

## 2021-2022 Maryland Environmental Literacy Action Plan - Chesapeake Bay Agreement

The Environmental Literacy goal is one of ten in the [2014 Chesapeake Bay Watershed Agreement](#), and it is to be achieved through three outcomes. Each outcome has three management approaches, and nested below each management approach are strategies. For each strategy, there are regional 2-year actions (performance targets), followed by contributing actions identified by each of the jurisdictions in the watershed. This document includes, for the three outcomes, the regional actions and the state actions for Maryland that will be led by the Maryland Project Green Classrooms Initiative. There may be some additional actions for Maryland contributed by other partners individually; and Project Green Classrooms' work during this time may include additional activities outside of what is committed under this plan.

- The state actions here are arranged to respond to the management approaches, strategies and performance targets which are set by the regional Chesapeake Bay Program partnership, through the Mid-Atlantic Environmental Literacy Workgroup. All of the [2019 Project Green Classrooms Recommendations](#) are addressed or served within this body of commitments, thereby aligning our ongoing state work with the regional priorities.
- The Outcomes are Environmental Literacy Planning (P), Students (S), and Sustainable Schools (SS). For easier reference here, the outcome letter and number of the management approach (MA) and the action number are used, e.g., P2.2 is action 2.2 found under Planning - MA2.
- A number 1 or 2 after each action denotes whether it will be completed by the end of year 1 (2021) or year 2 (2022) of the plan.

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

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**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.

**PLANNING Management Approach 1:** Support school district efforts to embed locally appropriate environmental practices, content, and learning opportunities into curriculum and operations.

**P1.1 Create and disseminate materials to support school district efforts to develop K-12 environmental literacy frameworks that document in which grades MWEEs and other environmental literacy programming occurs.**

Regional actions:

- Create and distribute tools to support the development of school district planning documents (e.g. environmental literacy frameworks, sustainability plans, curriculum integration tools).
- Develop a school district section on Bay Backpack that includes easy access to resources they need to develop district level planning documents, including background research about why MWEE are good for schools, templates, and case studies.

**MD PGC Actions:**

- A. Develop an instructional framework to guide implementation of the MD Environmental Literacy Standards. 1 (Lead: MSDE)
- B. Develop an Environmental Literacy Plan (ELP) template as a guide for Local School Systems to use to describe environmental and outdoor learning activities within the curriculum, to aid planning, partnerships, and funding support efforts. 2 (Lead: MSDE)

**P1.2 Provide technical and financial assistance to support school districts with the integration and implementation of MWEEs and sustainable schools into appropriate grade level curriculum. [**

Regional:

- Convene funders to discuss and encourage increased coordination and replication of successful models (e.g., development of school district level planning documents and the Outdoor Learning Network Initiative (OLNI))
- Use the funding inventory and leadership contacts compiled by the Management Board to identify opportunities to use existing state funding and programs to support environmental literacy activities.

**MD PGC Actions:**

- A. Utilize the ELIT survey data to determine district needs and to guide technical assistance and state funding opportunities, and pair districts with partners to provide support (such as helping facilitate integration, identifying existing programming that can be converted to a MWEE, etc.). 1 (Lead: MSDE, DNR)
- B. Work with agencies and partners to implement opportunities to expand allowable uses of existing funding resources (identified through the regional action) to support MWEE/sustainable schools integration and implementation. 2 (Lead: CBT, NOAA)

**P1.3 Encourage the development of local networks that include school district(s), environmental education providers, and local community groups to provide in-school and out-of-school opportunities to foster youth engagement.**

Regional:

- Capture and share the lessons learned from the Outdoor Learning Network Initiative (OLNI) model, which partners school districts with community partners to develop embedded environmental literacy programming in districts with new and emerging efforts.

**MD PGC Actions:**

- A. Organize a portal through Bay Backpack to house a shared, searchable directory of environmental education (EE) providers' services that can support student projects. 1 (Lead: NOAA, DNR, MSDE, MAEOE)
- B. Coordinate green careers providers statewide and develop information and tools for students about career paths. (Lead: DNR)
  - Promote the Chesapeake Youth and Young Professionals jobs portal to increase its use. 1
  - Complete the MD Green Careers Guide and make available to schools, youth career development programs, and others. 1
  - Host a Green Pathways Forum/Youth Listening Session regarding mentorship and support along the career path. 2

**PLANNING MA 2: Ensure the strategic and equitable delivery of environmental literacy programming.**

**P2.1 Work with school districts to collect standardized data and information using the Environmental Literacy Indicator Tool.**

Regional:

- Administer the Environmental Literacy Indicator Tool, including offering technical support to improve consistency and accuracy of response (e.g. orientation sessions, partnering school districts with MWEE Ambassadors, virtual office hours/consulting services).
- Work with states to develop questions for ELIT to identify inequities that may exist in environmental literacy programming.
- Create reports, data visualizations, and progress indicators using data from the Environmental Literacy Indicator Tool and other pertinent information (e.g. socioeconomic, natural resource, etc.) to better inform policy and resource allocation decisions.

