



# Student MWEEs

*Shannon Sprague, NOAA  
CBP Workgroup Chair*

*Kevin Schabow, NOAA  
CBP Workgroup Coordinator*

*Through the Chesapeake Bay Watershed Agreement, the Chesapeake Bay Program has committed to...*



**Goal:** *Environmental Literacy*

**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*



## What We Want



Ensure that there are appropriate and sufficient staff resources at state DOEs and natural resource agencies to meaningfully advance student MWEs

# 1

## **Setting the Stage:**

*What are our assumptions?*



## What is a MWEE?

- Goal is to increase understanding and stewardship of the Chesapeake Bay and its local watersheds
- Definition is built from our best understanding of environmental education research (2012 STAC workshop)
- Students learn both outdoors and in the classroom in a robust unit of study as they engage in four essential elements:
  - Issue definition
  - Outdoor field experiences
  - Action Projects
  - Synthesis and Conclusions

## History of MWEEs

Curricular  
Experiences (1987)  
& Education  
Directive (1998)

MWEE  
Definition  
(2001) &  
NOAA  
B-WET  
(2002)

STAC  
Workshop  
(2012) &  
MWEE  
Revision  
(2014)

Watershed  
Agreement  
(2014) &  
Management  
Strategy (2016) &  
Indicators (2017)



## Logic Behind Our Outcome

### Following the Decision Framework:

#### Factors Influencing

- State-level leadership/advocacy
- School district support
- Education Reform
- Funding
- Culture disconnected from Nature



## Logic Behind Our Outcome

### Following the Decision Framework:

#### Factors Influencing

#### **State-level leadership/advocacy**

*High level support for environmental literacy that flows from administrations/legislatures to school districts to create a shared vision for environmental literacy.*





## Logic Behind Our Outcome

### Following the Decision Framework:



### Current Efforts and Gaps

There are effective strategies:

- Working group for state-level coordination
- Targeted teacher trainings
- Regional meetings of school districts
- High level communication with superintendents
- Promotion of school district EL plans

**\*\*BUT these strategies are not being applied equally in all states due to inconsistencies in staffing levels\*\***



## Logic Behind Our Outcome

### Following the Decision Framework:



## Management Approaches

- Promote sustained teacher professional development
- Promote, develop, and implement MWEs with educators, local education agencies, school administrators, and third party providers
- Ensure that rigorous content is effectively represented in the Standards of Learning and curriculum frameworks

