

Mid-Atlantic Affiliates Elementary & Secondary Environmental Literacy Goals, Outcomes, and Strategies

GOAL 1: Every student in the region graduates with the knowledge and skills to make informed environmental decisions.

Mid-Atlantic Regional Roundtable Recommendations:

- *All SEA (State Education Agencies) should delineate the types of age-appropriate, research-based outdoor activities that support environmental literacy (EL).*
- *State and Federal partners should promote service-learning/stewardship projects to engage students.*
- *Instruction for students should be place-based and include local issues investigations.*
- *Multi-disciplined and integrated instruction should be delivered through use of technology and other innovative avenues.*
- *Public and private partners should work together to identify funding to support these outdoor activities.*
- *Students should have easy access to current, age-appropriate information provided by Federal and state agencies, for example a calendar of environmental activities and opportunities.*
- *Students should receive information and opportunities related to careers in natural resources and environmental fields from their guidance counselors, teachers, and by other appropriate means.*
- *School divisions should engage with community partners to develop out-of-class, afterschool and summer programs related to the environment.*
- *Students input and feedback should be considered to shape future programming and experiences.*

Outcome 1.1: States engage students at every grade level in outdoor activities designed to increase environmental literacy.

1.1 - Strategies:

1. *Affiliates will encourage site visits that include guides who are knowledgeable and can present factual information on environmental challenges (e.g., visits to landfills, impaired streams, wastewater treatment plants); and environmental successes (e.g., visits to wildlife refuges, National Forests, local land conservation efforts).*
2. *Affiliates will help identify local opportunities to support outdoor learning and ensure this information is readily available to school divisions, schools, and educators.*
3. *Affiliates will support investigation of local, regional and global issues as appropriate and the development of place-based sites.*

Outcome 1.2: Students participate in interdisciplinary learning about the key relationships between dynamic earth, energy, and human systems, including STEM content knowledge and thinking skills.

1.2 - Strategies:

1. *Affiliates will stimulate discussion at K-12 levels in reading/technology/social studies/civics/ (integration).*
2. *Affiliates will facilitate service-learning/stewardship projects for increased student involvement in their communities.*
3. *Affiliates will encourage global connections through use of technology in moderated structures (skype, webchat, twitter, email "friends") to discuss issues.*

Outcome 1.3: Students have information about career opportunities and requisite skills for environment-based jobs, and the opportunity to participate in programs that prepare them for a future in these careers.

1.3 – Strategies

1. *Affiliates will identify vocational opportunities, internships, green jobs corps and summer camps.*
2. *Affiliates will identify local volunteer, mentoring and job shadowing opportunities within the students' communities.*
3. *Affiliates will provide more natural resource and environmental information to guidance counselors and more participation in career days.*

Outcome 1.4: Students have the opportunity to pursue enrichment programs and experiences that support in depth understanding of environmental issues and solutions.

1.4 - Strategies:

1. *Affiliates will contribute to a calendar of youth activities to do (at home, school, neighborhood, etc).*
2. *Affiliates will encourage multi-year, school-based investigations of environmental issues (e.g.; weather station management; energy, water, & waste tracking; stormwater runoff pollution monitoring).*
3. *Affiliates will identify technical and financial support for student-lead applications to address environmental challenges (e.g.student-driven recycling programs, energy & water conservation, non-point source stormwater pollution mitigation, public education campaigns).*

GOAL 2: All educators in the region responsible for instruction about or in the environment have access to sustained professional development opportunities, tools, and resources that support their efforts to provide students with high-quality environmental education (EE).

Mid-Atlantic Regional Roundtable Recommendations:

- *Education programs delivered to schools should meet state and Federal guidelines for best practices and be provided by educators trained in state and Federal standards.*
- *SEA funding for professional development should be aligned with environmental literacy plans and be fully utilized.*

- *EE professional development should be synchronized and aligned with SEA priorities (e.g.; STEM, Project Based Learning, 21st Century) and with Federal programs (e.g.; Green Ribbon Schools).*
- *High-quality professional development and best practices for teaching related to EE should be defined in each jurisdiction and adopted by state boards of education.*
- *Opportunities for teachers to participate in professional development focused on state priorities in the area of EE should be consistently available.*
- *Programs designed to increase appreciation of the importance and value of EE by school and school division administrators should be provided. (programs such as Green Schools, Eco Schools)*
- *All pre-service teachers should be provided with training in EE across the curriculum, so every teacher enters their field with a foundation in EL.*
- *SEAs should require professional development in the area of EE to receive teacher licensure and/or certification in elementary education, science and other appropriate fields.*
- *SEAs should support their affiliates programs and work with them to support non-formal EE providers who are working with schools.*
- *The Mid-Atlantic Environmental Education Affiliates and the Chesapeake Bay Education Workgroup should cooperate and contribute to an EE clearinghouse for educators with state-specific resources and data.*

Outcome 2.1: Educators have access to high-quality curriculum-based lesson plans, resources and information on trainings that focus on environmental issues for all grade levels and subjects.

