

Into the Woods: Identifying Policy Strategies to Promote Nature-Connection in Vermont



“Everybody, every human, every child wants to be in nature and will benefit from it. So, it's just making sure that it happens.”

-Vermont nature-based educator

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Summary

Connecting with nature provides numerous benefits, including improved human health and academic outcomes as well as enhanced place-based conservation ethics. The objective of this project was to identify strategies to support connecting people with nature, with a specific focus on nature-based education programming for children and families in Vermont. Twenty nature-based education programs participated in this study, and we categorized these programs into four primary types currently serving Vermonters: 1) independent nature immersion programs, 2) schools hosting a salaried nature-based educator, 3) nature centers contracting with schools to offer programming, and 4) independent nature passport programs. In addition, we identified seven programs providing training and professional development to empower educators to integrate nature into their curriculum. The programs included in this study tend to serve elementary-aged children who identify as white and whose families identify as middle income. Notably, 18% of programs are unable to provide financial aid to all people who qualify. Interviews indicate the following key barriers to nature-based programming in the state: 1) lack of funding, 2) academic standards that prevent flexibility for teachers to take learning outside, 3) lack of schoolteacher comfort/confidence in outdoor learning, and 4) lack of school administrative support. Participants cited social and cultural norms as a primary barrier to attracting diverse populations including Black, Indigenous, and People of Color, including both participants and mentors. Several models exist across the country that provide insight into options for how to structure support for nature-connection programming in Vermont. Executive orders and legislation in Maryland, Kansas, and Washington stand out in their ability to communicate and organize the implementation of nature-based programs and support underserved communities to gain access to nature. Across these three programs, there are themes of environmental literacy, allocating funding to underserved communities, and identifying areas where green space is not accessible. Recommendations for supporting an informed and coordinated approach for increasing access to nature-connection programs throughout Vermont include: 1) developing funding pathways in support of nature-based education, 2) attracting diversity by supporting Black, Indigenous, and People of Color as mentors and educators as well as participants, 3) creating educational policies to integrate joyful nature-based learning into the public school system, and 4) developing networking opportunities for nature-based educators and programs across the state.

Background

People derive many benefits from contact with nature including:

- improved mental, physical, and social-emotional health outcomes
- reduced stress
- improved resilience
- enhanced academic and cognitive performance.

Likewise, the United Nations Environment Program recently advanced the idea that human contact with nature benefits the planet. The more time people spend in nature, the greater their sense of place, belonging, and stewardship of the natural world—connections that lead to conservation actions necessary for overcoming the three primary environmental and public health threats of our time: climate change, pollution, and loss of biodiversity.

Despite a short-term increase in outdoor activities during the pandemic, the amount of time that people spend engaging with nature continues to decrease. Current estimates show that more than fifty percent of Americans spend less than five hours outdoors each week, and that much of this time is spent in organized activities rather than immersion in nature¹. As a result, there is a critical need for identifying strategies that connect people with nature. **This report summarizes the results of an investigation of opportunities for increasing access to nature-based education programming among children and families in Vermont.**

Data collection

We identified current nature-connection programs in Vermont using both online searches and snowball sampling (Figure 1). We invited individual contacts from this list to participate in this study via email. Participation included two components: 1) an online survey to gather baseline data on nature-based programs in the state, and 2) follow-up interviews to develop a deeper understanding of opportunities and barriers to nature-based programming in Vermont. Finally, we conducted a review of current policies that promote nature-based education in other states. The University of Vermont Institutional Review Board approved the methods used for conducting this research project (CHRBSS 1730). Representatives from 20 nature-based education programs in Vermont participated in the online survey portion of this study, and 16 educators from these programs completed follow-up interviews (Table 1).

¹ Kellert SR, David J Case, Daniel Escher, Daniel Witter, Jessica Mikels-Carrasco, Phil Seng. *The Nature of Americans: Disconnection and Recommendations for Reconnection*. 2017.

Table 1. Programs represented in the online survey and follow-up interviews of nature-based education programs in Vermont (November 2021 – March 2022).

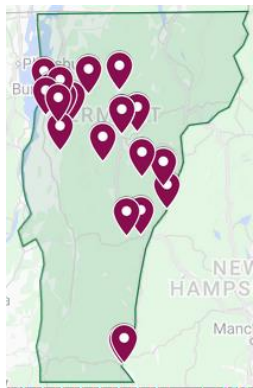
Program	Location	County	Urbanicity	Survey	Interview
Abenaki community based program	State-wide	Orange	Rural	✓	
Allen Brook School Kindergarten	Williston	Chittenden	Suburban	✓	
Audubon Vermont	Huntington	Chittenden	Rural	✓	✓
Bonnyvale Environmental Education Center	Brattleboro	Windham	Rural	✓	
Braintree Elementary School	Braintree	Orange	Rural	✓	
Come Alive Outside	County-wide	Rutland	Rural	✓	✓
Crow's Path	Burlington	Chittenden	Suburban	✓	✓
ECO - Educating Children Outdoors - North Branch Nature Center	Montpelier	Washington	Rural	✓	✓
Enchantment Camps	Shelburne	Chittenden	Suburban	✓	
Learning about the Environment through Experiential Education Project (LEEEP)	Norwich	Windsor	Rural	✓	✓
Mountain River School	Morristown	Lamoille	Rural	✓	✓
Passport to Winter Fun	Norwich	Windsor	Rural	✓	✓
ReTribe	Underhill	Chittenden	Rural	✓	✓
Roots	Corinth	Orange	Rural	✓	
Vermont Institute of Natural Science	Quechee	Windsor	Rural	✓	✓
The Wren's Nest Forest Preschool	Bristol	Addison	Rural	✓	✓
Thickets	Montpelier	Washington	Urban	✓	✓
Treewild	Shelburne	Chittenden	Rural	✓	✓
Vermont Institute of Natural Science	VINS	Windsor	Suburban	✓	✓
Vermont Wilderness School	Brattleboro	Windham	Rural	✓	✓
Wonder Roots LLC	Hinesburg	Chittenden	Suburban	✓	✓

