



Forest Days Case Studies

*Hartland Elementary, Vermont; Ludlow Elementary, Vermont;
Mount Lebanon Elementary, New Hampshire*



*Prepared for
Antioch University New England
and the Wellborn Ecology Fund*



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Project Background

The goal of this evaluation project was to better understand the implementation of and potential for Forest Days programs in the early primary grades in Vermont and New Hampshire public schools. This report will serve as a companion document to the *Forest Days Handbook* currently in creation by Eliza Minucci and David Sobel.

The intended audience for this report includes:

- Teachers wishing to implement similar programs with their classes;
- Principals, school board members, and communities seeking a rationale for implementing these programs in their schools; and
- Parents who wish to understand the benefits of this type of programming for their children.

The guiding questions for this project were:

- What do Forest Days programs look like in the three communities profiled?
- In what ways do educators, parents, and administrators value Forest Days for students?
- Do educators, parents, and administrators notice benefits to Forest Days students in the areas of motivation and enthusiasm, language development, STEM learning, physical development, and executive function? (Secondary exploration: To what extent do educators, parents, and administrators notice a difference in behavior problems in students on Forest Days vs. classroom days?)
- From the perspective of educators, parents, and administrators, are Forest Days students meeting learning standards? Are they confident that Forest Days students are adequately equipped to enter the next grade level?
- What challenges and obstacles have educators, parents, and administrators observed in implementing Forest Days programming in their schools?

Case Study Teachers and Sites:

- Lauren Skilling and Amanda Soule, Hartland Elementary, Hartland, VT
- Barb Koski and Emma Eckert, Ludlow Elementary, Ludlow, VT
- Christina Joanis, Mount Lebanon School, Lebanon, NH



Methods

The project began with a brief planning phase to ensure mutual understanding of the overarching goals and to determine the timeline and personnel roles. This phase included the creation of a [spreadsheet that inventories and catalogues the schools/communities where Forest Days are happening in New Hampshire and Vermont](#)².

PEER Associates developed interview guides to use with educators, parents, and administrators in the three communities, and during a meeting of the [Professional Learning Community \(PLC\) focused on Outdoor Play and Learning](#), PEER also conducted an on site focus group with participating educators. Evaluators also reviewed existing data sources and artifacts of the programs such as photos, weekly blog entries, and newsletters.

Interviews were recorded, and detailed field notes were taken. Interview data was analyzed qualitatively, coding interview notes for prevalent themes. A portrait of each of the three schools is presented below, followed by a cross site view of dominant themes.



² <http://forestkinder.org/forest-day-classrooms> (Additions to this list are welcome. Please contact Eliza Minnucci at eliza@forestkinder.org.)



Case Study: Hartland Elementary School, Vermont

It's barely 9am on a January morning in Vermont, and Hartland Elementary School kindergarteners are on a mission. Crunching lunches into backpacks, stomping into giant boots, the bustling is surprisingly methodical, self-directed, and at a noticeably low volume. It's Wednesday in the Woods, and when the 30 or so children and their six accompanying adults cross the fence at the edge of the neatly mowed playing fields into the 17 acres of forested hills behind the school, their classroom is transformed.



Their usual route to this outdoor classroom is down a steep hill, using a rope strung from tree to tree as a handrail. Today, however, the class is faced with a problem. Vermont's often erratic winter weather has replaced their trail down with a sheet of ice. Before even arriving to their learning space, the class is faced with a problem-solving, team building activity whose authenticity one couldn't begin to invent in the classroom: how will we get down this hill safely together?

For the next twenty minutes the students are testing their courage, their bodies, their knowledge of the area and of winter conditions, and their understanding of who they can help and rely on. Some (including one paraprofessional!) are inching down on their bottoms; others, otter-like in their confidence, sail down on their bellies; a few rugged yet cautious ones have discovered that stomping hard will break footholds in the icy crust; and of course, a few have lost their footing altogether and are being caught by a friend or teacher. This wasn't in today's lesson plan, but as experienced [place-based educators](#), the teachers have learned to adapt to what nature provides them and even the trip to and from the outdoor classroom can offer valuable learning opportunities.

Case Study Data Sources: Hartland Elementary School

- 4 parents, formal interviews
- 2 classroom teachers, formal interviews
- 1 Administrator, formal interview
- 1 Reading specialist, 2 classroom aids, informal conversations
- Students, informal conversations
- Full day observation of Wednesday in the Woods
- Classroom Blog

Planting the sapling

Hartland Elementary is one of about 20 schools in Vermont and New Hampshire where learning outdoors is truly integrated into the school week. A town of 3,400, Hartland lies in the Upper Valley of the Connecticut River and its elementary school

serves the town's 311 preK-8th grade students, 40% of whom are free lunch eligible.

Beginning in the 2015-2016 school year, two innovative kindergarten teachers and a supportive administrator launched Wednesdays in the Woods. At the time, the teachers were part of a



[Professional Learning Community \(PLC\) focused on Outdoor Play and Learning](#), and they visited other sites to glean ideas for their space and routines. They decided to organize their program as a combination of structured and unstructured time, balancing the needs of children to have boundaries with the benefits of freedom and choice that derive from self-guided learning and play. About a dozen families participated in an initial work day to build the site, which includes a large, rock-lined fire pit and a rustic lean-to. The program started small—bringing students to the outdoor site first for a half hour, then 45 minutes, and eventually building up to the full day immersion.

Spreading Branches

“Overall we’ve done a disservice to kids at all grade levels because there isn’t that time for play. People who don’t understand just think play is wasting time, but that is the way they learn—through their play. When we just have them sit at desks...we’re missing out on opportunities to engage kids.” With this recognition, the administrator at Hartland Elementary underscored the foundation of the many benefits afforded by outdoor, play-based learning.

And with a seemingly instinctive grasp of the [research on self-directed learning](#), the kids, one after the next, highlight the benefit of these Wednesdays as, “I get to choose.”

In a series of interviews, classroom teachers, parents, and the administrator shared their experiences with Wednesday in the Woods; its origins, workings, and most importantly, what it was doing for the kindergarteners.

Academic benefits

The mix of creative, self-directed play with the structure of “bringing the curriculum outside” is yielding results. As one teacher described, “We might not sit down at our tables and do our worksheets but we have discussions that are priceless. We bring out the curriculum in fun ways that stick with the kids and then we can make links back in the classroom. We’re always saying, ‘Remember that experience we had?’”

As the learning found its way home, parents took notice. “Being outside has helped her creativity when she’s writing,” reported one parent. “She’s more able to imagine scenarios—it seems like she’s more excited about imaginary play and likes to write stories about it. They keep a journal for Wednesday in the Woods, and she has carried that on at home.”



