



Karen B. Salmon, Ph.D.
State Superintendent of Schools

TO: Members of the State Board of Education

FROM: Karen B. Salmon, Ph.D.

DATE: May 27, 2020

SUBJECT: COMAR 13A.04.17
Environmental Education
ADOPTION

PURPOSE:

The purpose of this item is to request adoption of amendments to COMAR 13A.04.17. *Environmental Education*.

REGULATION PROMULGATION PROCESS:

Under Maryland law, a state agency, such as the State Board, may propose a new or amended regulation whenever the circumstances arise to do so. After the State Board votes to propose such a regulation, the proposed regulation is sent to the Administrative, Executive, and Legislative Review Committee (AELR) for a 15-day review period. If the AELR Committee does not hold up the proposed regulation for further review, it is published in the Maryland Register for a 30-day public comment period. At the end of the comment period, the Maryland State Department of Education (MSDE) staff reviews and summarizes the public comments. Thereafter, the MSDE staff will present a recommendation to the State Board of Education to either: (1) adopt the regulation in the form it was proposed; (2) revise the regulation and adopt it as final because the suggested revision is not a substantive change; or (3) revise the regulation and re-propose it because the suggested revision is a substantive change. At any time during the process, the AELR Committee may stop the promulgation process and hold a hearing. Thereafter, it may recommend to the Governor that the regulation not be adopted as a final regulation or the AELR Committee may release the regulation for final adoption.

BACKGROUND/HISTORICAL PERSPECTIVE:

In 1989, Maryland became the first state to require a comprehensive, multidisciplinary program of environmental education. State standards for Environmental Literacy were adopted by the State Board and incorporated into COMAR 13A.04.17 in 1999. In 2008, then Governor Martin O'Malley issued an Executive Order establishing the Maryland Partnership for Children in Nature (CIN). This partnership led to the adoption and incorporation in 2008 of the current Standards for Environmental literacy to reflect recommendations made by CIN.

In accordance with the Regulatory Review and Evaluation Act, Article 10-130-139, Annotated Code of Maryland, they are due for review. Following the Board procedures enumerated in the May 23, 2017, Protocol for Developing and Revising Standards, MSDE initiated a public survey from December 2017 through February 2018 to seek feedback on the current standards. A committee of teachers, district environmental literacy specialists, university representation, and private citizens reviewed data from the survey. The committee recommended extensive revisions should be made to the existing Maryland Environmental Literacy Standards to remove existing redundancy with Maryland content standards from other disciplines including Maryland's Next Generation Science Standards (NGSS), Social Studies, and Health. Based on these recommendations, the State Board in April 2019, granted permission for MSDE to revise COMAR 13A.04.17 *Environmental Education*. After completing the revisions, feedback was sought in regional meetings and from local school system science, environmental, health, and social studies supervisors. During that process, changes were also recommended for the COMAR language in which these standards are located. These changes include shifting from "education" to "literacy" and adjusting the student participation language so that it is consistent with COMAR for the other content areas.

EXECUTIVE SUMMARY:

The proposed amendments to Maryland's Environmental Education instructional program are the byproduct of consultation with the public, teachers, content supervisors, other state agencies, and nonprofit environmental advocacy organizations.

The State Board granted permission to publish these regulations at the January 28, 2020, State Board Meeting. The regulations were published in the Maryland Register from March 27, 2020 until April 27, 2020. Four comments were provided by the environmental education community (See Attachment II). Two of the four responses expressed full support for the proposed revisions, while two respondents advocated retaining wording from the current standards. An overarching goal during revision of the standards was to reduce redundancy between the Environmental Literacy standards and content area standards. Relationships between humans and Earth systems are addressed through Maryland Next Generation Science Standards (NGSS) and thus the concerns expressed by the respondents are addressed within the scope of a student's full science education. In addition, after adoption of the revised standards, MSDE will develop a grade band framework to further clarify how local school systems can develop and implement the standards.