Findings

Overview of Vermont nature-based programs represented in this study

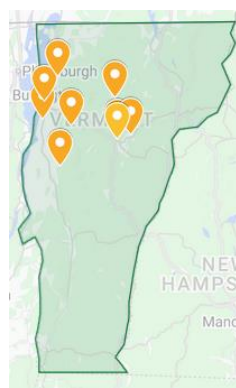
Over the past several years, a variety of nature-based programs have emerged throughout Vermont to provide opportunities for children, families, and adults to connect with the natural world. These programs include forest preschools, public school programming, all-day outdoor immersion programs, rites of passage for teens groups, passport programs, as well as programs designed to train and empower educators to integrate nature into their curriculum.

Figure 1. Maps of nature-based education programs in Vermont, May 2022 (* indicates the program participated in this study).



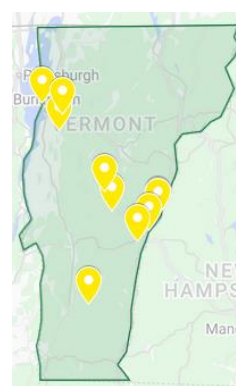
Independent Nature Immersion Programs

- Abenaki Community Based Program*
- Audubon (multiple programs)*
- Bonnyvale Environmental Education Center
- Bread and Butter Farm
- Crow's Path*
- Earthwalk Vermont
- ECO- Educating Children Outside*
- Mountain River School*
- Red Cedar School
- ReTribe Forest School*
- ROOTS School Youth Programs
- The Community Campus
- Tree Wild
- Vermont Farm & Forest Day School
- VINS Homeschool Programs*
- Vermont Wilderness School*
- Wonder Roots LLC*



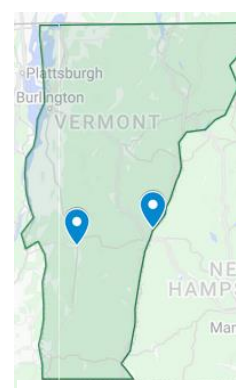
Forest Preschools

- Audubon Forest Playschool*
- Burlington Forest Preschool
- North Branch Nature Center*
- Orchard Valley Waldorf School
- Shelburne Farms
- Mountain River School*
- Wren's Nest at Wild Roots



Nature-Based Education in Schools

- Allen Brook School*
- Braintree Elementary
- CP Smith Elementary
- Flood Brook School
- Moretown Elementary
- White River Valley Middle School
- Champlain Valley Union High School
- Thetford Elementary School
- Thetford Academy
- Flynn Elementary (Birding to Change the World)
- LEEEP*
- Thickets (private school)*
- Union Elementary
- VINS*

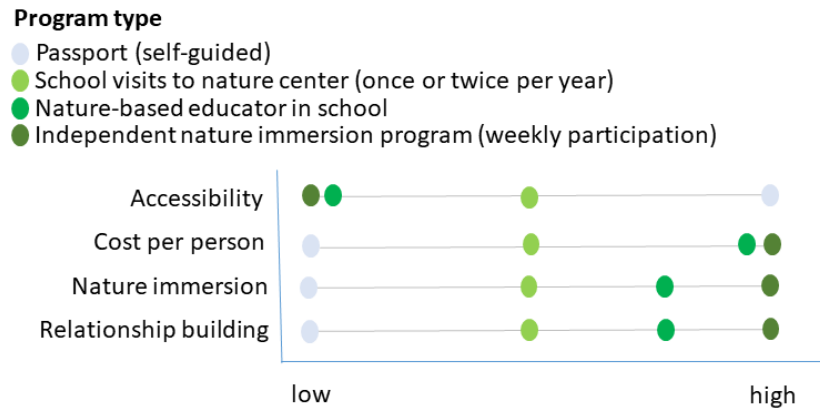


Nature Passport Programs

- Come Alive Outside*
- Passport to Winter Fun*

*Note: The public school programs listed here represent only a sample of schools that offer some form of nature connection.

Based upon interviews, we have categorized programs into four distinct types, each of which offers benefits and challenges to increasing Vermonters’ connections with nature.



On one end of the continuum, “passport” programs offer self-directed nature connection by providing people with game-like opportunities to complete tasks that earn them a chance to win a prize. These programs reach a large number of people, though the completion rates tend to be relatively low. Importantly, passport programs can engage people across the age spectrum, and some specifically target under-served communities including elders, and people experiencing mental health challenges, all with a goal of connecting people with nature to improve health and wellness.

