2009 Chesapeake Bay Education Summit

Exploring and Advancing Systemic MWEE Implementation

Summit Report

OVERVIEW

The 2009 Summit brought together 63 leaders from all jurisdictions in the Watershed to discuss the future of environmental education and the Meaningful Watershed Educational Experience (MWEE) in the Chesapeake region. The Summit kicked off with an opening address from Brian Day, Executive Director of the North American Association for Environmental Education. He rallied participants to seize upon the current public and political upwelling of support for environmental education, stressing that this is the time to have environmental education codified in every school in America through No Child Left Inside.

Throughout the first day, participants explored the present and future efforts of states and school divisions to plan for and implement systemic environmental education. During state breakout sessions, participants examined gaps in their state's environmental literacy planning and identified short-term action steps to address these gaps.

The first day closed with a keynote address from John Griffin, Secretary of Maryland Department of Natural Resources. Secretary Griffin discussed sustainably and its context for environmental education. He challenged participants to work to prepare our youth to lead our nation, our states, and our world toward a sustainable future.

Day two began with the sharing of two new resources National Geographic's FieldScope and the Chesapeake Bay Program's Bay Backpack. Following these presentations, participants learned and discussed creative ways to sustainably fund large-scale environmental education programs. Participants heard about potential legislation in Washington, such as the Climate Bill, that could bring millions of dollars to support environmental education.

The Summit wrapped up with a work plan discussion to build action steps and priorities for the states and the Education Workgroup. Participants determined the priority focus areas for the partnership include advocating for environmental education programs and funding, promoting research on the effectiveness of environmental education, and building support for a sustainable environmental education infrastructure. Reflecting on the past two days, participants offered a closing word on moving forward. A sample of these words include; enlightening, collaboration, synergized, opportunity, purposeful, motivated, reconnected and progress.

SESSION HIGHLIGHTS

Future of Environmental Literacy

During a visioning exercise[1], participants brainstormed what the state of environmental literacy would look like in the year 2015 and how we got to that point. They thought through how to advance our EE agenda in today's political climate. Common themes participants cited include:

- Integrate energy and NCLI legislation and stimulus funding to promote green buildings as teaching tools for EE to develop our schools into hotbeds for green jobs.
- Promote professional learning communities, such as turning learning inside out, that have teachers use the environment as an integrative platform to write self-directed plans around the environment.
- Promote teacher and informal educator prepreparation through EE certification programs and continuing education credit courses.

Participants noted the importance of our approach to advancing EE whether it's top-down through a mandate or bottom-up from the schools themselves. They stressed the need for evaluation that

[1] Download the Visioning Exercise.

links EE programs to student achievement and funding to support programming and state EL Plans.

School System Implementation of MWEEs

This session focused on the progress towards implementing the MWEE at the school systems level through policies, programs, and partnerships. Participants heard from the Laurie Jenkins, Supervisor of Montgomery County Public Schools in Maryland[2] and Eric Rhoades, Supervisor of Stafford County Public Schools in Virginia[3]. Speakers highlighted the following challenges and solutions to implementing MWEEs in their county:

Challenges	Solutions
Teacher capacity/professional development	Increase high quality professional development and make training mandatory
Competition for instructional time with other subject areas like math	1) Get administration involved and supportive 2) Connect EE to student achievement
Environmental literacy curriculum integration	Increase capacity of curriculum writers to integrate EL across disciplines
Funding (federal, state and local)	Advocate for NCLI and programs like NOAA BWET

School system representatives suggested the following considerations for state Environmental Literacy Plans:

- Governor and superintendent of public instruction endorse plan
- Lay-out funding mechanisms to support necessary teacher professional development
- Make the connections between PreK-12 EE programming to remove grade silos

Status of State Environmental Literacy Strategies

Attendees participated in a conversation on the challenges, opportunities and strategies for making successful state Environmental Literacy Plans. Topics included state environmental literacy goals, content standards, graduation requirements, professional development, evaluation, and funding[4]. Below is a brief summary for each state.

Pennsylvania

Over past 25 years the Pennsylvania Department of Education's Office of Environment and Ecology (E&E) has been Pennsylvania's leader and hub for environmental education initiatives. The Department of Education will continue to strengthen its E&E standards and state mandated assessments for all 1.9 million students in the school system. Each new state initiative has E&E as a separate content area which keeps E&E in front of every superintendent in every school district in the state. Partnerships with sister agencies and environmental organizations will continue to enhance the field with local initiatives.

Maryland

Over the last few years Maryland has embedded environmental education into the PreK -12 curriculum. Although the State Department of Education has not mandated outdoor experience as part of the curriculum the Department encourages these experiences at the local school system level. In April 2008, Governor O'Malley established the Maryland Partnership for Children in Nature through an Executive Order tasking its members with creating an Environmental Literacy Plan for Maryland students. This October, Maryland released the first phase of the Children in Nature Action Plan which outlines measures the State is currently undertaking to advance environmental literacy and a connection with nature among Maryland's young people.

