Chesapeake Bay Program Environmental Literacy Indicator Tool (ELIT)

Introduction and Contact Info

The purpose of the **Environmental Literacy Indicator Tool** is to help local and state schools systems collect important information that will help **advance the implementation of environmental education efforts in schools** in the mid-Atlantic region. This tool, the data collected, and related efforts supporting environmental education in the region are in direct support of the Environmental Literacy Goal and Outcomes of the new Chesapeake Bay Watershed Agreement (signed 6/19/14).

Environmental Literacy Goal: Enable every student in the region to graduate with the knowledge and skills to act responsibly to protect and restore their local watershed.

> ***Student Outcome:*** *Continually increase students' age-appropriate understanding of the watershed through participation in teacher-supported, meaningful watershed educational experiences and rigorous, inquiry-based instruction, with a target of at least one meaningful watershed educational experience in elementary, middle and high school depending on available resources.*
>
> ***Sustainable Schools Outcome:*** *Continually increase the number of schools in the region that reduce the impact of their buildings and grounds on their local watershed, environment and human health through best practices, including student-led protection and restoration projects.*
>
> ***Environmental Literacy Planning Outcome:*** *Each participating Bay jurisdiction should develop a comprehensive and systemic approach to environmental literacy for all students in the region that includes policies, practices and voluntary metrics that support the environmental literacy Goals and Outcomes of this Agreement.*

The underlying principles of the outcomes and the resulting elements of this tool are founded on research-based best practices in the field of environmental education. The results from these data collection efforts will provide valuable information to states and the Chesapeake Bay Program Education Workgroup about how best to support local efforts to create and implement comprehensive strategies to support student environmental literacy. It will also be used by major funding partners, including the NOAA Bay Watershed Education and Training (B-WET) Program and the Chesapeake Bay Trust to inform funding priorities and decisions. Therefore, accurate assessments of both accomplishments and gaps are important.

Please complete the three sections of the Environmental Literacy Indicator Tool:
Section I: Environmental Literacy Planning
Section II: Sustainable Schools
Section III Student Participation in Meaningful Watershed Educational Experiences (MWEEs)

Note: You can close the ELIT survey and return to the same place as long as you use the same computer to continue completing the survey.

If you have questions about this tool, please contact:

Shannon Sprague
Co-Chair, Chesapeake Bay Program Education Workgroup
NOAA Chesapeake Bay Office
shannon.sprague@noaa.gov
410.267.5664

Contact Information

In which state is your local education agency (LEA)? (choose one from the drop down menu)

▼

Please complete this information.

LEA Full Name (no abbreviations, please)	
Name of Individual Completing this Form	
Title of Individual Completing this Form	
Email Address	
Phone Number	

Section I: Environmental Literacy Planning

Section I: Environmental Literacy Planning

Environmental Literacy Planning Outcome: *Each participating Bay jurisdiction should develop a comprehensive and systemic approach to environmental literacy for all students in the region that includes policies, practices and voluntary metrics that support the environmental literacy Goals and Outcomes of this Agreement.*

State departments of education and local education agencies play an important role in establishing expectations and guidelines, and providing support for the development and implementation of environmental education programs within their schools. To ensure that every student in the region graduates with the knowledge and skills to act responsibly to protect and restore their local watershed as called for in the Chesapeake Watershed Agreement, environmental education should be embedded into the local curriculum

and Meaningful Watershed Educational Experiences (MWEE Definition 2014.pdf) should occur at least once during each level of instruction (elementary, middle, and high school).

In the development of plans and the delivery of programs, local education agencies can also benefit from partnerships with environmental education organizations, natural resource agencies, universities, businesses, and other organizations that have a wealth of applicable products and services as well as a cadre of scientific and professional experts that can complement the classroom teacher's strengths and heighten the impact of environmental instruction both in the classroom and in the field.