At the other end of the spectrum are independent nature immersion programs such as forest preschools and programs that school-aged children attend once-per-week throughout the academic year. These programs have limited capacity (typically a ratio of 6 students to 1 mentor), but provide deep opportunities for place-based learning and relationship building.

Programs participating in this study range in their size and scope; the smallest program serves seven children (private nature immersion program for elementary-aged children), while the largest serves 4,500 Vermonters of all ages (self-guided nature passport program). These programs use a variety of different terms to describe their work connecting people with nature, including environmental education, nature connection, nature contact, nature immersion, outdoor learning, place-based learning, rewilding, and connecting to the wild. Importantly, several programs that classify themselves as providing “nature immersion” where participants come for full-day activities every week distinguished themselves from short-term programs that provide activities that they consider “nature adjacent.”

*It's really worthwhile to facilitate positive experiences in the natural world, period. So, I don't want to sound like I'm against [other programs]. It's really valuable. But my opinion on that in general, based on what we have learned in our field, is that if you give people these one-off or short term experiences, then that's going to have a pretty small impact for most people. Our approach is different because **what we're trying to facilitate is not just moments of connection with nature, but routines of connection with nature.***

Populations served by nature-based programs in Vermont

Of the 20 programs represented in this study, the majority reported serving elementary-aged children, with lower rates of engagement among other age groups (Figure 2). All of the programs report currently serving all genders (male, female, non-binary).

Regarding racial diversity, all programs report having participants who identify as white (100%), with less representation from multiracial (64%), African American (56%), Asian (44%), and Indigenous communities (20%). Half of the 20 programs report serving Latinx participants.

Regarding socioeconomic diversity, current participants in Vermont nature-based programs predominantly identify as middle income (71%), followed by low income (58%), and high income (46%). The percent of program participants who qualify for financial aid varies, as does the ability for programs to offer financial aid (Table 2). **Notably, 18% of programs are unable to provide financial aid to all people who qualify.** The primary ways that programs offer financial aid include grant money received by the program, donations and fundraising events, discounts and sliding scale program fees, and funding from the Vermont Department of Children and Families Child Care Financial Assistance Program for programs that qualify as childcare centers (e.g. forest preschools).

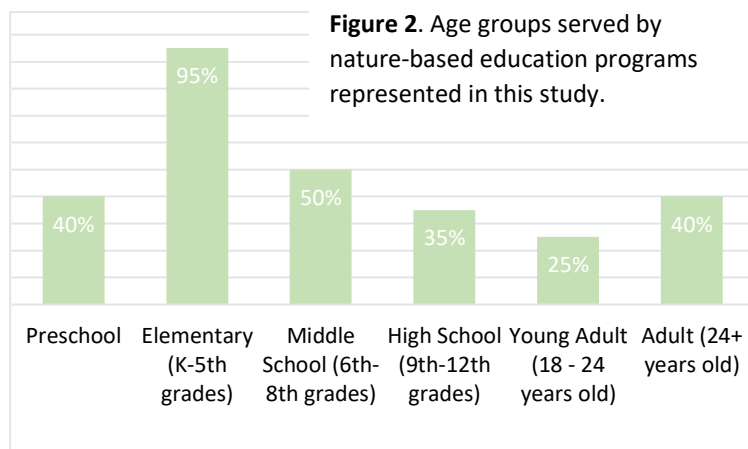


Table 2. Financial aid need and availability across nature-based education programs in Vermont.

Percent of participants who qualify for financial aid	
Less than 10%	12%
10% to 20%	47%
More than 20%	41%
Percent of programs that offer financial aid	
Yes	71%
No	4%
Not applicable (no fee for program)	25%
Program able to provide financial aid to all who qualify	
Yes	82%
No	18%

Benefits of nature-based programs in Vermont

Study participants perceived that their programs offer benefits to both people and the planet (Figure 3). Survey responses indicate that mental health is the top-ranked benefit perceived by educators, and in interviews, social-emotional learning among children was the most cited human benefit of nature-based programming, followed by joyful learning, developing outdoor skills, and mental health promotion.

*Social and emotional skills are really what we're trying to do here. Sometimes you can come to our programs and it looks on a very surface level like we're just teaching kids how to make fire by friction or edible plants. How we think of what we're doing is **we are taking advantage of the opportunities that the natural world offers in terms of problems that need to be solved to help people and kids learn how to work together.***

Interviewees identified several benefits their programs offer to support planetary health, including building relationships and empathy with the natural world, and learning to care for and steward local environments.

*Instilling a stewardship ethic is one of the things that is an emphasis. Our programs really focuses on place-based learning and connecting people with place and **building that long term deep relationship where people care to keep coming back and care to keep stewarding.***

Survey responses indicate that current nature-based programming varies in the topics that are included, the most common focus being plants (e.g. identification, wild edibles; Figure 4). Interestingly, the three topics cited by the United Nations Environment Program as the most important environmental challenges of our time—biodiversity, climate change, and pollution prevention—are the least likely to be included in programming. Interviews suggest that this disconnect may result from the fact that the majority of programs included in this study serve younger children. Many study participants shared concern for sharing these types of materials before they are developmentally appropriate, which they believe contributes to disengagement.

