

**THE DEVELOPMENT OF A STATEWIDE STRATEGIC PLAN
FOR ADVANCING STUDENT ENVIRONMENTAL LITERACY IN WISCONSIN'S
PREKINDERGARTEN THROUGH TWELFTH GRADE SCHOOLS.**

By
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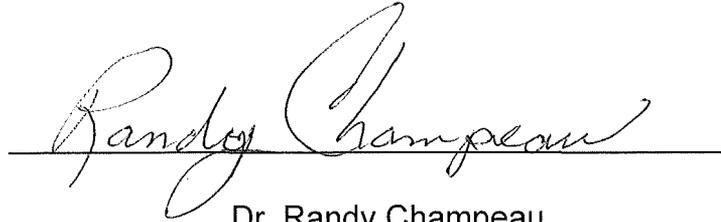
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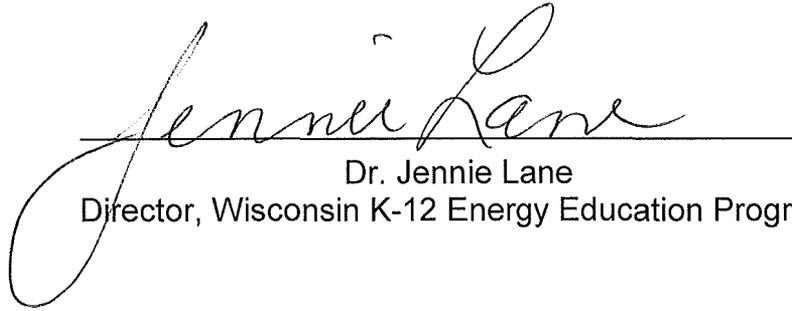
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ABSTRACT

Children are spending more time indoors using electronic media and less time outdoors than ever before. 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. Research also indicates that time spent learning and playing outdoors can produce health benefits for children such as reducing incidence of obesity, reducing symptoms of ADHD, and reducing stress in general.

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

Using a form of action research called collaborative inquiry, the researcher led a process to determine (1) what is needed to increase the environmental literacy of Wisconsin PK-12 students and provide more opportunities to learn outdoors, (2) which strategies can address these needs, as well as (3) who would carry out these strategies. A Steering Committee was convened to guide the collaborative inquiry process. To launch the inquiry process, the Steering Committee completed a needs assessment and used those identified needs to develop six Plan goals. The Steering Committee collaborated throughout the process to ensure the Plan developed was comprehensive and thorough. Once the six Plan goals were developed, six Working

Groups were created to develop the specific objectives and action strategies for each goal. To ensure diverse representation and perspectives were included in the Plan's development, a broader Wisconsin No Child Left Inside Coalition was formed by the researcher and steering committee. The researcher worked with collaborative inquiry participants, including the steering committee, working groups, and the coalition, to create a Plan based on the results of group discussion and data collection.

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CHAPTER I: INTRODUCTION

Chapter one provides an overview of this research project. It describes the need for the project, relevant background information, and defines the parameters of the study. It includes an explanation of the importance of the study, limitations of the study, assumptions inherent in the research, definition of key terms, and abbreviations.

Importance of the Study

The research contained in this study establishes an action plan for advancing student environmental literacy in Wisconsin's prekindergarten through twelfth grade (PK-12) schools. The Wisconsin Center for Environmental Education (WCEE), Wisconsin Department of Public Instruction (DPI), Wisconsin Environmental Education Foundation (WEEF), and the Wisconsin No Child Left Inside Coalition (Coalition) determined that a comprehensive statewide strategy should be developed to ensure every child graduates with the environmental knowledge, skills, and attitudes needed to contribute to a sustainable future.

No Child Left Inside

The national 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.” 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 environmental sustainability (Louv 2005).

Children are spending more time indoors using electronic media and less time outdoors than ever before (Juster, Ono, and Stafford 2004; Burdette and Whitaker 2005; Kuo and Sullivan 2001).

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, Foehr, and Roberts 2010)

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 (NEEF 2010).

Research also indicates that time spent learning and playing outdoors can produce health benefits for children such as reducing incidence of obesity (Council on Sports Medicine and Fitness and Council on School Health 2006), reducing symptoms of ADHD (Cleland et al 2008; Kuo and Taylor 2004), and reducing stress in general (Wells and Evans 2003).

Pre-kindergarten through twelfth grade (PK-12) schools are one important place society can work to ensure children have the opportunity to connect with nature and develop the environmental literacy they will need to be healthy adults, active citizens,

and environmental stewards. Environmental education provides a way to integrate outdoor experiences and environmental learning with the standards and benchmarks schools already teach. This approach adds local relevance, helps students connect to the places they live and learn, and provides young people with the critical thinking and problem solving skills they need to be successful in a new green economy. (“Benefits of Environmental Education” 2011)

In response to growing support for the NCLI movement, the national NCLI Act was introduced in 2007, 2009, and again in 2011 in both houses of Congress to support local and statewide efforts to educate PK-12 students about the environment and natural resources and to provide enhanced professional development opportunities in environmental education (United States Congress 2011). Its goals are to ensure that every student graduates from high school prepared with the knowledge and skills necessary to be ready for college and 21st century careers in the emerging “green” economy and advance the health of our youth through outdoor and environmental education opportunities.

The national NCLI Act, 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 laid out in the No Child Left Inside Act legislation. At the time of printing this document, the national No Child Left Inside Act has not become law.

Wisconsin No Child Left Inside Coalition

In response to the national NCLI movement and growing concerns about ‘nature deficit disorder’, the *Wisconsin No Child Left Inside Coalition* was formed by the Wisconsin Environmental Education Foundation and the Wisconsin Center for Environmental Education to help coordinate efforts to increase environmental education opportunities for young people in Wisconsin. The first task the Coalition focused its efforts on was the creation of an Environmental Literacy Plan for Wisconsin. The Coalition hoped the Plan would help create more opportunities for kids to get outdoors and build awareness and support for efforts that ensure all Wisconsin students graduate environmentally literate.

Wisconsin’s NCLI Coalition is a statewide coalition of over 100 businesses, health, youth, faith, recreational, environmental, conservation, and educational groups representing over 60,000 people in Wisconsin. Coalition member groups, organizations, and individuals share the belief 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. Anyone can join the Wisconsin NCLI Coalition online by signing up online at www.ncliwisconsin.org.

Recognizing the value of having a comprehensive Plan for Wisconsin, State Superintendent Tony Evers asked the Wisconsin No Child Left Inside Coalition to develop an Environmental Literacy Plan (Plan) for Wisconsin (Appendix A). The Wisconsin Center for Environmental Education and Wisconsin Environmental Education Foundation partnered to provide funding for a staff person to coordinate and facilitate

the development of the Plan. The researcher for this project is also the staff person hired to coordinate the overall planning process.

Building Wisconsin's Plan: Summary of Methods

This study followed a qualitative research design. The researcher investigated the problem through a collaborative inquiry process that engaged a variety of stakeholders in a systematic examination of the research question. Collaborative inquiry participants included a Steering Committee, six Working Groups, and the broader Wisconsin No Child Left Inside Coalition.

A Steering Committee was assembled and met each month for nine months to draft the Plan. The Wisconsin No Child Left Inside Coalition Steering Committee was made up of representatives from the Wisconsin Department of Public Instruction, Wisconsin Center for Environmental Education, Wisconsin Environmental Education Board, Wisconsin Environmental Education Foundation, Wisconsin Association for Environmental Education, Wisconsin Association of School Boards, Wisconsin Department of Natural Resources, Wisconsin Environmental Science Teachers Network, Wisconsin 4-H Youth Development, Milwaukee Public Schools, the Green Charter School Network, and the US EPA's Environmental Education and Training Partnership. Once goal statements were identified, Working Groups were formed to develop the specific objectives and action recommendations for each goal. Working Groups were made up of members of the Steering Committee as well as other individuals that had expertise or interest in the topic addressed in each goal. Finally, individuals and

organizations throughout Wisconsin were invited to join the Wisconsin No Child Left Inside Coalition as a way to engage more people and perspectives in the planning process. This broader Coalition membership was updated on progress each month, invited to provide input and feedback to guide the plan development, and ultimately, will play a key role in implementing and evaluating the *Plan*.

The final *Plan* was released in November 2011 (Appendix B).

Related Efforts

The *PK-12 Plan* was coordinated with and supported by two additional state-wide efforts:

- "*Wisconsin's Plan for Environmentally Literate and Sustainable Communities*" considers educational needs and responses for communities and support sustainable practices at home, at work, at school, and at play. This Plan was released in November 2011 in conjunction with *the PK-12 Plan*.

While the goal of *Wisconsin's Plan* is to create an environmental literacy plan for the state, the work has been done with the knowledge that the Wisconsin No Child Left Inside Coalition has developed the *PK-12 Plan*. This *Plan* will address the needs of all audiences in Wisconsin and will incorporate the *PK-12 Plan*.

- "Cultivating Education for Sustainability in Wisconsin" builds capacity and support for schools and communities to focus student learning on sustainability. This plan was released in October 2011.

In 2010, the Department of Public Instruction and Wisconsin Center for Environmental Education initiated a process to cultivate education for sustainability in Wisconsin. This work will lead to the development of resources and services to implement education for sustainability in schools and address goals outlined in the *PK-12 Plan*.

[This section excerpted from: Department of Public Instruction. (2011) "Wisconsin's Plan to Advance Education for Environmental Literacy and Sustainability in PK - 12 Schools." Available at: www.nclcoalition.org]

Statement of the Problem

The goal of this study is to develop a statewide strategic plan for advancing student environmental literacy in Wisconsin's prekindergarten through twelfth grade schools.

Statement of the Subproblems

1. What is needed to advance student environmental literacy?
2. Which strategies should be pursued to address identified needs related to developing student environmental literacy?
3. Who will pursue the strategies that are identified in the Plan?

Limitations

- Evaluation of the Plan developed through this research project is limited to whether the Plan recommendations are accurate and complete. Evaluation of the outcomes of Plan implementation is not included in the scope of this project.
- This study will not determine or evaluate the long-term success of implementing the Plan that is produced through this research.

Assumptions

The following assumptions are inherent in the design of this proposal:

- Environmental education (EE) provides valuable tools for training people to be good citizens, scientists, and environmental stewards.
- EE is an effective tool for addressing 'nature deficit disorder' as it provides opportunities to get outdoors and increases overall comfort in the outdoors.
- EE involves more than getting people outdoors.
- Schools are not currently integrating EE at a sufficient scale in Wisconsin.
- Schools need and would like help integrating EE.
- The information provided by other similar efforts will provide useful information about how to develop a *Plan* for Wisconsin.

- Collaborative inquiry working group participants represented needs and solutions of a broader sector or audience.
- Implementation of the *Plan* developed in this study will result in more environmentally literate students.

Definition of Terms

Environmental Education (EE): Environmental education is 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 1998)

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 (North American Association for Environmental Education 2002).

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; and, practicing personal and civic responsibility for environmental decisions (North American Association for Environmental Education 1999).

Sustainability: meeting the needs of the present without compromising the ability of future generations to meet their own needs (World Commission on Environment and Development 1987).

Education for Sustainability: Education that 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 Education for Sustainability is to sustain both human and natural communities. (WCEE 2011)

School: A school is an administrative unit dedicated to and designed to impart skills and knowledge to students. A school is organized to efficiently deliver sequential instruction from one or more teachers. In most cases, but not always, a school is housed in one or more buildings. Also, multiple schools may be in one building. By statute, a home-based private educational program is not a school. (Wisconsin Department of Public Instruction 2009)

District: a unit for administration of a public-school system often comprising several towns within a state (Merriam-Webster 2009)

Abbreviations

Coalition: Wisconsin No Child Left Inside Coalition

DPI: Wisconsin Department of Public Instruction

EE: Environmental Education

EfS: Education for Sustainability

ELP: Environmental Literacy Plan

K-12: Kindergarten through twelfth grade

NAAEE: North American Association for Environmental Education

NCLI: No Child Left Inside

PK-12: Pre-kindergarten through twelfth grade

Plan: Wisconsin Plan for Advancing Education for Environmental Literacy and Sustainability in PK-12 Schools

WCEE: Wisconsin Center for Environmental Education

WEEF: Wisconsin Environmental Education Foundation

CHAPTER TWO: REVIEW OF RELATED LITERATURE

Introduction

The purpose of this chapter is to provide an overview of the work of other researchers as it relates to this project. It is intended to establish a base of knowledge for the study and the reader. The purpose of this study is to develop a statewide strategic plan for advancing student environmental literacy in Wisconsin's prekindergarten through twelfth grade schools.

The literature review will address the following topics:

- I. Importance of environmental education and environmental literacy
- II. The No Child Left Inside Act
- III. Environmental literacy Plans in the United States
 - a. No Child Left Inside Environmental Literacy Plans in the United States
- IV. Status of environmental literacy in Wisconsin schools
 - a. Legislation affecting environmental education in Wisconsin schools
 - b. Measurement of environmental literacy
- V. History of planning for environmental education and literacy in Wisconsin
- VI. Action Research and Collaborative Inquiry
 - a. Action Research
 - b. Collaborative Inquiry
- VII. Summary

Importance of environmental education and environmental literacy

According to recommendations from the 2007 International Conference on Environmental Education, there is an urgent need for a paradigm shift in the way we think and teach about the environment around the world (UNESCO/UNEP 2007). Conference delegates warn that we are not only exhausting and plundering the resources of Earth at unsustainable rates, but we are on the threshold of unimaginable devastation that climate change is likely to bring. They argue that the only way to turn from our current destructive course is to redefine our concept of progress to one that requires us to live within the limits of nature's systems. Ultimately, the report asserts this will require fundamental changes in the creation, transmission and application of knowledge in all spheres and at all levels. Among other recommendations, the delegates urged "all countries to give greater priority to funding and supporting the implementation of [environmental education] policies and frameworks (UNESCO/UNEP 2007).

John Smyth, President of the Scottish Environmental Education Council, also argues that a paradigm shift is needed in order for environmental education to be successful (2006). He sees environmental education, not as a separable package, but as a movement for fundamental education reform (Smyth 2006, p. 247). This level of transformation is unlikely to come without significant investment of time and resources.

The 2005 Roper Report, sponsored by the National Environmental Education and Training Foundation (NEETF), illustrates the need for such a transformation. The report finds that after more than thirty years of environmental learning in public schools,

the public is overwhelmingly uninformed or misinformed about basic environmental concepts and realities (NEETF/Roper 2005). While 95 percent of the general public supports environmental learning in schools, EE continues to lack status as a “core” subject. Instead, environmental education is “infused” into core and elective subjects in an effort to make its reach more comprehensive. (NEETF/Roper 2005)

Meanwhile, research continues to demonstrate the promise of environmental education for improving overall academic achievement (Glenn & National Environmental Education Training Foundation/NEETF 2000; Wheeler and Thumlert 2007). In particular, Glen and NEETF (2000) found that “environmental learning emphasizes specific skills central to ‘good science,’ which creates a rigorous curriculum and develops critical thinking skills needed for informed personal decisions and public action” (p.12). Wheeler and Thumlert (2007) also found “strong evidence that environmental education increases math and science achievement...[and may do so] for high-ranking and low-ranking students” (p. ii).

The research described above suggests environmental education has the ability to improve academic achievement overall, but is not achieving comparable gains in the most critical areas of environmental literacy. NEETF/Roper (2005) recommend the field can achieve a “wider and stronger base of environmental knowledge” through better organization, distribution, and delivery of EE content, extending EE to professionals, and providing more access points to educational centers (p. 15). Gonzalez-Gaudio (2006) asserts that “the political priority of environmental education has to be reinforced by intensifying the development of skills, and stimulating interaction on key environmental issues between environmental educators and educators in related fields

that complement our work” (p. 297). Furthermore, the National Science Foundation (NSF) has repeatedly called for the creation of a scientifically informed citizenry and pointed out that this will require a “concerted and systematic approach to environmental education grounded in a broad and deep research base that offers a compelling invitation to lifelong learning” (2003, p. 41). The NSF Report, goes on to specify that “environmental education should be used as an integrating concept in pre-school, elementary, and secondary education, particularly when enhanced with teacher education and professional training programs” (2003, p. 2). In order to achieve these aims, the field of environmental education will need access to a strong network of support, including funding to expand successful programs, develop innovative projects, and disseminate educational materials.

The need for a paradigm shift, or radical change in fundamental beliefs, driving the way we teach and learn about the environment has been recognized by the United Nations, the National Science Foundation, the National Environmental Education Training and Foundation as well as the Wisconsin Environmental Education Board and the Wisconsin Environmental Education Foundation. The American and Wisconsin public supports the inclusion of environmental learning in our schools and current EE efforts are producing remarkable academic achievement results. Yet, overall levels of environmental literacy remain inadequate.

The No Child Left Inside Act

While it is clear Wisconsin has a long history of planning for education for environmental literacy, the national No Child Left Inside Act provided the impetus to develop a comprehensive plan specific to the PK-12 sector.

The national NCLI Act was introduced in 2007, 2009, and again in 2011 to encourage local and statewide efforts to educate PK-12 students about the environment and natural resources and to provide enhanced professional development opportunities in environmental education (United States Congress 2011). The national No Child Left Inside Act, as proposed, requires each state to have an environmental literacy plan in order to access funds to support plan implementation. According to the proposed legislation, all state plans must meet the following objectives:

(1) Prepare students to understand, analyze, and address the major environmental challenges facing the students' State and the United States.

(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.

(3) Create opportunities for enhanced and ongoing professional development for teachers that improves the teachers'—

(A) environmental subject matter knowledge; and

(B) pedagogical skills in teaching about environmental issues, including the use of —

(i) interdisciplinary, field-based, and research-based learning; and

(ii) innovative technology in the classroom

Each plan must also describe how the state educational agency will measure the environmental literacy of students, how the plan relates to high school graduation

requirements, how teachers will be prepared to meet the plan recommendations, and how the plan will be implemented. Plans must also be updated and submitted for approval at least every five years. (United States Congress 2011)

The Plan developed through this research project is organized around the goals and recommendations laid out in the proposed No Child Left Inside legislation. At the time of printing this document, the national No Child Left Inside Act has not become law.

No Child Left Inside Environmental literacy Plans in the United States

The proposed No Child Left Inside Act spurred states around the country to initiate the development of environmental literacy plans for PK-12 schools. According to a survey conducted by the North American Association for Environmental Education, in September 2009, fifteen states had initiated a process to develop a PreK-12 plan based on the recommendations of the NCLI Act (Appendix D). By October 2010, after the survey was re-administered, the number of states working to develop or with completed environmental literacy plans had jumped to 47 (Appendix E).

The North American Association for Environmental Education developed a guide, “Developing a State Environmental Literacy Plan,” to assist states in complying with the proposed No Child Left Inside legislation (2008). The guide briefly outlined the required elements of a state environmental literacy plan and identified a variety of stakeholders and partners that should be involved in the planning and implementation process.

Status of environmental literacy in Wisconsin schools

Wisconsin has a strong environmental education foundation already established, with active schools, supporting organizations, and abundant opportunities to get outdoors in both rural and urban settings. The state has rich natural resources and has benefited from the leadership of environmental pioneers like Aldo Leopold, Gaylord Nelson, and John Muir. Thanks to their leadership and many others, education for environmental literacy has existed in Wisconsin schools for more than 75 years.

Legislation affecting environmental education in Wisconsin schools

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 (Wilke 1985). In 1985, this rule was expanded to include teachers of agriculture and early childhood, elementary/middle level education (Wisconsin Department of Public Instruction 2010). 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”(Wisconsin Department of Public Instruction 1983) .

Later, the Wisconsin legislature moved to provide even more comprehensive support for environmental education in Wisconsin schools. Act 299, the Wisconsin Environmental Education Act, created (Wisconsin Legislature 1990, Appendix C):

- 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”.

- 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 leadership in the field of environmental education for all Wisconsin citizens. Relative to K-12 schools, the Board is required 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.”

For twenty years these organizations have worked with teachers, schools, districts, the Wisconsin Department of Public Instruction, and other stakeholders to ensure effective environmental education programming is available to all Wisconsin students. While research has shown that existing EE mandates for pre-service teacher preparation and school district EE curriculum plans have not been fully implemented in all cases, analysis has demonstrated that “when the mandates are followed, the impacts of their directives can have positive effects on teachers’ EE classroom practices” (Lane and Wilke 1996).

Measurement of environmental literacy in Wisconsin K-12 Schools

The only comprehensive studies ever conducted to assess environmental literacy in Wisconsin schools were compiled in a 1997 report (Champeau). Researchers at the Wisconsin Center for Environmental Education surveyed 3,500 fifth grade and high school students, 900 teachers, and 1,100 school administrators to discover what they knew, felt and did about the environment. The final report, entitled “Environmental Education in Wisconsin: Are We Walking the Talk?” found that there is a high level of support for the inclusion of environmental education in schools while levels of student environmental literacy were relatively low among audiences surveyed (Champeau, 1997).

Results of the student portion of the study indicated their “ecological knowledge base was lower than the standards established by relevant educators [and] [s]tudents’ personal behaviors or actions related to environmental concerns were inconsistent and seemingly without strong commitment” (Champeau, 1997, p. 11). Researchers found students were more likely to make decisions about environmental issues and actions based on how they felt rather than based on knowledge (Champeau, 1997).

The study also measured teachers’ attitudes towards teaching about the environment. A majority of teachers supported the inclusion of environmental education as a required part of pre-service teacher education and as a party of school curriculum. “They reported that districts could substantially improve EE by developing, improving, or operationalizing EE curriculum plans...Indications were that the amount of EE offered

by a teacher increased relative to the availability of an EE plan in their district and relative to the amount of personal EE training.” (Champeau, 1997, p. 19)

Finally, the study examined the role of school administrators in supporting environmental education in schools. Like the teachers and students that were surveyed, a majority school administrators felt it was important to include environmental education as a regular part of school curriculum. They also felt “...school districts should be required to develop and implement environmental education plans. However, approximately one third felt they did not have the knowledge or background to feel comfortable promoting environmental education.” Administrators did report taking action to support EE in schools; yet these actions tended to be limited to verbal support rather than financial support. (Champeau, 1997, p. 27)

Ultimately, the WCEE report demonstrated a high level of support for environmental education in school among teachers and students; yet, the study also found relatively low levels of student environmental literacy, as well as low levels of teacher preparation in EE and district curriculum planning in EE. Likewise, school administrators tend to support the inclusion of environmental education in schools, but do not allocate funds or personnel to ensure the success of these programs.

Comprehensive research to assess student environmental literacy in Wisconsin schools has not taken place since the 1997 report. Access to students to conduct this depth of research has been significantly limited since that time. Also, the costs and time associated with replicating this study have served as a barrier.

History of planning for environmental education and literacy in Wisconsin

For nearly as long as Wisconsin has required environmental education (or formerly, conservation education) in K-12 schools, leaders have worked to coordinate and plan for the success of these efforts. In 1945, a decade after the 1935 requirement that teachers receive “adequate instruction in the conservation of natural resources,” representatives of high schools, teacher colleges, the University of Wisconsin, Department of Public Instruction, Wisconsin Conservation Department, and US Forest Service met to plan for the future of conservation education in Wisconsin (Wisconsin Association for EE 2011).

In 1972, Governor Patrick Lucey issued Executive Order Number 44 to create the Wisconsin Environmental Education Council. Among other duties, the Council had a charge to create a state plan for environmental education (Wisconsin EE Council 1974, p. 19). The resulting report, “Environmental Education in Wisconsin: A Foundation for Conserving Environmental Quality,” was Wisconsin’s first comprehensive statewide strategic plan for environmental education. It outlined a systematic effort to improve and expand environmental education opportunities for all segments of Wisconsin society, including but not limited to K-12 schools (Wisconsin EE Council 1974).

The 1974 Plan explains, “[t]he purpose of environmental education planning in Wisconsin is to assure that adequate, effective programs are provided for the state’s residents to become aware of such challenges, to analyze the alternative means to meet them and to become skilled and motivated to achieve solutions” (Wisconsin EE

Council 1974, p. 1). The plan includes six main priorities, suggested activities to be completed by various sectors, and a list of critical environmental issues.

