

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



Janet Mills
GOVERNOR

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
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Heather Johnson
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Patrick Keliher
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Melanie Loyzim
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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



Outdoor learning at the East End Community School, Portland

Plan, **Maine Won't Wait**. 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



Learning lifelong skills with Maine Inland Fisheries and Wildlife

to the long term health and well being of Maine 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

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.

to support Maine's thriving outdoor recreation 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



Students at Skowhegan Area High School



Students at Oceanside High School in Rockland

wildlife habitats in the Eastern United States. In 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 Child 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 Child” 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

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 Teach ME Outside's Outdoor Learning Directory 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.
State and Local Government Agencies	Continue to measure the field's professional learning needs every three to five years in the Census for Community Based Environmental Learning.
	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.
Higher Education Institutions	Mobilize funding to support educators to access high quality professional learning opportunities in environmental literacy topics.
	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
Philanthropy	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.
	Mobilize funding to support educators, both formal and in community organizations, to access high quality, professional learning opportunities in environmental literacy topics.
Business and Industry Partners	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.
	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.



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.
Business and Industry Partners	Increase investment in staffed positions in schools, local and state agencies, and community organizations that advance environmental education and outdoor learning.
	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.
State and Local Government Agencies	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.
	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.
Higher Education Institutions	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.
	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.
Higher Education Institutions	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

- <https://teachmeoutside.org/2020/12/14/harpswell-community-school-case-study/>
- <https://teachmeoutside.org/2020/12/14/green-team-case-study/>
- <https://www.nbeconsortium.com/outdoor-learning-stories>

Maine Workforce Case Studies

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

GOAL #2

Resources

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

- [MDIFW Resources for Teachers and Educators](#)
- [Project Wet](#)
- [Project Wild](#)
- [Maine Project Learning Tree](#)
- [Maine Ag in the Classroom](#)
- [Maine School Garden Network](#)
- [Maine Farm and Sea to School](#)

GOAL #3

Case Studies or Resources

LAND

- [Maine Trail Finder](#)
- [Maine Land Trust Network](#)
- [MDIFW Wildlife Management Areas](#)
- [Trust for Public Land](#) Nature Near Schools Discovery Map
- [Maine Conserved Lands Map](#)
- [Maine Audubon](#)

MAINE COMMUNITY PARTNERS

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

SCHOOL AND CHILD CARE BUILDING AND GROUNDS AND TRANSPORTATION

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

- [Maine School Garden Network](#)
- [Learning by Nature for ME](#)
- [Maine Early Childhood Outdoors \(MeECO\)](#)

GEAR

- [MEEA Mini Grants](#)
- [Gear Library \(Katahdin\)](#)
- [Maine Gear Share](#)

LEARNING KITS

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

MAKING THE CASE AND STORIES FROM MAINE SCHOOLS

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

GOAL #4

Resources

- [Educare Central Maine: Nature Based Education](#)
- [Maine Early Childhood Outdoors \(MeECO\)](#)
- [Natural Start Alliance](#)
- [In Bloom Conferences from Antioch University](#)
- [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. ■

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Revision 2022

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