The MSDE does not recommend any changes to the proposed regulation.

ACTION:

Request adoption of COMAR 13A.04.17 *Environmental Education*.

ATTACHMENTS:

COMAR 13A.04.17.01 *Environmental Education Instructional Programs for Grades Prekindergarten*
— 12

Public Comment Summary for 13A.04.17.01 *Environmental Education Instructional Programs for Grades Prekindergarten* — 12

BOARD OF EDUCATION

Subtitle 04 SPECIFIC SUBJECTS

13A.04.17 Environmental Education

Authority: Education Article, [§2-205(h)] §2-205, Annotated Code of Maryland

Notice of Proposed Action

[20-073-P]

The Maryland State Board of Education proposes to amend Regulations .01 and .02 under **COMAR 13A.04.17 Environmental Education**. This action was considered by the State Board of Education at their meeting held on January 28, 2020.

Statement of Purpose

The purpose of this action is to update the Environmental Instructional Programs for grades prekindergarten through 12 by replacing the Maryland Environmental Literacy Curriculum with the Maryland Environmental Literacy Standards.

Comparison to Federal Standards

There is no corresponding federal standard to this proposed action.

Estimate of Economic Impact

The proposed action has no economic impact.

Economic Impact on Small Businesses

The proposed action has minimal or no economic impact on small businesses.

Impact on Individuals with Disabilities

The proposed action has no impact on individuals with disabilities.

Opportunity for Public Comment

Comments may be sent to Bruce A. Lesh, Director of Social Studies, Science, Environmental Literacy, and Disciplinary Literacy, Maryland State Department of Education, 200 West Baltimore Street, Baltimore, MD 21201, or call 410-767-0519 (TTY 410-333-6442), or email to bruce.lesh@maryland.gov. Comments will be accepted through April 27, 2020. A public hearing has not been scheduled.

Open Meeting

Final action on the proposal will be considered by the State Board of Education during a public meeting to be held on May 27, 2020, 9 a.m., at 200 West Baltimore Street, Baltimore, MD 21201.

.01 Environmental [Education] Literacy Instructional Programs for Grades Prekindergarten — 12.

A. Each local school system shall provide in public schools a comprehensive, multi-disciplinary environmental [education] *literacy* program infused within current curricular offerings and aligned with the Maryland Environmental Literacy [Curriculum] *Standards*.

B. The Maryland Environmental [Education] *Literacy* Program shall:

- (1) Provide a developmentally appropriate instructional program *with opportunities for outdoor learning experiences*;
- (2) Advance students' knowledge, confidence, skills, and motivation to make decisions and take actions that [create and maintain an optimal relationship between themselves and the environment, and] preserve and protect the unique natural resources of Maryland[, particularly those] *and of the Chesapeake Bay and its watershed[.]*; *and*
- (3) [This comprehensive instructional program shall provide] *Provide* for the diversity of student needs, abilities, and interests at the early, middle, and high school learning years[,] and shall include all of [the standards from] the Maryland Environmental Literacy [Curriculum] *Standards* as set forth in §C of this regulation.

C. Maryland Environmental Literacy [Curriculum] *Standards*.

(1) Environmental [Issues. The student shall:] *Issue Investigation and Action. Environmentally literate students investigate environmental issues in order to develop and implement local actions that protect, sustain, or restore the natural environment.*

[(a) Investigate and analyze environmental issues ranging from local to global perspectives and;

(b) Develop and implement a local action project that protects, sustains, or enhances the natural environment.]

(2) [Interactions of Earth's Systems. The student shall analyze and apply the properties of systems thinking and modeling to the study of earth's systems.] *Human Dependence on Earth Systems and Natural Resources. Environmentally literate students construct and apply understanding of how Earth's systems and natural resources support human existence.*

(3) [Flow of Matter and Energy. The student shall analyze and explain:] *Environmental Impact of Human Activity. Environmentally literate students construct and apply understanding of the environmental impact of human activities on Earth's systems and resources.*

[(a) The movement of matter and energy through interactions of each of the following earth systems:

(i) Biosphere;

(ii) Geosphere;

- (iii) Hydrosphere;
- (iv) Atmosphere; and
- (v) Cryosphere; and

(b) The influence of this movement on weather patterns, climatic zones, and the distribution of life.]