In 1994, shortly after its creation, the Wisconsin Environmental Education Board initiated its first statewide strategic planning process that included a stakeholder survey, focus groups, and a summit. The Wisconsin Environmental Education Strategic Plan (WEESP) identified three priority issues and ten action plans meant to address the priority issues. Again, implementation of environmental education in K-12 schools remained a central priority. (Davenport 1998)

In 2000, the WEEB again sought input from stakeholders to develop an updated strategic plan. The plan, entitled “EE 2005: A Plan for Advancing Environmental Education in Wisconsin,” brought together stakeholders from around Wisconsin to identify priorities and objectives that addressed the environmental education needs of various audiences at that time. The plan, released in 2000, again laid out six priorities, suggested objectives for how to achieve those priorities, and identified stakeholders that should be involved in implementing each priority. The first priority of this plan was to “[s]upport the implementation of environmental education in schools.” (Wisconsin Environmental Education Board 2000).

“EE 2010: A Plan for Advancing Environmental Education in Wisconsin” was published in 2006. This Plan outlined seven goals and various objectives meant to address the most current and pressing environmental education needs for all segments of society. Goal III of the plan called for the need to “support and enhance environmental education in PreK-12 schools.” (Wisconsin Environmental Education Board 2006, p. 8)

The 2010 Plan also specifically explained the rationale and process behind WEEB's periodic strategic planning efforts.

The WEEB strives to review and revise its state EE Plan on a five-year basis. It believes this timeframe allows the plan to maintain the state's strong EE heritage and respond to contemporary circumstances while at the same time establishing a proactive agenda. On a ten-year cycle (i.e., in 2010, 2020, etc.), the WEEB hopes to hold statewide summits as part of its planning process. The interim 5-year planning periods (i.e., in 2015, 2025, etc.) will utilize a process similar to that used for the EE 2010 document. (Wisconsin Environmental Education Board 2006)

Pursuant to the process described above, the WEEB initiated the next round of statewide strategic planning in 2009; this time in partnership with the Wisconsin Association for Environmental Education (WAEE) and the Wisconsin Environmental Education Foundation (WEEF). Again, the planning process included various methods of seeking input from stakeholders across Wisconsin. An advisory team representing diverse sectors met in the spring of 2011 to discuss and provide input on proposed goals and objectives. The work of this group was then presented to the WEEB, WEEF, and WAEE boards for further discussion and refinement. Ultimately, a managerial committee compiled the ideas and comments provided by all those that participated into a final document. "Wisconsin's Plan for Environmentally Literate and Sustainable Communities" is due to be released in November 2011. The plan includes five goals and various objectives meant to advance environmental literacy and sustainability. Objective 2.1 of calls for working with formal education at all levels to support education for environmental literacy and sustainability. This includes preK-12 schools, early childhood learning centers, and institutions of higher education. The preK-12 plan created as a result of this research project is embedded within this comprehensive state plan (WEEB and WEEF 2011).

Action Research and Collaborative Inquiry

This study followed a collaborative inquiry research design. Collaborative inquiry is a type of action research.

Action Research

Action research is a cyclical process of investigation that aims to bridge the divide between theory and practice. This type of research tests the ability of applied theories to produce practical outcomes in real life situations. “Action research is about working towards practical outcomes, and also about creating new forms of understanding since action without reflection and understanding is blind, just as theory without action is meaningless” (Reason and Bradbury 2001, p. 2).

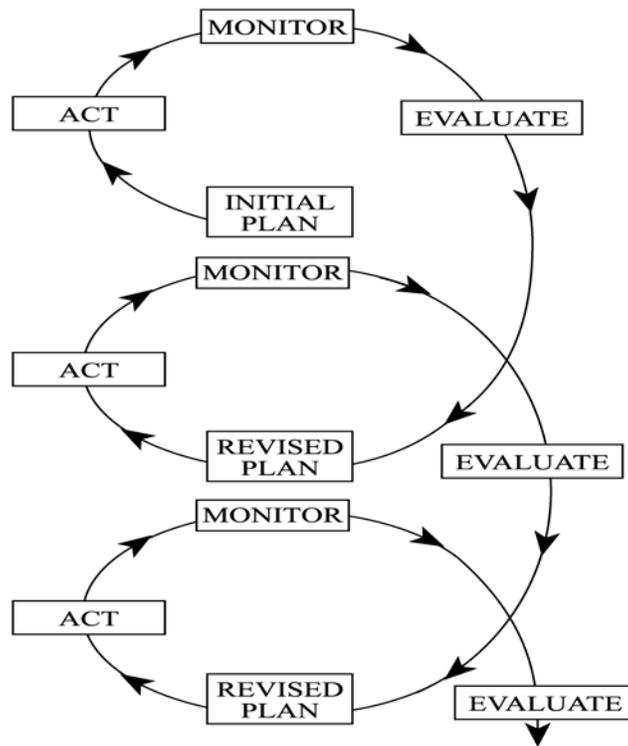
Elliott (1991) defines action research as “the Study of a social situation with a view to improving the quality of action within it” (p. 69). He goes on to explain:

“[Action research] aims to feed practical judgment in concrete situations, and the validity of the ‘theories’ or hypotheses it generates depends not so much on ‘scientific’ tests of truth, as on their usefulness in helping people to act more intelligently and skillfully. In action-research ‘theories’ are not validated independently and then applied to practice. They are validated through practice.”
(Elliott 1991, p. 69)

Action research typically follows a pattern that systematically moves through phases of planning, action, monitoring, and evaluation. This pattern is repeated in iterative cycles in an effort to move ever closer to producing intended results or new understanding.

Figure 1 illustrates the cycles of the action research approach developed by Kemmis, as cited in Fisher, Bennet-Levy, and Irwin (2003):

Figure 1: Action Research Cycle



Source: Kemmis (1983)

Action research is a popular strategy for use in a school setting. It allows for investigation, discussion, and reflection as a central part of the research process.

“It is a reflective process that allows for inquiry and discussion as components of the “research.” Often, action research is a collaborative activity among colleagues searching for solutions to everyday, real problems experienced in schools, or looking for ways to improve instruction and increase student achievement. Rather than dealing with the theoretical, action research allows practitioners to address those concerns that are closest to them, ones over which they can exhibit some influence and make change.” (Ferrance 2000)

Action research assumes new knowledge and understanding emerge in an ongoing cycle. It stems from the assumption that “highlights the ways in which educators are

partially correct, yet in continual need of revision, in their thoughts and actions” (Noffke and Stevenson 1995, p. 4)

Collaborative Inquiry

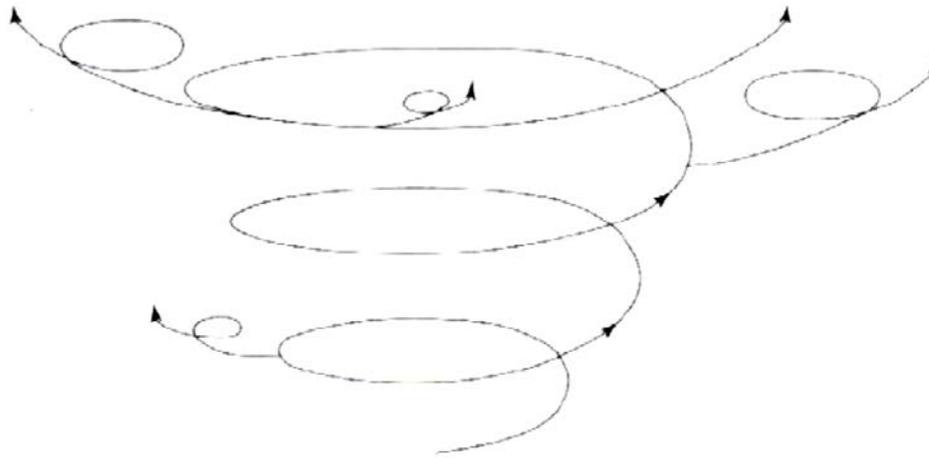
Collaborative inquiry, also known as cooperative inquiry, is a type of action research that conducts research “with” people rather than “on” people (Heron 1996). Rather than a single researcher, collaborative inquiry includes all participants as co-researchers in the process of investigation.

Collaborative inquiry can be defined as “the systematic examination through dialogue of a body of data and lived experience by researchers whose intentions include the construction of formal knowledge that can contribute to theory. Iterative cycles of dialogue within the group and actions taken by individuals outside the group create the opportunity for new data and life experience to enter the flow of group meaning-making continuously.” (Group for Collaborative Inquiry 1994, p. 58)

The cycle of collaborative inquiry builds on the action research cycle; however, allows for a more dynamic progression through the research process. Rather than a linear cycle through the planning, action, monitoring, and evaluation phases, collaborative inquiry can result in multiple and simultaneous research cycles created to pursue new information and emerging questions related to the core research topic.

Figure 2 illustrates what a collaborative inquiry cycle might look like:

Figure 2: Collaborative Inquiry Cycle



Source: McNiff, J. and Whitehead, J. (2002)

While the core of the action research cycle remains, new and related research cycles are created to address special topics that do not fit into the structure of the core topic. The primary research topic continues to be the central purpose driving research and discussion; however, related topics are explored in more depth as needed.

Collaborative inquiry does pose some challenges to the research group. Since all participants are considered co-researchers, all participants should share a common level of contribution and commitment to the research process (Group for Collaborative Inquiry 1994). For example, in this research project, while there was only one researcher responsible for completing a formal research project and report, all members of the group were involved in developing the group membership, formulating research questions, and engaging in dialogue and further research to address the questions that were identified.

Another potential challenge inherent in the design of collaborative inquiry research is that it frequently takes longer to implement. As such, it requires a high level of persistence and patience from all participants. This may pose problems for a research student or University faculty in particular, as they may be confined by established timelines for completion of such projects. (Reason and Bradbury 2001)

Still, this process was ideal for use in the development of a statewide strategic plan as it allowed for co-researchers to pursue investigation and problem-solving in a number of different areas at once. Collaborative inquiry also more accurately fits the reality of research related to developing a long-term statewide plan for schools. It allows for research and investigation into a topic where proposed solutions or treatments cannot necessarily be tested within the timeframe of the research project.

Summary

The importance of environmental education and literacy in PK-12 schools is supported by key international, national, and state organizations. In the United States, a national No Child Left Inside movement spurred the introduction of NCLI legislation that, if enacted, would encourage and support more systematic and comprehensive environmental education efforts across the country. While Wisconsin has a long history of promoting environmental education through strategic planning, legislation, and supporting institutions, the NCLI Act and its recommendation to create state environmental literacy plans spurred the state to initiate a new round of planning to specifically address the needs of PK-12 students. To develop this plan, a form of action

research known as collaborative inquiry was used. Collaborative inquiry allowed the researcher to engage a diverse group of “co-researchers” in a dynamic process of dialogue that allowed for multiple simultaneous investigations of a topic where solutions cannot be fully implemented and evaluated within the timeframe of the research process.

CHAPTER III: METHODS

Introduction

This chapter describes the process followed to conduct the research described in this report. An overview of the research design is provided, followed by a description of the collaborative inquiry participants, and an explanation of the treatment of each of the three subproblems.

The Problem

To develop a statewide strategic plan for advancing student environmental literacy in Wisconsin's prekindergarten through twelfth grade schools.

The Subproblems

1. What is needed to advance student environmental literacy?
2. Which strategies should be pursued to address identified needs related to developing student environmental literacy?
3. Who will pursue the strategies that are identified in the Plan?

Research Design

This study will follow a qualitative research design. The researcher will investigate the problem through a collaborative inquiry process that engages a variety of stakeholders in a systematic examination of the research question.

Methods of Achieving Validity

“Validity determines whether the research truly measures that which it was intended to measure or how truthful the research results are” (Joppe 2000, p.1). Validity is determined differently depending on the type of research being conducted. In qualitative research, the researcher aims to establish the quality or “trustworthiness” of research results through efforts to establish validity (Golafshani 2003). How a researcher achieves trustworthiness or validity in qualitative research is “a contingent construct, inescapably grounded in the processes and intentions of particular research methodologies and projects” (Winter, 2000, p.1).

For this research project, validity was addressed utilizing a variety of strategies. First and foremost, the research process will be described in sufficient detail for readers to be able to form their own interpretations of the data provided. Throughout the course of research, feedback was sought from a variety of sources, including but not limited to the graduate research committee, members of the Wisconsin No Child Left Inside Coalition, representatives of the organizations involved in the study, as well as other individuals considered authorities in the field of environmental education, strategic planning, education or fundraising.

Collaborative inquiry participants have also played a central role in achieving validity. As co-researchers, they have been continuously engaged in validating the record of responses the researcher developed throughout the course of investigation. Throughout the collaborative inquiry process, participants engaged in a reiterative process of revisiting, reviewing, and revising results in order to ensure the final plan was

both comprehensive and thorough. Other details, such as historical background and overall contextual setting, were also reviewed by research participants and other representatives of the organizations or constituencies to ensure accuracy and overall validity. Peer and expert reviewers were also utilized to ensure that interpretations are appropriate and conclusions are valid. The researcher had hoped extensive time would be allocated to statewide public review and comment on the Plan produced through this research; however due to established protocol related review of Department of Public Instruction documents which precluded such a review of this type of Plan, this broad public review was not possible.

Collaborative Inquiry Participants

Collaborative inquiry includes multiple participants as “co-researchers” in the process of investigation. Rather than a linear progression through the action research cycle, collaborative inquiry allows for multiple and simultaneous research cycles related to the core research topic.

Identifying participants in the collaborative inquiry group was as dynamic as the research process itself. The primary researcher began by recruiting participants from organizations that were identified as “core” to the question at hand. These participants were asked to serve as representatives of those organizations. They also helped to identify additional stakeholders that were invited to join the group.

Statewide environmental education organizations and the Wisconsin Department of Public Instruction were the first entities approached to participate. The Wisconsin Center for Environmental Education, as the sponsor of this research and the organization charged with providing leadership in K-12 education in the state, initiated the process. The Director of the Wisconsin Center for Environmental Education joined the researcher in approaching the President of the Wisconsin Environmental Education Foundation Board to request their support and participation in the effort to develop an environmental literacy plan for Wisconsin PK-12 schools. Upon acceptance, the two organizations agreed to partner in order to provide staff time to support facilitation and coordination of the planning effort. Once this partnership was established, the researcher contacted the Wisconsin Environmental Education Board and Wisconsin Association for Environmental Education to gain their support and involvement in the effort. Representatives of these organizations then requested a meeting with the incoming State Superintendent of the Department of Public Instruction, Tony Evers, in order to introduce him to the proposed No Child Left Inside legislation and request the Department's support and participation in the planning process. DPI involvement was essential as the national legislation requires state plans be adopted and submitted by the state education agency. At the meeting, State Superintendent Evers voiced his support for the planning effort and the group began to identify additional representation needed in the group, including the need for school teacher and administrator representatives. It was also agreed that the Wisconsin Center for Environmental Education would lead the planning process in consultation with the DPI, as the WCEE charter legislation, Act 299, already established their role in assisting the Department of

Public Instruction to assess needs related to environmental literacy (Appendix C). The State Superintendent also agreed to designate a high level staff person to participate in the effort in order to represent the DPI in the planning process.

At the initial meeting, representatives of these organizations identified additional organizations that should be included, in addition to potential candidates to represent teachers and school administrators. Representatives of the Milwaukee Public School System and the US EPA's Environmental Education Training and Partnership (EETAP) were added to the group shortly after. Meanwhile, other identified organizations and individuals were contacted to seek their participation in the process.

Steering committee

The planning group identified themselves as the Wisconsin No Child Left Inside Steering Committee (Appendix F). While the group began with representatives of the organizations mentioned above, new members were added periodically throughout the process as needs were identified and new contacts were made. For example, at one point in the planning process, a goal related to working with school boards to support environmental literacy programming in schools was identified. In order to inform the recommendations of that goal as well as the rest of the plan, the Wisconsin Association of School Boards was contacted to provide a representative to the collaborative inquiry group. Finally, in addition to existing group members identifying new participants, at times, the group was contacted by organizations that wanted to become involved.

The ability to grow and add participants to the collaborative inquiry group allowed the group to add new perspectives and resources to the effort as needed. Growth also

posed a challenge in terms of group dynamics, shared knowledge and understanding. New members had to be oriented to the process and past events and decisions. Existing members had to be open to addressing issues that had already been discussed and decided in order to incorporate new ideas and perspectives. And, the primary researcher had to manage a growing number of participants and perspectives in tracking the development of the project.

Table 1 shows the membership of the collaborative inquiry group during the initial phase of the research as compared to at the completion of the project:

Table 1: Growth in Collaborative Inquiry Participation

Organizations or Sectors Involved During Initial Research Phase (6/2009 – 9/2009)
<ul style="list-style-type: none"> • Department of Public Instruction • Milwaukee Public Schools • US EPA’s Environmental Education Training and Partnership • Wisconsin Association for Environmental Education • Wisconsin Center for Environmental Education • Wisconsin Department of Natural Resources • Wisconsin Environmental Education Board • Wisconsin Environmental Education Foundation
Organizations or Sectors added to research team above by Final Research Phase (9/2010-12/2010)
<ul style="list-style-type: none"> • Green Charter School Network • School District Administrators • School Teachers • University of Wisconsin – Extension, 4-H • Faculty from: <ul style="list-style-type: none"> ○ University of Wisconsin (UW) ○ UW – Eau Claire ○ UW – Oshkosh ○ UW—Platteville ○ UW—Stevens Point ○ And, Wisconsin Lutheran College • Wisconsin Association of School Boards

The Steering Committee met once per month via phone conference for approximately one year. There was also one face-to-face meeting of the Steering Committee towards the end of the process once the draft Plan was near completion.

Working groups

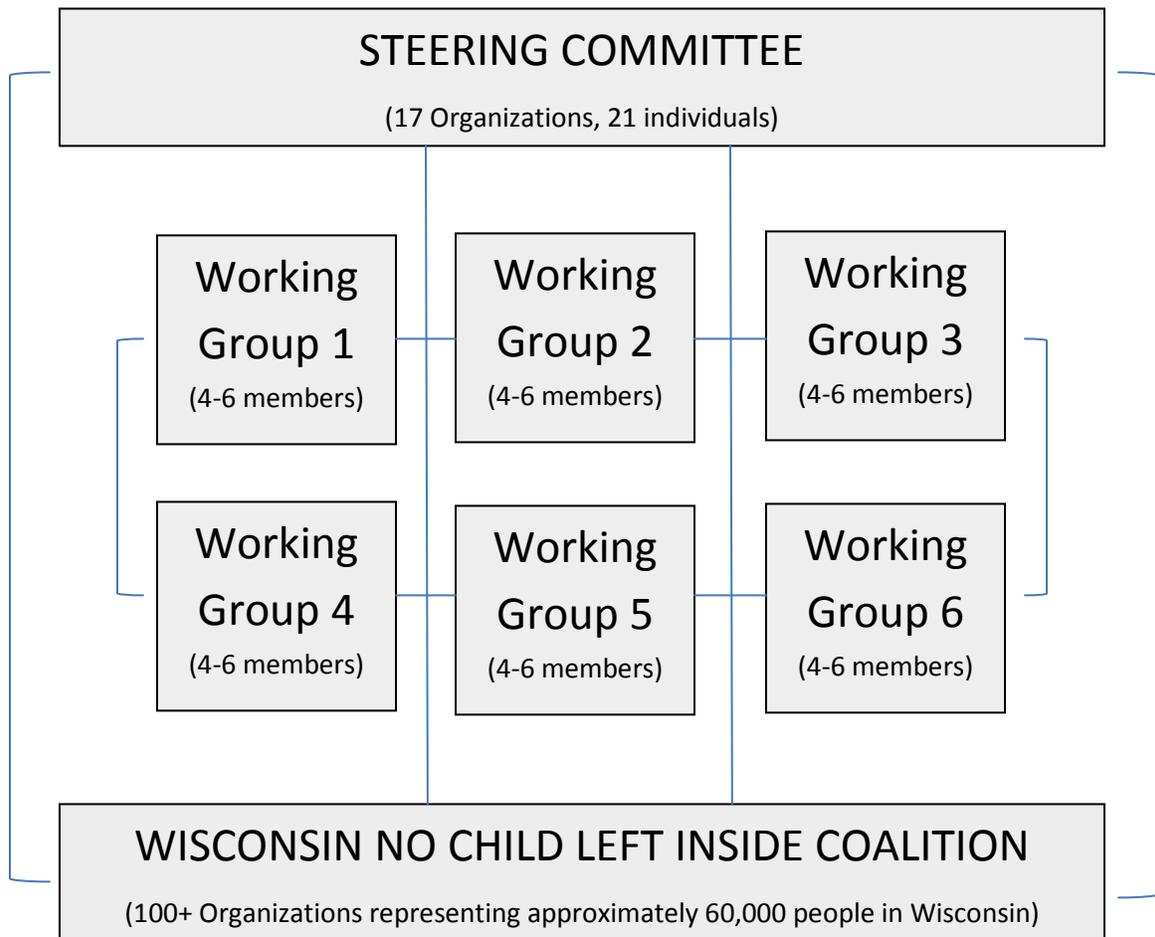
After the Steering Committee had settled upon the primary goals of the Plan, working groups were formed to develop recommendations for each goal. Steering Committee members served on the working groups as well as new participants that were invited to join the working groups in order to provide additional perspective and expertise. Working groups met once per month between each Steering Committee meeting until they felt recommendations for their goal was complete. Each month, a member of the working group shared their progress with the Steering Committee. The Steering Committee discussed the recommendations, offered additional suggestions, and posed questions to be taken back to the working groups.

Wisconsin No Child Left Inside Coalition

When a complete Plan draft was compiled, this draft was shared with the broader Wisconsin No Child Left Inside Coalition (Coalition) for review and additional feedback. The Coalition was made up of a diverse representation of Wisconsin residents from all sectors of society and included members of the Steering Committee and Working Groups. After feedback from Coalition members was collected and compiled, the Steering Committee and Working Group members then worked to incorporate those comments into the Plan.

The structure of the research participants thus included a Steering Committee, Working Groups, and the broader membership of the Wisconsin No Child Left Inside Coalition. Figure 3 illustrates this structure:

Figure 3: Structure of Research Participants



Ultimately, the Plan went through a final phase of revision by the Wisconsin Department of Public Instruction in order to align the format and language of the Plan with institutional norms (Department of Public Instruction 2011). This was necessary for

the Plan to receive final approval from the State Superintendent. The proposed No Child Left Inside legislation requires state plans be adopted and submitted by the state education agency. This final stage of revision was not a part of this research study.

SUB-PROBLEM 1: What is needed to advance student environmental literacy?

The first step in creating a strategic plan to advance environmental literacy in Wisconsin schools is to better understand what is needed to help students become more environmentally literate. To do this, a needs assessment was conducted.

To understand the purpose of the needs assessment, it is important to distinguish between the Plan's purpose and its target audience. The purpose of the Plan is to advance PK-12 student environmental literacy. The target audiences for the Plan are those organizations and individuals that can contribute to increasing the environmental literacy of PK-12 students in Wisconsin. Thus the purpose of the needs assessment was to learn what these organizations and individuals thought was needed to increase student environmental literacy.

The researcher clarified the purpose of the needs assessment in cooperation with collaborative inquiry participants, including the audience whose needs were to be assessed. Ultimately, collaborative inquiry participants were asked to work with their organizations or constituencies to identify the unmet or not fully met environmental literacy needs of the PK-12 audiences they represent or serve. They were also asked to identify key priorities of the organizations they represent relative to advancing student environmental literacy. Organizational priorities were reported in order to help all participants better understand the scope of work of participating organizations they may

not be familiar with as well as to lay the groundwork for identifying the roles each organization could potentially play in the Plan’s implementation. Figure 4 illustrates the form used to collect needs assessment data.

Figure 4: Organization Priorities and Audience Needs

Organization Priorities and Audience Needs relative to advancing environmental literacy		
Organization	Organization Priorities	Audience (unmet/ not fully met) needs
Department of Public Instruction		
Wisconsin Association for Environmental Education		
Wisconsin Center for Environmental Education		
Wisconsin Department of Natural Resources		
Wisconsin Environmental Education Board		
Wisconsin Environmental Education Foundation		
Milwaukee Public Schools		
Environmental Education Training and Partnership		

Collaborative inquiry participants posed the question, “What are the unmet or not fully met needs that, if addressed, would result in increased student environmental literacy in Wisconsin?”

