



STUDENT OUTCOME MAY 2020 QUARTERLY PROGRESS MEETING

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.

Management Approach 1: Increase professional development opportunities for educators (pre-service, teachers, and non-formal) to support the development and implementation of MWEEs.

Management Approach 2: Increase the visibility and adoption of MWEEs as an educational best practice.

1. Examine your red/yellow/green analysis of your management actions. What lessons have you learned over the past two years of implementation?

Summarize what you have learned about what worked and what didn't. For example, have you identified additional factors to consider or filled an information gap?

The education systems of each state within the Chesapeake Bay Watershed are varied and unique. The Education Workgroup has worked to continually increase students' age-appropriate understanding of the watershed through Meaningful Watershed Educational Experiences (MWEEs) by increasing professional development opportunities for teachers and promoting MWEEs as an educational best practice.

What worked?

- **2018 Management Board Request.** In its 2018 Quarterly Progress Meeting the Workgroup requested that the Management Board ensure appropriate and sufficient staff at State agencies to meaningfully advance student MWEEs. This request resulted in the reinstatement of the EE coordinator position in PA and the investment by MD in a full time position. These positions furthered adoption and implementation in their respective states.
- **Professional Development.** Successful professional development throughout the Watershed has increased the penetration and implementation of MWEEs. The Workgroup has noticed an increased recognition and understanding of MWEEs at the practitioner (teacher) level as well as the district level.
- **Credits to Incentivize Training.** Offering credits like Continuing Education Unit (CEU) and Continuing Professional Development (CPD) have increased teacher participation in MWEE professional development.

- **Development of New Resources.** The development of tools like the MWEE 101 Course on NOAAs Chesapeake Exploration and The Facilitator’s Guide to a MWEE have supported successful MWEE trainings and the expansion of systemic initiatives.
- **Outdoor Learning Network Initiative.** Launched in September of 2019, OLN works to build the capacity of school districts and nonprofit partners to advance environmental education through systemic environmental literacy programs in school districts. Specifically by establishing a network of local school districts and their partners to share information, coordinate efforts to overcome barriers to systemic implementation, and connect with existing regional and state networks. Current efforts are focussed in Berkely, Jefferson and Morgan Counties, WV and Lancaster County, PA.

What didn’t?

- **Professional Development.** Training opportunities may only be reaching educators with prior interest in Environmental Education. Efforts to follow up with educators after professional development opportunities are necessary to be sustainable.
 - **Interdisciplinary Connections.** MWEEs could be better connected to a variety of disciplines including Environmental Justice issues, STEM, and workforce development.
 - **Lack of Administrator Buy-In.** Encouraging districts to allow teachers to participate in Professional Development and to embed MWEEs into the district curriculum requires more administrator buy-in.
 - **Barriers to Accessing Public Lands.** Lack of resources, paperwork, and a disconnect to Natural Resource Agencies and Parks has prohibited schools from utilizing public lands in their MWEE investigation and implementation.
2. Regardless of how successful your short-term progress has been over the past two years, indicate whether we are making progress at a rate that is necessary to achieve the outcome you are working toward. The example graph below illustrates this concept.

There is not currently a numeric target to measure the student outcome. The outcome states the goal to offer “at least one meaningful watershed educational experience in elementary, middle and high school.” The graphs below show a breakdown of MWEE Availability among participating Local Education Agencies (LEAs) by grade-band over time.

NOTE: A mistake was found in the data, which required a reanalysis of the data set. These numbers are currently being recalculated. Will be available prior to the May MB meeting.

While the above graphs provide us with a sense of MWEE availability throughout the watershed, the data is inhibited by a lack of participation in the Environmental Literacy Indicator Tool (ELIT) Survey.

3. What scientific, fiscal and policy-related developments will influence your work over the next two years?

This may include information learned at the previous biennial SRS meeting or more specific information about your outcome such as an increase or decrease in funding, new programs that address gaps, and new scientific data or research. Describe how these developments are likely to impact your recommended measure(s) of progress, the factors you believe impact your ability to

succeed, and newly created or filled gaps. These changes should be reflected in the first three columns of your revised logic and action plan after your quarterly progress meeting.

