

# MAINE ENVIRONMENTAL LITERACY PLAN

REVISED OCTOBER 2022

**PREPARED BY THE MAINE DEPARTMENT OF EDUCATION**

in collaboration with Maine Environmental Education Association,  
Maine Audubon, and the Maine Department of Inland Fisheries & Wildlife

**UNDER COORDINATION BY**







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# Commissioner of Education's Message

The Maine Department of Education is committed to advancing innovation and student-centered approaches that provide all students with opportunities to experience hands-on, interdisciplinary, engaging educational experiences. This exciting revision of the Maine Environmental Literacy Plan offers goals and strategies that will guide our next steps toward fostering environmental literacy statewide while centering best practices within a Whole Student framework.

The Maine Environmental Literacy Plan is the product of a collaboration between the Maine Department of Education, Maine Environmental Education Association, Maine Audubon, Maine Department of Inland Fisheries and Wildlife, and the Environmental Living and Learning for Maine Students Collaborative. While this plan was first adopted in 2010, we are energized by all the work accomplished in the past twelve years to further environmental literacy, and we are confident that the updated goals and strategies shared in this plan will catalyze the incredible momentum we currently have in environmental education and outdoor learning here in Maine.

The Maine Environmental Literacy Plan outlines a vision for environmental literacy and a roadmap for a coordinated statewide effort to help prepare students to address major environmental challenges as they enter an evolving and dynamic workforce as well as increase their physical, social, and emotional wellbeing throughout their education. By strengthening environmental education and outdoor learning, as an integral part of the early childhood, elementary, and secondary school experience, these critical goals can be advanced. Supporting educators and schools so that they can continue to improve the quality and reach of environmental education and outdoor learning for all students in Maine is a priority. This updated and improved Environmental Literacy Plan prepares us to take bold,



Commissioner Makin (third from left) with students and staff from Katahdin School—Winter 2022

collaborative action across school districts, government agencies, community organizations, philanthropy, and businesses to advance best practices in environmental education and outdoor learning for Maine students.

When we foster statewide collaboration around environmental and outdoor education our children and communities benefit. This plan will help advance environmental literacy and increase the physical, social, and emotional wellbeing of our children and youth. It will also help to support educational opportunities across content areas that provide students with engaging experiences that help to progress their learning and prepare them to be contributing members of Maine's workforce. This is a necessary effort to ensure a prosperous and healthy future for our children, communities, and Maine's wildlife and natural spaces.

*Pender Makin*  
Pender Makin  
COMMISSIONER



# Letter of Support



We are excited to present the Maine Environmental Literacy Plan, a road map for Maine schools and teachers that is designed to strengthen the state's environmental curriculum and prepare our children for a life that is connected to the Maine outdoors.

Maine is rich in natural resources, as they are an integral part of our economy and quality of life. Collaboration and innovation in the stewardship of these natural resources is vital to healthy, equitable, and sustainable communities, and educating our current generation of students is imperative in building toward that future.

In Maine, we are focused on creating powerful learning experiences that connect our children to the outdoors and their communities. Maine is fortunate in that our communities and their vicinity are rich in natural spaces, so it is critical that all Maine children have access to outdoor learning opportunities in order to build a healthy lifestyle for themselves and their communities.

The Maine Environmental Literacy Plan, with its goals and strategies, will increase environmental literacy across the state. This literacy plan is a culmination of work by many different individuals, organizations, and institutions, yet the real work lies ahead. The success of this plan is not only inherent upon increased communication and collaboration between teachers, families, and students, but also between schools and communities, local and state governments, institutions of higher education, governmental agencies, natural resource organizations, and Maine's business community.

We are in a critical moment in which increased environmental awareness by Maine students is vital for our State's future. The benefits through implementation of this plan are substantial and essential. It will enhance student motivation, academic achievement, and physical and mental health, as well as reinforcing that Maine continues to be a leader in conservation and education.



*Amanda E. Beal*  
Amanda Beal  
COMMISSIONER



*Judy Camuso*  
Judy Camuso  
COMMISSIONER



*Heather Johnson*  
Heather Johnson  
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*Patrick Keliher*  
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*Melanie Loyzim*  
Melanie Loyzim  
COMMISSIONER

# Message from Governor Mills



The Maine outdoors is one of our state's greatest treasures. With devices and screens too often grabbing the attention of our children, it's more important now than ever to get kids outside. We know, for example, that both playing and learning in nature can support a child's growth, encourage his or her curiosity, and strengthen his or her problem-solving skills, and that quality educational opportunities are necessary to build strong communities, vibrant economies, and prepare young people with the knowledge and skills to thrive in an ever-changing world.

My administration is committed to supporting innovative programs that allow Maine's young people to explore and learn from our state's natural resources. In 2022, we launched the Maine Outdoor Learning Initiative to offer middle and high school students the opportunity to participate in marine and coastal ecology learning programs, such as marine research, boat building, career exploration with marine businesses, island immersion programs, and more. Further, in partnership with the Legislature, we have invested \$2 million over the next three years on a pilot program to help teachers teach about the effects of climate change on our state's environment and ecosystems.

The Maine Environmental Literacy Plan lays out a clear vision, goals, and strategies to advance environmental and outdoor learning opportunities for all Maine youth. I applaud the Department of Education for its statewide collaboration to update this important plan and for its ongoing work to increase outdoor learning opportunities.

Whether in our classrooms or in our communities, every Maine child deserves learning experiences that increase their connection to and care for nature. I look forward to following the progress of the Environmental Literacy Plan and, most importantly, seeing more of our kids exploring, enjoying, and learning in the majesty of the Maine outdoors.

**Janet Mills**  
GOVERNOR

# Executive Summary

The Maine Environmental Literacy Plan outlines a vision of environmental literacy for our state and a plan for a coordinated statewide effort to strengthen environmental education and outdoor learning as a critical piece of every youth's educational journey.

The Maine Environmental Literacy Plan was first adopted by the Maine Department of Education in 2010 as a product of a collaborative effort between the Maine Department of Education, Maine Audubon, the Maine Department of Conservation, and the Maine Environmental Education Association. In 2022, those same stakeholders came together to prepare this revised version of Maine's Environmental Literacy Plan. This revision reflects the immense momentum in Maine in environmental education and outdoor learning both in public education and in communities statewide. The goals and strategies laid out in the revised plan, when implemented, will greatly advance environmental literacy in the state of Maine resulting in increased health and wellness for Maine's people, lands, and waters.

This updated plan defines environmental literacy, makes the case for why an environmentally literate citizenry is critical for Maine's community health and well being, and defines core goal areas and strategies to advance environmental literacy for Maine youth. This plan also suggests approaches to implementation and highlights useful resources and inspiring Maine-based case studies. The plan is designed to be a living document that shares concrete goals and strategies to guide the advancement of environmental literacy for Maine's youth in the next five years.

## Goals of Maine's Environmental Literacy Plan

# 1.

**Advance Environmental Literacy in Maine Youth** Through Powerful Learning Opportunities

# 2.

**Provide Culturally Relevant, High Quality, Interdisciplinary Professional Learning** to Advance Environmental Literacy

# 3.

**Increase Resources to Build the Infrastructure and Staff Capacity** to Equitably Advance Environmental Literacy and Outdoor Learning

# 4.

**Advance Environmental Literacy** in Early Childhood Education



# What is Environmental Literacy?



A healthy, sustainable Maine is dependent upon the intentional development and common understanding of environmental literacy as the ability to recognize the components of healthy natural and human built systems and to execute the actions necessary to maintain, restore, and improve them.

According to the North American Association for Environmental Education's publication "**Developing a Framework for Assessing Environmental Literacy**," an environmentally literate person is someone who "both individually and together with others, makes informed decisions concerning the environment; is willing to act on these decisions to improve the wellbeing of other individuals, societies, and the global environment; and participates in civic life."

Three critical components that interact and contribute to environmental literacy:

- 1. ATTITUDES:** attitudes toward taking action related to the environment, a feeling of connection to place, and concern for community health and wellbeing. Attitudes include feelings of self efficacy, motivation, connection to place, and personal responsibility.
- 2. KNOWLEDGE:** such as the knowledge of components of natural and human built systems and how humans interact and impact natural systems, specific environmental issues and solutions, and civic engagement.
- 3. SKILLS:** such as the ability to identify an environmental problem, ask questions, investigate solutions, and create a plan to implement solutions.

Environmental literacy requires understanding that the world's systems are interconnected and that individuals have the ability and responsibility to care for both the natural and human-built environment. ■



# Why Environmental Literacy Is Important to Maine

Maine's vibrant communities, healthy lands and waters, and thriving natural resource-based economy depend on community members having the knowledge, skills, and motivation to make educated decisions that ensure and sustain access to clean air, land, and water, healthy locally grown food, renewable energy, and public recreation opportunities for all people in Maine.

## Maine's Current Context

Today, Maine is a national leader in the field of environmental education and outdoor learning. Maine's youth have a vibrant and rich history connecting to high quality environmental educational opportunities, outdoor recreation, and nature-based play experiences. Maine is home to hundreds of community organizations that employ professional educators who are trained to work in collaboration with schools, youth, and families to advance environmental literacy. (See [Maine Environmental Education and Outdoor Learning Directory](#).) Maine's government agencies and private entities create opportunities for the public, across the state's lands and waters, to engage in outdoor and environmental learning. In the COVID-19 pandemic the Maine Department of Education identified outdoor learning as a critical innovation in education and is supporting outdoor learning projects in schools across the state through its [Rethinking Response Education Ventures](#) federal grant. In 2022, Maine Governor Janet T. Mills also charged the Maine Department of Education with launching the [Maine Outdoor Learning Initiative](#) which mobilizes funding to ensure Maine youth have access to free, high-quality environmental education outdoor summer experiences.

In addition, Maine has a vibrant [land trust network](#), and many schools are partnering with local land trusts to engage in outdoor learning on publicly accessible lands in their communities. Maine has some of the most well-respected and



Exploring in the garden at Portland Public Schools

longest-running environmental education programs in the country. These organizations are found in communities across the state and are doing powerful work collaborating with local schools to infuse environmental literacy into the curriculum. Maine also has a thriving [summer](#)





Students at Hope Elementary School

**camp industry** where, for generations, Maine children have been engaged in outdoor recreation, learning about natural history, and building a sense of place through experiential learning when school is not in session. Furthermore, Maine has experts across our higher education sector who are preparing future educators with skills and tools necessary to advance environmental literacy in our schools and researching the impacts of nature based education on learning and social emotional development.

Additionally, Maine has many strong and growing programs supporting youth connection to local agriculture and healthy, locally produced foods. These include state and community based organizations that are working to connect our youth with healthy, locally produced food and

career opportunities in this thriving industry.

Maine has adopted the **Next Generation Science Standards** and schools and educators are working on implementing these in classrooms across the state. In 2021 the Maine Legislature enacted **HP 1087**, A Joint Resolution Supporting All Maine Youth Outdoors, which recognizes the value of outdoor learning and recreation to increase student wellbeing, performance, and connection to natural resources in their community. In 2022, the Maine legislature enacted the state's first **Climate Education Bill, LD 1902**, which will provide training and capacity for Maine teachers and schools to advance climate education, thus advancing environmental literacy statewide. Climate education priorities were also included in Maine's Climate Action Plan, **MaineWon't Wait**.



Outdoor learning at the East End Community School, Portland

Maine has a vibrant history of traditional outdoor sports and a growing outdoor recreation based economy. A multitude of statewide programs are supporting Maine youth in engaging with the outdoors year round. Many Maine schools have active outing clubs that are helping youth connect to nature and outdoor recreation opportunities. Maine is one of few states in the country with an **Office of Outdoor Recreation** where outdoor recreation education is one of the key areas of focus.

Finally, Maine has strong statewide networks in place that are collaborating to study environmental literacy and outdoor education, support educators with training and needed resources,

and advocate for programs and structures that advance equitable access to environmental education for all Maine youth.

Even with the incredible educators, collaborations, community organizations, municipal and government agencies, business, industry, philanthropic support, and strong, connected networks in place that make Maine a leader in environmental literacy, there are still many youth not being served. The barriers to ensure equitable access to outdoor and environmental learning for all Maine youth are numerous and complex. There remains much more that needs to be done to build environmental literacy in youth across the state of Maine. The implementation of the goals and strategies presented in this plan will continue the momentum to

advance environmental literacy, and will increase equity in access for Maine youth to culturally relevant, place-based environmental and outdoor learning experiences in the next five years.