This indirect assessment utilizes representatives of various groups, in this case collaborative inquiry participants and members of the organizations they represent, to communicate the needs and perspectives of the audiences they serve. An alternative would have been a direct assessment to survey individual students, teachers, and school decision-makers about their own needs relative to the development of environmental literacy. Direct assessment would have required a significantly larger group of participants. In order to understand the perspective on just one sector or organization, dozens of individuals would need to be surveyed, if not hundreds or thousands. Multiply that number by the number of various groups or perspectives needed to create a truly statewide Plan, and the participants needed reach well into the thousands. Instead, each member of the collaborative inquiry group represented an organization or stakeholder group. The advantage of the indirect assessment approach is its potential for in-depth communication among individuals and the opportunity to come to group consensus. “The resulting output is more of a collective product and less reflective of the needs of any one individual” (McCawley 2009).

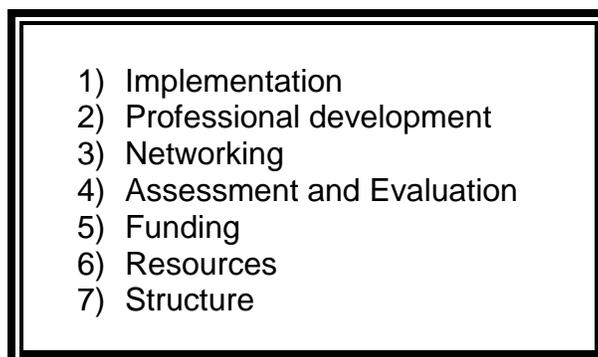
The needs assessment question was designed to be open-ended in order to allow for the widest array of possible responses. In this stage of the planning process, the goal was to begin to sketch a more comprehensive picture of what would be needed to impact levels of PK-12 student environmental literacy in Wisconsin.

The results of the needs assessment were summarized, categorized, and shared with collaborative inquiry group participants. The participants then reviewed and discussed the results to ensure they were complete and that all participants understood each item listed.

SUBPROBLEM 2: Which strategies should be pursued to address identified needs related to developing student environmental literacy?

Collaborative inquiry participants used the needs assessment data, other research, and their lived experience to inform discussions of potential strategies to address the identified needs. The Steering Committee developed goal statements, then discussed, revised, and eventually finalized statements for six main goals. The goals roughly mirrored the seven categories identified in the needs assessment. Figure 5 lists the seven categories of needs for environmental literacy.

Figure 5: Seven categories of needs for environmental literacy

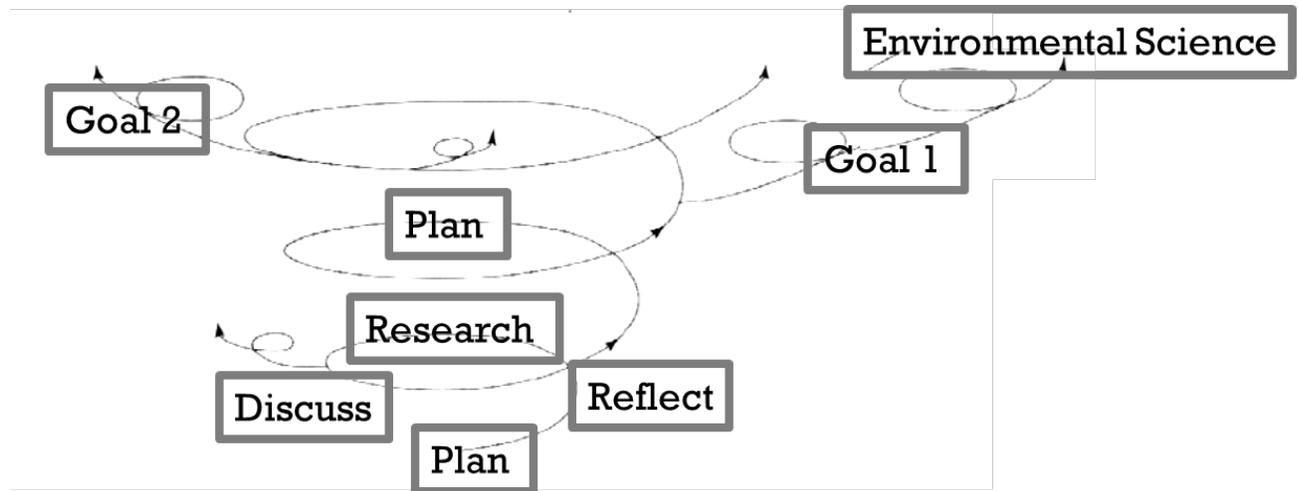
- 
- 1) Implementation
 - 2) Professional development
 - 3) Networking
 - 4) Assessment and Evaluation
 - 5) Funding
 - 6) Resources
 - 7) Structure

Throughout the process of creating goal statements, specific strategies or action steps also emerged and frequently captured discussion time. These ideas were recorded and fit under goal statements whenever possible.

After goals were identified, Working Groups were convened to address subproblem two. These groups further refined goal statements and developed recommendations for the strategies that should be pursued in order to progress towards the identified goals.

Working groups met once between the larger collaborative inquiry group's monthly meetings and results of those meetings were summarized and discussed at the next Steering Committee meeting. One or more Steering Committee participant served on each working group. The rest of working group members were made up of other individuals, invited to join the collaborative inquiry process due to their expertise or perspective. For instance, since one of the goal statements related to working with school boards to increase their awareness and support for environmental literacy, the researcher sought a member of the Wisconsin Association of School Boards to serve on the working group related to that goal. Figure 6 illustrates the collaborative inquiry cycle used for this research.

Figure 6: Illustration of Collaborative Inquiry Cycle used for this project



Working groups met for approximately ninety minutes once per month via phone conference. The primary researcher attended most meetings to help answer questions and ensure consistency between the working groups. Whenever possible, other participants were encourage to lead discussions, record notes, and make changes to the draft goals and actions. Meeting notes were available on Google Docs for all to review, discuss, and edit in real time.

A member of each working group reported progress and questions to the next Steering Committee meeting. Committee members were able to provide feedback, ask questions, or suggest additional recommendations that would be taken back to the next working group meeting and fed into their process.

Eventually, working groups came to consensus that their recommendations were complete. It took various amounts of time for each group to reach this point, ranging from five to nine working group meetings.

SUBPROBLEM 3: Who will pursue the strategies that are identified in the Plan?

To determine who would participate in implementing the strategies identified in the Plan, Steering Committee members determined each organization represented should identify their potential level of involvement in each goal and strategy. Steering Committee members worked with their organizations or constituencies to identify areas they could potentially be involved with implementing. Participants were asked to rate their expected level of involvement in each recommended action as “very involved”, “somewhat involved”, or “not involved at all.” The researcher compiled and shared the results of this process with all participants. Figure 7 illustrates the form used to collect implementation data.

Figure 7: Implementation Matrix

Organization:			
	Very Involved	Somewhat Involved	Not Involved At All
Goal #			
Strategy			
Strategy			
Strategy			

It became clear to the group when addressing this question, that it would be a challenge to get firm commitments from many of the organizations involved. While each organization had made a commitment to the planning process and helping to implement the plan, many were hesitant to make firm commitments to be responsible for specific goals or strategies. Instead, participants and organizations were asked to complete the exercise based on their general expectations rather than to express firm commitments. This allowed the collaborative inquiry group to get a sense for which organizations might be willing to participate and avoided barriers that might have prevented some from participating in the exercise.

While this difficulty in addressing the critical question of who will carry out implementation of the Plan could pose serious problems for the ultimate value of the Plan, there were several organizations that were able to make firm commitments to playing leadership roles in implementation. And, all participants agreed that the broad scope of the Plan required collaboration by many organizations and individuals in the state; many more than were or could be represented in the Steering Committee and Working Groups.

CHAPTER IV: RESULTS

Introduction

The purpose of this study was to develop a statewide strategic plan for advancing student environmental literacy in Wisconsin's prekindergarten through twelfth grade schools. A collaborative inquiry group was formed to identify needs and strategies relative to advancing student environmental literacy in PK-12 schools. The collaborative inquiry group consisted of a Steering Committee and Working Groups. Results were derived through a continuous process of review, research, discussion, and planning. Results were validated through review and comment by members of the Steering Committee, Working Groups, and the Wisconsin No Child Left Inside Coalition.

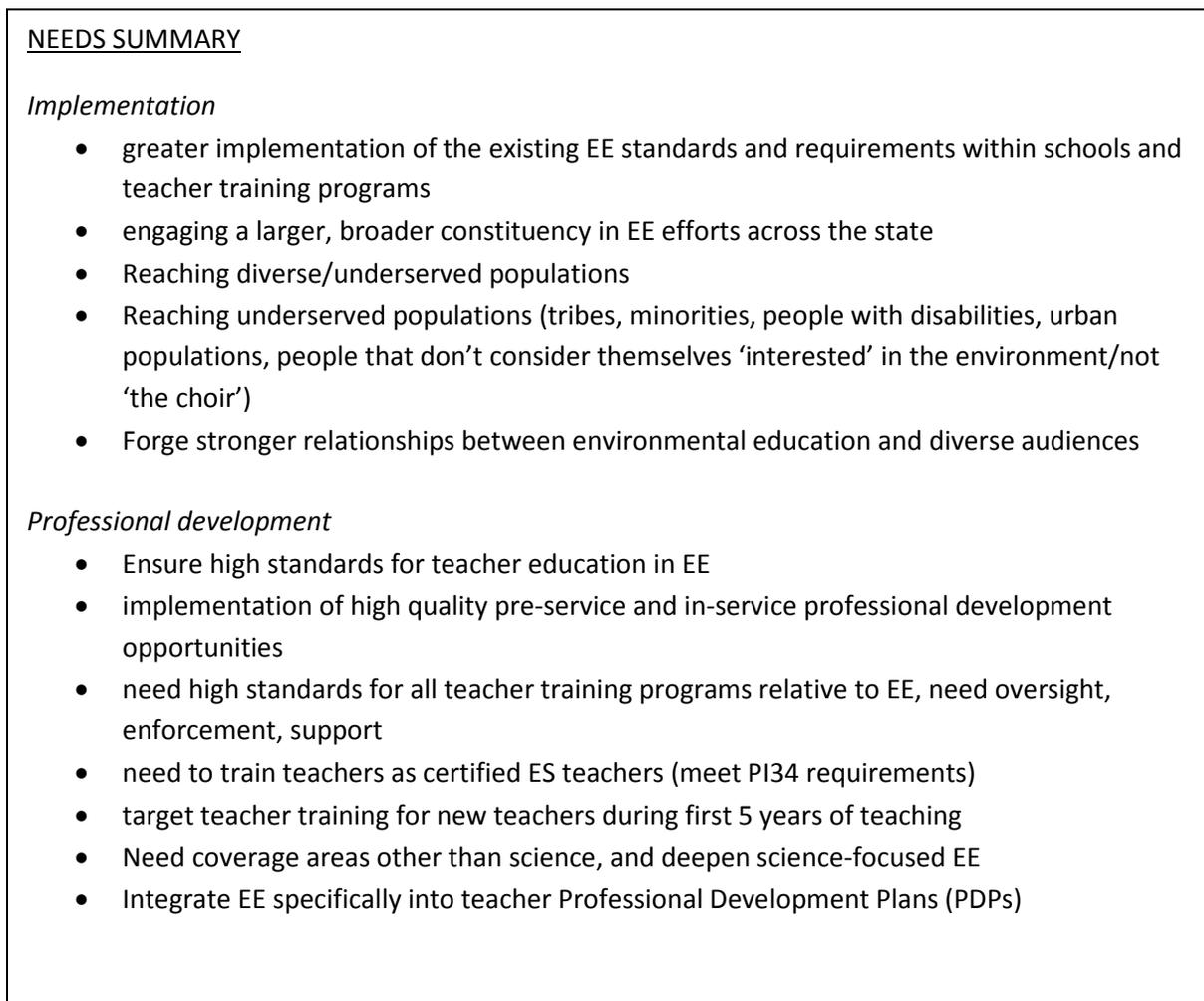
The results of this research project are presented in this chapter. Results are reported in the order of the three subproblems.

SUB-PROBLEM 1: What is needed to advance student environmental literacy?

In order to better understand what is needed to help PK-12 students become more environmentally literate, collaborative inquiry participants engaged in a needs assessment. Each of the members worked with the organizations they represented to identify the needs of the audiences they served relative to the development of PK-12 student environmental literacy. They also identified their organization's priorities as they relate to the development of PK-12 student environmental literacy. (Appendix G)

Collaborative inquiry participants posed the question, “What are the unmet or not fully met needs that, if addressed, would result in increased student environmental literacy in Wisconsin?” Results were compiled, categorized, and shared among the Steering Committee collaborative research team. Additional ideas were added throughout the discussion that followed. A summary of needs assessment results can be found in figure 8.

Figure 8: Needs assessment summary



Networking

- More affordable and/or regional networking opportunities
- Readily available funding for networking and recognition/awards
- Stronger networks amongst EEers
- Easy access to EE job opportunities
- Coordination/cooperation with other EE providers in Wisconsin
- State participation/alliance in national strategies/efforts to advance environmental literacy

Assessment/Evaluation

- Stronger evaluation of EE programs/educators and their effectiveness
- assessing student and adult environmental literacy
- Strong partnership with the DPI in conducting Statewide environmental literacy assessment, and in ensuring EE standards are appropriately addressed within Wisconsin schools
- Legislative mandate for environmental literacy for all residents via an environmental report card (similar to MN)
- University based research on environmental education effectiveness
- Assess current environmental literacy (whatever that is defined to be) of Wisconsin students. What is their understanding of Wisconsin natural resources and environmental issues?
- Assessment of previous environmental education efforts--Did schools use their environmental education curriculum plan? Identify where/how ee in schools/early childhood centers is currently taking place. If it's not happening, find out why. Identify the people/places/resources teachers are using to meet their environmental education goals. Once these questions are answered, the need would be to...
- Statewide environmental literacy assessment (know where we are to help prioritize where to invest, legitimizes need)

Funding

- funding, staff, and support to help teachers, schools and/or districts get the help they need to implement EE standards, etc at a greater scale (i.e. what is stated/intended in legislative mandates) (ex) transportation funds, scholarships, school incentives, etc
- Long term stable funding for environmental education without restrictions (today much of the money goes to forestry related projects.)
- Provide resources and support to teachers for environmental education training.
- Funding for effective and routine statewide strategic planning to develop and measure progress toward environmental education goals and objectives
- Funding for newly emerging priorities for environmental education (i.e. water education, climate change, food systems, biodiversity, etc)
- Strengthen WEEB's administrative capacity (which might help the strategic planning efforts, etc)

Resources

- Modernization of DPI Guide to Curriculum Planning In EE
- Environmental Literacy/Sustainability / holistic umbrella to help to connect varied efforts

Structure

- State statues supporting EE and environmental educators
- A consultant at DPI to help ensure the plan is implemented and, again, schools and teachers have access to funds and support
- examining the existing EE standards to identify any needed updates
- Comprehensive environmental literacy standards for the state of Wisconsin (not just preK-12)
- Effective communications strategy for promote the need for environmental education for all WI citizens
- A Wisconsin version of the Minnesota Green Print (statewide environmental literacy plan)
- Clearly defined, standards-based Environmental Literacy Plan for the formal education sector.
- Strong State programs to reinforce the EETAP consortium’s training and support by helping to provide local relevance, resources, and support services.
- Funding and support for educators to participate in training, implementation and evaluation of EE programs
- Require ES for at least one semester for all students – requires trained and certified teachers
- Include EE and environmental literacy in the priorities for development of a new assessment system in Wisconsin
- Holistic approach that connects various EE efforts and provides strong educational foundation
- Environmental literacy curricula
- Strong connections with non-formal EE sites and providers

The data from the needs assessment was not further analyzed or manipulated as the collaborative inquiry process was designed to develop each component of the Plan. Rather than using a qualitative analysis strategy such as coding to further examine research results, the collaborative inquiry process was designed to examine and analyze data and produce a final interpretation of results.

SUBPROBLEM 2: Which strategies should be pursued to address identified needs related to developing student environmental literacy?

The Steering Committee used the results of the needs assessment to identify strategies to develop student environmental literacy. Strategies were made up of a goals, objectives, and possible actions or steps to accomplishment. Goals were based roughly on the categories identified in the needs assessment. Table 2 identifies the goals identified for the environmental literacy plan.

Table 2: Environmental Literacy Plan Goals

Goal	Environmental Literacy Plan Goal
1	Ensure all students graduate environmentally literate.
2	Provide support to teachers to assist with integrating environmental education in all grade levels and across all subject areas.
3	Involve school boards, administrators, curriculum coordinators, CESAs and other relevant decision-makers to support integration of environmental education in all grade levels and across all subject areas.
4	Provide increased guidance and support to pre-service teachers and teacher preparation programs.
5	Create, enhance, and promote the sustainable development and use of sites that advance preK-12 student environmental literacy (school buildings, grounds, facilities, and operations as well as off-site or non-formal locations).
6	Regularly collect assessment data and conduct research that demonstrates the success/effectiveness of environmental education efforts and identifies areas for future improvement.

After goals were developed and refined by the Steering Committee, members established Working Groups to develop the objectives and sample action items for each goal. At least one Steering Committee member served on each Working Group. Additional participants were recruited to join Working Groups in order to provide

additional expertise and perspective. For example, school board members joined the Goal Three Working Group related to working with school boards and other decision-makers to support the integration of environmental education in schools. Researchers from various institutions of higher education joined the Goal Six working group related to environmental literacy assessment.

Each Working Group met once per month via phone conference and provided a report and update on their progress at monthly Steering Committee meetings. Steering Committee members discussed each Working Group's recommendations as they were developed and reported monthly. The Steering Committee provided additional ideas, recommendations, and questions for Working Groups to consider. Each Working Group met for as long as it took for the group to feel the recommendations outlined in their goal was comprehensive and complete. Tables 3 through 8 reflect the goals, objectives, and possible action steps developed for Wisconsin's environmental literacy plan.

Table 3: Goal One Working Group results

GOAL 1: ENSURE ALL STUDENTS GRADUATE ENVIRONMENTALLY LITERATE.
Objective 1.1: Define what an Environmentally Literate high school graduate looks like in Wisconsin (measurable).
<i>Possible actions/steps to accomplishment:</i>
<ul style="list-style-type: none"> • Further define what an environmentally literate graduate should know and be able to do. Work with DPI, EE specialists, and other appropriate stakeholders to do this. • Review and update <i>Wisconsin Model Academic Standards for Environmental Education</i> relative to: Sustainability/holistic outcomes, <i>NAAEE Guidelines for Excellence</i>, National Common Core Standards, Wisconsin Model Academic Standards for all other subject areas.
Objective 1.2: Pursue development of a semester environmental science course or credit requirement.
<i>Possible actions/steps to accomplishment:</i>
<ul style="list-style-type: none"> • Work with DPI, teachers, EE specialist/stakeholders and WI legislators to develop a plan for implementation of a semester environmental science course/credit requirement (licensure, support, etc). • Integrate STEM (science, technology, engineering, and math) strategies into Environmental Science course. • Ensure Environmental Science course correlates to objective 1.1 (standards).
Objective 1.3: Continue to support integration of environmental education into the curriculum of all grade levels and subject areas.
<i>Possible actions/steps to accomplishment:</i>
<ul style="list-style-type: none"> • Use the updated <i>Wisconsin Model Academic Standards for EE</i> to focus work with the DPI to incorporate environmental literacy proficiency standards within the social studies, science, language arts, mathematics, and other model academic standards for K-12 students. • Provide examples/models of exemplary EE curricula in all grade levels and subject areas. • Create model scope and sequence for integration of EE into other subject areas. • Offer low cost/ no cost training for teachers to gain practice in integrating EE into their subject area. • Provide a tool kit to overcome barriers to getting kids outdoors. Include model policies, transportation funding sources, models for how to learn outdoors in any class, etc. • Provide guidance on how to use the DPI curriculum mapping tool to assist with integrating environmental education into all subject areas. • Provide guidance on how environmental science courses provide opportunity to integrate other sciences.
Objective 1.4: Encourage schools and districts to develop and implement a comprehensive environmental literacy plan (ELP) tailored to their specific location, goals and circumstances.
<i>Possible actions/steps to accomplishment:</i>
<ul style="list-style-type: none"> • Develop guide for schools to assist them in developing their own environmental literacy plan (related to both process and content). Include a variety of model plans. • Offer trainings that help ELP planners understand and move through the process of developing their plan (webinars, workshops, consulting, etc.). • Provide networking opportunities for schools to teach and learn from each other. • Share success stories/best practices from schools/districts that are successfully integrating EE. • Increase awareness of networks and resources so schools are aware of all the support available to help them implement their plan. • Provide professional development for school staff and/or those that support schools to become proficient in supporting the development and implementation of school ELPs. • Develop model policies that reinforce and support plan implementation (or that planners should simply be aware of). • Develop complimentary grants program (like WEEB School Forest grants model) that provides funds to plan, implement, and maintain school/district ELPs. • See <i>Objective 3.2</i> for additional action steps to support school/district ELPs.

Objective 1.5: Strengthen students' connection to their local environment and nature through outdoor learning, play and adventure opportunities during and after the school day.
<i>Possible actions/steps to accomplishment:</i>
<ul style="list-style-type: none"> • Provide examples/models of exemplary outdoor opportunities that contribute to the development of environmental literacy (e.g., field work, service-learning, unstructured play, adventure, after-school programs, etc.).
<ul style="list-style-type: none"> • Provide examples/models of exemplary outdoor opportunities that contribute to the development of a relationship with the natural world.
<ul style="list-style-type: none"> • Encourage school sponsored outdoor activities to involve parent organizations, families, service groups, and community members.
Objective 1.6: Pursue strategies to engage student populations who are underserved by EE.
<i>Possible actions/steps to accomplishment:</i>
<ul style="list-style-type: none"> • Conduct an inventory to identify who underserved student populations are.
<ul style="list-style-type: none"> • Develop and implement a plan to address these needs.
<ul style="list-style-type: none"> • Ensure students have access to integrated environmental education courses, environmental science courses, outdoor learning opportunities, etc.
Objective 1.7: Identify and develop funding strategies for supporting the objectives and activities within this goal.
<i>Possible actions/steps to accomplishment:</i>
<ul style="list-style-type: none"> • Identify no cost/ low cost opportunities that don't need money (and publicize their availability).
<ul style="list-style-type: none"> • Encourage districts to establish policies that enable individual schools to determine how to reinvest savings from reduced energy costs, waste disposal and/or other conservation initiatives. <ul style="list-style-type: none"> ○ Work with WI Association of School Boards to develop and share model policy
<ul style="list-style-type: none"> • Provide guidance for how to use current budgets to support environmental education and literacy while continuing to meet other existing priorities.
<ul style="list-style-type: none"> • Create a Wisconsin based grants program to support school environmental literacy planning.
<ul style="list-style-type: none"> • Assist schools in locating and applying for other related grant opportunities. <ul style="list-style-type: none"> ○ Publicize grant opportunities on EEinWisconsin.org, DPI website, and other appropriate sites. ○ Establish or enhance grant information centers located at public libraries ○ Encourage CESAs and other supporting organizations to assist schools with grant writing.
<ul style="list-style-type: none"> • Create fund to support environmental science courses. Funds to develop courses, purchase books/resources, license or recruit licensed teachers, continue to support ongoing professional development).
<ul style="list-style-type: none"> • Encourage the development of statewide environmental literacy assessment and research strategies that offset the need for schools to each develop their own system.
<ul style="list-style-type: none"> • Create a fund to ensure the availability and safety of outdoor play areas.

