley puts it, “A grouse should be able to fly through your tree without touching its wings.”

A pruned, healthy tree will be able to put more energy into fruit production.


Before pruning can even begin, old apple trees have to be freed from their neighbors. They get outcompeted by nearby trees that tower over them and block sunlight. Only crabapples are native to North America; sweet apples were brought over by European settlers. Unlike other introduced species, apples aren’t invasive because they never win the race against native trees and invasive species for space, nutrients and sunlight. If neglected, they will disappear under better adapted pines and tangles of bittersweet and other competitors.

That's why a chainsaw is on the list of tools Manley recommends to workshop participants.

Workshop participant Dennis Sawyer of Deering said he had released his old apple trees from the grips of bittersweet vines and had come to the workshop to see how to take the next step at his recently acquired former dairy farm.

"I've got two overgrown trees that probably haven't been pruned in 20 years or more," he said. "I jumped at the chance to get some education on it."

Sawyer became a volunteer land steward for two Forest Society properties in Deering last year and is still getting to know the makeup of the forests at each. Chances are, he'll come across some apple trees in need of some TLC, and when he does, he'll be ready to give the wildlife on his adopted properties a more abundant food source for years to come. ♪





Northern Woodlands CONFERENCE
OCTOBER 20-22, 2017 | FAIRLEE, VT


Enjoy a fun, informal weekend with the Northern Woodlands crew at the Hulbert Outdoor Center on Lake Morey, while engaging with writers, scientists, artists and educators.

Writing workshops,
natural history presentations,
woods walks and more.


October 20 - 22, 2017
Fairlee, Vermont

This event is sponsored by the Bailey Charitable Foundation and The Trust for Public Land





David George Haskell • Thomas D. Seeley • Julie Zickefoose



To see the full schedule and reserve your space, go to: northernwoodlands.org, or call 802-439-6292 for information.

northernwoodlands.org

"Your show inspired me to re-experience the joy of hiking. Happy trails!"



WINDOWS to the WILD

JOIN THE ADVENTURE!
Explore New England's wild places with Will Lange.



WEDNESDAYS 7:30 PM
ONLINE NHPTV.ORG

Northern Pass Outcome in Doubt

With SEC hearing under way, Northern Pass faces setbacks, more competition

By Jack Savage

In April of this year, the adjudicatory hearing, or “trial” portion of the Northern Pass application to the N.H. Site Evaluation Committee (SEC), finally got under way. More than 100 intervenors, including landowners and communities up and down the state, are involved in what is likely the largest SEC trial on the largest SEC application on the largest infrastructure proposal in state history.

Northern Pass, a project proposed by Eversource in partnership with Hydro-Quebec (HQ), would see 192 miles of transmission line built through New Hampshire, with 132 miles overhead on more than 1,000 towers and 60 miles buried. The project would need a federal Presidential Permit, a Special Use Permit from the White Mountain National Forest, and a permit from the SEC. The SEC is the New Hampshire statewide siting authority for energy infrastructure projects.

But it has been an eventful spring for Eversource and the Northern Pass Project. In early March, a rift between the partners appeared as Hydro-Quebec said publicly, and in direct conflict with Eversource, that HQ would not be shouldering the cost to bury the transmission line in New Hampshire.

That in turn led to questions about the status of the Transmission Services Agreement (TSA) between HQ and Eversource, which has not been updated to reflect the most recent Northern Pass proposal. While Eversource maintains that the TSA is still “in effect,” under cross-examination at the SEC, company executives could only point to a joint press release as written evidence.

PPA Dismissed

Meanwhile, in late March the Public Utilities Commission (PUC) issued a long-awaited decision regarding the proposed



Photo by Jack Savage.

“How could I look my grandchildren in the eye and say I knew about this and I did nothing?” asks a sign held by a protester at the N.H. State House during a “Hands Across the Granite State” rally against Northern Pass in April.

Purchase Power Agreement (PPA) that would have allowed HQ to sell up to 10 percent of the power delivered over the Northern Pass line to Eversource NH (nee PSNH), which would then either resell it to PSNH ratepayers or on the wholesale market.

In its order, the PUC determined that the proposed PPA would be illegal:

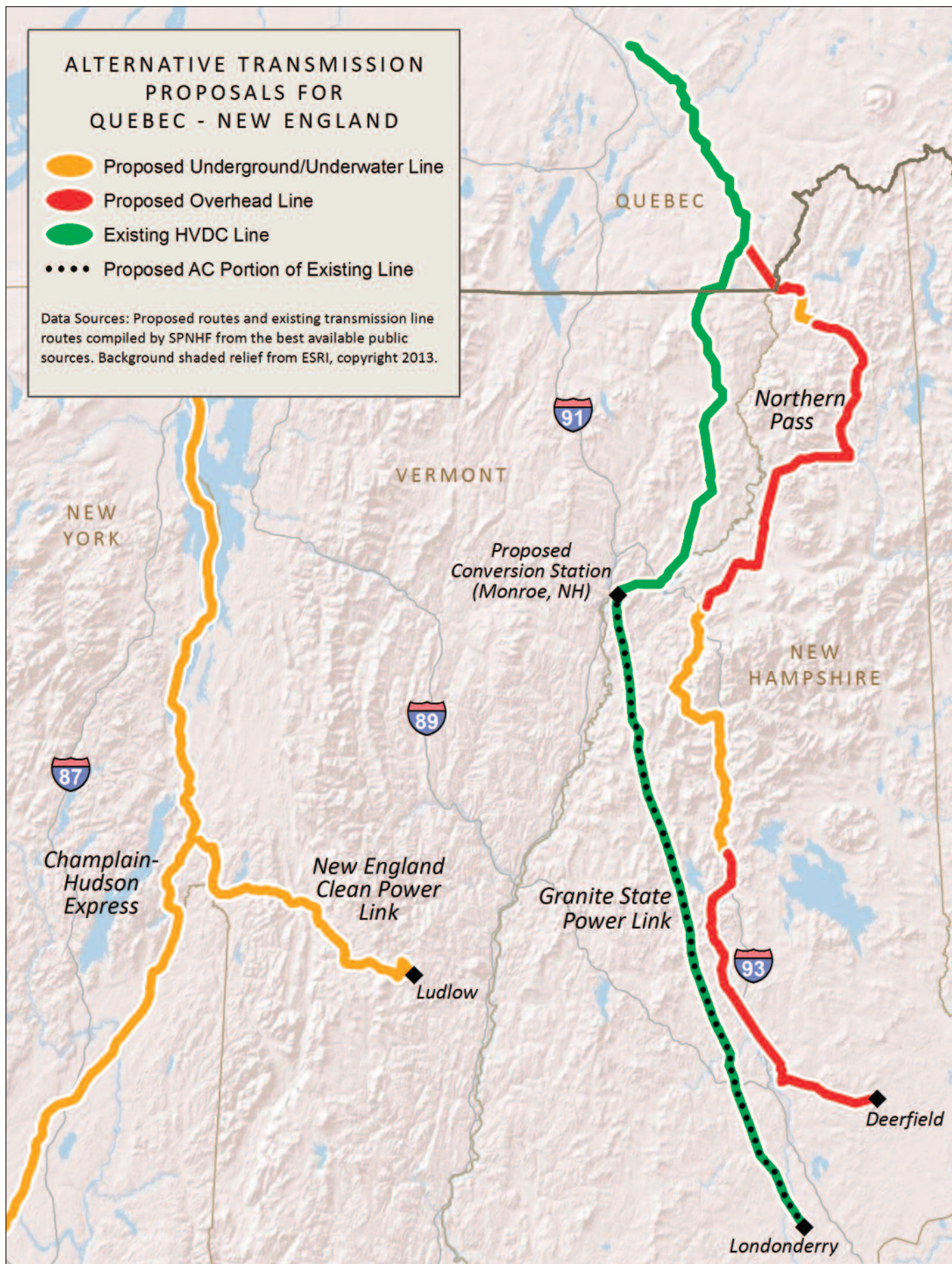
In this Order, the Commission dismisses Eversource’s petition requesting approval of a proposed 20-year Power Purchase Agreement between Eversource and Hydro Renewable Energy Inc., and associated program details. The Commission has determined that the proposal cannot be approved because it is inconsistent

with New Hampshire law, specifically the Electric Utility Restructuring Statute, RSA Chapter 374-F.

The PUC denied Eversource’s appeal of its decision on the PPA in late April.

Northern Pass had put forward the PPA as a major component of the ‘public benefit’ for New Hampshire that they must demonstrate in order to get a required permit at the SEC. Hydro-Quebec continues to indicate that they need guarantees like a long-term PPA in order to go forward.

Last fall, Northern Pass was similarly shot down by being left out of a Request for Proposals for renewable energy put out by Connecticut, Rhode Island and Massachusetts.



Protesters flew a balloon over the State House in Concord to show the height (135 feet) of the tallest towers proposed by Northern Pass.



Photo by Jack Savage.

why, if New England wants to avail itself of more power from Quebec, the existing National Grid transmission corridor couldn't be used.

There are many other questions to be asked and answered about this new proposal, but it's clear that it's a viable alternative to Northern Pass. It is timed to allow National Grid to bid into the Massachusetts RFP in competition with Northern Pass. The National Grid project would be a \$1 billion project vs. \$1.6 billion for Northern Pass.

(e) Issuance of a certificate will serve the public interest."

The SEC subcommittee has seven members who will make the decision on Northern Pass. The chair, Martin Honigberg, is also on the Public Utilities Commission (PUC), as is committee member Kate Bailey. Three subcommittee members represent state agencies: Bill Oldenburg of the N.H. Dept. of Transportation, Craig Wright of the N.H. Dept. of Environmental Services, and Chris Way of the N.H. Dept. of Resources and Economic Development. Two subcommittee members represent the public, Patricia Weathersby and Rachel Whitaker. The SEC has set a Sept. 30, 2017 deadline for making a decision.

The trial is expected to take at least 30 days spread over three months. Northern Pass is represented by its attorneys, and intervenors in some cases have their own attorneys or are representing themselves. The trial involves various witnesses being cross-examined by intervenors. Witnesses include Northern Pass representatives and their hired experts, representatives of intervenors such as the Forest Society, and experts hired by the intervenors. The Forest Society has been represented and assisted throughout the SEC process by attorneys from BCM Environmental Land Law.

Also involved is the Counsel for the Public, Peter Roth, who works for the N.H. Attorney General and represents the interests of the public. He has hired his own attorneys to assist him, and they have hired their own experts. The experts have prepared analyses and reports about various aspects and impacts of the proposed transmission line, including visual impacts, wetlands impacts, economic impacts, property value impacts and tourism impacts.

Visit www.forestsociety.org for frequent updates on the SEC process. ♪

Jack Savage is the vice president of communications and education at the Forest Society.

