



**Wisconsin's Plan to Advance Education for
Environmental Literacy and
Sustainability in PK-12 Schools**

Wisconsin Department of Public Instruction
Tony Evers, PhD, State Superintendent

Wisconsin's Plan to Advance Education for Environmental Literacy and Sustainability in PK-12 Schools

Developed by the Wisconsin No Child Left Inside Coalition



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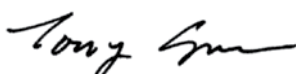


Foreword


Wisconsin has a long and proud tradition of enjoying and conserving our state's natural resources. We recognized early on that the health of our state's economy and people is inextricably bound to the health of our environment. Education for environmental literacy and sustainability prepares students to understand and manage the complex relationships impacting our communities, our state's economy, and our natural resources. This education contributes to overall academic achievement and prepares students with the 21st century skills, knowledge, and experience needed to succeed in today's changing world.

Wisconsin's Plan to Advance Education for Environmental Literacy and Sustainability in PK-12 Schools (Plan) proposes strategies to ensure all students graduate environmentally literate and prepared to contribute to a sustainable future. The *Plan* recommendations encourage greater collaboration among formal and non-formal educators, institutions of higher education, professional associations, conservation organizations, and many other organizations that support schools, teachers, and students.

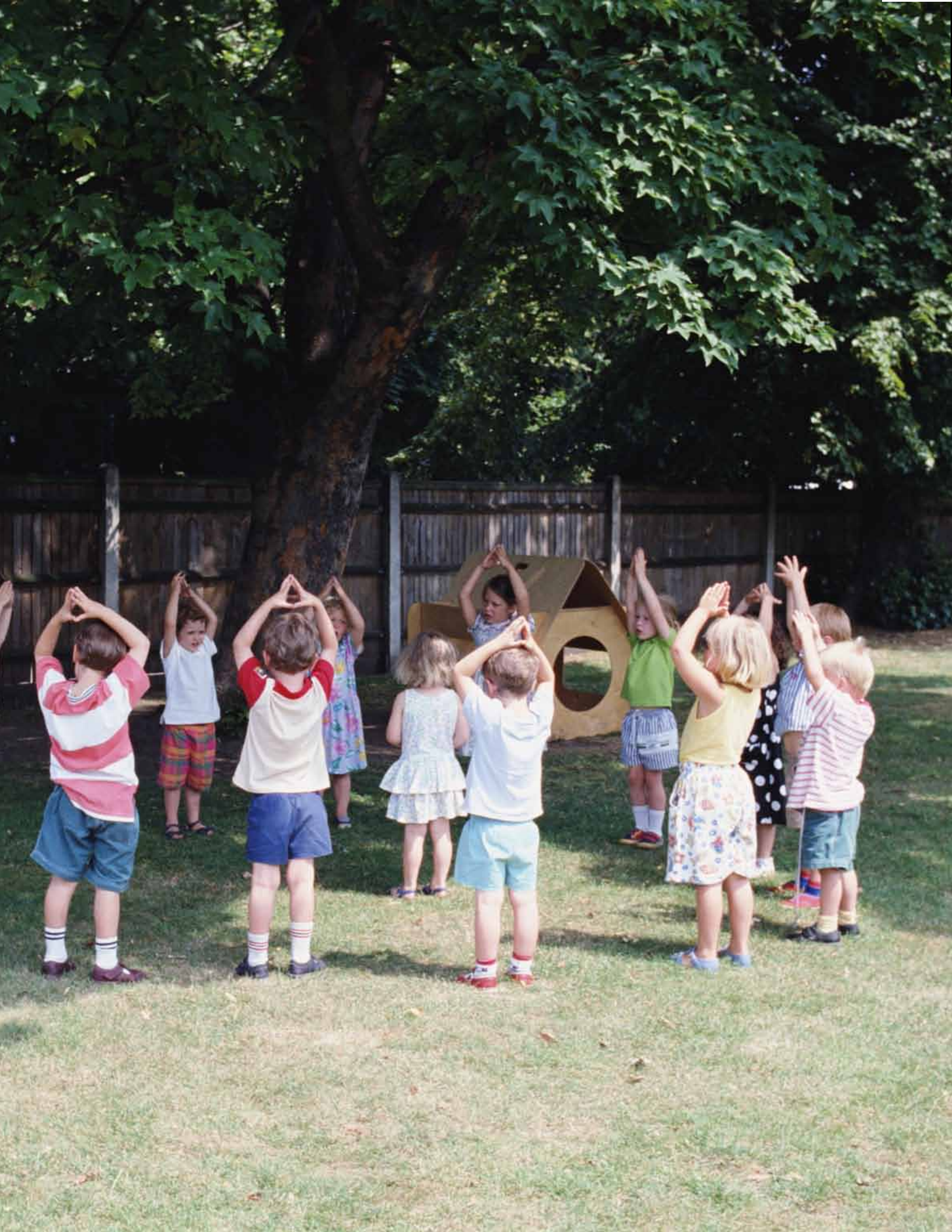
Although the Department of Public Instruction and Wisconsin Center for Environmental Education have volunteered to provide leadership for the *Plan* and the Wisconsin Environmental Education Foundation has a commitment to facilitate The Wisconsin No Child Left Inside Coalition and pursue additional funding, the *Plan* goals can only be achieved over time with the support and participation of this broad and growing coalition. Together, we can ensure Wisconsin students get the best education possible; one that prepares them to understand and maintain the life support systems of our planet and our state's economy, and leaves them prepared for careers and college in the 21st century.


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Contributors

Thank you to all who contributed to the development and review of *Wisconsin's Plan to Advance Education for Environmental Literacy and Sustainability in PK-12 Schools (Plan)*.

Wisconsin No Child Left Inside Coalition

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Preface

No Child Left Inside

The No Child Left Inside (NCLI) movement is a response to a growing convergence of research indicating that all people, in particular young people, need the opportunity to connect with nature in order to learn and grow into healthy, responsible, and engaged community citizens. Richard Louv's book, *Last Child in the Woods*, consolidated research from a variety of disciplines that indicated the existence of what he called, "nature deficit disorder."¹ Louv's work has sparked a national movement to holistically address the related issues of time spent in nature, child health and well being, and sustainability.

Children are spending more time indoors 'plugged in' to electronic media and less time outdoors than ever before.² Studies show that this shift to a more indoor and sedentary lifestyle is having dramatic health effects on the mental and physical well being of young people.³ Research also indicates that time spent learning and playing outdoors can produce health benefits for children such as reducing incidence of obesity,⁴ reducing symptoms of ADHD,⁵ and reducing stress in general.⁶

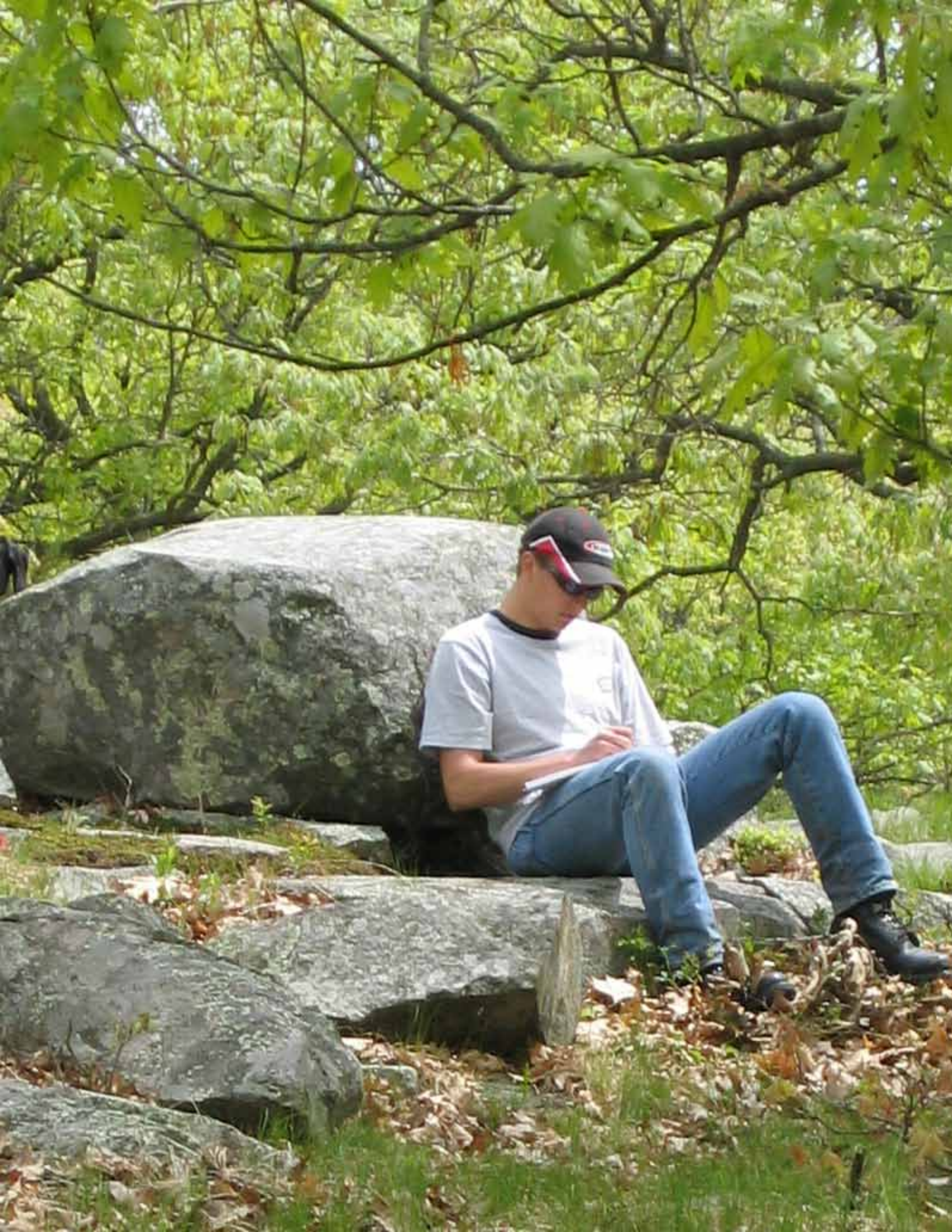
Education for environmental literacy and sustainability provides the opportunity to connect with nature and develop the understandings needed to be healthy adults, active citizens, and environmental stewards. Integration of this education provides a proven way to link outdoor experiences and environmental learning with the standards and benchmarks schools already teach. This approach also adds local relevance to help students connect to the places in which they live and learn.

