



DEVELOPING A STATE ENVIRONMENTAL LITERACY PLAN



Promoting excellence in
environmental education



Through active, hands-on learning about the environment, students develop the knowledge and skills to address challenges in their communities.

Educating America's future leaders is the key to finding sustainable solutions for complex environmental issues.

Consumption of natural resources, air and water pollution, and the impacts of climate change are among the many complex challenges that threaten human health, economic development, and national security. Across the country, communities face the challenge of balancing the economy that provides our livelihoods and the natural resources on which we depend.

Solving this critical challenge requires us to understand different points of view, analyze problems, balance competing needs, and take informed action.

Environmental education fosters learning that can transform how we think, make decisions, and lead our lives. The future depends on our collective ability to apply an integrated approach to teaching and helping students understand the interrelated elements of sustainable environmental systems – from ecological, economical, and community perspectives.

It is critical that every American understands how our community, economy, and the environment are connected and mutually dependent. Environmental education prepares all citizens with 21st Century essential skills that contribute to healthier, more environmentally sustainable, and economically prosperous communities.

Environmental Education and Academic Achievement

While environmental education helps develop the knowledge and skills necessary to address complex environmental issues, it also contributes to academic achievement.

Quantitative and qualitative studies highlight the immense benefits of an integrative environmental education framework. In one study, 92 percent of comparisons indicated that students who were taught using an environmental framework “academically outperform their peers in traditional programs.”

Additionally, evidence gathered from the same study of 40 schools indicates that students learn more effectively within an environment-based context than within a traditional educational framework.¹ Some observed benefits include:

- ▶ Better performance on standardized measures of academic achievement in reading, writing, math, science, and social studies.



Environmental education programs have been shown to contribute to increased student achievement in reading, writing, math, science, and social studies.

- ▷ Reduced discipline and classroom management problems.
- ▷ Increased engagement and enthusiasm for learning.
- ▷ Greater pride and ownership in accomplishments.

Benefits of a State Environmental Literacy Plan

Creating an environmental literacy plan will provide the framework for school systems to expand and improve their environmental education programs. A state environmental literacy plan will:

- ▷ Ensure that environmental education activities are aligned with student graduation requirements and help achieve state education goals.



Creating an environmental literacy plan will provide the framework for school systems to expand and improve their environmental education programs.

- ▷ Ensure that environmental education is fully, efficiently and appropriately integrated into formal education systems.
- ▷ Ensure that teacher professional development opportunities in environmental education are aligned with student achievement goals in environmental literacy.
- ▷ Ensure consistency, accuracy, and excellence in environmental content knowledge.
- ▷ Engage underserved communities through an inclusive process so that all stakeholders are beneficiaries of environmental education in schools.
- ▷ Ensure that nonformal environmental education providers, state natural resource agencies, community organizations, and other partners are involved appropriately and effectively in environmental education activities in schools.
- ▷ Serve as a necessary component of a comprehensive state environmental education program.

Elements of a State Environmental Literacy Plan

States have great flexibility in the development of an environmental literacy plan. They can move forward with an existing plan, review and revise an older plan, or create a new plan. As described in the No Child Left Inside Act, the plan must include:

- 1) Specific content standards, content areas, and courses or subjects where instruction will take place.
- 2) A description of how state high school graduation requirements will ensure that graduates are environmentally literate.
- 3) A description of programs for professional development of teachers to improve their environmental content knowledge, skill in teaching about environmental issues, and field-based pedagogical skills.

- 4) A description of how the state education agency will measure the environmental literacy of students.
- 5) A description of how the state education agency will implement the plan, including securing funding and other necessary support.

Content Standards and Curriculum

The state's content standards and other curriculum documents should include environmental literacy content standards in grades Pre-K through high school. Whether integrated with science, social studies, or other content areas; or whether they stand alone, these standards and curriculum documents should be clear and specific and be designed to ensure that high school graduates are environmentally literate.

The North American Association for Environmental Education developed national guidelines for PreK-12 environmental education. These guidelines, *Excellence in Environmental Education: Guidelines for Learning (PreK-12)*, should be used for reviewing existing content standards or as a starting point for new development.