## Environmental Literacy Benefits

When Maine communities, child care programs, and schools advance environmental literacy there are broad and lasting benefits. Investing in our youth today is an investment for a more sustainable and healthy future for Maine. The following are just some of the reasons why investing in advancement of environmental literacy is critical to the long term health and well being of Maine





Learning lifelong skills with Maine Inland Fisheries and Wildlife

youth and communities and the environment.

### HEALTH AND WELLBEING AND EDUCATIONAL BENEFITS

Environmental education leads to a number of positive educational and health impacts on students. A recent [literature review](#) by Stanford University (Ardoin et al., 2018), of over 100 studies of the educational impact of environmental education on students K-12, found that positive impacts, such as improving academic performance, advancing critical thinking skills, and developing personal growth, confidence, autonomy, and leadership skills were a significant result of environmental educational experiences. In this literature review, 98% of studies reported student knowledge gains in science and reading, 90% reported an increase in critical thinking skills, and

95% found improved academic achievement in civic engagement and social skills. It is clear that the positive academic benefits of environmental education experiences are broad and lasting.

In addition to academic benefits, a strong body of research suggests that engaging in outdoor learning and nature-based play greatly increases children's health and wellbeing. Studies have found that outdoor learning reduces children's stress (Chawla et al., 2014). Additionally, outdoor learning reduces children's anger and aggression (Roe & Aspinall, 2011; Younan et al., 2016). Finally, outdoor learning has been proven to improve relationship skills (Chawla et al., 2014; Chawla, 2015). Studies have also found that spending time in nature increases physical activity (Hartig et al., 2014; Christian et al. 2015). Outdoor play has also been proven to reduce the risk of childhood

obesity (Wolch et al., 2011). Time spent in the outdoors has also shown to increase vitamin D levels in children (McCurdy et al., 2010). Furthermore, studies have shown that increased time in nature correlates with a children's ability to focus (Faber Taylor et al., 2002; Mårtensson et al., 2009; Wells, 2000; and Berto et al., 2015). Experiences in the outdoors have also been proven to increase students' motivation and enthusiasm for learning (Lieberman & Hoody, 1998; Blair, 2009). Finally, learning in the outdoors has been associated with a decrease in disciplinary problems (Ruiz-Gallardo & Valdés, 2013). Maine schools and communities benefit when our children's health, well being, and academic performance improve.

### OUTDOOR RECREATION

Maine has a thriving and growing outdoor recreation economy. According to Maine's Office of Outdoor Recreation, outdoor recreation supported more than **"28,000 jobs in Maine in 2020, and provided more than \$1.1 billion in compensation"**. An environmentally literate citizenry is necessary to support Maine's thriving outdoor recreation

In addition to academic benefits, a strong body of research suggests that engaging in outdoor learning and nature-based play greatly increases children's health and wellbeing.

industry, which depends on clean lands, air, and navigable waters, along with sound stewardship decisions to sustain these values. If Maine youth have access to culturally relevant quality outdoor and environmental learning throughout their lives, they will be more likely to engage in outdoor recreation, value the outdoor recreation industry, and have the skills and motivation necessary to join the workforce supporting this necessary and growing industry.

### CONSERVATION

An environmentally literate Maine will protect and maintain access to natural green areas, food-growing landscapes, thousands of bodies of water, woods, fields, and other wild habitats in which young people can observe, interact, and learn as they explore and play. A recent report from the North American Environmental Education Association, which was a metaanalysis of over 100 studies, [has found that environmental education contributes to conservation outcomes and environmental quality](#) (Ardoin et al., 2018). We also know that Maine's forests are globally significant for biodiversity and that according to [data from The Nature Conservancy](#), Maine has among the highest concentrations of climate-resilient, well-connected wildlife habitats in the Eastern United States. In



Students at Skowhegan Area High School





Students at Oceanside High School in Rockland

addition, the National Audubon Society has found that Maine supports one of the largest **Important Bird Areas** in the United States. Furthermore, about 20% of Maine's land has conservation protections, and the State's Climate Action Plan sets a goal of 30% protection by 2030. In order to increase conservation goals necessary to protect Maine's critical habitat, an environmentally literate population will be fundamental and necessary.

### CLIMATE RESILIENCE AND JUSTICE

An environmentally literate Maine is necessary to build climate resilient communities. With environmental literacy, our youth will enter the Maine workforce ready to create new industries that utilize energy from sustainable sources. Students will graduate with the skills and creativity to assist in the transformation of our transportation and heating systems to reduce carbon emissions and meet Maine's climate goals. As our youth enter the workforce they will build emerging businesses and technologies to decrease waste streams and more fully utilize the byproducts of those wastes. Students will explore climate justice and understand how individuals most impacted by climate change, namely low income communities and communities of color, are also the communities who have, historically and today, contributed the least to advancing climate change and are the most vulnerable to climate impacts. Climate action is one of the key priorities of **ESD for 2030**, UNESCO's Education for Sustainable Development's global framework. Climate action relies on access to high quality, culturally relevant climate education opportunities. Finally, climate education is a priority in **Maine's Climate Action Plan**. The Climate Action Plan has a focus on increasing public education about climate change, climate science, and green careers. Schools, higher education institutions, government agencies, philanthropy, and community partners must collaborate to ensure quality, locally relevant, interdisciplinary climate education opportunities for all Maine youth.

### EQUITY

In order to increase human health and to build a sense of place and connection to Maine lands and waters, all Maine youth need culturally relevant outdoor experiences, led by trained educators, where they feel safe and supported. The Children and Nature Network recently **conducted an extensive review of the literature** and found that "children from communities of color and low-income communities tend to have less access to quality natural environments, experiences, and programming." Furthermore, the analysis of the research found that "people from low-income communities or communities of color often experience worse health and educational outcomes than other groups." Finally, many studies demonstrated that "access to quality natural spaces and nature-based experiences mitigated poorer outcomes typically associated with disadvantage." Equitable access to quality outdoor learning experiences is an equity and justice issue. Quality experiences in real-world, problem-based learning challenge youth to develop solutions to environmental problems facing their community and to engage in action to make positive change. Integrating environmental literacy equitably across early childhood and in the pre-K–12 experience is a key outcome of this plan. This Environmental Literacy Plan, when implemented statewide, will reduce educational inequity and increase positive health outcomes for Maine youth. ■

### ADDITIONAL RESOURCES

1. **Literature Review of Youth Impacts, Peer-Reviewed Findings and Connections to Maine Programs**, Teach ME Outside
2. **Children and Nature: A research evaluation for The Wildlife Trusts**, University College of London Institute of Education
3. **Nature Play Can Encourage Care for the Earth**, Infographic on research-based benefits of nature based learning for children, Children and Nature Network
4. **Nature Play Can Improve Health and Wellbeing**, Infographic on research-based health and wellbeing benefits of nature based learning for children, Children and Nature Network
5. **Nature Can Improve Academic Outcomes**, Infographic on research-based academic benefits of nature based learning for children, Children and Nature Network



## ENVIRONMENTAL EDUCATION

# An Interdisciplinary, Whole Student Approach

In order to increase environmental literacy, all Maine youth need access to high quality, culturally relevant, **interdisciplinary** environmental education and outdoor learning opportunities across many different settings and across all age ranges. The Maine Department of Education is committed to advancing **interdisciplinary** educational opportunities for all Maine students. According to the Department, interdisciplinary instruction is defined as “the braiding of knowledge and methods from multiple content areas, which utilizes a combination of approaches to examine an authentic/real-world theme, issue, question, or topic.” Best practice in environmental education is to approach learning about environmental issues through an interdisciplinary framework. Advancing the goals and strategies in this plan aligns with the Department of Education’s greater focus on advancing interdisciplinary learning experiences for all Maine students.

Furthermore, the Maine Department of Education is committed to a “**Whole Student Approach**” to education. The “Whole Student” approach focuses on increasing student engagement in learning by creating challenging, safe, and supportive, “real-world” interdisciplinary problem based learning opportunities. This broader educational approach aligns with the philosophy of this plan where schools, families, and communities have a shared responsibility to address environmental literacy which, research has found, increases **academic achievement, student motivation, and physical health and wellbeing of students**. In order to achieve an environmentally literate population, collaboration across families, schools and community organizations is necessary to provide safe, challenging, real-world experiences that connect Maine youth with their communities and the natural world around them. The implementation of Maine’s environmental literacy plan will support advancement of the Maine Department of Education’s “Whole Student” approach.

## Community as a Classroom, and Living School Grounds

Developing an environmentally literate citizenry requires effective interdisciplinary, culturally responsive environmental education opportunities. These learning experiences happen in formal settings, such as school, and in a myriad of community settings such as at local libraries, nature centers, public lands, and museums. Formal and non-formal educators teach young people fundamental concepts about ecosystems and how people interact with their surroundings across content areas. Furthermore, educators help students understand that individual and community actions affect the health of ecosystems as well as the social and economic structures that rely on those ecosystems.

An increasing number of Maine communities are designing and transforming their schools toward a “Living School Ground” model. According to **Green Schoolyards America**, Living School Grounds are “richly layered outdoor environments that strengthen local ecological systems while providing place-based, hands-on learning resources for children and youth of all ages. They are child-centered places that foster empathy, exploration, adventure and a wide range of play and social opportunities, while enhancing health and wellbeing and engaging the community.” When Maine communities collaborate to transform their schools into Living School Grounds, our schools become vibrant community centers for critical local climate adaptation solutions. Often municipalities also save money in the process of reducing waste and energy costs and purchasing less expensive playground equipment favoring natural and local sourced structures. ■

### ADDITIONAL RESOURCES

1. Maine Department of Education’s **Whole Student Approach**
2. **Living Schools**
3. **Community as Classroom**, Teton Science Schools
4. **Living School Yards and Climate Resilience**, Green Schoolyards America



# History of the Maine Environmental Literacy Plan

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States across the U.S. are working to advance environmental literacy nationwide through the development and implementation of statewide Environmental Literacy Plans (ELPs). The development of state ELPs aligns with federal legislation in 2008 called the No Child Left Inside (NCLI) Act. The central goal of NCLI was for every state to develop environmental literacy plans for pre-K–12 students that included environmental education standards and teacher training.

## The goals of the NCLI legislation were explicit:

1.

To **prepare students to address major environmental challenges** facing the United States; and

2.

To **strengthen environmental education** as an integral part of the elementary and secondary school curriculum.

Even though the NCLI Act was not enacted in 2009, many states, including Maine, have advanced environmental literacy through the development of environmental literacy plans consistent with that vision. In 2008 Maine created a task force made up of representatives from the Maine Department of Education, Maine Department of Conservation, the Maine Environmental Education Association, and Maine Audubon to build the state's first environmental literacy plan. This group held many listening sessions across the state to gather input from the community to inform the plan. A steering group of stakeholders from a cross section of interest groups, demographic groups, and geographic areas worked together to craft the statewide plan (for the list of steering committee members see the acknowledgements section). The plan was adopted in 2010 and signed by Commissioner of Education, Angela R. Faherty, Ph.D.

The NCLI Act was reintroduced in the Senate in April 2022 ([2022 The NCLI Act](#)) and Maine Senator Susan Collins is an original co-sponsor. If passed, the bill will create funding opportunities for states, like Maine, that have adopted and updated environmental literacy plans. This new federal funding, while not necessary to implement the environmental literacy plan, would contribute to build the capacity in Maine to advance environmental education and outdoor learning. ■



# Vision of an Environmentally Literate Maine

## What do we envision?

*We envision a Maine where:*

- + all individuals, institutions, and organizations understand that the health of our communities is deeply linked to the wellbeing of the natural world.
- + every child has age appropriate opportunities for culturally relevant and accessible outdoor learning experiences throughout their lives.
- + all youth have the attitudes, knowledge, and skills needed to make positive change in their communities.



Students from Camden-Rockport Elementary School

## How do we get there?

- + Deep collaboration between educational institutions, organizations, government agencies, philanthropy, and communities is needed to ensure that all Maine youth have equitable access to high-quality, culturally relevant, environmental and outdoor learning experiences in school and community programs throughout their lives.



# Maine Environmental Literacy Plan Goals



Maine high school students studying tidal zones with Hurricane Island Center for Science and Leadership

This section contains a set of goals, key strategies, and implementation recommendations delineated by stakeholder groups, to advance environmental literacy in Maine.