The federal NCLI legislation was introduced in 2007, 2009, and again in 2011 to support local and statewide efforts to educate PK-12 students about the environment and natural resources and to provide enhanced professional development opportunities for educators.⁷ The federal NCLI legislation, as proposed, requires each state to have an environmental literacy plan in order to access funds to support plan implementation. Wisconsin's *Plan* is organized around the goals and recommendations outlined in the NCLI legislation.

As of November 2011, the federal NCLI legislation has not been enacted.

What the research says: *"On a typical day, 8- to 18-year-olds in this country spend more than 7½ hours (7:38) using media—almost the equivalent of a full work day, except that they are using media seven days a week instead of five. Moreover, since young people spend so much of that time using two or more media concurrently, they are actually exposed to more than 10½ hours (10:45) of media content during that period. And this does not include time spent using the computer for school, work, or time spent texting or talking on a cell phone."*

– Rideout and Roberts²



Introduction

Wisconsin's Plan to Advance Education for Environmental Literacy and Sustainability in PK-12 Schools

Wisconsin's natural resources are the foundation of our economy, our life support systems, and a source of great pride for the people of our state. Wisconsinites have proven again and again that we are committed to ensuring our rich resource heritage, and the high quality of life it provides us, is sustained for future generations. Preparing Wisconsin students to understand and participate in managing the complex relationships impacting our communities is critical to continuing this legacy.

Citizens are looking for ways to live sustainably while supporting Wisconsin's economic prosperity. Innovations such as waste to energy and bio-fuel production are examples of this economic revolution. Education for environmental literacy and sustainability in pre-kindergarten through twelfth grade (PK-12) schools provides a foundation where young people acquire the critical thinking and problem solving skills they will need to be successful in this changing world.

Wisconsin's *Plan* provides a road map for statewide strategic collaboration to ensure all students graduate from high school prepared to continue this legacy and ready for college and careers in the 21st century. It outlines a comprehensive strategy to provide teachers and students in Wisconsin with opportunities to connect with nature and advance the health of our youth through strong interdisciplinary curricular connections that focus on education for environmental literacy and sustainability.

The *Plan* is meant to engage many agencies and organizations in working towards common goals that advance education for environmental literacy and sustainability through supporting Wisconsin's educational institutions. The *Plan* recommends strategies that are intended to be pursued over time. Ultimately, the success of the *Plan* depends on the support and participation of a broad range of collaborators throughout the state.

"All of life is interrelated. We are all caught in an inescapable network of mutuality, tied to a single garment of destiny. Whatever affects one directly affects all indirectly."

– Martin Luther King, Jr.

Sustainability:

*Meeting current needs
without compromising
future generations’
ability to meet theirs.*

– Bruntland Commission

Goals of the *Plan*

The goals of the *Plan* are aligned with the proposed federal NCLI Legislation:⁸

1. Prepare students to understand, analyze, and address the major environmental and sustainability challenges facing Wisconsin, the United States, and the planet;
2. Provide field experiences as part of the regular school curriculum and create programs that contribute to healthy lifestyles through outdoor recreation and sound nutrition; and
3. Create opportunities for enhanced preparation and ongoing professional development for teachers and school leaders by improving environmental and sustainability subject matter knowledge and pedagogical skills in teaching about environmental and sustainability issues, including the use of interdisciplinary, field-based, and research-based learning, effective assessment practices, and innovative technology in the classroom.

To address these goals, the *Plan* identifies:

1. A description of how Wisconsin will measure environmental and sustainability literacy of students, including:
 - Relevant Wisconsin standards and content areas regarding environmental literacy and education for sustainability, and courses or subjects where this instruction is integrated throughout the PK-12 curriculum, and
 - a description of the relationship of the *Plan* to Wisconsin graduation requirements.
2. A description of programs for professional development for teachers and school leaders to improve their:
 - environmental and sustainability subject matter knowledge, and
 - pedagogical skills in teaching about environmental issues and education for sustainability, including the use of interdisciplinary, field-based, and research-based learning, effective assessment practices, and innovative technology in the classroom.
3. A description of how Wisconsin will implement the *Plan*, including securing funding and other necessary support.

The Need for Environmental Literacy and Sustainability

Communities throughout Wisconsin are increasingly confronted with interrelated social, economic, and environmental issues such as decreasing water quality and/or quantity, increasing costs of natural resources, and health concerns like asthma and obesity. These issues are placing economic strains on local and state governments and impacting people's lives. Education for environmental literacy and sustainability prepares students to respond to these issues and participate in ensuring a sustainable and prosperous future for their communities. This approach to education recognizes challenges as opportunities for learning, innovation, and real-life career training.

According to the United States Environmental Protection Agency, "Environmental education increases public awareness and knowledge about environmental issues or problems. In doing so, it provides the public with the necessary skills to make informed decisions and take responsible action."⁹

People who are environmentally literate and live sustainably know that the choices they make as humans and as consumers have impacts on many levels and know how those choices can either help or harm the environment. They understand Earth's ability to sustain human and other life, and they are empowered and motivated—individually or as part of a community—to keep the environment healthy and sustain its resources, so people can enjoy a good quality of life for themselves and their children.¹⁰

There is a need to increase the number of citizens who are environmentally literate and understand the facets of sustainability. According to the 2005 Environmental Literacy in America report, "an average American adult, regardless of age, income, or level of education, mostly fails to grasp essential aspects of environmental science, important cause/effect relationships, or even basic concepts such as runoff pollution, power generation and fuel use, or water flow patterns." The report states that "about 80% of Americans are heavily influenced by incorrect or outdated environmental myths. And just 12% of Americans can pass a basic quiz on awareness of energy topics."¹¹ Engaging in education for environmental literacy and sustainability is a key part of the solution to many challenges facing our country:

- American students' educational performance: Studies demonstrate that environmental education improves student achievement in science, reading, math, and social studies and increases critical thinking skills and interest in science and math as future career pathways.¹²

Environmental Literacy: *Possessing knowledge about the environment and issues related to it; capable of, and inclined to, further self-directed environmental learning and/or action. Environmental literacy consists of four essential aspects: developing inquiry, investigative, and analysis skills; acquiring knowledge of environmental processes and human systems; developing skills for understanding and addressing environmental issues; practicing personal and civic responsibility for environmental decisions.*

– North American Association
for Environmental Education



- Preparedness for the 21st century workforce: America’s future economic competitiveness depends on a highly educated workforce that has the skills, knowledge and expertise to address increasing complex environmental and sustainability issues. Many business leaders believe that sustainability and an environmentally literate workforce is critical to their long-term success and bottom line.¹³

Education for Sustainability (EfS):

Provides people with the knowledge, skills, ways of thinking, and opportunities to promote a healthy and livable world. It is a holistic and systems-based approach to teaching and learning that integrates social justice, economics, and environmental literacy. The ultimate outcome of EfS is to sustain both human and natural communities.

— Wisconsin Center for Environmental Education

- Childhood obesity and health: According to the Institute of Medicine, childhood obesity has doubled over the past 30 years for preschoolers and adolescents, and more than tripled for children aged 6 to 11 years old.¹⁴ Environmental education “in the field” as part of the regular school curriculum gets kids outside contributing to healthy lifestyles through outdoor recreation, exercise, play, and experience in the natural world.
- Environmental problems: the National Science Foundation Advisory Committee asserts that “In the coming decades, the public will more frequently be called upon to understand complex environmental issues, assess risk, evaluate proposed environmental plans and understand how individual decisions affect the environment at local and global scales. Creating a scientifically informed citizenry requires a concerted, systematic approach to environmental education...”¹⁵

Environmental Education and Education for Sustainability

This *Plan* includes goals and objectives that encompass many disciplines including, but not limited to, environmental education, education for sustainability, environmental science, and outdoor education. The focus is on an outcome of environmental literacy and sustainability, rather than on a specific discipline of education utilized to attain the outcome.

Environmental Education is an evolving field. It evolved out of disciplines such as Nature Studies, Conservation Education, and Outdoor Education, emerging in its contemporary form from the 1972 Stockholm Conference on the Human Environment, the Belgrade Charter, and Tbilisi Declarations.¹ Each change of name better encompasses its goals and intentions and better clarifies any ambiguities of purpose. Education for sustainability more explicitly suggests the holistic and socially-inclusive perspective that environmental education was intended to provide.