Alternative, Competing Project

Then, in something of a bombshell announcement, National Grid announced at the end of March that they are proposing a new transmission project that would carry 1,200 additional megawatts across their existing transmission lines through Vermont and New Hampshire. The "Granite State Power Link" would compete directly with a Northern Pass transmission line as well as the proposed (and already permitted) New England Clean Power Link, an underground and underwater project in Vermont.

According to National Grid, in New Hampshire their project would be an overhead line on existing Right-of-Way (ROW) using 80 percent of the existing towers (with upgraded cables). Six miles of expanded ROW would be required at either end (Monroe and Londonderry). Expanded ROW would also be needed in Vermont.

The Forest Society has not taken a position on the National Grid proposal. However, as part of our long-standing objections to Northern Pass as proposed, the Forest Society has repeatedly asked

The SEC Adjudicatory Hearing, or "Trial"

In order to issue a siting permit to Northern Pass, the SEC must find that it meets four standards as outlined by NH RSA 162-H:16:

"In order to issue a certificate, the committee shall find that:

- (a) The applicant has adequate financial, technical, and managerial capability to assure construction and operation of the facility in continuing compliance with the terms and conditions of the certificate.
- (b) The site and facility will not unduly interfere with the orderly development of the region with due consideration having been given to the views of municipal and regional planning commissions and municipal governing bodies.
- (c) The site and facility will not have an unreasonable adverse effect on aesthetics, historic sites, air and water quality, the natural environment, and public health and safety.
- (d) [Repealed.]

Exxon Mobile Settlement Should Go Toward N.H. Land Conservation for Water Protection

By Matt Leahy

Life on Earth cannot exist without water, yet people seem to take it for granted and assume we will always have access to a clean and robust supply.

In fact, water is a finite resource; the amount of water on Earth and in the atmosphere is about the same as it was a million years ago. While New Hampshire has not experienced the outright scarcity of water that exists in other parts of the world, our water supply is vulnerable. Droughts, contamination from perfluorocarbons (PFCs) and methyl tert-butyl ether (MTBE) and an aging infrastructure all threaten the integrity of, and the public's trust in, our state's water resources. Clearly, we need to accelerate the efforts to protect this fundamentally vital resource. The good news is our forests are already working to guard the drinking water here. It is time to expand their role.

Unquestionably, a successful strategy to protect our water resources will also include remediating contaminated water supplies, investing in new infrastructure and upgrading aging infrastructure to ensure consumers have clean water when they turn on the taps. However, the fourth "branch" of this approach must expand on the connection between drinking water and the natural landscape. This concept does not represent new thinking, either. As far back as the early 1600s, the Governor of Virginia issued a proclamation prohibiting various activities within a quarter mile of the fort at Jamestown in order to protect the settlement's water wells. Within the last two decades, numerous studies have documented how natural landscapes surrounding a drinking water source preserve both the quality and the quantity of the water. Furthermore, forested landscapes provide this service in a cost effective way.

One study of the Portland, Maine Water District noted how \$44 million in expenditures on riparian buffers, culvert upgrades, conservation easements, and sustainable management of forests could save over \$110 million in comparison with building a new filtration plant. Here in New Hamp-



Photo by Jerry and Marcy Monkman/EcoPhotography.

Our forests are already working to guard the water quality of New Hampshire's lakes, rivers and streams. It's time to expand their role.

shire, the Forest Society has partnered with Manchester Water Works and Pennichuck Water Works in Nashua in placing conservation easements on the public drinking water sources for both of those communities.

Of course, one of the challenges to addressing a significant public policy issue like this one is securing the funding necessary to make a meaningful impact on the problem. After all, whether the protective actions require on-site treatment and the expansion of drinking water infrastructure or, as with the Forest Society's projects, the purchase of easements, there is a cost. Often, the cost is substantial.

Fortunately, New Hampshire has a vehicle in place through which we can tackle the problem. The state's successful lawsuit against the Exxon Mobil Corporation resulted in the establishment of the \$276 million Drinking Water and Groundwater Trust Fund and the formation of an advisory committee that will work with

the N.H. Department of Environmental Services to administer the fund.

One of the fund's mandates is to "protect against future contamination or impacted drinking water sources through measures including, but not limited to, the expansion of drinking water infrastructure or drinking water source protection." Of the many services forests provide, perhaps the most fundamentally vital is the one outlined in the last part of that clause: "the protection of drinking water sources." Coupled with their ability to save taxpayers money at the same time they are saving drinking water, New Hampshire's forests are linked with the way of life we cherish here.

The trust fund is an opportunity to deepen this bond. The Forest Society will advocate that a portion of the trust funds be allocated to land conservation projects and will be monitoring the issue as the state DES, Legislature and trust fund commission determine how the funds will be used. ♪



Local volunteers, including students from the Oyster River High School Sustainability Club (above), helped raise awareness and funds in the community at several events, including a hiking series on the property, raffles, a community dinner and even a pie sale. Volunteers started a Save the Powder Major's Forest Facebook page, posted flyers and held neighborhood meetings.

Other photos, clockwise from top right: Russ Cohen leads a "wild edibles" walk; local volunteer coordinator Barbara Lilly and high school student Lauren Quest at the "Feast for the Forest" event; Martha Twombly of the Forest Society and landowner Chuck Goss explain the project before a "history hike"; student volunteers sell "Powder Major Pies."