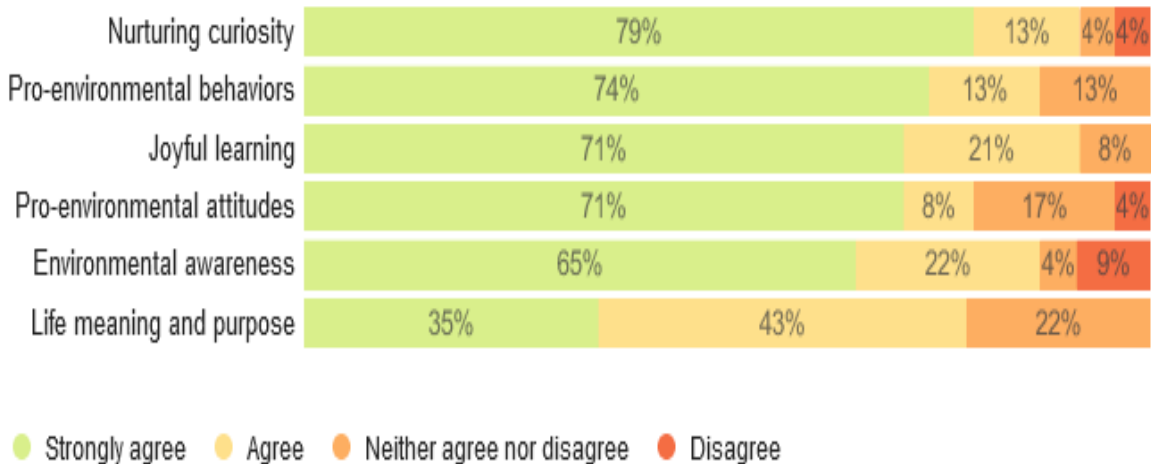


Figure 3. Agreement among survey respondents regarding benefits that their programs provide.

Challenges and barriers to offering nature-based education in Vermont

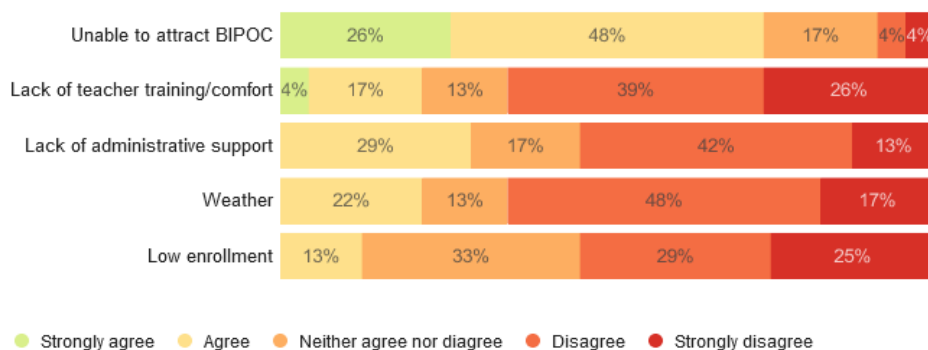


Figure 5. Agreement among survey respondents regarding challenges that their programs endure.

Interviews indicate lack of funding as the primary challenge facing nature-based programming in Vermont, followed by academic standards that present a barrier to getting students outside, lack of school administrative support for nature-based learning, lack of schoolteacher comfort/confidence in outdoor learning, lack of gear, transportation, and limited access to appropriate outdoor spaces in schools.

*There's also this feeling as a teacher of **needing to constantly bombard your students with achievement oriented material**, and it's very scary to let go of that idea that you're just going to go outside and you're going to discover stuff. But once they see the kid form a relationship with the squirrel who comes all the time, and they leave nuts, then they start to figure out what kind of squirrel is it? And what kind of tree is it? And what can we do with these nuts ourselves? And we're making flour, and now we're eating what the squirrels are eating. And then all of a sudden **the [outdoor] learning is both deep and broad**. But there has to be this willingness to kind of let go of all those requirements and when you're carrying that burden, especially with these performance salaries and all that stuff, I think it's kind of a scary time to be a teacher, you know?*

*They're also **lacking the flexibility within the schedule**. You know, the schedules have really changed this year because of the amount of catching up that needs to happen and the influx of services that have gone into schools. I would normally be going out with a teacher for two to three hours, now I get one hour with them because of their schedules.*

Participants cited social and cultural norms as a primary barrier to attracting diverse populations including Black, Indigenous, and People of Color.

*The Nature Connection Leadership Conference last year was run almost entirely by women of color. And that was in answer to a major critique that had occurred in years previous. And one of the things that really struck me was, many people in different ways over and over said, **“Don't make a program and then wonder why we're not there. Ask us what we want. Ask us what we need and be prepared for it to be something that might cause you to stretch. Don't expect that we're going to be comfortable outdoors.”***

Another main concern that arose in interviews was the lack of accessibility and equity for children to participate in independent, weekly nature-immersion programs. These programs offer long-term benefits of place-based learning and relationship building with mentors, but are restricted in the number of participants they can serve. They also require that children’s academic homes (schools, homeschools) allow them to attend these programs once per week throughout the academic year.