To achieve the goals outlined in this plan, this work needs to happen in every Maine school and community. While these goals and implementation strategies offer a framework for schools and communities to follow, adapting strategies to meet specific community contexts may increase impact. The framing for these goals was adapted from language in the No Child Left Inside Act of 2022.

Implementation of the four stated goals to advance environmental literacy in Maine requires significant coordination among state agencies, statewide networks advancing environmental literacy, Maine public and private schools, Maine's higher education community, municipalities, philanthropy, students, parents and caregivers,

and the diverse and vibrant community programs that create environmental literacy learning opportunities daily for Maine youth.

There is no singular best approach to build environmental literacy in young people across a state; in fact, our task is to collectively increase and catalyze the implementation of the diversity of approaches, programs, and curricula, and consistently measure and track the system (both formal education and community based programming) to ensure that Maine youth have equitable access to high quality, culturally relevant environmental education and outdoor learning opportunities across their lives.

While the Plan's goals and associated strategies and implementation recommendations are critical to advance environmental literacy statewide, when implementing these goals it is recommended that schools and communities that are currently underinvested in are prioritized, as students in those communities may have less access to high quality, culturally relevant, economically accessible outdoor and environmental learning opportunities. ■



## GOAL #1

# Advance Environmental Literacy in Maine Youth Through Powerful Learning Opportunities

**ALL MAINEYOUTH** will have opportunities for culturally relevant, interdisciplinary, hands-on, environmental and outdoor learning experiences in their pre-K-12 experience.

**ALL MAINEYOUTH** will have access to interdisciplinary and age appropriate, locally relevant climate change education in their pre-K-12 education.

**ALL MAINEYOUTH** will have awareness of different career pathways related to green jobs, environmental, and natural resources-based fields.

**ALL MAINEYOUTH** will have access to time outside within the school setting for learning and recreation, through programs such as outdoor school, outdoor clubs, outdoor leadership classes, outdoor motor breaks, outdoor classrooms, school garden programs, field based courses or experiences, outdoor service learning projects, outdoor dining, etc.

If we are successful:



## Strategies

### CAPACITY BUILDING:

- ✓ Increase staff capacity, in school districts, state agencies, higher education institutions, and community organizations, to coordinate and facilitate environmental and outdoor learning experiences.
- ✓ Invest in equitable and culturally relevant interdisciplinary programs, lessons, environmental literacy practices, and field experiences that ensure that every Maine student experiences outdoor learning, environmental, and climate education.

### COLLABORATION:

- ✓ Develop relationships to increase awareness within communities and among all families and caregivers for the needs and benefits of outdoor and environmental learning experiences. Increase support for schools to collaborate with state and local agencies, and community organizations to integrate environmental literacy practices and initiatives at the school and district level.

### EQUITY:

- ✓ Create inclusive and accessible environmental education and outdoor learning experiences that disrupt ableism and sexism, and center the diverse perspectives of Black, Indigenous, and People of Color.
- ✓ Ensure that all Maine youth learn about Wabanaki history and culture; prioritize indigenous traditional ecological knowledge and perspectives in environmental education curricula.
- ✓ Acknowledge that safe, culturally relevant, accessible, outdoor learning experiences are a basic human right for all Maine children.

### WORKFORCE DEVELOPMENT:

- ✓ Increase opportunities, in both school and community programs, for Maine youth to learn about and explore different career pathways in environmental, sustainability, outdoor recreation, and natural-resource based

careers. This may include job shadowing, paid internships, outdoor leadership programs, certificate programs in schools where one graduates with the certification required to enter a profession (such as a Maine Guide License), guest speakers, field trips to see careers in action, summer programs that expose youth to a variety of career opportunities, etc.

### INITIAL ASSESSMENT PRIORITIES:

- ✓ Demonstrate environmental literacy, **as a graduation requirement**, as part of the section D science standard achievement as aligned with the adopted Next Generation Science Standards.
- ✓ Create a Maine Environmental Literacy Community of Practice of state agency leaders, formal and informal educators, network leaders, students, and parents to create a framework for environmental literacy in Maine and link the framework to places in the adopted standards that align and advance environmental literacy.
- ✓ Survey and make publicly available courses being offered in Maine Middle and High Schools that incorporate environmental literacy topics and the frequency of environmental topics being covered.
- ✓ Self report the amount of nature-based environmental learning happening in classrooms on the teacher section of the state science assessment. Identify state assessments, in content areas beyond science, where data can be collected from teachers about time spent outside learning.
- ✓ Increase the number of questions on the Maine Education Assessment for Science at grades 5, 8, and 11 that use an environmental literacy context. Results of how students performed on these questions will be shared publicly.
- ✓ Encourage schools to track and publicly report the amount of outdoor time offered per year to students through a variety of learning experiences including but not limited to field trips, outdoor lessons on school property, outdoor motor break activities, physical education courses taught outside, outdoor dining, field days, outdoor service learning activities, etc.



GOAL #1 IMPLEMENTATION TABLE	
Teachers / Formal Education	Provide field and hands-on experiences as part of the regular school curriculum and create programs that contribute to healthy lifestyles through outdoor recreation and sound nutrition.
	Make connections in the curriculum to green, outdoor recreation, and natural-resource based careers.
	Collaborate with community partners to provide culturally relevant, hands-on, field-based learning and outdoor recreational experiences for youth of all ages.
Administrators (Principals, Superintendents, Curriculum Coordinators, etc.)	Create school and/or district wide environmental literacy plans that reflect the unique needs and solutions of that community.
	Increase access to healthy, locally grown food in schools.
Students	Engage in outdoor and environmental learning opportunities in school and community settings.
	Advocate for increased access and support of outdoor and environmental learning opportunities in school experiences.
Community Members, Parents and Caretakers	Advocate for increased access and support of outdoor and environmental learning opportunities in school experiences at the school board, and with school leadership, and support teachers in their outdoor learning initiatives.
Community-based Organizations (Informal EE Providers)	Launch a statewide “Outdoor Schools for ALL” program in Maine and ensure that every Maine child has the opportunity to attend an “Outdoor School” experience as part of their pre-K-12 educational experience.
	Ensure there are outing clubs supported at all Maine Middle and High Schools, with budgeted funds for advisor stipends and transportation. Increase support for youth-led environmental action projects and programs across the state that connect youth with each other, offer training, mentors, and support for implementing their ideas in their own schools and communities.
	Partner with and support Maine schools as they transform their curriculum, buildings, and grounds to living school yards.
	Create research-based best practice educator training opportunities in equity and accessibility, Wabanaki studies, and other outdoor and environmental learning topics.
Statewide Networks	Grow <a href="#">Teach ME Outside’s Outdoor Learning Directory</a> so educators and community members can identify community partners to support powerful learning opportunities.
	Publicly recognize excellence in environmental literacy, in schools and communities, and celebrate success stories to spark innovation across the state.
	Advocate for increased access and support of outdoor and environmental learning opportunities in school experiences.
State and Local Government Agencies	The Department of Education will collaborate with schools to assess environmental literacy. The Department of Education will create an environmental literacy community of practice to continue to evaluate and assess supports needed to implement the Environmental Literacy Plan.
	State and local agencies will collaborate with schools and teachers to support outdoor and environmental learning experiences both on school property and in the community.
Higher Education Institutions	Research the impact of outdoor and environmental learning on Maine youth.
	Create pathways for high school students to be exposed to the training and requirements to enter green career opportunities.
Philanthropy	Invest in capacity building for child care, school, and community-based programs that provide high quality, culturally relevant, and accessible environmental and outdoor learning opportunities for Maine youth.
	Support the assessment of environmental literacy and outdoor learning to ensure that all youth have access to quality environmental and outdoor learning experiences throughout their lives.
Business and Industry Partners	Support (financially or with other resources) local community and school initiatives to ensure all youth in Maine have access to powerful, culturally relevant outdoor and environmental learning opportunities.
	Create opportunities for job training, paid internships and/ or summer work experiences for youth interested in entering green career, outdoor recreation, and/or natural-resource based career pathways.



Outdoor learning at East End Community School, Portland



Campers at Maine Audubon's Gilsland Farm Audubon Center in Falmouth



**GOAL #2**

# Provide Culturally Relevant, High Quality, Interdisciplinary Professional Learning to Advance Environmental Literacy

**ALL MAINE EDUCATORS**

(pre-service, formal, and informal) will have access to high-quality culturally relevant environmental education and outdoor learning professional development opportunities aligned with their self-identified needs.

If we are successful:



## Strategies

**CAPACITY BUILDING:**

- ✓ Develop a resource that highlights the environmental literacy standards in the existing Next Generation Science Standards and Maine Learning Results in Mathematics and English Language Arts. Pair this resource with a training for educators (both formal and informal) that supports implementation.
- ✓ Create new funds and/or increasing funding to existing grant programs that offset the cost of professional learning opportunities in environmental literacy for early childhood, pre-K-12 classroom teachers, school administrators and community-based educators.

**COLLABORATION:**

- ✓ Create affordable and accessible professional learning opportunities (conferences, summits, trainings, convenings, etc.) where schools build relationships with partner community organizations, businesses, and government agencies to share strategies, foster collaboration, and learn about culturally relevant research-based best practices.

**EQUITY:**

- ✓ Improve access to professional learning for pre-service, in-service, and community-based educators that builds more culturally relevant, inclusive, and equitable environmental literacy programming throughout Maine.
- ✓ Identify gaps and professional learning needs to advance environmental literacy through the Maine Census for Community Based Environmental and Outdoor Learning and other feedback forums.
- ✓ Increase opportunities for high quality, culturally relevant professional learning for formal educators, informal educators, about appropriately integrating Wabanaki, and other indigenous peoples, traditional ecological knowledge into environmental education curricula and programs.



A student at Lyseth Elementary School in Portland

**WORKFORCE DEVELOPMENT:**

- ✓ Increase professional learning opportunities, guest speakers, forums, and resources around environmental, outdoor recreation, and natural resource-based career pathways.

**INITIAL ASSESSMENT PRIORITIES:**

- ✓ Every three to five years the Census for Community Based Environmental and Outdoor Learning measures and reports professional development needs from educators across the state.
- ✓ Continue and increase opportunities to access training around culturally responsive environmental education evaluation for formal and informal environmental education programs and educators.



GOAL #2 IMPLEMENTATION TABLE	
Teachers / Formal Education	Participate in professional learning opportunities to expand knowledge and skills around environmental and climate education and outdoor learning across all grade levels and content areas.
Administrators (Principals, Superintendents, Curriculum Coordinators, etc.)	Ensure that Maine educators have access to high-quality, interdisciplinary climate education professional development.
	Improve access to professional learning for pre-service, in-service, and community-based educators that builds more culturally relevant, inclusive, and equitable environmental literacy programming throughout Maine.
Community Members, Parents and Caretakers	Advocate for educators in your district to have access to and support for professional learning opportunities to enable the creation of onsite environmental literacy projects and collaborative environmental literacy and outdoor learning projects between schools and community organizations.
Community-based Organizations (Informal EE Providers)	Ensure that Maine educators have access to affordable, high-quality, interdisciplinary climate education professional learning opportunities.
	Create research-based best practice educator training opportunities in equity and accessibility, Wabanaki studies, and other outdoor and environmental learning topics.
Statewide Networks	Convene the leaders of teacher education programs at the campuses of the University of Maine, Maine community colleges, and private Maine colleges to examine coursework requirements for certification, and instructional strategies to prepare Maine pre-service teachers to have the attitudes, knowledge, and skills to create interdisciplinary, culturally relevant, high quality environmental literacy learning opportunities in their classrooms.
	Identify existing professional learning opportunities that advance environmental literacy, including Wabanaki studies, equity and accessibility, and implementing the Next Generation Science Standards and share these widely across the state.
	Increase professional development, speakers, forums, and resources around environmental and natural resource-based career pathways.
	Continue to measure the field's professional learning needs every three to five years in the Census for Community Based Environmental Learning.
State and Local Government Agencies	Create, implement, and/or share professional learning opportunities to support educators advancing environmental literacy and outdoor learning in their child care centers, schools and in community organizations.
	Mobilize funding to support educators to access high quality professional learning opportunities in environmental literacy topics.
Higher Education Institutions	Create micro-credential or certificate programs in Maine for early childhood educators and K-12 classroom teachers in nature-based education and/or environmental literacy
	Ensure that all higher education institutions in Maine have the resources and coursework necessary to prepare incoming pre-service educators with the knowledge, skills, and tools necessary to incorporate culturally and locally relevant, interdisciplinary, environmental literacy into their content area(s) or in their schools/districts.
Philanthropy	Mobilize funding to support educators, both formal and in community organizations, to access high quality, professional learning opportunities in environmental literacy topics.
	Support efforts in higher education to train pre-service and in-service teachers, administrators and school facilities managers, in both early childhood and pre-K-12 settings in school yard greening, environmental, and outdoor education topics.
Business and Industry Partners	Donate to community organizations so they can provide teachers with the supplies and training they need to advance environmental literacy in their schools and communities.
	Create opportunities for teachers to better understand business and industry needs, collaborate with community organizations and schools to provide tours or field-based experiences for educators, so they have the knowledge to create workforce development lessons to better prepare students to enter Maine's workforce.