The state plan should include environmental literacy content standards in grades Pre-K through high school.

Instructional Opportunities

The environmental literacy plan should identify and highlight for replication existing models for teaching about the environment in pre-school programs, elementary, middle, and high school grades and/or through multidisciplinary models or specific courses or units of instruction. Some examples include the following:

- ▷ **Outdoor Learning**—The best place to learn about the environment is in the environment. The environmental literacy plan should strengthen opportunities for getting students into the outdoors and connected to the natural world.
- ▷ **Service Learning**—The natural world, particularly environmental restoration projects, offer superior service learning opportunities for students of all ages.



Environmental education provides unique learning opportunities for all students.



- ▷ **Career Pathways**—School to Work and other career pathways including natural resources management, environmental and restoration and other “green business” opportunities.
- ▷ **STEM Programs**—Science, Technology, Engineering, and Mathematics programs.
- ▷ **Students with Disabilities**—All programs should be designed to ensure access for special needs students.

- ▷ **Advanced Placement Environmental Science and other advanced programs.**
- ▷ **Magnet Schools and Schools within A School Programs.**

High School Graduation

The state plan should consider if and how environmental literacy might be incorporated into the state's graduation requirements. For example, it should address how a specific high school course, program, or credit requirement is part of environmental literacy in high school.

Professional Development

Both pre-service and in-service teachers will need to be prepared to teach their students about the environment, both in and out of the classroom. Partnerships between school systems and experienced environmental education or outdoor education providers are excellent models.

Implementation and Funding

The plan needs to answer key questions about implementation. Will new or existing state laws, bylaws, or other specific requirements for environmental education be part of the implementation process? Will model programs be identified and replication supported? How will existing federal education funds such as Title II or Title V, Perkins grants, IDEA or STEM funding be integrated into an implementation plan? Is new dedicated funding required?



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Reporting to Public and Research

The plan should describe the methods that the state education agency will use annually to measure environmental literacy. This could include traditional assessments, counts of student participation or performance, or other mechanisms. Progress toward achieving environmental literacy should be reported annually, possibly on a state education agency's federally mandated annual report card.

School Facilities and Grounds

Ideally, a learning environment should incorporate environmentally sensitive practices. The operation of school buildings should be conducted in an environmentally sensitive manner. This could include, for example, restoring natural habitats on school grounds or practicing increased energy conservation. Many city, county, or state environmental management agencies are potential partners to develop strategies



Environmental education is interdisciplinary and provides a context for learning social studies, science, math, and language arts through all grades.

for new school construction and school renovation projects to meet “green building” design requirements. Over time, significant cost savings can be realized.

Stakeholders and Partners

The development of a state environmental literacy plan should be led by the state education agency in cooperation with natural resource and environmental agencies, nonprofit associations, and the public. Organizations with experience in environmental and outdoor education should be involved in the development of the plan. Participants should include:

- ▷ State superintendent of public instruction
- ▷ State affiliate of North American Association for Environmental Education
- ▷ State curriculum specialists (e.g. Social Studies, Science, Math, Language Arts, etc.)
- ▷ State and local school boards
- ▷ Parent teacher associations
- ▷ Natural resource and environmental agencies
- ▷ Teacher preparation colleges and universities
- ▷ Environmental education providers such as state and national parks, museums, nature centers, zoos, and aquariums
- ▷ Classroom teachers
- ▷ State association for supervision in curriculum development chapter leaders and/or school principals
- ▷ Teacher unions
- ▷ State associations for science, math, social studies, language arts teachers
- ▷ Home-school networks



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Pre-service and in-service teachers gain skills to implement environmental education with their students.

Resources

North American Association for Environmental Education (NAAEE)
www.naaee.org

Association for Supervision and Curriculum Development (ASCD)
www.ascd.org (Education Topics/Environmental Education)

Your State Environmental Education Association (NAAEE)
www.naaee.org/about-naaee/affiliates/affiliates-contacts-by-region

Excellence in Environmental Education: Guidelines for Learning (PreK-12)
www.naaee.org/npee

¹ Lieberman, Gerald, and Linda Hoody (1998). "The Executive Summary: Closing the Achievement Gap." 2&3.



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