Science, too, is a natural fit for the outdoor classroom. Different parents reported that “My daughter goes outside now with a much more critical eye. She really has gotten an eye for how to compare and contrast things and how to notice changes,” and “I don’t remember the names of all the different things in nature, so when we go play outside behind our house it’s an opportunity for [my daughter] to teach me about all different flowers, leaves, trees. She so enjoys teaching me about what she learned.”



Beyond the academic disciplines, interviewees recalled many stories in which students developed [21st Century Skills](#) such as teamwork and problem solving in the authentic setting of the outdoors. The students worked together to move an enormous log, to build a shelter that kept collapsing, and create a primitive teeter-totter on which to play. And teamwork, of course, requires the development of communication skills—using words clearly, making one’s voice heard, listening respectfully to others’ ideas. As a parent noted, “So many skills are learned out there beyond what is required to be taught to children—beyond what’s in the curriculum.”

Social Emotional Benefits

Stories shared by all interviewees confirmed that the outdoor classroom is a supportive environment for learners with diverse needs and dispositions. “The forest is a time they can get away from the [behavioral] challenges they face in the classroom,” reported one teacher, and the other observed that

Getting to see children in a different light, for us is huge. We’ve got lots more space, no walls, and all those expectations that we have in school are different. We let them take more risks, we say, ‘Yes! Climb that tree, go for it!’ They get to be themselves, and we get to see the whole child. Every day we go out there [my co-teacher and I] say to each other, ‘I never would have seen that side of him if we were inside all the time.’



These benefits were clear to one grateful parent:

We have some behavioral problems with my daughter at school, but because she’s free to make her own choices when they’re in the woods and not pigeonholed into the classroom, we know it’s going to go well. ...I think it’s that she knows that today she’s not going to get in trouble, she knows she’s not going to get sent out of the room where ‘bad’ kids go, she knows that she can thrive at school at least one day a week.

The outdoor classroom can offer ways to thrive for all students. One parent volunteer noted that even her own daughter who “does not struggle with managing her body and her behavior” found other ways to grow on Wednesdays. “She’s shy and slow to join in so it toughened her up and made her more willing to roll with the punches. She’s more flexible now, I’d say.”

Affinity for an Active Lifestyle

Increased opportunity to play and learn outdoors, whatever the weather, seems to be having some lifestyle benefits as well for the Hartland students. Two parents shared stories of the impacts on their children:

I was concerned about this program because my daughter had zero interest in nature when the school year was starting. But we’re Vermonters so all we have is the outdoors, so to have a kid who didn’t want to go outdoors was a bummer. But now she will look at us and



she'll say, 'Let's go on a nature walk!' And I'm thinking, 'What did you do with my child?' This happened within the first four Wednesdays! That has been awesome for our family because we thought we just had an 'indoor kid'.

On the weekends we'd say, 'Let's go for a hike' and in the past she would be resistant and would make one of us carry her. This toughened her up, made her much more willing to be outdoors, and outdoors for longer periods of time. That was an effect I saw right away. Through the program she saw that being outdoors wasn't just hiking. It introduced her to all these ways that she could be herself in the outdoors.

Before this she was into nail polish and 'What are you going to do for me?' and now she's out there building fairy houses and coming home with science skills and rocks in her pockets.

Sowing seeds

These benefits have not gone unnoticed by the rest of the Hartland faculty. All grade levels, K-8, have visited the outdoor classroom, with 1st through 3rd grades visiting almost weekly for shorter periods. Some of these early adopters have already created a second outdoor classroom space far enough from the first to preserve the magical isolation of the kindergarteners' woodland home. The first grade team intends to expand their outdoor time to a full day in the coming school year.

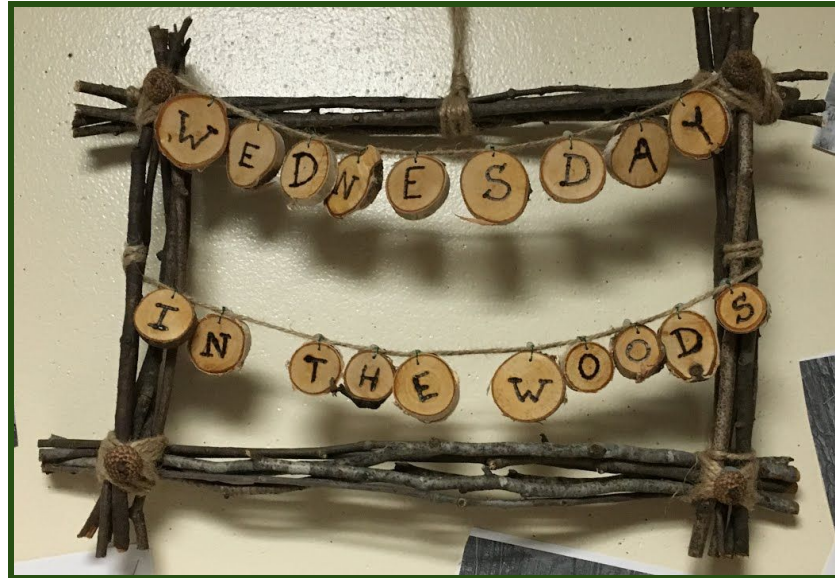
The building administrator expressed great support for future expansion of the program:

You could see all grades benefiting from it. You can try to drum stuff into their heads five days a week and they probably only get three days of it at best. So that day outdoors is probably going to make them listen better on the other four days indoors. And there are a lot of things you can do to make their learning real out there...the only thing that holds you back is your imagination.

The program's appeal has not been lost on the broader community. One parent mentioned that friends who have children attending other schools are "jealous of what we have," and another noted that recently she had "heard of families who factored this program into their decision to move to Hartland."

Bending Toward the Sun

Back in their classroom towards the end of the day, children are writing and drawing in their science journals. Not surprisingly, one boy is busy writing about the animal tracks he followed, another child is drawing the biggest, bluest sky one can imagine, and several students are proudly documenting the very first moments of their day, hours earlier--the "big, big hill" they made it down safely, together.