## GOAL #3

# Increase Resources to Build the Infrastructure and Staff Capacity to Equitably Advance Environmental Literacy and Outdoor Learning

**EVERY SCHOOL IN MAINE** would use both their building and their school grounds as context for teaching and learning about environmental literacy.

**ALL MAINE YOUTH** would have opportunities for environmental service learning in their pre-K-12 experience.

**MAINE SCHOOLS** would use outdoor learning spaces outside of the schools grounds to advance learning (i.e., trails, partnering with local land trusts, state and federal lands, etc.)

**MAINE SCHOOLS** would have the gear, transportation, and staff capacity, partnerships, and public support to incorporate meaningful and culturally relevant environmental education and outdoor learning opportunities pre-K-12.

**MAINE YOUTH AND THEIR CAREGIVERS AND/OR FAMILIES** would have equitable access to community-based environmental literacy learning opportunities statewide.

If we are successful:



## Strategies

### CAPACITY BUILDING:

- ✓ Increase financial support for schools to implement green infrastructure projects including greening school buildings, electrifying bus fleets, and schoolyard greening.
- ✓ Increase access to training for educators, administrators, and school facilities maintenance teams on developing living school yards, greening school infrastructure, and incorporating environmental service learning projects into curriculum pre-K-12.
- ✓ Increase financial support for educators to purchase the gear and supplies they need, or increase access to gear libraries where educators can borrow the gear they need, to ensure youth can participate in outdoor learning in safe and appropriate ways.
- ✓ Increase the number of and accessibility of community-based programs serving youth and families around environmental literacy topics.
- ✓ Increase the number of paid positions in schools, state agencies, and community organizations to advance environmental literacy and outdoor learning.

### COLLABORATION:

- ✓ Maintain existing or build new tools to help connect schools and educators to community partners, existing programs, gear shares, and available outdoor spaces for programming (i.e., maps of available trails like MaineTrailFinder, Maine Outdoor Learning Directory, DOE Engine, Gear Share, Maine Environmental Education Association Resources, Green Schoolyards America, Nature Based Education Consortium's resources on outdoor learning)

### EQUITY:

- ✓ Increase staff capacity, in school districts, state agencies, and community organizations, to coordinate and facilitate culturally relevant environmental and outdoor learning experiences and professional learning opportunities.
- ✓ Increase financial support and coordinated efforts to ensure transportation to outdoor

learning sites and field experiences for Maine youth, prioritize low income schools and communities.

- ✓ Increase access to training for educators, administrators and school facilities maintenance teams on developing living school yards, greening school infrastructure, and incorporating environmental service learning projects into curriculum pre-K-12.

### WORKFORCE DEVELOPMENT:

- ✓ Increase collaboration between schools and Maine business and industries to participate in shared learning opportunities, both on the school property and in the community; these collaborative efforts advance school goals of schoolyard greening and service learning and at the same time expose students to careers and potential future employers in the community.

### INITIAL ASSESSMENT PRIORITIES:

- ✓ Continue to record and share with local education agencies outdoor learning spaces and trails available on state, federal, and locally conserved lands.
- ✓ Measure, in the Census for Community-based Environmental Learning, schools and community organizations assets and capacity and infrastructure needs in relationship to environmental education and outdoor learning. Share these findings every three to five years publicly.
- ✓ Measure and publicly share, at the Department of Education, the number of Federally Recognized Green Ribbon Schools in Maine.



GOAL #3 IMPLEMENTATION TABLE	
Teachers / Formal Education	Utilize the school grounds and building as a living laboratory for learning.
	Incorporate environmental service learning into the curriculum.
	Build relationships with community partners to help support both onsite and offsite environmental and outdoor learning opportunities.
Administrators (Principals, Superintendents, Curriculum Coordinators, etc.)	Prioritize outdoor time in the school day for the mental and physical health and wellbeing of students and staff.
	Understand that the social/emotional and physical benefits and development that happen when students are outdoors for class and/or recess contributes to better academic outcomes, in part due to decreased conflicts and behavioral issues.
	Prioritize training staff on using the school buildings and grounds as living laboratories for environmental, sustainability, and climate adaptation education.
	Ensure budgets and school safety plans include staff support and gear needed for safe outdoor learning experiences.
Students	Advocate for increased resources to advance environmental literacy and outdoor learning at your school.
	Participate or lead efforts to create living school yards and start projects that address local climate actions in your schools and your community.
Community Members, Parents and Caretakers	Build awareness with other community members about why environmental education and outdoor learning is critical to youth physical and mental health and wellbeing and advocate for more environmental literacy and outdoor learning in schools and community programs.
	Fundraise with PTOs for gear and supplies needed to support outdoor and environmental learning in and on school grounds.
Community-based Organizations (Informal EE Providers)	Partner with schools to support green school yard design, construction, and maintenance.
	Support schools in climate education and adaptation projects.
	Provide community-based opportunities for environmental literacy learning for all Maine youth including outdoor school, community science projects, service learning, and field-based experiences.
Statewide Networks	Create a resource hub and trainings to support youth, parents, and educators to gain the knowledge, skills, and motivation to advocate at the local level for curricula and programs that advance environmental literacy.
	Share success stories and lessons learned about environmental education and outdoor learning in schools and communities across the state.
	Share funding opportunities to advance infrastructure in school and community programs.
	Measure schools and community organizations assets and capacity and infrastructure needs in relationship to environmental education and outdoor learning.
	Advocate for new and/or sustained funding and support for environmental education and outdoor learning.
State Agencies	Support schools applying for the federal Green Ribbon Schools program at the Maine Department of Education.
	Create an Environmental Literacy Coordinator position at the Maine Department of Education to oversee and coordinate efforts across state agencies, state networks, and in schools statewide.
	Share opportunities for local, state, and federal funding for schools and community organizations to gain the supplies and staffing needed to advance environmental literacy for Maine youth.
	Create and grow programs that reduce barriers to access to state and federal lands and environmental literacy learning experiences and supplies for Maine youth, caregivers, and families.
	Support school maintenance and administrator teams to better understand how to advance climate adaptation school yard greening efforts at the municipal level.
	Collaborate and align with the Maine Climate Council to ensure schools and education are adequately included in statewide climate recommendations.



Outdoor learning at Maine Audubon's Gilsland Farm Audubon Center in Falmouth

Higher Education Institutions	Build or collaborate with demonstration sites for nature-based play spaces and living school grounds for pre-service educators and school administrators to experience while training to become classroom teachers or school administrators.
	Support pre-service educators in gaining skills to safely use outdoor learning gear and effective classroom management outside, data collection instruments, and connecting to networks and resources educators will need as classroom teachers and school administrators to seek additional training and support to advance environmental literacy and outdoor learning in their schools.
Philanthropy	Increase financial support for child care centers and schools to implement green infrastructure projects including greening school buildings, electrifying bus fleets, and schoolyard greening. Prioritize funding in higher needs communities.
	Increase financial support for educators (in child care centers, schools and community organizations) to purchase the gear and supplies they need to ensure children and youth can participate in outdoor learning in safe and appropriate ways. Prioritize funding to higher needs communities.
	Increase investment in staffed positions in schools, local and state agencies, and community organizations that advance environmental education and outdoor learning.
Business and Industry Partners	Support schools and community partner organizations to design, build, and maintain more sustainable structures for youth learning.
	Partner with schools and community organizations to provide gear, expertise, and other needed support identified by the community to advance environmental and outdoor learning efforts.



## GOAL #4

# Advance Environmental Literacy in Early Childhood Education

**HIGH QUALITY**, culturally relevant, inclusive nature-based early childhood education is accessible to all young children in Maine.

**ACCESS TO HIGH QUALITY PROFESSIONAL LEARNING OPPORTUNITIES**, as well as degree programs, around outdoor and nature-based learning is readily available for early childhood educators, child care providers, program directors, administrators, and licensors.

**MAINE EARLY CHILDHOOD EDUCATION FACILITIES** have regular and frequent access to nature-based play spaces both onsite, for everyday interaction and play, and in the community.

**MAINE EARLY CHILDHOOD DEVELOPMENT STANDARDS** include guidelines for taking children outside within the developmental domains.

**MAINE STATE LICENSING RULES** for child care programs are adapted to include and support nature rich experiences for young children.

If we are successful:



## Strategies

### CAPACITY BUILDING:

- ✓ Increase staff capacity, in school districts, state agencies, child care centers, family child care programs, after care programs, and community organizations, to coordinate and facilitate culturally relevant environmental and outdoor learning experiences for children aged 0-8.
- ✓ Increase access to high quality professional development opportunities, as well as college, university, and community college degree programs, around nature-based learning for early childhood educators, child care center or program directors, child care providers, administrators, and licensors.
- ✓ Develop a statewide grant program specifically to support early childhood education through gear procural (clothing, outdoor gear and tools) and nature-based play-space development.

### COLLABORATION:

- ✓ Expand the Maine Early Childhood Outdoors Network to include more child care providers and early childhood educators across the state; this network shares research based best practices, guidelines for outdoor time, and ideas on outdoor space design for early childhood providers.
- ✓ Support engagement for child care providers and early childhood educators with state and nationwide conferences, summits, trainings, convenings that encourage knowledge sharing, research-based best practices, and relationship building across early childhood educators and programs.

### EQUITY:

- ✓ Improve access to inclusive and accessible early childhood environmental education and outdoor learning experiences that disrupt ableism and sexism, and center the diverse perspectives of Black, Indigenous, and People of Color for children 0-8.
- ✓ Establish that nature-based education is a norm in early childhood education and outdoor learning through play in nature-based settings is a right for all Maine children.

### Definition of nature-based play space:

Nature-based play spaces include features such as (and not limited to) plants, shrubs, trees, boulders, logs, dirt, sun, shade, and water, but support natural processes including seasonal changes, weather, light, erosion, pollination, animal habitat-making, photosynthesis and other plant life cycles (e.g., with seeds and tree litter). These spaces have plans for regular maintenance by staff and engagement with staff and students, connecting when possible to the formal curriculum.

### WORKFORCE DEVELOPMENT:

- ✓ Ensure that all professional development and credentialing programs and higher education institutions in Maine that train pre-service early childhood educators have the resources and coursework necessary to prepare incoming educators with the knowledge, skills, and tools necessary to incorporate culturally relevant nature-based and outdoor education into their content area(s) for children aged 0-8.

### INITIAL ASSESSMENT PRIORITIES:

- ✓ Collect data on existing early childhood environmental education programming on the 2022 Maine Census for Community Based Environmental and Outdoor Learning, and develop a plan for sustained and increased measurement.
- ✓ Measure access to outdoor play time and access to nature-based play spaces in child care centers and family child care programs statewide.