The ultimate outcome of education for sustainability is to sustain both human and natural communities, making it a beneficial tool to advance environmental literacy. Education for sustainability provides people with the knowledge,

skills, ways of thinking, and opportunities to promote a healthy and livable world. It is a holistic and systems-based approach to teaching and learning that integrates social justice, economics, and environmental literacy.

Environmental education is a foundation of and will remain an integral component of education for sustainability just as sustainability is a part of environmental education. Likewise, nature study, outdoor education, and other disciplines provide valuable tools and strategies for building awareness, knowledge and attitudes that are the foundation of environmental literacy and sustainability.

Building upon Wisconsin's Legacy

Wisconsin has a strong environmental education legacy already established, with active schools, supporting organizations, and abundant opportunities to get outdoors in both rural and urban settings. Our state has rich natural resources and has benefited from the leadership of environmental pioneers like John Muir, Aldo Leopold, and Gaylord Nelson. Thanks to their leadership and many others, love for Wisconsin's land, water, and wildlife has become as much a part of our Wisconsin identity as dairy, cranberries, and football.

Another leader, Wilhelmine La Budde, was instrumental in establishing environmental education in Wisconsin's schools.¹⁷ In 1935, Wisconsin became the first state to pass legislation requiring "adequate instruction in the conservation of natural resources" for certification to teach science and social studies in public schools. In 1985, this rule was expanded to include teachers of agriculture and early childhood, elementary/middle level education.¹⁸ In addition, all Wisconsin school districts are required to "develop and implement a written, sequential curriculum plan integrating environmental education objectives and activities into all subject area curriculum plans at all grade levels".¹⁹

In 1990, the Wisconsin legislature moved to provide even more comprehensive support for environmental education in Wisconsin schools. The Wisconsin Environmental Education Act created:²⁰

- The Wisconsin Center for Environmental Education (WCEE) to "promote the development, dissemination, implementation, and evaluation of environmental education programs for elementary and secondary school teachers and students in Wisconsin."

Environmental Education: *A lifelong learning process that leads to an informed and involved citizenry having the creative problem-solving skills, scientific and social literacy, ethical awareness and sensitivity for the relationship between humans and the environment, and commitment to engage in responsible individual and cooperative actions. By these actions, environmentally literate citizens will help ensure an ecologically and economically sustainable environment.*

– Wisconsin Environmental Education Board



- The Wisconsin Environmental Education Resource Library to “establish an environmental education curriculum and materials center for use by school teachers, faculty of teacher training institutions...and others in educational programs who need such materials.”
- The Wisconsin Environmental Education Board (WEEB) to “provide advice and assistance to the state superintendent [and other state agencies] in identifying needs and establishing priorities for environmental education in public schools.”
- The WEEB grants program to “award grants to corporations and public agencies for the development, dissemination, and presentation of environmental education programs.”

In 1985, and again in 1994, the Department of Public Instruction published *A Guide to Curriculum Planning in Environmental Education* to provide guidance and technical assistance to schools as they develop sequential curriculum plans to integrate environmental education across all subject areas and grade levels.²¹

Today, Wisconsin is a world leader in environmental education. A rich network of organizations works to ensure that all citizens of Wisconsin have the knowledge and skills necessary to build ecologically, economically, and socially sustainable communities.

This *Plan* builds upon these strengths and suggests recommendations for the short and long term. It outlines the next steps towards fulfilling our state's commitment to provide education for environmental literacy and sustainability for all Wisconsin students.

Related Statewide Efforts

The *Plan* will be coordinated with and supported by two additional state-wide efforts to advance the implementation of the outlined goals and integration of sustainability:

- *Wisconsin’s Plan for Environmentally Literate and Sustainable Communities* considers educational needs for environmentally literate communities and supports sustainable practices at home, work, school, and play. This plan addresses the needs of all audiences in Wisconsin and supports this *Plan* for the PK-12 audience.
- *Cultivating Education for Sustainability in Wisconsin* started in 2010 as a statewide process to cultivate a shared vision of education for sustainability (EfS). The process, led by DPI and WCEE, will lead to the development of resources and services to implement EfS in schools and address goals outlined in this *Plan*.

*The environment isn't over here.
The environment isn't over there.
You are the environment."*
— Chief Oren Lyons

Benefits of a State Plan²²

A more coordinated and collaborative approach to education for environmental literacy and sustainability in Wisconsin PK-12 schools can help districts save money, prepare students with the skills and experiences they will need to be successful as 21st century citizens, and enable formal and non-formal education providers to better align their programs with school needs and circumstances.

The Wisconsin *Plan* Supports:

- Education for environmental literacy and sustainability that is aligned with Wisconsin standards.
- Education for environmental literacy and sustainability that is fully, efficiently, and appropriately integrated into formal education systems.
- Professional development opportunities that are aligned with student outcomes of education for environmental literacy and sustainability.
- Consistency, accuracy, and excellence in environmental and sustainability content knowledge.
- Engaging underserved communities through an inclusive process so that all stakeholders are beneficiaries of education for environmental literacy and sustainability in schools.
- Involvement of non-formal education providers, state natural resource agencies, community organizations, and other partners to effectively provide education for environmental literacy and sustainability in schools.
- A comprehensive state vision to advance education for environmental literacy and sustainability.

In our attempt to make conservation easy, we have made it trivial."

— Aldo Leopold

Plan Development, Leadership, and Collaboration

State Superintendent Tony Evers asked the Wisconsin No Child Left Inside Coalition to develop Wisconsin's *Plan*. A steering committee met each month for nine months to draft the *Plan*. Working groups were convened as necessary during this period to further discuss and elaborate the details of each *Plan* goal. The Wisconsin NCLI Coalition steering committee and working groups were made up of stakeholders with diverse perspectives and expertise (for a list of all contributors, please see page vii of this document). The *Plan* was officially released November 2011.

Many organizations will need to work in concert to reach the goals outlined in this *Plan*. Wisconsin Department of Public Instruction (DPI) and the Wisconsin Center for Environmental Education (WCEE) will take the lead roles in this



Plan. However, the goals in the *Plan* can only be reached by working with many collaborators across the state including, but not limited to:

- Coalitions, such as:
 - Community and school-based sustainability coalitions
 - Wisconsin No Child Left Inside Coalition
- Institutions of Higher Education (IHEs)
- National organizations, such as:
 - Green Schools National Network (GSNN)
 - US EPA’s Environmental Education and Training Partnership (EETAP)
- Non-formal education providers, such as:
 - Botanical Gardens
 - Museums
 - Nature centers
 - Zoos
- Non-profit organizations, such as:
 - Conservation and environmental organizations
 - Wisconsin Environmental Education Foundation (WEEF)
- Professional associations, such as:
 - American Federation of Teachers - Wisconsin
 - Association of Wisconsin School Administrators (AWSA)
 - Content-based Education Professional Associations
 - Wisconsin Association for Environmental Education (WAEE)
 - Wisconsin Association for Supervision and Curriculum Development (WASCD)
 - Wisconsin Association of School Boards (WASB)
 - Wisconsin Association of School Business Officials (WASBO)
 - Wisconsin Association of School District Administrators (WASDA)
 - Wisconsin Education Association Council (WEAC)
 - Wisconsin Indian Education Association
- State and other governmental agencies, such as:
 - Cooperative Educational Service Agencies (CESAs)
 - Tribal Governance
 - University of Wisconsin Extension
 - Wisconsin Department of Natural Resources (WDNR)

“Only if we understand can we care. Only if we care will we help. Only if we help shall they be saved.”
— Jane Goodall

- State networks, such as:
 - Wisconsin Environmental Education Board (WEEB)
 - Wisconsin Environmental Science Teacher Network (WESTN)
 - Wisconsin Green Schools Network (WGSN)
- Wisconsin School Districts

In the *Plan* that follows, references are made to all collaborators. Collaborators should use the *Plan* to identify opportunities to align resources and organizational goals as appropriate. It is the vision of DPI, WCEE, and the Wisconsin NCLI Coalition that these organizations work together to ensure efficient, effective, and quality education for environmental literacy and sustainability.







The Plan:

Wisconsin's Plan to Advance Education for Environmental Literacy and Sustainability in PK-12 Schools

Goal 1: Prepare students to understand, analyze, and address the major environmental and sustainability challenges facing Wisconsin, the United States, and the planet.

Recommendations to reach Goal 1:

1.1 Describe goals of education for environmental literacy and sustainability across disciplines and within the Framework for 21st Century Learning.²³

HOW?

- DPI should work with stakeholders to define what an environmentally and sustainability literate graduate should know and be able to do.
- DPI should work with collaborators to review and update standards for environmental education relative to North American Association for Environmental Education's (NAAEE) *Guidelines for Excellence* and Wisconsin standards for other subject areas. *Cultivating Education for Sustainability in Wisconsin* data should inform standards revisions.

State Superintendent Tony Evers adopted the Common Core State Standards as the new Wisconsin Standards for English Language Arts and Mathematics on June 2, 2010.

Wisconsin is also participating in two national projects to develop new common standards for science and social studies as well as revising Wisconsin's Model Academic Standards.

References to "Wisconsin standards" in this Plan refer to all of the above standards.

For a complete list of Wisconsin standards, visit <http://dpi.wi.gov/standards>



“The wealth of the nation is its air, water, soil, forests, minerals, rivers, lakes, oceans, scenic beauty, wildlife habitats and biodiversity... These biological systems are the sustaining wealth of the world.”

– Gaylord Nelson

1.2 Support integration of education for environmental literacy and sustainability into curricula.


HOW?