**MD PGC Actions:**

- A. Include a state-specific question in the 2021 ELIT to indicate districts' approval to share the data with partners to identify opportunities to offer support (see also Student 3.2). 1 (Lead: MSDE, DNR)

**P2.2 Identify best practices and provide guidance resources to help address disparities to bring about justice, equity, diversity and inclusion to engage more students Lead are not currently being served.**

Regional:

- Complete the Stroud tool to identify areas to focus work with an emphasis on Justice, Equity, Diversity, & Inclusion priorities
- Establish a task force within the Education Workgroup to work with the Diversity Workgroup to develop a strategy for better understanding and addressing equitable engagement in environmental literacy programming

**MD PGC Actions:**

- A. Expand and promote existing mapping tools and their use for decision-making such as local and state park planning or for steering funding opportunities. Connect MD-specific tools with the CBP ELit mapping tool. 1 (Lead: MDOT, DNR)
- B. Use the mapping tools to identify communities most in need of improved access to green space. Identify where schools can use existing or enhanced spaces for outdoor environmental learning. Use the tools to assist partners in selecting those communities to receive additional resources (funding, technical assistance or attention) to guide actions that will close the gaps. 1 (Lead: MDOT, DNR)
- C. Conduct a pilot educational project with students to use existing mapping tools for analysis of schoolyard, community, and connecting corridors to nearby nature, and to identify ways to improve access to green space, including where there are opportunities to increase green space at schools. 2 (MDOT, MSDE, other outside partner(s) TBD)

**PLANNING MA 3: Ensure broad understanding at the state and regional level of the progress, gaps, and opportunities related to the Environmental Literacy Goal.**

**P3.1 Regularly convene partners around key issues through interagency state working Diversity groups, the CBP Education Workgroup, and working with the Principals' Staff Committee to convene high-level leaders.**

Regional:

- ELit Leadership Summit
- Convening meetings of the workgroup
- SRS Review

**MD PGC Actions:**

- A. Convene leadership of state agencies twice annually through Project Green Classrooms to continue informing and engaging them regarding environmental literacy progress, gaps/needs and potential solutions; and to garner their engagement on appropriate statewide actions to advance ELit and related efforts. 1 and 2 (Lead: DNR, MSDE)

**P3.2 Identify and help to secure the resources (policy, programs, and staffing) necessary to achieve the Environmental Literacy Goal.**

Regional:

- Work with Management Board to facilitate cooperation among environmental literacy and natural resources leadership contacts to address recommendations of the Education Workgroup, including helping to access existing funding sources that can be used to support environmental literacy programming.
- Develop a template for states to use to collect school district level data about the costs associated with equitable MWEE implementation to help determine the existing funding gap.
- Develop promotional materials for government officials to increase their awareness about the importance of environmental literacy in achieving both educational and environmental outcomes and their role in it.
- Provide the Chesapeake Bay Commission with annual updates on the status, gaps, and opportunities related to the environmental literacy goal.

**MD PGC Actions:**

- A. Identify existing and perceived institutional barriers that prevent or discourage educators from bringing children to nature spaces, and assist partners to provide guidance on best practices to overcome them. 2 (Lead: DNR w/ outside partner(s) TBD)
- B. Survey Maryland school districts and nonprofit partners to assess the cost of systemic MWEEs and determine the funding gaps. (Lead: MSDE, NOAA, CBT)
  - o Identify funding needs to support systemic MWEEs including off site field experiences. 1
  - o Bring leadership from agencies and partner organizations together with funders to collaborate on means to fill gaps. 2
- C. Work with agencies and partners to implement opportunities to expand allowable uses of existing funding resources (identified through the regional action) to support MWEE/sustainable schools integration and implementation. 2 (Lead: CBT, NOAA)

**P3.3 Raise visibility of successful models and approaches from the Chesapeake Bay region with national and regional environmental education organizations and funders.**

Regional:

- Pisces Foundation work
- NAAEE conference

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**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.