GOAL #4 IMPLEMENTATION TABLE

Teachers / Formal Education	Utilize the indoor and outdoor spaces as a living laboratory for learning.
	Provide hands-on experiences as part of the curriculum that contribute to healthy lifestyles through outdoor play and sound nutrition.
	Collaborate with community partners to provide culturally relevant, hands-on, field-based learning experiences for young children.
Administrators (Principals, Superintendents, Curriculum Coordinators, etc.)	Prioritize outdoor time during the day for the mental and physical health and wellbeing of children and staff.
	Prioritize and budget for staff positions, training, and gear and materials needed to safely create living school yards and facilitate outdoor learning and nature-based play experiences.
Students	Engage in outdoor and environmental learning opportunities in school and community settings.
Community Members, Parents and Caretakers	Increase support for community-based nature-based early childhood programming by advocating for the importance of this type of programming in your community and state meetings, help other caregivers understand the benefits of early childhood environmental education.
Community-based Organizations (Informal EE Providers)	Support Maine early childhood educators in incorporating age-appropriate climate education into curriculum.
	Support Maine early childhood educators in creating safe, accessible, and culturally relevant nature-based play spaces.
Statewide Networks	Share resources around design and implementation of nature-based play spaces and curriculum integration in Maine child care centers, preschools, and elementary school programs serving youth 0-8 (including case studies and site visits).
	Share resources around use of city parks/pop-up outdoor classroom spaces and wild/semi-wild naturally occurring spaces in addition to the use of constructed spaces.
	Advocate for increased resources to support the expansion of nature-based and outdoor learning in early childhood statewide.
	Collect data on existing early childhood environmental education programming on the 2022 Maine Census for Community Based Environmental and Outdoor Learning, and develop a plan for sustained and increased measurement.
State and Local Government Agencies	Ensure that all Maine early childhood licensures have training on how outdoor play can meet curriculum and safety standards and ensure licensing rules for child care programs are adapted to include and support nature rich experiences for young children.
	Ensure that the Maine Early Childhood Development Standards include guidelines for taking children outside within the developmental domains.
	Measure and share the frequency of nature-based learning and environmental literacy topics being taught in child care, public pre-K, and elementary settings.
	Measure and share access to outdoor play time and access to nature-based play spaces in child care centers and family child care programs statewide.
Higher Education Institutions	Research and share findings on the impacts of outdoor and nature-based play on Maine youth aged 0-8.
	Create micro credential or certificate programs in Maine for early childhood educators in nature-based education and/or environmental literacy.
	Create graduate level nature-based, environmental, and climate education courses for in-service teachers.
	Ensure that all higher education institutions in Maine have the resources and both undergraduate and graduate level coursework necessary to prepare incoming pre-service early childhood educators with the knowledge, skills, and tools necessary to incorporate culturally and locally relevant, interdisciplinary, environmental literacy into their content area(s) or in their child care centers or schools.

Philanthropy	Increase investment in existing or new funds or programs that advance environmental, climate, and outdoor education for Maine children aged 0-8 years. Prioritize highest need communities.
	Invest in community-based initiatives and programs that connect young children and their caregivers with nature-based play opportunities. Prioritize programs in highest need communities.
	Invest in early childhood educator training to increase the number of educators who feel they have the knowledge, skills, and motivation to incorporate culturally relevant, nature-based play in their childcare center, family daycare, before or after care, preschool, or pre-K–grade 3 classroom.
	Invest in higher education, statewide networks, and data collection projects to measure educator needs, student impact, and equitable access to nature-based learning opportunities for Maine youth aged 0-8.
Business and Industry Partners	Support child care centers, preschools, local parks. and community partner organizations serving youth ages 0-8 to design, build, and maintain nature-based play spaces for children to engage in meaningful and accessible outdoor play.
	Partner with schools and community organizations to provide gear, expertise, and other needed support to advance environmental and outdoor learning efforts for children aged 0-8.

Resources

GOAL #1

Maine Case Studies

- 1. [teachmeoutside.org/2020/12/14/harpswell-community-school-case-study/](https://teachmeoutside.org/2020/12/14/harpswell-community-school-case-study/)
- 2. [teachmeoutside.org/2020/12/14/green-team-case-study/](https://teachmeoutside.org/2020/12/14/green-team-case-study/)
- 3. <https://www.nbeconsortium.com/outdoor-learning-stories>

Maine Workforce Case Studies

- 4. [Eastern Maine Skippers Program](#)
- 5. [Maine Forest Collaborative](#)
- 6. [East Grand Schools Natural Resource Emphasis](#)

GOAL #2

Resources

- 7. Environmental Education [Guidelines for Excellence](#) from the North American Association for Environmental Education
- 8. [Maine Environmental Education Association’s resources for educators page](#)
- 9. [Maine Department of Education EnGiNE](#) Online Communities of Practice
- 10. [Nature Based Education Consortium Outdoor Learning Portal](#)
- 11. [Teach ME Outside Website](#)

- 12. [MDIFW Resources for Teachers and Educators](#)
- 13. [Project Wet](#)
- 14. [Project Wild](#)
- 15. [Maine Project Learning Tree](#)
- 16. [Maine Ag in the Classroom](#)
- 17. [Maine School Garden Network](#)
- 18. [Maine Farm and Sea to School](#)

GOAL #3

Case Studies or Resources

LAND

- 19. [Maine Trail Finder](#)
- 20. [Maine Land Trust Network](#)
- 21. [MDIFW Wildlife Management Areas](#)
- 22. [Trust for Public Land](#) Nature Near Schools Discovery Map
- 23. [Maine Conserved Lands Map](#)
- 24. [Maine Audubon](#)

MAINE COMMUNITY PARTNERS

- 25. [Teach Me Outside Directory](#) helps connect with community partners
- 26. [NAAEE EEpro](#) to connect to regional or national Community Partners

SCHOOL AND CHILD CARE BUILDING AND GROUNDS AND TRANSPORTATION

- 27. [Green Schoolyards America Content Library](#)
- 28. [School Ground Greening Coalition](#)
- 29. [ReTree Us](#) (orchards on schools)
- 30. [Maine Climate Corps](#)

- 31. [Maine School Garden Network](#)
- 32. [Learning by Nature for ME](#)
- 33. [Maine Early Childhood Outdoors](#) (MeECO)

GEAR

- 34. [MEEA Mini Grants](#)
- 35. [Gear Library](#) (Katahdin)
- 36. [Maine Gear Share](#)

LEARNING KITS

- 37. [Wildlife Loan Trunks](#)
- 38. [4-H STEM Toolkits](#)

MAKING THE CASE AND STORIES FROM MAINE SCHOOLS

- 39. The [Maine Environmental Education Association](#) and the Maine [Nature Based Education Consortium](#) build support and advocate for funding to advance environmental literacy
- 40. [NBEC Outdoor Learning Portal](#)

GOAL #4

Resources

- 41. [Educare Central Maine: Nature Based Education](#)
- 42. [Maine Early Childhood Outdoors \(MeECO\)](#)
- 43. [Natural Start Alliance](#)
- 44. [In Bloom Conferences from Antioch University](#)
- 45. [Inside-Outside Network Antioch University](#)



## Conclusion

Building on the strong foundation of Maine's original Environmental Literacy Plan, this revision of the Maine Environmental Literacy Plan remains both ambitious and achievable. The development and implementation of the Maine Environmental Literacy Plan leverages and extends existing partnerships in the State. Through the lens of research-based best practices, the plan seeks to establish widely acceptable criteria to direct improvement in the quality and coherence of teaching and learning with Maine children and youth with respect to environmental literacy.



Essential to this plan is the ability of the formal and informal education systems, government agencies, and statewide environmental and outdoor learning networks to act both independently and collaboratively toward a common vision. The Environmental Literacy Plan provides Maine's broad and diverse education system, both schools and community programs, with articulated goals for improving the knowledge, skills, and attitudes necessary for Mainers to develop a sense of connection, understanding, and ethic of care for Maine's dynamic and diverse ecosystem and communities. Successful implementation of this plan will result in an increase in environmental literacy across individuals and communities which is critical to ensure the long term health and wellbeing of Maine people and places. ■

# MAINE CLIMATE LITERACY PLAN

2025  
AN ADDENDUM TO THE MAINE  
ENVIRONMENTAL LITERACY PLAN



**T**HE MAINE CLIMATE LITERACY PLAN is an Addendum to the Maine Environmental Literacy Plan that lays out recommendations to advance climate literacy in the State of Maine. This Plan includes strategies, recommendations, and action steps for the Maine Department of Education (DOE) and other responsible parties to consider advancing climate education. The MELP is part of Maine's Green School Initiative which supports students, educators, schools, and school administrative units throughout the state of Maine in the following areas:

- 1. Build strong and lasting Green Schools Leadership**—youth, educators, administrators, and community members.
- 2.** Supporting the work of Maine School Districts in their desire to **increase efficiencies and reduce carbon emission** in their buildings, energy systems, transportation, food use, and landscaping.
- 3. Construct an engaging framework for environmental literacy** through the sharing and networking of curricular units, projects, and outdoor activity.
- 4. Establish a seamless pathway for career exploration and skill development in climate-ready fields.**

In 2024, the Maine DOE convened a taskforce of educators, youth, environmental organizations, school leadership, and other key parties from throughout the state to design an Addendum to the Maine Environmental Literacy Plan. This taskforce was convened by the recommendation of the **Maine Climate Council** in partnership with the **Maine Environmental Education Association** and was funded in part by the **Maine Governor's Office of Policy Innovation and the Future**.

Through the suggested strategies and recommendations below, the Maine Climate Literacy Plan is designed to help the Maine DOE, State Departments, Community-Based Organizations, School Administrative Units, Educators and Students to synchronize, expand, and monitor their climate literacy efforts over time. ■

#### ADDITIONAL RESOURCES:

1. [2023 Maine Won't Wait Progress Report - Page 56](#)

## Strategies

- +** Increase Capacity Building for Advancing Climate Literacy in Maine Schools
- +** Develop a Holistic Maine Green Schools Program



North Haven  
Community School



# What is this plan and why is it needed?

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Students, educators, and school buildings must be ready for and resilient to the impacts of climate change on communities throughout Maine.

**The Maine Climate Literacy Plan lays out strategies, recommendations, and detailed pathways to support Maine schools in preparing a climate-ready and resilient generation that is able to celebrate, use, and protect Maine's resources, peoples, and communities.**

This plan was designed to monitor, support, and unify efforts throughout the state around climate education in pre-K through grade 12 schools.

The Maine Climate Literacy Plan is an Addendum to the Maine Environmental Literacy Plan (MELP) and a direct result of a taskforce recommended by the Maine Climate Council. The Addendum will serve to further specify suggested action steps for climate literacy for the Maine Department of Education (DOE) and other responsible parties throughout the state to take to address the emergent climate crisis. All recommendations are designed for responsible parties at their own discretion and capacities and to support local decision-making for Maine schools. The Addendum was created by the Climate Education Taskforce, convened and facilitated by the Maine DOE, Maine Environmental Education Association, and the Maine Governor's Office of Policy Innovation and Future.

The MELP details the context, history, goals, and overall strategies to advance environmental literacy in public pre-k-12 education in Maine. The Addendum will specifically focus on climate literacy, which is a component of environmental literacy.

Although the terms "climate" and "environmental" are often used as synonyms, climate literacy is a component of environmental literacy. The MELP defines a component of environmental literacy as "the ability to recognize the components of healthy, natural, and human-built systems and to execute the actions

necessary to maintain, restore, and improve them." The National Oceanic and Atmospheric Administration further defines climate literacy as "an understanding of how the climate system works, how human actions influence climate, and how climate influences people and other parts of the Earth system."

Climate literacy is a crucial learning opportunity for future generations who are growing up in a world that is changing rapidly. It is imperative that schools and teachers are prepared to help students and communities acquire the knowledge, skills, and resilience necessary for the future.

## Why create this taskforce

The Climate Education Taskforce was a result of a Maine Climate Council Strategy H, Recommendation 2 in the Maine Won't Wait Climate Action Plan, which was published in 2020. ("Launch a process...to engage key stakeholders including students, older youth, educators, and state leaders in next steps.")[[Maine Won't Wait, page 98](#)].

Beyond Maine, there are a number of efforts underway to design climate education from a variety of perspectives. This Taskforce and Plan were informed and influenced by some of this work including: [ClimateTime in Washington State](#), [Wisconsin's Green](#)





North Haven  
Community School

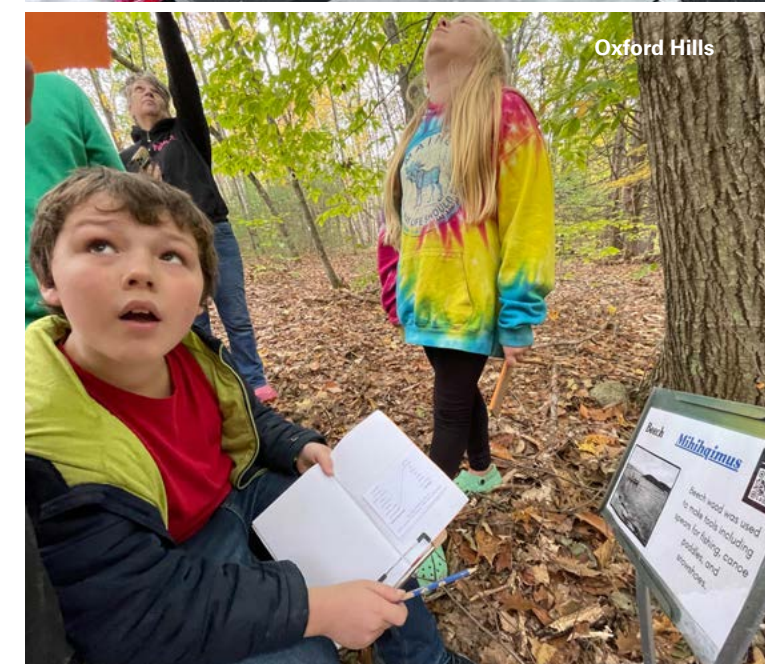


Monmouth  
Academy

Brownfield Denmark  
Elementary School



Oxford Hills



George Stevens  
Academy



& Healthy Schools program, the Aspen Institute K12 Climate Education Plan the U.S. Department of Education Green Ribbon Schools program, the UNESCO Greening Curriculum Guide and Green School Quality Standard, NOAA Climate Literacy Guide, and others linked in the Resources section.