- DPI should provide guidance regarding Wisconsin standards and education for environmental literacy and sustainability.
- DPI and WCEE with collaborators should identify exemplary model scope and sequence plans for education for environmental literacy and sustainability and related curricula across all grade levels and subject areas.
- DPI should continue to work with the WCEE and others to provide technical assistance to integrate education for environmental literacy and sustainability and related curricula for all grade levels and subject areas.

1.3 Provide guidance to schools and districts for the development and implementation of a comprehensive local plan to advance education for environmental literacy and sustainability tailored to specific locations, goals, and circumstances.

HOW?

- DPI, WCEE, and collaborators should conduct statewide forums to identify the resources, information, services, and partnerships schools need to advance education for environmental literacy and sustainability.
- DPI, WCEE, and collaborators should provide guidance for local plan development and offer technical assistance in both process and content to school districts. Include the following in guidance for a local plan: a model plan and template; guidelines for plan development; tools to inventory what districts are already doing to advance education for environmental literacy and sustainability; tools for assessing progress during development to ensure quality; ideas and specific examples to help develop programming that is aligned with standards and age appropriate; steps to implement and evaluate their plan; networks and resources available to schools to help implement their plan; tools available such as grant programs; online databases to locate local and statewide resources and outdoor learning sites; professional development resources; and model policies that reinforce and support plan implementation. Needs identified within *Cultivating Education for Sustainability in Wisconsin* should also inform what is included in guidance for a local plan.

- 
- DPI, WAEE, WCEE, WGSN, and other collaborators should provide networking opportunities for schools to learn from each other through sharing success stories and best practices.

1.4 Provide support for schools to offer effective environmental science coursework

HOW?

- DPI and WESTN should identify exemplary model environmental science courses that:
 - Demonstrate how environmental science can integrate other science skills and standards, such as chemistry, biology or physics.
 - Correlate to state environmental education and science standards.
 - Contain science, technology, engineering, and mathematics (STEM) skills and standards.
 - Develop skills within the Framework for 21st Century Learning.
- DPI and WESTN should highlight specific examples of Wisconsin schools that have implemented an environmental science course and share these stories via statewide networks, placing particular emphasis on the learning outcomes achieved.

1.5 Develop strategies to engage student populations who are underserved in education for environmental literacy and sustainability.

HOW?

- Collaborators should identify underserved student populations related to environmental literacy and sustainability. Characteristics of underserved students may include those who lack access to programs in education for environmental literacy and sustainability or lack access to quality programs. Additionally, the student populations who are traditionally underserved as identified in the Elementary and Secondary Education Act should be considered during this process.
- Collaborators should identify existing barriers for underserved populations and develop and implement a plan to address identified needs.



Goal 2: Provide field experiences as part of the regular school curriculum and create programs that contribute to healthy lifestyles through outdoor recreation and sound nutrition.

Recommendations to reach Goal 2:

2.1 Offer guidance regarding the use of sites (e.g., school buildings, grounds, facilities, school forests, and off-site locations such as nature centers, parks, museums, and public lands) to advance education for environmental literacy and sustainability.

HOW?

- DPI, WCEE, and collaborators should provide guidance to school districts on the creation, enhancement, sustainable development, or use of sites to serve as year-round learning resources to meet state standards, learner outcomes, and provide access for unstructured play. Include in guidance the following: ways to overcome barriers to getting kids outdoors such as transportation funding sources and examples for how to learn outdoors in any class; resources, tools, and case studies to empower students, teachers, facility staff, administrators and community partners to green school facilities and grounds; stories of schools that have saved money by building green; instructions for use of EEinWisconsin.org to identify outdoor sites and programs available, types of resources, costs, and contact information, etc.
- DPI, WCEE, and collaborators should enhance the digital resource EEinWisconsin.org to further identify existing programs and outdoor learning sites and promote these programs to districts through various venues.


2.2 Provide guidance for non-formal educators and resource professionals regarding integration of outdoor and facility-based learning into PK-12 curricula.

HOW?

- DPI, WCEE, and collaborators should provide technical assistance to “bridge the gap” between formal and non-formal programs to ensure all parties understand how to use non-formal education opportunities to achieve formal learning outcomes.

“There are two things that interest me: the relation of people to each other and the relation of people to the land.”

— Aldo Leopold

- 
- WAEE, WCEE, and WGSN should develop a learning community of non-formal educators, resource professionals, and teachers to provide strategies for collaboration and partnership to advance education for environmental literacy and sustainability.

2.3 Promote strengthening students' connection to their local environment and nature through outdoor learning, play, and adventure opportunities during and after the school day.

HOW?

- DPI, WCEE, and collaborators should identify exemplary models of outdoor opportunities, such as field work, service-learning, unstructured play, adventure, and after-school programs that advance education for environmental literacy and sustainability and a relationship with the natural world.
- Collaborators should encourage involvement of parent organizations, families, service groups, and community members in outdoor learning activities.

2.4 Develop, promote, disseminate and assess resources to advance education for environmental literacy and sustainability.

HOW?

- DPI should modernize *A Guide to Curriculum Planning in Environmental Education* and make it available on-line for teachers to enhance their understanding of how outdoor learning and education for environmental literacy and sustainability can support learning the standards and benchmarks in all subject areas.
- DPI, WCEE, and other collaborators should create a guide for professional development in education for environmental literacy and sustainability and share it through EEinWisconsin.org, DPI's website, and other appropriate locations.


2.5 Promote healthy lifestyles and sound nutrition in schools.

HOW?

- DPI and collaborators should encourage schools to participate in initiatives such as *Team Nutrition*, *Movin and Munchin'*, *HealthierUS Challenge*, and the *Farm to School* program.

- DPI should encourage schools to plan curriculum using *Wisconsin Standards for Nutrition Education*, *Wisconsin Standards for Physical Education*, and *Wisconsin Standards for Health Education*.
- DPI and collaborators should raise awareness of available resources for wellness and prevention programs and sound nutrition.
- DPI and WDNR should promote participation in the *Green and Healthy Schools* program.
- DPI should encourage participation in the Wisconsin Active Schools Project to support public health efforts to reduce obesity, increase physical activity, and improve nutrition among children.





Goal 3: Create opportunities for enhanced preparation and ongoing professional development for teachers and school leaders by improving environmental and sustainability subject matter knowledge and pedagogical skills in teaching about environmental issues and education for sustainability, including the use of interdisciplinary, field-based, and research-based learning, effective assessment practices, and innovative technology in the classroom.

Recommendations to reach Goal 3:

3.1 Provide guidance to teacher preparation programs relative to environmental education to ensure pre-service teachers are prepared to deliver effective education for environmental literacy and sustainability.

HOW?

- DPI, IHEs, and WCEE should develop and support a network for higher education and other pre-service teacher education providers to facilitate communication, cooperation, and work from a common platform of what constitutes a quality pre-service program for integration of environmental education methods and should support and strengthen instruction in education for environmental literacy and sustainability. The network should provide best practice guidance for methods courses including technology integration. The network should promote the value of education for environmental literacy and sustainability and help ensure IHEs understand statutory requirements, PI-34 requirements, DPI content guidelines for licensure, environmental education standards, National Council for Accreditation of Teacher Education (NCATE) expectations, and NAAEE guidelines in regard to environmental education.
- IHEs, WCEE, and WEEB should review and update the study “In What Ways Are Pre-Service Teachers Being Prepared to Teach K-12 Students About the Environment?: An Investigation of Wisconsin’s Teacher Education Programs” every 5 years in preparation for revision of this *Plan*.²⁴

*A well educated citizen
knows that we must not act
in this generation in ways
that endanger the next.”*

— Secretary Arne Duncan

“A major component of professional development in the next five years should be opportunities that will help environmental educators conduct EE through comprehensive programs that involve everyone in local communities...”

— EETAP, 2010

- IHEs, WCEE, and collaborators should provide guidance and support to pre-service or early career teachers relative to education for environmental literacy and sustainability to assist with their transition to the classroom and during their first five years of teaching. Through creation of a network, early career teachers could advance their own environmental and sustainability literacy, learn about best practices, gain experience with integrating education for environmental literacy and sustainability into whatever they teach, know what services, programs, and resources are available to them, and see sample professional development plans (PDPs) that incorporate education for environmental literacy and sustainability as a tool for classroom management, differentiation of instruction, etc. The network should provide opportunities for pre-service and early career teachers to experience outdoor education activities first-hand.
- IHEs and collaborators should ensure appropriate licensing programs are available.
- Collaborators should identify pre-service teachers who lack background knowledge in or an understanding of education for environmental and sustainability literacy and develop and implement a plan to address identified needs.
- Collaborators should communicate and promote activities through social media, statewide networks, and EEinWisconsin.org.

3.2 Provide professional development for teachers related to integrating education for environmental literacy and sustainability in the classroom at all grade levels and across all subject areas.

Note: Due to the fact that professional development requires the majority of the Plan’s collaborating organizations, no individual collaborator is specified in the actions below.

HOW?

- Collaborators should survey Wisconsin teachers to determine professional development needs and convene a steering committee to review the needs identified, determine priorities and responses, and communicate the results to professional development service providers.