Hartland Elementary School's Wednesday in the Woods Routine

- Children assemble in the classroom, pack up small matching backpacks with lunch and water bottles, and dress in layers for the weather.
- Enter the woods across the playing fields, and pause for "Tree Stop" at the woods' edge. At this giant, fallen tree at the top of the hill leading down to their outdoor classroom, kids sit, take in the view, sing a woods song, and discuss the day's plan.
- Steep descent to the site, holding onto a rope tied tree to tree, or tumbling on ahead.
- Gather briefly around the fire pit.
- Children and adults head to their sit spot for quiet observations, then small groups gather with an adult to share what they noticed, changes they observed.
- Gather around the fire for snack.
- Choice time (belly sliding, wandering, building forts, tracking animals, gazing at the sky, making nature collections).
- Offerings: kids have 3-4 choices offered by attending adults. Sometimes they are assigned to a group, usually they choose their preferred place.
- Lunch around the fire circle.
- Back in the classroom: writing and drawing in journals, blogging about time outdoors (See the class blog at <http://wednesdayinthewoods.blogspot.com/>)





Case Study: Ludlow Elementary School



Many people know Ludlow, a town of about 2000 in south central Vermont, as the home of Okemo Mountain ski resort. There's a smaller (both in number and stature) group of people who know it as the home of Dirt City. "Discovered" by a pair of local kindergarteners, the main attraction at Dirt City is not a ski hill, but a giant pine tree, whose tipped-up root ball stands 10-12 feet high, with a gully and a trickle of water running beneath. Every Friday, the townspeople of Dirt City, Ludlow's kindergarten and first graders, spend the school day running along the length of that downed pine tree, dodging in and out of the branches,

spotting woodland neighbors, all the while solving problems together, reading and writing, and learning the difference between a risk and a hazard. According one of their teachers,

They really believe Forest Friday is their world, and their classroom. I try to make the [indoor] classroom theirs, but in their mind it's still mine, not theirs. They join me in the classroom, but out there, in Dirt City, they have ownership. They find these places and they name these places.

These young Vermonters are taking part in an emerging wave of Forest Days programs cropping up across Vermont and New Hampshire. While playing and learning in the woods is still a novel concept in today's schools, in Vermont it is a time honored tradition almost as old as the hills themselves.

Something Old, Something New

Located right on Main Street near the heart of town, Ludlow Elementary School serves preK-6th grade and enrolls about 140 students. Ludlow's kindergarten teacher, a classroom veteran with over three decades at the school and nearing retirement, was beginning to feel dissatisfied with the direction of K-1 instructional

Case Study Data Sources: Ludlow Elementary School

- 2 Classroom teachers, formal interviews
- (2 classroom teachers also participated in a one hour focus group on the topic of Forest Days programs)
- 1 Principal, formal interview
- 1 Reading specialist, formal interview
- 3 Parents (one a school board member), formal interviews
- Review of slides, classroom blog



approaches. "I never thought as a kindergarten teacher I'd be sitting behind an instructional table for a large part of my day. It's not how I used to teach," she reflected.

She was also noticing the effects of this more sedentary approach on her students. In the winter, she'd have to teach some of the kids how to go sledding—something one might consider the birthright of a Vermont child. The trouble with this, she noted, is not just that exercise and fresh air are good for human bodies but that "our kids aren't even learning basic things like how to keep themselves safe, to make good judgements, cause and effect. Being outdoors is when kids learn that."

Ludlow Elementary's principal offered a similar concern observing that "Thirty years ago kids played outside, and then because of the way society is, and how scared for safety we've become, now a kid can't problem solve anything without a parent or adult intervening."

The kindergarten and first grade teachers were ready to reclaim what they saw being lost. They attended a statewide kindergarten conference whose theme was outdoor education, and came away inspired, alert to new possibilities for their classrooms. "We wanted to see how we could give students a more developmentally appropriate kindergarten and first grade, and still meet the academic demands," reported the kindergarten teacher.

Just behind the school, tucked in between some dead-end residential roads, lay a small parcel of woods. In it were the remnants of a long abandoned high school ropes course, just enough development to spark a vision. The next steps came naturally for the teaching team, and, supported wholeheartedly by their principal, the school board, and the parent community, they launched Forest Fridays in the fall of 2016. Teachers, students, and volunteers worked together to develop a space that included benches around a fire circle, a small shelter, and an appropriate place to go when you are already in nature but nature is still calling.

*"The music teacher brought her guitar up in the woods and they're singing and dancing and playing. This is what childhood is all about."
-Parent of first grader*

This is the destination once a week on Forest Fridays. The kindergarten and first grade teachers take both their classes out—about 30 students—with a dedicated parent volunteer, and are joined weekly by a combination of enthusiastic literacy, music, art, and P.E. specialists who weave their disciplines into the day's activities.

Stepping Back

The multitude of benefits students receive from this weekly, day-long opportunity to own and be immersed in the natural world beyond Ludlow Elementary's buildings was clear in interviews with Ludlow teachers, parents, a school board member, and an administrator. A vital theme that echoed across all of these groups was the benefits that come with teaching children to evaluate the difference between risks and hazards, and stepping back to let them manage their own behavior. The kindergarten teacher said,



We see minimal conflict in the forest. We try to model solving your own problems, and we focus on how to negotiate, how to do a self-evaluation. We teach them about the difference between a safety hazard and a risk, and frankly this all happens with minimal prompting in the forest.

According to the principal, the strategy used by the teachers and chaperones is this: the adults are all tuned in, but their approach is hands-off. "They let them really try, take a risk, maybe not succeed the first time, try again. It's really about building up perseverance," she said.

Allowing students to take risks, devise their own experiments, and learn to solve problems independently means giving them more opportunities to make choices and plot their own activities. But with five and six year olds, this must be balanced with some structure and boundaries. Striving to strike a balance between structure and choice, teachers plan activity stations throughout the woods--tracking, math games, plant anatomy drawings, or hiking, for instance--and students are then free to choose where to go. If there are three stations, they will be available for three weeks, and students have the option of going deeply into the one choice all three weeks, or sampling each offering. The teachers explain that they are trusting the children to follow their own best learning paths.



By all accounts, the teachers' trust in their students was not misplaced. As one parent reported, "My daughter would never have tried dough on a stick if I had offered it at home. And now she loves it, and she climbs trees, and she's not afraid to get dirty. She's blossoming out there." Another parent noted that her daughter had lacked confidence, but being in the woods on Fridays

*"I think the kids are learning how to play again. They're learning how to cooperate without us managing it, without us plotting it all out for them. It automatically happens. Kids group themselves up, they get to choose what to do, they figure out how they're going to play cooperatively."
-Principal*

has given her a chance to test herself and try new things, and to grow more confident in the process. Children are trying out new athletic activities like snowshoeing, identifying animal scat by shape and color rather than saying "oh, gross" and, related one parent, "kids who are used to gatorade and soda are trying wild edible concoctions and herbal tea over the fire--and they're asking for seconds."



Digging In

Forest Fridays is not just about the freedom of playing in the woods. The parents, teachers, and administrators who were interviewed about Forest Days offered a collection of stories, that taken together, paint a picture of deep student engagement in their learning, which has been linked to various important academic outcomes. One research-based approach to understanding school engagement defines three forms of engagement: behavioral, cognitive, and emotional. The stories that follow illustrate how Forest Fridays provide a rich environment for Ludlow's students to fully engage.

