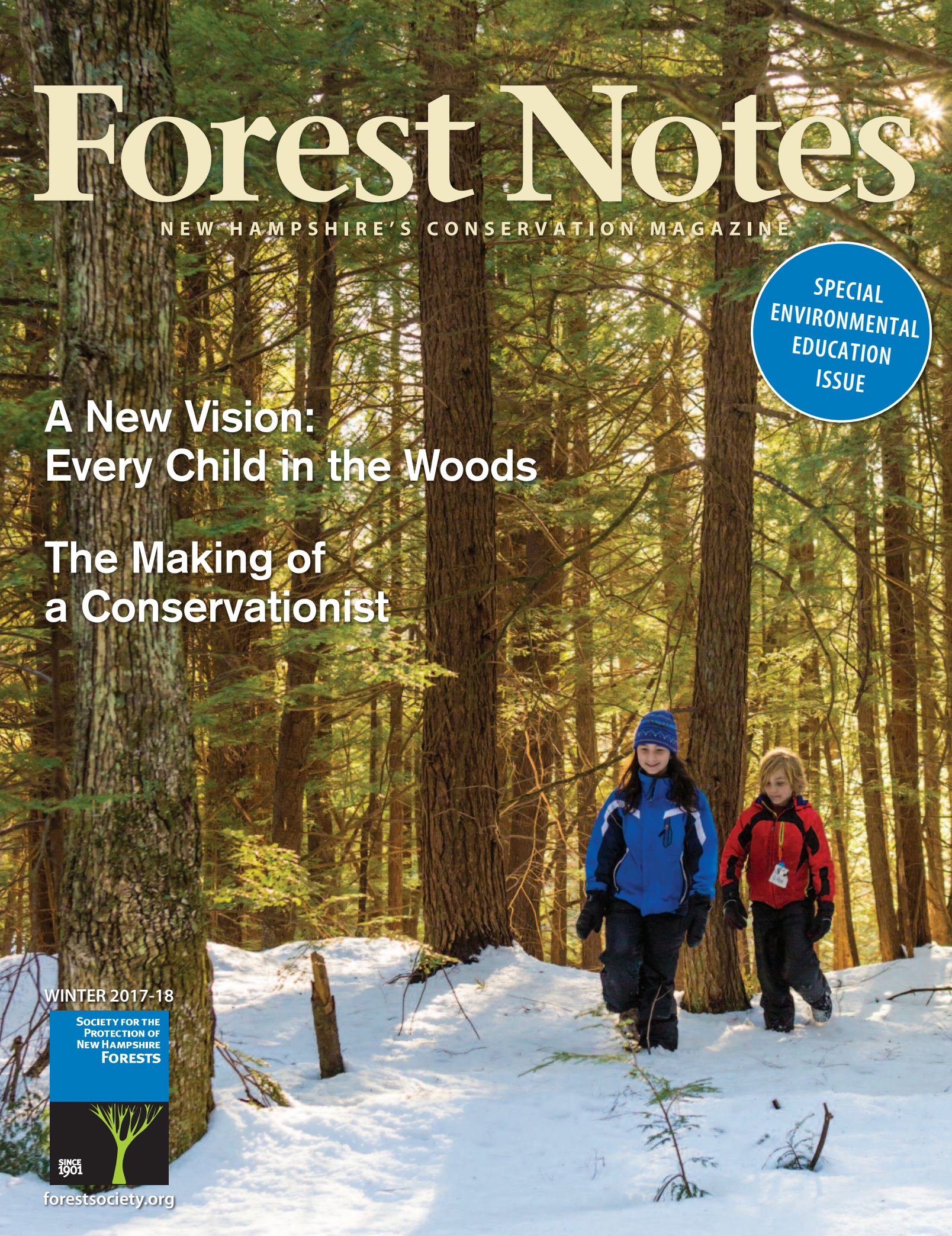
Forest Notes

NEW HAMPSHIRE'S CONSERVATION MAGAZINE

SPECIAL ENVIRONMENTAL EDUCATION ISSUE

A New Vision: Every Child in the Woods

The Making of a Conservationist



WINTER 2017-18

SOCIETY FOR THE PROTECTION OF NEW HAMPSHIRE FORESTS

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Ellen Kennelly donated this summer house in Dublin surrounded by 49 protected acres to the "Assets to Acres" program.

FEATURES

DEPARTMENTS

On our cover:
Kids enjoy a hike through the snow-covered Dame Forest in Durham.
Photo by Jerry and Marcy Monkman/EcoPhotography.

Education is the Wisest Use

Dave Anderson, the Forest Society's director of education, tells me that the best way to learn is through experience—not just the kind that comes from living life—but experiences designed to encourage curiosity, problem-solving and critical thinking. Those experiences provide students learning that is retained and relevant. They also teach not *what* to think—facts often soon forgotten—but *how* to think and how to explore to learn more.

The Forest Society has long been involved with that kind of experiential education. We are involved in Project Learning Tree (PLT), an international, award-winning education program that teaches teachers how to use the outdoors as a window to science, math, language skills and more. The New Hampshire PLT office is located at our headquarters.

Recently we've experimented with new educational ventures, especially those on our reservations. Our series of Five Hikes, co-sponsored and promoted by WMUR television, has been a huge success with adults and families who traveled farther than we expected to join naturalists and guides for hikes on Forest Society lands. Some were hiking for the first time. One granddaughter/grandmother pair hiked an entire series together. Post-hike surveys indicate participants would return to those reservations and explore other places to experience the outdoors.

We teamed up with Kearsarge Regional High School to build and repair trails on the school's namesake mountain. Not only are students learning trail work, but they are also using skills in math and measurement along with observing nature in their school's backyard.

And at Mount Major, we harnessed the energy of elementary school students who burst from school buses to explore the mountain and we gave them an opportunity to learn more about natural and cultural history while they hike.

This issue of *Forest Notes* is dedicated to education—the kind that leads to action and to one of the highest and best uses of our reservations. After all, those exploring the woods today will be protecting and managing our state's forests in the not-too-distant future.

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.

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Forest Society Invites Public Comment for LTA Accreditation Renewal

Please send your comments by April 29

The Land Trust Alliance (LTA) is a national organization that supports more than 1,300 member land trusts and promotes voluntary land conservation to benefit communities. Recognizing the importance of public confidence in land trusts, LTA established formal Standards and Practices in the 1980s. The Forest Society was one of the earliest adopters of these standards.

In 2006, the Land Trust Accreditation Commission was established as an independent program of LTA. The Commission designed an accreditation system that recognizes land conservation organizations that meet national quality standards and have systems in place to protect important natural places and working lands forever. Today, there are 388 accredited land trusts nationwide, which collectively have protected 78 percent of all land and easements held by all land trusts in the United States.

The Forest Society chose to participate in this voluntary and rigorous accreditation program and became an accredited land trust in 2013. The Forest Society's accreditation provides the assurance of quality and permanence that is essential for building public confidence in land conservation. It also ensures that the Forest Society follows national best practices established for all land trusts. Now, five years after its initial accreditation, the Forest Society seeks to renew its accreditation.

"Accreditation is a high honor for any land trust," said Forest Society President/Forester Jane Difley. "As one of the country's oldest land trusts, we are proud to be among those that meet the standards of permanence and excellence accreditation requires. We look forward to renewing our accreditation in 2018."

The renewal process through the Land Trust Accreditation Commission involves an extensive review of each applicant's policies and programs. As part of the review process, public input is invited.

Photo by Jerry and Marcy Monkman, EcoPhotography.

A deer grazes at the Sullivan Farm, where the Forest Society and its partners are working to protect the last working farm in Nashua (see more about this project on page 44).

The Forest Society's accreditation provides the assurance of quality and permanence that is essential for building public confidence in land conservation. It also ensures that the Forest Society follows national best practices established for all land trusts.

Comments must relate to how the Forest Society complies with national quality standards. These standards address the ethical and technical operation of a land trust. The full list of standards is available at www.landtrustaccreditation.org/help-and-resources/indicator-practices.

Comments on the Forest Society's application will be most useful by April 29, 2018.

If you have any questions about the accreditation renewal process, please contact Reagan Bissonnette, Director of Easement Stewardship & Counsel, at (603) 224-9945.

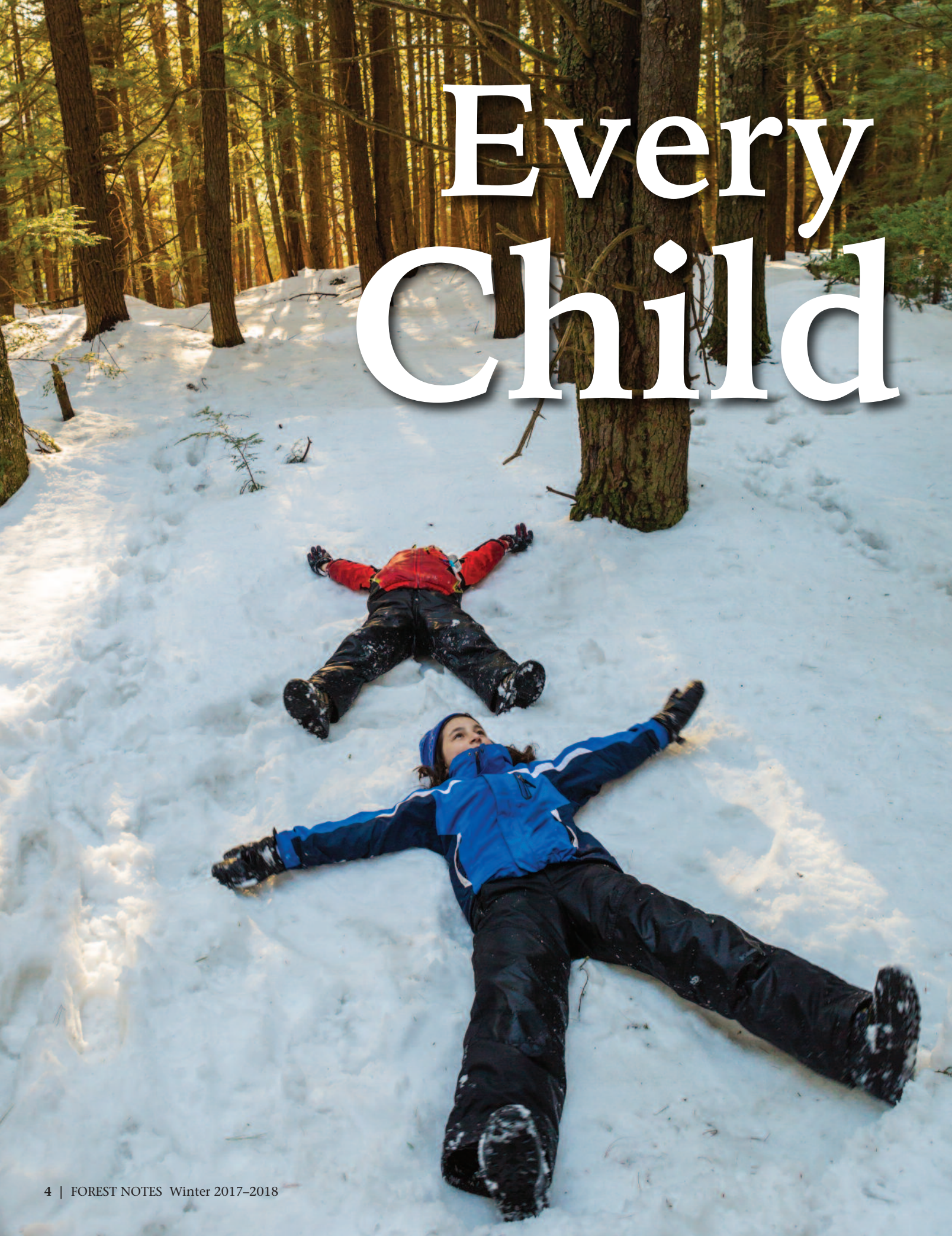
HOW TO SUBMIT COMMENTS

To learn more about the accreditation program and to submit a comment, visit www.landtrustaccreditation.org. Comments may be submitted by email, mail or fax.

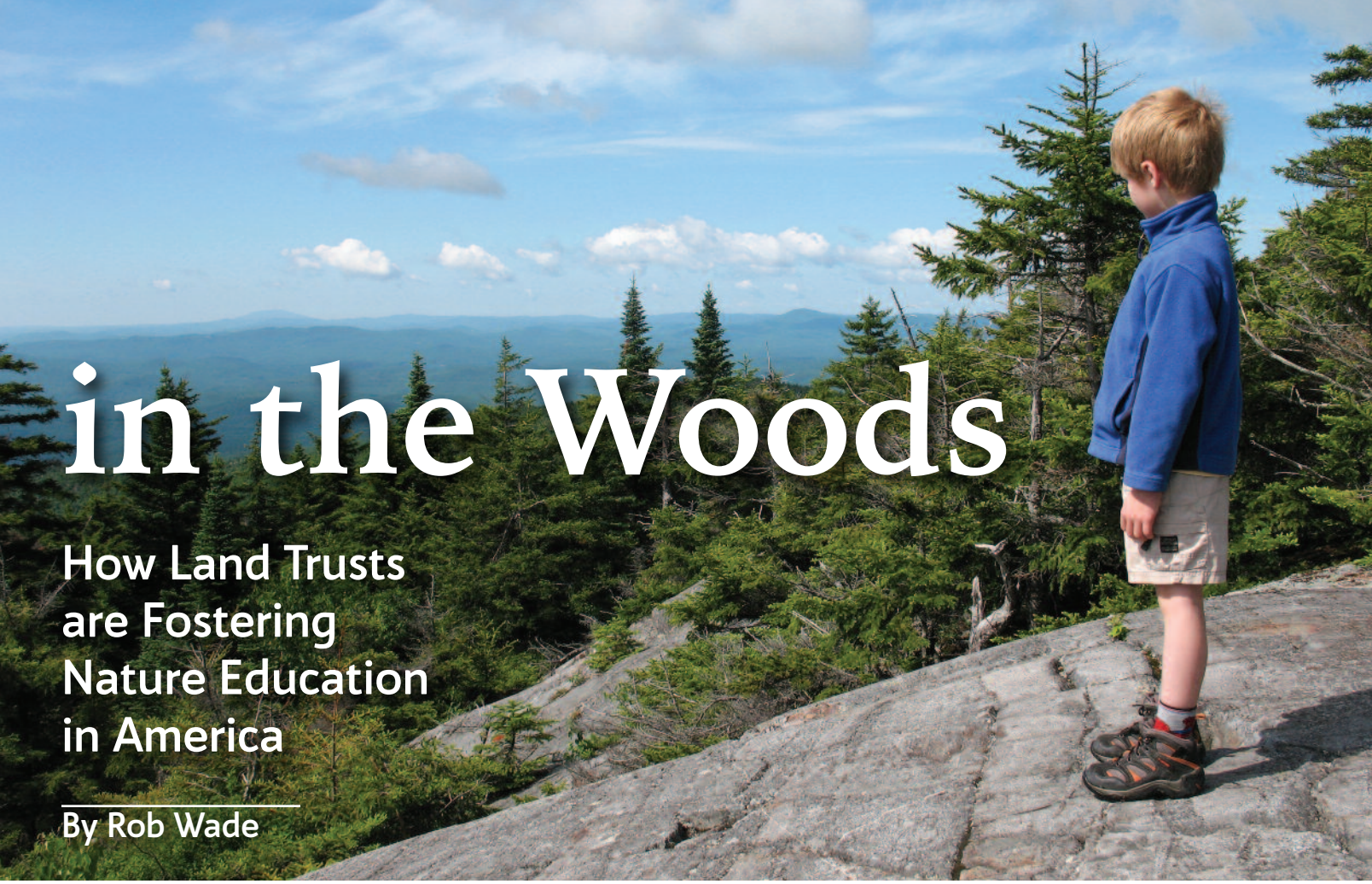
Email: info@landtrustaccreditation.org

Mail:
Land Trust Accreditation Commission
Attn: Public Comments
36 Phila Street, Suite 2
Saratoga Springs, NY 12866

Fax: 518-587-3183



Every Child



in the Woods

How Land Trusts are Fostering Nature Education in America

By Rob Wade

Left: *Making snow angels at the Dame Forest in Durham.*

Right: *Taking in the view atop Mt. Kearsarge. Hiking is a joyful introduction to the outdoors for many kids in New Hampshire, but it's also one that many other kids never get to experience.*

As the crow flies, there are 2,500 miles between the hardwood forests of New Hampshire and the mixed conifer forests of my Sierra Nevada home in California. Between us is the varied terrain of America and the diversity that makes this country and continent the compelling home that it is. All of these homelands are places where you will find stories of communities raising their children and caring for the land. These are stories of our schools and our land trusts.