— Until the Wisconsin specific survey results become available, professional development can be prioritized based on data from the national Environmental Education and Training Partnership (EETAP) report.²⁵

- Collaborators should provide professional development for teachers that enhances their: own environmental and sustainability literacy; awareness of and ability to integrate environmental education standards into curricula; ability to identify and use appropriate resource materials for education for environmental literacy and sustainability; ability to incorporate diverse teaching strategies that facilitate integration of education for environmental literacy and sustainability into their grade level and subject area, including the use of outdoor education sites and outdoor learning experiences; ability to provide authentic assessment; ability to contribute to the district’s local plan and/or curriculum planning initiatives in education for environmental literacy and sustainability; understanding of the value of education for environmental literacy and sustainability; and incorporation of formal and non-formal education activities into their PDPs.
- Collaborators should provide professional development for school staff and organizations that support schools to become proficient in supporting the development and implementation of local plans to advance education for environmental literacy and sustainability.
- Collaborators should provide professional development for teachers so they can effectively enhance or modify the curriculum to engage students in participating in the greening of their school building and grounds.
- Collaborators should identify licensed teachers who lack background knowledge in or an understanding of education for environmental and sustainability literacy and develop and implement a plan to address identified needs.
- Collaborators should communicate and promote activities through social media, statewide networks, and EEinWisconsin.org.

3.3 Provide professional development opportunities for school leaders (e.g., school boards, administrators, curriculum coordinators, and other relevant decision-makers) related to education for environmental literacy and sustainability.


Note: Due to the fact that professional development requires the majority of the Plan’s collaborating organizations, no individual collaborator is specified in the actions below.

HOW?

- Collaborators should provide regular opportunities for school leaders and teachers to join together to address successes, challenges, and needs regarding education for environmental literacy and

*Every individual matters.
Every individual has a role
to play. Every individual
makes a difference.*

— Jane Goodall



*“When we try to
pick out anything
by itself, we find
it hitched to
everything else in
the Universe.”*

— John Muir

sustainability, create a local plan, monitor implementation and modification of the plan, and network with other planning teams.

- Collaborators should build and promote understanding of the value of education for environmental literacy and sustainability among school leaders through creation of a communication network that connects school leaders to non-formal environmental educators and community partners. The network would help to find and share ideas and resources, develop partnerships with community groups, increase access to resources for all districts, and compile and share compelling stories, data, and evidence of success. Collaborators should provide resources, opportunities, and research that are easily accessible and encourage school districts to create profiles on EEinWisconsin.org and upload local plans for sharing.
- Collaborators should provide guidance on the integration and interdisciplinary nature of education for environmental literacy and sustainability and outdoor learning relative to roles of named audience. Include best practices and provide examples of what other administrations have done to provide leadership for their colleagues and communities to enhance initiatives in education for environmental literacy and sustainability. Guidance should also encourage informational board reports about existing or desired programs and opportunities in the district and community, and inform school leaders about resources available locally and statewide to advance education for sustainability environmental literacy. Guidance should include a 30-second ‘elevator pitch’ explaining why education for environmental literacy and sustainability at school is important.
- Collaborators should partner with school leaders to showcase district models annually at professional conferences, regional meetings, and CESAs, or through video presentations and/or webinar presentations. Presentations should include guidance to school leaders on how to showcase initiatives of education for environmental literacy and sustainability.
- Collaborators should provide learning opportunities for school leaders to develop their own environmental and sustainability literacy and to experience programs that advance education for environmental literacy and sustainability through low-cost opportunities.
- Collaborators should provide awards or recognition to school boards for programs of excellence and share success stories through statewide networks and EEinWisconsin.org.

- Collaborators should identify administrators who lack background knowledge in or an understanding of education for environmental and sustainability literacy and develop and implement a plan to address identified needs.
- Collaborators should communicate and promote activities through social media, statewide networks, and EEinWisconsin.org.





Assessment

A description of how Wisconsin should measure environmental and sustainability literacy of students

Measuring Success²⁷

The 1989 Wisconsin Act 299 requires the Wisconsin Center for Environmental Education to:²⁸

“Assist the Department of Public Instruction to periodically assess and report to the environmental education board on the environmental literacy of this State’s teachers and students.”

“Assist the Department of Public Instruction and Cooperative Educational Service Agencies to assist school districts in conducting environmental education needs assessments.”

Literacy in any content area cannot be limited to a single measure. Collaborators should develop and implement a strategy to gauge growth that includes multiple measures. When planning for assessment, collaborators should consider:

- Gathering baseline data;
- Measuring changes over time;
- Examining community profiles and determining degrees of support; and
- Providing districts and/or CESAs with tools to use on a voluntary basis.

In addition, collaborators should consider a strategy to share assessment information to ensure the development of new programs, resources, and opportunities are informed by knowledge gained through broad assessment of education for environmental literacy and sustainability and related research.

Professional organizations represent a potential avenue to administer sample surveys or sponsor gatherings on assessment of education for environmental literacy and sustainability (perhaps as a pre-conference day during an existing conference). Additionally, the WCEE may wish to revisit tools previously used for measurement (e.g., Are We Walking the Talk?) or work with collaborators to develop new approaches as appropriate.

Collaborators should also consider opportunities to participate in national studies. For example, the National Environmental Literacy Assessment,²⁹ completed in 2008, is a baseline study of middle school student environmental literacy in four domains: ecological knowledge, environmental affect, issue

“We shall never achieve harmony with land, any more than we shall achieve absolute justice or liberty for people. In these higher aspirations the important thing is not to achieve, but to strive.”

— Aldo Leopold

related cognitive skills, and environmental behavior. The study was supported by the North American Association for Environmental Education (NAAEE), the U.S. Environmental Protection Agency (EPA) Office of Environmental Education and the National Oceanographic and Atmospheric Administration (NOAA) Office of Education. Wisconsin schools participated in this study.

Environmental and sustainability literacy is not going to be effectively measured in a one-time “snapshot” of a survey or test. Student work samples (e.g., research paper, statistical experiment, speaking presentation) that are scored using a scoring guide (i.e., writing, speaking, mathematics problem solving, scientific inquiry, and social science analysis) could provide additional measures. Collaborators could also provide guidance for local assessments including parameters for how a school or district could create a scoring guide for education for environmental literacy and sustainability to meet their local needs.


It is also worthwhile to examine how environmental and sustainability literacy fit into existing tools and/or assessments. For example, the WDNR and DPI could revise the Green and Healthy Schools program to include aspects of environmental and sustainability literacy. The Wisconsin Green Schools Network (WGSN) has guidelines applicable to education for environmental literacy and sustainability. In addition, there are many tools available to gauge the success of sustainability efforts including Solarwise for Schools, ENERGY STAR Schools, U.S. Green Building Council’s Center for Green Schools, U.S. Environmental Protection Agency’s Healthy School Environments Assessment Tool (HealthySEAT), and Sustainability Competency & Opportunity Rating and Evaluation (SCORE). Utilizing and/or enhancing existing tools and structures will ensure efficiency and increase viability of long-term assessment.

Relevant standards and content areas regarding environmental literacy and education for sustainability, and courses or subjects where this instruction is integrated throughout the PK-12 curriculum:

Wisconsin developed standards for environmental education in 1998 and Wisconsin Administrative Code PI 8 requires that “every school district develop and implement a written, sequential curriculum plan **integrating environmental education objectives and activities into all subject area curriculum plans at all grade levels**” and states “environmental education objectives and activities shall be integrated into the kindergarten through grade 12 sequential curriculum plans, with the greatest emphasis in art, health, science and social studies education”.²⁶

"The World we all share is given to us in trust. Every choice we make regarding the earth, air, and water around us should be made with the objective of preserving it for all generations to come."

— August A. Busch II



Recommendations in the *Plan* call for an update of the environmental education standards and a connection of the updated standards to the updated standards in other subject areas. The educational outcomes identified in *Cultivating Education for Sustainability in Wisconsin* will inform standards revisions and help shape model district plans. Although environmental education is already required to be integrated, this Plan recommends broadening district-level plans to include education for sustainability.

A description of the relationship of the Plan to the secondary school graduation requirements of Wisconsin:

State law requires two credits of science, biological and physical, for high school graduation. Entrance to Wisconsin's public universities requires 3 credits of science. As of 2009-2010, 135 school districts offer an advanced placement course in biology, 30 school districts offer an advanced placement course in environmental science, and 21 districts offer the International Baccalaureate course Environmental Systems. In addition, Wisconsin has nearly 30 "green schools" that use education for environmental literacy as a foundation for learning.

Through revising district curriculum plans, strengthening collaboration and partnerships between formal and non-formal education, and increasing awareness of networks and professional development opportunities, these offerings will most likely expand across the state to give more students access to education for environmental literacy and sustainability.

Additional Research

Developing literacy is influenced by a number of factors. The following may be needed for a holistic approach to advance education for environmental literacy and sustainability and should be examined by collaborators with research expertise:

- Research related to formal and non-formal educator environmental and sustainability literacy and implementation of related education in the classroom and non-formal settings
- Guidance and recommendations to assist formal and non-formal education providers in assessing a program's effectiveness of advancing education for environmental literacy and sustainability
- Research regarding populations who are underserved by education for environmental literacy and sustainability
- Studies providing both qualitative and quantitative data relevant to environmental and sustainability literacy using formative and summative research methods

- Periodic, comprehensive literature reviews to synthesize findings from past and ongoing research related to education for environmental literacy and sustainability
- Research and compile best practices, positive examples, and exemplary resources that contribute to the effectiveness of formal and non-formal educators and quality programs

Research that aides in understanding the characteristics of quality education programs and student experiences will provide greater insights into how to advance overall student literacy.





Professional Development

A description of programs for professional development for teachers and school leaders to improve their environmental and sustainability subject matter knowledge; and pedagogical skills in teaching about environmental issues and education for sustainability, including the use of interdisciplinary, field-based, and research-based learning; effective assessment practices; and innovative technology in the classroom.