Education funding at the state and federal level will continue to be a key driver of environmental literacy progress in the Chesapeake. As total regional education funding dwarfs other sectors, and at the same time very little funding supports environmental literacy specifically, the essential strategy will be to identify environmental literacy (and MWEE development specifically) as an “allowable use” of existing education funding sources. This will be in addition to growing those specific sources of funding that seed model projects throughout the region. States might consider using their influence to help attract private dollars to the effort. We have engaged most of the pioneering and early adopting school districts in the work of developing systemic projects. New resources and new formats for fiscal support will be necessary to engage under-resourced districts.

The COVID-19 disruption threatens to significantly derail the education work of the Bay Program. MWEE’s cannot be wholly delivered in an individual or distance learning setting. As we return to regular school attendance in the post-pandemic timeframe, schools will consider blanket “no field trip” policies for some period of time. Schools must be encouraged to consider these decisions on a case by case basis, and only enforce restrictions that actually protect student health. The vast majority of MWEE’s are accomplished by the class unit, many are completed on the school yard, and for those that travel for field experiences, there are no additional disease transmission risks greater than normal school travel.

4. Based on your response to the questions above, how will your work change over the next two years?

Describe the adaptations that will be necessary to more efficiently achieve your outcome and explain how these changes will lead you to adjust your management strategy or the actions described in column four of your logic and action plan. Changes that the workgroup, GIT or Management Board consider significant should be reflected in your management strategy.

- We will continue to build connections between the education and natural resources leaders within each of our states and share best practices regionally. We will promote the research that shows definitively that environmental literacy is an approach that increases academic achievement and prepares students for the 21st Century economy and citizenship. We will continue to promote the MWEE as a regional (and national) best practice and push out recently produced learning and training supports to schools and districts.
- We will need to develop a case statement that connects environmental literacy with STEM education achievement and with workforce development goals.
- We need to identify new sources of funding that can help establish systemic environmental literacy programs in underserved districts.
- We need to engage states, districts, and higher education partners to include MWEE training into pre-service and in-service teacher training efforts and to include non-formal educators in parallel training opportunities.

- We need to promote strategic partnerships between state education agencies, and natural resource agencies to make outdoor investigations and student action projects possible beyond the school campus.
 - Post-pandemic school system policies could significantly impact progress on this goal through the 20-21 school year, and are largely beyond our control.
5. What, if any, actions can the Management Board take to help ensure success in achieving your outcome?

Please be as specific as possible. Do you need direct action by the Management Board? Or can the Management Board direct or facilitate action through other groups? Can you describe efforts the workgroup has already taken to address this issue? If this need is not met, how will progress toward your outcome be affected? This assistance may include support from within a Management Board member's jurisdiction or agency.

- **Promote Administrator buy in at the school district and school building level and school building level by making MWEEs a state education priority.** Research supports the MWEE as a powerful learning approach that develops 21st Century skills. MWEE tools have been developed in partnership with formal K-12 practitioners to adhere to current science education best practices. We need district and building leaders to endorse and recognize MWEE implementation.
- **Increase in-service and pre-service teacher professional development in MWEE implementation by increasing funding opportunities and engaging key higher education partners.** Science teachers and other teachers responsible for environmental literacy instruction should be prepared to design and lead MWEEs. Local School Systems and State Education Agencies should plan to provide in-service to targeted teachers. State Institutes of Higher Education who are responsible for teacher training should develop plans to integrate MWEE training into their pre-service and graduate programs.
- **Build strategic statewide efforts to reduce barriers to schools using public lands for investigations and action projects by convening education and natural resource leaders and promoting model solutions across states.** Identify barriers to schools using parks and other public lands for MWEE instruction. Fees, paperwork, lack of staff training, lack of identified opportunities, communication barriers, lack of equipment, policies that prevent “walking field trips”, or lack of coordination at the department level represent barriers to connecting schools and parks. There are examples of separate solutions to each hurdle already in practice in our states but no comprehensive model that bridges the divide. Each state should convene education and natural resource leaders to develop state specific solutions.