I am a K-12 educator and a founding board member for the Feather River Land Trust in northeastern California. As such, it's clear to me that supporting children to become life-long learners and working to conserve land in perpetuity are related goals. They take the long view of relationship and commitment. An increasing number of land trusts across the country have been looking at ways to bring conservation and education together. The time could not be more ripe.

Richard Louv's compelling and well known book, *Last Child in the Woods* (2005) provided a benchmark for all concerned with children and their relationship with nature. While clearly declaring a crisis in disconnection, Louv also defined a path toward the reconnection we are experiencing today. Helping to establish the Children and Nature Network in 2006, Louv and others have been working tirelessly to change the coined Nature Deficit Disorder to Nature Abundance.

The audience for this work is essentially everyone. Parents, schools, cities, urban planners, landowners, government agencies, non-governmental organizations, and the youth themselves—all have a stake and responsibility to work hard and work smart. I believe that *Last Child in the Woods* ultimately must lead us toward the inverse: Every child in the woods. Where do we start?

If a land trust is going to work with a school, it must meet some need of the school. This means district, school, teacher, student. Knowing your audience builds trust. Knowing the educational, safety, and value outcomes of the school will make the land trust a partner. The land trust must also know its own needs related to student interaction with the land and communicate them clearly, which will engender the same trust and confidence. This awareness is locally implemented but also nationally informed and requires a look from the 10,000-foot view.

Photo (left) by Jerry and Marcy Monkman/EcoPhotography; photo (right) by Jim Graham.

Left: *On a snowshoe hike at the Forest Society's Morse Preserve in Alton, kids find mounts of New Hampshire wildlife species placed along the trail.*

Right: *Comfort in the outdoors starts during the earliest years with simple joys.*

Community Conservation and Public Schools

In 2018 we find the national land trust community as committed as ever to conserving land that is rich in biodiversity, but the additional lens of Community Conservation now extends that mission directly toward the benefit and inclusion of all people. While K-12 schools are only a part of that focus, they are a bullseye for any land trust wanting to increase its relevance. You cannot matter more to a community than to serve its children. And every land trust already has what teachers in increasing numbers are looking for: access to land near their schools.

So what about the schools? Our schools are a commons for our communities. What happens during these 13 years communicates directly and indirectly to a child what is important to the community and its culture. If opportunities to learn in natural areas are a part of the curriculum, if these include local natural history, citizen science and stewardship experiences, then a student can infer societal value for these things. If during the school year every child enters the woods, learns the woods, and cares for the woods, then we have a reasoned hope that the woodlands will matter and will endure.

Next Generation Science Standards

In 2016 both California and New Hampshire formally approved their respective science frameworks. These frameworks are based on Next Generation Science Standards (NGSS) issued by the National Research Council in 2013 in collaboration with 26 state offices of education. Nineteen states have formally adopted the standards with many other states incorporating core elements into their respective state science frameworks.

The NGSS is the most significant change in science education in a generation. It shifts instruction and learning away from the rote retention of facts and toward authentic inquiry experiences focused on the phenomena of where a student lives.

This change is dramatic at all levels of K-12 education. At the secondary level high schools will be retooling decades-old approaches to traditional courses. At the primary and intermediate levels of elementary school, science has been relegated to secondary importance and in many cases has not been taught at all. Primary and intermediate grade teachers will now be expected to incorporate science into the regular instructional day. Because most elementary school teachers do not have a science degree or significant training in science education, the shift is daunting. Every teacher, school and district is looking for strategies, partners and ideas on how to move forward. Land trusts and their forests are part of the answer.

Environmental Literacy

The current shift in K-12 education includes the addition of Environmental Literacy Plans (ELPs) that have recently been adopted by most states as part of a formal commitment to promote student understanding about their inter-dependent place in the environment. While these plans vary nationally, they establish, like the NGSS, new standards and opportunities to expose students to their local environment, issues and stewardship. All teachers will be looking for new ways to improve environmental literacy through local resources and experiences for their students. Teachers will need places to go and support to navigate this new educational terrain, and they will need to know the way into the local forest.

In each arena there are trends and best practices to offer guidance and support. Research regarding the benefits of nature to the well-being of kids is a justified starting place. A 2016 Stanford University review of 119 research articles confirmed the

Photo (left) by Kate Wilcox; photo (right) by Brenda Charpentier.

Left: *Swimming is forgotten for a moment when a frog hops close.*

Right: *Toys are often forgotten when kids find natural materials outside like sticks for making forts or for using as a battering ram for storming imaginary castles.*

positive benefits of green schoolyards and natural areas on the physical, mental, social and academic well-being of children. Proximity, diversity and frequency of nature all feed the green fire of a child's well-being, and are becoming better defined strategies for communities and schools.

K-12 Program Models for Land Trusts

Once a land trust chooses to partner with a school, there are several clear options on the table. Land trust K-12 models vary widely but generally adhere to several common types. Who will deliver your educational experience to local school children is a critical starting point.

There are three main models at work across the U.S.:

Internal Traditional Model

A land trust hosts its program on conserved property, staffed internally by employees or volunteers. A specific grade level is the focus. A school's class will visit from one to four times during the school year.

External Traditional Model

This model is similar to the traditional model, however all staffing is provided by an environmental education partner. The land trust is primarily providing the place for the program, while the partner handles all program logistics including funding.

Teacher Proximity Model

The land trust helps to create an outdoor classroom on every campus in the region, conserves an off-campus field site within a 10-minute walk of every school in the region, and trains teachers to independently use these sites.

A Case Study: Learning Landscapes

Fifteen years ago, the Feather River Land Trust was a two-year-old organization with two part time staff in a one-room office. Guiding FRLT was the simple mission: Protect the places that make the Feather River Country special. The organization lacked the capacity to take on a large educational program and had just barely conserved its first property.

Meanwhile at a local elementary school staff meeting in 2002, two teachers discussed how they would no longer be able to use a beloved river route near their school because it had been purchased and fenced off from the public. The support of the land trust would make a difference. This led to further consideration of other schools and teachers. Who taught outside and where did they like to go?

The first step forward was the passage of an FRLT board resolution in support of what was to be called Learning Landscapes (LL). The model included the rare element of being based on teacher independence in the use of conserved sites. This was a critical commitment so that the program would not directly take staff and board time.

A survey of the entire school district over the next year, developing maps and tables, and laying out the history of local teaching in outdoor spaces followed. With this information, several meetings with the superintendent were held and with his support a resolution was brought to the school board to support the LL concept. The board approval removed the consistent concern of teachers that their school, district, and county leadership would not support their efforts to get students outside. Now the grassroots growth of the program could begin for every teacher.

Learning Landscapes was designed with one essential question: Can we design educational programming that will endure like

Photo (left) by Alex Chachkes; photo (right) by Brenda Charpentier.

our conserved lands? Land conserved in perpetuity, children connected to it in perpetuity, and programs that endure for generations. This is the potential and possibility. Learning Landscapes uses several best practices that have held true as I have worked nationally on this issue. All of these have the goal of removing obstacles that limit teacher use of the outdoors for instruction.

First, LL helps to develop an outdoor classroom on every campus and to conserve access to natural areas within a 10-minute walk of every school in the region. Every school has at least one off-campus field site with a total of 15 properties in the region that teachers identified, varying from 4 acres to 500 acres. Proximity breeds frequency. Frequency leads to higher levels of familiarity, connection, and care for the environment.

Second, LL provides critical support to enable each teacher to independently use these sites. Most elementary school teachers lack the background and training in science, knowledge about their local environment, and comfort in the outdoors. Often the disconnection is personal and if a teacher does not have a personal relationship with the natural world, chances are that there will be no professional integration. Providing support to help overcome this obstacle is essential. This support includes training, tools, skills and field resources but does not include prescribed curriculum. Teacher support breeds independence and competence. Independence leads to increased frequency of access. Competence leads to improved quality of experience.

WHAT'S WORKING?

To see examples of the various types of land trust/school partnerships at work across the country, visit the websites of the land trusts below:

Internal Traditional Model

- Palos Verdes Peninsula Land Trust in Los Angeles annually provides programing for 3,000 third graders and high school students along with other programs.
- Little Traverse Conservancy in northern Michigan has successfully provided school programming for 30 years, annually reaching 50 schools and more than 4,600 students.

External Traditional Model

Muddy Sneakers, operating in North and South Carolina, reaches 2,700 fifth grade students from 36 school sites. More than a dozen land trusts participate.

Teacher Proximity Model

Feather River Land Trust's Learning Landscapes serves all K-12 schools, grades and 2,000 students in the region. Students average 12 visits to their Learning Landscape site each year. More than 650 field trips occurred last year independently led by teachers.

Boyles Ravine—The First Learning Landscape

The first LL site was Boyles Ravine. This small forested area above the historic gold rush town of Quincy, Calif., extends southward and up until it reaches the Plumas National Forest. It is the town's watershed but also the forest for the neighborhood. The neighborhood includes Quincy Elementary School. The mixed conifer forest is made up of Douglas fir, White Fir, Ponderosa and Sugar Pine, and Incense Cedar. It is also graced with Pacific Dogwood and Big-leaf Maple throughout, with White Alder, Willow and Black Cottonwood along the riparian bank. The woods have long been owned privately by the local water company that willingly allows access to the school.

Every year, kids from Quincy Elementary School venture up into Boyles Ravine to grow their knowledge and understanding of their forest and its inhabitants. In first grade, kids explore the forest through the eyes of invertebrates. In second grade, the view and care is turned to reptiles and amphibians. Third grade is mammals, fourth grade is focused through trout, fifth grade studies birds and sixth grade is the Watershed Year. This progression is not prescribed by the LL program directly but was chosen by the teachers as part of a natural history sequence and their NGSS strategy.

By the time students graduate from Quincy Elementary, they have studied and stewarded these woods for six years. Due to the proximity of the woods, frequency is possible, and kids visit often. They grow up with the forest. They journey through the seasons and the years, through drought and even fire. The Minerva Fire came close to town this summer and descended slightly into the headwaters of Boyle Creek. The sixth graders traveled up to that divide in October to stand in ash and the root holes where trees once grew. They returned to school with charcoal painted faces and tired feet from four miles and 2,000 feet of steep descent. It is only through schools that we can begin to explore the potential of every child in the woods.

Looking Back and Forward

Twenty years ago, I led a group of first graders from Quincy Elementary School into the woods near their school. After we had done a few structured activities, the kids were given free choice time. I still remember watching two kids pull apart a big Douglas fir stump while another classmate sat silently on a nearby log in the lotus position meditating. And I remember Maria, a third grader I met several years later who struggled in school except when she was outside. On a Boyles Ravine outing that I observed, her teacher dropped off each student to do a silent reflection of the sights, sounds and smells of the forest. Maria shared with me that she saw the trees standing tall and heard the creek splashing by. When she said that she smelled the air, I thought, like me, she smelled the wood smoke. But when I asked her to take a deep breath and tell me what the air smelled like, she turned to me and thoughtfully shared, "The air smells like freedom."

Given the opportunity, children naturally observe closely and learn through experiences in nature, like this close-up encounter with a praying mantis.

These moments alone do not a scientist or a steward make, but the moments built upon moments allow for connection. Connection creates relationship. Relationship can last a lifetime.

Encouraging Wonder

Rachel Carson's *Silent Spring* has been credited with ushering in the modern environmental movement, punctuated by the first Earth Day on April 22, 1970. Out of this was also a renaissance in environmental education programming. Interestingly it is Carson's lesser known work that chronicled her explorations of the Maine woods with her adopted grand nephew. *A Sense of Wonder*, published in 1965, may be a more critical contribution to the work ahead. In *A Sense of Wonder* Carson shares:

> "If a child is to keep alive his inborn sense of wonder,
> he needs the companionship of at least one adult
> who can share it, rediscovering with him
> the joy, excitement, and mystery of the world we live in."

This adult can be anyone and it can even be everyone reading this piece.

In every kindergarten class I have ever visited, students are bursting with wonder…literally bursting. The sense of not being able to contain their excitement and joy is clear. What happens to that wonder? It can go away. A fourth grade teacher recently reported to me that when she tried to explore that natural wonder with her kids she only got blank stares. They had no questions. The wonder was gone. She has begun to restore wonder in her students but why was it ever lost?

The first group to adopt a tree in Boyles Ravine is approaching 30 years of age. Their trees now tower over them. Rachel Carson is long ago passed. Every child still needs the help of that one adult. In the Upper Feather River, that one adult is the teacher each year. By the time a child reaches adulthood they will have had 13 adults and 13 years of wonder, the time to hold on to what is innately within us all, but also the time to do what also takes time—to study and know a place so well that we understand it and can take care of it.

We know that bringing children and the natural world together works. It may even work wonders, and the trends toward making this happen around the country are unmistakable. Recent findings from a Natural Start Alliance report showed that from 2016 to 2017 the number of nature or forest preschools and kindergartens operating in the United States grew from 150 to 250, a 66 percent increase. Organizations such as the Eastern Region Association of Forest and Nature Schools and the American Forest Kindergarten Association are providing support to these new schools.

The aforementioned Children and Nature Network (C&NN) has implemented several initiatives to directly and indirectly support national and even international K-12 efforts. These include supporting a new C&NN Research Library, encouraging Green Schoolyards at every school, and developing youth leaders through a Natural Leaders Network. Their resources, along with those of the North American Association of Environmental Educators, provides larger systems of support to seize the current focus and fervor.

At the 2017 Land Trust Alliance Land Conservation Conference in Denver, I facilitated two sessions focused on K-12 Community Conservation including the beginnings of a K-12 Community of Practice. In attendance there was every conceivable land trust role—board member, volunteer coordinator, community outreach coordinator, development director, executive director, education coordinator, membership coordinator. Representatives from government agencies and environmental education organizations helped to complement the conversation as we explored the many ways that land trusts can work with schools. These were land trusts of every size and from every part of the country, all committed to the work of raising kids and caring for the land.

I have often thought that for every tree there is a child. For every school there is a forest. This work is the restoration and care of not only our forests but of that relationship between our children and our forested lands. If every child can follow the life of their forest through the seasons of school—summer into fall into winter into spring and finally summer returning again—we will have done something remarkable.

Outdoor education expert Rob Wade is the creator/coordinator of the Learning Landscapes program and a trustee of the Feather River Land Trust in northwestern California.

Photo by Jim Graham.

N.H. Trends in Nature Education

Innovations and Challenges on the Way Outside

By Dave Anderson

A unique "help wanted" ad recently arrived via the N.H. Environmental Educators (NHEE) listserv from Kittery, Maine, a town that offers environmental education programs in the community center:

"We are currently hiring a full-time position at our nature based preschool called 'Eyes of the World' Discovery Center… teachers are expected to embrace the concept, "There is no bad weather, just bad clothing." Lead teachers will use the outdoors all year round and will be prepared to lead their students in rain, sun and snow as long as the conditions are safe. Lead teachers will model a love and interest for nature."

A "help wanted" ad may seem an odd benchmark in the expanding universe of nature-based children's education and recreation programs. But its "get outside!" message is permeating many sectors beyond traditional environmental education providers. Now municipal governments, public health agencies, arts and culture organizations, architectural design firms and even outdoor equipment and clothing manufacturers' marketing campaigns are on board. Have you seen LL Bean's "Be an Outsider" campaign? Telling people to get "*out*" is "*in*."

"All children need nature. More people are recognizing that need—and working to restore its experience in children's lives throughout the world," according to Dr. Cheryl Charles, a co-founder along with *Last Child in the Woods* author Richard Louv of The Children & Nature Network in 2006, whose article "All Children Need Nature—Worldwide" appears on the website of the International Union for Conservation of Nature.

The conservation community has similarly reacted out of concern for the future of our forests, summed up by Dr. Charles:

"Children who do not have direct experiences with nature during their formative years are less likely to grow up to care about the Earth, its diversity, and its protected areas."

A generation of kids who couldn't care less about the planet?!

Innovations in N.H.