Communities Rally to Save Their Forest

Powder Major's Farm and Forest Reservation
created where towns—and stories—converge

By Brenda Charpentier

Barbara Lilly and her neighbors in Madbury heard that the Forest Society was working to buy 193 acres of land near them through a postcard that came in the mail, showing a photo of a verdant field surrounded by forest and a question, "Community Resource or Sub-division?"

The reaction was swift, Lilly said. "We pounced!"

Community leaders and residents in neighboring Durham and Lee reacted

much the same way, beginning a year-long commitment by people in all three towns. Themed hikes focusing on everything from the property's storied past to wild edibles to wildlife habitats introduced more people to the property. A community sponsored Italian dinner, a pie sale and raffles got more people interested, including students from the regional high school who helped run the events. Grant funders recognized the value of the land to the water quality of the Oyster River and Great Bay, its potential

for recreation and the special ties to the region's history the property represents.

The Forest Society raised the funds needed to buy the land in late February, and the Powder Major's Farm and Forest is now a conserved reservation at the convergence of all three towns. An additional 33 acres of farmland will be conserved through the purchase of a conservation easement, being finalized this summer.

"I really feel that we did something good for all time, something that truly makes a



The Oyster River, 10 miles of trails and the nearby resting place of the “Powder Major” John Demeritt are some of the attributes of the new reservation.



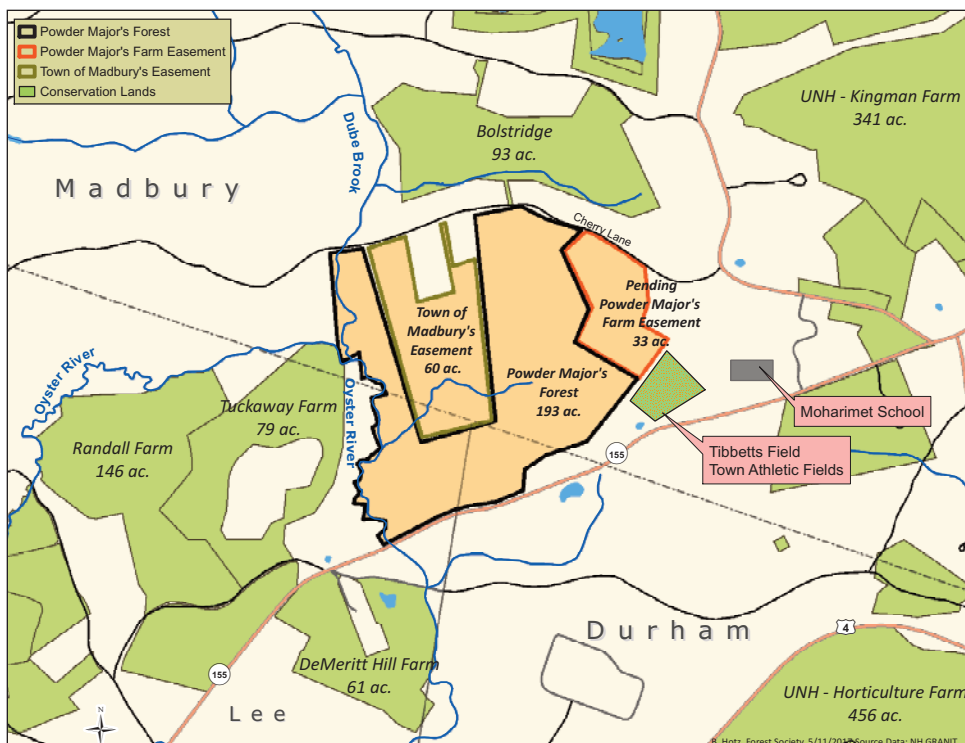
Photo by Kate Wilcox.

difference,” Lilly said of the community-wide effort.

The Forest Society will manage the Powder Major’s Farm and Forest as a community resource, with an extensive trail system—open to the public for recreation—and frontage on the Oyster River that will preserve drinking water quality and the highest quality wildlife habitat of its kind in the state.

Jane Difley, Forest Society president/forester, said the Seacoast locale makes this project particularly important. “It has been a 20-year goal for the Forest Society to conserve additional reservations in the Seacoast region, and this reservation will be among our most accessible in the area,” she said.

The land is accessible off Route 155, behind Tibbetts Field in Madbury, as well as from Cherry Lane, where the Forest Society plans to create a trailhead and small parking area.





POWDER MAJOR'S FARM IS COMMON GROUND FOR THREE TOWNS

All three towns with land in the Powder Major's Farm and Forest contributed funds to support the project and will hold conservation easements on the parts of the reservation that are within their boundaries.

The Town of Durham contributed \$120,000 of conservation funds. Robert Sullivan, chair of the Durham Conservation Commission, said that the location of the Powder Major forest, where the three towns meet, is symbolic of the cooperation among the three towns, which share a school district, mutual aid, sports leagues, water from the aquifer below the property and a common history. Water quality was tantamount, he said.

"I am always a bit thrown when traveling and people say, 'Don't drink the town water,'" he said. "In Oyster River, we strive to make sure that the best water comes right out of our faucets. I think conserving the Powder Major land is a big step towards making clean water a reality now and for the future. For a \$120,000 investment, Durham was able to help create a massive water filter system, a sprawling recreation area, and a place to escape to right next door."

Voters in Madbury voted to provide \$75,000 to the project, in addition to the donation of an easement valued at \$175,000 on the abutting 60-acre parcel acquired previously by the town from the Schreiber family, members of whom were very interested in preserving water quality, according to Eric Fiegenbaum, chair of the Madbury Conservation Commission.