## Why is this Addendum needed

The MELP lays out four clear and long-term goals with substantial and organized strategies for environmental education throughout the state.

1. Advance Environmental Literacy in Maine Youth Through Powerful Learning Opportunities
2. Provide Culturally-Relevant, High-Quality, Interdisciplinary, Professional Learning to Advance Environmental Literacy
3. Increase Resources to Build the Infrastructure and Staff Capacity to Equitably Advance Environmental Literacy and Outdoor Learning
4. Advance Environmental Literacy in Early Childhood Education

This Addendum is necessary in order to define more actionable recommendations and timelines for the responsible parties throughout the state in order to create a more unified, defined, and trackable movement around climate literacy. The goals above are the foundation for the Maine Climate Literacy Plan. All of the recommendations in the Addendum meet each goal of the MELP for teachers and classrooms in Strategy 1 and schools and School Administrative Units in Strategy 2.

## Process

The Maine Climate Education Taskforce was convened from April through June of 2024 for the purpose of brainstorming and selecting recommendations for this Addendum. The Taskforce was composed of parties from throughout the state with a wide range of roles and perspectives. The Taskforce, along with other focus groups throughout the drafting process, contributed their expertise and lived experience to generate this plan's strategies, recommendations, and supporting information. Additional information about the Taskforce, the process, and additional perspectives can be found in Appendix A. ■



# Strategies and Recommendations Overview

STRATEGY

Overall categories for recommendations.

RECOMMENDATION

Suggested steps for responsible parties to take with a timeline, purpose, and direction. The party should work to move forward with the recommendation based on capacity and mission alignment.

LINK

Supporting information and action steps to be included in the Literacy Plan to provide context and additional action steps.

Increase Capacity Building for Advancing Climate Literacy in Maine Schools

With support from the Maine State Legislature, School Administrative Units, Community-Based Organizations, private funders, and others, the Maine Department of Education (DOE) should increase access to funding for professional learning opportunities for educators by permanently funding the existing Pilot Program for Climate Education Professional Development by Winter 2026. This continued development will foster new structures for equitable funding and expanded pathways, starting in Spring 2025, for Inservice Educators to learn about climate literacy for professional learning and recertification.

Increase Professional Learning Opportunities  
👉 RECOMMENDATION #1

Community-Based Organizations in Maine, in collaboration with School Administrative Units and the Maine Department of Education (DOE), should expand access to free, online, standards-aligned, scientifically-accurate climate curriculum resources for educators and curated examples of locally-relevant, age-appropriate, place-, project-, and play-based, standards-aligned climate education curriculum across all content areas starting in Spring 2025.

Expand curriculum resources  
👉 RECOMMENDATION #2

The Maine Department of Education should collaborate with Higher Education to support that preservice teacher training in Maine includes climate education within the next four years.

Develop preservice training  
👉 RECOMMENDATION #3

Starting in 2025, the Maine Department of Education (DOE) should work with the support of the Scientific and Technical Subcommittee of the Maine Climate Council to produce a Maine Climate Change for Schools Report, which will synthesize Maine climate data for a document accessible to schools, educators, and students.

Create local guides and scientific reports  
👉 RECOMMENDATION #4



Develop a Holistic Maine Green Schools Program

The Maine Department of Education (DOE) in collaboration with Community-Based Organizations should create and facilitate a statewide Green Schools Network within the next four years.

Facilitate statewide a Green Schools Network  
👉 RECOMMENDATION #1

The Maine Department of Education (DOE) should assess school sustainability policies in Maine and develop templates and funding for Maine schools to create specific policies and plans to support climate education and green infrastructure.

Advance school sustainability policies  
👉 RECOMMENDATION #2

The Maine Department of Education (DOE) should re-launch and maintain the U.S. Department of Education's Green Ribbon Schools Award Program in 2025. In addition, the Maine DOE should launch a state-specific recognition that is more flexible to the local needs of Maine. This recognition program, along with the aforementioned network, will collect and communicate success stories across the state.

Launch Green Schools awards and celebrate schools  
👉 RECOMMENDATION #3



# Recommendations

Increase  
Capacity Building  
for Advancing Climate  
Literacy in Maine  
Schools

INCREASE PROFESSIONAL LEARNING OPPORTUNITIES

## Recommendation #1

### Recommendation

With support from the Maine State Legislature, School Administrative Units, Community-Based Organizations, private funders, and others, the Maine Department of Education (DOE) should increase access to funding for professional learning opportunities for educators by permanently funding the existing Pilot Program for Climate Education Professional Development by Winter 2026. This continued development will foster new structures for equitable funding and expanded pathways, starting in Spring 2025, for Inservice Educators to learn about climate literacy for professional learning and recertification.

### Supporting Information

The Climate Education Professional Development Pilot Grant Program that passed in resolve **LD 1902** established a three-year pilot program with \$1.8 million in funding to support professional development in public schools on climate change throughout the state. This program aims to increase access to climate education for underserved communities through interdisciplinary, age-appropriate education by supporting collaboration among schools and community partners. The Maine DOE should recommend congressionally-directed funding for an improved permanent program, based upon lessons learned from the pilot. The continuation of this program should include more pathways and structures for equitable access for schools that do not have the personnel or resources for a reimbursement grant to this program.

This program created a new position at the Maine DOE to advance Climate Education, the Climate Education Specialist. The Maine DOE should also ensure that this position is maintained at the department.

**The Climate Education Professional Development Pilot Grant Program** is the first state-funded program for Inservice Educators to participate in Climate Education training. The grant program should not be the exclusive pathway for climate literacy professional learning. The Taskforce recommends implementation of the action steps listed below, which pertain to both the program and broader efforts that can reside within or outside the program design and administration (depending on the continuation of the grant program).



# Recommendation #1 Action Steps

*The Maine Department of Education should:*

1. Support pathways, in the grant application, for community-based organizations to host professional learning opportunities that are free for teachers to attend and that provide either a stipend or certification credits.

2. Increase the reach of this program to include Career and Technical Education programs around green economy workforce development opportunities.

3. Provide resources and assistance applying for grants if a position to do so is not filled in the applicant school or district.

4. Increase communication before and during grant application windows by non-profit network organizations to increase knowledge of the program and understanding of the process for applying to the program through storytelling and outreach efforts.

5. Offer recertification or stipends for training and clearly communicating ahead of training.

6. Train teachers to lead climate education teachers/coaches in their schools to incorporate statewide information and knowledge into the local context and unique school demands.

7. Develop and support regional summer training opportunities for teachers or cohorts of teachers with local knowledge, ongoing networking, and recertification hours or stipends in order to reduce barriers to entry.

8. Develop a climate education micro-credential program, or “climate badge”, in partnership with the **University of Maine** and/or the **Maine Environmental Education Association**.
9. Demonstrate climate literacy assessments aligned with Next Generation Science Standards. (**Maine Environmental Literacy Plan** – Page 27).

10. Use the **Aspen Institute K12 Climate Action Plan**, the **UNESCO Greening curriculum guidance**, and the **NOAA Climate Literacy Guide** as guidelines for this recommendation.

Increase  
Capacity Building  
for Advancing Climate  
Literacy in Maine  
Schools

EXPAND CURRICULUM RESOURCES

# Recommendation #2

## Recommendation

Community-Based Organizations in Maine, in collaboration with School Administrative Units and the Maine Department of Education (DOE), should expand access to free, online, standards-aligned, scientifically-accurate climate curriculum resources for educators and curated examples of locally-relevant, age-appropriate, place-, project-, and play-based, standards-aligned climate education curriculum across all content areas starting in Spring 2025.

## Supporting Information

Educators throughout the state need easy and direct access to free, online, standards-aligned, scientifically-accurate climate curriculum resources. Community-based organizations may have the capacity and organizational flexibility to be responsible for this recommendation and the subsequent action steps.

This recommendation addresses the two central challenges identified by the Climate Education Taskforce: breadth of resources available and equitable access to these resources. Both challenges are addressed in the action steps below. There is a continuous need for the creation of high-quality, locally-based, standards-aligned climate curriculum and resources for grades pre-K-12. There is also a need for structures to effectively gather and communicate content that is already available. Much of the resources that teachers state they need do exist, however, there is a need for easier pathways for educators to learn about, access, and use high-quality curricula.



# Recommendation #2 Action Steps

*Maine Community-Based Organizations will:*

1. Compile and effectively communicate resources and curricula statewide. This compilation should be designed similarly to the [TeachMeOutside resource](#) for outdoor education organizations and should be free and accessible and support schools, teachers, and students.

2. Expand knowledge of and access to the [Maine Climate Education Hub](#), developed by Subject to Climate, by increasing pathways for greater curriculum depth, vetting flexibility, and creating stronger links to the organizations or individuals that created the curriculum highlighted in the Hub.

3. Collaborate with the [Wabanaki Framework and Wabanaki Studies Specialist](#) at the Maine Department of Education to expand access and connection between climate education and Wabanaki studies.

4. Collaborate with Early Childhood Centers and leaders in Maine to develop more age-appropriate, play-based early childhood climate literacy resources.

5. Develop a Climate Badge for vetted resources that have passed through a standard climate education process.

6. Support Workforce Development tools, guides, and network connections for schools, Career and Technical Education, Extended Learning Opportunities, and informal education programs.

7. Create regional and local assessment tools for organizations, individuals, and schools to gauge climate action and education needs in their particular area.
8. Increase access for students by providing transportation, outdoor access funding, and access and agency on online climate education curriculum, including the [Maine Online Open-Source Education modules](#) and the Maine Climate Education Hub.

9. Expand access and resources centered on Climate Justice.
- Resources should be supported by examples of how teachers are implementing climate education throughout the state. These examples should be gathered and disseminated in an ongoing and engaging format. Examples should provide a strong foundation for statewide climate education.

**AREAS THAT SHOULD BE COVERED BY THESE CURATED EXAMPLES:**

1. PreK-12 (with a wide range of subject matter and curriculum complexity)

2. Interdisciplinary, project-based, place-based, play-based, [Maine Solutionaries Project](#) models of instruction.

3. Green job/career exploration in traditional and Career and Technical Education classrooms.

4. Wabanaki Studies and climate education interwoven, [Maine Climate Science Portal with Two Eyed Seeing](#).

5. Technology and Computer Science

6. Multilingual learners

7. Social Emotional Learning

Increase Capacity Building for Advancing Climate Literacy in Maine Schools

DEVELOP PRESERVICE TRAINING

# Recommendation #3

## Recommendation

The Maine Department of Education should collaborate with Higher Education to support that preservice teacher training in Maine includes climate education within the next four years.

## Supporting Information

In order to successfully support the integration of climate education in schools, at all grade levels, new educators training to join Maine schools should have exposure to climate education in their preservice teacher training programs. Early professional learning has a foundational impact on a teacher’s career and their integration of climate literacy and associated concepts into their classrooms. Professional learning for preservice teachers can also aid in building resilience to climate anxiety that has a negative impact on both teachers and students in the classroom.



## Recommendation #3 Action Steps

*The Maine Department of Education should:*

1. Convene a statewide meeting with engaged education professors to share and discuss the latest pre-K-12 curricular resources that can be integrated in teacher preparation courses including Next Generation Science Standards.
2. Create a micro-credential that links Wabanaki Studies and Climate Education that Maine preservice educators can access.
3. Engage with teacher training programs in higher education institutions throughout the state of Maine to understand their current climate education practices and identify areas for growth and support. Use teacher training models for guidance, such as [New Jersey Preservice Teacher Education Training Modules](#).
4. Explore standards decisions under [Rule Chapter 114](#).
5. Partner with the [University of Maine, including the Farmington Graduate Certificate in Climate Education, Climate Change Institute](#), and others, along with additional community-based, science-focused organizations throughout the state and higher education institutions, to ensure that Maine-based resources for educators are being created and distributed to teacher training programs.