The following questions are intended to help assess the current capacity of your LEA to implement a comprehensive and systemic approach to environmental education. **Please review the following elements (a-g) and, using the scale below, make a determination about your LEA's capacity to address them.**

a. An **established program leader** for environmental education (providing effective, sustained and system leadership)

- **Not in Place**
- **Fully in Place:** Program leader is in place to design, implement, and/or monitor EE program

Comments

b. An **established team** that facilitates multi-grade/multi-discipline curricular infusion of environmental projects and practices, such as student MWEEs

- **Not in Place**
- **Partially in Place:** EE team established and meets to share information
- **Fully in Place:** Multi-disciplinary EE team meets regularly to design, implement, and/or monitor EE program

Comments

c. An **integrated program** infusing environmental concepts and student MWEEs in appropriate curricular areas

- **Not in Place**
- **Partially in Place:** EE is represented in some LEA curricula or initiatives, such as STEM, Service Learning, etc.
- **Fully in Place:** EE is fully embedded in the curriculum across all relevant PK-12 LEA curricula and initiatives

Comments

d. A plan to ensure opportunities for all students to engage in **meaningful watershed educational experiences** at the elementary, middle and high school levels

- **Not in Place**
- **Partially in Place:** LEA has a plan to provide MWEEs in at least one grade band
- **Fully in Place:** LEA has a plan to provide MWEEs at least once in each grade band (elementary, middle, and high)

Comments

e. A support system is in place that enables teachers and administrators to engage in **high quality professional development** in content knowledge, instructional materials, and methodology related to environmental education.

- **Not in Place**
- **Partially in Place:** PD in environmental education is offered to teachers periodically
- **Fully in Place:** PD in environmental education is provided regularly for all relevant teachers

Comments

f. A plan or initiative to create **sustainable schools** to reduce negative environmental and human health impacts of school buildings and grounds

- **Not in Place**
- **Partially in Place:** LEA has identified sustainable schools as a priority
- **Fully in Place:** LEA has a plan or initiative to implement sustainable practices in all schools

Comments

g. **Established community partnerships** for delivery of environmental education, including implementation of MWEEs

- **Not in Place**
- **Partially in Place:** Partners are offering environmental education programs in schools
- **Fully in Place:** Partners are working with LEA to coordinate delivery of environmental education programs in support of a LEA environmental education plan or priorities

Comments

Section II: Sustainable Schools

Section II: Sustainable Schools

Environmental Literacy Sustainable Schools Outcome: Continually increase the number of schools in the region that reduce the impact of their buildings and grounds on their local watershed, environment and human health through best practices, including student-led protection and restoration projects.

Sustainable Schools Pillars (as defined by the U.S. Department of Education Green Ribbon Schools):

- Reduce environmental impact and costs,
- Improve the health and wellness of schools, students and staff, and
- Provide effective environment and sustainability literacy, incorporating STEM, civic skills and green career pathways

Qualifying sustainable schools have a formal recognition and/or certification process that evaluates school performance in more than one U.S. Green Ribbon School Pillar, include student-led action projects, and allow for continuing improvement and multi-year participation. The Chesapeake Bay Program Education Workgroup has worked compiled a list of certification programs that meet this criteria.

For the purposes of this survey, only the following sustainable schools certifications should be included:

- **U.S. Green Ribbon Schools**
- **Eco Schools (National Wildlife Federation)**
- **Project Learning Tree Green Schools**
- **Maryland Green Schools (MAEOE)**
- **Virginia Naturally Schools**
- **West Virginia Sustainable Schools**

If you believe that another sustainable schools certification program meets these criteria, please contact:
Shannon Sprague
Co-chair, Chesapeake Bay Program Education Workgroup
NOAA Chesapeake Bay Office
shannon.sprague@noaa.gov
410-267-5664

Please indicate the number of schools in your LEA:

Elementary	
Middle	
High	

Please indicate the number of schools in your LEA that hold a sustainable schools certification/recognition (see list of programs above)

Elementary	
Middle	
High	

Other than those sustainable schools programs identified above, in what environmental certification programs do schools in your LEA participate?

Please select one answer per question.

	Yes	No	I don't know
Does your LEA have a sustainable schools coordinator?	○	○	○
Does your LEA have policies or programs that go beyond state requirements to reduce impacts of school buildings and ground on the watershed and larger environment? (if Yes, please describe)	○	○	○
Does your LEA have policies or programs that go beyond state requirements to improve the health and wellness of schools, students, and staff? (if Yes, please describe)	○	○	○

Section III: Student Participation in MWEEs

Section III: Student Participation in Meaningful Watershed Educational Experiences

Environmental Literacy Student Outcome: Continually increase students' age-appropriate understanding of the watershed through participation in teacher-supported, **meaningful watershed educational experiences** and rigorous inquiry-based instruction, with a target of at least one meaningful watershed educational experience in elementary, middle and high school depending on available resources.