*But the access question, you know, like kids come from school, there are **a lot of schools that allow kids to go and they sort of turn the other way. They look the other way with regard to attendance. But that's not equitable.***

Recommended actions for promoting nature-based education in Vermont

Although there is a strong culture of nature-based education in Vermont, our research indicates several options for better supporting and strengthening nature-based opportunities in order to provide broad access to all Vermonters, and increase equity especially among children.

Table 3. Recommended actions to better support nature-connection in Vermont.

Theme	Interview responses
Funding needs	
Program funding to help public schools get started with outdoor learning	<p><i>I think if the state had a pilot program grant where it schools could even just start peppering in forest visits, those schools could experiment and figure out which teacher or which educator at which location...I think that would really light a fire under a lot of schools.</i></p> <p><i>I mean, it needs to be made a priority in the school budget, right? Whether it's providing every single kindergartner with a snow suit and boots, but also considering hiring a staff person.</i></p>
Provide grants for professional development and administrative support	<p><i>If there were grants available to help with professional development and administrative support. There's a whole bunch of low hanging fruit opportunities that we have not been able to do because we don't have that kind of administrative capacity. We can only charge participant fees and fundraise enough to do just what we are doing and not a cent more, so it's hard to improve our administrative systems. If we increase the fee, then we start to lose people. So, if there was some kind of capacity building granting organization, that would allow us to do a whole bunch of stuff really quickly.</i></p>
Provide housing assistance for nature-based educators	<p><i>Housing assistance would be would be incredibly helpful to us because we often have people who are willing to come work for us for a season, but they don't want to make a one year commitment to an apartment when the work is only for nine months. So if there was a system where visiting mentors, outdoor educators could find homestay placements, or if there was some kind of relationship with the state parks for a discount, or state housing subsidies of grants, I think we would get many more people coming.</i></p>

Funding for transportation	<i>Another thing would be if [funding support] could be for transportation. I think that would be a huge help for a lot of people, whether it be a program like mine or for a school program as well. I think that would really ease up the stress when planning a field trip as well.</i>
Funding for gear	<i>I also think possibly like money towards gear as well...like having snow shoes for children to be able to experience them in their schoolyard, or even just as simply like having winter shoes or gloves or jackets to make sure that students can stay two hours outside comfortably.</i>
Funding for studying the benefits of nature-based programming in Vermont	<i>We have a lot of anecdotal experience of the benefits that I've shared with you, but we don't have a lot of rigorous academic studies to back that up, and we would really like to. We would really like researchers coming in and evaluating the benefits of our programs, but we haven't been able to afford to pay a program evaluator to come in and do that kind of research.</i>
Supporting Diversity	
Attracting Black, Indigenous and People of Color as nature-based mentors and educators	<i>You know, attracting more BIPOC folks, it's expensive to live here. The pay isn't great for even, you know, even teaching, let alone outdoor teaching. So the state could offer scholarships and free tuition [for professional development]...we've never turned anybody away from this course who wants to take it and I've had quite a few people come through and take it for free, you know, but we could get better at that. We could get better at having some kind of scholarship system.</i>
Attracting and welcoming program participants from diverse backgrounds	<i>It's really important to acknowledge that this field specifically has a really ugly history of exclusion and racism and discrimination. And one of the things that we have realized is that we need to get much better about this really quickly because there are a lot of people who both need to do programs like ours and want to do programs like ours but feel blocked because it doesn't feel like a welcoming space for them to come...So just this year, we introduced a reparations fund. So from now on, for all of our programs, any BIPOC person can come for free. No questions asked.</i>
Integration of nature-based learning in schools	
Identify opportunities in educational standards for nature-based learning	<i>Not infrequently, what we'll find is individual educators who want to do things like we do or want to send their kids to our programs but feel like they cannot because of standards that they have to meet in terms of what curriculum needs to be covered.</i>
Administration needs to encourage nature-based learning	<i>You need to have leadership that says that this is an important part of the curriculum...There used to be a quite a bit of disparity, according to teacher interest. So anyway, there was a directive that all classrooms really are expected to do pretty much the same curriculum.</i>

<p>Integrate nature-based learning in higher grades (middle and high school)</p>	<p>It's relatively simple in K-through-12 education. It gets harder in middle school and it gets really hard in high school. We have very few high school students, and the feedback we receive from the students is that it's not because that's what they want. It's because the constraints and the structures and the requirements on high school students just don't make it possible for them...even though they would like to.</p>
<p>Provide nature-connection professional development for public school teachers including long-term mentorship</p>	<p>I think it's easier than a lot of teachers think, and it's just a change in mind frame and mindset. For older teachers, I can say that it's a little intimidating to have to develop a new toolbox because you're like, I got a toolbox. I've been using it for three decades. It's been working great. Like, there's some resistance to change. I think it's natural for that to be a barrier because I went through it and once I started doing it, I saw how easy it was.</p> <p>Those [standards] can be met in an outdoor setting or in conjunction with a nature connected curriculum. But again, that is something I think that needs to be taught in teacher education by schools.</p> <p>What do educators understand about the connection between taking care of our environment, climate change, and nature connection? I think if more teachers understood the gravity of the situation with regard to climate change and understood the connection between a nature-connected person being more likely to actually care for the environment, I think we would see more teachers taking kids outside.</p> <p>Connecting with the natural world can have a steep learning curve...So you actually really need to be not just connecting them with a specific piece of learning, but connecting them with a mentor who can help them along the pathway of learning.</p>
<p>Provide nature-based experiences for public school teachers</p>	<p>Last fall we did a series of training for teachers and some teachers were like, "Finally, we get to get outside! This is so exciting!" And other teachers were resentful. They did not want to be asked to learn something different...they were just like, "Please don't ask me to prove to you that my kids are learning how to read and then tell me that you're going to take away classroom instruction time while they're outside." And I come from a constructivist background and I know how to integrate curriculum. And no matter what I said, they were just they just couldn't take in any more. They were saturated. They were stressed out. So what we need to be providing is R&R type outdoor immersion experiences for teachers where they get to do this stuff for themselves and are pushed only to those edges that are within their comfort zone. Little by little, because as we all know, those of us who spend a lot of time outside, you have to kind of slowly learn how to interact with the natural environment.</p>