"The successful conservation of this land means that the community has shown that working together, the towns can protect valuable land and water resources and provide beautiful outdoor space for citizens to enjoy," Fiegenbaum said. "Who knows how the trails may connect us together in the future?"

Voters in Lee also voted to support the project by contributing \$150,000.

"The Forest Society's leadership in acquiring this remarkable property will provide decades of excellent outdoor recreational activities for Madbury, Durham and Lee, and concurrently the protection of important wildlife habitat and riparian buffers to the Oyster River," said Bill Humm, the chair of the Lee Conservation Commission.

The prospect of these fields and forests being paved over for a housing development galvanized the community.

The project began in 2015 when the landowners, several members of the Goss family, approached the Forest Society seeking a conservation outcome for the land they wished to sell. They agreed to sell the 193-acre parcel and the additional easement to the Forest Society at a price below market value.

Chuck and Elizabeth Goss live next to the new reservation in the farmhouse once owned by Major John Demeritt, who became known as "The Powder Major" after the Revolutionary War for his role in the historic raid of the British Fort William and Mary (now Fort Constitution) in Portsmouth Harbor. In 1774, a band of local patriots stole barrels of gunpowder from the fort, and Demeritt is credited for hiding some of the stolen barrels at his farm and then hauling them to the Continental Army at the Battle of Bunker Hill.

The Gosses instigated the conservation project in order to fulfill promises made many decades ago.

"The Goss family has been a steward of this farm for nearly five generations. Our decision to conserve the property honors an agreement made between John and Jennie Demeritt and the Goss family nearly a century ago to preserve the memory of Major John Demeritt, aka "The Powder Major," Chuck Goss said.

There's a story behind every successful conservation project, but the Powder Major's Farm and Forest project had many stories. Perhaps that explains the abundant enthusiasm that culminated with the Forest Society reaching its \$2.25 million goal to protect this place, a place that galvanized so many to work to keep it from changing. The answer to "Community Resource or Subdivision" was resounding, carrying echoes of past generations to future ones.

"The land the Demeritt family farmed and logged for seven generations remains largely unchanged, and that has always been our goal," Goss said. "We believe the enduring legacy of conserving this

property lies not only in the New Hampshire history it preserves but also the water quality and ecosystems it protects, the recreational opportunities it provides and the scenic views it maintains for the benefit of current and future generations.” ʔ

THANK YOU!

Generous donations from 836 individual donors and essential grants from these organizations made the Powder Major's Farm and Forest project possible:

- N.H. Land and Community Heritage Investment Program (LCHIP)
- Thomas W. Haas Fund of the N.H. Charitable Foundation
- Natural Resources Conservation Service's Agricultural Land Easement Program
- N.H. DES Aquatic Resource Mitigation Program
- The Bafflin Foundation
- Conservation License Plate (Moose Plate) through the N.H. State Conservation Committee Grant Program
- Sarah K. deCoizart Article TENTH Perpetual Charitable Trust
- John F. and Dorothy H. McCabe Environmental Fund of the N.H. Charitable Foundation
- The Davis Conservation Foundation
- The William P. Wharton Trust
- The George W. Merck Fund of the N.H. Charitable Foundation
- The Preston Family Fund of the N.H. Charitable Foundation
- The Allan & Kathleen Matthews Fund of the N.H. Charitable Foundation
- The Piscataqua Region Estuaries Program
- The Great Bay Resource Protection Partnership

FOREST SOCIETY 2017 PHOTO CONTEST CALL FOR ENTRIES

Enter your best shots taken on a Forest Society reservation or easement land for a chance to have your photo published in the fall issue of Forest Notes, and win free passes to Lost River Gorge and Boulder Caves or a Forest Society hat.



Enter for a chance to win FREE passes!

Lost River Gorge and Boulder Caves, North Woodstock.

The top three winners will be chosen in these categories:

— Lovely Landscapes —

Your best shot highlighting the forest, fields, waters and mountains you find on our conserved properties.

— Having Fun Outdoors —

People enjoying our conserved land.

— Dog Heaven —

Dogs having their day on our conserved land.

— Flora & Fauna —

Wildlife, plants or other beautiful natural resources you encounter on our conserved lands.

— Young Shutterbugs —

Photos of any subject taken on our conserved lands by anyone under age 18.

Welcoming submissions now through Aug. 5.

Go to forestsociety.org/photocontest for rules and how to enter

Consulting Foresters

The Forest Society encourages landowners to consult with a licensed forester before undertaking land management activities. The following are paid advertisers.

Calhoun & Corwin Forestry, LLC

Realize what you value the most in your forest. Serving individual, municipal, state, non-government, and industry forest owners.

560 Windy Road, Peterborough, NH 03458 • (603) 562-5620
Email: swiftcorwin@gmail.com

The Ecosystem Management Co. (TEMCO)

Jeremy Turner NHLPF #318 — Central/Southern NH
Email: jgturner@mtlforests.com

Ryan Kilborn NHLPF #442 — Northern NH

Email: rkilborn@mtlforests.com

A division of Meadowsend Timberlands Ltd.