All four of these components are required for the experience to qualify as a MWEE (for a more detailed definition, see MWEE Definition 2014.pdf):

> ***Issue Definition:*** *Students identify an environmental question, problem, or issue and explore through background research and investigation.*
>
> ***Outdoor field experiences:*** *Students participate in one or more outdoor field experience sufficient to collect the data required for answering the research questions and informing student actions.*
>
> ***Action projects:*** *Students participate in an action project during which students take action to address environmental issues at the personal or societal level.*
>
> ***Synthesis and conclusions:*** *Students analyze and evaluate the results of their investigation of the issue and synthesize and communicate results and conclusions.*

On the following pages, please describe the participation of your school district's elementary, middle, and high school students in MWEEs in the 2014-2015 school year.

In your school district, how many students were enrolled in each of these grades during the 2014-2015 school year?

Kindergarten

1st grade	0
2nd grade	0
3rd grade	0
4th grade	0
5th grade	0
Total	0

For each grade level, please indicate how many students participated in MWEE programs during the 2014-2015 school year.

	Students in this grade participated in a system-wide MWEE experience	Some students in this grade participated in a MWEE	No evidence of students in this grade participating in a MWEE
Kindergarten	○	○	○
1st grade	○	○	○
2nd grade	○	○	○
3rd grade	○	○	○
4th grade	○	○	○
5th grade	○	○	○

Please describe the system-wide MWEE programs that are in place to reach all elementary school students (i.e., grade, description of unit, partnerships, etc.).

Please provide examples of MWEE programs in which students participate that are currently not offered to all elementary school students (i.e., grade, description of unit, partnerships, school(s), etc.).

In your school district, how many students were enrolled in each of these grades during the 2014-2015 school year?

6th grade	0
7th grade	0
8th grade	0
Total	0

For each grade level, please indicate how many students participated in MWEEs during the 2014-2015 school year.

	Students in this grade participated in a system-wide MWEE experience	Some students in this grade participated in a MWEE	No evidence of students in this grade participating in a MWEE
6th grade	○	○	○
7th grade	○	○	○
8th grade	○	○	○

Please describe the system-wide MWEE programs that are in place to reach all middle school students (i.e., grade, description of unit, partnerships, etc.).

Please provide examples of MWEE programs in which students participate that are currently not offered to all middle school students (i.e., grade, description of unit, partnerships, school(s), etc.).

How many students TOTAL were enrolled in grades 9-12 in your school district during the 2014-2015 school year? (please provide a number rather than a range)

For each core course, please indicate how many students participated in MWEEs during the 2014-2015 school year.

	Students in this course participated in a system-wide MWEE experience	Some students in this course participated in a MWEE>	No evidence of students in this course participating in a MWEE
Science (indicate course(s))			
Social studies (indicate course(s))			
English (indicate course(s))			
Math (indicate course(s))			
Other core course (indicate course(s))			
Other core course (indicate course(s))			

For each elective, please indicate how many students participated in MWEEs during the most recent school year.

	Students in this elective participated in a system-wide MWEE experience	Some students in this elective participated in a MWEE	No evidence of students in this elective participating in a MWEE
AP Environmental Science			
Career and Technical Education			
Health and Physical Education			
Other elective (indicate course(s))			

Other elective (indicate course(s))			
Other elective (indicate course(s))			

Please describe the system-wide MWEE programs that are in place to reach all high school students (i.e., grade, description of unit, partnerships, etc.).

Please provide examples of MWEE programs in which students participate that are currently not offered to all high school students (i.e., grade, description of unit, partnerships, school(s), etc.).

Section III: MD EL Graduation Requirement

Maryland Environmental Literacy Graduation Requirement
In June 2011, the Maryland State Board of Education adopted COMAR 13A.03.02.04 graduation requirement which requires students to complete a locally designed high school program of environmental literacy as set forth in COMAR 13A.04.17.01 that is approved by the State Superintendent of Schools. This regulation aligns with the existing PK-12 regulation requiring schools systems to provide a comprehensive, multidisciplinary environmental education program infused within current curricular offerings and aligned with the Maryland Environmental Literacy Curriculum.

The information submitted in this table will be used to certify that COMAR regulation 13A.03.02.04 is met.

For each grade level (columns), **please write into the text box the name of the course(s) in which these six EL standard (rows) are addressed**. For example, if EL Standard 4 is addressed in 10th grade Biology, write "Biology" in Row 4, Column 1. If a standard is not addressed at a certain grade level, either leave the text box blank or write "None."