Rethinking risk in school settings	<i>Liability is so enormous. We had this tree that fell down on the on the hillside of the playground. It was a kid's favorite thing to play on—all these skills and creativity perched up there. They just were so happy playing on it and somebody decided it was a hazard and they took it away. So the other thing that's helpful is to have administration that supports appropriate risk taking, and that's hard to find because they are being yelled at all the time to not take any risks whatsoever.</i>
Develop communication structures to connect schools and nature-based programs	<i>Supporting better communications between organizations like ours and educational administration. That's also one of our biggest challenges.</i>
Educational policies to guide nature-based programming	
Increasing the impact of programming by supporting routines and habits in nature (moving from nature adjacency to nature immersion)	<i>...what we're trying to facilitate is not just moments of connection with nature, but routines of connection with nature. So what I would tell legislatures is that whatever you do, it should be something where there is always a next step, where you are creating pathways. And you can even do that with passport programs where you would automatically get another passport as soon as you finish that one. As long as what you are doing is creating habits and creating routines, setting people on a path.</i>
Regulate nature-based programs to ensure benefits	<i>Our field is understudied and under-regulated. I always want there to be space for informal ad hoc groups of families who hire somebody to teach their kids something. But I do also feel concerned that...there might be predatory organizations out there who claim that they're nature-based education but don't actually provide the things that they're being paid for. And I worry that because there's no regulation, that's what will be happening in the future.</i>
Nature-based program support	
Develop networking opportunities across the state	<i>I've always thought it would be so beneficial to other programs to have some sort of consortium where we can share ideas and challenges...creating some sort of network that's convenient for people to connect in.</i> <i>When COVID was hitting, we had a little bit of envy of the way that Maine has things together. They have some kind of statewide organization, they're more coordinated. And it was super cool to be able to go on their calls and see how all of the Maine organizations were responding to it, but there was nothing like that for Vermont.</i>

Policy strategies for promoting nature-based education programs

Several models exist across the country that provide insight into options for how to structure support for nature-connection programming in Vermont. Executive orders and legislation in Maryland, Kansas, and Washington stand out in their ability to communicate and organize the implementation of nature-based programs and support underserved communities to gain access to nature. Across these three programs, there are themes of environmental literacy,

allocating funding to underserved communities, and identifying areas where green space is not accessible. In addition to state-level policies, other models such as the Children’s Outdoor Bill of Rights and Environmental Literacy Plans also provide some insight for promoting nature-based education.

Maryland Partnership for Children in Nature (2008 Executive Order for the Partnership for Children in Nature and 2017 Executive Order for Project Green Classrooms)

<https://dnr.maryland.gov/pgc/Pages/History-and-Achievements.aspx>

There are four main tenets of Maryland’s Partnership for Children in Nature plan:

1. Promotion of outdoor play and learning – led by the Department of Natural Resources which organizes a celebration of the outdoors that connects children and families to nature.
2. Environmental literacy in schools - headed by a member of Maryland’s ‘No Child Left Inside’ coalition and a member of a public school board. These leaders host trainings and workshops for schools and related organizations as well as forums between elementary/middle and high school programs to ensure consistency between environmental literacy programs. It is important to note that Maryland was the first state to pass an environmental literacy requirement for high school graduation (MAEOE).
3. Community planning – the state utilizes a Park Equity Analysis GIS program to identify communities in need of access to park space in order to build capacity in underserved areas. The [map can be found online](#).
4. Health and agriculture.

In addition, Project Green Classrooms program is charged with mobilizing resources to ensure that Maryland’s youth experience, understand, and learn to conserve the natural environment.

Kansas Coalition for Children in Nature (2009 Executive Order)

<https://outsideforabetterinside.org/about/>

This Executive Order outlined the need for continued outreach to engage individuals and organizations with the outdoors, developed a Children’s Outdoor Bill of Rights, and formally created the *Kansas Coalition for Children in Nature*. Highlights of Kansas’ approach include:

1. Goal of connecting youth to nature through programmed activities and environmental education.
2. Outlines a plan for outdoor classrooms.
3. Promotes the use of parks and “greenways” for walking and biking instead of driving.
4. Promotes outdoor play areas within communities.
5. Incorporates service learning in schools to encourage more time in local parks and increased connection to land and natural resources.