(4) [Populations, Communities, and Ecosystems. 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.] *Consequences of Environmental Change on Human Health and Well-Being. Environmentally literate students construct and apply understanding of the consequences of human-induced environmental change on individual and collective health and well-being.*

(5) [Humans and Natural Resources. 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.] *Individual and Collective Responses to Environmental Change. Environmentally literate students construct and apply understanding of individual, collective, and societal responses to human-induced environmental change.*

[(6) Environment and Health. 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.

(7) Environment and Society. The student shall analyze how the interactions of heredity, experience, learning and culture influence social decisions and social change.

(8) Sustainability. The student shall:

(a) Make decisions that demonstrate understanding of natural communities and the ecological, economic, political, and social systems of human communities; and

(b) Examine how their personal and collective actions affect the sustainability of these interrelated systems.]

D. Each local school system shall establish a support system to enable teachers and administrators to engage in high quality professional development in content knowledge, instructional materials, and methodology related to environmental [education] *literacy*.

E. Student Participation. All students shall have the opportunity to participate in the comprehensive environmental [education] *literacy* program required by this [regulation to meet their graduation requirement in environmental education] *chapter*.

.02 Certification Procedures.

By September 1, 2015 and each 5 years after, each local school superintendent of schools shall certify to the State Superintendent of Schools that the instructional program in environmental [education] *literacy* meets, at a minimum, the requirements set forth in Regulation .01 of this chapter.

KAREN B. SALMON, Ph.D.
State Superintendent of Schools

Public Comment Summary

13A.04.17 Environmental Education

Individual/Organization	Comment	MSDE Response
<p>Suzanne Sullivan Director of Education and Outreach, ShoreRivers</p>	<p>ShoreRivers is a 501c3 that serves as an environmental education provider to public school systems on the Eastern Shore. I applaud the thoughtful proposed revisions to the Environmental Literacy Standards and would urge the Board to adopt the regulations in the proposed form. The revised standards express clearer expectations and outcomes, as well promote interdisciplinary learning. It is vital that all subject matter see their content expressed in Environmental Literacy Standards. The onus cannot fall on science subjects alone to carry forth environmental literacy efforts including meeting standards and supporting initiatives such as Maryland Green School certification and Meaningful Watershed Educational Experiences. Our students are better prepared stewards later in life when they see that environmental concepts are tied into their history, health, and economic futures. I look forward to actively supporting school systems through Professional Development, curriculum-based programming, and student environmental action at their schools.</p>	<p>Accepted</p>
<p>Kathy Chambliss, PhD Professional Development Coordinator NorthBay North East, MD</p>	<p>I appreciate the opportunity to comment and your consideration of my words. I respectfully request that the committee working on the newest Environmental Literacy Standards consider keeping this language in COMAR 13A.04.17.01(B.12): “create and maintain an optimal relationship between themselves and the environment.” It is currently bracketed for removal. Our relationship with nature—how we view ourselves as part of or apart from ecosystems—underpins our environmental decisions and behaviors. If the intent of the standards is to change or encourage proactive behavior, our relationship with nature is a core element. Pioneering researchers Harold Hungerford and Trudi Volk note the importance of “environmental sensitivity”—an empathic perspective of nature, and “ownership”—a personal investment in an environmental issue—as precursors for proactive environmental behaviors. These are components of relationships. Constructing and applying environmental knowledge and taking action <i>within the context</i> of our relationships with nature will catalyze the behavior changes we need for healthy lands and waters and people.</p> <p>I urge members of the committee to reconsider this one proposed change and keep relationships at the heart of the newly revised MD Environmental Literacy Standards.</p> <p>Harold R. Hungerford & Trudi L. Volk (1990) Changing Learner Behavior Through Environmental Education, <i>The Journal of Environmental Education</i>, 21:3, 8-21, DOI: 10.1080/00958964.1990.10753743</p>	<p>A goal of the revision of the Environmental Literacy standards is to eliminate redundancy between the standards and the Next Generation Science Standards (NGSS). Relationships between humans and Earth's systems is interwoven into the NGSS under the Earth and Space Systems domain. The importance of relationships among systems and users within systems is not minimized in the revised Environmental Literacy where students use that knowledge to inform their positions so they can take action to remediate or maintain natural resources.</p>