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[2] Laurie Jenkins' Presentation.
[3] Eric Rhoades' Presentation.
[4] Tables detailing jurisdiction responses.

Virginia
In 1995, the Virginia DOE embedded environmental education topics into the science standards of learning at the elementary, middle and high school levels. Watersheds are now a major thrust in the 6th grade standard. Chesapeake Bay concepts are also included in the academic standards. Teachers are required to take 180 hours of professional development every five years in their content area. Virginia offers a wealth of environmental education trainings for science teachers. Virginia requires assessments in science at Grades 3, 5, 8, Earth Science, Biology and Chemistry. Some science assessment strands e.g. living systems, include environmental content.

District
The District of Columbia Public School (DCPS) system is primarily focused on reading and math. District Department of the Environment (DDOE) has been working with DCPS over the years to try and integrate environmental education into the curriculum. DDOE is primarily taking a bottom up approach to environmental education by working with 40+ non-profit partners to link schools with providers.

Maryland, Virginia, Pennsylvania and the District are working in partnership with the Chesapeake Bay Program to further their MWEE commitment of providing every student in the Chesapeake Bay watershed with a Meaningful Watershed Educational Experience before graduation from high school. Current state environmental education initiatives may become the backbone of No Child Left Inside, as seen in Maryland.

Jurisdictions agreed to focus on the following strategies to promote environmental education:

Challenges	Solutions
Bringing DOE to the table	Link with other departments so you have the opportunity to give your opinion and know what coming down the pipe to make sure your needs are included (when your part of the family, you always have a vote).
Addressing underserved communities	Promote environmental education in underserved communities through environmental reading and writing programs.
Finding the right partners	Every learning opportunity is an environmental opportunity and environmental education can be weaved into all subject matter. Therefore, a new initiative means finding a whole new set of partners to engage.
Integrating curriculum as a teaching method	Link STEM programs to environmental education through problem solving with GIS and mapping technologies.
Linking EE to student achievement and behavior change	Support research: Examining Maryland's service learning data (400K students engaged) may link propensity to act to EE.
Dealing with shifts in leadership	Use the standards to your advantage since they are permanent; get EE components into your standards. Also administrative support is vital; get political leaders to experience your programming first hand.

State representatives stressed the following needs:
- Definition of environmental literacy and the steps to become literate
- Funding to break the barriers of time for environment

Learning from Our Mistakes
States offered these parting words of wisdom. First, tenacity, tenacity, tenacity. States need to know what they're doing is the best for kids and the right thing to do. Then surround themselves

with partners who believe in the same philosophy and continue to move in the right direction. Make sure all partners affected are sitting at the table and providing input that works towards the mutual advantage of all stakeholders. Second, look at improving evaluation and assessment by moving towards performance based assessments. Finally, ALWAYS keep in mind what is best for the kids.

Environmental Literacy Opportunities and Challenges

Participants attended group sessions to explore gaps in their state's environmental literacy planning and to identify short-term actions needed to address the gaps. Below is a listing of the priorities each jurisdiction agreed to address.

Jurisdiction	Priorities
Virginia	Compile exemplary vignettes/models of MWEE programming
	Develop a watershed framework - Template for local teachers to investigate their local watershed
	Identify school divisions without MWEE programming and points of contacts at those schools
	Infuse MWEE strand into Virginia Association of Science Teachers professional development institute
	Attend School Board Conferences
	Develop watershed wide bay messages
Maryland	Professional development: Bring more teachers and outdoor educators on board
	Evaluation of student knowledge, attitudes and school programs
	Funding: Priority for PD and underserved communities
Pennsylvania	Need method for rallying all EE centers to both communicate and facilitate access to EE workshops
	Bring all stakeholders together for a state-wide Summit sponsored by the PA Advisory Council on Environmental Education (October 19th)
District of Columbia	Build the capacity of DCEE through partnerships and funding
	Write Environmental Literacy plan
Headwaters	Build networks/partnerships to prepare for EL Planning
	Work through existing standards of learning to promote the MWEE model
	Promote the EE cause and get formal ties with the Department of Education
	Address staff shortages by coordinating to make our independent work a greater sum of the parts. Work with state agencies to share the cause.
National	Support and promote research and models (state and national non-profits)
	Better align federal programs and promote national/regional products and programs to the EE community (federal agencies)
	Advocate for and support EE programs and initiatives like BWET, Gateways, NFWF, and NCLI (non-profits)
	Training for EE providers in up-to-date science know what research is coming out to pass along to educators (federal and state partners)
	Consider recommitment of MWEE with new state administration
	Promote innovative technology in support of outdoor education

New Resources

FieldScope

Kathleen Schwille from National Geographic showcased the capabilities of the Chesapeake FieldScope tool[5]. This online mapping interface allows students to exchange information like water quality data and class photos. Students can use FieldScope to examine map layers like

[5] Download the FieldScope handout.

land cover, impervious surfaces and watershed boundaries. They can also plot water quality data on a graph or compute flow paths and watershed boundaries of any point on the map.