Washington Parks & Recreation No Child Left Inside Grant Program (Began in 2008, state legislature approved funding and has allocated between \$750,000 and \$2.25 million per year to the grant program)

<https://www.parks.wa.gov/972/No-Child-Left-Inside>

Washington's program primarily provides funding for organizations that encourage students to get outside in socially sustainable ways. In the year that they started the funding, more than 36,000 students were outside for a total of 193,115 hours. The program provides recommendations for how to allocate grants by prioritizing programs that include students of underserved communities or marginalized identities, with half of the programs including BIPOC students. The activities that have received funding were of a diverse array; from poetry and photography to rock climbing, tree planting, and cross-country skiing, supporting a wide selection of activities to connect with nature.

No Child Left Inside Act of 2022 (S4041, Introduced by Senator Jack Reed, D-RI)

<https://www.congress.gov/bill/117th-congress/senate-bill/4041/text?r=1&s=1>

This bill was introduced to the Senate for consideration in the 2022 session, but has not yet advanced. It is important to note that a similar bill introduced in the House of Representatives in 2015 did not advance (<https://www.congress.gov/bill/114th-congress/house-bill/882?s=1&r=4>). A federal policy supporting nature connection would benefit all states.

Children's Outdoor Bill of Rights

<https://www.childrenandnature.org/resources/childrens-outdoor-bill-of-rights-bring-leaders-residents-together/>

Community groups within fifteen states have created place-specific Children's Outdoor of Rights, including California, Colorado, Florida, Georgia, Illinois, Indiana, Kansas, Kentucky, Maryland, Michigan, New Jersey, New Mexico, Ohio, Oregon, and Tennessee. Some of the rights listed include:

- Explore all the wild places in the city
- Harvest and eat a fruit or vegetable
- Plant a seed and watch it grow
- Visit and care for a local park
- Play in the sand and mud
- Discover plants and wildlife
- Sleep under the stars
- Gaze at the night sky
- Splash in a creek, river, or lake
- Climb a tree
- Catch a fish
- Ride a bike
- Picnic in a park
- Hike a trail
- Chase a firefly

Environmental Literacy Plans from states around the U.S.

https://cdn.naaee.org/sites/default/files/eepro/resource/files/naaee_selp_2019_status_report_0.pdf

- **Maine Environmental Literacy Plan** (Developed in 2010 through a collaboration between the Maine Department of Education, Maine Audubon, the Maine Department of Conservation, and the Maine Environmental Education Association)
<https://www.meeassociation.org/resourcelibrary>
Maine does not have state-wide legislation supporting nature-based education, but the Department of Education has released the Environmental Literacy Plan which offers a model for identifying ways to connect, support, and fund nature-based programming.

Resources for Nature-Based Educators

Online Resources

- Antioch University Continuing Education - <https://continuinged.antioch.edu/focus-area/ED> offers continuing education programs and courses including *Leading Nature Connection in the Public Schools*
- Children & Nature Network - <https://www.childrenandnature.org/> provides a number of resources for individuals, educators, schools, and communities to support connecting children and adults with nature, along with a library of research on the benefits of nature
- Four Winds Nature Institute - <https://fwni.org/> provides trainings and instructional resources and models for outdoor learning that align with Next Generation Science Standards and the Common Core
- Inside Outside - <https://www.insideoutside.org/> provides trainings and networking opportunities
- Nature Based Education Consortium - <https://www.nbeconsortium.com/> offers a number of resources including models for policy implementation from Maine
- Nature Connection Network - <https://natureconnection.network/> features networking opportunities and an annual conference supporting nature-based education across the U.S.
- Vermont Education & Environment Network - <https://vteandenetwork.org/> provides a series of webinars and articles in support of outdoor learning

Local Resources for Professional Development and Opportunities for Engagement

- Crow's Path – <https://crowspath.org/programs/educators/> offers professional development courses and in-service training for educators, as well as in-school programming
- Nature Near Schools: A Discovery Map - https://web.tplgis.org/nature_near_schools/ interactive map highlighting access to natural areas for schools in Vermont, Maine, and New Hampshire

- North Branch Nature Center – <https://northbranchnaturecenter.org/eco-institute/> offers several professional development and continuing education opportunities for K – 12 teachers, including Vermont Biodiversity Institute or Educators, ECO Institute Nature-Based Routines for Outdoor Educators, ECO Institute Natural History Fundamentals for Educators
- ReTribe - <https://www.retribe.org/> Outdoor Educator Apprenticeship Program to train people who are interested in becoming outdoor educators
- Shelburne Farms - <https://shelburnefarms.org/calendar/educator-workshops> offers several professional development trainings related to Education for Sustainability
- Valley Quest - <https://vitalcommunities.org/valley-quest/> provides treasure hunt opportunities to explore natural and cultural heritage sites (mostly in the Upper Valley region)
- Vermont Wilderness School Art of Mentoring Workshops - <https://vermontwildernessschool.org/workshops/art-of-mentoring/> Annual gathering providing experiential trainings in nature connection mentoring

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Community Forum

Into the Woods: Identifying Policy Strategies to Promote Nature-Connection in Vermont

Thursday, May 5th 6:00 – 7:00 pm

Virtual Meeting

Project Objective: to identify strategies to support connecting people with nature, with a specific focus on nature-based programming for children and families in Vermont.