To effectively engage students through education for environmental literacy and sustainability, professional development needs to have a multi-level approach. Pre-service programs, school districts, CESAs and institutes of higher education all need to engage in activities that improve teachers' and school leaders' environmental subject matter knowledge, pedagogical skills, use of interdisciplinary, field-based approaches to learning, effective assessment practices, and using innovative technology to reach environmental and sustainability literacy.

Recognizing that a multi-level approach is needed, the responsibility for providing professional development cannot be placed solely on formal educators. Non-formal education providers, such as nature centers, have been providing this type of education through partnership with those more directly responsible for teacher professional development (i.e., pre-service programs, school districts, CESAs and IHEs). These types of professional development opportunities to enhance education for environmental literacy and sustainability should be continued and can be promoted across the state through existing resources such as the EEinWisconsin.org website.

Currently, Wisconsin Administrative Code PI 34.15(4b) requires "all students completing teacher preparation programs to demonstrate knowledge and understanding of... Environmental education including the conservation of natural resources for licenses in agriculture, early childhood, middle childhood to early adolescent, science and social studies."³⁰ Actions described in goal 3.1 will help ensure this requirement is met effectively.

Additionally, under Wisconsin Administrative Code PI 34, education professionals are required to submit professional development documentation

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

— Rachel Carson

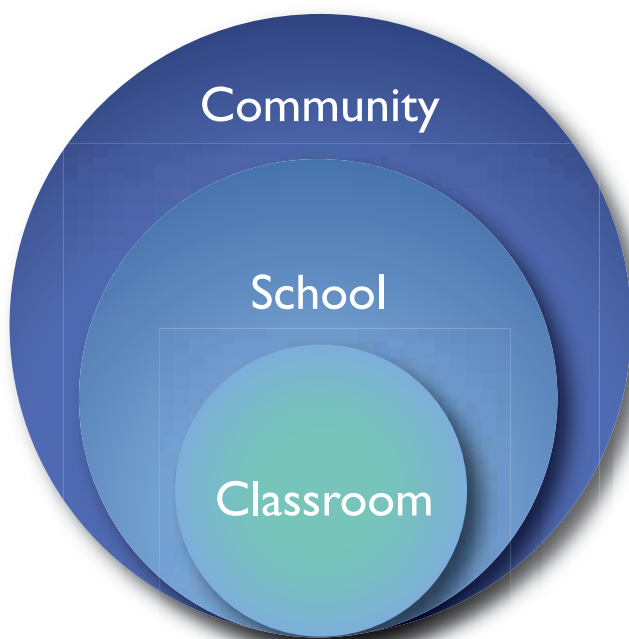
to renew their teaching license.³¹ This is done through either earning credits or through the development of a professional development plan (PDP). DPI, WCEE, and all other collaborators need to work together to ensure quality professional development opportunities to advance education for environmental literacy and sustainability are available and applicable to teachers' and administrators' professional goals. This cooperation and coordinated effort is essential to the success of this *Plan*.

Local district initiatives, state initiatives, federal regulations, budget constraints, and student achievement are a few of the pieces administrators consider when it comes to designing and/or approving professional development opportunities for staff. Opportunities for growth in education for environmental literacy and sustainability should be aligned with the needs of schools and districts and should support initiatives to avoid being seen as an “add-on”. To ensure positive, quality professional development opportunities support district needs, collaborators close to districts, such as AWSA, CESA, DPI, WASB, WASCDC, and WASDA, should provide guidance to those collaborators providing professional development such as IHEs, non-formal educators, and associations.



Implementation

A description of how Wisconsin should implement the *Plan*, including securing funding and other necessary support.



Whether the school is public or private, urban or rural, large or small, there are three nested systems at play, all deeply embedded in daily life, all interdependent with one another, and all with interwoven patterns of influence. These systems—the classroom, the school, and the community—interact in ways that are sometimes hard to see but that shape the priorities and needs of people at all levels. In any effort to foster schools that learn, changes will make a difference only if they take place at all three levels.”

— *Schools That Learn*
(Senge, Cambron-McCabe, Lucas, Smith, Dutton, and Kleiner, 2000)

Considerations for Implementation

The *Plan* will be coordinated with and supported by two additional state-wide efforts: *Wisconsin’s Plan for Environmentally Literate and Sustainable Communities* and *Cultivating Education for Sustainability in Wisconsin* (see page 6 for more details).

To successfully advance education for environmental literacy and sustainability for all students, this effort cannot be undertaken by one or two organizations. Rather, all collaborators listed in this *Plan* and other interested parties in the state need to work in concert to reach this goal. In this document, DPI, WCEE, and WEEF have been identified as leaders, but will rely on all other collaborators. In the action plan, references are made to individual organizations as well as collaborators as a whole. It is the desire and expectation of the DPI, WCEE, WEEF and the Wisconsin No Child Left Inside Coalition that these organizations work together to accomplish the goals.

"A sustainable society is one that is far-seeing enough, flexible enough, and wise enough not to undermine either its physical or its social systems of support."

— Donella Meadows

While formal PK-12 school educational settings are a critical forum for providing education for environmental literacy and sustainability, the entire community has a role to play. Parents, families, and neighbors also impact a child's exposure to the knowledge, skills, and values associated with developing environmental and sustainability literacy. In addition to supporting schools in their efforts, parents and families can model their support by spending more time outdoors with their children. Communities can ensure there are abundant, safe places for children to play and for families to spend time together outdoors.

Together, we can ensure all young people have the opportunity to connect with nature and develop knowledge, skills, and ways of thinking needed for environmental and sustainability literacy. Doing so will promote both student and environmental health, increase student achievement, and develop the skills needed to ensure sustainable communities. Working together, schools, parents, families and communities can create the conditions for this transformation to occur.

Funding

An environmental education consultant to oversee and encourage the implementation of appropriate parts of this *Plan* is required. DPI will seek funds provided through NCLI legislation if and when such funds become available, and will distribute if awarded. However, in conjunction with any funds made available through NCLI, collaborators should consider the following actions:

Work within existing resources:

- WGSN should host annual meetings of collaborators to discuss opportunities for sharing to reduce duplication and encourage efficient use of existing resources.
- Collaborators should publicize grant opportunities on EEinWisconsin.org, DPI website, and other appropriate sites and share examples of successful grant applications.
- CESAs and WCEE should assist schools with locating, writing, or applying for grant opportunities such as the WEEB grants program or national programs such as donorschoose.org.
- AWSA, WASB, WASC, and WASDA should provide guidance to districts for development of model district policies that enable individual schools to determine how to reinvest savings from reduced energy costs, waste disposal and/or other conservation initiatives, and provide guidance for how to use current budgets to support education for environmental literacy and sustainability while continuing to meet other existing priorities.

- Collaborators should allocate funds where possible to support an assessment strategy and/or collaborate to raise the funds from external sources.
- Collaborators should apply for grant funding from other existing sources (federal agencies, foundations, etc.) to support the implementation of the *Plan*.
- Collaborators should identify no cost or low cost opportunities for advancing education for environmental literacy and sustainability and publicize these opportunities to school districts.
- Collaborators should develop guidance to assist schools in identifying affordable programs and priorities for their school related to education for environmental literacy and sustainability.

Other ways to collaborate to secure funds to achieve the goals of this *Plan*:

- Collaborators should create and keep updated a list of funding sources, including timelines and funds available, that could support districts in writing and implementation of local plans.
- Collaborators should consider facilitating opportunities for school districts to write joint grant applications to take advantage of larger grant pools.
- Collaborators should link funding for professional development in education for environmental literacy and sustainability to other state initiatives and priorities such as STEM, special education, reading, and mathematics.
- WEEF should lead a specific short-term and long-term plan to promote funding of *Plan* activities to potential donors. The *Plan* should include developing partnerships with green business, outdoor recreation companies, utilities, and other like-minded companies interested in providing financial support to achieve the goals of this *Plan*.
- WEEB, WEEF, and other funding organizations should consider incorporating the following needs for funding into organizational priorities or raise additional funds for these activities:

For Environmental and Sustainability Literacy

- to plan, implement, evaluate, and maintain school district plans to advance education for environmental literacy and sustainability (e.g., a grants program similar to the WEEB’s school forest model).
- to support a multi-pronged, long-term plan for assessment.

"What you do makes a difference, and you have to decide what kind of difference you want to make."

— Jane Goodall

For Field Experiences

- to ensure the availability and safety of outdoor play areas.
- to support greening of school grounds and facilities.
- to support PK-12 field experiences, including transportation.
- to create, enhance, or use school forests and outdoor classrooms on site or nearby the school.

For Professional Development

- to support scholarships for teacher professional development with formal and non-formal education providers.
- secure funds to facilitate learning communities.
- to provide staff support to facilitate higher education network and pre-service teacher network.

Plan Update

In accordance with the proposed NCLI legislation, the *Plan* shall be revised or updated by the DPI in cooperation with collaborators and submitted to the Secretary as required by the U.S. Department of Education.