Individual/Organization	Comment	MSDE Response
<p>Coreen E Weilminster (she, her, hers) Education Coordinator, Chesapeake Bay National Estuarine Research Reserve - MD Chesapeake and Coastal Service Department of Natural Resources 580 Taylor Ave., E-2 Annapolis, MD 21401 410-260-8744 (office)</p>	<p>This email serves as public comment on the proposed updates to the Maryland Environmental Literacy Standards.</p> <p>I have been providing environmental education for 28 years (20 of them in Maryland). I have a Master of Arts degree in Environmental Studies with a concentration in Environmental Education with special research (through that degree) on environmental literacy (1995). I served on the board of directors for the Maryland Association for Environmental and Outdoor Education from 2001 - 2013 and was board president 2010 & 2011. I currently work at the MD DNR with Britt Slattery as the Education Coordinator for the Chesapeake Bay National Estuarine Research Reserve in Maryland (one of 29 Research Reserves around the country).</p> <p>I am grateful for the opportunity to comment and pleased that Maryland is updating these standards. I am especially proud to have been working on the frontlines of environmental education during the historic and nationally trailblazing statewide-effort (and of our commitment to environmental education) and those first set of standards all those years ago...</p> <p>The following comments are broad. I am available for support on more specific editorial language if need be.</p> <p>1). Overall, I support these changes. They are broad enough for individual educator creative interpretation and implementation. I was, however, hoping to see some specific language regarding Resilience, Sustainability (as in the original standard #8), Climate Change, and Environmental Justice. I feel like we are in a transformational moment in history for creating the future we wish to inherit. We have an obligation to be specific and intentional in our direction in these areas. I feel this is a missed opportunity within the proposed language. We were trailblazers with the first Elit standards and I believe we can lead again in these specific areas.</p> <p>2). Additionally, I would advocate for the following language to remain in the standards: <i>"create and maintain an optimal relationship between themselves and the environment and..."</i></p> <p>I believe this distinction in language is explicit in separating EE and Elit from other disciplines (like science and social studies), and provides justification for the standards, as well as justification for taking Maryland students outdoors. People protect what they love. We can't learn to love our natural world without creating that relationship as written in the original text. When cultivated via meaningful outdoor experiences facilitated by mentors (as in the MWEE model, and through support of ee providers throughout the state), these intentional relationship-building experiences are known to leave lasting effects on students. I have met many young adults in Maryland who have even become conservation professionals as a result of these relationship building experiences. The importance of this should be explicit in the text.</p> <p>30. Lastly, I would advocate for the inclusion and specificity of language as was originally written in standard 8 (Resilience, Sustainability, Environmental Justice are outcomes of EE, and as a start to consider adding these intentions into the standards, start with adding Standard 8 back in):</p> <p>Thank you for your consideration of these comments. Please email me if you would like further specificity on any of the other standards.</p>	<p>The specific language recommended for inclusion in the environmental literacy standards represent academic vocabulary found in other content areas. For instance, under the revised standards, students will construct and apply understanding of individual, collective, and societal responses to human-induced environmental change, under which environmental justice falls. The decision not to include those terms within the environmental literacy standards is based on the shift towards literacy which focuses on the skills and practices environmentally literate students use to inform their positions about environmental issues which is possible though content knowledge acquisition from other subject areas.</p> <p>A goal of the revision of the Environmental Literacy standards is to eliminate redundancy between the standards and the Next Generation Science Standards (NGSS). Relationships between humans and Earth's systems is interwoven into the NGSS under the Earth and Space Systems domain. The importance of relationships among systems and users within systems is not minimized in the revised Environmental Literacy where students use that knowledge to inform their positions so they can take action to remediate or maintain natural resources.</p>