**STUDENTS Management Approach 1:** Increase and improve resources for educators (pre-service, teachers, and non-formal) to support the development and implementation of Meaningful Watershed Educational Experiences (MWEEs).

**S1.1 Expand the online MWEE training hub on Bay Backpack to include resources, regional and state-specific training modules, and information about in-person training opportunities.**

Regional:

- Collect a set of exemplary Environmental Literacy Models (ELMs) that include scope and sequence and student work.
- Create a searchable database of existing MWEEs that includes grade level, subject(s), district, and partners.
- Create a page on Bay Backpack that compiles training opportunities available that are supportive of MWEE (virtual/blended/in person).
- Ensure incorporation of resources supporting culturally responsive teaching and learning on Bay Backpack.

**MD PGC Actions:**

- A. Compile and share Environmental Literacy Models and MWEEs developed through grant funded programs that work with MD teachers, including examples that are multidisciplinary and that incorporate climate change. 1 (ongoing through 2) - [Lead: MSDE]
- B. Coordinate among partners to develop and share widely an accessible listing of EE providers and available professional learning opportunities that feature MWEEs and best practices. 1 (ongoing through 2) - [Lead: DNR through PGC membership/partners]

**S1.2 Promote the inclusion of environmental literacy instruction in college-level courses, teacher prep programs, and professional certification programs.**

Regional:

- Promote E-Lit requirements in pre-service and education leadership graduation degree requirements.

- Promote MWEE professional development as an allowable line of courses for formal, state approved professional development credits.
- Promote environmental literacy requirements in natural resources professional certifications (ISAL,

**MD PGC Actions:**

- A. Convene Higher Education Institutions faculty, K-12 educators and environmental education partners regularly to coordinate on environmental literacy best practices. 1 (Lead: MSDE)
- B. Develop guidance that aligns with the MD Environmental Literacy Standards, for consistency among Higher Education Institutions on course components that include teacher preparation in environmental literacy content and pedagogy. 2 (Lead: MSDE)

**S1.3 Support educators in adapting their practice to integrate MWEEs into blended and virtual programming.**

Regional:

- Compile and share best practices around student engagement in virtual programming including accessibility (Universal Design in Learning).
- Promote school integration of distance learning environmental education programming.
- Promote and share virtual programming that is accessible to students with limited access to technology or high speed internet.

**MD PGC Actions:**

- A. Provide funding opportunities for environmental education to encourage a focus on teacher training/PD and technical assistance for incorporating remote learning options. 1 (Lead: DNR)

**S1.4 Create state specific approaches and marketing strategies to provide outreach to teachers about the benefits and resources associated with MWEEs.**

Regional:

- Collect and share this information across states.
- Improve dissemination of federal resources available to states.
- For state specific actions - consider strategic partnerships with state associations of science teachers (as well as other subject associations)

**MD PGC Actions:**

- A. Share information about the benefits and resources associated with MWEEs through a variety of professional groups and convenings, such as Maryland Association of Science Teachers, Maryland Council for Social Studies, SHAPE (Society of Health and Physical Educators) Maryland, Maryland Council of Teachers of English Language Arts, and Maryland Council of Teachers of Mathematics; and state content area supervisors' meetings, MAEOE. 2 (Lead: MSDE; PGC members help deliver)

**STUDENTS MA 2: Support facilitators in developing effective MWEE professional development for educators (pre-service, teachers, and non-formal).**

**S2.1 Increase the number of professional development opportunities offered by trained facilitators that include the MWEE as an inquiry-based instructional model that encourages interdisciplinary investigations.**

Regional:

- Create pages on Bay Backpack to house each of the state versions of the Facilitators Guide to MWEE Training and associated resources.
- Train facilitators in the MWEE model, including the use of Environmental Literacy Model (ELM) to develop curriculum-embedded MWEEs
- Parks
- E-Lit Forum

### **MD PGC Actions:**

- A. Utilize guidance materials developed to help more partners include the MWEE as an inquiry-based instructional model in more professional learning opportunities that are offered through continuing education courses for teachers; graduate credit courses, MSDE CPD credit, etc. 2 (Lead: MSDE)
- B. Convene education community members to determine needs and opportunities to engage more participants in professional learning focused on increasing teachers' comfort teaching outdoors; work with partners to address needs and increase PD that encourages using public lands. 2 (Lead: DNR)
- C. Promote the use of the MWEE tools (MWEE guide and Facilitator's Guide to MWEE Training) among partners throughout the state, to improve consistency in implementing MWEEs. 1 (Lead: MSDE, all PGC partners)

### **S2.2 Develop a community of practice that provides opportunities for practitioners to network and share best practices, marketing strategies, and resources for effective professional development and student MWEEs.**

#### Regional:

- Support and promote dialogue between school administrations and local/state/and regional natural resource managers (e.g., park rangers, foresters, wildlife managers).
- Complete and implement recommendations from network analysis with Local Concepts to address gaps and opportunities for network development
- Convene active NOAA B-WET project leaders on a biannual basis to share project resources, best practices, challenges and success.