Behavioral engagement

Behavioral engagement includes following rules, refraining from disruptive behavior, and constructive participation in class activities. A parent who is also a licensed mental health counselor said she notices fewer behavior problems out in the woods.

It's so much more hands on, and the difference helps tremendously for kids who have attention problems. There is more of a collaboration on what feels safe, and you're putting it on them to determine if they feel like they're in control. It teaches them to feel out the difference between what's safe or not, instead of dictating that.

The principal echoed this observation, "I watch how active so many of these students are in a classroom, and I see how much time teachers spend working on management issues in a classroom. But up in a forest those behavior issues seem to disappear. It's amazing."

The first grade teacher shared the story of a student who "struggles behaviorally in the classroom," but after a few experiences of problem solving around behavior issues in the forest,

We saw this shift in him where he was more engaged and more aware of himself, and academically he then took on this theme of being a learner. We think it has had an impact on him. Whether it was the forest days, his own growing maturity, or the combination of the two, we've seen a real difference in that boy.



Cognitive Engagement

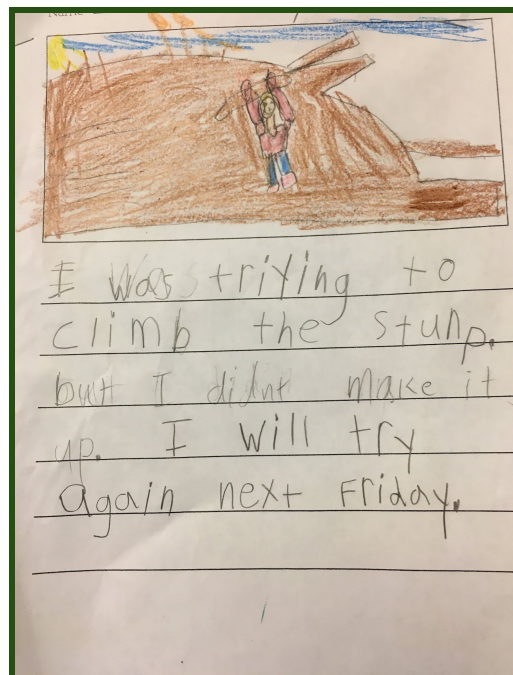
Children are cognitively engaged when they are invested in their learning and putting focused intellectual effort into mastering tasks. Ludlow's principal perfectly describes how this manifests at Forest Days:

Their level of focus and concentration improves given a greater level of choice and motivation. One little girl comes to mind. For her to sit still in the classroom for three minutes is nearly impossible, but up in the forest when they go to their chosen Sit Spot to do their 10 minute, quiet observation, well it's amazing. There she is, doing it. After Sit Spot they come back to talk about what they've noticed, what has been changing over time and seasons. Their observation skills exceed my 3rd, 4th, 5th graders by far. It's incredible to hear them.



Core academic subjects benefit as well. The Title One reading teacher leads a literacy activity in the outdoor classroom each week inviting students to dramatize stories to encourage greater reading comprehension. After a story about boats, the students built a snow canoe, hopped in and acted out the characters and plot line of the story as he re-read the tale. In these reenactments the children often memorize lines from the story, each child speaking their lines for an audience as they act out that portion of the story. A teacher for 35 years, he marveled,

I've never had kids accelerate so quickly out of my program. We're talking about a small data set here so you'd have to have more years to make this claim, but right now, our reading scores are as high or higher than in past years as of testing in [this same month]. That's all I can say. And as far as their writing it's had a huge impact, whether they're writing about what they're going to do for the day, what they observed, they're excited about it so they're willing to write about it.



A parent of a first grader provided her child's perspective on this:

We were having issues with reading and speech at the beginning of the year but her reading teacher actually goes up into the woods and he's up there and she sees him up there. So it's more of a community based thing. At first she felt like, 'I have to get reading help, I'm not smart,' so now, guess what, he's up there too and they meet and read in the woods. He recently said, 'I don't think I have to see her anymore because she's above the standard now.' Going in the forest all day is not holding her back, it's only helping.

Emotional engagement

How a child feels about school, teachers, their academic work, and ultimately how much they feel they belong are all aspects of emotional engagement. The kindergarten teacher articulated how the children's enthusiasm for Fridays motivates their school attendance and boosts their confidence.

I have kids who have been sick Monday through Thursday but they made it for Friday. And for my kindergarteners who are challenged most by academic pressures, they'll come in on Wednesday and they say "Is it Forest Friday yet? We've been waiting so long!"

One boy whom she described as "low functioning" resists his writing assignments throughout the week. But on Friday morning the children are required to write their "forest plan" before they can head to the woods, and on that morning, she says, "he is so genuinely motivated. I can read



everything he is communicating! There is a lot of fear for him otherwise. On forest day there is no fear, he is so motivated to get his plan down and get outside.”

Engaging others

Among such programs, Ludlow’s is notable for including first graders too. Beyond these two classes, some of the approach of Forest Days in letting students evaluate and manage their behavior is beginning to spread throughout the school. A teacher related,

Sticks were never allowed on the playground, adults were running around saying, ‘Don’t pick that up, put that down,’ all through recess. Then the principal spent a day in the forest and then she went on the playground and she’s watching the kids play, digging on the hillside, digging in the rocks, and she said, ‘Well, hmm, that’s very natural kids’ play.’ But before that it was banned. Now kids are able to carry sticks around on the playground. I haven’t heard people running around telling them not to. So that’s shifting, kids have been able to play with stones, pick up sticks, they’re able to pick up snow and not be told to put it down.

Forest Fridays have been a topic at staff meeting and the entire staff visited the site on an inservice day. According to the kindergarten teacher, the school staff in general is beginning to take more of a “See if you can figure that out” approach to managing the students at recess. Beyond the free play time of recess, teacher of older grades are now starting to figure out how they can integrate the outdoor classroom into their students’ studies.

Parents noted that their children are leading them into new types of exploration at home. A first grader’s mother happily reported that she had to dust off her old snowshoes because her daughter had become so motivated to get out on the trails in winter.

Because of [my daughter’s] new skill at snowshoeing, we started snowshoeing as a family. I hadn’t gone out in years! But out on the trail she’ll point out tracks, notice scat, and then she’ll figure out what animal it is. She’s motivating us and she’s teaching the family too.

The buzz about Forest Fridays has drawn strong support from all across the school community. The literacy specialist remarked, “The number of parent volunteers is incredible.... [The teachers] are having to even turn away parents. It’s thrilling.” Teachers’ husbands have been volunteering, local firemen came to instruct the children about fire safety, and even the school janitor (a maple sugar producer) is getting involved in the teaching. “Everyone heard about it and came to the door saying, ‘How can we help, how can we be part of it?’,” said the kindergarten teacher.