Table 4: Goal Two Working Group results

GOAL 2: PROVIDE SUPPORT TO TEACHERS AND OTHER EE PROVIDERS TO ASSIST WITH INTEGRATING ENVIRONMENTAL EDUCATION IN ALL GRADE LEVELS AND ACROSS ALL SUBJECT AREAS.
Objective 2.1: Provide professional development for teachers that enhances their:
<ul style="list-style-type: none"> • own environmental literacy • awareness of, and ability to integrate, <i>Wisconsin Model Academic Standards for Environmental Education</i> into curricula • ability to identify and utilize appropriate environmental education resource materials • ability to incorporate diverse environmental education teaching strategies <ul style="list-style-type: none"> ○ that facilitate integration of environmental education into all grade levels and all subject areas ○ that enable select educators to provide environmental science and/or environmental education capstone course(s) • ability to provide authentic environmental education assessment • ability to contribute to the district's environmental literacy plan and/or environmental curriculum planning initiatives
<i>Possible actions/steps to accomplishment:</i>
<ul style="list-style-type: none"> • Survey Wisconsin teachers to determine their professional development needs. • Convene a steering committee to review the professional development needs identified by teachers in the survey and determine priorities and responses. <ul style="list-style-type: none"> ○ 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. • Communicate the identified professional development priorities to formal (e.g., colleges and universities) and non-formal (e.g., nature centers and state agencies) environmental education professional development service providers. • Explore the option of instituting a culminating assessment or series of culminating assessments that would need to be successfully completed in order to be certified to teach at various levels and within various subject areas.
Objective 2.2: Develop, promote, disseminate and assess environmental education resources.
<i>Possible actions/steps to accomplishment:</i>
<ul style="list-style-type: none"> • Develop resources for teachers to enhance their understanding of how outdoor learning and environmental education can support learning the standards and benchmarks in all subject areas. For example: <ul style="list-style-type: none"> ○ Modernize <i>A Guide to Curriculum Planning in Environmental Education</i> and make it available on-line ○ Create a guide to professional EE development. ○ Share sample professional development plans (PDPs), assessments, funding strategies, etc onto EEinWisconsin.org, DPI website, and other appropriate locations. • Develop resources for environmental education providers to enhance understanding of how outdoor learning can best support and enhance environmental literacy in preK-12 education. • Review the National Council for the Accreditation of Teacher Education (NCATE) process and other relevant accrediting programs to determine and communicate what the expectations for teacher preparation programs are as they relate to environmental education.
Objective 2.3: Pursue strategies to engage teacher populations who are underserved by EE.
<i>Possible actions/steps to accomplishment:</i>
<ul style="list-style-type: none"> • Identify who underserved teacher populations are. • Develop and implement a plan to address needs (e.g., identify and share best practices, etc.)

Objective 2.4: Provide services and resources that encourage and motivate teachers to incorporate environmental education into their personal professional development plans.
<i>Possible actions/steps to accomplishment:</i>
<ul style="list-style-type: none"> • Examine how professional development programs administered through colleges and universities incorporate the professional competencies identified by NAAEE. • Delineate expected competencies for individuals as they 1) complete a pre-service program and are certified to teach, and 2) acquire additional knowledge and skills via professional development. <ul style="list-style-type: none"> ○ Create and distribute sample professional development plans that incorporate EE as a goal ○ Examine the creation of various EE certificate programs (different levels and topic areas).
Objective 2.5: Identify and develop funding strategies for supporting the objectives and activities within this goal.
<i>Possible actions/steps to accomplishment:</i>
<ul style="list-style-type: none"> • Explore best use of existing resources (evaluate what we are currently doing, reallocate as appropriate). • Assemble a financial resource list of all available sources of funding for EE professional development (e.g., WEEB, foundations, etc). • Explore grant program and other funding incentives. • Tie EE professional development to other state initiatives/priorities (e.g., STEM, special education, etc.). • Access NCLI Act funds when they become available.

Table 5: Goal Three Working Group results

GOAL 3: INVOLVE SCHOOL BOARDS, ADMINISTRATORS, CURRICULUM COORDINATORS, CESAS, AND OTHER RELEVANT DECISION-MAKERS TO SUPPORT THE INTEGRATION OF ENVIRONMENTAL EDUCATION IN ALL GRADE LEVELS AND ACROSS ALL SUBJECT AREAS.
Objective 3.1: Promote and build ongoing support for environmental education and literacy among school boards, administrators, etc. (including outdoor learning, green school facilities, grounds, school habitat programs, etc.)
<i>Possible actions/steps to accomplishment:</i>
<ul style="list-style-type: none"> • Create an ongoing communication network to connect environmental educators with school decision-makers and community partners. The network would help to: <ul style="list-style-type: none"> ○ Share and find ideas and resources ○ Develop partnerships with community groups that are tied to the environment. ○ Provide specialized support for smaller districts that do not have as much local access to supporting community groups. • Compile and share compelling success stories. Include research data and evidence of success. • Encourage professional environmental educators to partner with school board members and/or administrators to present at the annual WASB/WASDA conference, regional meetings, CESAs, etc. • Create 30-second 'elevator speech' explaining why developing environmental literacy at school is important. Share this speech with EE community so we all can all communicate clearly. • Encourage informational board reports about existing or desired environmental education programs and opportunities in their district and community. • Use technology to: <ul style="list-style-type: none"> ○ Inform administrators about environmental literacy and resources available (especially locally). ○ Virtually take students to where they cannot normally go (e.g., link to polar researchers, space station, etc). ○ Connect to existing applications - social networking, EEinWisconsin.org, etc. ○ Create a resource database that pulls together research from Wisconsin and nationally that demonstrates evidence of need. Make it easy to access and understand this information

Objective 3.2: Provide guidance and assistance with local school or district environmental literacy program planning.
<i>Possible actions/steps to accomplishment:</i>
<ul style="list-style-type: none"> • Provide incentives that engage interest and participation of school boards, administrators, etc. in environmental literacy planning.
<ul style="list-style-type: none"> • Identify best practices and provide models/examples of what others have done to provide leadership for their colleagues and communities in order to enhance environmental education initiatives.
<ul style="list-style-type: none"> • Provide guidance on integration and interdisciplinary nature of EE and outdoor learning. <ul style="list-style-type: none"> ○ E.g. Create credited course administrators can take to renew their administrator license.
<ul style="list-style-type: none"> • Provide seminar experience where school board members, administrators, and teachers join together for an intensive work day. They leave with a completed Environmental Literacy Plan (ELP) including the steps to implement and evaluate their plan. <ul style="list-style-type: none"> ○ Seminars could be done through many venues (e.g., CESAs, WASB, local nature centers, school forests, etc.)
<ul style="list-style-type: none"> ○ Provide template/guidelines for assessing progress towards goal of developing an ELP in order to help administrators evaluate if they are on the correct track to a good program. The guidelines can also provide ideas and specific examples to help: <ul style="list-style-type: none"> ▪ Develop or highlight curriculum around planning programming. ▪ Align with the standards and be age appropriate. ▪ Focus on big concepts with bulleted points. ▪ Incorporate general questions to help evaluate their programs. ▪ Introduce available tools (e.g., grants program, searchable online database of local and statewide resources, including outdoor learning sites, professional development, etc.).
<ul style="list-style-type: none"> • Share your school's plan as a resource for other districts
<ul style="list-style-type: none"> ○ Include in the design of the seminar experience a mechanism to easily share periodic progress reports: successes, challenges, and needs
<ul style="list-style-type: none"> • Provide a second seminar experience that focuses on monitoring implementation of a school ELP, making improvements to your ELP, and networking with other schools. <ul style="list-style-type: none"> ○ Prior to the seminar, create a template to help structure the conversation ○ Provide opportunity to build upon periodic progress reports: sharing successes and challenges. ○ Provide more time to address curriculum, indoor and outdoor learning sites, community partners, and other school ELP goals.
Objective 3.3: Provide opportunities for administrators, school board members, curriculum coordinators, etc. to develop their own environmental literacy.
<i>Possible actions/steps to accomplishment:</i>
<ul style="list-style-type: none"> • Partner with CESAs and higher education institutions to provide learning opportunities (credit or non-credit).
<ul style="list-style-type: none"> • Encourage environmental and outdoor education sites to create free, fun opportunities for school board members, administrators, and curriculum coordinators to experience outdoor instructional programs. <ul style="list-style-type: none"> ○ E.g., invite them and their families to hike an interpretive trail, visit a nature center, and participate in a program
<ul style="list-style-type: none"> • Encourage school boards to invite students, teachers, and administrators to showcase environmental education initiatives. <ul style="list-style-type: none"> ○ Establish and promote a 'poster contest' for schools to show off their EE efforts. Teachers, administrators, and students can pull information together to share with their school board. ○ At a statewide level, provide awards or recognition for making the effort to share EE stories with school boards and also for programs of excellence. Identify and collect success stories to share through statewide networks. ○ Host video presentations, conferences, and/or webinar presentations to showcase models which can be shared both in district and out-of-district. ○ Incorporate time for a "green note" (a brief, one minute or less, idea on how individuals can enhance environmental literacy and/or what students/staff have done to enhance environmental literacy) to be presented at each school board meeting ○ Bring teachers in to conduct EE activities such as nature journaling, measuring tree height, etc. Emphasize activities that illustrate interdisciplinary connections.
<ul style="list-style-type: none"> • Encourage school board members, administrators, and curriculum coordinators to accompany students who are attending environmental education programming conducted at district and off-site properties.

Objective 3.4: Pursue strategies to engage administrative populations who are underserved by EE.
<i>Possible actions/steps to accomplishment:</i>
<ul style="list-style-type: none"> • Identify who underserved populations are (may be different for each audience and location). • Use existing research about how to reach underserved populations to identify an action plan. • Develop a resource list/database by school district/ CESA that identifies opportunities for administrators in districts with less or no access -- include outdoor sites available, programs available, types of resources, costs, contact information, etc. <ul style="list-style-type: none"> ○ Identify on-site and nearby opportunities. ○ Provide incentive for schools/districts to enter their most local opportunities into a statewide database (opportunities that will likely not appear on a broad statewide list). • Utilize social networks and other communication tools to promote activities meant to reach underserved administrators.
Objective 3.5: Identify and develop funding strategies for supporting the objectives and activities within this goal.
<i>Possible actions/steps to accomplishment:</i>
<ul style="list-style-type: none"> • Develop guide/recommendations that assist schools in identifying programs available to them. • Identify possible sources of funding from organizations that have an interest in this specific goal. <ul style="list-style-type: none"> ○ Form corporate partnerships with green business, outdoor recreation companies, utilities, etc. that want to fund systemic change in education ○ Research related EE grants: WEEB, EPA, Dept of Education, Foundations, etc. • Create template form so it can be similar across the state - any school/district can use common template for each goal (if pursued separately) - present a range of opportunities for giving • Access NCLI Act funding when it becomes available. • Create and keep updated a list of sources of grant funding for schools to plan and accomplish their environmental literacy plans (timeline, funds available, etc.). <ul style="list-style-type: none"> ○ Use EEinWisconsin.org ○ Develop an online database of successful grant applications ○ Facilitate opportunities for joint grant applications to combine efforts. Take advantage of larger grant pools (e.g., can happen via CESA units, etc). ○ Advocate for grants that allow for joint applications (i.e. RFPs indicate funds are awardable to consortia). ○ Provide additional grant-writing support (e.g., for small districts or schools that have not had great success in receiving grants).

Table 6: Goal Four Working Group results

GOAL 4: PROVIDE GUIDANCE AND SUPPORT TO PRE-SERVICE TEACHERS AND TEACHER PREPARATION PROGRAMS RELATIVE TO ENVIRONMENTAL EDUCATION.
Objective 4.1: Promote enhancement of pre-service EE in all institutions of higher education.
<i>Possible actions/steps to accomplishment:</i>
<ul style="list-style-type: none"> • Update PI-34 to provide additional guidance related to EE requirements; what needs to be done and what this looks like. <ul style="list-style-type: none"> ○ Expand definition of EE (e.g., not just conservation of natural resources) and ensure pre-service teacher providers understand this definition. ○ Update pre-service teacher requirements in DPI Guide for Curriculum Development in EE to align with updated <i>Wisconsin Model Academic Standards in EE</i> (See objective 1.1 of this plan). Incorporate sustainability/holistic outcomes, <i>NAAEE Guidelines for Excellence</i>, National Common Core Standards, etc. ○ Clarify the statutory requirement for pre-service teacher preparation in environmental education. Provide brief, but specific guidelines for what is sufficient to meet the requirement ○ Consider expanding teacher audiences that require preparation in EE (e.g. family and consumer education, or just say all teachers need this). • Develop a network for higher education and other pre-service teacher education providers (non-formal educators, etc.) to facilitate communication and cooperation. <ul style="list-style-type: none"> ○ Provide staff support to facilitate this group ○ Include higher education, non-formal educators/pre-service providers, DPI, representatives of Wisconsin Institutions of Higher Education (IHEs), school teachers and administrators, etc ○ Cooperatively develop and work from a common platform of what constitutes a quality EE pre-service program (draw from existing guidelines as appropriate: e.g., NAAEE's National Program for Excellence in EE: Guidelines for Initial Preparation and Professional Development of Environmental Educators, NCATE's pre-service requirements). ○ Identify and develop guidelines for integration of EE concepts and practices in pre-service teacher programs of studies. ○ Ensure these concepts and skills are linked to DPI teacher preparation standards. ○ Review and update on a regular basis (e.g., every five years) "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". • Strengthen support for EE instruction by institutions of higher education (IHEs). <ul style="list-style-type: none"> ○ Include EE instruction in program reviews of licensing institutions by DPI. ○ Develop a consulting team that can work with the DPI and higher education institutions to assess programs, offer recommendations, and facilitate any needed program updates.

Objective 4.2: Provide guidance and support to pre-service teachers relative to EE and assist with their transition to the classroom.
<i>Possible actions/steps to accomplishment:</i>
<ul style="list-style-type: none"> • Ensure pre-service teachers know what EE services, programs, and resources are available to them now and once they enter classroom. • Create a network for pre-service teachers to learn about and gain experience with integrating EE into whatever they teach. <ul style="list-style-type: none"> ○ Provide staff support for this network. ○ Share inventory of "best practices" for developing or achieving environmental literacy and provide opportunities for practice. ○ Introduce array of available EE opportunities (e.g., professional development, resources, other networks, etc.). ○ Reach out to students that are not yet aware of or interested in EE to provide opportunities for EE experiences. <ul style="list-style-type: none"> • Offer and promote focused introductory EE workshops that are open to all college of education students (e.g., as a part of WAEE conference, special workshops targeting broader audience of pre-service teachers). ○ Share examples of how to incorporate EE into professional development plans (PDPs) and pre-PDPs. Highlight opportunities that can enhance their ability to use EE as a tool for classroom management, teaching differentiation, etc. ○ Create a reference for 'why it is valuable to have EE as a specialty'? Demonstrate the importance and value of integration in any subject area (include rationale and models/examples of how EE can be integrated). <ul style="list-style-type: none"> • Demonstrate value of tie to STEM <i>and</i> that EE is more than nature study and science. • Refer to state statutes requiring EE curriculum plans, teacher preparation requirements, etc. • Provide courses that help pre-service teachers understand how to use technology to enhance EE (e.g., look at methods courses by subject area and create opportunities to use technology to enhance EE). • Facilitate opportunities for pre service teachers to experience outdoor environmental education activities first-hand. • Provide opportunities for student teachers to advance their own environmental literacy. • Encourage and support pre-service teachers in receiving Environmental science licensure when available. • Provide practice with EE integration for any subject area or grade level. Make explicit connections to WI Model Academic Standards for all subject areas. • Create opportunities to support new teachers, especially in their first 5 years. <ul style="list-style-type: none"> ○ Provide forum to share approaches to meeting benchmarks or standards relative to EE (could be done through EEinWisconsin.org). • Create mentor opportunities (e.g., an in-service teacher can team up with a pre-service or new teacher to share experiences, ideas, attend conferences, etc.).
Objective 4.3 Pursue strategies to engage pre-service teacher populations who are underserved by EE.
<i>Possible actions/steps to accomplishment:</i>
<ul style="list-style-type: none"> • Identify who underserved pre-service teacher populations are. <ul style="list-style-type: none"> ○ E.g., Teachers at teacher preparation institutions that are not addressing environmental education requirements in an effective manner are considered, diversity of teacher educators, training pre-service teachers to better serve underserved populations, institutions that are underserved • Provide EE models for institutions to analyze/modify to meet their institutions' and students' needs; diverse learners, diverse needs. • Ensure pre-service teachers are prepared to meet the needs of underserved populations (provide formal preparation, practice, tools, etc).
Objective 4.4 Identify and develop funding strategies for supporting the objectives and activities within this goal.
<i>Possible actions/steps to accomplishment:</i>
<ul style="list-style-type: none"> • Provide funding for staff support to facilitate higher education network and pre-service teacher network • Incorporate funding needs into WEEB/WEEF priorities. Raise funds for these activities. • Gain support from private sector, foundations, etc. • Pursue federal funding opportunities.

Table 7: Working Group Five results

GOAL 5: CREATE, ENHANCE, AND PROMOTE THE SUSTAINABLE DEVELOPMENT AND USE OF SITES THAT ADVANCE PREK-12 STUDENT, TEACHER AND ADMINISTRATOR ENVIRONMENTAL LITERACY (SCHOOL BUILDINGS, GROUNDS, FACILITIES, AND OFF-SITE LOCATIONS).
Objective 5.1: Develop in all schools green facilities and grounds to serve as year-round learning resources for students and teachers (and to decrease schools' environmental impact).
<i>Possible actions/steps to accomplishment:</i>
<ul style="list-style-type: none"> • Provide resources, tools, and case studies to empower students, teachers, facility staff, administrators and community partners to green school facilities and grounds. <ul style="list-style-type: none"> ○ Make use of existing programs (create search feature on EEinWisconsin.org to easily identify available programs). ○ Inventory existing programs and resources that support this objective. ○ When necessary, create new programs. ○ 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. • Provide incentives to encourage "green" or sustainable existing school construction and operation. <ul style="list-style-type: none"> ○ Educate decision-makers on construction and operational cost benefits to building "green". Provide models/examples of schools that have saved money by building green. ○ Provide incentives for and/or encourage that all school buildings complete an Energy analysis. • Encourage year-round use of school facilities and grounds to: <ul style="list-style-type: none"> ○ Meet State EE standards and learner outcomes. ○ Provide access for unstructured play.
Objective 5.2: Increase access and use of off-site outdoor learning facilities such as school forests, nature centers, parks, public lands, museums, etc.
<i>Possible actions/steps to accomplishment:</i>
<ul style="list-style-type: none"> • Provide incentives to encourage the use of off-site outdoor learning facilities. <ul style="list-style-type: none"> ○ Expand funding programs to provide financial resources to school districts for off-site EE and outdoor education programs. ○ Provide time, financial resources, research to support the academic value, curriculum resources, site staff availability, etc. • Provide professional development for teachers so they can effectively use outdoor education sites and integrate outdoor learning experiences into their curriculum to meet state standards and other learner outcomes. • Make available to every school, via EEinWisconsin.org, a database of outdoor learning sites in their community and region. <ul style="list-style-type: none"> ○ Connect with people around the state to ensure the database is known and used. ○ Include information about the value of environmental education and outdoor play • Provide information to district administrators and school boards about the value of and resources for outdoor learning sites. • Develop and distribute informational materials for teachers, administrators, school board members and parents that illustrate how environmental and outdoor education are more effective education strategies. • Identify barriers to access and use of these sites (different reasons for access issues, etc.) and create solutions to address these barriers.
Objective 5.3: Support non-formal educators and resource professionals in integrating outdoor and facility-based learning into preK-12 curricula.
<i>Possible actions/steps to accomplishment:</i>
<ul style="list-style-type: none"> • Identify and provide professional development for non-formal educators and resource professionals so they can help to meet teachers' and students' EE and outdoor education needs. • Develop a learning community of non-formal educators, resource professional and teachers to provide strategies to enhance the relevance and utilization of non-formal educators and resource professionals. • Ensure teachers and other decision-makers understand that non-formal educators are a valuable source of EE professional development. <ul style="list-style-type: none"> ○ Ensure teachers/advisors know how to integrate non-formal education opportunities into professional development plans (PDPs).

Objective 5.4: Identify and develop funding strategies for supporting the objectives and activities within this goal.
<i>Possible actions/steps to accomplishment:</i>
<ul style="list-style-type: none"> • Look for ways to more efficiently use existing resources. • Create a dedicated statewide fund to support preK-12 field experiences. • Create a mechanism for schools to apply for funding for expenses related to field experiences (especially transportation). • Make use of existing fundraising tools that could support school efforts (e.g., www.donorschoose.org) • Identify funding to support non-formal educators in professional development that helps them meet teacher and learner outcome needs. • Identify funding opportunities for teacher professional development • Identify grants and other funding to support greening of school grounds/facilities • Provide funds to facilitate learning community • Develop guide/recommendations that assist schools in identifying affordable EE programs and priorities for their school. • Provide financial support for outdoor classroom development on site or nearby the school.

Table 8: Goal Six Working Group results

GOAL 6: PERIODICALLY COLLECT ASSESSMENT DATA AND CONDUCT RESEARCH THAT DEMONSTRATES THE SUCCESS/EFFECTIVENESS OF ENVIRONMENTAL EDUCATION EFFORTS AND IDENTIFIES AREAS FOR FUTURE IMPROVEMENT.
Objective 6.1: Develop and implement a meaningful and ‘doable’ strategy to assess improvements in student environmental literacy over time (standard and authentic assessment).
<i>Possible actions/steps to accomplishment:</i>
Assemble a team to assess student environmental literacy (Include DPI representatives, EE specialists, individuals with expertise in assessment/evaluation, school/district teachers and administrators, researchers from various UW campuses and colleges, etc.). The team should:
<ul style="list-style-type: none"> • Provide staff support to assist with facilitation of team meetings and activities. • Conduct periodic and thorough literature reviews to gain an understanding of past and ongoing research and evaluations of student environmental literacy. • Explore assessment options and feasibility, with ultimate goal of identifying and carrying out best ‘doable’ strategy for periodic assessment (utilize best existing models and create new approaches when necessary, emphasize long-term commitment). • Develop and implement a long-term strategy to periodically assess and report on the environmental literacy of Wisconsin PreK-12 students. <ul style="list-style-type: none"> ○ Pursue a multi-pronged assessment strategy: quantitative statewide standardized (including existing assessment), self-assessments, and qualitative research/assessment. • Identify, develop or modify tool(s) to conduct authentic assessment. • Assess current environmental literacy of Wisconsin students. <ul style="list-style-type: none"> ○ Develop tests that emphasize tracking progress (i.e. testing for improvements over time). ○ Provide training and tools for educators to self-assess. ○ Create mechanism(s) to feed assessment information into statewide system. • Develop a system to share assessment information and ensure development of new programs, resources, and opportunities are informed by knowledge gained through statewide environmental literacy assessment and related research. • Plan for periodic review of overall statewide assessment strategies (frequency, procedure, etc.).