### **MD PGC Actions:**

- A. Facilitate local networking opportunities within the state to collect and share resources, best practices to deliver instruction in varied learning environments, training guides, etc. State partners will designate regions within the state, identify EE partners to coordinate the local networks, provide guidance for consistency among networks, and report back at state and regional levels. 1 (Lead: DNR, MAEOE)

### **S2.3 Support facilitators in adapting their MWEE workshops and trainings in blended and virtual formats.**

#### Regional:

- Develop and implement a survey assessing the education communities perception of virtual learning opportunities
- Compile and share best practices and recommendations around professional development in blended and virtual programming including accessibility.
- Promote and share virtual training that is accessible to teachers with limited access to technology or high speed internet.

**MD PGC Actions: N/A** -- *internal note: no specific MD actions, we'll support the regional actions, and this is included in many of our other actions throughout*

### **STUDENTS MA 3: Increase school, district, and regional administrator professional development with the goal of increasing direct engagement needed to support the use of MWEE as an educational best practice to build and reinforce core content understanding.**

### **S3.1 Create resources that showcase the importance of MWEE and connect it to existing educational initiatives (e.g. Next Generation Science Standards, Project Based Learning, Workforce Development, STEM [Science, Technology, Engineering, and Math], etc) as well as key policy initiatives (e.g. Every Student Succeeds Act, U.S. DOE Green Ribbon Schools, etc).**

#### Regional:

- Identify key policy initiatives at the state level and develop outlines and trainings to align MWEE to those policies.
- Use the network analysis to determine priority organizations for sharing the value of tactile hands-on environmental literacy that aligns with their fields of interest.
- State recommendation: Engage teacher associations such as science, computer, special needs, math and other teacher associations to share the value of tactile hands-on environmental literacy that aligns

with their fields of interest. Also consider strategic partnerships with organizations like the Council of State Science Supervisors and state Principal Associations.

**MD PGC Actions:**

- A. Compile a concise set of pertinent research links and articles related to best practices and outcomes (e.g., academic achievement, college and career readiness, 21st century skills, etc.) of the MWEE essential elements to inform program development, marketing, and growth. 2 (Lead: NAAEE)

**S3.2 Create state specific approaches to provide outreach to districts and principals about the benefits and resources associated with MWEEs.**

Regional:

- Create a set of promotional materials for MWEE Ambassadors to use in outreach to school, district, and regional administrators that includes analyses that demonstrate impacts of MWEE on student learning.
- Recommended State Action: State and LEA development of resource hubs for MWEE materials, third party non-formal educators, natural resource professionals, and others.

**MD PGC Actions:**

- A. Create marketing materials, using ELIT data collected under Planning 2.1 to share with district administrators to highlight accomplishments, determine needs and/or cultivate partnerships. 2 (Lead: MSDE with support through NOAA / CBP)

**S3.3 Continue to develop MWEE Ambassadors among administrators at the school, district, and regional levels through broadened stakeholder involvement.**

Regional:

- Encourage district representation for the national Superintendents Environmental Education Collaborative.

**MD PGC Actions:**

- A. Facilitate opportunities for MWEE-based field experiences for administrators and associated exchanges of successful models, ideas, and best practices to include ELit across disciplines in the curriculum. Involve EE partners to increase awareness and ignite partnerships. 2 (Lead: MSDE, CBF)

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**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.

**SCHOOLS Management Approach 1:** Strengthen and coordinate sustainable school state certification and recognition programs consistent with high-quality, recognized criteria such as the U.S. Department of Education Green Ribbon School program.

**SS1.1 Convene state-level sustainable schools meetings to facilitate dialog and increase intentional connections among programs to create an easy-to-understand pathway for schools to engage in increasingly sophisticated sustainability efforts.**

Regional:

- Work with states to better understand state efforts and increase collaboration across state lines
- Regularly convene sustainable schools representatives to highlight lessons learned and discuss shared interests. Share best practices and review State practices.

