

Environmental Literacy Outcomes Justification

Goal: Every student in the region graduates environmentally literate having participated in meaningful watershed educational experiences in elementary, middle, and high school that were supported by teachers who have received professional development in environmental education and schools that are models of environmental sustainability.

Student Outcome: Increase the number of students participating in meaningful watershed educational experiences in elementary, middle, and high school.

Educator Outcome: Improve access to sustained professional development opportunities, tools, and resources that support teacher efforts to provide students with high-quality environmental education.

School Outcome: Increase the number of schools in the region that maintain their buildings, grounds, and operations to support positive environmental and human health outcomes.

Local Education Agency Outcome: Increase the number of local education agencies that establish and support a system wide approach to environmental education that includes meaningful watershed educational experiences

Current Condition:

- The Mid-Atlantic Elementary and Secondary Environmental Literacy Strategy was released in 2012 with priorities for students, educators, schools, and the education community. It provides the foundation for the work being conducted by the Education Workgroup under the Stewardship GIT.
- DC, DE, MD, PA, and VA have formal state efforts underway to establish or implement plans for environmental literacy, which include state departments of education and natural resource agencies in addition to non-governmental organizations and universities.
- Informed by an August 2013 STAC workshop on best practices, the Education Workgroup is working with a professional evaluator and state partners to establish meaningful environmental literacy metrics (described below).

Supporting Details

1. Why are these outcomes important?

Despite significant accomplishments, challenges to maintaining and restoring a healthy Bay ecosystem persist due to the impacts of individual decisions of the watershed's population. As environmental decisions become more complex and widespread—forcing individuals, businesses, and communities to make hard decisions—an environmental protection and restoration strategy built solely on the ability of trained environmental management experts cannot succeed. Like any other successful long-term strategy, natural resource management must be built on the collective wisdom of all citizens, gained through targeted education.

This position is supported by the National Science Foundation's Advisory Committee for Environmental Research and Education, which stated in a 2003 report 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.”

2. Generally, how were the outcomes derived?

The [Mid-Atlantic Elementary and Secondary Environmental Literacy Strategy](#), released by the Education Workgroup in June 2012, outlines how the federal government should support state efforts to advance environmental literacy. It identified shared priorities in four key areas—students, educators, schools, and the environmental education community. The priorities identified in the Strategy provide the basis for the goals and outcomes proposed for the new agreement and intentionally build on the CBP Meaningful Watershed Educational Experience (MWEE) commitment—expanding the focus of both audience (from students to students, teachers, schools, and local education agencies) and scope (from watershed education to environmental education). The expanded audience recognizes the different and essential roles that educators, schools, and local education agencies play in delivering student MWEEs, and the broadened scope is more consistent with state plans for environmental education.

The Chesapeake Bay Program has formally supported environmental literacy since the [1987 Chesapeake Bay Agreement](#) established an objective to provide curricular and field experiences for students. The intent of this outcome was renewed and expanded in 1998 with signing of [Education Directive 98-1](#). In 2000, the MWEE (an outdoor student experience that is part of a comprehensive unit of study) was identified as a keystone commitment or the [Chesapeake 2000 Agreement](#). Several states have since expanded that goal to providing three MWEEs (elementary, middle, and high school) as outlined in the [MWEE definition document](#). Coordination for these efforts occurs through the Education Workgroup under the Fostering Chesapeake Stewardship GIT 5.

3. Which partners (state, federal agencies, goal teams, committees) were involved in creating these outcomes?

The students, educators, schools, and the environmental education community outcomes were developed for the Mid-Atlantic Elementary and Secondary Environmental Literacy Strategy with significant input from state departments of education (DE, MD, PA, VA) and natural resource agencies (DC, DE, MD, PA, VA), as well as the Education Workgroup, federal government, academic, and nongovernmental organizations with the intent of creating shared goals and outcomes. The new CBP Agreement formalizes this intent.

4. Which partners (state, federal agencies, other GITs) need to be involved to achieve the outcomes?

Participation in the Education Workgroup by the lead organizations developing and implementing state environmental literacy plans (generally represented by the departments of education and lead natural resource agencies from each jurisdiction), state certification programs for sustainable schools, or other key initiatives is essential to achieving these outcomes. Additionally, the work would benefit from relevant federal agencies and non-governmental organizations, each jurisdiction’s North American Association for Environmental Education affiliate group, additional natural resource agencies, local education agencies, and colleges/universities. Together, these partners have the vision, expertise, and resources to develop the models and implementation strategies to create and support schools that foster citizen stewardship and graduate environmentally literate students.

5. What are major factors influencing ability to achieve the outcomes?

A wide variety of factors will influence the ability of partners to achieve environmental literacy outcomes, many of which are best addressed by the individual local education agencies (school systems) because of the highly localized nature of education (500+ in the region). It is, therefore, extremely important to have buy-in at the state level and work with state representatives to increase support for environmental education at the local level. At the state level it is important to have the development of an implementation plan for advancing environmental literacy that features the thoughtful inclusion of local education agencies and other administrators, and discusses a plan for funding the effort. A major limiting factor is funding (transportation for field studies, habitat projects, etc.) and another is competing interests that exist in education today (testing, new national curricular frameworks).