2.1 – Strategies:

1. *Affiliates will encourage members to align education programs, curriculum and lesson plans with the Federal and state academic and EL standards.*
2. *Affiliates will work with state education agencies and partners to disseminate materials and professional development opportunities.*
3. *Affiliates will encourage members to contribute to a searchable clearinghouse of EE resources. (eg local websites, Baybackpack, FieldScope)*

Outcome 2.2: Teachers, administrators, facilities have sustained professional development related to EE content, outdoor learning strategies, and pedagogy to promote EL in their students.

2.2 – Strategies:

1. *Affiliates will work with SEAs to ensure current research informs professional development and certification programs.*
2. *Affiliates will support the development of the definition of high-quality educator professional development in the area of EE.*
3. *Affiliates will link natural resource managers and science experts with education community to ensure current, reliable content information is made available to educators.*
4. *Affiliates will identify organizations and natural resource personnel who can provide technical assistance to school divisions.*

5. *Affiliates will provide professional development related to the generation, use and application of environmental data.*
6. *Affiliates will encourage and support the work of colleges and universities to provide teachers with training in content, outdoor learning strategies, and pedagogy related to the environment.*
7. *Affiliates will encourage SEAs to include professional development in the area of EE as a requirement to receive teacher licensure and/or certification in elementary education, science and other appropriate fields.*

Outcome 2.3 : Administrators and school facilities have professional development

2.3 – Strategies:

1. *Affiliates will coordinate with state and Federal partners to assess needs for professional development for teacher recertification in science and other appropriate fields.*
2. *Affiliates will work with states and Federal partners to provide resources for professional development in EE (e.g.; instructors, current information, locations, etc).*

Outcome 2.4: Pre-service teachers enter the workforce with knowledge and experience in interdisciplinary EE content, outdoor learning strategies and pedagogy.

2.4 - Strategies:

1. *Affiliates will encourage and support the work of colleges and universities to provide pre-service science with training in content, outdoor learning strategies, and pedagogy related to the environment.*
2. *Affiliates will involve pre-service teachers in professional development opportunities related to Environmental Education (EE).*

Outcome 2.5: Nonformal environmental educators in the Mid-Atlantic region understand and can communicate current scientific findings and have knowledge of research-based EE best practices.

2.5 - Strategies:

1. *Affiliates will provide targeted professional development opportunities for informal environmental educators, including staff from museums, aquaria, and outdoor schools.*
2. *Affiliates will work to increase collaboration and communication between formal and informal environmental educators to support classroom learning related to the environment.*
3. *Affiliates will encourage the development or adoption of state level EE certification for informal educators aligned with the criteria defined by the North American Association for Environmental Education.*
4. *Affiliates will work to identify environmental educators to work with natural resource personnel on authentic research experiences.*

Outcome 2.6: Federal, state and local natural resource personnel are actively engaged in EE and outreach and have adequate training in instructional techniques and the needs of educational audiences.

2.6 – Strategies:

- 1. Affiliates will identify scientists and other personnel engaged in environmental professions to contribute to a strong network of Subject Matter Experts (SMEs) available to answer resource questions.*
- 2. Affiliates will provide federal school programs with information about standards of learning, EL priorities, and other relevant information to ensure proper alignment with state learning objectives and Administrative priorities.*
- 3. Affiliates will ensure the availability of information and training about effective outreach techniques to educational audiences for all professionals who participate in environmental outreach.*

GOAL 3: Every school in the region maintains its buildings, grounds, and operations to support positive environmental and human health outcomes.