**SS1.2 Identify, seek, and facilitate additional funding opportunities to support sustainable school efforts.**

Regional:

- Review funding criteria to include frameworks that include environmental and scientific literacy and sustainable schools components.

**MD PGC Actions:** N/A -- *internal note:* PGC will support the regional effort and ensure that Maryland funding opportunities overall for ELit and MWEEs continue to emphasize stewardship efforts, therefore includes support for sustainable school efforts.

**SS1.3 Collect successful program models and lessons learned and share among partner organizations to improve programs and increase collaboration.**

Regional:

- Develop a plan and explore options to showcase Sustainable Schools efforts on Bay Backpack.

**MD PGC Actions:**

- A. Compile and distribute examples of formal policies that encourage and facilitate public and private early learning facilities to designate space for children to interact with nature. Work with experts across the state to develop a Maryland specific resource using national guidance on outdoor spaces for early childhood learning centers, and add it to the Nature Play Spaces guidance online at <https://dnr.maryland.gov/pgc/Pages/NPS/index.aspx>. 1 (Lead: DNR)

**SS1.4 Create a healthy learning environment through emergent and emergency preparedness response; using outdoor, on-site space.**

Regional:

- Find/promote the supporting research and evidence that supports a healthy learning environment.

**MD PGC Actions:**

- A. Complete and utilize the MD Project Green Classrooms health resources portfolio to provide a scientific and policy basis regarding health benefits of time outdoors for learning and recreation, to advocate for integrating green space into school settings for student wellness outcomes. 1 (Lead: PGC Health / Wellness committee)

**SCHOOLS MA 2: Broaden stakeholder engagement beyond environmental literacy constituents to increase awareness, build partnerships, and strengthen support.**

**SS2.1 Increase the number of facilities, health, and other related professionals engaged in state level sustainable school efforts to better inform and increase interdisciplinary healthy school components.**

Regional

- Conduct targeted outreach to influential state agency staff and stakeholder groups to raise awareness and support for sustainable schools.

**MD PGC Actions:**

- A. Connect the agencies' subject matter experts to schools to provide technical assistance on stewardship efforts and/or larger scale restoration efforts. Collect and provide readily accessible information on the various programs, initiatives, and expertise offered at the state level via BayBackpack, linked to partners' websites; and promote them through existing sustainable schools programs. 1 (Lead: MDP, MDE)

**SS2.2 Connect with other Chesapeake Bay Program Goal Implementation Teams and state working groups/networks to support implementation of best management practices at schools.**

Regional:

- Conduct survey of CBP Goal Implementation Teams to determine opportunities to conduct projects at schools.
- Engage DEIJ workgroup and develop an outreach strategy to ensure all school communities, regardless of socioeconomic status, are able to develop a plan or to dev strategies to ensure that all students can participate in the process to become a sustainable school. Or -- Communicate solutions that will support environmental health and wellbeing of students, teachers and staff including clean air, clean water, and green cleaning.



**MD PGC Actions:**

- A. Determine then develop a driver, incentive or guidance tool to help more schools participate in sustainable practices. Use this as a means to connect and better integrate state resources (i.e., the various programs and initiatives offered at the state level) to support sustainable practices in schools, and to focus school projects on actions that contribute to restoration across the Bay Agreement goals. 2 (Lead: MDP, MDE)

**SCHOOLS MA 3: Identify and disseminate sustainable schools information and resources to school districts and schools.**

**SS3.1 Support development of school and school division sustainability plans [actions] that clearly outline program components and best practices, and disseminate them to encourage replication.**

**MD PGC Actions:**

- A. Develop, distribute and promote recommendations and guidance for implementing student-led stewardship practices on school grounds to benefit water quality. 1 (Lead: DNR, with outside partner)
- B. Identify and include, within the district Environmental Literacy Plans template, stewardship actions that contribute to and align with environmental or sustainability plans, goals or metrics at local, state or regional level. 2 (Lead: MSDE, with MDP)

**SS3.2 Collect and disseminate studies and information about sustainable schools awards programs, opportunities, and benefits, including cost savings, student health, student achievement.**

**SS3.3 Support the installation of BMP projects on school grounds that are tied to educational components of curriculum.**

**MD PGC Actions:**

- A. Use multiple existing mapping tools/ resources to identify examples of successful projects that can be replicated and where they can be done. 1 (Lead: DNR, MDOT)
- B. Collect and share instructional materials that support installation of BMP projects. 1 (regional, CBP)
- C. Increase teachers' ability to facilitate student-driven planning and implementation of stewardship projects. 2 (multi-partner effort)