Comprehensive forest and wildlife management, serving the conscientious New Hampshire landowner. -NRCS-Tech Service Provider

P.O. Box 966, New London, NH 03257
(603) 526-8686
www.mtlforests.com

FORECO: Forest Resource Consultants

Complete forest management services
Offering three licensed foresters, licensed land surveyor

P.O. Box 597, Rumney, NH 03266 • (603) 786-9544
P.O. Box 161, Contoocook, NH 03229 • (603) 746-4846
Email: office@forecollc.com

Fountains America

Certified forest management, land brokerage, GIS maps, training, application development, and TwoDog Forest Inventory Software Sales.

175 Barnstead Rd., Suite 4
Pittsfield, NH 03263 • (866) 348-4010

Martin Forestry Consulting, LLC

Offering complete forest management services including timber sales, cruises, and appraisals and wildlife habitat management.

P.O. Box 89, New Hampton, NH 03256 • (603) 744-9484
Email: martinforestry@gmail.com

Licensed foresters should address inquiries about advertising to Jack Savage at (603) 224-9945 or jsavage@forestsociety.org.

Tree

By Paul Gagnon

I recall the day I gave up being a tree
and became a man, a hundred years of
dreaming drunk on earth, daily
lifting of the sun light as a balloon and
releasing it, the sole occupation of standing
an anchor for the chain of the sky to spin on.
then the whispering like mice: to grow
faraway eyes, to tend a bloody
heart. I don't regret the shedding of
bark more than I do clothing before the
taste of your kiss, your face an oval in
the center of my world of which I am
no longer a center, for when you are a
tree the whole world moves around
you and when a person you are moved
by the world. I'll admit I was disappointed
that a leap does not constitute wings
that one could dive in and still drown.
I wanted to be everything that truly moved
bird and fish and lover but in the end
got one and found it enough. *But.*
even in the house that we built of my
old bones even in this bed we wrapped and
rolled and knotted in I have often
stared through the window in the owl-
silenced night at the shadow of branches
spreading stars in their thin fingers and recall
for so long I said nothing was nothing had
no name but *Here.* it's just me remembering now
and again when I put a finger to my lips
and lovingly breathe in everything
I once breathed out. Ƴ

Thank Goodness We Still Have Black Flies!

Long considered the scourge of northern forests from Mother's Day in May to Father's Day in June, could Black Fly Season be fading?

By Dave Anderson

After a long, cold New Hampshire winter, the cruel irony of soft, warm days in May and June is the emergence of hungry hordes of biting black flies.

Painful, itchy neck and scalp welts from blackfly bites are a traditional trial of springtime in New England. Yet black fly season seems to be shrinking as warmer temperatures arrive earlier, shortening the time of optimal black fly breeding conditions. Springs with fewer black flies have the potential to affect many other species.

Once hatched, black fly larvae occupy an important niche in freshwater ecosystems as an underwater prey species. The tiny filter feeders are food for hungry fish, amphibians, crustaceans and carnivorous aquatic insects. Adult black flies also play an important role in the terrestrial ecosystem as a pollinator of early wildflowers—and notably as a pollinator for wild and domestic blueberries.

Black flies are a particularly abundant insect protein for the migrant spring songbirds. The explosion of springtime insects fuels nesting season food requirements. Watch a single yellow-rumped warbler catching insects and gleaning twigs each May. Some tropical migrant songbirds specialize in a dance termed “sally fly-catching.” They perch, leap to snatch a flying insect and return to a perch—they sally-forth and return endlessly. How many black flies do millions of colorful songbirds consume? Would these birds even hazard the migration north for nesting season if not for the abundant insects?

Ouch—Those Bites!

Black fly bites can be really painful. Only female black flies take blood meals to nourish their eggs, which they deposit in freshwater streams. Male black flies are not specifically attracted to humans, and their

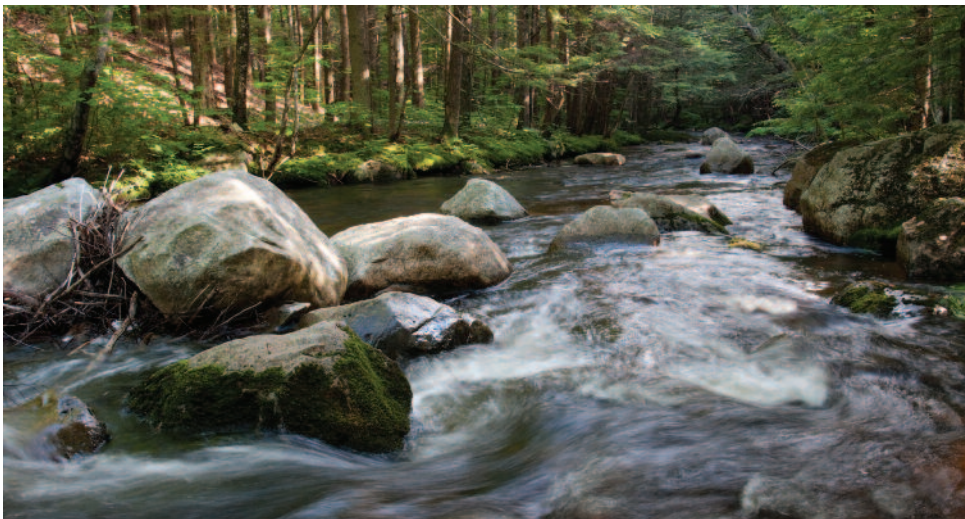


Photo by Nelson O'Brien.

An abundance of black flies may sound horrifying to us, but it is a good indicator of clean, healthy streams, since black flies cannot reproduce without them.

mouthparts are not capable of biting. Males are a mere annoyance as they crawl or fly into our eyes and noses.