Local business has gotten involved as well. The students are always prepared for any weather thanks to a grant from Okemo Mountain ski resort that covered the cost of winter coats, snowpants, and rain suits.

Looking to the Future

Asked whether all these benefits come with some drawbacks, such as missed instructional time, the Ludlow principal replied confidently,

From my observation, they're getting more than what they're getting in the classroom. The math that they do out there--whether it's temperature, or measuring the height of the snow or a tree or adding this to that--and the reading, writing, science--it's off the charts. And in social studies the sense of community and responsibility and democracy--all of that is being met and then some. And the thing is, it sticks. It's happening in a very real life situation for those kids. I could ask a kid, 'What did you do four weeks ago up at Forest Friday?' and they can tell me word for word. It absolutely sticks.

Reflecting on where they had come from and where they were going the principal said, "I'm glad we're able to do this. It will be something that will continue at Ludlow Elementary School for a very long time whether it's these teachers or other teachers."

Meanwhile, back in Dirt City, the kids seem to know just what to do all on their own.

Ludlow Elementary School's Forest Friday "Typical Day"

- First grade and kindergarten work in their classrooms making forest plans and preparing for the day outdoors.
- Walk together to the forest. Set up the site with a fire, portable bathroom, table for s'mores.
- Morning Meeting: All students sit together on logs around fire. Greetings, temperature check, review activities.
- Children move to their adopted Sit Spots for sensory observations, spending six minutes on their own, six minutes sharing observations with a small group.
- Snack time around the fire. Teacher shares home baked muffins.
- Children revolve through station activities, which might include a math activity, scientific drawings, plant identification, hiking and trail planning.
- Free Play for nearly an hour.
- Specials teachers join the group outdoors and students do PE and Music activities. (One adult returns to the school to bring lunches back out for students.)
- Lunch in the forest and more Free Play.
- Pack up/Clean up the outdoor classroom and head down the trail.
- Back in the classroom, it's time to undress, check for ticks, wash hands.
- For the last hour of the day, indoors, students may identify plants observed in the forest, read nature books, or work on writing blog posts.
- Closing circle as a K-1 team.



Case Study: Mount Lebanon Elementary School

For one of the three kindergarten classes at Mount Lebanon Elementary School, Wednesdays are no ordinary day. There are otter slides, acorn families, and full bodied physics experiments to invent, and there are 16 pairs of insulated mud boots lined up and ready to assist in the action. Attendance is higher on Wednesdays, and the young students' spirits match. The kindergarten teacher notes that their enthusiasm for writing soars, their drawings contain more details, and their organizational skills are honed.

What is the secret of Wednesdays for West Lebanon, New Hampshire kindergarteners? It's Wednesday in the Woods, a day when the children head for the wooded hill behind their school, eyes bright, thinking caps on, parent and teacher chaperones in tow, to spend the morning--rain and snow, mud and sun--learning with trees, fire, gravity, and birdsongs as their classroom.

Hatching the Plan

A site for a forest kindergarten wasn't immediately obvious to the Mount Lebanon principal, though she had a strong hunch that this was the ticket for some of her youngest charges. Located just a mile or so up the street from a busy regional shopping hub in West Lebanon, New Hampshire, the elementary school is surrounded by a handful of three-story apartment complexes in a squarely suburban neighborhood. A relatively small wooded area behind the school stretches up a sudden, steep hill just beyond the playground. One day, on a whim, the principal scaled the tree covered hill and, to her surprise and delight, discovered a 'shelf' of flat land nestled in the woods, just out of sight from the surrounding built world. From there, she knew it was possible. She and an enthusiastic kindergarten teacher visited several other schools' Forest Day classrooms, received the blessing of the superintendent, confirmed insurance coverage, and--since gathering for meals, warming, and storytelling around a fire circle is central for many Forest Days programs--received a fire permit from the fire department.

Case Study Data Sources: Mount Lebanon Elementary School

- 1 classroom teacher, formal interview
- (classroom teacher also participated in a one hour focus group on the topic of Forest Days programs)
- 1 principal, formal interview
- 1 classroom aids, formal interview
- 1 English Language Learners teacher, formal interview
- 2 parents, in person and by phone
- Students, informal conversations
- Onsite observation of outdoor classroom and class, not during field day
- Review of classroom blog

From a generation of teachers who had since retired, the principal learned that there had been a time when more Mount Lebanon children played in those woods, and trails had criss-crossed the wooded hillside. The paths were overgrown from lack of use, so--tapping into yet another generation--she contacted an Eagle Scout, a former Mount Lebanon Elementary school



student. "With great enthusiasm and sense of purpose," said the principal, the young man revived the trails of the past, cleared hazardous branches, and cut stumps to create the fire circle.

Each week, teachers bring a portable fire pit and pop up latrine tent and pail up to the site--both features are temporary in the hopes of deterring weekend parties at the spot--and the kindergarteners head out, accompanied by their teacher, a classroom aide, and often by a parent volunteer, a special educator, and an English Language Learning specialist. Unlike some Forest Days programs, they spend the morning rather than the full day, opting to come in for the nutritious school lunch provided free to many children in the population.

[Place-based education](#), an educational pedagogy with which Forest Days programs align, promotes the use not only of natural environments but of local built communities as a means to ground learning in children's tangible world. The prospect of using the wooded hillside as a classroom prompted a dive into the human local community as well--the kindergarten teacher described a shining example of emergent place-based social studies and science curriculum that unfolded in preparation Wednesdays in the Woods:

Since all the kids don't have the outdoor gear they needed, we got a grant to buy boots. We walked down to West Leb Feed and Supply, explored the neighborhood, learned about the business, kids tried on boots, we talked about the different weights of feed. We then wrote thank you notes to the store owners, and even when we mailed the letters, it was a chance to get to know our neighborhood, walking to the mailbox down the road. The Feed and Supply were so impressed they then came out to our classroom to do lessons about what local birds live here and how to create a bird feeder.



Kids learned about bird calls and now they listen for them when when we're up in the woods. The grandparents of one of my students then came in and did a lesson on different birds. All of these lessons expanded out from going to the get the boots!

Taking Flight

The outdoors opens up new opportunities for developmentally appropriate growth in three key areas noted by the nationwide, early childhood nature immersion program, [Tinkergarten](#). According to Tinkergarten's program theory, students will demonstrate seven key cognitive capacities (curiosity; creativity; problem solving; persistence/grit; focus/self control; imagination; naturalist); five social capacities (communication; empathy; collaboration; self



regulation; self reliance); and a handful of physical capacities including sensory awareness; gross and fine motor skills, and the skills to embody an active lifestyle.