Increase  
Capacity Building  
for Advancing Climate  
Literacy in Maine  
Schools

CREATE LOCAL GUIDES AND SCIENTIFIC REPORTS

## Recommendation #4

### Recommendation

Starting in 2025, the Maine Department of Education (DOE) should work with the support of the Scientific and Technical Subcommittee of the Maine Climate Council to produce a Maine Climate Change for Schools Report, which will synthesize Maine climate data for a document accessible to schools, educators, and students.

### Supporting Information

[The Scientific and Technical Subcommittee](#) of the Maine Climate Council is tasked with creating a “Scientific Assessment of Climate Change and Its Effects in Maine”. That group’s latest [report was published in Spring 2024](#). It details the climate change effects in Maine, including sections on Climate, Human Dimension, Sea Level and Coastal Hazards, Marine, Agriculture, Biodiversity, Freshwater, Forests and Forestry, and Hope. This extensive document is an invaluable resource to aid in understanding the impacts of climate change in Maine. This report creates a strong foundation of data and scientific findings that should be used in classrooms throughout the state. This up-to-date data can be used to understand local environmental change and then as a springboard in classrooms to empower action projects and clear local direction for school and student sustainability efforts.



## Recommendation #4 Action Steps

*The Maine Department of Education should:*

1. Lead the development of an educator-, student-, and classroom-specific report, based on the full scientific assessment report with the support of the Scientific and Technical Subcommittee (STS). This report will be designed to ensure the most up-to-date climate information/data for the state is accessible to teachers and students using the STS and associated reports. This will entail synthesizing and sharing relevant information that is succinct and high-school-age appropriate. **New Jersey Teachers Guide for Climate Change Data** will additionally be used as a guide.
2. Include ways that the data can be effectively used in the classroom for a wide variety of grade levels and content areas.
  - 2a. The report may be expanded or modified to fit different age ranges and classrooms.
3. Released and updated annually to be used in classrooms the following academic year.

Develop a Holistic  
Maine Green Schools  
Program

FACILITATE STATEWIDE A GREEN SCHOOLS NETWORK

## Recommendation #1

### Recommendation

The Maine Department of Education (DOE) in collaboration with Community-Based Organizations should create and facilitate a statewide Green Schools Network within the next four years.

### Supporting Information

The Maine Green Schools Network can be a connection hub for schools, teachers, students, and others around climate education, school yard greening, sustainability, and school-based energy efficiency projects. The network will engage with members through in-person events, coaching, and digital communication tools, including online resources and email engagement. The direction of this network will be coordinated by the Maine DOE's Director of Green Schools. community-based organizations are effective partners to assist in flexibility and communication in developing and supporting this network with the Maine DOE.



## Recommendation #1 Action Steps

*The Maine Green Schools Network should:*

1. Serve as the central location for all Green School Program communications outside of the Maine DOE, as well as regularly-timed communication emails around all the efforts and work in the Climate Literacy Plan. This Network serves the crucial role of breaking down the siloed nature of this work throughout the state. This Maine Green Schools Network website, communication, and storytelling may be modeled after the work of [Washington State ClimeTime](#), [Maryland Green Schools](#), [Green Schools National Network](#), [Green Schools Alliance](#), [Center for Green Schools](#), [Green Schools – Project Learning Tree](#), [Kentucky Green Schools](#), [North American Association for Environmental Education](#) [Thriving Schools Roadmap](#), and more.
2. Host network gatherings co-hosted with community-based organizations, the Maine DOE, and higher education institutions. These convenings will effectively welcome, coach, and celebrate green schools' efforts around the state and bring together teachers and youth and the broader community to share challenges and successes.
3. Develop tools, connections, and resources that provide a centralized place for schools and teachers to understand the availability of funding for education and infrastructure work, receive technical assistance in applying for funding, develop and measure progress on climate plans in their schools, receive coaching to improve school efforts, connect with other schools that might be working on similar efforts to share successes and challenges, and celebrate and share the innovative work happening in schools and districts around the state.
4. Integrate with Green Schools Recognition Program.
5. Share existing training and opportunities in STEAM (science, technology, engineering, art, and mathematics), [Wabanaki Studies](#), environmental and outdoor education, [Connected Learning Ecosystems](#), and more with Maine schools and school administrative units to support the implementation of district climate literacy and action plans.

Develop a Holistic  
Maine Green Schools  
Program

ADVANCE SCHOOL SUSTAINABILITY POLICIES

## Recommendation #2

### Recommendation

The Maine Department of Education (DOE) should assess school sustainability policies in Maine and develop templates and funding for Maine schools to create specific policies and plans to support climate education and green infrastructure.

### Supporting Information

To advance climate literacy, Maine schools should develop plans and policies that support the sustainable advancement of climate education and green school infrastructure work. Schools are a crucial component of every Maine community. Schools serve as a community hub for learning and connecting all ages, as well as a physical space for community events from sports to theater to emergency aid. Furthermore, schools are large municipal buildings that contribute a significant amount to a town or city's carbon footprint and energy expenditures. Schools are a critical part of any community and should be given more consideration in the larger municipal climate planning processes.

Commonly, a significant amount of climate literacy and green infrastructure work in schools is created and supported by a small set of individuals. Therefore, schools' efforts are vulnerable to individuals leaving the school or school administrative unit (SAU). By developing climate action plans, the school and/or SAU would help to create longevity and sustainability of green infrastructure/climate literacy efforts. This planning process is also an opportunity to bring together a wide range of members of the school community and school leadership and to link school-based efforts to municipal climate action planning. Through collaboration and tracking progress over time, schools and/or SAUs will be able to move toward their climate goals.

Overall, climate and green action projects in schools will increase the health of the campus/building, while reducing long-term costs. Effective planning creates the foundation for the greatest impact, coordination, and long-term viability of these efforts.



## Recommendation #2 Action Steps

1. The Maine DOE's Director of Green Schools and their team should conduct an assessment of existing school sustainability/ climate plans and policies, as well as their methods, barriers, and scope. The information that is collected can be used to inform the development of planning and policy guides that will be made accessible to all schools in Maine.
2. The Maine DOE should develop guides to effectively help schools and districts execute climate education and green infrastructure planning. These guides will create a framework to align administration, school boards, and staff to local needs and give examples of actions at the appropriate scale for a wide range of schools and communities throughout the state. While creating a Green Schools Action plan for schools and/or SAUs will not be mandated, this guide will make the planning process easier for Maine schools and SAUs that are working to advance climate literacy and green infrastructure development. The sustainability/climate resiliency/green school plans and policies guides will:
  - 2a. Share templates to support planning processes in a wide range of school types encompassing different starting places and center around the three pillars created by the [U.S. Department of Education's Green Ribbon Schools Program](#). (More information can be found in Strategy 2, Recommendation 3. Launch Green Schools Awards & Celebrate Schools). Guides should also draw from the [UNESCO Green Schools Quality Standard](#) and the [Aspen Institute K12 Climate Action Plan](#).
  - 2b. Support reachable goals within reasonable timelines.
  - 2c. As a result of the assessment of existing policies, a variety of examples should be provided. Examples of these are [Portland Public School Sustainability Policy](#) and [Five Towns CSD Strategic Plan](#).
  - 2d. Encourage revisions and continued monitoring after goals are first achieved.
  - 2e. Create, provide, and/or support the use of progress tracking tools. An example is the [Wisconsin Green and Healthy School Survey](#) and [The START tool](#).

3. Climate literacy plans will be encouraged to include the following processes:
  - 3a. Participation from: teachers, administrators, superintendent or assistant superintendent, school board buy-in at some level of awareness, facilities manager, students, parent/ caregiver community, and additional staff depending on school to create the plan.
  - 3b. Trained facilitators and/or individuals to help schools or SAUs facilitate this planning process during the course of an academic year.
  - 3c. Coordination with municipality and state leaders to ensure that education and schools are included in municipal climate planning processes.
4. The planning process will clearly define the benefits of climate action/literacy in schools, including but not limited to:
  - 4a. Savings as a result of investing in more efficient infrastructure development.
  - 4b. Increase in health benefits with green schoolyards projects (i.e. more shared places for physical movement, storm water runoff, habitat creation, temperature control with heat pumps, and increased air quality).
  - 4c. Contribution to meeting the state's climate action goals.
  - 4d. Links to the [Whole Student Framework](#), Social Emotional Learning, student agency, and resilient schools and communities.





### Develop a Holistic Maine Green Schools Program

## LAUNCH GREEN SCHOOLS AWARDS & CELEBRATE SCHOOLS

# Recommendation #3

### Recommendation

The Maine Department of Education (DOE) should re-launch and maintain the U.S. Department of Education's Green Ribbon Schools Award Program in 2025. In addition, the Maine DOE should launch a state-specific recognition that is more flexible to the local needs of Maine. This recognition program, along with the aforementioned network, will collect and communicate success stories across the state.

### Supporting Information

In order to share innovation and increase motivation, it is essential to celebrate progress and tell stories about the climate literacy and green infrastructure work happening in Maine schools. This will be accomplished through the following three methods: the reinstatement of a federal award program, launching a state award program, and developing a storytelling initiative. These three components will be effectively integrated with the Green Schools Network recommendation as the Network develops.



## Recommendation #3 Action Steps

*The Maine Department of Education should:*

1. Relaunch Maine's participation in the U.S. Department of Education Green Ribbon Schools Award. This award program is facilitated by states electing to nominate local schools to receive the national prize. The program is centered around the following three pillars:
  - 1a. Reduced Environmental Impact and Costs
  - 1b. Improved Health and Wellness
  - 1c. Effective Environmental and Sustainability Education
2. Launch a state recognition tiered program that aligns with the national **Green Ribbon Schools Award** program. This approach is recommended by the U.S. Department of Education and is used by several states (including **California** and **Wisconsin**) to create a more flexible and easier entry point for schools into the program. The recognition application should be structured in a survey in order to inform school process, if schools engage with the program annually, and help the Maine DOE effectively support schools. The state recognition program in Maine will be designed to include the three pillars with increased flexibility for schools to be focused on only one or two areas to be recognized. Additional areas that should be considered part of this state-level recognition program are Wabanaki education, green careers, and natural resource industry-based programs like forestry, fishing, aquaculture, and agriculture. The Taskforce recommends that the recognition program be titled in a state specific manner, as well as one that shifts emphasis from traditional climate change words like Green, Sustainability, etc. to Healthy and Resilient Schools. Additionally, this recognition could include a flag for the school to celebrate and show the success to their community.
3. Explore Distinguished Educator Model for specific roles: Teacher, Facilities Manager, etc.
4. Effectively connect with the Maine Environmental Education Association Environmental Education Awards.
5. Collect and disseminate case studies of green school programs and efforts with support from community-based organizations and schools. The storytelling opportunity is paramount to encouraging additional efforts by new schools and growth in awarded schools. The program will link with the Green Schools Network in Recommendation 2 to effectively collect and communicate stories from schools across the state.





# What now?



The Maine Climate Literacy Plan is an essential tool to catalyze climate efforts throughout the state to create more sustainable and resilient schools for all Maine students. Maine has a wide variety of schools, organizations, and experts already working on this critical effort, and this plan would increase the coordination and implementation of these efforts in Maine schools and districts.

## Timeline

This plan is designed to be supportive and does not mandate nor hinder existing efforts nor interfere with local decision-making regarding these topics in schools throughout the state. The objective of the Maine Climate Literacy Plan is to fully implement all recommendations within the next four years. As a

result, the Maine Department of Education (DOE) will convene another taskforce to review and update the plan on a four-year timeline. The Maine DOE will provide updates on the progress of each recommendation on an annual basis by January 1 of each year. The Maine DOE serves as the coordinator for this plan but is not solely responsible for oversight, enactment, or funding of any of these recommendations. The Maine DOE will collaborate with responsible parties throughout the state to help to enact and monitor the progress of these recommendations at the discretion of department staff and the Commissioner of Education.