Females of almost all (an estimated 90 percent) of the black fly species must feed on blood to produce eggs successfully. Females of some black fly species feed on only one host, whereas others are known to feed on over 30 different host species. No North American species feed exclusively on humans.

Bites cause different reactions in humans, ranging from a small puncture wound to a swelling that can be the size of a golf ball. Allergic reactions to black fly bites are collectively known as “black fly fever” and can include headaches, nausea, fever, and swollen lymph nodes in the neck. Welcome to New Hampshire!

Yet black flies are excellent indicators of healthy freshwater stream quality. They require cold, clean, oxygen-rich water. Restoration of formerly polluted streams in New England has increased the dissolved oxygen content and created better larval habitats. But when streams warm-up and

air temperatures grow unseasonably warm before late May and early June, black fly season is truncated. Increasingly warmer springtime temperatures yield black fly seasons lasting only two weeks rather than the six to eight weeks in days of yore.

As eco-indicators of cold, clean running water, black flies are an unlikely wilderness icon, an insect emblematic of rural wild forests of free-flowing streams and rivers.

Were black flies to disappear entirely, people might be tempted to say “good riddance!”

But consider the importance of black flies' ecological niche and importance as a food and pollinator. An entire suite of co-dependent wildlife and plant species common to rural landscapes with ample snowmelt and clear, cold rushing water would likely miss them...as would the organizers of annual black fly festivals! ♪

Naturalist Dave Anderson is director of education for the Society for the Protection of New Hampshire Forests. He can be reached via e-mail at danderson@forestsociety.org.

The Forest Society thanks the following businesses for their generous support.

Summit Circle

(\$5,000 and up)

Paradigm Computer Consulting, Inc.
Event Builders, LLC

Chairman's Circle

(\$2,500 to \$4,999)

Merrimack County Savings Bank
Northeast Delta Dental
Northland Forest Products, Inc.
Prince Communications
ReVision Energy, LLC
SCM Associates, Inc.
St. Paul's School

President/Forester's Circle

(\$1,000 to \$2,499)

Bank of New Hampshire
BCM Environmental & Land Law, PLLC
Bensonwood & Unity Homes
EOS Research, Ltd.
Johnson Outdoors Gear, Inc.
Lumbard and Kellner, LLC
Northern Trust
Ransmeier & Spellman, P.C.
Rockywood-Deephaven Camps, Inc.
Superior Nut Company, Inc.
The Secret Agency, LLC

Steward

(\$750 to \$999)

Meadowsend Timberlands Limited
NEMO Equipment, Inc.
North Woodlands, Inc.

Partner

(\$500 to \$749)

Aesthetic Dental Center
Arcomm Communications Corporation
Capitol Craftsman, LLC
Checkmate Payroll Services
Duncans European Automotive

Partner (continued)

Durgin & Crowell Lumber Co., Inc.
E & S Insurance Services, L.L.C.
Harvest Capital Management, Inc.
Honeywell International, Inc.
Inn on Golden Pond
Kozikowski Properties
Lincoln Financial Group Foundation
Lyme Timber Company
Northern Design Precast
Peabody & Smith Realty, Inc.
Precision Lumber, Inc.
Stantec Consulting Services Inc.
The Music Mill
Winnepesaukee Aquatherm Service, LLC

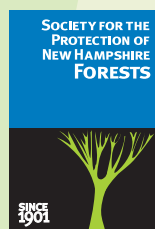
Colleague

(\$250 to \$499)

Carlisle Wide Plank Floors, Inc.
Cersosimo Lumber Co., Inc.
Devine, Millimet & Branch, P.A.
Dog Cove Corp.
Fuller's Sugarhouse, LLC
Granite Bank
Granite State Natural Foods, Inc.
Kel-Log, Inc.
Kiwanis Club of Concord
Lenk Orthodontics
Limington Lumber Company
Mason and Rich P.A.
Meadow Leasing, Inc.
MegaPrint, Inc.
Pine Springs
Ridgeview Construction, LLC
Robert C. Kuepper, DDS
Sunset Park Campground
The Portsmouth Brewery
Thread Rolling, Inc.
Tri-State Iron Works, Inc.
Upton & Hatfield, LLP
Urban Tree Service/A Tree Health Company, Inc.
Whole Wealth Management
Woodstock Inn Station & Brewery

Matching Gift Companies

Allegro MicroSystems, Inc.
Allendale Mutual Insurance Company
American Biltrite Charitable Trust
American Express
American International Group, Inc.
Ames Planning Associates
Amica Companies Foundation
Autodesk, Inc.
Bank of America
CA, Inc Matching Gifts Program
ExxonMobil Foundation
f5 Networks
Fairpoint Communications
FM Global Foundation
Gartner
GE Foundation
Global Impact
Green Mountain Coffee
Hewlett Packard Company Foundation
The Home Depot Foundation
Houghton Mifflin Matching Gifts Program
IBM Corporation
Lincoln Financial Group Foundation
Long-Term Care Partners
Lumina Foundation for Education
Markem-Imaje Corporation
MassMutual
Merck Partnership for Giving
Meredith Corporation Foundation
The Millipore Foundation
Morgan-Worcester, Inc.
Open System Resources, Inc.
Oracle Corporation
Payden & Rydel
Pfizer Foundation
Prudential Matching Gifts Program
Saint-Gobain Corporation
Shell Oil Company Foundation
Tender Corporation
Textron Matching Gift Program
Thomson Reuters
Tyco Employee Matching Gift Program
Verizon Foundation
The Washington Post Company



And many thanks to those businesses who give less than \$250.