Interviews conducted with Mount Lebanon parents, teachers, and an administrator elicited compelling examples of all of these qualities. The principal captured the multitude of benefits for students in this way, “There’s more to learning than just sitting and learning in an academic setting—outside you’re learning about your body, balance and safety and exploration, taking chances, and the richness of learning about our fauna and flora out there.”



Cognitive Capacities: Science, Math, and Literacy in Action

Being outdoors creates unexpected, engaging opportunities. Slopes and snow, for instance, provide a canvas for testing physics concepts such as force, friction, and gravity. The principal described a Wednesday visit with the group:

We were using words like ‘momentum’ as they were sliding on the hill. And then they were rolling these big snowballs and comparing their speed. There was this physics learning going on in the moment. Those kinds of opportunities pop up that you wouldn’t necessarily plan for.

Interviewees pointed to a host of examples of children constructing their own learning while playing, and of adults capitalizing on this opportunity by modeling play and problem solving, interspersing key activities, and offering vocabulary words to enhance understanding.

One father deeply appreciated the hands-on, tactile nature of the learning process on Wednesdays, noting that his son seems to be “put off from traditional academics.” He expressed delight at seeing his son experiencing “academic success” engaging directly in the living world while designing a teeter totter from logs or tracking a deer.

“I want him to like school and build that habit and expectation of ‘I’m going to school because I like it!’ Not, ‘I’m going to school and they’re going to force me to sit at a desk all day.’ Having this opportunity to just go out and be five is huge for my son.”
-Kindergarten parent

Exposure to real world experiences can fuel energy and interest for writing and reading activities as well. The kindergarten teacher noted that students practice their letters and numbers using sticks and natural objects on the forest floor, and they refer back to photographs of these in the classroom when practicing writing. She also



selects early reading books that tie directly to their observations outside. Recently, the students spotted a deer in the woods, having learned to identify the animal's scat and tracks. After this captivating experience, reported the teacher, "I was able to find one of those early steps toward reading books that was about a deer right after we had actually seen a deer. They got so excited about reading that book!"

The English Language Learners (ELL) teacher concurred with the classroom teacher's observation that the students' writing, too, seemed to be richer and more detailed when they were reflecting on their outdoor days, adding, "To be a good writer you have to have first hand exposure, so when they come in after the day in the woods, they know exactly what they touched and felt and experienced."

Prior to launching Wednesdays in the Woods at Mount Lebanon, other principals had assured the Mount Lebanon administrator that "kids are academically right in stride with their peers." A parent of a current kindergartener echoed this sentiment, noting she had no concern about her son's readiness for first grade. She responded with confidence that he would be "right on par or more ready. I think a greater variety of experiences can only help you in tackling a new grade and subject matter."

Social Capacities: Developing Social Emotional Competence



All interviewees referred to the social, psychological, behavioral, and emotional benefits they see in outdoor days for students. A classroom aide described one child's experience: "This one boy is quiet in class but when we're out in the woods setting he is animated and running. He says, 'Do you want to come see my hideout?' He engages more with people, he's more outgoing, he seems more comfortable." Indeed, when Mount Lebanon faculty went to visit other examples of Forest Days programs, a few teachers challenged them to identify the students who are designated to receive one-to-one attention from an aide. The principal said, "Those kids don't need one on one

support when they're out in the woods. They know how to manage themselves, they're busy, they're active, they're not needing as much redirection. Philosophically it didn't surprise me, and to actually see it it was really beautiful."

Giving children the opportunity to exercise their imagination and define their activities, according to their teacher, seems to engender a feeling of empowerment:

Having that exposure every day each week to be free in the outdoors, it's sort of like a power for them. They're in control of what they're doing. In the classroom, everything is for a



purpose. On Wednesdays, they have a chance to be in control of what they use—they get to tell a stick what it is.

Faculty and parents shared stories, for instance, of captains at the helm of their own log “boat”, families of adventurous acorns, and fishermen “fishing” off a log.

And the ELL teacher noticed that she sees fewer conflicts between children: “Everybody owns the woods. They don’t see that things out there are owned by anyone, so the sharing conflicts don’t come up out there. That attitude seems to translate back into the classroom.”

Physical Capacities: Bodies in Motion

For their part, kindergarteners described their favorite Wednesday activities as “making tunnels” and “building stuff” and “playing Sharks on the Dock, a game I made up.” In an age of increasing concern about childhood obesity and inactivity, the children seem to know intuitively how to make the most of this environment. “All of the students knew what to do the minute they got outside—no one saying, “I’m bored, what should I do?” There were no little girls standing around not wanting to get dirty. I could see that outdoor days were not gender based at all.” The children are constantly in motion, using their bodies to climb trees, and ascend and descend the big hills, noted the principal, learning about balance in the process:

The other day they were sliding down the path on their backs, the kids who got some speed going they were holding their bodies in a different kind of balance, on the right place on the back. You watch the others watching that, and figuring out how to hold their bodies so they too can go faster. Then they're balancing on logs. Hiking up there in and of itself, it's on a big slope so they're using their arms and hands and bodies to climb around up there, I see them using their bodies in a gross motor way that has to be good for them...I see them getting more coordinated.

Enthusiasm for School

Attention to the development of all of these cognitive, social, and physical capacities on Wednesdays at Mount Lebanon seems to go hand in hand with a growing enthusiasm for school. The teacher noted,

The most significant benefit to kids I've seen has been their enjoyment of school – enjoyment of school in its purest form. When we're up there they show just total joy at being outside. Even in the trickiness of a cold or wet day, they are overwhelmingly asking to go outside. When we have choice time, kids ask, can we go outside instead? If it's motivating kids to come to school, to enjoy being in school, that's huge. And also school as a place—a place of learning but also a place that's part of a neighborhood, and part of the natural world.





A father related the common story of asking his children, “What did you do today at school?” and getting the reply “Nothing.” But, he said, on Wednesdays, it’s always an enthusiastic sharing of the day’s doings. He values a newsletter that comes home with pictures and stories of the day, and says his son “circles his picture, tells about what they’re doing, reminds him to do a tick check. He’s always really proud to tell me what he did that day.”

The story of a little boy who was reluctant to make the transition to kindergarten weaves together the benefits—academic, social, physical, and enthusiasm for school—described here by the kindergarten teacher:

One boy who was frequently absent, and hadn't gone to preschool, didn't want to come to school most days, but always comes on Wednesdays. He has this ongoing fort building project. It's the center of what he does every week—he uses certain materials, and he has set it up with his friends so everyone is clear that this space is ongoing.