Here in New Hampshire, environmental educators who heard the alarm convened the N.H. Children in Nature Coalition (NH CiNC) in 2007. In 2010, CiNC and NHEE collaborated to produce the N.H. Environmental Literacy Plan that included a teacher survey. The survey results showed that lack of parental support or teacher discomfort with teaching outdoors were least cited reasons for not using outdoor classrooms (0.7% and 4.4%, respectively). Transportation (48.9%), lack of funding (44.5%), unwillingness to spend time out of the classroom (34.3%), and lack of staff (19.7%) were the *most cited* barriers. Asked why teachers do not use schoolyard habitats, teachers said they either did not have schoolyard habitats and gardens at their school or had higher curriculum priorities and safety issues. No teachers cited lack of parental support. Only one in 97 responses cited discomfort teaching outdoors.

Nearly a decade later, N.H. CiNC co-founder Marilyn Wyzga notes that while challenges remain, statewide, significant progress has been made.

"There are now so many more people in New Hampshire connecting kids and their families to nature in innovative new ways," she said.

As evidence, Wyzga cites the CiNC 2014 choices for N.H. Outdoor Champions awards. An organizational award was presented to TimberNook, an outdoor therapy camp program that started in Barrington, N.H. Founder Angela Hanscom is a pediatric occupational therapist who noted that children seemed to lack balance and coordination, were weaker than previous generations and had trouble thinking creatively and paying attention. In response, Hanscom developed a curriculum of outdoor experiences as a form of nature-based therapy.

TimberNook camps became so popular that Hanscom licensed the program that now operates in other parts of the U.S., Australia and New Zealand.

Left: *Enjoying a book in a quiet sunny spot.*

Right: *A "Hike it Baby" group meets for a walk at the Forest Society's Creek Farm in Portsmouth.*

The Manchester Health Department was another award winner, recognized for its "Healthy Neighborhoods" initiative, an effort to make neighborhoods more play-safe. Healthy Neighborhoods has been fostering social change, transforming three public schools into community centers, organizing outdoor community events and identifying safe routes for walking to school.

Leveraging Partnerships

As stated in the N.H. CiNC "Opening Doors" report, "this crisis presents an opportunity for organizations, state agencies, and professional communities to collaborate. By creatively pooling its current resources and talent, New Hampshire has the power to shift trends and emerge as a leader in the effort to reconnect children with nature." This is why the role of the Coalition has been changing its focus from public awareness to supporting individuals and organizations implementing projects in their own local communities.

"If the movement is to be successful, it has to happen at the local level—that's where it will be most effective," Wyzga said.

An example of effective partnerships in the public health and social services sector is the 2008 formation of the N.H. "Healthy Eating Active Living" (HEAL), a network of state and community partners dedicated to reducing obesity and chronic disease by improving access to healthy foods and creating new opportunities for physical activity in areas with the greatest health risks and economic challenges. In Franklin, the HEAL program includes a Walking and Trail Guide promoting parks, safety, integration of sidewalks and bike lanes and pedestrian and bike-friendly opportunities; a Farmer's Market; school gardens; and an after-school kids club with nutrition education and physical activities.

In the decade following publication of *Last Child in the Woods* and the creation of CiNC, terms like "green space" and "outdoor play space" are routinely mentioned in connection with schools, camps, community centers and parks. One trend sinking deeper roots in New Hampshire is the growth of "forest schools" and "forest kindergartens." Antioch New England (ANE) graduate school has even developed a "forest kindergarten" administrative professionals program as part of the environmental education master's program. The related "free play" movement is getting more attention here, too. Beaver Brook Association in Hollis, N.H., for example, developed a popular after-school program called "Forest Free Time."

Some New Hampshire schools are introducing intentionally designed nature play spaces along with gardens and outdoor classrooms, as additions to traditional playgrounds.

Some New Hampshire schools are introducing intentionally designed nature play spaces, along with gardens and outdoor classrooms, as additions to traditional playgrounds. The Deerfield Community School and the Peter Woodbury School in Bedford are embracing both outdoor field study and nature play area ideals. The Beaver Meadow School's natural play area in Concord includes an on-the-ground slide built into a hillside. The private Sant Bani School in Sanbornton has a natural outdoor forest classroom space offering natural elements that students reconfigure.

Photo (left) by Brenda Charpentier; photo (right) by Dave Anderson.

Photo by Dave Anderson.

Students from Oyster River High School gather at the Forest Society's Powder Major's Farm and Forest for a field trip.

Partner and Provider of Natural Spaces

The Forest Society's outreach programs are evolving too. As a statewide land conservation trust, we recognize the importance of creating opportunities for kids to experience nature and learn to care for New Hampshire's special places. Over the past several years, the Forest Society has been promoting and supporting increased use of our conserved reservations as places schools and community groups can bring kids to experience nature. We are partnering with teachers, schools and community groups to facilitate access and provide resources. The Forest Society:

- Partners with nearly a dozen N.H. elementary school fourth- and fifth-grade classes that hike at our Mt. Major Reservation in Alton (see page 30).
- Coordinates trails improvement projects for Kearsarge Regional High School students to complete on the Black Mountain Forest Reservation and adjacent Mt. Kearsarge (see page 28).
- Provides outdoor learning opportunities at Creek Farm in Portsmouth to groups of day campers in partnership with the Gundalow Company.
- Provides a Christmas tree growing program and outdoor classroom space to local students at The Rocks in Bethlehem.
- Supports Oyster River High School's Ecology and 'Literature and the Land' classes visiting the Powder Major's Forest in Madbury, Durham and Lee.

These initiatives are just the beginning. With more than 180 conservation properties statewide, we have much to offer to the shared work of instilling a love of nature within the hearts of children and much to gain by encouraging kids to act on that love in the care of our special places.

Sticks 'n Stones or Screens 'n Phones?

The emerging "Slow Parenting" movement advocates less emphasis on heavily scheduled after-school activities and traditional organized youth sports and a greater emphasis on imaginative outdoor play with a steady dose of running, jumping, climbing trees, and making mud pies.

The power of social media is helping people looking for outdoor opportunities to connect. Check Facebook to find new regional chapters of the popular Hike It, Baby program. Busy young parents are connecting with one another to spend healthy hiking time outdoors with infants and toddlers. The Harris Center for Conservation Education in Hancock hosts a related program, Babies in Backpacks, Toddlers in Tow, designed to connect young parents to the outdoors and to one another.

New and creative thinking is linking New Hampshire municipal and state agencies with private organizations. One example is the popular annual "First Day Hike" series hosted by N.H. State Parks in collaboration with the Forest Society at Portsmouth's Creek Farm Reservation and at Monadnock State Park, and with Beaver Brook Association at Silver Lake State Park. Another example: The Moultonboro Recreation Department has partnered with the non-profit "Castle in The Clouds" to offer a series of family-friendly, healthy outdoor "field day" style experiences at the property overlooking Lake Winnipesaukee.

Nature Programs in Demand

Meanwhile back in New Hampshire classrooms and schoolyards, N.H. Fish and Game Aquatic Resources educator Judy Tumosa works with teachers in more than 100 schools. Twelve years ago in 2006, it was 10 or 12 schools. The demand for Fish and Game's watershed programs has increased greatly during the past three years.

"Now most of the requests come from teachers who have heard of the program from other teachers that have participated and found it fits into their curriculum, especially to satisfy the new 'Next Generation Science Standards'," Tumosa said.

The program includes freshwater stream assessment, water quality monitoring, fish and macroinvertebrates sampling. If funding is available for equipment in the classroom, the cold water fisheries program includes "Trout in the Classroom." The warm water fisheries curriculum includes the "Let's Go Fishing" program.

Judy Silverberg has worked for decades in the New Hampshire environmental education community, first with N.H. Fish and

Game and now as coordinator for N.H. Project Learning Tree. She has noted outdoor education growth in the early childhood education sector. State licensing of day care centers and private pre-schools is creating a need for professional development credits for employees. More towns are opting for full-day kindergarten programs. In response, N.H. Fish and Game's Project WILD developed its "Growing Up WILD: Exploring Nature With Young Children" program, and Project Learning Tree developed "Environmental Experiences for Early Childhood." The programs provide professional development training and credits for early childhood workers.

"Because these educators have more flexibility—they already spend time outdoors and don't have the same rigid curriculum frameworks—and materials are not too terribly expensive, these programs are affordable and offer easy-to-use activities," Silverberg said.

Silverberg also notes a renewed interest in traditional biological sciences, arts, language arts and resurgent interest in outdoor classrooms—many of which were dormant or languished during the education shift to performance-based testing standards for math and reading.

"In the last two years there has been a dramatic increase in proposals for 'schoolyard action grants' to develop areas for outdoor education right outside the school door," she said.

Parents who themselves enjoyed outdoors experiences as children are a driving force for more nature education. Responding to that interest, N.H. Fish and Game's "Becoming an Outdoors Woman" (BOW) program includes a popular session called "Sharing Nature with Children," which teaches parents and grandparents to actively pursue activities designed to get kids outside.

Progress, but Unequal Access

The trend in New Hampshire is toward more outdoor programs for children, yet challenges remain. Tumosa cited little or no transportation money in many school districts to bus kids to an outdoor field site if none exists nearby and/or a lack of support from some school administrations. Wyzga noted that just because New Hampshire has parks and open space doesn't mean we always have sidewalks, bike paths and walkable neighborhoods connecting the amenities to schools and community centers. And Silverberg and others noted that many schools cut recess periods, particularly in winter. Some no longer offer any recess, particularly after sixth grade.

When it comes to providing every student in every New Hampshire town the opportunity to experience nature in a way that nurtures a lasting conservation ethic, much work remains.

Yet New Hampshire is a place of strong outdoor traditions—hiking, skiing, fishing, hunting—and the outdoor ethic is stronger here than in more urban areas. We also enjoy the advantages of a strong conservation community devoted to protecting undeveloped land and increasing both acres and accessibility. There is reason to hope that the current efforts to reverse "Nature Deficit Disorder" will have lasting impacts. One thing is sure: The future of New Hampshire's special places and traditions depends on the ability of those of us who value the land to pass on a conservation ethic, to reach out to families and to school and community groups and to help meet all children's need for nature.

Naturalist Dave Anderson is director of education for the Forest Society. He can be reached at danderson@forestsociety.org or through the Forest Society's website: www.forestsociety.org.

Web Resources

NH Children in Nature Coalition (NH CiNC):
www.nhchildreninnature.org

The Children & Nature Network:
www.childrenandnature.org

Landscape and Human Health Laboratory. Dr. Francis Kuo, Department of Natural Resources and Environmental Sciences, University of Illinois, Urbana Illinois:
www.lhhl.illinois.edu/about.htm

TimberNook programs and locations:
www.timbernook.com/2017/index.html

NH Healthy Eating, Active Living (HEAL):
www.healnh.org

NH Project Wild:
www.wildlife.state.nh.us/education/project-wild.html

NH Project Learning Tree:
www.nhplt.org

Beaver Brook Association:
www.beaverbrook.org

Harris Center for Conservation Education:
www.harriscenter.org

The Making of a Conservationist

Noted advocate Sharon Francis's story reveals importance of early experiences in nature

The Forest Society welcomed Sharon Francis as keynote speaker at the 2017 Annual Meeting last fall. Francis, of Charlestown, has worked effectively on behalf of land conservation at the national, regional and state levels for more than five decades.

Her career began as a ghost writer for Secretary of the Interior Stewart Udall in the 1960s and brought her to the White House to work for President Lyndon Johnson.

She later led the New Hampshire-Ohio Acid Rain Partnership, and during the Carter administration became the director of public participation at the U.S. Environmental Protection Agency. From 1990 to 2010, Francis served as executive director of the Connecticut River Joint Commissions, fostering cooperation between Vermont and New Hampshire.

In 1990, she received the Teddy Roosevelt Conservation Award from President George H. W. Bush, and in 2004, was selected for EPA's Lifetime Achievement Award. Francis is a past member of the Forest Society's Board of Trustees and currently serves on the Policy Committee.

Read on for an excerpt from Francis's keynote speech.

Photo by Diane Forbes.

Sharon Francis (right) begins her annual meeting speech after an introduction by President/Forester Jane Difley (center). Susanne Kibler-Hacker, vice president of Development, is at left.

AS I LOOK BACK down my trail as a conservationist, the first lesson and my starting point is love of nature. It is a love that inspires, enriches and motivates. It connects us to the rest of Creation. It is important to acknowledge, however, that for humankind, there always has been an inherent tension between dominance of the world around us and reverence for our forests, our wildlife and our planetary home.

As a little girl growing up in Seattle, my love of nature began with mountains. They were magnets for my eyes, my feet. When I was 13, I was eligible to join the Seattle Mountaineers, and found I was in a family of warm hearted people who loved wild places. The club's two-year climbing course taught me much about how to climb, how to get up challenging mountains and how to get back down safely. I might have spent an entire lifetime in the Cascades, Olympics, and British Columbia Coast ranges. My life seemed fulfilled by exploring all those mountains.

I had an unanticipated epiphany late one Sunday as I was hiking down a forest trail after a climb. A logger raised his hand for me to stop while he dropped a huge Douglas fir in front of me. There was a thud. That was all. The tree's life and history stopped. I was 15 at the time. I knew that The Mountaineers had been tangling with the U.S. Forest Service over the agency's policy that allocated all trees to the timber industry and the rock and snow up above to recreationists. Hikers and climbers loved the forests too, and wanted a fair share. That night when I got home I called the chair of The Mountaineers' conservation committee.

"Put me to work," I said.

She explained that there was a logging project along the west side of the Olympic Mountains. Could I look at it and bring back photos? From this assignment I learned my second important lesson: Facts and evidence matter. In this case, I discovered that the National Park Service had contracted a logging company to clear a 25-mile jeep trail back into a remote ranger cabin. The logger was busy cutting a swath 250 feet wide. I brought my film back to Seattle and wrote an article about what I had learned. The resulting uproar was very satisfying.

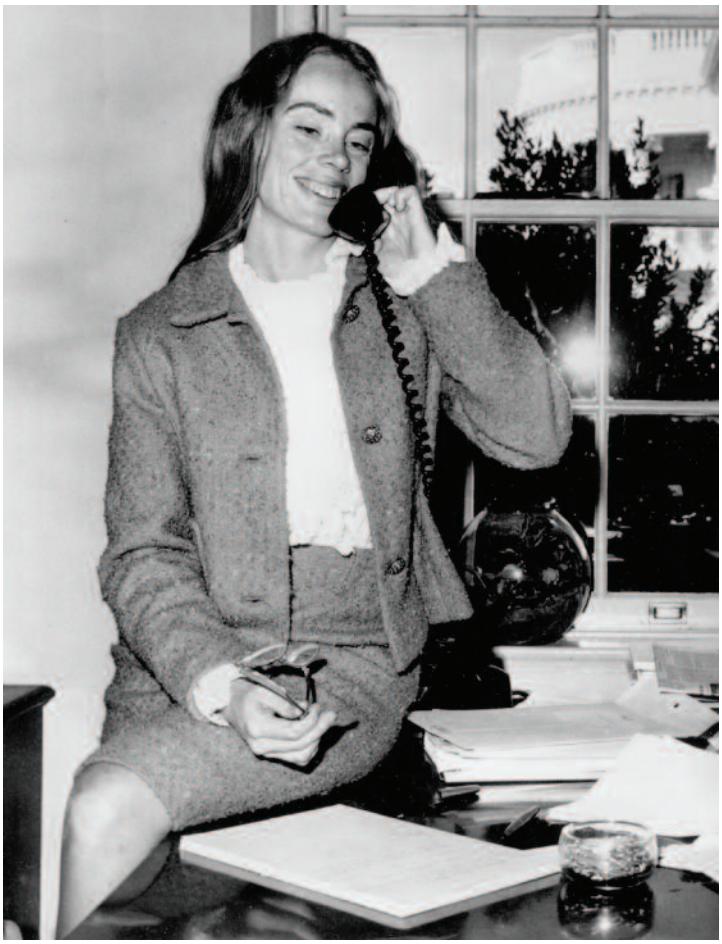
Others in The Mountaineers took my facts and evidence and used them to educate a wider public and to go to elected officials and demand better adherence by the National Park Service to its purpose—protectors of nature. From this experience another lesson became apparent: Citizen organizations have many talents and they can bring about resolution of problems that those who have responsibility fail to address.