<p>Objective 6.2 Conduct research related to educator (formal and non-formal) environmental literacy and their implementation of EE.</p> <p>Note: this objective refers to the individual educator – not the program they work with.</p> <p><i>Possible actions/steps to accomplishment:</i></p> <p><u>General/All groups</u></p> <ul style="list-style-type: none"> • Conduct thorough literature reviews to gain an understanding of past and ongoing research and evaluations of educator environmental literacy. • Identify, modify, or develop instruments to help assess the environmental literacy of participants/graduates/teachers (external and internal/self-assessment, participatory action research, etc.). • Research environmental literacy of teachers/educators and their implementation of EE. <ul style="list-style-type: none"> ○ Develop tests that emphasize tracking progress (i.e. testing for improvements over time). • Research what drives educators that are successful in developing the environmental literacy of students (improvements over time and scope). <ul style="list-style-type: none"> ○ Inventory "best practices" for developing or achieving environmental literacy. • Conduct needs assessment of: <ul style="list-style-type: none"> ○ Wisconsin pre-service teachers – What do they need to increase their environmental literacy? What do they need to feel prepared to integrate EE when they enter the classroom?, etc. ○ Wisconsin in-service teachers - What do they need to increase their competency in integrating EE?, What tools do they need in order to assess?, etc. ○ Wisconsin non-formal educators - What do they need to increase their competency in supporting teachers in integrating EE?, What tools do they need in order to assess?, etc. • Create mechanism(s) to feed information into statewide information sharing system.
<p><u>Pre-service teachers</u></p> <ul style="list-style-type: none"> • Explore potential to build environmental literacy into Wisconsin Praxis test. • Identify role of school culture in developing pre-service teacher environmental literacy.
<p><u>In-service teachers</u></p> <ul style="list-style-type: none"> • Investigate whether and how teachers are integrating EE in the classroom. Some data may be extrapolated from results of student environmental literacy assessments. <ul style="list-style-type: none"> ○ Are they doing it? How are they doing? What are they using? Is it working? What are their qualifications? ○ Assessment should reflect the goals of EE; depth and breadth practice. • Evaluate/assess degree to which EE is included in professional development plans (PDPs). <ul style="list-style-type: none"> ○ What do teachers do? Is it sufficient or do they need more? How can we provide it? What incentives/support are required? • Promote environmental literacy by offering teachers models of professional growth around environmental questions. Share evidence of effectiveness for a variety of professional development opportunities, not just university credits. • Identify role of school culture in developing environmental literacy (both the teacher's own environmental literacy as well as the development of student environmental literacy).
<p><u>Non-formal educators</u></p> <ul style="list-style-type: none"> • Investigate how non-formal educators support teachers in integrating EE in the classroom – both in teaching teachers, and in teaching students directly. <ul style="list-style-type: none"> ○ To what degree are they doing this? How are they doing? What are they using? Is it working? What is their background/qualifications? ○ Assessment should reflect goals of EE; depth and breadth practice. • Investigate non-formal educator professional development (related to both their own professional development (PD) as well as the PD they provide). <ul style="list-style-type: none"> ○ What do they do? Is it sufficient or do they need more? How can we provide it? Incentives/support ○ What kind of support do they need? • Identify and develop guidelines for non-formal educators to assist them in supporting teachers in their efforts to integrate EE concepts and practices. (e.g., NAAEE Non-formal Environmental Education Programs: Guidelines for Excellence, EPA's "My EE Research Assistant" (MEERA) assessment tool for non-formal educators, etc.).

Objective 6.3 Provide guidance and recommendations that assist formal and non-formal EE programs in assessing the effectiveness of their programs (relative to advancing student and/or teacher environmental literacy)
<i>Possible actions/steps to accomplishment:</i>
<u>General/All Groups:</u>
<ul style="list-style-type: none"> • Conduct thorough literature reviews to gain an understanding of past and ongoing research and evaluations of EE programs. • Develop and disseminate examples of EE program assessment instruments/tools (e.g., EETAP online evaluation course, NAAEE guidelines for excellence for EE programs, etc.). <ul style="list-style-type: none"> ○ Provide training in implementing those evaluations. • Conduct needs assessments for all groups. What do EE programs need to assess the effectiveness of their programs? What do they need to improve the effectiveness of their programs? • Encourage professional development through online tools, such as the EPA's MEERA tool and applied EE program evaluation course.
<u>Pre-service teacher preparation programs (formal and non-formal)</u>
<ul style="list-style-type: none"> • Review and update "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" on a regular basis (e.g., every five years). • Identify and develop guidelines for integration of EE concepts and practices in pre-service teacher programs of studies. • Create a mechanism for EE programs to access, input and extract data from relevant assessments to build a statewide database.
<u>In-service teacher professional development programs (formal and non-formal)</u>
<ul style="list-style-type: none"> • Encourage teacher in-service providers to conduct regular assessments of the effectiveness of their programs (provide tools, training, etc.). Ask questions like: <ul style="list-style-type: none"> ○ How many of our graduates actually use environmental topics/themes? ○ What do these graduates do in their classrooms with their students (with respect to EE)? ○ What can our graduates tell us about how to improve their EE preparation? ○ If our graduates are not integrating EE into their courses, why not?
<u>School EE programs (environmental literacy plans, EE curriculum plans)</u>
<ul style="list-style-type: none"> • Conduct research to identify components that should be addressed in a school or district environmental literacy plan. Use this information to create guidelines or models for school/district ELPs. • Once schools and districts have Environmental Literacy Plans, conduct research to better understand questions like: <ul style="list-style-type: none"> ○ How many schools and districts have created ELPs? Which ones? ○ What are schools/districts doing to implement their plans? ○ What type of assistance do schools/districts need to support their ELP implementation and evaluation? • Develop an instrument districts can use to assess the status of EE within the district. • Encourage and support CESAs, Summer Academies, and others to work with schools to assess EE programming. • Interface with school curriculum advisors to better understand what they need to evaluate/assess and what assistance they need to accomplish this.

Objective 6.4 Develop a system to share assessment information and ensure development of new programs, resources, and opportunities are informed by knowledge gained through statewide environmental literacy assessment and related research.
<i>Possible actions/steps to accomplishment:</i>
<ul style="list-style-type: none"> • Collect and share information through existing infrastructure (EEinWisconsin.org, DPI list serve, WDNR list serves and education programs, presentations/conferences, WEERD, etc.) <ul style="list-style-type: none"> ○ Use this information to create a 'what works for EE in Wisconsin' website similar to the federal government 'what works' website. • Connect to network of pre-service teacher preparation institutions/providers to address implications for teacher pre-service development. • Communicate with campus sustainability directors to help to spread the word through their networks. • Share data with decision makers at WASB and WASDA joint conference • Encourage new research be entered into the Wisconsin Environmental Education Resource Database (WEERD).
Objective 6.5 Conduct research into populations who are underserved by EE
<ul style="list-style-type: none"> • Identify populations that are underserved by environmental education (see questions related to underserved populations in all other Goals in this document)? • Conduct literature review of existing research into how to reach underserved populations. • Inventory and share “best practices” for reaching underserved populations. • Reassess responses/actions taken to reach underserved populations. What worked or didn't work?, etc.
Objective 6.6 Identify and develop funding strategies for supporting the objectives and activities within this goal.
<ul style="list-style-type: none"> • Ensure efficient use of existing resources. • Explore potential to connect to new statewide assessment strategy. Incorporate environmental literacy into new testing system as appropriate. • Access NCLI Act funds when they become available. NCLI could provide about 1 million per year, 30% can be set aside for assessment (\$300,000). • Apply for grant funding from other sources (federal agencies, foundations, etc.). • Encourage WEEB, WCEE, WAEE, WEEF, DPI, etc. to allocate funds towards statewide environmental literacy assessment and/or collaborate to raise the funds from external sources.

The data from Working Groups was not further analyzed or manipulated as the collaborative inquiry process was designed so that results were examined and analyzed by participants on an ongoing basis throughout the research process. Additional analysis was not conducted as the research design laid out a process wherein the results derived from the collaborative inquiry participants were intended to be the final results reported.

The final recommendations developed by the collaborative inquiry participants in this research were provided to the Department of Public Instruction for a final phase of

revision in preparation for the Plan's adoption by the agency. This final phase of revision was not included in the scope of this research project; however, the researcher worked with DPI staff to ensure all recommendations were included in the final document produced.

SUBPROBLEM 3: Who will pursue the strategies that are identified in the Plan?

After goals, objectives, and recommended actions were developed, Steering Committee members determined each organization represented should identify their potential level of involvement in each goal and strategy. Steering Committee members worked with their organizations or constituencies to identify areas they could potentially be involved with implementing. Participants were asked to rate their expected level of involvement in each recommended action as "very involved", "somewhat involved", or "not involved at all." The researcher compiled and shared the results of this process with all participants.

It became clear to the group when addressing this question, that it would be a challenge to get firm commitments from many of the organizations involved. While each organization had made a commitment to the planning process and helping to implement the plan, many were hesitant to make firm commitments to be responsible for specific goals or strategies. Instead, participants and organizations were asked to complete the exercise based on their general expectations rather than to express firm commitments. This allowed the collaborative inquiry group to get a sense for which organizations might

be willing to participate and avoided barriers that might have prevented some from participating in the exercise.

After results were compiled and shared with the Steering Committee, participants discussed the results of the implementation matrix (Appendix H). Upon reviewing and discussing all of the responses, the Steering Committee determined the results were not necessarily reflective of each organization's ability to contribute to Plan implementation. While some organizations were conservative in their estimation of potential contributions, others were overly optimistic in reporting their intention to contribute to Plan implementation. Further, when the collaborative inquiry group discussed making firm commitments to Plan implementation, few organizations were willing to be specifically named in the Plan. Rather than risk stalling the process or losing participants, it was determined those organizations that were willing to commit would identify the leadership roles they were willing to take on; while other organizations would be included in a list of potential collaborators. This arrangement ensured specific commitments would be included in the Plan, and that all organizations would maintain their support and engagement in the Planning process, promotion, and implementation.

Ultimately, the Wisconsin Center for Environmental Education, Wisconsin Environmental Education Board, Wisconsin Environmental Education Foundation, and the Wisconsin Association for Environmental Education expressed a firm commitment to working together towards Plan implementation. The Wisconsin Center for Environmental Education and Department of Public Instruction committed to providing leadership for the Plan. The Wisconsin Environmental Education Foundation committed to continuing to build and facilitate the Wisconsin No Child Left Inside Coalition. The

Wisconsin Department of Public Instruction also committed to adopting the Plan and submitting it to the federal Department of Education should the No Child Left Inside legislation be enacted. Other collaborative inquiry participants remain committed to the Plan as well and will work within their organizations or agencies toward implementation as appropriate.

The DPI State Superintendent, the Wisconsin Center for Environmental Education, and the Wisconsin Environmental Education Foundation officially approved and released the *Plan* on November 4, 2011 at the Wisconsin Association for Environmental Education Fall Conference. The *Plan* can be viewed in its entirety in Appendix I.

CHAPTER V: CONCLUSIONS AND RECOMMENDATIONS

Introduction

The purpose of this research project was to develop a statewide strategic plan for advancing student environmental literacy in Wisconsin's PK-12 schools. A Steering Committee was convened to guide the collaborative inquiry process. The Steering Committee completed a needs assessment and used those identified needs to develop six Plan goals. The Steering Committee collaborated throughout the process to ensure the Plan developed was comprehensive and thorough. After the six Plan goals were developed, six Working Groups were created to develop the specific objectives and action steps for each goal. Simultaneously, a broader Wisconsin No Child Left Inside Coalition was formed in order to include as many diverse organizations and individuals as possible from across Wisconsin in the Plan's development and implementation.

This chapter presented conclusions based on the results of this research project as well as recommendations for future research.

Implications

The completion of this Plan marks Wisconsin's first comprehensive Plan for PK-12 schools in the state's history. While Wisconsin has a long history of planning for environmental education and literacy, past Plans have addressed the needs of all audiences and have only included small sections related to environmental education in schools. While Wisconsin continues to Plan for the needs of all audiences, this Plan

represents the first comprehensive Plan specific to the PK-12 school setting ever created. It is also important to note that “Wisconsin’s Plan for Environmentally Literate and Sustainable Communities,” the newest strategic plan for all audiences, includes the goals of the PK-12 Plan in its recommendations related to environmental education in schools.

Environmental Education and Literacy

A noteworthy outcome of the Plan is its emphasis on supporting schools in their work to integrate environmental education. Rather than create new mandates for schools or emphasizing enforcement of current mandates, collaborative inquiry participants opted to recommend incentives and other support mechanisms that would encourage schools to enhance their environmental education programming, rather than penalize them for not doing so. There was a sense that schools increasingly want to include environmental literacy in the curriculum, but are ill prepared or supported in doing so.

Existing legislation supporting the inclusion of environmental education in teacher preparation programs may be sufficient; however, it was recommended that institutions of higher education work together more closely to determine common standards and expectations that ensure all teachers receive a level of preparation sufficient to be able to meet requirements once they are in the classroom. Likewise, school districts are required to have a written sequential plan for integrating environmental education throughout all grade levels and subject areas. While it is clear many districts do not have a current curriculum plan for environmental education, it was determined that

districts also have not been provided sufficient guidance on how to develop and implement such plans. Further, it is now clear that school planning for environmental education should go beyond only the curriculum and also include the operation and care of the school building and grounds, the school culture, community partnerships, and more. Thus, the collaborative inquiry group recommended school districts develop comprehensive environmental literacy plans specific to local circumstances, goals, and resources. It was also recommended that school districts be provided with guidance and funding to support the development and implementation of their plans. This approach places the onus of implementation on the state as a whole rather than on schools districts alone. The environmental education community, in particular, will need to work together to develop templates and examples school districts can reference in their own planning. The EE community will also need to work to secure the funding necessary to support the development and implementation of school district level environmental literacy plans.

Collaboration

A frequent theme throughout the Plan is a call for greater collaboration among all organizations, agencies, and individuals working to advance environmental education and literacy in PK-12 schools. Collaboration is seen as a valuable tool to achieve greater efficiency and effectiveness at all levels of work to improve environmental literacy. Teacher and pre-service teacher networks provide opportunities to share best practices, real-life stories, and specific subject area expertise and examples. Schools and districts can also learn from each other, and work together to complement each other's strengths and interests. Organizations that support teachers and schools can

work together to ensure it is easy for schools to understand what each group can offer related to education for environmental literacy.

Ultimately, to successfully advance education for environmental literacy for all students, this effort cannot be undertaken by one or two organizations. Rather, all collaborators listed in the Plan and other interested parties in the state need to work in concert to reach this goal.

Reflections on Research Study

While the collaborative inquiry process required significantly more time than other potential alternative methods of Plan development, it also provided an opportunity for collaborators to get to know each other in the context of a true partnership. While most organizations theoretically support the value of partnerships, frequently partnerships need a specific project or reason to come together in order to attract the commitment and participation of key players. The collaborative inquiry process seemed to have supported a high level of engagement from all participants.

Ultimately, the value of the planning process may be judged best over time. Do organizations stay engaged once the implementation phase begins? Will organizations work together to ensure the actions recommended in this Plan are carried out? Will the recommended actions, when implemented fully, actually produce increased student environmental literacy? The ability to answer questions like these may be required in

order for collaborative inquiry participants to formulate a final judgement on the planning process and final plan that was created.

Recommendations for Future Research

While the scope of this research project was necessarily limited to what could be accomplished within a limited timeframe, additional research is recommended. Evaluation of Plan implementation and results would help to provide valuable information to future planners. While the format of the final Plan document adopted by the Wisconsin Department of Public Instruction has been adapted from the research produced through this study; the vast majority of the recommendations produced through this study are still included in the final Plan. Not only is it important to track the progress towards implementing the Plan developed through this study, it is also important to evaluate the ability of implementation to produce anticipated improvements in student environmental literacy. Another worthwhile question related to Plan implementation is how to better determine who can commit to be involved in accomplishing the Plan recommendations.

There are many potential research questions contained within the Plan recommendations; however, perhaps one of the most critical is the recommendation to develop a strategy for completing periodic statewide assessments of environmental literacy. Simply creating a viable strategy for conducting this type of assessment may provide enough material for an entire Master's thesis. The work to actually develop and administer assessment tools may be more appropriate for a doctoral study.

Finally, if researchers use a collaborative inquiry process to develop plans or other materials again in the future, it would be worthwhile to investigate the experience of collaborative inquiry participants throughout the process. Surveys and interviews to track their actual level of engagement and satisfaction could provide valuable insight into this methodology.

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Appendix A



News Release

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FOR IMMEDIATE RELEASE

DPI-NR 2009-44

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

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

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)

- 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/doinr2009_44.pdf.

Appendix B



News Release

Education Information Services ■ 125 South Webster Street ■ P.O. Box 7841 ■ Madison, WI 53707-7841 ■ (608) 266-3559

FOR IMMEDIATE RELEASE
Friday, November 4, 2011
Contact: Patrick Gasper, DPI Communications Officer, (608) 266-3559

DPI-NR 2011-121

Environmental literacy and sustainability plan released

Plan aims to increase overall academic achievement and save schools money

MADISON — State Superintendent Tony Evers announced the completion of Wisconsin’s first plan to address environmental literacy and sustainability for schools. The plan provides strategies for statewide collaboration to increase student academic achievement, improve student health, and save schools money through education for environmental literacy and sustainability.

“It is more important than ever that we work together to provide low-cost, high-return learning opportunities that help to prepare every student for success in our rapidly changing world,” said Evers. “This plan suggests ways to share information and experiences on how schools and districts have achieved cost savings through educational projects that reduce consumption and increase efficiency. It also emphasizes increased collaboration to advance student academic achievement in core subject areas.”

Wisconsin’s Plan to Advance Education for Environmental Literacy and Sustainability in PK-12 Schools was developed by a 20-member steering committee of the Wisconsin No Child Left Inside Coalition. The coalition is made up of more than 100 businesses, health, youth, faith, recreational, environmental, conservation, and educational groups representing over 70,000 people in Wisconsin. The coalition formed in response to a growing amount of research that indicates that children are spending more time indoors “plugged in” to electronic media and less time outdoors than ever before. 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. Research also indicates that time spent learning and playing outdoors can produce health benefits for children such as reducing the incidence of obesity, symptoms of attention deficit disorders, and stress.

“Education for environmental literacy and sustainability provides an avenue for meeting the standards and benchmarks schools are required to reach in ways that are locally relevant and engage student interest,” said Randy Champeau, director of the Wisconsin Center for Environmental Education. “This education helps students understand the basic life support systems of the planet and how they can play a role in maintaining the health of these systems now and in the future.”

(more)

“When school administrators, teachers, and students begin to think in a systems approach, real benefits of energy savings and gains in academic achievement can be realized,” added Victoria Rydberg, environmental education consultant at the Department of Public Instruction. “Schools across Wisconsin are demonstrating this success by raising student achievement in core academic areas while also developing environmental literacy.”

The goals of the plan call for collaboration to

- prepare students to understand, analyze, and address the major environmental and sustainability challenges facing Wisconsin, the United States, and the planet;
- 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
- 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 the environmental and sustainability issues, including the use of interdisciplinary, field-based, and research-based learning, effective assessment practices, and innovative technology in the classroom.

“The challenges and opportunities of our modern world require innovative and cooperative solutions to ensure Wisconsin students graduate ready for the workforce or further education,” Evers said. “This plan provides a vital road map for advancing education, environmental literacy, and sustainability that can increase student academic achievement in core subject areas and contribute to the fiscal well-being our schools.”

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NOTE: This news release is available electronically at http://dpi.wi.gov/eis/pdf/dpinr2011_121.pdf. Information about environmental education in Wisconsin, including a link to *Wisconsin’s Plan to Advance Education for Environmental Literacy and Sustainability in PK-12 Schools*, can be found at <http://www.dpi.wi.gov/cal/environmental-ed.html>.

Appendix C

1989 Assembly Bill 660

Date of enactment: April 23, 1990

Date of publication*: May 7, 1990

1989 WISCONSIN ACT 299

AN ACT to renumber 15.07 (3) (bm); and to create 15.07 (3) (bm) 2, 15.375 (3), 20.255 (1) (cm), 20.255 (1) (cp), 23.405, 36.25 (29), 36.25 (30), 38.04 (4) (d) and 115.375 of the statutes, relating to: creating an environmental education board attached to the department of public instruction, authorizing the board to make grants for environmental education programs, establishing a center for environmental education at the university of Wisconsin–Stevens Point, granting rule-making authority and making appropriations.

The people of the state of Wisconsin, represented in senate and assembly, do enact as follows:

SECTION 1. 15.07 (3) (bm) of the statutes is renumbered 15.07 (3) (bm) 1.

SECTION 2. 15.07 (3) (bm) 2 of the statutes is created to read:

15.07 (3) (bm) 2. The environmental education board shall meet 4 times each year and may meet at other times on the call of the chairperson.

SECTION 3. 15.375 (3) of the statutes is created to read:

15.375 (3) ENVIRONMENTAL EDUCATION BOARD. (a) *Creation.* There is created an environmental education board attached to the department of public instruction under s. 15.03.

(b) *Members.* The environmental education board shall consist of the following members:

1. The state superintendent of public instruction.
2. The secretary of natural resources.
3. The president of the university of Wisconsin system.

SECTION 4. 20.005 (3) (schedule) of the statutes: at the appropriate place, insert the following amounts

for the purposes indicated:

1989-90 1990-91

20.255 Public instruction,
department of

(1) EDUCATIONAL LEADERSHIP

4. The director of the vocational, technical and adult education system.

5. One majority and one minority party senator and one majority and one minority party representative to the assembly, appointed as are the members of standing committees in their respective houses.

6. One member, appointed for a 3-year term by the state superintendent of public instruction, to represent each of the following:

- a. Environmental educators.
- b. Conservation and environmental organizations.
- c. Business and industry.
- d. Agriculture.
- e. Labor.
- f. Faculty of public and private institutions of higher education.

(c) *Designees.* Members of the board under par. (b) 1. to 4. may appoint designees to serve on the board, if the designee is an employe or appointive officer of the agency who has sufficient authority to deploy agency resources and directly influence agency decision making.

(cm) Environmental education board	GPR A	-0-	36,000
(cp) Environmental education grants	GPR A	-0-	200,000

SECTION 5. 20.255 (1) (cm) of the statutes is created to read:

20.255 (1) (cm) *Environmental education board.* The amounts in the schedule for the environmental education board under s. 115.375 (1).

SECTION 6. 20.255 (1) (cp) of the statutes is created to read:

20.255 (1) (cp) *Environmental education grants.* The amounts in the schedule for environmental education grants under s. 115.375 (2).

SECTION 7. 23.405 of the statutes is created to read:

23.405 **Environmental education.** The department shall seek the advice of the environmental education board on the development of environmental education programs.

SECTION 8. 36.25 (29) of the statutes is created to read:

36.25 (29) **ENVIRONMENTAL EDUCATION.** The board shall seek the advice of the environmental education board on the development of environmental education programs.

SECTION 9. 36.25 (30) of the statutes is created to read:

36.25 (30) **CENTER FOR ENVIRONMENTAL EDUCATION.** There is established in the college of natural resources at the university of Wisconsin-Stevens Point a center for environmental education to assist in the development, dissemination, implementation and evaluation of environmental education programs for elementary and secondary school teachers and pupils. The center shall do all of the following:

(a) Assist the environmental education board in addressing statewide teacher training needs in environmental education.

(b) 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.

(c) Develop, offer and evaluate environmental education courses for teachers.

(d) Select and train natural resource and environmental education specialists with teaching experience to assist in providing environmental education courses and programs to teachers in this state.

(e) Assist the department of public instruction and cooperative educational service agencies to assist school districts in conducting environmental education needs assessments.

(f) Provide environmental education workshops and consulting services to teacher educators from teacher training institutions located in this state.

(g) Establish an environmental education curriculum and materials center for use by school teachers, faculty of teacher training institutions located in this state and others in educational programs who need such materials.

(h) Assist the university of Wisconsin-Stevens Point college of natural resources in providing opportunities for teachers to complete advanced training in environmental education through the college's master's degree program.

SECTION 10. 38.04 (4) (d) of the statutes is created to read:

38.04 (4) (d) The board shall seek the advice of the environmental education board on the development of environmental education programs.

SECTION 11. 115.375 of the statutes is created to read:

115.375 **Environmental education board and grants.** (1) (a) The environmental education board shall provide advice and assistance to the state superintendent in identifying needs and establishing priorities for environmental education in public schools, including needs for teacher training, curriculum development and the development and dissemination of curriculum materials. The state superintendent shall seek the advice of the board in carrying out these activities.

(b) The board shall provide advice and assistance to other state agencies, including the university of Wisconsin-extension, conservation and environmental groups, youth organizations and nature and environmental centers in identifying needs and establishing priorities for environmental education.

(2) (a) In this subsection:

1. "Corporation" means a nonstock, nonprofit corporation organized under ch. 181.

2. "Public agency" means a county, city, village, town, public inland lake protection and rehabilitation district, school district or cooperative educational service agency or an agency of this state or of a county, city, village, town, public inland lake protection and rehabilitation district, school district or cooperative educational service agency.

(b) From the appropriations under s. 20.255 (1) (cp) and (jr), the board shall award grants to corporations and public agencies for the development, dissemination and presentation of environmental education programs. The board may not award a grant unless the grant recipient matches at least 25% of the amount of the grant. Private funds and in-kind contributions may be applied to meet the matching requirement. Grants under this paragraph may not be used to replace funding available from other sources.

(c) The board shall promulgate rules establishing the criteria and procedures for the awarding of grants for programs and projects under par. (b). The board shall use the priorities established by the state superintendent under sub. (1) for awarding grants if the amount in the appropriations under s. 20.255 (1) (cp) and (jr) in any fiscal year is insufficient to fund all applications under this subsection. The department shall assist the board in administering this section.