By contrast, one of the rules on the playground is that forts can't stay. If there's a fort up, anyone is allowed to take it down. In the forest, we allow the ownership—that's how deeper play is—he's allowed to keep going back to this one thing that he really, really loves. He rarely writes or draws about anything else—his drawings are about what happened with his fort each week.



The freedom to construct (and invest in) his own play scenarios, freely in the woods, allowed him to build confidence with other children, developing social connections and self confidence. It allowed him to invest in something that gave him focus, that challenged his abilities in designing, building, problem solving, and—ultimately—creative expression through writing and drawing. In turn, this focus and confidence has meant that, while he often resists going to school, “He has never missed a Wednesday.”

*“Sometimes I think there's too much testing. You're so interested in finding out where they are, you take away what they are really interested in.”
-Classroom aide*

The cultivation of this sort of enthusiasm is no light matter, as showing up and being engaged are simple yet meaningful precursors to success in all aspects of ones of life.



Soaring Beyond this Schoolyard

While the school's administrator does not envision the outdoor classroom becoming a whole school endeavor, she enjoys seeing other classes head up the hill occasionally for read aloud or other brief encounters. As interest and enthusiasm grows, she notes that other teachers may use the resource more, and has attended to the program's sustainability by building the cost of outfitting students into the budget. Her vision, however, spans beyond the slope behind her school. "People call me up and ask about it, and I have as many hours as it takes to support anyone who's interested in this," she said.

Given their success this first year of Wednesday in the Woods, even with limited natural surroundings, she encourages other principals to be catalysts in their schools. She couples the abundance of screens in students' lives and the dangers—perceived and real—that some kids encounter in their neighborhoods, both of which keep them indoors, and contrasts that with the "overwhelming bank of research elaborating the importance of time outdoors. It's the perfect time to start something like this." Much like the momentum students studied as snowballs raced down the big slope, she sees perfect momentum for the spread of Forest Days:

There is so much evidence that justifies this kind of thing in a school. If you can't see it with your own eyes, there's actually data and evidence. It's really great time from a leadership perspective to step forward in a bold way and do something different in public education.

And, as Mount Lebanon has shown, one never knows what sites lie all around our schools waiting to be rediscovered by pioneering educators, history-minded community members, and exploring kindergarteners.

Mount Lebanon Elementary's Wednesday in the Woods Routine

- Morning jobs in the classroom, including a Forest Day plan.
- As a class, determine what gear needs to be worn and whether we are eating in the classroom or the Woods.
- Call the Fire Department for a burn permit.
- Hike up to our space with an adult in the front and back of the line.
- Greetings around the fire circle and sharing nature observations. Sharing adult plans (e.g. building words with sticks, looking for tracks, baking bread on sticks) and student plans (e.g. forts building, stream play, making up games).
- Gather back at the fire circle to share stories of the day and sing the Forest Song: "Hasta Luego, Hasta Luego/ Y Adios, Y adios/Nos Gusta el Bosque, Nos Gusta el Bosque/ciao, ciao, ciao."
- Hike down the trail and get cleaned up to be inside.
- Back in the classroom: writing and drawing in story journals, creating class newsletter (See the newsletter at https://sites.google.com/a/sau88.net/mls_cjoanis/announcements)



Cross Cutting Findings

Forest Days Case Studies: A Cross Site View



Hartland Elementary School, Mount Lebanon Elementary School, and Ludlow Elementary Schools are three of about 20 schools in Vermont and New Hampshire where teachers, principals, and supportive community members have mobilized to consistently and deeply integrate learning outdoors into the school week. Dubbed Forest Fridays, Outdoor Mondays, Woods Day, or Wednesday in the Woods, what these programs around the region have in common is one or more teachers who believe that the natural landscape is an appropriate context for learning and that the power of freedom and self-determination will deepen a child's motivation for learning. These programs also have in common a vital support: strong backing from an administrator as well as an essential outcome—a lot of happy kids and families.

Each of these schools has created an outdoor learning space that classes can use as a home base

during their weekly excursions. There is usually a central gathering circle around a fire pit, sometimes a lean-to in which to keep materials dry, and some form of “bathroom” (perhaps a teepee of sticks for modesty, and a removable bucket). The rest of the classroom is the trees, sky, wildlife, and fresh air in which to move one's body and brain.

The apparent success of the Forest Days programs can be interpreted through a variety of pedagogical and theoretical lenses. [Place-based education](#) promotes the use of both natural and built communities as a means to ground learning in children's tangible world, and posits that students will readily engage with what is local, known, and relevant to them. And it is apparent in watching these children and educators in action, that the tenets of Self-Determination Theory (SDT) are at work here: when students experience a sense of competence, autonomy and relatedness, they are more likely to take healthy risks, solve problems creatively, invest in their own learning process, and work cooperatively with others. In short, their motivation for learning flourishes.³ The rich context for learning (place-based) coupled with the students' experience of the learning environments (self-determined) created conditions for strong engagement with their school experience: cognitively, behaviorally, and emotionally. All of these forms of engagement have been shown to link with success in school.⁴

³ <http://www.apa.org/research/action/success.aspx>

⁴ https://repository.asu.edu/attachments/56844/content/Smith_asu_0010N_10812.pdf



What benefits do we see across sites?

- **Mastery of academic content** (*cognitive engagement*). Despite a reduction in traditional classroom-based instructional time, all sites reported acceleration of students' reading and writing, science and math skills. Writing was fueled by authentic experiences, and opportunities for real world science projects were abundant. Interviewees reported seeing children engaged in engineering, design, problem solving, observation skills, storytelling, active listening and public speaking, to name a few.
- **Enhanced student enthusiasm for school** (*emotional engagement*). A natural extension of students' enhanced engagement in learning, and by an attachment to their place, students at all sites showed evidence of an enhanced enthusiasm for going to school. Examples offered included students at multiple sites proudly bringing visitors on weekends or after school to see their outdoor classroom, students laying out clothes the night before in anticipation of the forest day, and higher attendance rates on forest days.
- **Fewer discipline or behavior issues** (*behavioral engagement*). Perhaps attributable to students' enjoyment of school, all sites reported that students make far less 'trouble' during forest days. Numerous stories about children who often struggle to behave appropriately in the classroom setting, but who were thriving on forest days. One specials teacher noted, "Behavior management issues when we're out there? None, absolutely none. In fact, those kids who have trouble focusing in the classroom, they're different children out there, they're more engaged."
- **Strong community support and participation**. The programs shared enthusiastic support from diverse stakeholders ranging from students' parents to teachers' spouses volunteering weekly at the forest sites; from the music teacher playing guitar in the woods to the custodian teaching maple sugaring; from weekend work parties to donated or discounted clothing and equipment from the community and local businesses.
- **Teamwork and problem solving skills**. Given the space and time to enact one's own agenda, and the raw materials of nature rather than the built structures and fixed-use

"The kids are absolutely learning at least as fast as in the classroom. I don't consider those Fridays non-learning time in any shape or form."
-Reading Specialist

"I love seeing the deep engagement up there and realizing their capacity for that and realizing that if they can do it out there they can do it in here."
-Kindergarten teacher





materials of a playground or classroom, children were reportedly thinking creatively and communicating directly with one another—working cooperatively to create the world they wanted to inhabit for that time.