By this time, in addition to being a student and a climber, I had been elected the "junior representative" to The Mountaineers' board. Two older women on the board were apprehensive about a membership application we had received from a black minister and his Japanese wife. Wouldn't these unusual new people, the women asked, have a harmful effect on "our young people?" At our ski lodges up in the Cascades, we slept in dorms, one for men, another for women. Young people would see bodies of a different color. How would that be? After a hearty dinner, skiers would crank up a Victrola and dance to the music of many lands. Young people would touch the hands of dark-skinned people. How would that be? I took it upon myself to find out, and I telephoned the 75 current junior members. While one was away and another preferred not to reply, all the others could see no problem. Many liked the idea of a more diverse club. After I reported my findings, the board voted to accept the new members. This experience was another turning point on my path. It led to a recognition that justice is powerful and worth defending.

Francis at age 10, on a picnic with her mother at Mt. Rainier.

Historic photos throughout article courtesy of Sharon Francis.

In 1955 I came to New England to attend Mount Holyoke College. By the time I got there, I was committed to wilderness preservation. This was years before America realized it needed to deal with air pollution, water pollution, solid waste, toxic waste, the whole array of environmental protections. Wilderness was something I carried in my heart from all my trips in those high distant places and from my insatiable readings of people like Henry David Thoreau, John Muir, William O. Douglas and Bob Marshall.



Francis at work in the White House, with the South Portico visible outside the window.

I took courses in literature, philosophy, art, and the sciences. Much as I admired the skill of scientists, I found I did not have the patience to spend a long time studying a very small piece of matter. I told my faculty advisor that I wanted to "save the world," not merely a single pond. For a major, I chose political science, as I wanted to learn how to apply my feelings for nature and its endless benefits into something that would benefit everybody.

My honors thesis was on the wilderness bill that was under consideration in Congress. In 1959, I wrote that "all reasonable compromises have been made, and it is time for Congress to act." As a student who learned from reading, I could believe that "all reasonable compromises have been made," but I was entirely ignorant of the unreasonable ones. They were numerous. This observation leads me to another lesson. It is the influence of what I call the human dimension in public decisions. Another term might be "politics."

Fortunately there is widespread support for safeguarding our environment. Citizens can be influential from a variety of perspectives. We can apply communication skills—whether art, photography, or a few well chosen words. We can be scientists, journalists, land owners, educators, or community officials. I recall in the late 1970s when people in Charlestown were concerned about potential water contamination from a mobile home park, one of the park residents stood up and announced, "We are all environmentalists. If there is a problem, we will make sure it gets fixed."

People of influence and talent are everywhere.

After graduation, I went to Washington, D.C. rather than back home to the beloved mountains of the Northwest. I had met Olaus Murie, distinguished wildlife biologist and president of the Wilderness Society. When I told him how much I wanted to work for wilderness preservation, he said that The Wilderness Society needed to expand its staff and I would be just what the office needed. As it turned out, the men who led the D.C. office expected the new staff girl to type, file and make coffee. The feminine revolution would soon arrive, but at the time I first came to Washington, women in offices were expected to do only the most humble chores. Encouraged by a woman friend, an editor, I wrote and submitted articles to various national conservation magazines. They were printed. The men at the Wilderness Society told me I "wasn't a good fit" for their organization. I left.

I could never have expected what happened a few months later. I received a call saying the incoming Secretary of the Interior, Stewart Udall, wanted to meet me. When I came to his office the next day, he said he had read some of my articles and wanted someone on his staff "who could write like that." There was an assumption that I would work for him. For the next eight years I did, and a true friendship continued until his death in 2010.

No one asked me to file or make coffee. I helped him with articles for the *New York Times Magazine*, *Atlantic Monthly*, and with his book, *The Quiet Crisis*. Paul Brooks, editor of Houghton Mifflin, showed up in my office one day with the galleys of a new book. He hoped the Secretary would write a jacket blurb. I took the galleys home and read them over the weekend with growing admiration. Monday morning I said, "Stewart, you need to read this book." His gaze said he was too busy. I raised my voice and said "Stewart, you want to read this book." The name of the book was *Silent Spring*.

In the following months, Stewart, two colleagues and I took Rachel Carson to several social events in Washington. She was obviously ill with the cancer that too soon ended her life. In his first meeting with her, over tea and cookies in the Secretary's office, Stewart told her that "Sharon is going to help me implement your findings in the Department." It turned out to be harder than I had imagined. The Bureau of Land Management and the Fish and Wildlife Service had a long and successful

Dedication of a school playground in Washington, D.C. From left: Sharon Francis, Brooke Astor, Lady Bird Johnson, Lawrence Rockefeller, Mrs. White, school principal, and Mrs. Black, PTA president.

history of predator control using bait. I finally gained their cooperation in documenting what Interior did. Change what they did was powerfully resisted.

Along the way, I met people from the U.S. Forest Service and learned from them that most national forests and most owners of large forest tracts took a sustainable approach to timber harvesting. They were considering recreation, watershed protection, and wildlife management along with timber production. I liked this "wise use" approach, and moved beyond "wilderness only."

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MY ASSIGNMENTS CONTINUED TO expand beyond writing. I collaborated with the Secretary's science advisor, Roger Revelle, in stopping a nuclear experiment called Project Chariot proposed along the shore of the Chukchi Sea in Alaska. The nuclear advocate, Edwin Teller, sold the idea to Alaskans as a new harbor that would be great for economic development.

Revelle and I figured out that the Atomic Energy Commission planned to do their explosion before the scientific feasibility studies were completed. Secretary Udall insisted he wanted his department to review the studies. Scientists who had worked on them were going to the press and saying their conclusions had been rewritten or omitted. Revelle decided it was time that he discussed the matter with the White House science advisor who soon advised the AEC that they would have no further funding for Project Chariot. Another lesson came from this experience: Those who spend public money and carry out public responsibility must do so with integrity.

President Kennedy was assassinated Nov. 22, 1963. Vice president Lyndon Johnson succeeded him, but members of his cabinet were unsure whether President Johnson was a caretaker or whether he had a mandate from the American people. In 1964, when Johnson received a large majority vote as president in his own right, Secretary Udall called me into his office with a new assignment.

He had been talking with President and Mrs. Johnson about their shared love of the natural environment, and they both wanted to make their next years in the White House a time of accomplishments. Stewart had told them he had a person on his staff who could help them. Thus it was that Sharon Francis—with pony tail and still wearing the short sleeved sweaters and pleated plaid skirts from her college days—arrived to work at the White House. Other women on the staff took me to lunch and pointed to the salon where they had their hair done and to Garfinkels where I could get the wardrobe expected of staff members who carried the White House reputation. I submitted.

I worked at the White House for four years. Every time I walked past the guard gate and into that bright white building,

With photographer Ansel Adams, Big Sur, Sept. 1966.

I had an overwhelming awareness that I was privileged to serve my country. I soon came to understand that people who work at the White House may not have had distinguished lives before they got there, but once at the White House, they awaken to the responsibility they carry and become patriotic about their role in America's democracy.

I got to know the First Lady before I saw much of the President. I had expected Mrs. Johnson to be on a pedestal, but no, she was well grounded and had the ability to relate directly with each person and make each of us know we were appreciated.

I began by helping her with correspondence. Soon I was working on a television script, writing speeches, and contributing to the President's messages as well. Sometimes when the First Lady had too many speaking requests, she sent me out to speak in my own right.

Mrs. Johnson saw her time at the White House as an unprecedented opportunity to share widely her love of nature, to bring natural beauty into cities and suburbs, to stand up for clean air and water pollution control, and to encourage the preservation of the country's historic heritage. The President liked to say that she and Secretary Udall were turning Washington D.C into a garden city.

One morning I took a call from the President. "Where's Bird?" he asked. "I don't know, Mr. President, but I'll find her for you," I said. "No, no, I just want you girls to tell me how much money I have to spend for those redwoods." He cited divergent estimates coming from the House Interior Committee, the Senate Interior Committee, and Bureau of the Budget for protecting the redwood forests of California. "Just give me a number. I'm going to do whatever my little woman wants."

Before long, I found Mrs. Johnson and told her of the call. She was strongly in favor of a new national park in California, but it wasn't clear to either of us what part of the redwood forest could be bought for each of the numbers.

"You had better go out there," she said.

So I spent my weekend in the redwoods, along with two timber company executives, the California state parks director, Ansel Adams, who was a board member of the Sierra Club, and Martin Litton, editor of *Sunset Magazine*. When I returned to Washington, my first call was to Secretary Udall. I told him what I had learned and said I was inclined to recommend the largest amount for federal purchase.

He seemed pleased, and said, "The President can do that. The rest of us can't."

On another occasion, the President gathered a number of staff into the Red Room. His "model cities" legislation was bottled up in Congress. The National Conference of Mayors was in town, and the President assigned each of us a mayor whose support we were told to gain. My assignee was John Lindsay of New York, and the President added that I should make sure the mayor "gets a haircut. He looks shabby." The most unforgettable part of the Presidents pep talk was not his observation about Mayor Lindsay, however. It was instead his political calculus. "Just remember," he said, "that one Republican is worth two Democrats." I learned this lesson with delight. Those were the days of working across the aisle to reach compromises, not the all-or-nothing approach that has made public decisions so difficult in recent years.

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FIFTY YEARS AFTER MY experiences working for President Johnson, we are hearing that many Americans have been persuaded to believe that government is a hostile scheme. Those who foster that view believe that the only agent of progress should be the unfettered individual. They are missing the core reason for America's democratic government, which is a fair-minded framework for doing together those many things that individuals cannot achieve alone. Citizenship is never easy, and now we must deal with a minority that wants to throw out the rules of fair play so they alone can prevail.

After Richard Nixon's 1968 election to become president the following January, those of us who had worked in the Johnson administration found ourselves with a couple of months to figure out the next chapter in our lives. The Johnsons were returning to Texas. Stewart Udall was setting up a consulting firm, Overview, and wanted me on board.

I was on a binge of baking Christmas cookies in December when Sen. "Scoop" Jackson called and wondered if I had time to help with the final draft of the National Environmental Policy Act (NEPA) on which his staff had been working. "Why not?" I thought. The measure was admirable, but as I sat in the Senate committee staff room going through page after page, I was reminded of Mrs. Johnson's frequent question about a proposed new dam, highway or utility line: "Have the alternatives been studied?"

With recently harvested Redwood logs, near Redwood Creek, Calif. June 1967.

The Senator's staff was pleased by that perspective and made sure the First Lady's eminently sensible question became the law of the land. Many times in subsequent years, I have thought that requirement to consider alternatives under NEPA was the best thing I have ever done, except of course for being the mother of my son, Christopher.

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AS YOU CAN HEAR, I have volumes of memories and lessons that could be shared. Let me briefly highlight a bit more:

1. In a local struggle over whether to save a piece of nature, students are incomparable allies. They make up songs. They form picket lines. They go door to door with petitions. They can be disarming and persistent. They make it clear that their future is on the line. All this I learned in McLean, Va., in a struggle over 336 acres along the Potomac River. The land was called "Burling" because it was owned by descendants of the founder of the Covington and Burling law firm. "Burling" now is a county park thanks to the irresistible efforts of a band of Hobbits, aided by Gandalf, otherwise known as Harry Francis.

2. The Clean Water Act had a little-known provision that said "public participation shall be provided in all plans and programs under this act." After first coming to New England in the 1970s, I interviewed water directors in the six New England states and learned that they interpreted the provision for "participation" as holding a hearing on a proposed project, then going ahead and doing whatever their engineers had intended, despite what the public might have said at the hearing. I wrote a report that suggested a more genuine approach to participation, with members of the public and engineers working together from the earliest stage of project planning. The response was very favorable. I was brought into the Boston office of EPA, then to EPA headquarters, and then sent out to the other nine regional offices to train water officials in how to engage the public in cooperative, non-confrontational planning.

Public participation became well appreciated by all who took part—federal, state, and local officials as well as affected businesses and interested environmentalists. Some saw it as a natural evolution of democracy in the public sphere.

3. We who have bonded together to save special pieces of the New Hampshire landscape, especially forest lands, often find that we have a comparable responsibility for our state's water resources. Rivers, streams and ponds are nature's connections and nourishment. The relationship between forests and waterways is a never-ending interaction and interdependence. This too is a lesson I want to highlight. When I moved to New Hampshire in 1974, I focused on water because it didn't have a spokesperson. First I worked on the Contoocook River, then the Ashuelot, bringing people together to plan for their rivers. In 1990 I began what turned out to be 20 years of working for the Connecticut, New England's largest river.

There were others, however, committed to dominance of nature and non-cooperation with other viewpoints, who were convinced that it would only lead to trouble.

Those of us schooled in the rule of law and the traditions of reason that have been handed down since the Enlightenment, find ourselves living in an unprecedented time. No longer does everyone agree with the man in Charlestown who declared truly that "we are all environmentalists." Distinguished scientists like James Hansen, and writers like Elizabeth Kolbert are making admirable effort to reverse the forces of ignorance and distrust. Am I discouraged? Scared, yes—but discouraged, absolutely not.

For many years, conservationists have had the wind at our backs. Support for conservation has been strong. That is no longer true. Challenges are widespread. I think of Terry Tempest Williams and her address to the Saving Special Places Conference in early April. She opened our eyes to the wonders of Bears Ears, a new national monument in Utah. Today the monument's protections have been shrunk.

The question now that we have to grasp, is what does it mean to be a citizen? We all need to find a constructive role to play in the public sphere. Each of us must freshen our persistence, and we must rise to meet these challenges as we have so many others in the sweep of history.

Much is at stake. It is up to us.

FATHER-SON DUO ACES THE CHALLENGE

By Brenden Bowen

SOCIETY FOR THE PROTECTION OF NEW HAMPSHIRE FORESTS
FOREST RESERVATION CHALLENGE

Teen hiker's photo essay shows that the achievement is as fun as it is educational

Brenden Bowen, 17, is a recent high school graduate who spent a good chunk of his senior homeschool year trekking around the state with his dad, Charles Bowen, to all 33 of the Forest Society reservations featured in the Forest Reservation Challenge (FRC). As volunteer land stewards for the Forest Society's Buxton-Simons Forest in Weare, they are two out of 160 active reservation stewards, but as FRC finishers, they are two out of only four people to complete the entire Challenge so far.

We are avid hikers, constantly exploring New Hampshire's finest mountains, waterfalls and forests. It has been several years now since we first began exploring, and from the beginning, Forest Society properties have been choice destinations.

Propelled by our devotion to hiking and our own Buxton-Simons Forest, we always enjoyed visiting new reservations to see what they offered. We quickly discovered that many Forest Society properties lie unknown in the shadow of New Hampshire's most popular outdoor destinations, and we also discovered that these are usually the most scenic. We felt that they deserve far more attention than they receive, although at the same time, we reveled in their solitude, content that such hidden gems would remain in their present unknown state.

We marveled at the vistas from such places as Mt. Crosby, Silver Mountain, Gap Mountain, and Wilson Hill, saw picturesque ponds at Madame Sherri and the Heald Tracts, and found the quiet forest landscape at its best at Creek Farm, McCabe Forest, and even right in Concord at the Merrimack River Outdoor Education and Conservation Area.

Pursuing the challenge made us spend quite a few days driving to out-of-the-way places and at times overruled the option of staying home to get things done, but we enjoyed all the time we spent together. Just as we had hoped from our previous experiences, we found many new favorites, such as Grafton Pond, Eagle Cliff, Moose Mountains and Monson Center, that we would love to return to. We even discovered a few memorable reservations outside of the challenge along the way! Our grand journey ended with a long, fun day visiting four properties in the North Country.

I hope these images will inspire others to create memories of their own while visiting the Forest Society's most delightful places.

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The view clearing at our "home reservation," **Buxton Forest –Elizabeth Simons Preserve**. I think the 1.6-mile hike through pleasant forests and along wetlands is most enjoyable in the winter, when you can see all the way to snow-covered Mt. Washington from the clearing.

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The **Merrimack River Outdoor Education and Conservation Area** in Concord is my favorite "near-urban" reservation. In addition to the peaceful river walk, one also enjoys the amazing variety of environments, from the orderly pine plantation to the whimsical silver maple groves of the floodplain forest to the wildflower-filled fields just in from the riverbank.

On our first visit, my dad discovered this lovely Canada lily. This lily thrives in wetland margins and floodplains.

>>

Dad and I look around Monte Rosa on my first visit to **Mt. Monadnock**. This is one of the nicest spots on the mountain. It offers a sweeping view and the merit of being by-passed by Monadnock's enormous crowds.