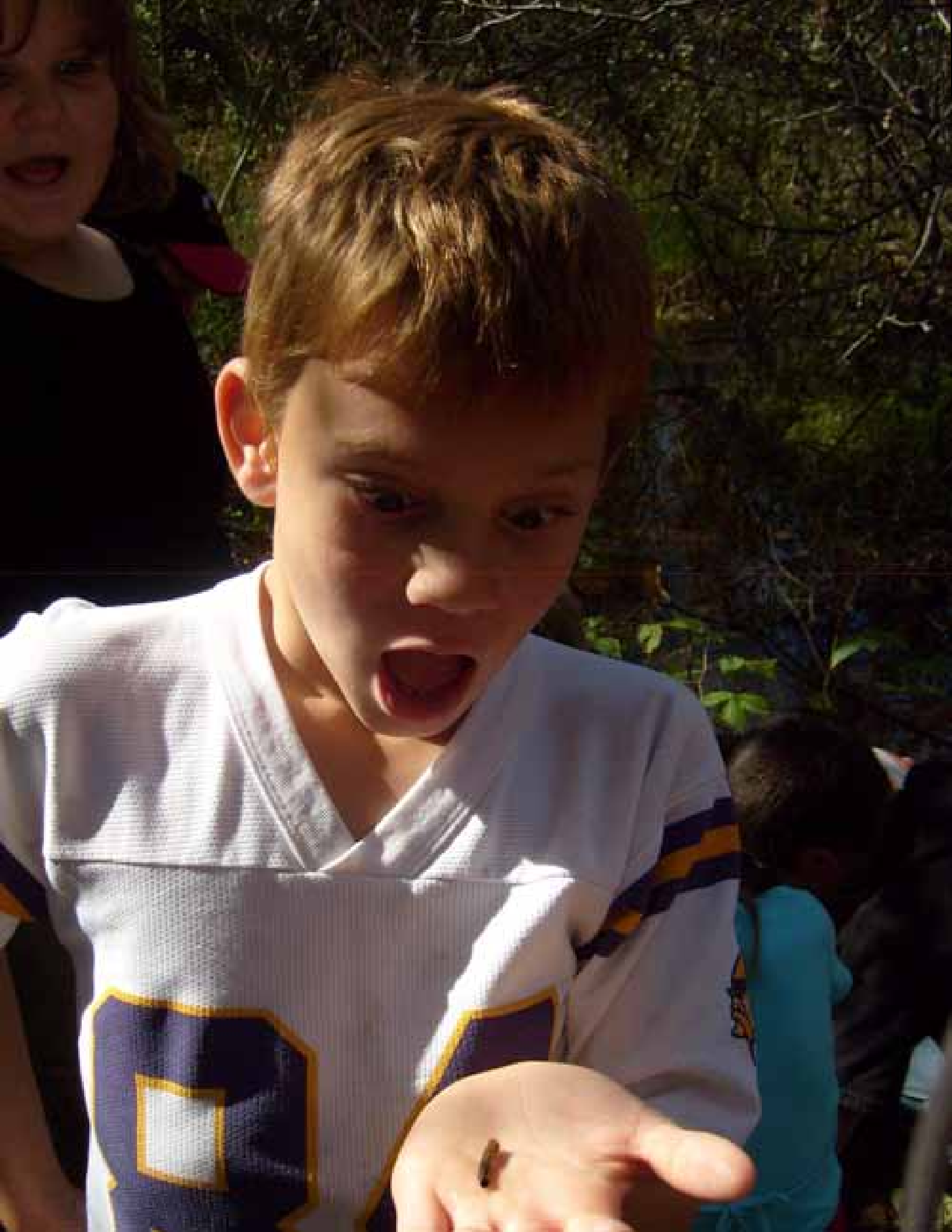
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Appendices

- A. DPI Press Release re: NCLI
- B. Wisconsin's Environmental Education History Timeline



News Release

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FOR IMMEDIATE RELEASE

Thursday, October 22, 2009

Contact: Patrick Gasper, DPI Communications Officer, (608) 266-3559

Jesse Haney, Coordinator, Wisconsin No Child Left Inside Coalition, (715) 346-3604

DPI-NR 2009-44

No Child Left Inside Coalition to develop Environmental Literacy Plan for Wisconsin

MADISON — In an effort to ensure that every child graduates with the environmental skills and knowledge needed to build Wisconsin's economy and a sustainable future, the Wisconsin No Child Left Inside Coalition will develop the state's first environmental literacy plan.

"Wisconsin's long history of supporting environmental quality helps to make our state a great place to live, work, play, and learn," said State Superintendent Tony Evers. "The No Child Left Inside Coalition is uniquely qualified to develop an environmental literacy plan that will help our schools provide innovative environmental education programs and help our teachers integrate these concepts into their curriculum."

Evers asked the group to develop an Environmental Literacy Plan for Wisconsin that will address the environmental education needs of Wisconsin's pre-kindergarten through 12th-grade schools and will pay special attention to creating more opportunities to get children outside. The Department of Public Instruction also is in the process of hiring an environmental education consultant, which was approved through the 2009-11 state budget. The funding for the position is being provided by the state's Board of Commissioners of Public Lands.

"We must renew our commitment to teaching our students about environmental responsibility," said Evers. "We are grateful for the efforts of the Board of Commissioners of Public Lands, and its Executive Secretary Tia Nelson, for their support and recognition of the environmental education needs of our students."

"Wisconsin schools need robust environmental education programs that not only teach environmental science, but that also stress the need for citizen involvement and solving problems through critical thinking and collaborative working relationships," said Jesse Haney, coordinator of the Wisconsin No Child Left Inside Coalition. "We look forward to developing Wisconsin's Environmental Literacy Plan."

The Wisconsin No Child Left Inside Coalition includes representation from the following groups:

- Milwaukee Public Schools
- National Environmental Education Training and Partnership

(more)

environmental literacy plan – page 2

- Wisconsin Association for Environmental Education
- Wisconsin Environmental Education Board
- Wisconsin Environmental Education Foundation
- Wisconsin Environmental Science Teacher Network
- Wisconsin Center for Environmental Education
- Wisconsin Department of Natural Resources
- Wisconsin Department of Public Instruction

At the federal level, the No Child Left Inside Coalition and other education advocates are supporting an effort that would include environmental education in the reauthorization of the Elementary and Secondary Education Act (previously known as the No Child Left Behind Act). The legislation makes new funding available for the development of rigorous standards, teacher training, and environmental literacy programs. When the legislation is signed into law, states that have environmental literacy plans will be eligible for more funds.

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NOTES: More information about environmental education in Wisconsin can be found at <http://www.eeinwisconsin.org/>. This news release is available electronically at http://dpi.wi.gov/eis/pdf/dpinr2009_44.pdf.

Wisconsin's Environmental Education History Timeline

(Compiled by David Engleson, executive secretary for WAEE 1975-1985, lead author for 1994 revision of the *Wisconsin Guide to Curriculum Planning in Environmental Education*, high school science and conservation teacher, DPI Education Consultant 1967-1991 and updated by Wisconsin NCLI, 2011)

1928 First school forests established in Laona, Crandon, and Wabeno.

1935 Wisconsin Conservation Education Statute is passed. It is the first state in the US to have such a requirement. Legislature requires "adequate instruction in the conservation of natural resources" in order to be certified to teach science or social studies. Legislature also requires that conservation of natural resources be taught in public elementary and high schools.

1937 Wisconsin Conservation Department hires first conservation education specialist.

1945 Representatives of high schools, teacher colleges, University of Wisconsin (UW), Department of Public Instruction (DPI), Wisconsin Conservation Department, and US Forest Service meet at a vacant USFS training center to map out the future of conservation education in Wisconsin.

1946 Trees For Tomorrow camp becomes a permanent institution, offers summer program for educators and others.

Central State Teachers College at Stevens Point establishes the first conservation education major teacher preparation program.

1948 DPI assigns conservation education responsibility to one of its supervisors.

Conservation Curriculum Committee established in DPI. Members include representatives from DPI, public schools, county superintendents, colleges and universities, WCD, other state resource agencies, federal resources agencies, business and industry. Committee begins planning conservation education curriculum guide, bibliography and teacher workshops.

1959 WCD's MacKenzie Center begins offering conservation education programs.

1960 Milwaukee Public Schools appoints conservation education director.

1962 Representatives from DPI, elementary and high schools, county superintendents, colleges and universities, WCD, state and federal

resource agencies, service clubs and business and industry meet to establish the Wisconsin Council for Conservation Education (WCCE). A series of workshops aimed at each type of group are planned.

1965 The WCCE begins publishing an environmental education newsletter for its members and later for distribution to interested subscribers.

1967 DPI appoints a Supervisor of Science and Conservation Education.

1968 On July 1, the Wisconsin Conservation Department becomes the Wisconsin Department of Natural Resources.

1969 DPI position becomes full-time and is retitled Supervisor of Environmental Education.

1970 Governor Warren Knowles sponsors the Governor's Conference on Environmental Education in cooperation with DPI, Department of Natural Resources (DNR), Citizens Natural Resources Association, Conservation Education Association, League of Women Voters of Wisconsin, National Audubon Society, Trees for Tomorrow, Wisconsin Association of School Boards, WCCE, Wisconsin Education Association, Wisconsin Manufacturers and Commerce, Wisconsin Resource Conservation Council. A set of 19 Recommendations for Future Action was developed.

Wisconsin and the nation celebrate the first Earth Day on April 22, promoted by US Senator Gaylord Nelson from Wisconsin.

Committee representing Governor's Conference participants drafts the Wisconsin Environmental Education Act of 1971.

1971 Governor Patrick Lucey creates an environmental task force. Its education committee recommends passage of the Wisconsin Environmental Education Act. The governor chooses to enact its recommendations by executive order, creating the Wisconsin Environmental Education Council (WEEC). WEEC consists of the heads of DPI, DNR, Educational Communications Board, State Board of Vocational, Technical and Adult Education, Wisconsin State University System and the University of Wisconsin System. A Technical Advisory Council representing 15 different publics is appointed to develop a state environmental education master plan.