- **Improved social connectivity for students and teachers.** Teachers and parents across sites reported that students seemed to have more mobility in their friendships on forest days, and that even teachers' own connections with students were enhanced as the traditionally hierarchical classroom structure was replaced by a more collaborative and student-led learning environment.
- **Healthy physical development.** Students built stamina, muscle tone, and gross motor skills as they navigated steep slopes and icy passages; sustained outdoor play for hours a day; and developed the appetite and skills needed to engage themselves and their families in new outdoor activities like snowshoeing or birdwatching.
- **Spread of implementation.** In some cases, teachers from other grade levels planned to start using the outdoor classroom. In other cases, the more hands-off approach to student management was spreading to the playground as the adults began to find that students could take safe risks and make appropriate decisions on their own.



What makes these programs work?

A host of “key ingredients” surfaced as factors that allowed for the smooth creation and sustained success of these Forest Days programs.

- **A spark and a flame.** The spark may come from a teacher attending a conference, reading a book, or having a friend at an existing forest days school; the sustained flame comes from a supportive administrator and school board backing a teacher's efforts. As one teacher said, “We're very fortunate to have a principal who loves to see us doing things from the bottom up.”
- **An enthusiastic co-teacher.** While one site had just one teacher running the forest day program, the companionship of a teacher team seemed important. In one case, a new kindergarten teacher position was available and candidates' interest in launching this effort factored heavily into the hiring process. In two cases, the teachers were so inspired by the benefits they saw in joining their classes of children together they began also collaborating on other aspects of their curriculum.
- **Teachers having an affinity group.** All teachers noted how helpful it was to be part of an affinity group—in this case the Outdoor Play and Learning Professional Learning Community⁵—while launching and working out the kinks of this program. Through this

⁵ This PLC was led by educators Eliza Minnucci and Meg Teachout, with support from the Wellborn Ecology Fund.



network, they were able to visit outdoor classrooms around the region and swap curriculum ideas with other educators.

- **Establishing boundaries and then trusting kids.** The greater physical freedom of the outdoors allows active kids to thrive in their bodies, and reserved kids to push themselves out of their comfort zones and test limits. “We step back, we keep a watchful eye, but we let them take a little risk and see what happens, and go from there,” explained a kindergarten teacher. Parents appreciated this day where their children have “more ability to explore, make mistakes, and problem solve. It’s more open, not so regimented.”
- **Modeling play and curiosity for students.** Noting that children today are often quite scheduled in their activities, teachers across sites try to model playful activities when children seem at a loss, especially at the beginning of the school year. These teachers, rather than instructing in what to do, engage right into the play, becoming a wild animal, building a snow rabbit, inhabiting a fairy kingdom, creating letters out of sticks on the ground, sliding down a hill, collecting natural objects, lying down in the snow and sky gazing.
- **Maintaining a flexible agenda and attitude.** Whether because of weather conditions, unexpected curiosities in nature, or the whims of children, teachers have struck a balance of mapping out a loose structure for the day and “letting our day mold itself.” This flexibility is also about being “playful in our academics.” Kindergarten teachers talked about “bringing indoor learning outdoors,” flexibly taking advantage of teachable moments.
- **Involving parents and community.** Community assistance is needed in the start-up work of preparing the outdoor classrooms, and there are numerous ongoing roles for volunteers to fill to help keep students safe and engaged. Parents and community members participated in the programs as trail builders, shelter erectors, chaperones, guest leaders, firewood stockers, and many other roles.

“We’re trying to just trust them and let them choose. I think in general [society is] micromanaging kids too much.”
-Kindergarten teacher



What obstacles to implementation (and solutions) did sites encounter?

Asked about challenges faced in implementing this new way of doing things at the three elementary schools, responses were notably few and solutions seemed forthcoming in most cases.

- **Initial skepticism.** Interviewees noted that while several parents and assistant teachers had initially been skeptical about Forest Days, worrying about things such as “my son doesn’t like dirt”, or wondering about safety and emergency response, no one could think of any real detractors once the programs were up and running. Many shared stories of skeptics won over by the reality of the program in action. Safety issues were addressed in various ways: having the ready support of the social emotional interventionists out in the



woods (and back in school if a child needed to stay behind); going out equipped with walkie talkies and phones; regular checks of the natural environment for potential hazards. Clear, consistent communication with parents and the school community regarding the program's purposes and development was noted as a key to success.

- **Staffing wisely.** Choosing support staff (such as paraeducators) who are enthusiastic about the outdoors was important. While very few people mentioned the students having any issues with rain, cold, or other environmental challenges, adults were more likely to balk. Those classroom assistants who had a predisposition to the outdoors were more likely to remain engaged and enthusiastic throughout the year.
- **Keeping students outfitted for all weather.** At a site where all the equipment had not been procured in advance via donations or grant funds, an occasional challenge was students not owning (or remembering to bring) the proper clothing for the weather. Even at this site, however, donations of warm clothing had been collected for families who had less access to all-weather gear, and extra items were available at school when kids forgot things.
- **Site development and maintenance.** Establishing and maintaining a "classroom" in the woods requires personpower, whether it's building trails and fire circles, constructing benches or shelters, or regular removal of hazards like dangling branches. Every teacher relied on help, both at the outset, and for ongoing maintenance, from community members ranging from boy scouts to local retirees. Every teacher reported spending some time on weekends or during summer to ready the site.
- **Site impact.** Perhaps a more persistent challenge that will likely only grow over time and as interest in these programs grows across grade levels, is the wear and tear on the forest sites. In some cases, these programs turn undisturbed forest into a working landscape, the impact of which can be mediated to some degree by attentive stewardship.

Conclusion

The spread of Forest Days programming is a regional and national phenomenon. Like any educational innovation, scale up will be supported by documentation of implementation, challenges, effective practices, and outcomes. This set of case studies provides insights into the processes being implemented and outcomes emerging at three New England sites. The evidence from these profiles suggests that Forest Days are a promising intervention that not only supports academic learning but offers numerous social, emotional, physical, and community-level benefits to diverse participants. The benefits seem to far outweigh any challenges brought forth, indicating that this pedagogical approach is worthy of consideration by a broader audience.

*Proud and patriotic,
forest kindergartners
and their forest flag.*