Objectives of this meeting:

- Review the draft research report
- Identify next steps
 - Finalize the report
 - Prioritize needs: which recommended actions are most important? (Table 3, page 8)
 - Present the report to state legislators

Agenda:

6:00 pm Welcome, meeting overview and objectives

6:05 pm Report of research findings + Q & A

6:20 pm Challenges & Opportunities for Supporting Nature-based Education in Vermont
(Breakout Facilitators: Amy Butler and Lindsay Putnam)

Objective - to discuss the draft report, prioritize needs, and identify next steps by considering the following questions:

- What opportunities exist for increasing access to high-quality nature experiences for all Vermonters, particularly youth?
- What needs exist that would best help support increasing access to high-quality experiences (funding, staffing, state-led policies or certifications)?
- How can the community of nature-based programs and educators in Vermont best network to support each others work and increase access to high-quality nature experiences for all Vermonters?

6:55 Next steps & closing

POLICY BRIEF: Into the Woods - Identifying Policy Strategies to Promote Nature-Based Education in Vermont



"Everybody, every human, every child wants to be in nature and will benefit from it. So, it's just making sure that it happens."

-Vermont nature-based educator

Christine Vatovec, PhD
University of Vermont
May 2022

Executive Summary

Connecting with nature is necessary for both human health and environmental stewardship, but the majority of people spend less than five hours outside each week. Nature-based education (NBE) offers many opportunities for promoting both human and planetary health, and this report summarizes the current state of NBE in Vermont and identifies strategies for enhancing NBE across the state. The primary finding of this work is the need for an informed and coordinated approach for increasing access to NBE throughout Vermont, with an emphasis on underrepresented communities.

Evidence-based benefits of nature connection:

- Improved mental health
- Reduced stress
- Increased resilience
- Increased physical activity
- Enhanced social-emotional learning
- Improved academic success
- Informed citizen action
- Increased volunteerism
- Increased pro-environmental behaviors
- Enhanced conservation ethic

Introduction

During the early stages of the Covid-19 pandemic, schools across Vermont created outdoor classrooms and similar strategies to help schools stay open. However, many educators now report that in order to regain time lost to pandemic-related disruptions, they no longer have time in the schedules to take students outside. The objective of this brief is to identify strategies to support nature connection in Vermont by taking learning back outside.

Methods

Between November 2021 and May 2022, researchers at the University of Vermont conducted a study to gather baseline data for identifying policy strategies to support NBE in Vermont. Twenty nature-based education programs from across the state participated in the study through a survey, interviews, and an online community forum. Additionally, we conducted a review of policies used in other states to support NBE.

Key Findings

Our findings indicate the following key barriers to nature-based programming in Vermont: 1) lack of funding, 2) academic standards that prevent flexibility for teachers to take learning outside, 3) lack of school administrative support, and 4) lack of schoolteacher training/comfort/confidence in outdoor learning. Notably, 18% of NBE programs report being unable to provide financial aid to all people who qualify, and study participants cite social and cultural norms as a primary barrier to attracting diverse populations including Black, Indigenous, and People of Color.

POLICY BRIEF: Into the Woods - Identifying Policy Strategies to Promote Nature-Based Education in Vermont

Opportunities for Supporting Nature-Based Education in Vermont

- 1) **Lack of funding** was cited as the primary barrier to NBE in the state, for both independent programs and organizations, as well as within public schools. Specific funding needs include:
 - Program funding to help public schools get started with outdoor learning
 - Grants for educator professional development and administrative support
 - Grants for purchasing gear and covering transportation costs to get kids outside
 - Funding for program evaluation
- 2) Several opportunities were cited for **increasing diversity** within the NBE community including:
 - Working directly with BIPOC communities to identify preferred ways for different people to feel safe and welcome in outdoor spaces
 - Provide professional development funding for BIPOC educators and mentors
 - Provide funding for BIPOC students to participate in NBE programs
- 3) **Integrating nature-based learning into the public school system** was identified as a primary opportunity for connecting Vermonters with nature:
 - Revisit academic standards to allow flexibility for teachers to take learning outside
 - Incentivize support for NBE among school administrators
 - Incentivize NBE among schoolteachers to increase comfort/confidence in outdoor learning

Policy Recommendations

- 1) Policy action that ensures opportunities for children to connect routinely with nature throughout their childhood, adolescence, and young adulthood: Provide access for all Vermont youth by integrating outdoor NBE into curriculum standards for K-12. Many—but not all—educators are already successfully achieving next generation science standards and common core alignment by integrating NBE through current sustainability and place-based education standards.
- 2) Policy action to provide funding mechanisms to support NBE: Provide grant funding for NBE programming as well as professional development and educator training opportunities.

Acknowledgments

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Models that provide insight for statewide support of NBE:

- Maryland Partnership for Children in Nature and Project Green Classrooms (Executive orders, 2008, 2017): ensure that youth experience, understand, and learn to conserve the natural environment.
- Kansas Coalition for Children in Nature (Executive order, 2009): includes a Children’s Outdoor Bill of Rights
- Washington Parks & Recreation No Child Left Inside Grant Program (State-allocated grant funding of \$750,000+ per year)
- Maine Environmental Literacy Plan (Developed in 2010 through a collaboration between the Maine Department of Education, Maine Audubon, the Maine Department of Conservation, and the Maine Environmental Education Association)