The weathervane in silhouette here was originally built for guests of the 1858 Halfway House Hotel. It could be seen from below in the clearing around the hotel.

<<

Taking a break at the shore of Indian Pond, nestled beneath Wantastiquet Mountain in the **Madame Sherri Forest** of Chesterfield. We were nearing the end of the loop over the mellow hills of Daniels Mountain and East Hill, with their fine views of the Connecticut River and surrounding countryside.

>>

The view from Mt. Crosby in the **Cockermouth Forest**. We hiked the loop over Bald Knob and Crosby, which includes historic old roads, steep forest trails, and excellent views.

This view includes distant Mt. Moosilauke (left) and nearby Stinson Mountain (right).

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The typical scene on the Little Harbor Loop Trail, which passes through the Forest Society's **Creek Farm**. This lowland trek, with its lovely forests, meadows, and many viewpoints over the huge and shallow Sagamore Creek, complemented our day of short hikes in the Seacoast Region.

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Dad and I check out the top of the Black Mountain lime kilns on a late-autumn hike on the **Chippewa Trail** to the summit.

The two kilns were built around 1840 to create powdered lime from limestone, a rare resource in New Hampshire. According to the interpretive signs, they operated until 1888, producing 300,000 barrels of lime every year. Although the kilns operated on what was proclaimed to be the highest quality limestone deposit in the country, the reason for their closure is unknown.

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Moose Mountains Reservation in Middleton and Brookfield was the first place we visited in 2017.

Passing over the summit of Beauty Ledge, we found this deer, which just stared back at us carelessly. It remained in its relaxed position as we took a photo and moved on.

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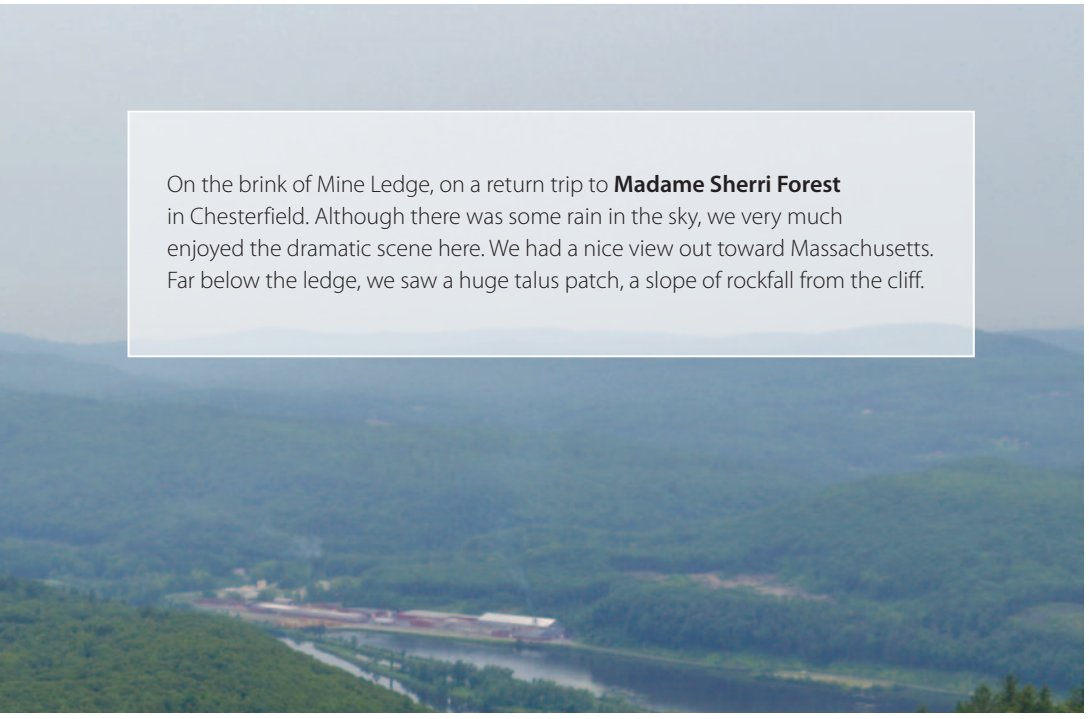
In addition to the fine vistas on Beauty Ledge and Phoebe's Nable, we trekked up to this rare pitch pine community on the ridge above the **Moose Mountains Reservation**.

Pitch pine is usually found in soils that can't support other trees and can be the first to grow back in a recently cleared area, such as after a fire. This stand is a must-see for anyone interested in seeing this type of unusual environment.



On the brink of Mine Ledge, on a return trip to **Madame Sherri Forest** in Chesterfield. Although there was some rain in the sky, we very much enjoyed the dramatic scene here. We had a nice view out toward Massachusetts. Far below the ledge, we saw a huge talus patch, a slope of rockfall from the cliff.

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A timber harvest site at the **Weeks Woods** in Gilford. Evidence of past harvests is a common sight at Forest Society properties.

After touring an active timber harvest with the Forest Society, we have come to appreciate the many different aspects and lengthy process of a harvest and how well the Forest Society manages its properties.

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Dad explores the former home of Deacon Thomas Nevins, who moved to Monson in 1738. Among the winding, mountain laurel-lined paths of **Monson Center**, we enjoyed learning some history by visiting each of the seven cellar holes on the property and reading each informational sign about the people who lived there long ago.

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After an exciting day hiking Mt. Paugus (farthest to the right), Dad and I stopped at the **Merriman Forest's** Eagle Cliff to view it from afar.

This low but rugged viewpoint in Sandwich looks over Squam Lake at the rolling Squam Range. This photo shows the Sandwich Range in the distance.

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This is the **Dana Forest's** gold mine, which actually did operate for a short time in Dalton before it was abandoned due to its lack of economic potential. We tossed rocks in the flooded mine shaft, which we learned was 100 feet deep!

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The striking orange colors prompted me to stop and take a photo of this unusual spider at the **Kauffmann Forest** in Stark.

It is a spotted orb-weaver, which builds its web before dusk and removes it at dawn.

Our final FRC destination was Devil's Slide at the **Kauffmann Forest**. We had some difficulty locating the little-known trail to the top of the cliff, but the dramatic cliff scenery and birds-eye view over the town of Stark and its covered bridge provided an exciting finale to our quest.

SOCIETY FOR THE PROTECTION OF NEW HAMPSHIRE FORESTS
FOREST RESERVATION CHALLENGE

Ready to take on the Forest Reservation Challenge?

To find out how to embark on your own Challenge, go to forestsociety.org/challenge to find all the properties, directions, maps and a check-off list to get started. Happy hiking!

Students from Kearsarge Regional High School work together to move bridge-building logs and clear a new trail segment. The Mt. Kearsarge Outdoor Classroom Project gets funding from the Quabbin-to-Cardigan (Q2C) Initiative. The conservation of the Black Mountain Forest was funded through grants from the N.H. Fish and Game Dept., the state Land and Community Heritage Program (LCHIP), National Oceanic and Atmospheric Administration and individual donors.

Mountain School

Mt. Kearsarge students put hands and minds to work in the forest classroom

By Carrie Deegan

A small group of Kearsarge Regional High School (KRHS) students is huddled around a jumble of large rocks on the Lincoln Trail, halfway up the side of Mount Kearsarge. Each one is sporting a bright orange hard hat and gripping a 12-pound, iron lever called a rock bar.

"The first rule of rock work," says Lew Shelley, the owner of Snowhawk, LLC, a trail design company, "is use bars *or* fingers, but never both together."

The students shove their bars under an enormous rock and maneuver it slowly, under Shelley's direction, down the slope and into a pocket of crushed rock they've created. This is, quite literally, "step one" of their stone staircase.

These students are part of the Forest Society's Mount Kearsarge Outdoor Classroom (MKOC) Program, which has been engaging KRHS students on the roughly 7,000 acres of conservation land surrounding their high school. More than 1,200 acres of that land are the Forest Society's Black Mountain Forest, protected in 2010 with incredible support from numerous organizations, foundations and the local community.

Over the past two years, the MKOC program has focused on completing trail maintenance projects on the Lincoln Trail, a section of the Sunapee-Ragged-Kearsarge Greenway (SRKG) that begins near the high school and travels up and over Black Mountain to the summit of Mount Kearsarge. The technical projects and skills learned here fit well into KRHS's focus on demonstrating competency in subject areas through experiential learning.

"It's a real problem in education today that students sit in classrooms and can't connect what they're learning to real world experiences," says Melinda Wilder, Extended Learning Opportunity Coordinator for KRHS.

On MKOC days, competencies like "mathematical process skills" and "application and problem solving" might involve calculating how much lumber is needed to construct a trail bridge of certain dimensions, or figuring out how to rotate and set an odd-shaped chunk of granite so that it will be stable enough to support hikers.

"It's so important for students to make these connections and to get exposure to career pathways and job opportunities through working with adults in different fields," Wilder says.

She describes one student who is now looking into attending a college in Vermont that has an environmental focus, a direct result of her positive outdoor experiences with MKOC.

"She loved it," remembers Wilder with a smile. "Even on the day she cut her knee and broke her phone, she still loved it."

While trail building skills and competencies in math and physics are important, the MKOC program is also benefiting students in subtler ways. Working with peers and unfamiliar adults on focused projects builds communication and collaboration

skills, and allows for creativity and resourcefulness in reaching goals. It also builds confidence. Some students have been participating for four seasons now and don't need any instruction with the hand tools needed to complete trail projects. They know how to use a grub hoe, how to peel a log with a bark spud, and why a fire rake is the best tool for duffing trail tread. What is inspiring is not their self-reliance, however, but the way they take on leadership roles in project tasks.

"I can tell when a student really gets it," Shelley says, "because they'll show others how to do the work."

For the Forest Society, the MKOC Program has provided a means of engaging with youth from seven communities about forestry, recreation management and the importance of conservation land in their area. Several Forest Society staff members have run workshops on forestry and land conservation topics for the KRHS student participants over the two years of the program's history. For their part, the students are providing a community service by helping maintain a popular public hiking trail through the Black Mountain Forest.

"I think the best outdoor classrooms combine three elements," Shelley says, "education and training, experiencing something new and hands-on, and service work."

Keeping this trifecta in mind, the Forest Society and KRHS staff are working on expanding the program to include other disciplines, including citizen science opportunities.

On some days the KRHS students have to hike as many as four miles to access a trailwork site. They grumble a bit before we start, but soon enough they're alternating between quiet contemplation and bursts of friendly teasing and conversation as they march up the trail. Both Wilder and Shelley agree this trek is part of the experience, as students can see the value of their own hard work while walking over and through what they've built on previous outings.

"The experience of hiking through a wet section might be easier because of a bridge they've built or a trail they've re-routed, and I've heard the kids say to others, 'Hey, we built this; this is so much better now'," says Shelley.

Back on the stone staircase project, the group has spent the past two hours manipulating and setting five large rocks into an ascending set of steps that fits gracefully around a curve in the trail. They're positioning one last rock into place, a massive boulder that needs to be flipped to its opposite side. (The second rule of rock work is that if you can lift a rock, it's probably too small to use.) The students put aside their rock bars and opt for sheer muscle power, pushing with great effort until the rock teeters on its balance point and lands with a satisfying smack into the perfect spot.

"That was amazing!" says Wilder, who has been observing the whole process.

She is clearly impressed that in just a matter of hours, the students have built this beautiful and functional structure that will last decades.

"The best part is that the students took the lead" says Shelley, "they had a vision for it, and when it worked out, you could see the pride in their eyes."

The students are more humble in their assessment of the day's work.

"I just like being able to work with my buddies, just coming out here and having some fun," offers one student.

Fair enough. In fact, we'll just go ahead and call that the third rule of rock work: Head out there with your buddies and have some fun!

Carrie Deegan is the community engagement and volunteers manager at the Forest Society.

Mt. Major Hike Helpers Encourage Kids to Love Nature

By Carrie Deegan

Bob Holdsworth's "Aha!" moment was on his first backpacking trip as a 12-year-old YMCA camper. His group had climbed up the Ammonoosuc Ravine Trail towards the Appalachian Mountain Club's Lakes of the Clouds Hut, where they had set up camp in the fading light. When Holdsworth awoke the next morning, he sat up and swiveled his head around, taking in the awesome panorama of the Mount Washington Valley.

"Whoa" was all he could say.

And that was it; he was hooked. Today Holdsworth is the N.H. state advocate for Leave No Trace, and while he would never camp above treeline in the White Mountains anymore, he wouldn't trade that first formative experience for anything. In fact, he's helping New Hampshire kids make the same connections as a volunteer for the Forest Society's Mount Major Outdoor Classroom (MMOC) Program.

Photo by Bob Holdsworth.

Volunteer Hal Busch talks with students from Little Harbour Elementary School (Portsmouth) on the Mt. Major summit.

During a land conservation campaign in 2014 resulting in the protection of 940 acres on and surrounding Mount Major, the Forest Society learned that more than 80,000 people visit this mountain each year, including a substantial number of elementary and middle school groups.

"We realized this was a huge opportunity for us to connect with New Hampshire's youth," said Dave Anderson, the Forest Society's director of education.

Buses bring hundreds of students for hikes in the spring and fall, but few schools have educational programming associated with their field trips. Now, thanks to MMOC, Forest Society staff meet with students, teachers and parents at a small but growing number of those schools in advance of their hike day for a presentation about Mount Major's natural, cultural and geologic history as well as hiking safety and etiquette.

"The heroes of this program, though, are the volunteers who assist on the actual field trip days," Anderson said.

They greet school groups at the mountain and spend the hike days reinforcing and connecting what students are actually seeing to what they learned in the classroom.

"Our volunteers are very experienced outdoors enthusiasts, with lots of knowledge and energy to share with school groups," Anderson said. "They really know their stuff."

If an MMOC volunteer has to be one thing, it's flexible. Every school runs its field trip to Mount Major differently, with different procedures and traditions, so volunteers literally need to "go with the flow." During the course of a single hike, MMOC volunteers usually wear many hats, from providing information and advice about trail conditions and routes up or down the mountain to pointing out prominent peaks and islands in the sweeping summit views. Sometimes they hand out band-aids for blisters, and sometimes they hand out trash bags for a five-minute "trash blitz" so that students can leave the summit cleaner than they found it. In many cases, they are cheerleaders and motivators, helping students overcome mental hurdles.

For some students—more than you might think in a mountainous state like New Hampshire—the Mt. Major field trip is their first time hiking a real mountain.

"Many have fears," Holdsworth said. "Some fears are legitimate, like being separated from the group or getting lost. Others, like being eaten by wild animals, are not based in reality."

Photo (left) by Jenn Seredejko; photo (right) by Bob Holdsworth.

Left: *Volunteer Karen Barker (looking toward camera) scrambles up one of the steeper sections of the trail with students, parents and teachers.*

Right: *Volunteer Russ Wilder points out a target for a trash-collecting blitz at the summit.*

Volunteer hike helpers can help ease all varieties of anxiety with their friendly confidence. Outdoor classroom volunteers often catch students connecting the Forest Society's classroom presentation to different aspects of their hike-day environment.

According to volunteer Karen Barker, "The students remember things like why there are big boulders on the eastern side of the mountain, or the story of Mr. Phippen's hut."

These messages are reinforced by volunteers as they ask questions and probe a little deeper.

"I've had a lot of teachable moments," Barker said, "everything from Leave No Trace ethics to trail construction to deal with erosion to why white pines tend to fall over before other trees."

And it's not just the students who benefit from MMOC.

"I think the parents [chaperones] get a lot out of hiking the mountain, too," said MMOC volunteer Russ Wilder.

Volunteers have watched as students informed their parents about why actions like carving initials into trees, hiking with music blaring from speakers, and throwing apple cores and orange peels to the side of the trail are poor choices for the natural environment.

The volunteers also report having a great time with some really amazing schools and student groups.

"It's been a lot of fun for me," Barker said.

She was so impressed on her first hike as a MMOC volunteer that she sent the school's principal a letter letting him know how well-behaved the students were.

"I saw students helping their friends carry their backpacks," Barker wrote. "I heard them encouraging their classmates who got tired, or who hesitated going up challenging rock scrambles and ledges. I watched those hesitant students, given a few tips from me, find a route and safely navigate those rock scrambles and ledges. I hiked with students who noticed litter on the trail and helped pick it up. I met students who conversed easily with me, an adult they'd never met, and asked me appropriate questions about my hiking experiences."