Individual/Organization	Comment	MSDE Response
Chesapeake Bay Foundation	See Letter Below	<p>The revised COMAR reiterates that students use their knowledge, skills and abilities to make decisions and take action in the local community to include the Chesapeake Bay and its watershed. Then, students develop and implement local actions pertaining to their studies in order to protect sustain or restore the natural environment. The connection of the students to authentic phenomena in the local community is maintained in the revised standards. After adoption of the revised standards, MSDE plans to develop a grade band framework, similar to other content areas, to further clarify how local school systems can develop and implement the standards.</p>



CHESAPEAKE BAY FOUNDATION
Saving a National Treasure

OFFICERS

Elizabeth Oliver-Farrow
CHAIR

Otis S. Jones
VICE CHAIR

Robert A. Kinsley II
VICE CHAIR

William C. Baker
PRESIDENT

David A. Fogle
TREASURER

William A. Agee
SECRETARY

TRUSTEES

Dara C. Bachman

R. Bruce Bradley

Joan P. Brock

George L. Bunting Jr.

D. Keith Campbell

Michael J. Chiaramonte

Thomas M. Davis III

Robert S. Evans

Margaret M. Freeman

Jennifer E. Green

Harry S. Gruner

Michael J. Hanley

Jeanne Trimble Hoffman

Ann D. Horner

Burks B. Lapham

Katie Z. Leavy

Pamela B. Murphy

Devan B. Ogburn

Mamie A. Parker, Ph.D.

Crystal Patterson

Anna R. Pauletta

Ann Pelham

J. Sedwick Sollers III

Sandra E. Taylor

Preston M. White

Stephen M. Wolf

HONORARY
TRUSTEES

Donald F. Boesch, Ph.D.

W. Russell G. Byers Jr.

Louisa C. Duemling

Richard L. Franyo

Alan R. Griffith

Carolyn Groobey

Ann Fritz Hackett

C.A. Porter Hopkins

Robert A. Kinsley

T. Gaylon Layfield III

Harry T. Lester

Byron F. Marchant

M. Lee Marston

Wayne A. Mills

Arnold I. Richman

Marie W. Ridder

James E. Rogers

Truman T. Semans

Simon Sidamon-Eristoff

Jennifer Stanley

Thomas H. Stoner

Bishop Eugene Taylor Sutton

Alan L. Wurtzel

April 26, 2020

Bruce Lesh

Director, Social Studies, Science, STEM, Environmental and Disciplinary Literacy
Maryland State Department of Education
200 West Baltimore St., Baltimore, MD 21201

Dear Mr. Lesh,

Thank you and MSDE for organizing and implementing the environmental literacy standards review panel. The draft revised standards represent a significant improvement over previous versions.

Under COMAR 13A.04.17.01 Section (4) and (5), the Chesapeake Bay Foundation (CBF) recommends that teaching and learning be focused on environmental issues that are local and relevant to students and to the communities in which they live. Investigating local issues is a best practice in environmental literacy creates a deeper level of meaning for students and leads to the development of student actions that may benefit the student and their community directly. Including these two factors will enhance the depth of the learning itself.

In addition to revising the standards, MSDE should actively provide models and other guidance to assist local school systems in developing their plans to meet these standards and certifying them under COMAR 13A.04.17.02. It is essential that MSDE define “a comprehensive, multi-disciplinary environmental literacy program” for local school systems, so that both the implementation and certification of these programs is meaningful and results in graduating environmentally literate students.

Thank you for your commitment to students and to environmental literacy in Maryland.

Sincerely,

Tom Ackerman
Vice President for Education