(d) The board shall seek private funds for the purpose of the grants under this subsection.

(e) No more than one-third of the total amount awarded in grants under par. (b) in any fiscal year may be awarded to state agencies.

SECTION 12. Nonstatutory provisions; environmental education board. (1) **POSITIONS.** The authorized FTE positions for the department of public instruction are increased by 0.5 GPR position to be funded from the appropriation under section 20.255 (1) (cm) of the statutes, as created by this act, to assist in performing the functions of the environmental education board.

(2) **INITIAL TERMS.** Notwithstanding the length of terms specified in section 15.375 (3) (b) 6. (intro.) of the statutes, as created by this act, the state superintendent of public instruction shall designate 2 of the initial members

of the environmental education board appointed under section 15.375 (3) (b) 6. a to f. of the statutes, as created by this act, to serve terms expiring on May 1, 1991; 2 of the initial members to serve terms expiring on May 1, 1992; and 2 of the initial members to serve terms expiring on May 1, 1993.

SECTION 13. Appropriation changes; university of Wisconsin system. (1) The dollar amount in the schedule under section 20.005 (3) of the statutes for the appropriation to the board of regents of the university of Wisconsin system under section 20.285 (1) (a) of the statutes, as affected by the acts of 1989, is increased by \$106,600 for fiscal year 1990-91 to operate the center for environmental education at the university of Wisconsin-Stevens Point and to increase the authorized FTE positions for the university of Wisconsin system by 2.5 GPR positions for the center.

(2) The dollar amount in the schedule under section 20.005 (3) of the statutes for the appropriation to the board of regents of the university of Wisconsin system under section 20.285 (1) (im) of the statutes, as affected by the acts of 1989, is increased by \$28,400 for fiscal year 1990-91 to operate the center for environmental education at the university of Wisconsin-Stevens Point.

Appendix D

INVENTORY OF STATE ENVIRONMENTAL LITERACY PLANS (as of 9-05-09)			
NATIONAL ASSOCIATION FOR ENVIRONMENTAL EDUCATION			
State	Status of ELP	Lead Organization	Process to Create Plan
AR	We have a preliminary exploratory committee which has had one initial meeting. In the process of identifying additional interested stakeholders.	Arkansas Department of Education: Office of Curriculum, Research, and Assessment	<p>The process of developing a plan for Arkansas was initiated by the President of the Arkansas Environmental Education Assoc., Rob Beadel. ADE recently took the lead on the project and are still in the fact-finding stage.</p> <p>It is a coalition among the Arkansas Department of Education (ADE), other state agencies and commissions (game and fish, environmental quality, forestry commission, etc.), and nonprofit environmental organizations.</p>
AZ	In development	Arizona Association for Environmental Education	Over 90 stakeholder groups, represented by over 130 individuals participating in statewide meetings and surveys for plan development.
CO	In development	Colorado Alliance for Environmental Education (CAEE)	A coalition based structure that is focused on developing a network to ensure the plan is implemented in addition to writing the actual plan. Current efforts are in participating in the revision of our state standards, committee meetings to determine the focus and goals of the plan, finding existing research and gaps, and building the coalition.
CT			

IO	In development	Iowa Conservation Education Coalition	<p>Plans are to begin the ELP process by developing materials that will support the existing legislation, and help educate/inform stakeholders that will be affected/impacted once the bill passes. The group that met yesterday agreed that the route we were best to take was to develop a targeted campaign to spread the word about the following: 1. The definition of E-Literacy that came out of a June EE Summit with Region VII. 2. Explaining the need for Iowa to have an environmental literacy plan. 3. Defining/outlining how an ELP can (and does) align with the Iowa Core and NAAEE Guidelines for Excellence. 4. Directing others to ways to get involved with the coalition and help promote e-literacy. That way, once NCLI is passed (and funded) our stakeholders and decision makers should have the appropriate information and resources to move forward appropriately. Leaders in this effort are the Iowa Conservation Education Coalition (ICEC), the Iowa Department of Education, and various partners including Iowa Department of Natural Resources, University of Northern Iowa, County Conservation Boards, area education agencies (AEAs) and various concerned citizens with ties to formal and non-formal education. Plans are to have both print and online resources available for those wanting more information, sharing information with decision makers, and updating resources as they become available. All are under development, with more to come as we move forward.</p>
FL	In development	League of Environmental Educators in Florida (LEEF)	<p>LEEF is working with the State Committee for Environmental Education (SCENE) to bring all interested to the table to start working on the plan. The state department of education has given advice but will not work on a plan until legislation has been passed. The process is at a stand still until legislation is passed or funding becomes available for meetings to work on the plan.</p>
IL	In development		

MI	In development	Michigan Alliance for Environmental & Outdoor Education	Michigan Alliance for Environmental & Outdoor Education is working with the Rebecca Nielsen of NWF, Kevin Frailey (DNR) and Tom Occhipinti (DEQ) along with a steering committee of 2 dozen entities to develop an ELP following a statewide summit held on June 25.
MS	Just starting...	Mississippi Environmental Education Alliance (MEEA)	<p>Currently planning a preconference workshop. The purpose of the workshop is to begin positioning Mississippi and MEEA to benefit from NCLI funds when/if they become available. The second purpose is to begin development of an ELP and an EE curriculum. Most of the "projects" have correlation documents but there are a lot of miscellaneous materials that have not been correlated. The "projects" curriculums will be combined into one master document and then we will look at the holes and see if there are EE activities that can be used for them as well.</p> <p>We have invited the state department of education curriculum consultants, representatives of all of the state's EE centers, all of the Project coordinators, university curriculum faculty and others to be involved.</p>
NE	In development	NACEE (Nebraska Alliance for Conservation and Environment Education)	NACEE is heading-up the initiative. We have a "blessing" from the state department of education and numerous other state-wide stakeholders.
NV	In development	Sierra Nevada Journeys	Nevada's "GreenPrint" will be a resource for non-formal education providers to understand how current and future programs address the knowledge, values, and actions we're trying to instill in our citizens. It describes in detail the knowledge, values, and actions required of us and it provides recommendations for how we get there.
OR	Waiting for Task Force assignments to begin development	Environmental Education Association of Oregon	Oregon passed state legislation in June 2009 - House Bill 2544: "No Oregon Child Left Inside". On July 22nd, 2009, Oregon Governor Ted Kulongoski signed the bill into law. Following the Governor's signature, a collaborative Task Force, made up of officials from state environmental and education agencies and others, will be formed to begin working on developing an Oregon Environmental Literacy Plan. The Plan must be completed by October 2010.

SC	In development	SC Department of Education (SCDE) and Environmental Education Association of SC (EEASC)	The intent is that SCDE and EEASC will spearhead the effort, along with some coalition support as part of a statewide ad hoc ELP committee, and a "resolution blessing" from the state legislature. We (SC) are considering hosting an Environmental Literacy Summit attracting like-minded and interested people together to develop a vision, goals and objectives, and scope and sequence, resulting eventually in a "plan" that is comprehensive and beneficial to all SC citizens.
WI	In development	Wisconsin No Child Left Inside Coalition	<p>We are a coalition group, sort of a state mandate (appointed by Superintendent of Department of Public Instruction), lead by the Wisconsin Center for Environmental Education – a public non-profit, established by state legislation and housed at the University of Wisconsin – Stevens Point (WCEE providing staff support and some additional funds), state affiliate is involved (WAEE).</p> <p>Soon, Superintendent Evers will formally name our group and charge it to develop an ELP for Wisconsin. In the meantime, we have had two preliminary meetings. The primary focus of the first was gaining consensus that developing an ELP is a worthwhile effort that we are all willing to be involved in (regardless of whether the national legislation is successful). Our second meeting consisted of a general brainstorm of the kinds of things we would want in our plan, identified some required components we already have in place, and emphasized the need for teacher participation.</p>
WY	Developing a coalition	Wyoming Association for Environmental Education	Grassroots effort -- looking to build a broad-based coalition within the state

Appendix E

Note: Complete survey results were not available at the time of printing this report. Instead, minutes from a NAAEE Action Network call are provided. These minutes include a summary of survey results.

NAAEE Action Network Minutes

Thursday, October 7, 2010 at 1pm EST

Agenda:

1. Conference Wrap Up, *Shareen Knowlton, NAAEE Advocacy Committee Chair*
 - a. Thank you to our wonderful presenters!
 - Thanks also to Brian Day and the rest of the NAAEE staff for pulling together such a great conference
 - had great participation in presentations (approximately 50 people in each session)
 - we've come a long way in the level of work we are doing (creative approaches, good questions, etc.)
 - Thanks to Sarah Bodor and Don Baugh for coming to Advocacy Committee meeting – and for bringing such great cake!
 - b. Advocacy Committee assistance needed in 2011
 - Would like more volunteers to assist with note-taking during Action Network call- please email Shareen if you or someone you know is available or interested. Good to have several people lined up to do this. It can be a big job for just one person.
 - Will set up a conference call in next couple of weeks to go over note-taking strategies with that team
 - c. NAAEE website update
 - We should have a sharing space on website for Action Network resources, networking, etc. Will be able to archive samples of efforts across the country. We've all benefited from sharing we've already done.
 - If you have documents to share, send them to Shareen. She will begin to organize them so we can start with a great foundation of resources
 - Eventually, you'll be able to post directly to the space.
 - Brian notes they are still working to ensure security of this sharing space so that it is reserved only for participants and advocacy strategies are still confidential

- Will be several networks: NCLI/ELP, Advocacy network, and Outreach network. Are attempting to see if there is a way to post in all three networks if you have authorization for all (so you don't have to post something 3 times).
- Current ELP ning network will be migrated to new network site.

2. Environmental Literacy Plan Status Survey, *Aynsley Toews, NAAEE Program Manager*

- Completed telephone survey with all 50 states regarding the status of their Environmental Literacy Plans
- Interns helped a lot
- Had to really work to find appropriate contacts in each state.
- Asked a series of 12 questions, some with sub-parts
- Questions designed and created by Linda Rhoades.
- Now have a key contact with every state
- Key contacts came from various places:
 - o 27 state EE association
 - o 14 governmental contact
 - o 8 non-profit
 - o 1 higher education
- How many states currently working on ELPs?
 - o **47 states have some organized effort to develop ELPs**
- 2 states have ELPs: Maryland and Oregon
- State level NCLI Coalition?:
 - o 20 have NCLI Coalition at State level
 - o 7 no (some participate with other states, i.e. DC involved in Maryland)
 - o 3 sort of –
- Every state working on ELPs has used NAAEE document on developing a State ELP
- 4 states have passed a bill related to NCLI (Oregon, CO, New Jersey, D.C.)
- 2 have pending legislation: NY,
- 3 states used executive order – KS, Missouri, Maryland
- 19 out of 50 states have secured funding for developing ELPS
- Range from \$700 - \$80,000 (from places like EPA, local foundations, associations, private foundations, etc.)
- Arizona received 75K from private foundation grant
- Almost every state has in-kind contributions
- Almost every state has Department of Education participation
- If we had lots of money, how can NAAEE best help?
 - o Hire staff or pay existing staff to do work
 - o Hire expertise to help develop plan
 - o Meeting costs to outreach plan in all regions of state
 - o Networking with other states
 - o Technology to support

- o Lobbying and other efforts
- Can use network to post and share ideas:
 - o E.g. Can start a forum question related to how state legislation has helped in states that have it. Can include tips on how to go about it, etc. Updated and entered by states themselves.

3. NCLI Update, *Sarah Bodor, NCLI Coalition*

a. US Department of Education Sustainability Summit Report

- DOE hosted 2-day EfS summit in Washington D.C.
- Came out of higher education Act
- Original agenda and planned outcomes centered around what was happening at colleges and universities around the country
- Able to work with conference planners to include focus on K-12 EfS as well.
- Gary Heath was there to speak about environmental literacy and its importance to preparing students for college and careers
- Congressman Sarbanes and Secretary Duncan spoke in support of sustainability education and environmental literacy.
 - o Can read Secretary's remarks on Dept. of Education website: <http://www.ed.gov/news/speeches/greening-department-education-secretary-duncans-remarks-sustainability-summit>
 - o Story about Sarbanes' comments: <http://www.cnsnews.com/news/article/75645>
- Expect some specific recommendations to be available in the next few months. Should have opportunity for public comment.

b. Other updates

- House is in recess until after election, expect Senate to recess soon
- Unlikely there will be surprise activity before end of calendar year
- Will be watching election results closely
- Focus on building grassroots support so representatives from any party will feel secure in supporting environmental literacy efforts.
- **We can all help by writing letters to the editor in your local papers to support legislators that support NCLI and EE.**
- Policy piece of ELPs and funding are essential – still negotiating where these provisions should be placed within the ESEA reauthorization.

4. National Environmental Education Act Updates, *Brian Day, NAAEE Executive Director*

Brian extended a special thanks to Sara Bodor and Don Baugh for their efforts at conference to acknowledge Shareen and Gary Heath for their efforts.

- a. National Environmental Education Reauthorization Act of 2010
 - NEEA passed in 1990, expired in 1996. Kept alive by annual appropriation, expires by default each year.
 - Introduced in Senate and House just before Buffalo conference
 - Bi-partisan introduction in House, and support in Senate for moving legislation forward.
 - Do have to start over in next congress, but have established a clear record that this is important
 - Our advocacy work needs to remain focused on NCLI, will update everyone when it is time to start working on co-sponsors again.
 - Hopeful NCLI will move forward early in 2011.

- b. NEEA appropriations process
 - NEEA passed in 1990, expired in 1996. Kept alive by annual appropriation
 - Want funding increased from 9 million (about .03 cents per American to develop EL) to 14 million
 - Shareen will send out letter after call for organizations that want to sign on to letter of support.

Appendix F



Wisconsin No Child Left Inside Coalition

Steering Committee Members

The Wisconsin No Child Left Inside Coalition Steering Committee includes representation from the following sectors and agencies:

Wisconsin Department of Public Instruction (DPI)

- Dr. Scott Jones
Madison, WI

Wisconsin Center for Environmental Education (WCEE)

- Dr. Randy Champeau
Stevens Point, WI
- Dr. Jennie Lane
Stevens Point, WI
- Dr. Dennis Yockers
Stevens Point, WI
- Jeremy Solin
Stevens Point, WI

Wisconsin Environmental Education Board (WEEB) -representing: business and industry, agriculture, energy, forestry, labor, teachers, non-formal educators, university and technical college system

- Ginny Carlton
Stevens Point, WI
- Kathe Crowley Conn
Madison, WI
- Deb McRae
Milwaukee, WI

Wisconsin Environmental Education Foundation (WEEF)

- Jesse Haney
Stevens Point, WI

Wisconsin Department of Natural Resources (WDNR)

- Elizabeth Kluesner
Madison, WI
- Carrie Morgan
Madison, WI



No Child Left Inside
www.nclt.org

Wisconsin No Child Left Inside Coalition

Wisconsin Association for Environmental Education (WAEI)

- Betsy Parker
Madison, WI

Green Charter School Network (GCSN)

- Jenny Seydel
Madison, WI

Milwaukee Public Schools (MPS)

- Mary Staten
Milwaukee, WI
- Karen Green
Milwaukee, WI

Wisconsin Environmental Science Teacher Network (WESTN)

- Deb Weitzel
Middleton, WI

Wisconsin School Administrator

- Mark Elworthy
Mazomanie, WI

US EPA's Environmental Education Training and Partnership (EETAP)

- Dr. Rick Wilke
Stevens Point, WI

Wisconsin Association of School Boards (WASB)

- Dan Rossmiller
Madison, WI
- Rick Eloranta
Owen, WI

Appendix G

Wisconsin No Child Left Inside Coalition – Needs Assessment

Organization Priorities and Audience Needs relative to advancing environmental literacy		
Organization	Organization Priorities	Audience (unmet/ not fully met) needs
Department of Public Instruction	(No Response)	<ul style="list-style-type: none"> - How the recommendations of the environmental literacy plan will be shared with teachers, especially urban teachers and teachers whose focus is typically not science. - How teachers will integrate environmental education into their curriculum and not see this as separate curriculum.
Wisconsin Association for Environmental Education	<ul style="list-style-type: none"> - Networking - Recognition - Advocacy 	<ul style="list-style-type: none"> - More affordable and/or regional networking opportunities - Readily available funding for networking and recognition/awards - Stronger networks amongst EEers - Easy access to EE job opportunities - Evaluation of EE programs/educators and their effectiveness - State statues supporting EE and EEers
Wisconsin Center for Environmental Education	<ul style="list-style-type: none"> - Work with schools and districts to integrate EE/education for sustainability - Develop and disseminate teacher and student K-12 EE programs - Implement teacher and student programs - Evaluate teacher and student K-12 EE programs - Provide EE resources for teachers and students - Provide assistance to the WEEB and the Wisconsin Environmental Education Foundation - Collaborate with other EE providers 	<ul style="list-style-type: none"> - funding and support to help teachers, schools and/or districts get the help they need to implement EE standards, etc at a greater scale (i.e. what is stated/intended in legislative mandates) - A consultant at DPI to help ensure plan is implemented and, again, schools and teachers have access to funds and support - Strong partnership with the DPI in conducting Statewide environmental literacy assessment, and in ensuring EE standards are maintained and operationalized - Ensure high standards for teacher education in EE - Coordination/cooperation with other EE providers - Reaching diverse/underserved populations - Modernization of DPI Guide to Curriculum Planning In EE

<p>Wisconsin Department of Natural Resources</p>	<p>(No Response)</p>	<ul style="list-style-type: none"> - Assess current environmental literacy (whatever that is defined to be) of Wisconsin students. What is their understanding of Wisconsin natural resources and environmental issues? - Assessment of previous environmental education efforts--Did schools use their environmental education curriculum plan? Identify where/how EE in schools/early childhood centers is currently taking place. If it's not happening, find out why. Identify the people/places/resources teachers are using to meet their environmental education goals. Once these questions are answered, the need would be to... - Provide resources and support to teachers for environmental education training. - Connect people to nature. Find ways to provide resources (people and \$) and incentives so that children can have outdoor experiences as part of both their in school and out-of-school day.
<p>Wisconsin Environmental Education Board</p>	<p>(No Response)</p>	<ul style="list-style-type: none"> - Long term stable funding for environmental education without restrictions (today much of the money goes to forestry related projects.) - Legislative mandate for environmental literacy for all residents via an environmental report card (similar to MN) - Comprehensive environmental literacy standards for the state of Wisconsin (not just preK-12) - A Wisconsin version of the Minnesota Green Print (statewide environmental literacy plan) - University based research on environmental education effectiveness - Effective communications strategy for promote the need for environmental education for all WI citizens - Clearly defined, standards-based Environmental Literacy Plan for the formal education sector.

Wisconsin Environmental Education Foundation	<ul style="list-style-type: none"> - Ensure strategic leadership and vision for environmental education in Wisconsin - Provide sustainable funding for the statewide environmental education grants program, and - Invest in special projects that address newly emerging priorities for environmental education 	<ul style="list-style-type: none"> - Statewide environmental literacy assessment (know where we are to help prioritize where to invest, legitimizes need) - Funding for regular statewide strategic planning efforts - Funding for newly emerging priorities for environmental education (i.e. water education, climate change, food systems, biodiversity, etc) - Strengthen WEEB's administrative capacity (which might help the strategic planning efforts, etc) - Reaching underserved populations (tribes, minorities, people with disabilities, urban populations, people that don't consider themselves 'interested' in the environment/not 'the choir')
Milwaukee Public Schools	(No Response)	(No Response)

<p>Environmental Education Training and Partnership</p>	<ul style="list-style-type: none"> - Identify and implement essential training and support services for educators to foster environmental literacy through America's schools, nature centers, government agencies and other institutions. - As a consortium of leading national EE organizations, deliver environmental education training and support to education professionals for the purpose of increasing public knowledge about environmental issues, and enhancing the critical thinking skills necessary for individuals and their communities to make responsible environmental decisions. - To accomplish this, EETAP has initiated activities in the following three areas: Advancing Environmental Education, Professional Development, Reaching Diverse Audiences 	<ul style="list-style-type: none"> - Strong State programs to reinforce the consortium's training and support by helping to provide local relevance, resources, and support services. - State participation/alliance in national strategies/efforts to advance environmental literacy - Funding and support for educators to participate in training, implementation and evaluation of EE programs - Forge stronger relationships between environmental education and diverse audiences
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Appendix H

Implementation Matrix Results September 2010

	Very Involved	Somewhat Involved
GOAL 1: ENSURE ALL STUDENTS GRADUATE ENVIRONMENTALLY LITERATE.	DPI WCEE	WEEF
Objective 1.1: Define what an Environmentally Literate high school graduate looks like in Wisconsin (measurable).	DPI WCEE	
<i>Possible actions/steps to accomplishment:</i>		
<ul style="list-style-type: none"> Further define what an environmentally literate graduate should know and be able to do. Work with DPI, EE specialists, and other appropriate stakeholders to do this. 	MPS DPI WCEE	WAEE WDNR
<ul style="list-style-type: none"> Review and update <i>Wisconsin Model Academic Standards for Environmental Education</i> relative to: Sustainability/holistic outcomes, <i>NAAEE Guidelines for Excellence</i>, National Common Core Standards, Wisconsin Model Academic Standards for all other subject areas. 	MPS DPI WCEE	WAEE WDNR
Objective 1.2: Pursue development of a semester environmental science course or credit requirement.		
<i>Possible actions/steps to accomplishment:</i>		
<ul style="list-style-type: none"> Work with DPI, teachers, EE specialist/stakeholders and WI legislators to develop a plan for implementation of a semester environmental science course/credit requirement (licensure, support, etc). 	MPS WCEE	
<ul style="list-style-type: none"> Integrate STEM (science, technology, engineering, and math) strategies into Environmental Science course. 	MPS	DPI WCEE WDNR
<ul style="list-style-type: none"> Ensure Environmental Science course correlates to objective 1.1 (standards). 	MPS WCEE	
Objective 1.3: Continue to support integration of environmental education into the curriculum of all grade levels and subject areas.	DPI WCEE	
<i>Possible actions/steps to accomplishment:</i>		
<ul style="list-style-type: none"> Use the updated <i>Wisconsin Model Academic Standards for EE</i> to focus work with the DPI to incorporate environmental literacy proficiency standards within the social studies, science, language arts, mathematics, and other model academic standards for K-12 students. 	DPI MPS WCEE WDNR	WAEE WASB

	Very Involved	Somewhat Involved
<ul style="list-style-type: none"> Provide examples/models of exemplary EE curricula in all grade levels and subject areas. 	MPS DPI	WAE WCEE WDNR
<ul style="list-style-type: none"> Create model scope and sequence for integration of EE into other subject areas. 	MPS DPI WCEE	WAE WASB WDNR
<ul style="list-style-type: none"> Offer low cost/ no cost training for teachers to gain practice in integrating EE into their subject area. 	MPS WCEE WDNR	DPI WAE WEEF
<ul style="list-style-type: none"> Provide a tool kit to overcome barriers to getting kids outdoors. Include model policies, transportation funding sources, models for how to learn outdoors in any class, etc. 	WDNR	DPI MPS WAE WCEE
<ul style="list-style-type: none"> Provide guidance on how to use the DPI curriculum mapping tool to assist with integrating environmental education into all subject areas. 	WDNR	MPS WAE WCEE
<ul style="list-style-type: none"> Provide guidance on how environmental science courses provide opportunity to integrate other sciences. 	DPI MPS	WASB WAE WCEE WDNR
Objective 1.4: Encourage schools and districts to develop and implement a comprehensive environmental literacy plan (ELP) tailored to their specific location, goals and circumstances.		
<i>Possible actions/steps to accomplishment:</i>		
<ul style="list-style-type: none"> Develop guide for schools to assist them in developing their own environmental literacy plan (related to both process and content). Include a variety of model plans. 	DPI MPS	WCEE WDNR WEEF
<ul style="list-style-type: none"> Offer trainings that help ELP planners understand and move through the process of developing their plan (webinars, workshops, consulting, etc.). 	DPI MPS	WCEE
<ul style="list-style-type: none"> Provide networking opportunities for schools to teach and learn from each other. 	DPI MPS	WAE WASB WCEE
<ul style="list-style-type: none"> Share success stories/best practices from schools/districts that are successfully integrating EE. 	DPI MPS	WAE WASB WCEE WDNR
<ul style="list-style-type: none"> Increase awareness of networks and resources so schools are aware of all the support available to help them implement their plan. 	DPI MPS WDNR	WAE WASB WCEE WEEF
<ul style="list-style-type: none"> Provide professional development for school staff and/or those that support schools to become proficient in supporting the development and implementation of school ELPs. 	DPI MPS WCEE	WAE WDNR
<ul style="list-style-type: none"> Develop model policies that reinforce and support plan implementation (or that planners should simply be aware of). 		MPS WASB WCEE