	Science Courses	Social Studies Courses	English Courses	Math Courses	Electives

EL Standard 2: The student shall analyze and apply the properties of systems thinking and modeling to the study of earth's systems.					
EL Standard 3a: The student shall analyze and explain the movement of matter and energy through interactions of at least two of the following systems: biosphere, geosphere, hydrosphere, atmosphere, and cryosphere.					
EL Standard 3b: The student shall analyze and explain the influence of matter and energy on weather patterns, climate zones, and the distribution of life.					
EL Standard 4: The student shall use physical, chemical, biological, and ecological concepts to analyze and explain the interdependence of humans and organisms in populations, communities, and ecosystems.					
EL Standard 5: The student shall use concepts from chemistry, physics, biology, and ecology to analyze and interpret both positive and negative impacts of human activities on earth's natural systems and resources.					
EL Standard 6: The student shall use concepts from science, social studies and health to analyze and interpret both positive and negative impacts of natural events and human activities on human health.					

Maryland Environmental Literacy Graduation Requirement
In June 2011, the Maryland State Board of Education adopted COMAR 13A.03.02.04 graduation requirement which requires students entering high school in 2011-2012 to complete a locally designed high school program of environmental literacy as set forth in COMAR 13A.04.17.01 that is approved by the State Superintendent of Schools. This regulation aligns with the existing PK-12 regulation requiring schools systems to provide a comprehensive, multidisciplinary environmental education program infused within current curricular offerings and aligned with the Maryland Environmental Literacy Curriculum.

The information submitted in this table will be used to certify that COMAR regulation 13A.03.02.04 is met.

For each grade level (columns), **please write into the text box the name of the course(s) in which these five EL standards (rows) are addressed**. For example, if EL Standard 1b is addressed in 10th grade Biology, write "Biology" in Row 2, Column 1. If a standard is not addressed at a certain grade level, either leave the text box blank or write "None."

	Social Studies

	Science Courses	Courses	English Courses	Math Courses	Electives
EL Standard 1a: The student shall investigate and analyze environmental issues ranging from local to global perspectives.					
EL Standard 1b: The student shall develop and implement a local action project that protects, sustains, or enhances the natural environment.					
EL Standard 7: The student shall analyze how the interactions of heredity, experience, learning and culture influence social decisions and social change.					
EL Standard 8a: The student shall make decisions that demonstrate understanding of natural communities and the ecological, economic, political, and social systems of human communities.					
EL Standard 8b: The student shall examine how their personal and collective actions affect the sustainability of these interrelated systems.					

Maryland Environmental Literacy Graduation Requirement

For grades 6-8, please select all EL standards that are addressed during those grades.

- [ ] EL Standard 1a: The student shall investigate and analyze environmental issues ranging from local to global perspectives.
- [ ] EL Standard 1b: The student shall develop and implement a local action project that protects, sustains, or enhances the natural environment.
- [ ] EL Standard 2: The student shall analyze and apply the properties of systems thinking and modeling to the study of earth's systems.
- [ ] EL Standard 3a: The student shall analyze and explain the movement of matter and energy through interactions of at least two of the following systems: biosphere, geosphere, hydrosphere, atmosphere, and cryosphere.
- [ ] EL Standard 3b: The student shall analyze and explain the influence of matter and energy on weather patterns, climate zones, and the distribution of life.
- [ ] EL Standard 4: The student shall use physical, chemical, biological, and ecological concepts to analyze and explain the interdependence of humans and organisms in populations, communities, and ecosystems.
- [ ] EL Standard 5: The student shall use concepts from chemistry, physics, biology, and ecology to analyze and interpret both positive and negative impacts of human activities on earth's natural systems and resources.

- [ ] EL Standard 6: The student shall use concepts from science, social studies and health to analyze and interpret both positive and negative impacts of natural events and human activities on human health.
- [ ] EL Standard 7: The student shall analyze how the interactions of heredity, experience, learning and culture influence social decisions and social change.
- [ ] EL Standard 8a: The student shall make decisions that demonstrate understanding of natural communities and the ecological, economic, political, and social systems of human communities.
- [ ] EL Standard 8b: The student shall examine how their personal and collective actions affect the sustainability of these interrelated systems.

Please describe how the selected EL Standards are addressed in grades 6-8.

Maryland Environmental Literacy Graduation Requirement

For grades 3-5, please select all EL standards that are addressed during those grades.