1972 The Wisconsin Environmental Education Inservice Project is established with support from the National Science Foundation, UW-Superior and DPI. Twenty educators are trained to develop and offer at the school district level a two-credit inservice environmental education course for teachers.

1974 Wisconsin utilities respond to the energy crisis, establish energy education committees.

The Wisconsin Council for Conservation Education rewrites its constitution and changes its name to the Wisconsin Association for Environmental Education (WAE). It publishes a 12-page newsletter for its members and interested subscribers.

The Wisconsin Environmental Education Council publishes a Wisconsin environmental education master plan.

1975 The Wisconsin DNR's MacKenzie Environmental Education Center opens a residential facility in Poynette.

The United Nations Environmental Science and Conservation Organization (UNESCO) and the United Nations Environment Program conduct the first international environmental education conference in Belgrade, Yugoslavia.

1976 Six regional environmental education conferences are sponsored by the same agencies to react to the Belgrade Charter, an international statement of environmental education.

1977 A revised environmental education statement, the Tbilisi Declaration, is approved by governmental representatives at a conference held in Tbilisi, Georgia, USSR. National conferences to interpret and promote the Declaration are recommended.

Project Learning Tree is introduced into Wisconsin, coordinated by DPI. Fifty educators are trained to facilitate workshops.

1978 A US national environmental education leadership conference recommends that state education agencies assume leadership for interpreting and promoting the Tbilisi Declaration for curriculum planners and other educators.

1979 The Wisconsin DNR establishes and staffs an environmental education specialist position.

A task force plans and drafts an environmental education curriculum planning guide based on the Tbilisi Declaration.

1980 The US Department of State and the President's Council on Environmental Quality publish The Global 2000 Report to the President: Entering the 21st Century, which becomes the basis for much EE curriculum planning.

A network of more than 100 educational and environmental organizations begins promoting a revision of the 1935 teacher certification rule.

1983 State DPI Superintendent Herbert Grover promulgates a new teacher EE certification rule requiring newly certified early childhood, elementary, agriculture, secondary science and social studies teachers to be able to demonstrate four content area and three methodology competencies. Teacher preparation institutions are required to have programs in place to achieve this by July 1, 1985.

Superintendent Grover appoints a task force representing all levels of formal and non-formal education to develop a curriculum-planning guide in EE.

1984 WAEE newsletter becomes EE News, which is coordinated and edited by the WI DNR.

1985 Project WILD is introduced into Wisconsin, coordinated by DNR. Over 200 workshop facilitators are trained in the first couple of years.

DPI publishes the first edition of *A Guide to Curriculum Planning in Environmental Education*, based on the Tbilisi Declaration. It eventually sells over 12,000 copies throughout the US and in more than 40 countries.

The Wisconsin Legislature enacts a curriculum planning standard requiring that school districts develop and implement a K-12 environmental education curriculum by September 1, 1990.

1987 The United Nation's World Commission on Environment and Development produces *Our Common Future*, a report promoting sustainable development of Earth's resources. The document becomes an important EE curriculum planning tool.

A consortium of environmental educators, UW-Milwaukee faculty, futurists, environmental organizations, business and industry, and the Global Tomorrow Coalition plan and conduct a Wingspread conference in Waukesha, Wisconsin. The conference, Globescope Great Lakes, included a major education strand.

DNR assumes coordination of Project Learning Tree, and a Board of Directors for PLT is created.

1988 A similar consortium, which includes Wisconsin Manufacturers and Commerce, plans and conducts Globescope Wisconsin 88, which includes a major education strand focusing on Wisconsin environmental education programs.

The North American Association for Environmental Education (NAAEE) selects the Wisconsin DPI for its Outstanding Institutional Environmental Education Award.

1989 UW-Stevens Point works with environmental education instructor cadre to develop and offer inservice environmental education courses throughout Wisconsin.

1990 Earth Year 1990, a 20th anniversary celebration of the first Earth Day.

Wisconsin Legislature enacts statutes creating the Wisconsin Environmental Education Board (WEEB) with membership representing state agencies, the Legislature, environmental educators, environmental organizations, business and industry, agriculture, labor, higher education and non-formal education. The Board is to administer a \$200,000 annual environmental education grants program and assist state agencies and organizations in identifying needs and establishing environmental education priorities.

The same legislation created the Wisconsin Center for Environmental Education (WCEE) at UW-Stevens Point to 1) assist in developing, disseminating and evaluating environmental education programs for elementary and secondary school teachers and pupils, 2) work with DPI to assess the environmental literacy of teachers and students, 3) address statewide teacher preparation in environmental education, 4) assist DPI and CESAs in identifying environmental education needs, 5) establish a curriculum materials center, and 6) to assist other teacher preparation institutions in establishing environmental education preparation programs.

1991 Renew America and the National Consortium for Environmental Awards recognizes Wisconsin's achievements in environmental education and honors it with its award for the most outstanding EE program.

First annual High School Conference on the Environment held at UWSP. A yearly event hosted by the Wisconsin Center for Environmental Education.

1992 Environmental Education Literacy Assessments of Wisconsin 5th and 11th grade students, teachers, principals, and Directors of Curriculum and Instruction, conducted by the WCEE. Completed in 1994.

1994 NAAEE presents WAEE with its Outstanding Affiliate Organization Award.

DPI publishes a revised edition of A Guide to Curriculum Planning in Environmental Education.

Environmental Education Consultant position eliminated at DPI.

1995 WEEB sponsors the Wisconsin Environmental Education Summit and invites over 100 representatives from a variety of organizations to meet for two days to strategically plan the future of environmental education in Wisconsin.

Project WET is introduced to Wisconsin coordinated by the UW Extension, Lakes Partnership Program, and UW-Stevens Point. 50 Educators trained to facilitate workshops.

1996 KEEP Program (Wisconsin K-12 Energy Education Program) created in Wisconsin, coordinated by the Energy Center of Wisconsin and the Wisconsin Center for Environmental Education.

Three high schools were the first to become SolarWise through Wisconsin Public Service. Green Bay East, Southern Door, and Antigo each received solar-electric systems that provide approximately 60,000 kilowatt-hours of solar electricity annually.

1998 Wisconsin's Model Academic Standards for Environmental Education are developed and published by the Department of Public Instruction.

Additional \$200,000 added to WEEB grants program from the Forestry Fund.

Governor Thompson proclaims April 22nd "Environmental Education Works for Wisconsin!" day.

1999 WEEB adopts a Communication Plan for environmental education in Wisconsin.

2000 30th Anniversary of Earth Day.

10th Anniversary of the 1990 Wisconsin Environmental Education Act.

WEEB adopts five year Strategic Plan for Environmental Education. *EE 2005: A Plan for Advancing Environmental Education in Wisconsin.*

KEEP becomes part of state Public Benefits program (Focus on Energy); KEEP teaches 1000th teacher about energy.

2001 LEAF Program (K-12 Forestry Education Program) created in Wisconsin, coordinated by the Wisconsin Department of Natural Resources - Division of Forestry and the Wisconsin Center for Environmental Education.

2002 WEEB adds seats for representatives in forestry and energy to the board.

KEEP launches Bright Idea Fundraiser-students sell Compact Fluorescent Light bulbs to raise funds for school projects.

2003 Statewide School Forest Education Specialist position added to the LEAF Program.

Additional \$200,000 added to WEEB grants program from the Forestry Fund specifically to support school forests in Wisconsin.

2004 Final issue of EE News posted to WDNR web site.

WAEE, WCEE, and WEEB held a statewide Environmental Education Forum at the University of Wisconsin-Stevens Point.

Project WET coordination taken over by the WDNR.

Global Environmental Teachings Program (GET) started in collaboration with the Global Environmental Management Center (GEM) and the WCEE to offer educators international EE experiences.

The Green and Healthy School program was established.

2005 Wisconsin Environmental Education Foundation created to develop private and public funding for environmental education opportunities that promote environmental stewardship, economic vitality, and healthy communities.

Electrathon program launched in Wisconsin with the first race in Appleton.

DePere became Wisconsin's first Green and Healthy School. On Earth Day of 2005, Governor Doyle presented DePere with the Green and Healthy Flag.

2006 WEEB adopts a new five year Strategic Plan for EE. EE 2010: A Plan for Advancing Environmental Education in Wisconsin.

First meeting of the Wisconsin Women Forward for Environmental Education.

Jessica Doyle, first lady of Wisconsin, presents awards at the annual student energy education awards ceremony; KEEP reached its 3000th teacher.

Three Wisconsin schools develop national Green Charter Schools Network.

2007 Wisconsin Environmental Science Teacher Network created.

2008 EEinWisconsin.org established to provide a free online clearinghouse for environmental education activities and resources in the State.

2009 First meeting of the Wisconsin No Child Left Inside Coalition.

Governor Jim Doyle signs a letter with sixteen other governors supporting the national NCLI Act.

State Superintendent Tony Evers asks Wisconsin NCLI Coalition to write a state environmental literacy plan.

Increase in funds for WEEB grants program approved.

2010 Wisconsin Green Schools Network forms.

Green Charter Schools Network forms Green Schools National Network.

2011 *Wisconsin's Plan to Advance Education for Environmental Literacy and Sustainability in PK-12 Schools* completed.

Wisconsin's Plan for Environmentally Literate and Sustainable Communities completed.

Cultivating Education for Sustainability in Wisconsin vision process completed.

20th Anniversary of establishment of WCEE and WEEB.