	Very Involved	Somewhat Involved
<ul style="list-style-type: none"> Develop complimentary grants program (like WEEB School Forest grants model) that provides funds to plan, implement, and maintain school/district ELPs. 	WEEF	WDNR
<ul style="list-style-type: none"> See Objective 3.2 for additional action steps to support school/district ELPs. 		
Objective 1.5: Strengthen students' connection to their local environment and nature through outdoor learning, play and adventure opportunities during and after the school day.	DPI	
<i>Possible actions/steps to accomplishment:</i>		
<ul style="list-style-type: none"> Provide examples/models of exemplary outdoor opportunities that contribute to the development of environmental literacy (e.g., field work, service-learning, unstructured play, adventure, after-school programs, etc.). 	DPI MPS WDNR	WAEW WASB WCEE
<ul style="list-style-type: none"> Provide examples/models of exemplary outdoor opportunities that contribute to the development of a relationship with the natural world. 	DPI MPS WDNR	WAEW WASB WCEE
<ul style="list-style-type: none"> Encourage school sponsored outdoor activities to involve parent organizations, families, service groups, and community members. 	MPS WDNR	WAEW WASB WCEE WEEF
Objective 1.6: Pursue strategies to engage student populations who are underserved by EE.		
<i>Possible actions/steps to accomplishment:</i>		
<ul style="list-style-type: none"> Conduct an inventory to identify who underserved student populations are. 	MPS	WCEE
<ul style="list-style-type: none"> Develop and implement a plan to address these needs. 	MPS	WCEE WDNR
<ul style="list-style-type: none"> Ensure students have access to integrated environmental education courses, environmental science courses, outdoor learning opportunities, etc. 	MPS WDNR	WCEE WEEF
Objective 1.7: Identify and develop funding strategies for supporting the objectives and activities within this goal.		
<i>Possible actions/steps to accomplishment:</i>		
<ul style="list-style-type: none"> Identify no cost/ low cost opportunities that don't need money (and publicize their availability). 	MPS	WAEW WASB WCEE WDNR WEEF
<ul style="list-style-type: none"> Encourage districts to establish policies that enable individual schools to determine how to reinvest savings from reduced energy costs, waste disposal and/or other conservation initiatives. 	MPS	WCEE WEEF

	Very Involved	Somewhat Involved
<ul style="list-style-type: none"> ○ Work with WI Association of School Boards to develop and share model policy 	WASB	
<ul style="list-style-type: none"> ● Provide guidance for how to use current budgets to support environmental education and literacy while continuing to meet other existing priorities. 		MPS WCEE
<ul style="list-style-type: none"> ● Create a Wisconsin based grants program to support school environmental literacy planning. 	WEEF	WAEF
<ul style="list-style-type: none"> ● Assist schools in locating and applying for other related grant opportunities. 	MPS	WAEF WASB WCEE
<ul style="list-style-type: none"> ○ Publicize grant opportunities on EEinWisconsin.org, DPI website, and other appropriate sites. 		WCEE WDNR
<ul style="list-style-type: none"> ○ Establish or enhance grant information centers located at public libraries 		WEEF
<ul style="list-style-type: none"> ○ Encourage CESAs and other supporting organizations to assist schools with grant writing. 		WASB WEEF
<ul style="list-style-type: none"> ● Create fund to support environmental science courses. Funds to develop courses, purchase books/resources, license or recruit licensed teachers, continue to support ongoing professional development). 		WEEF
<ul style="list-style-type: none"> ● Encourage the development of statewide environmental literacy assessment and research strategies that offset the need for schools to each develop their own system. 	MPS WCEE WEEF	
<ul style="list-style-type: none"> ● Create a fund to ensure the availability and safety of outdoor play areas. 	WEEF	
GOAL 2: PROVIDE SUPPORT TO TEACHERS AND OTHER EE PROVIDERS TO ASSIST WITH INTEGRATING ENVIRONMENTAL EDUCATION IN ALL GRADE LEVELS AND ACROSS ALL SUBJECT AREAS.	DPI	
Objective 2.1: Provide professional development for teachers that enhances their:		DPI
<ul style="list-style-type: none"> ● own environmental literacy 	DPI MPS WAEF WCEE WDNR	
<ul style="list-style-type: none"> ● awareness of, and ability to integrate, <i>Wisconsin Model Academic Standards for Environmental Education</i> into curricula 	DPI MPS WAEF WCEE	WASB WDNR
<ul style="list-style-type: none"> ● ability to identify and utilize appropriate environmental education resource materials 	DPI MPS WCEE WDNR	
<ul style="list-style-type: none"> ● ability to incorporate diverse environmental education teaching strategies 	WAEF WCEE WDNR	

	Very Involved	Somewhat Involved
<ul style="list-style-type: none"> ○ that facilitate integration of environmental education into all grade levels and all subject areas 	WCEE WDNR	
<ul style="list-style-type: none"> ○ that enable select educators to provide environmental science and/or environmental education capstone course(s) 	WCEE	WDNR
<ul style="list-style-type: none"> ● ability to provide authentic environmental education assessment 	DPI MPS WAE WCEE	WDNR
<ul style="list-style-type: none"> ● ability to contribute to the district’s environmental literacy plan and/or environmental curriculum planning initiatives 	DPI MPS WCEE	WAE WASB WDNR
<i>Possible actions/steps to accomplishment:</i>		
<ul style="list-style-type: none"> ● Survey Wisconsin teachers to determine their professional development needs. 	MPS WCEE	DPI WAE WEEF
<ul style="list-style-type: none"> ● Convene a steering committee to review the professional development needs identified by teachers in the survey and determine priorities and responses. <ul style="list-style-type: none"> ○ 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. 	MPS WDNR	DPI WCEE
<ul style="list-style-type: none"> ● Communicate the identified professional development priorities to formal (e.g., colleges and universities) and non-formal (e.g., nature centers and state agencies) environmental education professional development service providers. 	MPS WAE WCEE WDNR	WASB DPI WEEF
<ul style="list-style-type: none"> ● Explore the option of instituting a culminating assessment or series of culminating assessments that would need to be successfully completed in order to be certified to teach at various levels and within various subject areas. 	MPS WCEE	
		DPI
Objective 2.2: Develop, promote, disseminate and assess environmental education resources.		
<i>Possible actions/steps to accomplishment:</i>		
<ul style="list-style-type: none"> ● Develop resources for teachers to enhance their understanding of how outdoor learning and environmental education can support learning the standards and benchmarks in all subject areas. For example: 	DPI MPS WCEE WDNR	WAE

	Very Involved	Somewhat Involved
<ul style="list-style-type: none"> ○ Modernize <i>A Guide to Curriculum Planning in Environmental Education</i> and make it available on-line 		WCEE
<ul style="list-style-type: none"> ○ Create a guide to professional EE development. 		WCEE WDNR
<ul style="list-style-type: none"> ○ Share sample professional development plans (PDPs), assessments, funding strategies, etc onto EEinWisconsin.org, DPI website, and other appropriate locations. 		WCEE WDNR
<ul style="list-style-type: none"> ● Develop resources for environmental education providers to enhance understanding of how outdoor learning can best support and enhance environmental literacy in preK-12 education. 	WDNR	DPI MPS WAAE WCEE
<ul style="list-style-type: none"> ● Review the National Council for the Accreditation of Teacher Education (NCATE) process and other relevant accrediting programs to determine and communicate what the expectations for teacher preparation programs are as they relate to environmental education. 	WCEE	DPI WAAE
Objective 2.3: Pursue strategies to engage teacher populations who are underserved by EE.		DPI WDNR
<i>Possible actions/steps to accomplishment:</i>		
<ul style="list-style-type: none"> ● Identify who underserved teacher populations are. 	MPS	DPI WAAE WCEE
<ul style="list-style-type: none"> ● Develop and implement a plan to address needs (e.g., identify and share best practices, etc.) 	MPS	DPI WAAE WCEE
Objective 2.4: Provide services and resources that encourage and motivate teachers to incorporate environmental education into their personal professional development plans.		
<i>Possible actions/steps to accomplishment:</i>		
<ul style="list-style-type: none"> ● Examine how professional development programs administered through colleges and universities incorporate the professional competencies identified by NAAEE. 		MPS WCEE
<ul style="list-style-type: none"> ● Delineate expected competencies for individuals as they 1) complete a pre-service program and are certified to teach, and 2) acquire additional knowledge and skills via professional development. 		MPS WCEE WDNR
<ul style="list-style-type: none"> ○ Create and distribute sample professional development plans that incorporate EE as a goal 	WCEE	
<ul style="list-style-type: none"> ○ Examine the creation of various EE certificate programs (different levels and topic areas). 		WCEE

	Very Involved	Somewhat Involved
Objective 2.5: Identify and develop funding strategies for supporting the objectives and activities within this goal.		
<i>Possible actions/steps to accomplishment:</i>		
<ul style="list-style-type: none"> Explore best use of existing resources (evaluate what we are currently doing, reallocate as appropriate). 		WCEE
<ul style="list-style-type: none"> Assemble a financial resource list of all available sources of funding for EE professional development (e.g., WEEB, foundations, etc). 		MPS WCEE WDNR WEEF
<ul style="list-style-type: none"> Explore grant program and other funding incentives. 		WDNR WEEF
<ul style="list-style-type: none"> Tie EE professional development to other state initiatives/priorities (e.g., STEM, special education, etc.). 		WASB MPS WCEE
<ul style="list-style-type: none"> Access NCLI Act funds when they become available. 	MPS	WASB WCEE WDNR WEEF
GOAL 3: INVOLVE SCHOOL BOARDS, ADMINISTRATORS, CURRICULUM COORDINATORS, CESAS, AND OTHER RELEVANT DECISION-MAKERS TO SUPPORT THE INTEGRATION OF ENVIRONMENTAL EDUCATION IN ALL GRADE LEVELS AND ACROSS ALL SUBJECT AREAS.	DPI	
Objective 3.1: Promote and build ongoing support for environmental education and literacy among school boards, administrators, etc. (including outdoor learning, green school facilities, grounds, school habitat programs, etc.)	DPI	
<i>Possible actions/steps to accomplishment:</i>		
<ul style="list-style-type: none"> Create an ongoing communication network to connect environmental educators with school decision-makers and community partners. The network would help to: <ul style="list-style-type: none"> Share and find ideas and resources Develop partnerships with community groups that are tied to the environment. Provide specialized support for smaller districts that do not have as much local access to supporting community groups. 	DPI MPS	WAEE WCEE WDNR
		WCEE
		WCEE WDNR
		WCEE WDNR
<ul style="list-style-type: none"> Compile and share compelling success stories. Include research data and evidence of success. 	MPS	WAEE WASB WCEE WDNR
<ul style="list-style-type: none"> Encourage professional environmental educators to partner with school board members and/or administrators to present at the annual WASB/WASDA conference, regional meetings, CESAs, etc. 	MPS WASB	WCEE WDNR

	Very Involved	Somewhat Involved
<ul style="list-style-type: none"> • Create 30-second 'elevator speech' explaining why developing environmental literacy at school is important. Share this speech with EE community so we all can all communicate clearly. 	MPS	DPI WAEE WCEE WEEF
<ul style="list-style-type: none"> • Encourage informational board reports about existing or desired environmental education programs and opportunities in their district and community. 	MPS	WAEE
<ul style="list-style-type: none"> • Use technology to: <ul style="list-style-type: none"> ○ Inform administrators about environmental literacy and resources available (especially locally). ○ Virtually take students to where they cannot normally go (e.g., link to polar researchers, space station, etc). ○ Connect to existing applications - social networking, EEinWisconsin.org, etc. ○ Create a resource database that pulls together research from Wisconsin and nationally that demonstrates evidence of need. Make it easy to access and understand this information 		
	MPS	WCEE
	MPS	WCEE
	MPS	WCEE WDNR
	MPS	WCEE WEEF
Objective 3.2: Provide guidance and assistance with local school or district environmental literacy program planning.		
<i>Possible actions/steps to accomplishment:</i>		
<ul style="list-style-type: none"> • Provide incentives that engage interest and participation of school boards, administrators, etc. in environmental literacy planning. 	WEEF	
<ul style="list-style-type: none"> • Identify best practices and provide models/examples of what others have done to provide leadership for their colleagues and communities in order to enhance environmental education initiatives. 	MPS	DPI WAEE WCEE WDNR
<ul style="list-style-type: none"> • Provide guidance on integration and interdisciplinary nature of EE and outdoor learning. <ul style="list-style-type: none"> ○ E.g. Create credited course administrators can take to renew their administrator license. 	MPS	WCEE WDNR
		WCEE
<ul style="list-style-type: none"> • Provide seminar experience where school board members, administrators, and teachers join together for an intensive work day. They leave with a completed Environmental Literacy Plan (ELP) including the steps to implement and evaluate their plan. <ul style="list-style-type: none"> ○ Seminars could be done through many venues (e.g., CESAs, WASB, local nature centers, school forests, etc.) 	MPS	DPI WASB WCEE WDNR
		WASB WCEE

	Very Involved	Somewhat Involved
<ul style="list-style-type: none"> ○ Provide template/guidelines for assessing progress towards goal of developing an ELP in order to help administrators evaluate if they are on the correct track to a good program. The guidelines can also provide ideas and specific examples to help: <ul style="list-style-type: none"> ▪ Develop or highlight curriculum around planning programming. ▪ Align with the standards and be age appropriate. ▪ Focus on big concepts with bulleted points. ▪ Incorporate general questions to help evaluate their programs. ▪ Introduce available tools (e.g., grants program, searchable online database of local and statewide resources, including outdoor learning sites, professional development, etc.). ● Share your school’s plan as a resource for other districts 		WCEE
<ul style="list-style-type: none"> ○ Include in the design of the seminar experience a mechanism to easily share periodic progress reports: successes, challenges, and needs 		WCEE
<ul style="list-style-type: none"> ● Provide a second seminar experience that focuses on monitoring implementation of a school ELP, making improvements to your ELP, and networking with other schools. 	MPS	WCEE
<ul style="list-style-type: none"> ○ Prior to the seminar, create a template to help structure the conversation 		WCEE
<ul style="list-style-type: none"> ○ Provide opportunity to build upon periodic progress reports: sharing successes and challenges. 		WCEE
<ul style="list-style-type: none"> ○ Provide more time to address curriculum, indoor and outdoor learning sites, community partners, and other school ELP goals. 		WCEE
Objective 3.3: Provide opportunities for administrators, school board members, curriculum coordinators, etc. to develop their own environmental literacy.		
<i>Possible actions/steps to accomplishment:</i>		
<ul style="list-style-type: none"> ● Partner with CESAs and higher education institutions to provide learning opportunities (credit or non-credit). 	MPS	WASB WCEE WDNR

	Very Involved	Somewhat Involved
<ul style="list-style-type: none"> Encourage environmental and outdoor education sites to create free, fun opportunities for school board members, administrators, and curriculum coordinators to experience outdoor instructional programs. 	MPS WDNR	WAEE WCEE
<ul style="list-style-type: none"> <ul style="list-style-type: none"> E.g., invite them and their families to hike an interpretive trail, visit a nature center, and participate in a program 		WCEE
<ul style="list-style-type: none"> Encourage school boards to invite students, teachers, and administrators to showcase environmental education initiatives. 	MPS	WAEE WASB WCEE
<ul style="list-style-type: none"> <ul style="list-style-type: none"> Establish and promote a 'poster contest' for schools to show off their EE efforts. Teachers, administrators, and students can pull information together to share with their school board. 		
<ul style="list-style-type: none"> <ul style="list-style-type: none"> At a statewide level, provide awards or recognition for making the effort to share EE stories with school boards and also for programs of excellence. Identify and collect success stories to share through statewide networks. 		WEEF
<ul style="list-style-type: none"> <ul style="list-style-type: none"> Host video presentations, conferences, and/or webinar presentations to showcase models which can be shared both in district and out-of-district. 		WCEE
<ul style="list-style-type: none"> <ul style="list-style-type: none"> Incorporate time for a "green note" (a brief, one minute or less, idea on how individuals can enhance environmental literacy and/or what students/staff have done to enhance environmental literacy) to be presented at each school board meeting 		
<ul style="list-style-type: none"> <ul style="list-style-type: none"> Bring teachers in to conduct EE activities such as nature journaling, measuring tree height, etc. Emphasize activities that illustrate interdisciplinary connections. 		WDNR
<ul style="list-style-type: none"> Encourage school board members, administrators, and curriculum coordinators to accompany students who are attending environmental education programming conducted at district and off-site properties. 	MPS	WCEE WDNR
Objective 3.4: Pursue strategies to engage administrative populations who are underserved by EE.		
<i>Possible actions/steps to accomplishment:</i>		
<ul style="list-style-type: none"> Identify who underserved populations are (may be different for each audience and location). 	MPS	WAEE
<ul style="list-style-type: none"> Use existing research about how to reach underserved populations to identify an action plan. 	MPS	

	Very Involved	Somewhat Involved
<ul style="list-style-type: none"> Develop a resource list/database by school district/ CESA that identifies opportunities for administrators in districts with less or no access -- include outdoor sites available, programs available, types of resources, costs, contact information, etc. 	WDNR	MPS
<ul style="list-style-type: none"> <ul style="list-style-type: none"> Identify on-site and nearby opportunities. 		
<ul style="list-style-type: none"> <ul style="list-style-type: none"> Provide incentive for schools/districts to enter their most local opportunities into a statewide database (opportunities that will likely not appear on a broad statewide list). 		
<ul style="list-style-type: none"> Utilize social networks and other communication tools to promote activities meant to reach underserved administrators. 	MPS	WAEW WCEE
Objective 3.5: Identify and develop funding strategies for supporting the objectives and activities within this goal.		
<i>Possible actions/steps to accomplishment:</i>		
<ul style="list-style-type: none"> Develop guide/recommendations that assist schools in identifying programs available to them. 		MPS WAEW WCEE WDNR WEEF
<ul style="list-style-type: none"> Identify possible sources of funding from organizations that have an interest in this specific goal. 		WAEW WEEF
<ul style="list-style-type: none"> <ul style="list-style-type: none"> Form corporate partnerships with green business, outdoor recreation companies, utilities, etc. that want to fund systemic change in education 		WCEE WEEF
<ul style="list-style-type: none"> <ul style="list-style-type: none"> Research related EE grants: WEEB, EPA, Dept of Education, Foundations, etc. 		WCEE WEEF
<ul style="list-style-type: none"> Create template form so it can be similar across the state - any school/district can use common template for each goal (if pursued separately) - present a range of opportunities for giving 	MPS	
<ul style="list-style-type: none"> Access NCLI Act funding when it becomes available. 	MPS WCEE	WDNR
<ul style="list-style-type: none"> Create and keep updated a list of sources of grant funding for schools to plan and accomplish their environmental literacy plans (timeline, funds available, etc.). 		WCEE WDNR WEEF
<ul style="list-style-type: none"> <ul style="list-style-type: none"> Use EEinWisconsin.org 		WCEE WDNR
<ul style="list-style-type: none"> <ul style="list-style-type: none"> Develop an online database of successful grant applications 		
<ul style="list-style-type: none"> <ul style="list-style-type: none"> Facilitate opportunities for joint grant applications to combine efforts. Take advantage of larger grant pools (e.g., can happen via CESA units, etc). 		WCEE
<ul style="list-style-type: none"> <ul style="list-style-type: none"> Advocate for grants that allow for joint applications (i.e. RFPs indicate funds are awardable to consortia). 		WCEE WEEF

	Very Involved	Somewhat Involved
<ul style="list-style-type: none"> ○ Provide additional grant-writing support (e.g., for small districts or schools that have not had great success in receiving grants). 		WEEF
GOAL 4: PROVIDE GUIDANCE AND SUPPORT TO PRE-SERVICE TEACHERS AND TEACHER PREPARATION PROGRAMS RELATIVE TO ENVIRONMENTAL EDUCATION.		
Objective 4.1: Promote enhancement of pre-service EE in all institutions of higher education.	DPI WDNR	
<i>Possible actions/steps to accomplishment:</i>		
<ul style="list-style-type: none"> • Update PI-34 to provide additional guidance related to EE requirements; what needs to be done and what this looks like. 		WAEE WCEE WDNR
<ul style="list-style-type: none"> ○ Expand definition of EE (e.g., not just conservation of natural resources) and ensure pre-service teacher providers understand this definition. 		WCEE WDNR
<ul style="list-style-type: none"> ○ Update pre-service teacher requirements in DPI Guide for Curriculum Development in EE to align with updated <i>Wisconsin Model Academic Standards in EE</i> (See objective 1.1 of this plan). Incorporate sustainability/holistic outcomes, <i>NAAEE Guidelines for Excellence</i>, National Common Core Standards, etc. 		WCEE
<ul style="list-style-type: none"> ○ Clarify the statutory requirement for pre-service teacher preparation in environmental education. Provide brief, but specific guidelines for what is sufficient to meet the requirement 		WCEE
<ul style="list-style-type: none"> ○ Consider expanding teacher audiences that require preparation in EE (e.g. family and consumer education, or just say all teachers need this). 		WCEE
<ul style="list-style-type: none"> • Develop a network for higher education and other pre-service teacher education providers (non-formal educators, etc.) to facilitate communication and cooperation. 	DPI WAEE WDNR	WCEE
<ul style="list-style-type: none"> ○ Provide staff support to facilitate this group 		
<ul style="list-style-type: none"> ○ Include higher education, non-formal educators/pre-service providers, DPI, representatives of Wisconsin Institutions of Higher Education (IHEs), school teachers and administrators, etc 		WCEE

	Very Involved	Somewhat Involved
<ul style="list-style-type: none"> ○ Cooperatively develop and work from a common platform of what constitutes a quality EE pre-service program (draw from existing guidelines as appropriate: e.g., NAAEE's National Program for Excellence in EE: Guidelines for Initial Preparation and Professional Development of Environmental Educators, NCATE's pre-service requirements). 		WCEE
<ul style="list-style-type: none"> ○ Identify and develop guidelines for integration of EE concepts and practices in pre-service teacher programs of studies. 		WCEE
<ul style="list-style-type: none"> ○ Ensure these concepts and skills are linked to DPI teacher preparation standards. 		WCEE
<ul style="list-style-type: none"> ○ Review and update on a regular basis (e.g., every five years) "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". 		WCEE
<ul style="list-style-type: none"> ● Strengthen support for EE instruction by institutions of higher education (IHEs). 	DPI WCEE	MPS WAEE WDNR
<ul style="list-style-type: none"> ○ Include EE instruction in program reviews of licensing institutions by DPI. 	WCEE	
<ul style="list-style-type: none"> ○ Develop a consulting team that can work with the DPI and higher education institutions to assess programs, offer recommendations, and facilitate any needed program updates. 	WCEE	
Objective 4.2: Provide guidance and support to pre-service teachers relative to EE and assist with their transition to the classroom.		DPI
<i>Possible actions/steps to accomplishment:</i>		
<ul style="list-style-type: none"> ● Ensure pre-service teachers know what EE services, programs, and resources are available to them now and once they enter classroom. 	DPI WDNR	WCEE WAEE
<ul style="list-style-type: none"> ● Create a network for pre-service teachers to learn about and gain experience with integrating EE into whatever they teach. 		DPI WAEE WCEE WDNR
<ul style="list-style-type: none"> ○ Provide staff support for this network. 		WCEE
<ul style="list-style-type: none"> ○ Share inventory of "best practices" for developing or achieving environmental literacy and provide opportunities for practice. 		WCEE
<ul style="list-style-type: none"> ○ Introduce array of available EE opportunities (e.g., professional development, resources, other networks, etc.). 		WCEE