Encounters like these give Barker, the other MMOC volunteers, and the Forest Society great hope about the next generation of hikers and forest stewards in New Hampshire. We hope that they, too, will find their spark in the great outdoors and carry it forward for a lifetime

Carrie Deegan is the community engagement and volunteers manager at the Forest Society.

VOLUNTEER TRAINING

The Mount Major Outdoor Classroom currently engages about a dozen school groups. We anticipate expanding the program and plan to train new MMOC volunteer hike helpers this spring. If you live in or near the Lakes Region, love to hike and interact with kids (and can keep up with fourth graders) consider becoming an MMOC volunteer! Just send an email to Carrie Deegan, Volunteer & Community Engagement Manager at cdeegan@forestsociety.org or call 603-224-9945. See training announcements at forestsociety.org/events.

The MMOC Program, including volunteer training and support, is funded by generous support from the Samuel P. Pardoe Foundation.

Dog-Friendly Rescue

Neighbor steps up to add land to High Blue Reservation (again!)

By Brenda Charpentier

"We all need someplace to walk—someplace quiet where you can hear the birds and the wind in the trees," says Steve Grega, while walking along the snow-covered trail of the High Blue Reservation in Walpole.

Grega, who lives just down Scoville Road from High Blue, doesn't mean just people, but dogs, too. On this day Cleopatra, his 5-year-old Bernese mountain dog, plods along beside him through the snow, sticking companionably close for most of the morning's outing.

Grega has been walking a couple of miles most mornings ever since his doctor told him he needed to get his cholesterol down. Cleopatra, "Cleo" for short, is his walking buddy these days, and before her it was Odin, also a Bernese mountain dog memorialized in a beautiful portrait photo in Grega's home.

"The breed is gentle, docile, quiet," Grega says.

As if to prove him right, Cleo stops when he stops, ambles along when he starts moving again and amiably sits still to let him clear the chunks of snow and ice from her front paws.

The nearby High Blue Reservation with its amazing views is a frequent destination, so when Grega heard in 2012 that the Walpole Conservation Commission and the Forest Society were looking to conserve land right next to it that was actually the highest point of land in town, Grega offered to fund the project. Recently that scenario repeated itself when another adjacent parcel became available to purchase, and Grega has again donated the bulk of the funds needed to add this land—a 73-acre piece along an old Class VI road—to the High Blue in partnership with the conservation commission and the Forest Society.

Photo this page and opposite by Brenda Charpentier.

Steve Grega pauses with Cleopatra in front of the view of the Connecticut River Valley at one of the high points of the High Blue Reservation.

For Grega, supporting the project seemed the logical response to the unchecked development he's experienced in other places and the peace he finds on the trails of High Blue. He moved to his vacation home in the woods of Walpole full-time when he retired from being a bridge maintenance engineer for the State of New York in 2002. He had gotten fed up with Long Island, where he grew up.

"I remember the bulldozers pushing down the trees behind our house—it was the urban sprawl after World War II. It used to be all potato farms. You could roam forever and all the sudden you couldn't."

New York was "so crowded I couldn't have a dog—no place to walk it. It wouldn't be fair to the dog," he adds.

In helping to conserve Walpole's highest places, Grega is following the footsteps of others who have personally made sure they were protected.

"This property has been loved by a lot of people," he says, and points out that High Blue was in fact named by the donor of the original reservation, Stephen Warner, of Malibu, Calif.

Warner's father was an artist with a studio in nearby Westmoreland, according to neighboring landowner Paul Galloway, and it was during a visit in the mid-1960s that the young Warner discovered the view of the Connecticut River Valley on what would become High Blue.

"He found the land by driving his jeep by and jumping out to walk up the hill. He saw that view, got hold of the (landowners) and went down and bought it on the spot," Galloway said. "He wasn't a wealthy man; he just loved that view."

Over the next 15 years, Warner visited every fall. Galloway became his go-to neighbor for help and advice with land

projects. Warner worked hard at clearing to improve the view but didn't have much forestry experience, often referring to the 165-acre property he ended up with after another purchase as "my 100 acres," Galloway said.

What he may have lacked in woods sense he made up for in friendliness, however, and over the years Warner always invited Galloway to his annual picnic at "The Ledges,"—the rocky outcropping that provided the beloved view. The picnics were simple affairs that always featured a cassette player playing classical music. It was at one of these picnics in 1978 that Warner surprised Galloway by his uncharacteristically somber demeanor and some questions.

"As I recall, he said, 'Paul, what are you going to do with your land when you're gone? I said, 'I don't know, Steve, I'll probably see that it goes to some conservation organization,' Galloway said, adding that he also told Warner about his membership with the Forest Society.

"He wrote it down," Galloway said. "I didn't have a clue what was going on."

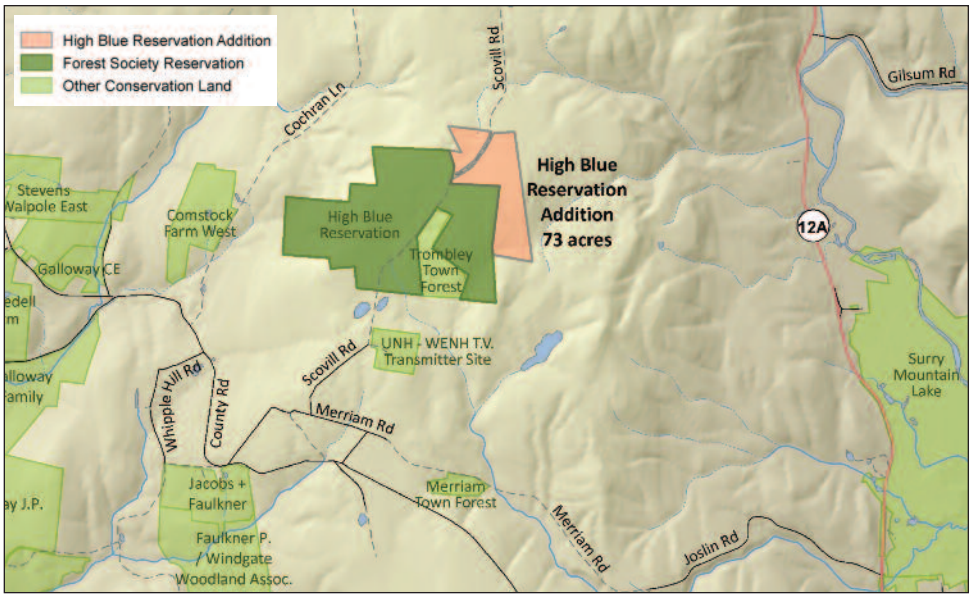
Stephen Warner was only 55 years old but died soon after, and Galloway figures he had developed a terminal illness and knew he didn't have much time left at that last picnic.

"He was a great guy and he was really fond of that land and wanted to do right with it," Galloway said.

Warner's handwritten will stated that the land known as "High Blue" should be donated to the Forest Society "with the encouragement that public access be made possible for use such as picnicking."

Had he been able to know the like-minded Steve Grega, one wonders if he may have made that "picnicking and dog walking."

Grega's walks with Cleo often take him to the first addition he funded, which had been owned by another conservation-minded former landowner, John Faulkner. Faulkner's family made the land available for conservation in honor of John Faulkner's



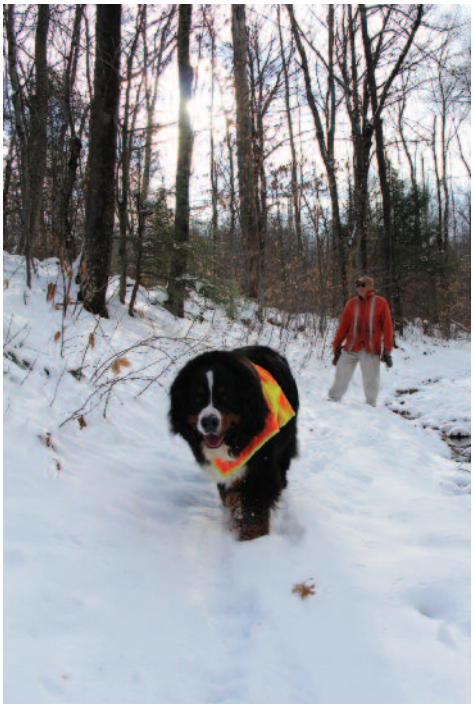
care of it, and Grega often stops at the memorial bench the Faulkner family installed at one of the three spectacular view outlooks on High Blue.

The Walpole Conservation Commission's goal in partnering on the additions is to keep conserving contiguous land to create a large expanse that is ecologically significant.

"When you look at a map of the conservation lands in Walpole, you see there's a pretty good opportunity to make a "River to Ridge" corridor, from the banks of the Connecticut River to the high point on the High Blue Reservation," said Commission member Lew Shelley.

Grega is on board with that mission. As Cleo sniffs at some deer tracks across the trail, Grega says, "We're coming close to doubling the size of High Blue with these two pieces. To me that is important—you don't want a bunch of fragmented pieces all over the place. Four or five acres—that's not wildlife habitat. Maybe a few birds . . . We're getting up there now so that we have some good wildlife habitat."

Bernese mountain dogs were originally bred as draft dogs and trained to pull carts and work on farms. In this case, it's Cleo's owner Grega who is more than pulling his own weight, in the spirit of Stephen Warner and John Faulkner, for the conservation of Walpole's special high places.



Cleo takes the lead on the newly conserved addition, along an old Class VI road that streams with water during the wetter seasons. There are vernal pools and a brook nearby. Beyond the forests, there are fields on High Blue used by a local farmer to grow corn and hay.

Photos (top and opposite page) by Brenda Charpentier; courtesy photo (inset).

Above: *One of several spectacular views from the top of Bald Knob on the Cockermouth Forest in Groton looks towards Newfound Lake.*

Inset: *Pamela and John McPherson stand near their cabin in Groton that is on land adjacent to the beautiful 204 acres they donated to the Forest Society.*

Log Cabin Conservation

Couple's donation of 204-acre forest celebrates decades of outdoor enjoyment

By Brenda Charpentier

In 1992, with plans of weekend mountain get-aways, John and Pamela McPherson found a little log cabin in the woods to buy in Groton, N.H., a couple of hours north of their then-home in Hopkinton, Mass. They were new to New England, having moved from California for John, a medical research scientist, to work for a biotech company in Boston. They spiffed up the cabin and turned it into a family haven, a base for hiking, hunting and cross-country skiing for the last three decades.

They didn't have to travel far for these adventures, since their cabin was surrounded by the Forest Society's 1,000-acre Cockermouth Forest, with its trails to the top of Bald Knob and Crosby Mountain and to Little Pond. They spotted the Forest Society's gate and sign on one of their first hikes, went online to find out about their new neighbor and became members.

"We're outdoors people, so it was really nice to be up in that area and have all thatopen expanse next to the cabin," John McPherson said. "I personally have so many incredible happy memories hiking and hunting in this land during all seasons of the year."

What do 30 years of beautiful moments and memories in nature amount to, when you stop to consider how they have enriched your life, your children's lives, your grandchildren's lives? The McPhersons decided it meant looking for a way to give back. When a 204-acre forest adjacent to the Cockermouth Forest came up for sale, they saw their opportunity. It had been for sale once before that they knew of, and they missed the chance to buy it then, McPherson said, so this time they acted quickly. They bought the land and donated it to the Forest Society as an addition to the Cockermouth Forest.

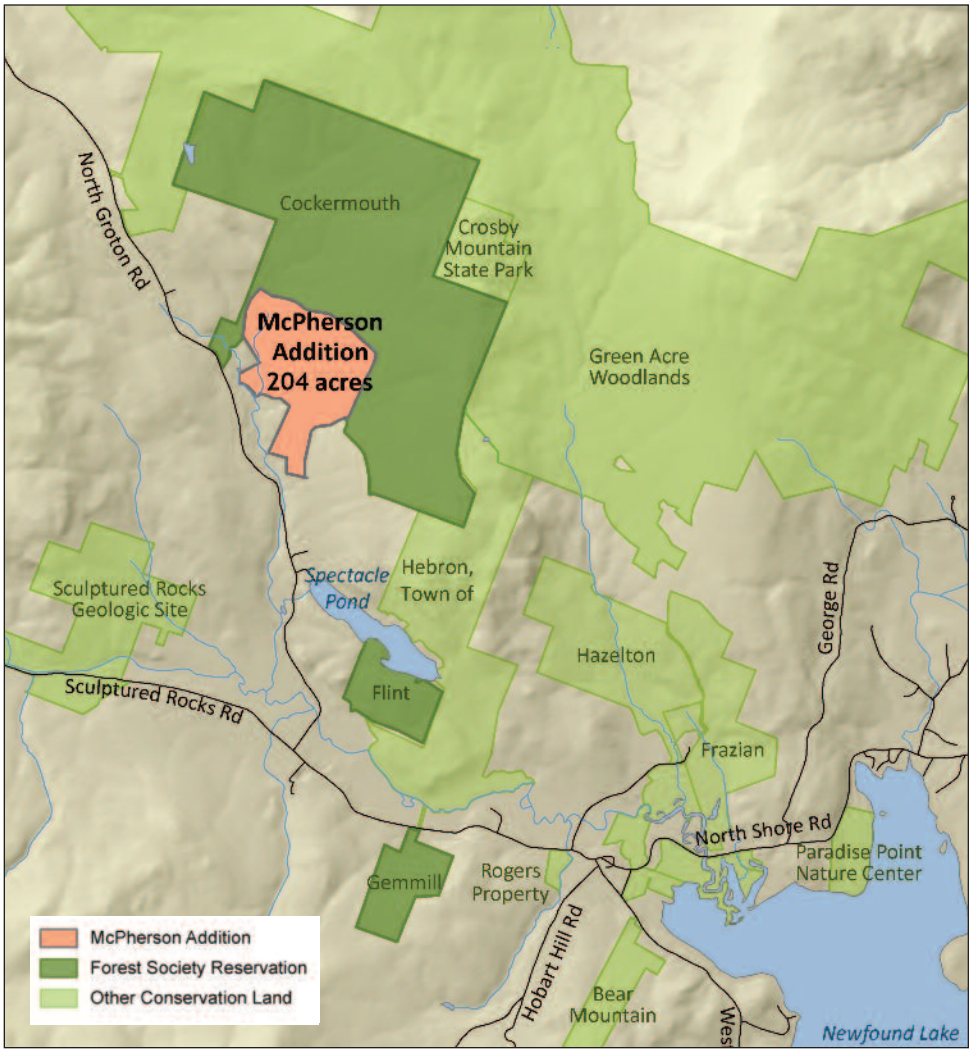
Signs of wildlife abound on the addition. Claw marks remain where a bear climbed a beech tree to reach its nuts (at left). Moose have rubbed the bark from these saplings with their antlers (middle). A yellow-bellied sapsucker has pocked this tree with holes tapped for springtime sips of sap (right).

"We didn't want to see that property developed," McPherson said. "We thought, 'Wouldn't it be great to donate it to the Society so they would have a contiguous, large piece of land that would be preserved?'"

The addition is densely forested and much is hillside on which small streams gurgle downhill toward Punch Brook and the Cockermouth River. Bears have scratched up many of the beech trees in their pursuit of beechnuts. The McPhersons have hiked, skied and hunted the addition over the years and appreciate it for its quiet solitude and wildlife habitat. And it's a part of the unspoiled view from the top of Bald Knob and Crosby Mountain.

"The view is incredible," McPherson said, "one of the most spectacular views in the area."

The McPhersons retired to California but still visit New Hampshire regularly and still hike, hunt and ski on the newly expanded Cockermouth Forest. Only now they do it with the knowledge that their love for the land that has given them so much has become something tangible—a bigger, more protected forest that can be enjoyed by anyone fortunate enough to visit, forever.



Her Last Forest Adventure

Member made sure her Porkepyn Rylle Forest would thrive

By Brenda Charpentier

Forthright, independent, opinionated, tough as nails—Gracia Harris Snyder was all of these, according to those who knew her. She was the first woman selectman in Andover, a librarian at Proctor Academy, a world traveler, a mom who took her two boys camping, a ski instructor, a Christmas tree grower. And at the end of her long and adventurous life, she became a donor of the land that was at the heart of so much of who she was and what she did.