The Forest Society... Where Conservation and Business Meet

For information on business memberships, please contact Susanne Kibler-Hacker at (603) 224-9945 or via email at skh@forestsociety.org.

Make a Splash—Send a Gift to Protect Our Drinking Water

The Forest Society has taken on a major land protection project to protect an important public drinking water source in the Merrimack River watershed. Manchester Water Works uses Tower Hill Pond as water storage to supplement Lake Massabesic—the source of drinking water for 160,000 residents of Manchester, and parts of Auburn, Bedford, Derry, Goffstown, Hooksett and Londonderry.

Manchester Water Works has offered us the opportunity to permanently conserve 1,870 acres in Candia and Hooksett surrounding beautiful Tower Hill Pond through the purchase of a conservation easement at a price well below market value.

Grants from the N.H. Land and Community Heritage Investment Program, the Merrimack Conservation Partnership, and N.H.'s Water Supply Land Protection and Aquatic Resources Mitigation programs have already helped us raise \$1.65 million toward the total project cost of \$1.9 million.

All we need now is your support! In order to purchase the conservation easement and provide for transaction and stewardship costs, the Forest Society must raise the remaining \$250,000 by June 30, 2017.

Here's why conserving this land is so important:

It is vulnerable to development—Even though Manchester Water Works owns the land, there are no protections in place to prevent future decision makers from selling it for development. The Forest Society's



***Left:** The Forest Society easement will conserve 1,870 acres of forest surrounding and filtering Tower Hill Pond. The pond is a source of drinking water for residents in the Merrimack River watershed, identified by the U.S. Forest Service as the nation's most threatened (by development) watershed.*



***Right:** The area is open to the public for recreation such as bike riding, dog walking, fishing and cross-country skiing.*

conservation easement would permanently protect it from future political pressures.

It protects drinking water resources—The protection of this property will secure a large area of forest land, including two miles of undeveloped shoreline around Tower Hill Pond and almost 300 acres of wetlands that will help safeguard public drinking water supplies for Manchester and surrounding communities.

It guarantees continued public access for recreation—There are six miles of trails for hiking, mountain biking, running, cross-country skiing and dog walking, and several state and local designated snowmobile trails. Tower Hill Pond is a favorite of anglers and kayakers.

The land is critical to wildlife—Despite its location just a few miles from

the city, the land contains excellent wildlife habitat. A wetland ecologist who assessed the land found signs of black bear, deer, coyote, red and gray fox, raccoon, river otter, mink, snowshoe hare, ermine and bobcat. The area hosts at least a dozen rare or threatened plants and animals.

Will you help? Through grants and contributions from private individuals, we're more than 85% of the way there. We urgently need your help to close the gap. We can make it, but only if everybody who cares about the region pitches in.

Please support this project today. Your entire gift—100% of your contribution—will go towards the conservation of these 1,870 acres. Your support will help make this extraordinary conservation project a success. Thank you! ♻️

☐ YES, I WANT TO HELP PROTECT THE FORESTS AROUND TOWER HILL POND

Name: _____

Address: _____ Town/City: _____ State: _____ Zip: _____

Telephone: _____ Email: _____

☐ Enclosed is my tax-deductible contribution for \$ _____

☐ VISA ☐ MasterCard Number: _____ Exp. date: _____ Security code: _____

Please mail the completed form to: Society for the Protection of New Hampshire Forests
54 Portsmouth Street, Concord, NH 03301. Or donate online at www.forestssociety.org.

For more information, contact Susanne Kibler-Hacker at 603-224-9945
or via e-mail at skh@forestssociety.org.

**Thank you
for your help!**



MWW174FN



**SOCIETY FOR THE PROTECTION
OF NEW HAMPSHIRE FORESTS**

54 Portsmouth Street
Concord, NH 03301-5400
Address Service Requested

Nonprofit
Organization
US Postage Paid
Manchester, NH
Permit No. 0494

THE MANY FACES OF CONSERVATION



Photo by Al Karevy.

George Embley

Contoocook, N.H.

Member since 2007

**MEMBERS MAKE
THE DIFFERENCE!**

George is among the 10,000 members who helped the Forest Society protect more than one million acres in New Hampshire. To join him, use the envelope in this issue or contact Margaret Liszka at 603-224-9945.

“As a fly fisherman and longtime member of Trout Unlimited (TU), I have always been aware of the important role forests play in preserving the integrity of trout streams. Forests and cold water conservation go hand in hand. Forests not only retain and purify storm runoff, but they also provide canopies that cool the water as it moves downstream—a factor critical to trout survival.

For the past five years, my TU chapter has been supporting a N.H. Fish and Game survey of the streams in the Warner River watershed. Working with fisheries biologists and volunteers from the local community, we have been testing water quality, identifying aquatic micro-invertebrates, and assessing stream crossings—all

in addition to helping to assess fish populations. For me, the following coincidence highlights the value of the Forest Society’s land conservation efforts: We had discovered that a small stream we had surveyed in Sutton contains one of the highest densities of wild trout in the watershed, and recently the Forest Society acquired a 233-acre property that includes the headwaters of this very stream!

Like the rest of the Merrimack Valley area, the Warner River watershed is threatened by climate change and the loss of forested habitat to development. Protection and management of our forests and open spaces will be critical to responding to these threats. For this reason, I am proud to be a Forest Society member and to help advance its efforts to preserve and protect our natural resources.” ∇