	Very Involved	Somewhat Involved
<ul style="list-style-type: none"> ○ Reach out to students that are not yet aware of or interested in EE to provide opportunities for EE experiences. 		WCEE
<ul style="list-style-type: none"> <ul style="list-style-type: none"> ● Offer and promote focused introductory EE workshops that are open to all college of education students (e.g., as a part of WAEE conference, special workshops targeting broader audience of pre-service teachers). 		WCEE
<ul style="list-style-type: none"> ○ Share examples of how to incorporate EE into professional development plans (PDPs) and pre-PDPs. Highlight opportunities that can enhance their ability to use EE as a tool for classroom management, teaching differentiation, etc. 		WCEE
<ul style="list-style-type: none"> ○ Create a reference for 'why it is valuable to have EE as a specialty'? Demonstrate the importance and value of integration in any subject area (include rationale and models/examples of how EE can be integrated). 		WCEE
<ul style="list-style-type: none"> <ul style="list-style-type: none"> ● Demonstrate value of tie to STEM <i>and</i> that EE is more than nature study and science. 		WCEE
<ul style="list-style-type: none"> <ul style="list-style-type: none"> ● Refer to state statutes requiring EE curriculum plans, teacher preparation requirements, etc. 		WCEE
<ul style="list-style-type: none"> ● Provide courses that help pre-service teachers understand how to use technology to enhance EE (e.g., look at methods courses by subject area and create opportunities to use technology to enhance EE). 		WCEE WDNR
<ul style="list-style-type: none"> ● Facilitate opportunities for pre service teachers to experience outdoor environmental education activities first-hand. 	WAEE WDNR	WCEE
<ul style="list-style-type: none"> ● Provide opportunities for student teachers to advance their own environmental literacy. 	WAEE WDNR	WCEE
<ul style="list-style-type: none"> ● Encourage and support pre-service teachers in receiving Environmental science licensure when available. 		WAEE WCEE
<ul style="list-style-type: none"> ● Provide practice with EE integration for any subject area or grade level. Make explicit connections to WI Model Academic Standards for all subject areas. 	MPS	DPI WAEE WCEE
<ul style="list-style-type: none"> ● Create opportunities to support new teachers, especially in their first 5 years. 	MPS	WAEE WCEE
<ul style="list-style-type: none"> ○ Provide forum to share approaches to meeting benchmarks or standards relative to EE (could be done through EEinWisconsin.org). 		WCEE

	Very Involved	Somewhat Involved
<i>Possible actions/steps to accomplishment:</i>		
<ul style="list-style-type: none"> • Provide resources, tools, and case studies to empower students, teachers, facility staff, administrators and community partners to green school facilities and grounds. 	MPS WDNR	DPI WCEE WEEF
<ul style="list-style-type: none"> ○ Make use of existing programs (create search feature on EEinWisconsin.org to easily identify available programs). 		WCEE WDNR WEEF
<ul style="list-style-type: none"> ○ Inventory existing programs and resources that support this objective. 		
<ul style="list-style-type: none"> ○ When necessary, create new programs. 		
<ul style="list-style-type: none"> ○ 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. 	WCEE WDNR	
<ul style="list-style-type: none"> • Provide guidance for schools working to comply with Wisconsin State Statute requiring all new school buildings be built to conform with LEED silver level certification (actual certification is not required). Bill vetoed by Gov! 	WDNR	MPS WCEE
<ul style="list-style-type: none"> • Provide incentives to encourage "green" or sustainable existing school construction and operation. 		MPS WAEE WEEF WASB
<ul style="list-style-type: none"> ○ Educate decision-makers on construction and operational cost benefits to building "green". Provide models/examples of schools that have saved money by building green. 		
<ul style="list-style-type: none"> ○ Provide incentives for and/or encourage that all school buildings complete an Energy analysis. 		WEEF
<ul style="list-style-type: none"> • Encourage year-round use of school facilities and grounds to: 	MPS WAEE WDNR	DPI WASB WCEE
<ul style="list-style-type: none"> ○ Meet State EE standards and learner outcomes. 	WCEE	
<ul style="list-style-type: none"> ○ Provide access for unstructured play. 	WCEE	
Objective 5.2: Increase access and use of off-site outdoor learning facilities such as school forests, nature centers, parks, public lands, museums, etc.		
<i>Possible actions/steps to accomplishment:</i>		
<ul style="list-style-type: none"> • Provide incentives to encourage the use of off-site outdoor learning facilities. 	WDNR	WAEE WEEF
<ul style="list-style-type: none"> ○ Expand funding programs to provide financial resources to school districts for off-site EE and outdoor education programs. 	WEEF	
<ul style="list-style-type: none"> ○ Provide time, financial resources, research to support the academic value, curriculum resources, site staff availability, etc. 	WCEE	WEEF

	Very Involved	Somewhat Involved
<ul style="list-style-type: none"> Provide professional development for teachers so they can effectively use outdoor education sites and integrate outdoor learning experiences into their curriculum to meet state standards and other learner outcomes. 	MPS WAEE WCEE WDNR	DPI
<ul style="list-style-type: none"> Make available to every school, via EEinWisconsin.org, a database of outdoor learning sites in their community and region. <ul style="list-style-type: none"> Connect with people around the state to ensure the database is known and used. Include information about the value of environmental education and outdoor play 	WCEE	MPS WAEE WDNR
<ul style="list-style-type: none"> Provide information to district administrators and school boards about the value of and resources for outdoor learning sites. 	MPS	DPI WAEE WASB WCEE WDNR
<ul style="list-style-type: none"> Develop and distribute informational materials for teachers, administrators, school board members and parents that illustrate how environmental and outdoor education are more effective education strategies. 	DPI MPS WAEE WCEE	WDNR
<ul style="list-style-type: none"> Identify barriers to access and use of these sites (different reasons for access issues, etc.) and create solutions to address these barriers. 	MPS WDNR	WAEE WCEE
Objective 5.3: Support non-formal educators and resource professionals in integrating outdoor and facility-based learning into preK-12 curricula.		
<i>Possible actions/steps to accomplishment:</i>		
<ul style="list-style-type: none"> Identify and provide professional development for non-formal educators and resource professionals so they can help to meet teachers' and students' EE and outdoor education needs. <ul style="list-style-type: none"> E.g, Provide workshops for non-formal educators to become familiar with state education standards and other classroom requirements. 	MPS WAEE WDNR	DPI
<ul style="list-style-type: none"> Develop a learning community of non-formal educators, resource professional and teachers to provide strategies to enhance the relevance and utilization of non-formal educators and resource professionals. 	MPS WAEE	WCEE WDNR
<ul style="list-style-type: none"> Ensure teachers and other decision-makers understand that non-formal educators are a valuable source of EE professional development. <ul style="list-style-type: none"> Ensure teachers/advisors know how to integrate non-formal education opportunities into professional development plans (PDPs). 	MPS WAEE WDNR	WCEE

	Very Involved	Somewhat Involved
Objective 5.4: Identify and develop funding strategies for supporting the objectives and activities within this goal.		
<i>Possible actions/steps to accomplishment:</i>		
<ul style="list-style-type: none"> Look for ways to more efficiently use existing resources. 	WDNR	WAEE
<ul style="list-style-type: none"> Create a dedicated statewide fund to support preK-12 field experiences. 	WDNR WEEF	WAEE
<ul style="list-style-type: none"> Create a mechanism for schools to apply for funding for expenses related to field experiences (especially transportation). 	WEEF	MPS WAEE WDNR
<ul style="list-style-type: none"> Make use of existing fundraising tools that could support school efforts (e.g., www.donorschoose.org) 	MPS	WAEE
<ul style="list-style-type: none"> Identify funding to support non-formal educators in professional development that helps them meet teacher and learner outcome needs. 		MPS WAEE WEEF
<ul style="list-style-type: none"> Identify funding opportunities for teacher professional development 		MPS WAEE WCEE
<ul style="list-style-type: none"> Identify grants and other funding to support greening of school grounds/facilities 		WAEE WCEE
<ul style="list-style-type: none"> Provide funds to facilitate learning community 		WEEF
<ul style="list-style-type: none"> Develop guide/recommendations that assist schools in identifying affordable EE programs and priorities for their school. 		MPS WAEE WCEE
<ul style="list-style-type: none"> Provide financial support for outdoor classroom development on site or nearby the school. 		WEEF
GOAL 6: PERIODICALLY COLLECT ASSESSMENT DATA AND CONDUCT RESEARCH THAT DEMONSTRATES THE SUCCESS/EFFECTIVENESS OF ENVIRONMENTAL EDUCATION EFFORTS AND IDENTIFIES AREAS FOR FUTURE IMPROVEMENT.	WCEE WEEF	DPI

	Very Involved	Somewhat Involved
<ul style="list-style-type: none"> 1989 Wisconsin Act 299 requires the Wisconsin Center for Environmental Education to: <ul style="list-style-type: none"> ➤ “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.” Wisconsin Administrative Code PI 3.05(4) requires “adequate preparation in conservation of natural resources... for a license to teach agriculture; early childhood, elementary, and elementary/middle level education; and for middle, middle/secondary, and secondary level education licenses in science and social studies”. Wisconsin Administrative Code PI 8.01(2)(k) 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”. 		
Objective 6.1: Develop and implement a meaningful and ‘doable’ strategy to assess improvements in student environmental literacy over time (standard and authentic assessment).		
<i>Possible actions/steps to accomplishment:</i>		
Assemble a team to assess student environmental literacy (Include DPI representatives, EE specialists, individuals with expertise in assessment/evaluation, school/district teachers and administrators, researchers from various UW campuses and colleges, etc.). The team should:		
<ul style="list-style-type: none"> Provide staff support to assist with facilitation of team meetings and activities. 	WCEE WEEF	MPS
<ul style="list-style-type: none"> Conduct periodic and thorough literature reviews to gain an understanding of past and ongoing research and evaluations of student environmental literacy. 	WCEE	
<ul style="list-style-type: none"> Explore assessment options and feasibility, with ultimate goal of identifying and carrying out best ‘doable’ strategy for periodic assessment (utilize best existing models and create new approaches when necessary, emphasize long-term commitment). 	WCEE	MPS WEEF
<ul style="list-style-type: none"> Develop and implement a long-term strategy to periodically assess and report on the environmental literacy of Wisconsin PreK-12 students. 	WCEE	MPS WEEF

	Very Involved	Somewhat Involved
<ul style="list-style-type: none"> ○ Pursue a multi-pronged assessment strategy: quantitative statewide standardized (including existing assessment), self-assessments, and qualitative research/assessment. 	WCEE	WEEF
<ul style="list-style-type: none"> ● Identify, develop or modify tool(s) to conduct authentic assessment. 	MPS WCEE	
<ul style="list-style-type: none"> ● Assess current environmental literacy of Wisconsin students. 	WCEE	MPS
<ul style="list-style-type: none"> ○ Develop tests that emphasize tracking progress (i.e. testing for improvements over time). 	WCEE	
<ul style="list-style-type: none"> ○ Provide training and tools for educators to self-assess. 	WCEE	
<ul style="list-style-type: none"> ○ Create mechanism(s) to feed assessment information into statewide system. 	WCEE	
<ul style="list-style-type: none"> ● Develop a system to share assessment information and ensure development of new programs, resources, and opportunities are informed by knowledge gained through statewide environmental literacy assessment and related research. 	WCEE	MPS WEEF
<ul style="list-style-type: none"> ● Plan for periodic review of overall statewide assessment strategies (frequency, procedure, etc.). 	WCEE	MPS
<p>Objective 6.2 Conduct research related to educator (formal and non-formal) environmental literacy and their implementation of EE.</p> <p>Note: this objective refers to the individual educator – not the program they work with.</p>		
<p><i>Possible actions/steps to accomplishment:</i></p>		
<p><u>General/All groups</u></p>		
<ul style="list-style-type: none"> ● Conduct thorough literature reviews to gain an understanding of past and ongoing research and evaluations of educator environmental literacy. 	WCEE	
<ul style="list-style-type: none"> ● Identify, modify, or develop instruments to help assess the environmental literacy of participants/graduates/teachers (external and internal/self-assessment, participatory action research, etc.). 	WCEE	MPS WAEE
<ul style="list-style-type: none"> ● Research environmental literacy of teachers/educators and their implementation of EE. 	WCEE	
<ul style="list-style-type: none"> ○ Develop tests that emphasize tracking progress (i.e. testing for improvements over time). 	WCEE	
<ul style="list-style-type: none"> ● Research what drives educators that are successful in developing the environmental literacy of students (improvements over time and scope). 	WCEE	WAEE
<ul style="list-style-type: none"> ○ Inventory "best practices" for developing or achieving environmental literacy. 	WCEE	

	Very Involved	Somewhat Involved
<ul style="list-style-type: none"> Conduct needs assessment of: 	MPS	WAEE
<ul style="list-style-type: none"> <ul style="list-style-type: none"> Wisconsin pre-service teachers – What do they need to increase their environmental literacy? What do they need to feel prepared to integrate EE when they enter the classroom?, etc. 		WCEE
<ul style="list-style-type: none"> <ul style="list-style-type: none"> Wisconsin in-service teachers - What do they need to increase their competency in integrating EE?, What tools do they need in order to assess?, etc. 		WCEE
<ul style="list-style-type: none"> <ul style="list-style-type: none"> Wisconsin non-formal educators - What do they need to increase their competency in supporting teachers in integrating EE?, What tools do they need in order to assess?, etc. 		
<ul style="list-style-type: none"> Create mechanism(s) to feed information into statewide information sharing system. 		WCEE WEEF
<u>Pre-service teachers</u>		
<ul style="list-style-type: none"> Explore potential to build environmental literacy into Wisconsin Praxis test. 		WCEE
<ul style="list-style-type: none"> Identify role of school culture in developing pre-service teacher environmental literacy. 		WEEF
<u>In-service teachers</u>		
<ul style="list-style-type: none"> Investigate whether and how teachers are integrating EE in the classroom. Some data may be extrapolated from results of student environmental literacy assessments. 	MPS WCEE	WAEE WEEF
<ul style="list-style-type: none"> <ul style="list-style-type: none"> Are they doing it? How are they doing? What are they using? Is it working? What are their qualifications? 	WCEE	
<ul style="list-style-type: none"> <ul style="list-style-type: none"> Assessment should reflect the goals of EE; depth and breadth practice. 	WCEE	
<ul style="list-style-type: none"> Evaluate/assess degree to which EE is included in professional development plans (PDPs). 	MPS	WCEE
<ul style="list-style-type: none"> <ul style="list-style-type: none"> What do teachers do? Is it sufficient or do they need more? How can we provide it? What incentives/support are required? 		WCEE
<ul style="list-style-type: none"> Promote environmental literacy by offering teachers models of professional growth around environmental questions. Share evidence of effectiveness for a variety of professional development opportunities, not just university credits. 	MPS	WAEE WCEE
<ul style="list-style-type: none"> Identify role of school culture in developing environmental literacy (both the teacher’s own environmental literacy as well as the development of student environmental literacy). 	MPS	WEEF
<u>Non-formal educators</u>		

	Very Involved	Somewhat Involved
<ul style="list-style-type: none"> Investigate how non-formal educators support teachers in integrating EE in the classroom – both in teaching teachers, and in teaching students directly. 	MPS	WCEE WEEF
<ul style="list-style-type: none"> <ul style="list-style-type: none"> To what degree are they doing this? How are they doing? What are they using? Is it working? What is their background/qualifications? 		WCEE
<ul style="list-style-type: none"> <ul style="list-style-type: none"> Assessment should reflect goals of EE; depth and breadth practice. 		WCEE
<ul style="list-style-type: none"> Investigate non-formal educator professional development (related to both their own professional development (PD) as well as the PD they provide). 	MPS	
<ul style="list-style-type: none"> <ul style="list-style-type: none"> What do they do? Is it sufficient or do they need more? How can we provide it? Incentives/support 		
<ul style="list-style-type: none"> <ul style="list-style-type: none"> What kind of support do they need? 		
<ul style="list-style-type: none"> Identify and develop guidelines for non-formal educators to assist them in supporting teachers in their efforts to integrate EE concepts and practices. (e.g., NAAEE Non-formal Environmental Education Programs: Guidelines for Excellence, EPA’s “My EE Research Assistant” (MEERA) assessment tool for non-formal educators, etc.). 	MPS	WAAE
Objective 6.3 Provide guidance and recommendations that assist formal and non-formal EE programs in assessing the effectiveness of their programs (relative to advancing student and/or teacher environmental literacy)		DPI WDNR
Note: This objective refers to the program effectiveness, not individual educators.		
<i>Possible actions/steps to accomplishment:</i>		
General/All Groups:		
<ul style="list-style-type: none"> Conduct thorough literature reviews to gain an understanding of past and ongoing research and evaluations of EE programs. 		WCEE
<ul style="list-style-type: none"> Develop and disseminate examples of EE program assessment instruments/tools (e.g., EETAP online evaluation course, NAAEE guidelines for excellence for EE programs, etc.). 		MPS WAAE WCEE
<ul style="list-style-type: none"> <ul style="list-style-type: none"> Provide training in implementing those evaluations. 		WCEE
<ul style="list-style-type: none"> Conduct needs assessments for all groups. What do EE programs need to assess the effectiveness of their programs? What do they need to improve the effectiveness of their programs? 		MPS WCEE WEEF
<ul style="list-style-type: none"> Encourage professional development through online tools, such as the EPA’s MEERA tool and applied EE program evaluation course. 	MPS	WCEE

	Very Involved	Somewhat Involved
<u>Pre-service teacher preparation programs (formal and non-formal)</u>		
<ul style="list-style-type: none"> Review and update “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” on a regular basis (e.g., every five years). 		WCEE WEEF
<ul style="list-style-type: none"> Identify and develop guidelines for integration of EE concepts and practices in pre-service teacher programs of studies. 		WCEE
<ul style="list-style-type: none"> Create a mechanism for EE programs to access, input and extract data from relevant assessments to build a statewide database. 		WCEE WEEF
<u>In-service teacher professional development programs (formal and non-formal)</u>		
<ul style="list-style-type: none"> Encourage teacher in-service providers to conduct regular assessments of the effectiveness of their programs (provide tools, training, etc.). Ask questions like: <ul style="list-style-type: none"> How many of our graduates actually use environmental topics/themes? What do these graduates do in their classrooms with their students (with respect to EE)? What can our graduates tell us about how to improve their EE preparation? If our graduates are not integrating EE into their courses, why not? 	MPS	WCEE
		WCEE
<u>School EE programs (environmental literacy plans, EE curriculum plans)</u>		
<ul style="list-style-type: none"> Conduct research to identify components that should be addressed in a school or district environmental literacy plan. Use this information to create guidelines or models for school/district ELPs. 	DPI MPS	WCEE WEEF
<ul style="list-style-type: none"> Once schools and districts have Environmental Literacy Plans, conduct research to better understand questions like: <ul style="list-style-type: none"> How many schools and districts have created ELPs? Which ones? What are schools/districts doing to implement their plans? What type of assistance do schools/districts need to support their ELP implementation and evaluation? 	DPI	MPS WCEE
		WCEE
		WCEE
		WCEE
<ul style="list-style-type: none"> Develop an instrument districts can use to assess the status of EE within the district. 	DPI WCEE	MPS
<ul style="list-style-type: none"> Encourage and support CESAs, Summer Academies, and others to work with schools to assess EE programming. 	MPS	WCEE WEEF

	Very Involved	Somewhat Involved
<ul style="list-style-type: none"> Interface with school curriculum advisors to better understand what they need to evaluate/assess and what assistance they need to accomplish this. 	MPS	WCEE
Objective 6.4 Develop a system to share assessment information and ensure development of new programs, resources, and opportunities are informed by knowledge gained through statewide environmental literacy assessment and related research.	DPI	WDNR WEEF
<i>Possible actions/steps to accomplishment:</i>		
<ul style="list-style-type: none"> Collect and share information through existing infrastructure (EEinWisconsin.org, DPI list serve, WDNR list serves and education programs, presentations/conferences, WEERD, etc.) <ul style="list-style-type: none"> Use this information to create a 'what works for EE in Wisconsin' website similar to the federal government 'what works' website. 	DPI MPS	WCEE
<ul style="list-style-type: none"> Connect to network of pre-service teacher preparation institutions/providers to address implications for teacher pre-service development. 		DPI WCEE
<ul style="list-style-type: none"> Communicate with campus sustainability directors to help to spread the word through their networks. 		WCEE
<ul style="list-style-type: none"> Share data with decision makers at WASB and WASDA joint conference 	MPS	DPI WASB WCEE
<ul style="list-style-type: none"> Encourage new research be entered into the Wisconsin Environmental Education Resource Database (WEERD). 		WAEE WEEF
Objective 6.5 Conduct research into populations who are underserved by EE		
<ul style="list-style-type: none"> Identify populations that are underserved by environmental education (see questions related to underserved populations in all other Goals in this document)? 		MPS WAEE
<ul style="list-style-type: none"> Conduct literature review of existing research into how to reach underserved populations. 		
<ul style="list-style-type: none"> Inventory and share “best practices” for reaching underserved populations. 	MPS	WAEE
<ul style="list-style-type: none"> Reassess responses/actions taken to reach underserved populations. What worked or didn't work?, etc. 		MPS
Objective 6.6 Identify and develop funding strategies for supporting the objectives and activities within this goal.	WEEF	
<ul style="list-style-type: none"> Ensure efficient use of existing resources. 		WCEE
<ul style="list-style-type: none"> Explore potential to connect to new statewide assessment strategy. Incorporate environmental literacy into new testing system as appropriate. 		WCEE

	Very Involved	Somewhat Involved
<ul style="list-style-type: none"> • Access NCLI Act funds when they become available. NCLI could provide about 1 million per year, 30% can be set aside for assessment (\$300,000). 	WCEE	MPS WEEF
<ul style="list-style-type: none"> • Apply for grant funding from other sources (federal agencies, foundations, etc.). 	MPS WCEE WEEF	
<ul style="list-style-type: none"> • Encourage WEEB, WCEE, WAEE, WEEF, DPI, etc. to allocate funds towards statewide environmental literacy assessment and/or collaborate to raise the funds from external sources. 	WCEE WEEF	WAEE

Appendix I

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

The following pages contain the final *Plan* produced as a result of recommendations produced by this research project. Research results were presented to staff of the Wisconsin Department of Public Instruction (DPI) for review, editing, and adoption by the State Superintendent and staff of the DPI. The researcher worked with DPI staff outside the scope of this research project in her role as staff coordinator to ensure the final *Plan* reflected the recommendations and intentions of all participants in the collaborative inquiry process while recognizing the unique requirements and limitations of such a *Plan* within the DPI. Ultimately, the State Superintendent, the Wisconsin Center for Environmental Education, and the Wisconsin Environmental Education Foundation officially approved and released this Plan on November 4, 2011 at the Wisconsin Association for Environmental Education Fall Conference.



**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

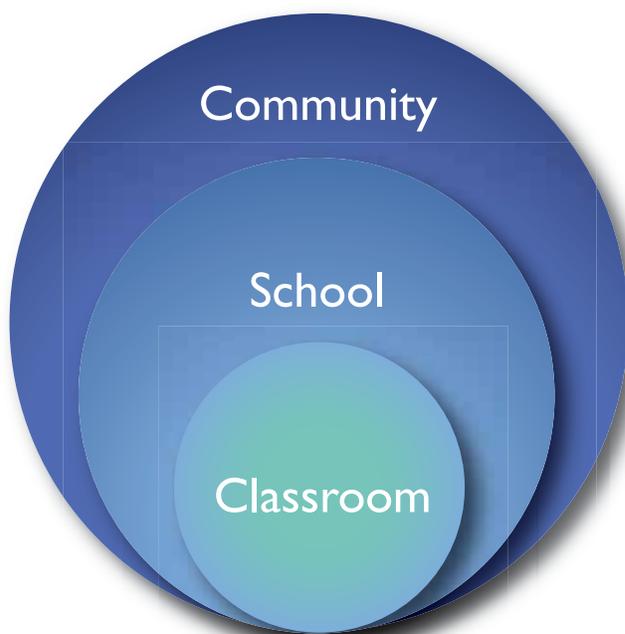
to renew their teaching license.³¹ This is done through either earning credits or through the development of a professional development plan (PDP). DPI, WCEE, and all other collaborators need to work together to ensure quality professional development opportunities to advance education for environmental 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.