6. What is the basis for the target?

The Education Workgroup has not yet quantified the targets for these outcomes because a reliable baseline has not been established. The CBP tracked progress toward the MWEE commitment from 2005-2009 by gathering information from state departments of education and resource agencies. At last count, approximately 81% of elementary, 81% of middle, and 80% of high school students were reported as receiving MWEEs. Tracking was discontinued in 2009 in recognition of the inconsistency of the data resulting from non-uniform methods and rigor used to gather the numbers. Additional information on past MWEE tracking is [available here](#).

The Workgroup is in the process of developing a new set of metrics to track progress towards the new goals and outcomes. The new metrics and associated implementation instruments will be piloted in Fall/Winter 2013 and the Workgroup anticipates a full implementation in Fall/Winter 2014. A reliable baseline will be available at that time and the outcomes will be updated to be more quantitative at that time.

7. What management strategies will ensure the outcome is met?

In addition to the Mid-Atlantic Elementary and Secondary Environmental Literacy Strategy (described in response to question 2), many of the states in the region have had a focus on environmental education for many years. However, over the past several years there has been an effort to renew and strengthen these programs. Successful management strategies will take into consideration these existing state and federal efforts and work to advance and scale up model programs. Recent state actions towards developing student environmental literacy plans are outlined below:

- In 2010, the Council of the District of Columbia signed into law the *Healthy Schools Act of 2010*. This act required District Department of the Environment to draft an environmental literacy plan as part of a broad effort to “substantially improve the health, wellness, and nutrition of the public and charter school students in the District of Columbia.” Mayor Vincent C. Gray submitted the environmental literacy plan to the Council in July 2012. The Council plans to have draft Healthy Schools Act Amendments available in the spring of 2013.
- Delaware passed a resolution in 2011 supporting the Delaware No Child left Inside/Children in Nature Initiative. A taskforce with representatives from the Delaware Department of Natural Resources and Environmental Control, Department of Education, and other public and nongovernmental organizations formed “to develop a statewide plan to increase opportunities for children to engage in nature, both in school, at home, and on public lands.” The final *State of*

Delaware Child left Inside/Children in Nature Initiative Taskforce Report was released in October 2012.

- In 2011, Maryland passed the nation's first environmental literacy graduation requirement mandating schools to implement a multidisciplinary environmental education program, with a specific focus on the state's natural resources. This solidified work began in 2008 by a gubernatorial Executive Order that established the Maryland Partnership for Children in Nature, which is co-chaired by the Maryland State Department of Education and the Department of Natural Resources. That Executive Order also called for a comprehensive environmental literacy plan, which was completed in 2010.
- Pennsylvania has long had rigorous, stand-alone environment and ecology standards, which include content about the Chesapeake, watersheds, and the environment. This content is included in standardized tests in the state. The Pennsylvania Advisory Council on Environmental Education completed an environmental literacy plan in July 2012.
- The Virginia Science Standards of Learning adopted in 2003 and revised in 2010 integrate environmental literacy concepts throughout K-12 education. The Virginia Resource-Use Education Council, an interagency team of state and federal partners along with non-governmental organizations and universities, works to implement the standards through Virginia Naturally, the Commonwealth's environmental education program. Measurable goals for specific Virginia Naturally projects—Meaningful Watershed Experiences, Classroom Grants, Professional Development and School Recognition—are outlined in the state's Business Plan for Environmental Education. The group is currently updating their Business Plan.
- West Virginia recently established a green school certification program and is in the early stages of development for an environmental literacy plan. The state has also been taking part in the U.S. Department of Education's Green Ribbon Schools awards recognition program since its inception in 2012.
- In addition to the state plans, the state affiliates of the North American Association for Environmental Education have completed a plan that outlines how they will support the Mid-Atlantic Elementary and Secondary Environmental Literacy Strategy.

8. What data will be used to measure progress?

The Education Workgroup is developing a MWEE Program Capacity Assessment Tool to collect data from local education agencies that will be used by State Departments of Education to report on progress towards the outcomes. This tool will assess the comprehensiveness of a local education agency's environmental literacy program and their ability to implement the program. The results will be used to determine the whether the system has a program in place that supports sustained MWEE implementation. State departments of education from DE, MD, PA, and VA and Education Workgroup members from DC, DE, MD, PA, VA and WV have all agreed to further the development of the MWEE Program Capacity Assessment Tool. In May 2013, the Education Workgroup (funded by the Chesapeake Bay Trust and NOAA) hired an evaluator, Measurement Incorporated, to assist in the completion of this effort. The draft metrics should be available in fall 2013.

More Information:

How do these goals and outcomes respond to the actions requested by the Citizen's Advisory Committee?

At the 2012 Executive Council meeting, the Governors asked the Principal Staffing Committee to report back to them on three recommendations made by the Citizen's Advisory Committee:

- (1) State endorsement of the Mid-Atlantic Environmental Literacy Strategy
- (2) Development of two-year milestones
- (3) Adoption of a graduation requirement by every state

If a new Agreement is reached that includes the proposed goal and outcome statements, the intent behind state endorsement of the Mid-Atlantic Environmental Literacy Strategy will be achieved. Also, once the Workgroup uses the baseline information from the new metrics to establish quantitative outcomes, the intent behind the development of two-year milestones will also be met.

The Chesapeake Bay Program Education Workgroup does not have a position on the adoption of a graduate requirement by every state. Graduation requirements become part of a state code, which may not be feasible or appropriate in all states. The Workgroup does, however, support the development of state environmental literacy plans by each jurisdiction that would formally detail their plan of action towards advancing environmental literacy in their state.