Snyder was 86 and had started the process of donating the 213 acres in Salisbury she had lived on for much of her life to the Forest Society when she died in November of 2016. Her two sons, Evan Snyder and Jonathan Snyder, who live in New Zealand and California, respectively, completed the donation on their mother's behalf. Jonathan Snyder said his family's donation reflected his mother's love of the land and rugged outdoors lifestyle.

"She was always up in the woods," he said.

Growing up, he was, too, because she put her boys to work clearing limbs and helping on a family Christmas tree farm, and she took them camping on the Salisbury land as practice for bigger camping trips in the mountains.

"Everything we did with mom was outdoor-oriented. She loved being outside," Snyder said.

She gardened and cleared brush herself for as long as she physically could and hired a forester to manage timber harvests with her keen oversight.

"She took an active interest and much pride in the management of her property, and didn't hesitate to direct her forester and logger about what to do and how to do it!" said Tom Howe, the Forest Society's senior director of land protection who worked with Harris Snyder on her donation.

"She took special pleasure in a photo from her most recent logging job, showing a truck loaded right to its rated maximum, filled with clear, massive diameter, white pine logs headed to the sawmill."

Harris Snyder's parents bought the land, which is two former farms that she called the old Chester Sanborn Farm and the old Buren Sanborn Place. The former had a farmhouse on it where the Harris family lived when Harris Snyder was growing up. Harris Snyder left Salisbury to go to college, and after marrying a man who worked for the CIA, lived in New York, London and Beirut, Lebanon. After a divorce, she moved back to nearby Andover and, with her father, ran a Christmas tree farm on the Salisbury land. After inheriting the land, she built a home on it in 1985 near the site of the original farmhouse that had burnt down. She lived there on her own for the rest of her life but traveled extensively.

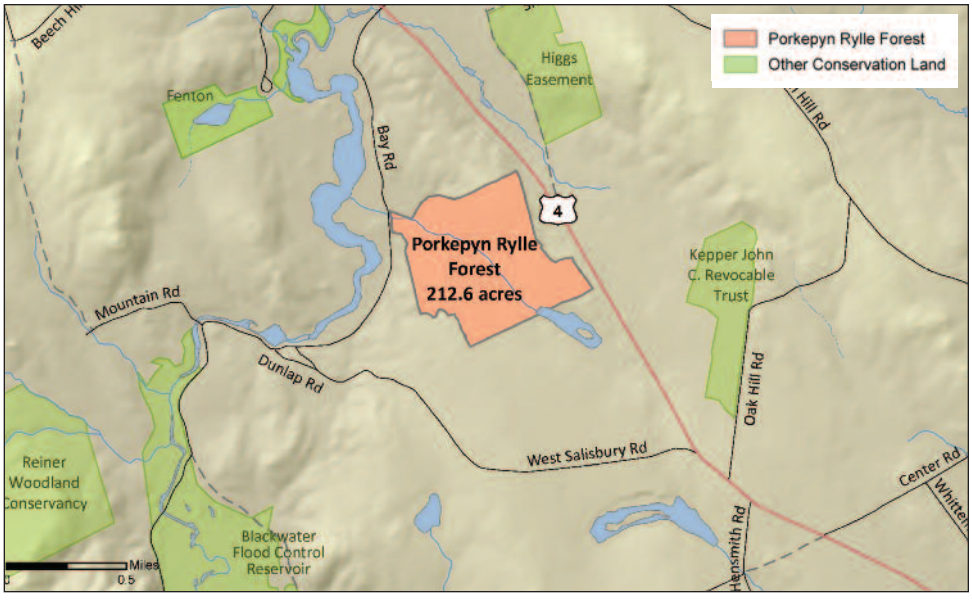
Photo by Tom Howe.

One of Gracia Harris Snyder's favorite places to walk on her land was along the brook that flows through it.

"She loved the Middle East and went to Egypt, Morocco, Turkey, Jordan, Portugal, Spain—and to California and New Zealand to visit her kids," Snyder said.

"She had stacks of letters. She corresponded with the folks she met long after the adventure was over."

Back home on the land in Salisbury, adventures required no passport, just a walk to the brook, which Snyder said was



his mother's favorite place to visit close to home.

"She was all about noticing little things in nature," Snyder said. "One of the first books she gave me was of nature-oriented haiku poems."

All of the Forest Society's reservations have a name, and Harris Snyder wanted her land to be called Porkepyn Rylle Forest, in keeping with her name for the brook that crosses it, Porkepyn Rylle (a rill is a small stream, and porkepyn is an Old English spelling of porcupine). The name comes from some childhood experiences on the property that Harris Snyder included in a memoir she wrote about it. Apparently her family had lived away from the farmhouse for about five years during World War II, during which time porcupines had moved into an adjoining shed, where they enjoyed the flavor of the floorboards soaked in spilled linseed oil. It seems that the area was quite overrun by porcupines at the time and they were considered a nuisance. Harris Snyder's memoir continues the story:

"The town of Salisbury paid a bounty of 50 cents for every nose. Porcupine nose was an economical way to get gas for the car at a price of eight gallons for a dollar. Often I would lie awake after retiring, listening for the chomping noises. When that happened, I would get up with the flashlight, awake father and give him the gun. As silently as possible, we would go to the back shed, shine the light on the varmint and Father would give it a shot. Another nose for gas!"

Harris Snyder would later go much easier on the wildlife (and protecting their habitat was part of her decision to donate the land). During the Christmas tree farming years in the 1970s, a beaver dam was at cross-purposes with the family's plans. They had it removed, but when the beavers rebuilt it within one week, it was clear who really was in charge.

"We gave up—the beavers won. There's a beaver dam still there today," Snyder said.

Harris Snyder enjoyed talking to people about her land and adventures. "Gracia always had a twinkle in her eye, a story to tell, and a homemade brownie for anyone willing to listen," Howe said.

The story that will last longest is the one she has allowed the brook to keep telling—of porcupines and other wildlife, of sheep and farmers, of a well-cared for forest and a woman who loved to walk among the trees of the protected Porkepyn Rylle Forest.

IN THE FIELD

Join Us for Free Nature Talks

Join us for the 2018 Cottrell-Baldwin Environmental Lecture Series at the Henry I. Baldwin Environmental Center at Fox Forest in Hillsborough. All programs begin at 7 p.m. and are free.

Registation is not required, but arrive early to be sure to find a seat. Call 224-9945 for more information.

TUESDAY MARCH 20

Wildflowers of New England

Ted Elliman, New England Wildflower Society botanist and author, will discuss spring blossoms native to New Hampshire. This is a continuation of Ted's talk at last year's series.

TUESDAY MARCH 27

The Real Eastern Coyote

Chris Schadler, wildlife biologist specializing in wild canids, will discuss our native song dog, the eastern coyote.

TUESDAY APRIL 3

Timber Traditions

Helen Pike, journalist and author, will discuss New Hampshire's logging heritage.

TUESDAY APRIL 10

Bogs & Fens of the Northeast

Dr. Ronald B. Davis, photographer and author, will showcase the unique features and plants found in the beautiful peatlands of New England in this slide illustrated talk

Increase Your Nature Knowledge

The Bretzfelder Park Family Educational Series begins Feb. 7. Presentations are held at Bretzfelder Park in Bethlehem except for the Feb. 28 presentation, held at the Rocks Estate.

Each program lasts about an hour and is free and open to the public. For more information, visit www.therocks.org, email us at info@therocks.org, or call 603-444-6228.

WEDNESDAY, FEBRUARY 14 | 7 PM

Discover the Secrets of Coyotes

WEDNESDAY, FEB. 21 | 7 P.M.

The Social Black Bear, with wildlife researcher and author Ben Kilham

WEDNESDAY, FEB. 28 | 7 P.M.

Rocks Estate, 4 Christmas Lane, Bethlehem

"The Ammonoosuc River Stream Flood Resilience Project" with researcher Rachelle Lyons

Mark your calendars for these upcoming events and see more at www.forestsociety.org.

See more Rocks Estate events, including maple sugaring tours starting March 17, at www.therocks.org.

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

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Chinburg Development, LLC
Durgin and Crowell Lumber Co., Inc.
Half Moon Enterprises
Harvest Capital Management, Inc.
Johnson Outdoors Gear, Inc.
Lumbard & Kellner, LLC
NEMO Equipment, Inc.
Northern Trust
Ransmeier & Spellman, P.C.
Rockywold-Deephaven Camps, Inc.
Superior Nut Company, Inc.
The Secret Agency, LLC

Steward
($750 to $999)

Meadowsend Timberlands Limited

Partner
($500 to $749)

Aesthetic Dental Center
Capitol Craftsman, LLC
Checkmate Payroll Services
Duncan's European Automotive
E & S Insurance Services, L.L.C.

Partner (continued)

EOS Research, Ltd.
Lyme Timber Company
Northern Design Precast
Peabody & Smith Realty, Inc.
Precision Lumber, Inc.
Stantec Consulting Services, Inc.
The Music Mill
Urban Tree Service/A Tree Health Company, Inc.
Winnipesaukee Aquatherm Service, LLC

Colleague
($250 to $499)

Bronnenberg Timberlands LLC
Cersosimo Lumber Co., Inc.
Devine, Millimet & Branch, P.A.
Dog Cove Corp.
Dr. Robert C. Kuepper, D.D.S.
Frost Pond Carpentry
Fuller's Sugarhouse, LLC
Granite State Natural Foods, Inc.
Inn on Golden Pond
Kel-Log, Inc.
Kozikowski Properties, LL
Lenk Orthodontics
Limington Lumber Company
Mason + Rich, P.A.
Meadow Leasing, Inc.
North Woodlands, Inc.
Pine Springs
Ridgeview Construction, LLC
Sunset Park Campground
The Portsmouth Brewery
Tri-State Iron Works, Inc.
Upton & Hatfield, LLP
Whole Wealth Management
Woodstock Inn Station & Brewery

Matching Gift Companies

Allegro MicroSystems, Inc.
Allendale Mutual Insurance Company
American Biltrite Charitable Trust
American Express

Matching Gift Companies (continued)

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

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

Conservation Bills to Watch

Energy, timber tax, license fees are on the 2018 legislative agenda

By Matt Leahy

One bill proposed in the 2018 N.H. Legislature would revamp the state Site Evaluation Committee (SEC), the group deciding whether to grant Northern Pass a permit. Another one would repeal the state's timber tax. Another would rescind the Fish and Game Department's authority to set the fees it charges for hunting and fishing licenses and give that power to the Legislature. A fourth would establish a committee to study the effect of Current Use taxation on small and rural municipalities.

These bills are just four of the hundreds of proposals the members of the N.H. General Court will sift through during the 2018 legislative session. Close to 50 of them relate to energy policy, forestry, environmental protection, conservation and stewardship, and state management of our state's natural resources.

Unlike the U.S. Congress, the N.H. General Court gives each bill not only a public hearing but also a vote in the committee of jurisdiction and then a second vote before the full House of Representatives or Senate. Such a process does create a heavy workload for the elected representatives, the staff and the businesses and organizations that advocate for or lobby against the bills. Viewed from the outside, the workings of the Legislature can seem chaotic, but in truth, it actually is beneficial. Those groups who are engaged in the process, like the Forest Society, are pushed to focus on what is most important to that organization.

The Forest Society follows two overarching benchmarks to determine our position on legislative proposals. First, we filter any decision through the guiding words of our mission "to perpetuate the forests of New Hampshire through their wise use and their complete reservation in places of special scenic beauty." If the passage of a bill would undermine our ability to carry out that mission, we simply cannot support it. Second, we consider the effects a bill could have on the broader conservation values which we believe should continue to steer New Hampshire's commitment to its natural resources.

So, how would we apply those principles to a vetting of the bills cited in the opening paragraphs? Our process begins with asking very basic questions about each bill. For example, what is the intent behind House Bill 1210, the Current Use Study Committee bill? Is it to find ways to strengthen the environmental and economic benefits communities receive from land enrolled in Current Use? Or, do the sponsors intend the bill to be a vehicle to eventually undercut those impacts based on a belief that Current Use harms municipalities?

House Bill 1470, which aims to eliminate the timber tax, raises similar questions starting with, what is the sponsors' understanding of the timber tax? Do they realize the tax was actually incorporated into the State Constitution with the expressed purpose of encouraging conservation of the forest resources of the state? Will the bill's approval, which would mean the repeal of the state law on the procedures for the taxing of timber, undermine the constitutional intent? In plain English, will it result in greater wholesale and indiscriminate harvesting of our state's forests?

Often, people complain about legislative gridlock and wonder why important issues are not solved. Yet, lawmaking is a complex process involving the input of multiple and usually competing stakeholders. The questions we have about HB 1470 or HB 1210 highlight this complexity and, just as importantly, underscore the critical need to ensure legislators consider all the consequences before they change public policy.

Photo by Matt Leahy.

Some 50 bills relating to the environment will make their way through the N.H. Statehouse during the 2018 legislative session, and the Forest Society will be there advocating wise stewardship of our precious natural resources.

While our elected officials grind through the typically heavy legislative agenda, we will be working to help them crystalize all the seemingly conflicting information they receive. If our advocacy encourages them to raise the same kinds of questions we will be asking, perhaps it will also move them to cast a vote in favor of our state's irreplaceable landscapes.

Matt Leahy is public policy manager at the Forest Society.

UPDATE: SEC Denies Northern Pass 7–0

As this issue of *Forest Notes* went to press, the New Hampshire Site Evaluation Committee (SEC) voted unanimously to deny a Certificate of Site and Facility. The subcommittee hearing the case subsequently adjourned.

"This stands as a great victory for New Hampshire, our forests, and our landscape," said Forest Society President/Forester Jane Difley. "It's been a long, arduous battle, but New Hampshire has always been worth it."

In identifying the multiple reasons behind their conclusion, the subcommittee members discussed exactly the right issues: undue interference with land use, property values and tourism, and inadequate outreach to communities.

These are not issues that are easily or quickly remedied, but are fundamental to the proposed route and proposal. The SEC made the right decision. And, importantly, they clearly listened to the people and the communities who would be impacted by this project.

"I want to thank and acknowledge all the people and supporters who stood at our side during this fight," Difley said. "I could not be more proud of the people who stood up and spoke, time and time again, for the character of our state and helped the Forest Society play our role in this saga."

— Jack Savage

Look for a full account of the SEC deliberations and vote in the next issue and visit www.forestsociety.org for the latest updates.

Decision Time for Northern Pass

Forest Society urged denial

By Jack Savage

The New Hampshire Site Evaluation Committee (SEC) hearings on the application by Eversource and Hydro-Quebec (doing business as Northern Pass Transmission, or NPT) came to a close on Dec. 22, 2018. The Forest Society, an intervenor in the formal decision-making process, filed its post-hearing memorandum through its attorneys at BCM Environmental & Land Law, PLLC, calling on the SEC to deny the applicant's request for a Certificate of Site and Facility that would allow the 192-mile line to be built.

"I don't think there's any question that Northern Pass's application for the transmission line as proposed is fatally flawed," said President/Forester Jane Difley.

The Forest Society's memorandum summarizes a situation in which Northern Pass, faced with a changing energy market and competition from other transmission developers, pushed its application to the SEC forward without having fully scoped the proposal or gathered the requisite information in order to bid for guaranteed contracts such as the so-called Mass RFP.

The memorandum demonstrates that the record of the SEC process that the Subcommittee should deny the application for three major reasons:

1. The application as originally filed and all supplementation to it through the close of the record, is deficient. The applicant did not provide the subcommittee with information the law requires it to have provided. Thus, the applicant has not met its burden of proof.

2. Evidence introduced by the Counsel for the Public, intervenors, and public comments affirmatively establishes the proposed project would result in unreasonable adverse effects, undue interference, and would not serve the public interest.

3. Alternatives exist for transmitting electricity from Quebec to southern New England. They would be less damaging to the State of New Hampshire and likely less expensive to the ratepayers of New England, than the project applicant has proposed. Applicant itself chose not to pursue practicable alternatives that would have avoided, or greatly lessened, the damage that would be caused by its current proposal.

The SEC planned 12 days of deliberative sessions over four weeks starting Jan. 30, and indicated it would render an oral decision by the end of February, with a formal written decision to come by the end of March.

Once a written decision is issued, parties including the applicant have 30 days to file a motion for reconsideration to the SEC. If a motion for reconsideration is denied, the decision can be appealed to the New Hampshire Supreme Court. How long it might take for a Supreme Court decision is unclear, but typically can be six to 12 months.