Mid-Atlantic Regional Roundtable Recommendations:

- State Education Agencies (SEAs) should encourage schools to be models of best management practices for environmental sustainability and adopt parameters for healthy schools.*
- Affiliates should support U.S. Department of Education’s Green Ribbon Schools, existing state and local “green school” programs, and promote new programs where no certification program exists.*
- Schools should be connected to local, state, regional and national private and non-profit organizations that support environmental sustainability and environmental literacy (e.g.; Green Building Alliance, LEED, and Chesapeake Bay Landscaping Network).*
- Designs for new schools should include best practices related to land use, energy conservation and pollution prevention (e.g.; green roofs, pervious surfaces, passive & active solar energy use, natural lighting, green materials, and use of recyclable materials).*
- Existing schools should be reviewed for modification and incorporation of best management practices for sustainable land use, energy conservation and pollution prevention (ibid).*
- Environmentally literate professionals, experts, and volunteers should be included in projects related to curriculum writing, curriculum alignment and integration, text-book adoptions, standards revision, and professional development and all aspects of EL planning and delivery.*

Outcome 3.1: School buildings, grounds, and operations are models of environmental sustainability, making continual progress towards net zero environmental impacts of carbon emissions, solid and hazardous waste disposal, non-point source air and water pollution, and other local, state, regional and Federal pollution priorities.

3.1 - Strategies:

- 1. Affiliates will identify local and state-wide organizations that mitigate the negative, non-sustainable, impacts of school facilities and invite those groups to be partners in establishing best management practices and public education campaigns for EL.*

2. *Affiliates will support best management practices that encourage student responsibility for the environment and promote EL (e.g.; schoolyard habitats, outdoor learning areas, improved grounds maintenance).*
3. *Affiliates will support and develop recognition programs to acknowledge regional leaders and schools that best demonstrate sustainable practices or have made remarkable progress.*

Outcome 3.2: All schools' environment, indoor and outdoor, provide a net positive effect on the health of students, staff, and surrounding community

3.2 - Strategies:

1. *Affiliates will support research, and disseminate information on, the positive health benefits provided by green infrastructure and outdoor activities (e.g., air quality benefits of sylvan environments, the mental health benefits of outdoor unstructured learning opportunities).*
2. *Affiliates will help identify local partners and stakeholders for better resource management and programs that will support the development of integrated school environmental health.*
3. *Affiliates will collaborate regionally to foster a network of federal, state, and NGO practitioners of green school best management practices to provide technical and material resources to support schools' programs.*
4. *Affiliates will include green school concepts in their annual professional development events and conferences (e.g.; human health, facility management, nutrition, and outdoor play).*

GOAL 4: The education community in the Mid-Atlantic region functions in a unified manner and coordinates with key national, regional, and state programs and other Citizen Stewardship activities to represent the full suite of information and opportunities available for K-12 audiences.

Mid-Atlantic Regional Roundtable Recommendations:

- *Communications forums should be created and maintained to share ideas among Federal, state, affiliate, university, and other partners across the region.*
- *The Chesapeake Bay Education Workgroup should identify and disseminate best practices and pedagogy for EL.*
- *Federal, state, and affiliate partners should work together to determine EL evaluation metrics for the Mid Atlantic region.*
- *Research in the field of EE should inform Federal and state funding priorities, grant guidance and professional development.*
- *Federal and state grant support should be targeted to programs that reflect best practices in EE.*
- *Federal and state agency funding should support funding for multi-year programs.*

- *State education agencies should include EE professionals in the planning, development and implementation EL plans.*
- *Both formal (pre-service, pre-K, K-12) and non-formal educators are included in the definition of education community to ensure collaboration to meet these outcomes.*

Outcome 4.1: States in the Mid-Atlantic establish and implement a robust plan for ensuring that all students graduate environmentally literate.

4.1 - Strategy:

- 1. Affiliates will work with partners to determine regional environmental literacy evaluation metrics, including sharing local examples of successful metrics and successful impacts on learning.*
- 2. Affiliates will work with partners to implement and evaluate the effectiveness of EL programs.*

Outcome 4.2: Education programs are developed and refined using the best available research on the effectiveness of environmental education, and support continued research in this field.

4.2 - Strategy:

- 1. Affiliates will encourage the liaison between researchers and active project partners to ensure contemporaneous, real-world cases are used in evaluation research.*
- 2. Affiliates will expedite the dissemination of evaluation research findings and support timely incorporation of recommendations by practitioners.*

Outcome 4.3: Federal, state, and nongovernmental organizations with K-12 programs actively communicate to increase collaboration related to environmental literacy planning and implementation .

4.3 - Strategies:

- 1. Affiliates will meet annually to coordinate and share activities.*
- 2. Affiliates will act as hub to facilitate the engagement of non-formal environmental education providers.*
- 3. Affiliates will participate in a communications forum to share ideas specific to affiliates across the Mid-Atlantic region.*
- 4. Affiliates will periodically make recommendations to U.S. DOE regarding Green Ribbon Schools.*
- 5. Affiliate will collaborate with community partners not traditionally engaged in environmental education, but whose programs address previously unexplored issue oriented aspects of environmental education.*