## Conclusion

Building a future for Maine that is climate resilient starts with supporting every school, teacher, and student to develop the tools, curriculum, and plans necessary to meet our changing future. Today, Maine schools need support and encouragement to incorporate action that transitions existing infrastructure to embrace more efficient and healthy solutions and to incorporate a holistic approach to building climate literacy. The Maine Climate Literacy Plan builds a four-year actionable roadmap of climate literacy recommendations for the Maine Department of



Education and other responsible collaborating parties throughout the state to enact. This addendum to the Maine Environmental Literacy Plan supports all four of the goals detailed in the 2022 Plan, while providing further specific direction on how to advance climate education and literacy. The Maine Climate Literacy Plan Addendum will aid in coordinating efforts and supporting decision-makers, as they work to build healthier and more resilient schools for our future. Each recommendation in the Plan has clear actions within

a bounded timeline, as well as flexible suggestions for which parties will collaborate to enact the actions. Ultimately, the Plan’s intent is to support Maine schools and school administrative units (SAUs) to design and implement the climate literacy actions that best fit their communities’ needs, as they so choose and as they see fit. If this plan is successfully implemented, it will result in a significant increase in climate literacy and green infrastructure in schools and SAUs across the state of Maine in the next four years. ■

# Resources

EXECUTIVE SUMMARY

- 1. **Maine Environmental Education Association**
- 2. **Governor’s Office of Policy Innovation & Future**

INTRODUCTION

- 3. **NOAA Climate Literacy Guide**
- 4. **Maine Won’t Wait**
- 5. **Aspen Institute K12 Climate Action Plan**
- 6. **UNESCO Greening curriculum guidance**
- 7. **UNESCO Green school quality standard**
- 8. **Washington ClimeTime**
- 9. **Wisconsin Green and Healthy Schools**
- 10. **U.S. Department of Education Green Ribbon Schools**

SECTION 1.1

- 11. **Maine Department of Education Maine Environmental Literacy Plan**
- 12. **Maine Climate Education Professional Development Grant Pilot Program**
- 13. **L.D. 1902 - Resolve, To Establish a Pilot Program To Encourage Climate Education in Maine Public Schools**
- 14. **Maine Environmental Education Association**
- 15. **University of Maine System Micro-Credentials**
- 16. **Aspen Institute K12 Climate Action Plan**
- 17. **UNESCO Greening curriculum guidance**
- 18. **NOAA Climate Literacy Guide**

SECTION 1.2

- 19. **Maine Climate Education Hub**
- 20. **Teach ME Outside**
- 21. **MOOSE Climate Modules**
- 22. **Maine Department of Education Solutionaries Project**
- 23. **Maine Climate Action Now Portal**
- 24. **Maine Department of Education Wabanaki Studies**

SECTION 1.3

- 25. **University of Maine Climate Change Institute**
- 26. **University of Maine at Farmington Graduate Certificate in Climate Education**
- 27. **New Jersey Preservice Teacher Education Training Modules**
- 28. **Rule Chapter 114 for the Department of Education and State Board of Education**

SECTION 1.4

- 29. **Scientific and Technical Subcommittee**
- 30. **Scientific Assessment of Climate Change and Its Effects in Maine 2024 Update**
- 31. **New Jersey Teachers Guide for Climate Change Data**

SECTION 2.1

- 32. **UNESCO Green school quality standard**
- 33. **Aspen Institute K12 Climate Action Plan**
- 34. **Portland Public Schools Sustainability Policy**
- 35. **Five Towns CSD Strategic Plan**

- 36. **MDOE Whole Student Approach**
- 37. **U.S. Department of Education Green Ribbon Schools**
- 38. **Green Schools Alliance START**
- 39. **Wisconsin Green and Healthy Schools**

SECTION 2.2

- 40. **Washington ClimeTime**
- 41. **Maryland Green Schools**
- 42. **Gulf of Maine Research Institute Connected Learning Ecosystems**
- 43. **Green Schools National Network**
- 44. **Green Schools Alliance**
- 45. **Center for Green Schools**
- 46. **Project Learning Tree Green Schools Curriculum**
- 47. **Kentucky Green Schools**
- 48. **NAAEE roadmap**
- 49. **Maine Department of Education Wabanaki Studies**

SECTION 2.3

- 50. **U.S. Department of Education Green Ribbon Schools**
- 51. **Wisconsin Green and Healthy Schools**
- 52. **California Green Ribbon Award**

APPENDIX

- 53. **UNFCCC Talanoa Dialogue**



South Portland Middle School



# Appendix A

## OVERALL PROCESS

The Taskforce and this Plan were built in three phases. Phase 1 consisted of five taskforce meetings in Spring 2024 where the Taskforce drafted the initial strategies and recommendations for the Plan. For Phase 2 in Summer 2024, the taskforce facilitators synthesized the Taskforce work and drafted the Plan. The facilitators additionally met with focus groups to incorporate further perspective and input into the Plan and sought public comment and feedback. At the end of Phase 2, the taskforce reviewed and voted on the drafted Plan and components. The Taskforce used a 75% consensus voting protocol. The draft Plan was then finalized and designed in Phase 3 in Fall 2024 and published. This process and the Plan were overseen and organized by Olivia Griset at the Maine Environmental Education Association and Teddy Lyman at the Maine Department of Education (DOE). The following sections detail the process for each step along these phases.

### Phase 1

#### *Creating and Convening the Taskforce*

The Taskforce was created by the Maine DOE in March of 2024. Members were selected from a public application process with a priority for teachers, school leaders, community partners, youth, and other specialists. The Maine DOE received 51 applications to join the Taskforce. The members were selected on additional criteria including region, specialties, focus/content areas, and grade level. Selection was made to maximize perspectives. Twenty-nine Taskforce members were selected to participate. The full list of Taskforce members and any other contributors can be found on the Acknowledgements page.

The Taskforce was convened from April to June of 2024 with two full -day, in-person meetings and three shorter, virtual meetings.

The members were tasked to create a set of actionable and timely steps and recommendations for responsible parties throughout the state to take on climate education, in particular and connection to the Maine Environmental Literacy Plan and Maine Won't Wait, Climate Action Plan. Additionally, the taskforce was asked to prioritize the following:

- 1. Increase and promote equitable access to climate education.
- 2. Develop local innovative climate action.
- 3. Develop and support educators and the Whole Student Approach.

The meetings opened using the [Talanoa Dialogue](#). The protocol is used by the United Nations to facilitate climate conversations. The taskforce members were asked individually to envision climate education in 10 or more years in Maine. Members were then placed in small groups and asked to compile visions and begin to work backwards toward the present. As a result, members identified what climate education might look like in two years, in five years, and in 10 years. The Talanoa Dialogue provided a foundation for the taskforce to plan out the steps between those visions. The Taskforce identified two key challenges: 1. Information and resources are confusing to find and navigate and 2. Funding is challenging to access.

As a result of the future visions and present challenges, the following needs were identified following the protocol:

- Increase Teacher Training/Certification
- Access to Resources: Scope and Sequence
- Develop School or School Administrative Unit Plans that Include Sustainability/Climate Education
- Increase Funding and Grant Accessibility
- Create Connected Networks
- Support Student Programs and Engagement

The subsequent meetings of the Taskforce were designed to take these key needs and develop action steps for them at ground level. The action steps are designed to be based on a timeline with achievable pathways for the responsible parties. The Taskforce worked in small groups and breakout spaces to generate ideas. In between meetings, the facilitators grouped and synthesized group notes to refine the conversations. Action steps were also grouped into recommendations and broader strategies, both based on the original Talanoa Dialogue foundation. The taskforce meetings concluded by debating and preliminarily approving the collective strategies, recommendations, and action steps.

### Phase 2

#### *Drafting the Plan and Adding Perspectives*

During Summer 2024, Olivia Griset (MEEA) and Teddy Lyman (Maine DOE) drafted the notes and Taskforce recommendations into structured deliverables: two overarching strategies and seven recommendations. The draft recommendations were reviewed internally for content in line with the Maine DOE's mission, priorities, and programs.

## FOCUS GROUP PROCESS

Additional perspectives were consulted for the Climate Literacy Plan. The Taskforce and facilitators identified voices and perspectives that were not fully represented or available for the full Taskforce meetings. Three focus groups were held with youth (under 30 years old), workforce development, and Wabanaki and Indigenous Knowledge Sharers. These focus groups were asked to review the recommendations and met with the facilitators to provide their lived and professional expertise on the draft recommendations. These perspectives were incorporated into the recommendations and supporting information sections.

## VOTING PROCESS

Once the initial drafting was completed, the Taskforce members had an opportunity to review and offer edits to the draft recommendations. Edits were further incorporated to reach the final draft phase. An asynchronous online survey was sent out to all Taskforce members to conduct the vote on both strategies and all seven recommendations. Taskforce members were able to review the final draft language in full. Members could vote For, Against, or Abstain (see further detail abpit the decision-making protocol below). All participants who voted Against either a strategy or recommendation could elect to be named as opposed to the section with their stated reasoning.





North Haven  
Community School

## Decision-making protocol

1. **GENERAL STRAIGHTFORWARD DECISIONS.** We make a lot of small decisions as a Taskforce every time we work together. For the most part, these are made by asking the Taskforce for ideas or to evaluate a straw proposal (for example: “Does X sound right? Any concerns?”).
  - 1a. The facilitators develop meeting agendas and steer the work of the group, and they generally are looking for broad agreement among the group.
  - 1b. In full Taskforce meetings, facilitators will suggest next steps and approaches to members and will be listening for feedback and approval.
2. **OPT-IN.** Some elements of our work may be opt-in for, where every member of the Taskforce is welcomed to participate but does not need to participate.
3. **IMPORTANT DECISIONS.** For the most important decisions, we seek consensus (100% of the group can live with an outcome) but fall back on voting approval by 75% or more of Taskforce members as a final decision threshold.
  - 3a. The Taskforce makes time for discussion and deliberation.
  - 3b. Participants in the vote.
    - i. For, they like it a lot or can at least live with it, all things considered.
    - ii. Against, they don’t like this approach and cannot live with it.
    - iii. Abstain, they do not wish to cast a vote for any reason. This vote is not incorporated into the threshold for success.
4. The threshold for success is 75% of voting members are For.

The Taskforce will produce a public report describing the process used to develop the Climate Education Plan. The report will include a summary of key votes taken. Any member who voted against a measure adopted through a key vote may request the inclusion of a brief summary of their dissent in the report.

### VOTING RESULTS

The voting survey was distributed on Monday, Sept. 23 and closed to voting on Monday, Oct. 7. Twenty-six of the 29 Taskforce members voted in the survey. The results pass the decision threshold of 75% to be approved by the Taskforce for publication in the Maine Climate Literacy Plan. The results are as follows:

CONTENT	FOR	AGAINST	ABSTAIN	PERCENT FOR
Strategy 1	25			100%
Strategy 2	22	1	1	96%
Strategy 1 Recommendation 1	24	2		92%
Strategy 1 Recommendation 2	24			100%
Strategy 1 Recommendation 3	23		1	100%
Strategy 1 Recommendation 4	22		2	100%
Strategy 2 Recommendation 1	23		1	100%
Strategy 2 Recommendation 2	22		2	100%
Strategy 2 Recommendation 3	21	1	2	95%

*All Against votes were allowed to be named in opposition to the section. No Taskforce members elected to be named Against any strategy or recommendation.*



Bath Middle School

### Phase 3

#### *Finalizing and Designing the Plan*

Following the vote, the final draft was reviewed internally by the Maine DOE and edited for consistency and clarity. The draft documents were then converted and designed by PELLE Graphic Design. The Maine DOE and the Maine Environmental Education Association funded this design. As an Addendum to the Maine Environmental Literacy Plan, it was important to work with a consistent design language to create a cohesive message and incorporate the original Plan with the Addendum. PELLE Graphic Design designed the Maine Environmental Literacy Plan and was therefore the right partner for this Plan. Final design choices were edited and finalized by the Maine DOE. ■



# Acknowledgements

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**Sarah Cushman** CUSHMAN TRANSPORTATION CONSULTING

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## Revision 2022

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**Teens to Trails**

**The Nature Conservancy in Maine**

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## Climate Action Plan 2025

This plan was made possible by the combined efforts of educators, community partners, administrators, and youth throughout Maine and beyond.

### IN COLLABORATION WITH

- Maine Environmental Education Association**
- Maine Governor's Office of Policy Innovation and the Future**

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- Sarah Jessen** DIRECTOR OF WRITING AND EDUCATION AT CLEAR ENVIRONMENTAL

### GRAPHIC DESIGN

- Shannon Pelletier** PELLE GRAPHIC DESIGN



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