Bay Backpack
Krissy Hopkins from the Chesapeake Bay Program gave attendees a sneak peak of the Bay Backpack website[6]. The Bay Backpack is an exciting new website for teachers and environmental educators interested in teaching about the Chesapeake region. This one stop shop provides all the tools you need to give your students hands-on outdoor experiences learning about the Chesapeake Bay watershed. The Bay Program hopes to launch the site before the end of the year.

Diversifying Funding Sources

Attendees explored how to tap into funding sources not traditionally linked to environmental education. They also learned about potential funding opportunities through legislation pending in Washington. Below is a brief overview of the topics discussed.

Restoration Funding
Amanda Bassow from the National Fish and Wildlife Foundation explained how schools can apply for restoration dollars through the Chesapeake Stewardship Fund's Small Watershed Grant Program, Innovative Nutrient and Sediment Reduction Grants and Five Star Restoration Program[7]. These grant programs allow environmental educators to apply for stormwater funds to building outdoors classrooms and habitat restoration funds that put kids to work.

Farm-to-School Funds Build Edible Schoolyards
Amanda also explained how Farm to School Programs can support schoolyard gardens and health and nutrition curriculum. Through assistance from Farm to School, schools are given funding to support school vegetable gardens that teach students about sustainable agriculture and nutrition.

Corporate Funding
Mark Carr from AEP River Operations explained how to tap into corporative charities to fund environmental education[8]. Citing AEP's partnership with Trout in the Classroom he explained how a partnership between a non-profit and a corporation foundation promoted both environmental education and trout restoration. He stressed the most effective way to establish a corporate partnership is to first ask the corporation for volunteers to come out and learn about your program and projects. He suggested plugging into various volunteer opportunities such hands-on restoration and education events as well as appropriate board and trustee positions. Then let those volunteers come back and ask if you need funding. The more invested the company feels in your organization, the more willing they will be to provide you with funding.

Green School and Stimulus Funding
Bryan Howard from the U.S. Green Building Council explained the implications for the green facilities movement on environmental education[9]. He explained the opportunities for schools to get involved in this movement and infuse teachable moments about energy conservation and green building techniques into the classroom. He noted the importance of a new funding stream through the Department of Education State Stabilization Fund a one-time appropriation of $53.6 billion under the American Recovery and Reinvestment Act of 2009.

This fund supports two things; integrating curriculum and school modernization. Each state has the flexibility to choose how to spend these funds so check with your state to see if the money has been spent; West Virginia has yet to obligate their money. He also suggested participants look into the National Clearinghouse for Educational Facilities which is tracking recovery funds and provides resources on best practices to promote green schools.

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[6] Download the Bay Backpack handout.
[7] Download Amanda Bassow's presentation.
[8] Download Mark Carr's presentation.
[9] Download Bryan Howard's presentation.

Climate Legislation and EE
Patrick Fitzgerald from the National Wildlife Federation explained the implications of pending cap and trade climate change legislation on environmental education[10]. He explained how Cap and Invest might include an Education for a Green Economy Fund which would receive revenue from the sale of allowances. This fund has the potential to set aside $1 billion dollars a year, or 1% of the allowance revenues, for educational programs. If this fund passes, it has the potential to fully support NCLI, programs like NOAA BWET and EPA EE grants programs. He suggested participants contact their legislators to support the inclusion of this fund in the legislation and sign-on online.

OUTCOMES

At the close of the Summit attendees build action steps and priorities for the Education Workgroup. Below is a listing of the needs participants stressed.

MWEE Partner Priority Focus Areas

Proponents and partners involved in MWEE implementation play an important role in advancing environmental education in the Chesapeake Bay. The following actions were identified for partners to undertake in support of environmental education:

- **Advocate** for programs that increase and enhance environmental and outdoor education, including No Child Left Inside, NOAA B-WET, and EPA environmental education grants.
- **Increase funding** from traditional and non-traditional sources to support environmental education, including fostering innovative partnerships
- **Conduct more research** on the effectiveness of environmental education in increasing academic achievement, environmental stewardship, and other outcomes
- Build support for a **sustainable environmental education infrastructure** at all levels

Chesapeake Bay Program Commitments

The Chesapeake Bay Program identified several short term actions it could take to advance Chesapeake Bay environmental literacy and assist the partnership in implementing the MWEE. These include:

- Identify a more prominent role for education within the new structure of the Chesapeake Bay Program
- Address shortfalls in MWEE funding at upcoming management board and Executive Council meetings
- Engage the U.S. Department of Education as a partner in the Chesapeake Bay Program
- Incorporate an education component into the evaluation criteria of NFWF Chesapeake Bay grants
- Stronger support for communication tools related to environmental education, including the development of testimonials about MWEEs and coordinating the development of key Bay-wide messages within the Bay Program
- Evaluate and reframe the MWEE commitment for inclusion into the final Executive Order implementation strategy
- Better integrate the capabilities and products of the Chesapeake Bay Program with new partners, including National Geographic

[10] Download Patrick Fitzgerald's presentation.