- [ ] EL Standard 1a: The student shall investigate and analyze environmental issues ranging from local to global perspectives.
- [ ] EL Standard 1b: The student shall develop and implement a local action project that protects, sustains, or enhances the natural environment.
- [ ] EL Standard 2: The student shall analyze and apply the properties of systems thinking and modeling to the study of earth's systems.
- [ ] EL Standard 3a: The student shall analyze and explain the movement of matter and energy through interactions of at least two of the following systems: biosphere, geosphere, hydrosphere, atmosphere, and cryosphere.
- [ ] EL Standard 3b: The student shall analyze and explain the influence of matter and energy on weather patterns, climate zones, and the distribution of life.
- [ ] EL Standard 4: The student shall use physical, chemical, biological, and ecological concepts to analyze and explain the interdependence of humans and organisms in populations, communities, and ecosystems.
- [ ] EL Standard 5: The student shall use concepts from chemistry, physics, biology, and ecology to analyze and interpret both positive and negative impacts of human activities on earth's natural systems and resources.
- [ ] EL Standard 6: The student shall use concepts from science, social studies and health to analyze and interpret both positive and negative impacts of natural events and human activities on human health.
- [ ] EL Standard 7: The student shall analyze how the interactions of heredity, experience, learning and

culture influence social decisions and social change.

- [ ] EL Standard 8a: The student shall make decisions that demonstrate understanding of natural communities and the ecological, economic, political, and social systems of human communities.
- [ ] EL Standard 8b: The student shall examine how their personal and collective actions affect the sustainability of these interrelated systems.

Please describe how the selected EL Standards are addressed in grades 3-5.

Maryland Environmental Literacy Graduation Requirement

For grades PreK-2, please select all EL standards that are addressed during those grades.

- [ ] EL Standard 1a: The student shall investigate and analyze environmental issues ranging from local to global perspectives.
- [ ] EL Standard 1b: The student shall develop and implement a local action project that protects, sustains, or enhances the natural environment.
- [ ] EL Standard 2: The student shall analyze and apply the properties of systems thinking and modeling to the study of earth's systems.
- [ ] EL Standard 3a: The student shall analyze and explain the movement of matter and energy through interactions of at least two of the following systems: biosphere, geosphere, hydrosphere, atmosphere, and cryosphere.
- [ ] EL Standard 3b: The student shall analyze and explain the influence of matter and energy on weather patterns, climate zones, and the distribution of life.
- [ ] EL Standard 4: The student shall use physical, chemical, biological, and ecological concepts to analyze and explain the interdependence of humans and organisms in populations, communities, and ecosystems.
- [ ] EL Standard 5: The student shall use concepts from chemistry, physics, biology, and ecology to analyze and interpret both positive and negative impacts of human activities on earth's natural systems and resources.
- [ ] EL Standard 6: The student shall use concepts from science, social studies and health to analyze and interpret both positive and negative impacts of natural events and human activities on human health.
- [ ] EL Standard 7: The student shall analyze how the interactions of heredity, experience, learning and culture influence social decisions and social change.
- [ ] EL Standard 8a: The student shall make decisions that demonstrate understanding of natural communities and the ecological, economic, political, and social systems of human communities.

- [ ] EL Standard 8b: The student shall examine how their personal and collective actions affect the sustainability of these interrelated systems.

Please describe how the selected EL Standards are addressed in grades PreK-2.

Section IV: Continuous EE Improvement Efforts

SECTION IV: Continuous Environmental Education Improvement Efforts

What are the strongest elements of your environmental education program? What data or subjective assessments support this?

Please share any success stories as exemplars and models of best practice that we not detailed above.

What are the greatest challenges related to establishing/implementing your environmental education program?

What are opportunities to grow your environmental education program?

What are your highest priority needs for improving your environmental education programs? Please move the items below to rank them, with 1 being your greatest need.

- Outdoor Classrooms
- Increased Alignment with Curriculum
- Support from board of education
- Teacher Professional Development
- Sustainable Schools Technical Assistance
- Curriculum Planning/Integration Support
- Funding
- Community Partnerships

Section V: Additional Feedback

Section V: Feedback on ELIT

On a scale from 1 to 10, how difficult was it to provide the data for the ELIT survey overall?

	1	2	3	4	5	6	7	8	9	10	
Very easy	○	○	○	○	○	○	○	○	○	○	Very difficult

Any last comments about the ELIT design?

THANK YOU for completing this indicator survey! Please click on the SUBMIT button below to complete the survey.

When you submit the ELIT, your entered data will appear in a window. You can save and/or print those results by clicking on the Adobe symbol in the upper right corner of the window.