Background

Most of the public first learned of the "Northern Pass" in late 2010. As promoted by Northeast Utilities (for Eversource), it would be a partnership in which Hydro-

Quebec had sub-contracted Eversource to build a new transmission line to export Canadian hydropower to New England. High natural gas prices, Hydro-Quebec surmised at the time, would make it possible to sell up to 1,200 megawatts of power at a price that would recoup over time the cost to construct the proposed line.

Since 2010, strong public and municipal opposition to the proposal has persisted. It seems so obvious to so many that it would be incongruous to run an industrial transmission line through natural landscapes and dense residential neighborhoods. But, that is exactly what the route chosen by Eversource and Hydro-Quebec (which determined where it wanted to cross the Canada/US boundary), would do. That route would create 32 miles of new overhead right-of-way in rural northern New Hampshire, and place large-scale transmission towers and lines within an existing right-of-way laid out originally for power distribution on much smaller poles.

Since 2010, Northern Pass has not reversed public and municipal opposition. The public opposition, in part, has resulted in changes to New Hampshire law, including: changes to the SEC process, clarification that a project like Northern Pass may not use eminent domain, and statutory designation of appropriate transportation corridors that the New Hampshire Department of Transportation (DOT) can lease for use as underground energy corridors. The opposition has also led to unprecedented involvement in this proceeding by individual landowners, cities and towns, and non-government organizations like the Forest Society, Appalachian Mountain Club, and Conservation Law Foundation, among others. The extent of public opposition is overwhelming with 22 of the 31 communities through which the proposed route would be located having sought to intervene in this proceeding, all but approximately eight of the over 130 individual intervenors opposed, and members of the public submitting thousands of comments with 92 percent of them opposed.

Members of the SEC listened to pros and cons of Northern Pass for months before voting against the proposal.

Meanwhile, the energy market and business environment has changed since 2010. Other transmission developers have arrived with proposals that arguably would be less expensive, cause fewer adverse impacts and consequently generated little or no opposition—in large part because of their far less impactful route configurations. With natural gas prices now far lower, such transmission projects, including the proposed project, seek to rely on guaranteed contracts. Faced with faster-moving competition and deadlines to bid into various Requests for Proposals, Applicant moved quickly to submit the application in October 2015, a rush which may explain why the application was so inadequate.

Public opposition is not the only unprecedented aspect of the proposed project.

Geographically, the transmission line would span a serpentine route of 192 miles, bisect 31 municipalities, erect more than 1,200 new and relocated towers at heights up to 160 feet, and require 20 to 25 concurrently-active work sites, 1,200 new crane pads, and use of 84 private roads to access the right-of-way.

Aesthetically, the proposed project would be visible from 224 scenic byways, 183 designated rivers, 1,338 conservation/public lands, 218 great ponds, 1,311 public rivers, 12,313 scenic drives/public roads, 1,158 recreational trails, 83 access sites to public waters, 242 other recreational sites, 85 listed historic resource locations, 1,290 potential historic resources and 488 other community resources. The proposed project's presence would pervade New Hampshire.

Environmentally, the proposed project would impact more than 6 million square feet of wetlands, result in 800 separate wetland restoration sites, cut 731 acres of trees, and could cause extinction in New Hampshire of endangered species.

Conclusion

The Northern Pass proposal is designed to serve the desires of the applicant and its Canadian partner that would have exclusive use of the proposed transmission line. As such, it serves primarily private benefit, not public. In doing so, Northern Pass would extract too heavy a toll on New Hampshire and her residents to satisfy legal standards. As proposed, this massive proposal does not strike the required balance of benefits against adverse impacts. Northern Pass would not serve the greater good of the State and its communities.

The Forest Society respectfully urges that the subcommittee to deny the requested Certificate of Site and Facility for the proposed project.

The full text of the executive summary and the full text of the entire post-hearing memorandum can be read on the Forest Society's web site: www.forestsociety.org.

Jack Savage is vice president of Communications and Outreach at the Forest Society.

Photo (left) by Brenda Charpentier; photo (right) by John Wike.

Know a deciduous stand from a conifer stand; know a maple from an oak. *Every New Hampshire citizen should learn how to identify common tree species first by their leaves and needles and then by their bark and the branching patterns of bare twigs. With practice, you can know trees by their silhouettes, fruits and nuts, scent and utility for woodworking or fuelwood. In the photo of Mt. Major above, the deciduous trees give way to conifers at the higher, dryer elevation as the soil becomes poorer. At right is the telltale shape of a red oak leaf.*

New Hampshire Forests 101

What every Granite Stater—young and old—should know

By Dave Anderson

There's a set of fundamental forest concepts that everyone should grasp before claiming to be a true Granite Stater.

Our forests are so integral to our way of life that a certain degree of tree knowledge should be taught to every student, young and old. So what are these woodland basics? Welcome to New Hampshire Forests 101.

How much forest?

According to the USDA Forest Service, approximately 84 percent of New Hampshire is timberland. That's 4.8 million acres of the total land area of 5.75 million acres. This makes us the *second-most* forested state in the nation by land area. Maine is the *most* forested state in the nation at 89 percent.

It wasn't always this way

Roughly 80 percent of New Hampshire forestland had been cleared by logging and for agriculture before 1840. Our forests grew back. In most cases we live amid third- and fourth-growth forests today. There are fundamental differences in forest types based on whether the land had previously been used as farmland or as timberland. Forest succession varies with prior land use. And that prior land-use history varies with soils, local topography and geographic region.

Softwoods vs. hardwoods

The two most basic types of trees are coniferous and deciduous. The conifers—"cone-bearing" trees often called "softwoods" and "evergreens"—have thick waxy needles that remain green year-round. The deciduous trees—often called "hardwoods"—are broadleaved trees. They lose their foliage annually in autumn. Conifer seeds are inside cones. Deciduous trees have flowers for reproduction.

Soils determine which trees grow where

Conifers win by default on sandy, acidic, wet and shallow or nutrient-poor soils. Examples include sterile sand and shallow soil on exposed ledges or in wetlands and at the highest altitudes in the White Mountains. Broadleaved deciduous trees outcompete conifers on rich sites with deeper soil. Thin, waxy conifer needles are not as efficient as wide, deciduous leaves at capturing sunlight.

Wetlands grow forests, too

Wetlands create unique challenges and provide specialized conditions for specific tree species. Examples of forested wetlands include red maple swamps, spruce swamps, acidic tamarack bogs, neutral pH brown ash swamps, riparian (riverside) floodplain forests of silver maple and forests of elm and green ash growing on fine silt subject to seasonal flooding. The presence or absence of standing water

Photo by Dave Anderson.

Hemlock trees can grow in shady conditions other trees can't tolerate, so they dominate many of New Hampshire's mature forests. It takes a disruption like fire, wind blowdown or timber harvesting in order for sun-loving trees like birch and white pine to get established.

plays a key role in determining which trees grow in our forested wetlands.

Slope and altitude make a difference

In addition to prior land-use history, soils and hydrology, altitude and the interplay of slope and aspect play important roles in determining forest types. Hot, dry, south-facing sites favor oak and pine forest fundamentally different from cool, wet, north-facing sites that favor hemlock and yellow birch, beech, maple and red spruce forests. Temperature decreases with increasing elevation. The natural limit to tree growth in the White Mountains occurs at approximately 4,500 feet elevation, which we call the treeline.

What's our state tree?

White birch, also known as paper birch, is our official state tree. It's a sun-loving "pioneer species," requiring a large-scale disturbance to become established. It regenerates best following fire or logging by taking advantage of full sun in large openings. It's relatively short-lived, generally succumbing after a century. White birch was a logical choice for our state tree. When vast areas of the state were recovering from extensive clearing for agriculture and logging, birch was likely the most common tree in the landscape.

White pine prized

The region's earliest European settlers were impressed by the scale of towering white pines exceeding 150 feet tall and six feet in diameter. White pines in the well-drained, sandy glacial outwash soils of southeastern New Hampshire were reserved by decree of the King of England for use as tall masts for ships of the British Royal Navy.

Later, white pine dominated the second growth forests that grew after farmers abandoned rocky pastures en masse in the late 1800s for better soils to the west. By sheer volume, pine remains one of the most economically important tree species for lumber and wood products manufacturing.

Forests change

Our sun-loving pioneer trees include white birch, gray birch, white pine, big toothed- and trembling aspens, pin cherry and balsam fir. These trees grow fast and require full sun. They live shorter lifespans than trees that grow in partial shade in the understory and eventually replace them. This relay-race process is called forest succession.

The more shade-tolerant trees include hemlock, red spruce, American beech, yellow birch, black birch and sugar maple. These trees grow more slowly but they can tolerate shade and may regenerate in small openings with limited sunlight. The shade tolerant trees tend to live longer—centuries—with rare old growth yellow birch, beech, hemlock and red spruce in excess of 200 years old.

The meaning of "old growth"

True old growth is forestland that has never been logged or farmed or disturbed by natural forces such as flooding, hurricanes, fires, tornados or ice storms. There are only about 3,000 acres statewide of documented areas of true old growth, just 0.3 percent of New Hampshire forestland. These forests are most often comprised of beech, yellow birch, sugar maple, hemlock and red spruce. Individual very old trees are most often hemlock. The oldest living plants in the entire Northeast are black gum trees—also called "Tupelo"—adapted to natural lake shorelines or found in isolated wetlands fed solely by groundwater.

Animals need healthy forests

The majority of New Hampshire forests provide food, water, cover and space for wildlife, particularly crucial travel corridors through more developed areas of the state allowing wildlife to move to new areas and to find mates. Our best known and most charismatic species—eagles, hawks, owls, songbirds, woodpeckers, moose, bears, deer, turkeys, bobcats, fishers, pine martens, coyotes, foxes, beavers, woodfrogs, spotted salamanders, wood turtles, wood ducks, brook trout and salmon—are dependent upon forests for habitat, flood control and water filtering.

Death begets life

Dead trees are essential to forest health. Standing dead trees and fallen rotting logs support specialized species of birds and mammals. Standing dead trees with holes or "cavities" provide dens and nest sites for 25 species of birds and 18 species of mammals.

Decaying logs absorb and retain moisture, even during drought. As logs decompose, they add organic matter and nutrients to the soil. Large fallen logs accumulate nitrogen crucial to tree growth, and they attract insects, fungi and amphibians important to forest health. Coarse wood debris is utilized as key habitat by 30 percent of the state's mammals (rodents, shrews, carnivores) 45 percent of amphibians (salamanders, frogs) and 50 percent of reptiles (turtles and snakes). Seventeen species of mammals, from black bears to deer mice, den in or under downed logs.

Naturalist Dave Anderson is director of education for the Forest Society. He can be reached at danderson@forestsociety.org.

Photos this page and opposite by Jerry and Marcy Monkman, EcoPhotography.

The Sullivan Farm, located on Coburn Avenue in Nashua, provides the community with locally grown apples and gardening plants. Conserving it will protect 50 acres of highly developable land and maintain the land's use as a farm.

Help Us Save Nashua's Last Working Farm

The last working farm in Nashua, a beautiful apple orchard treasured by young and old for the simple pleasures it offers, is close to being permanently protected from development or subdivision.

The Forest Society is seeking the remaining funds needed to purchase and steward a conservation easement on 50 acres of the Sullivan Farm in partnership with the City of Nashua. Developers have already approached the landowner with offers to buy the land, but the landowner is seeking a conservation outcome for property that has been in agricultural use for generations. This easement will support the continued use of the land as a working farm offering apple picking, locally grown vegetables, eggs and perennials.

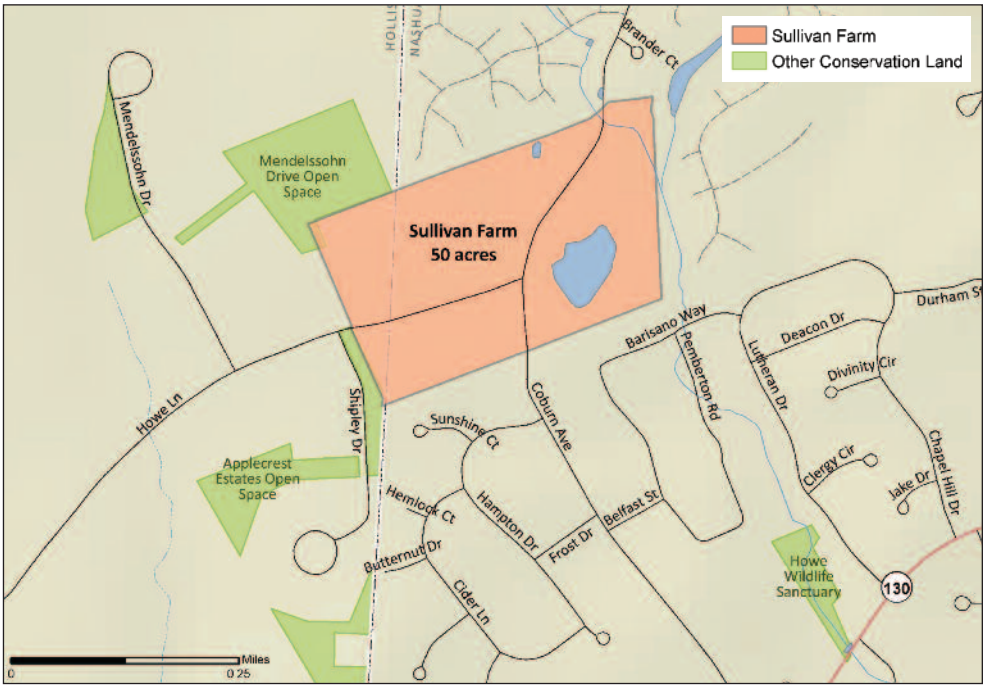
In fast-growing Nashua, the Sullivan Farm is the last remnant of agriculture and open land left to provide a local farm experience for visiting schoolchildren. The farm, which extends into Hollis, is less than 10 minutes from downtown Nashua (population 87,882), 25 minutes from markets in Manchester (population 109,565), and 46 miles from downtown Boston.

The easement will protect more than 500 feet of frontage on both sides of Lincoln Brook, which flows into the adjoining Howe Wildlife Sanctuary before entering the Nashua River. And it will preserve Colburn Pond and the scenic beauty enjoyed by drivers along Coburn Avenue and Howe Lane—such a refreshing break from the surrounding housing developments and shopping centers. Conserving the farm enlarges other conservation lands including two adjacent conservation areas in Hollis. The farm has a trail system that runs through the orchards. The easement will guarantee public pedestrian access to the trails.

Please consider providing a gift to help us bring this important project to a close. We have received grants from the Natural Resource Conservation Service, the state's Land and Community Heritage Program (LCHIP) and Conservation ("Moose Plate") License Plate Program, the 1772 Foundation and private donors. Now we are turning to Forest Society members and friends to raise

Top: *Perennials get started at the Sullivan Farm, which grows gardening stock, fruits and vegetables to sell locally.*

Right*: A small pond on the property is among the attributes that support wildlife.*



the remaining $475,000 we need by April 6 to bring the project to a successful close this spring. Please send your support today—thank you!

☐ **YES, I WANT TO HELP SAVE THE LAST WORKING FARM IN NASHUA**

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.forestsociety.org.

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

Thank you for your help!

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THE MANY FACES OF CONSERVATION

Photo by Al Karevy.

Kathleen Bigford

Bradford, N.H.

Member since 2016

MEMBERS MAKE THE DIFFERENCE!

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

"I live in an extraordinary community. Little did we know four decades ago when my husband and I came to Bradford as part of the "back to the land" movement, that our roots would become so entwined with those of this rural town.

We came with visions of organic gardens and skiing out our back door. We found that and a vast array of talent that inspired us in a physical and intellectual landscape richer than the one we left behind in our nation's capital. What began as an experiment became a lifestyle. We did not look back.

It is here that I found my calling as an educator. My middle-school students and I explored New Hampshire's cultural, economic and physical environments. For all of us the most meaningful learning happened in woodlands. So, newly retired, I happily joined the Forest Society as a volunteer Land Steward for the Black Mountain Forest and Sutton Pines reservations. In addition, I enjoy being part of the Forest Society's educational outreach program that helps Kearsarge High School students maintain trails on and around nearby Mt. Kearsarge. It is a pleasure to be a small part of this extraordinary community that preserves New Hampshire's forests."