# 2

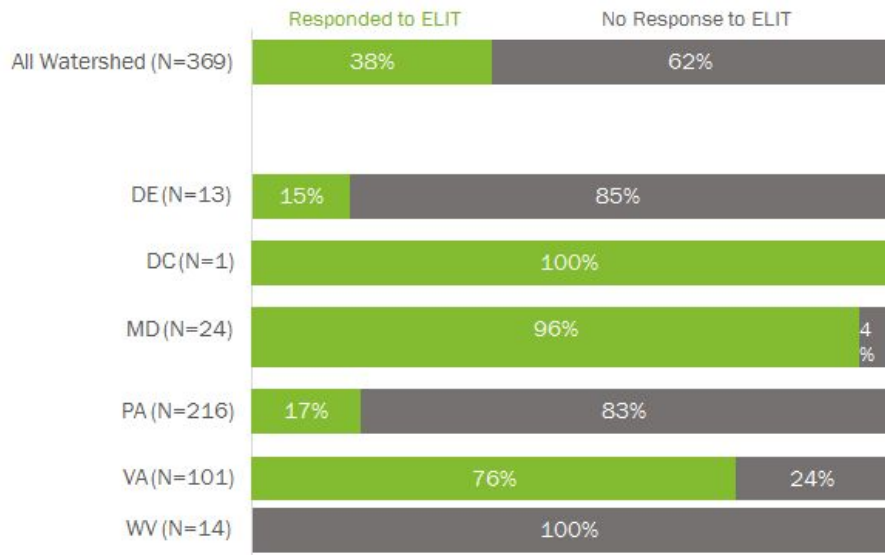
## **Progress:**

*Are we doing what we said we would do?*

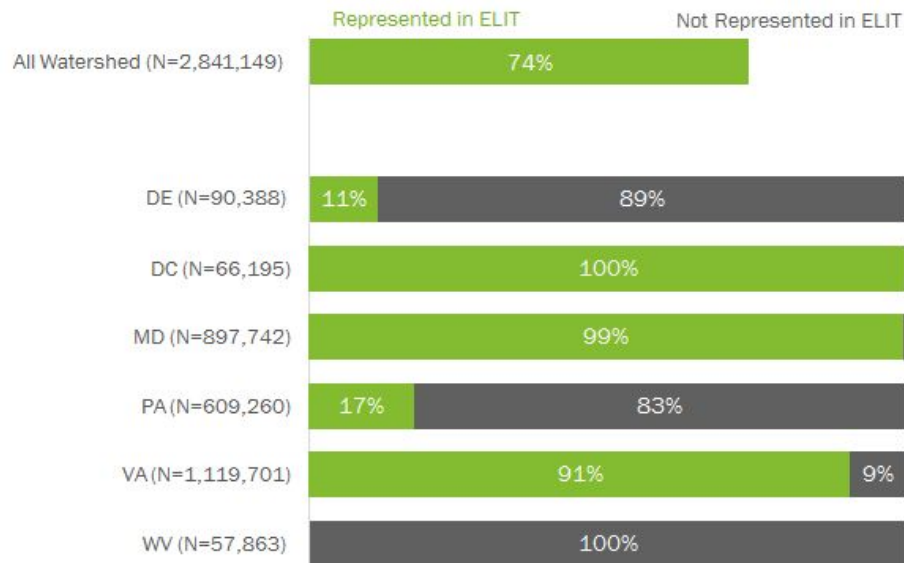


# Environmental Literacy Indicator Tool

**ELIT Response Rate: % of LEAs**



**ELIT Response Rate: % of Enrolled Students within LEAs**

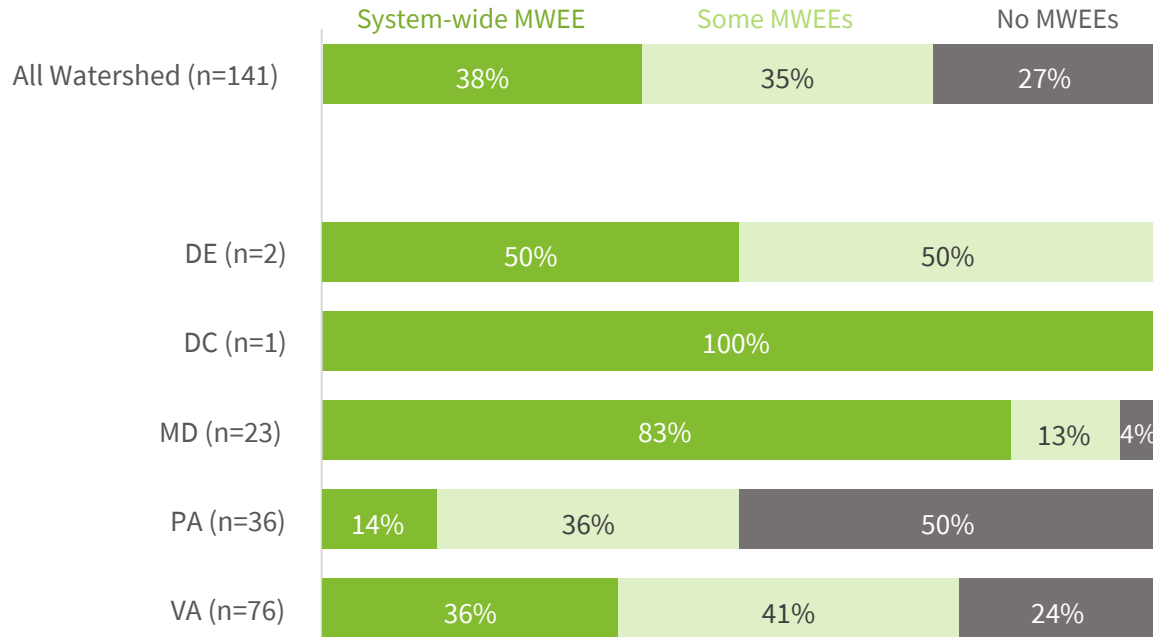




## What is our progress?

## School

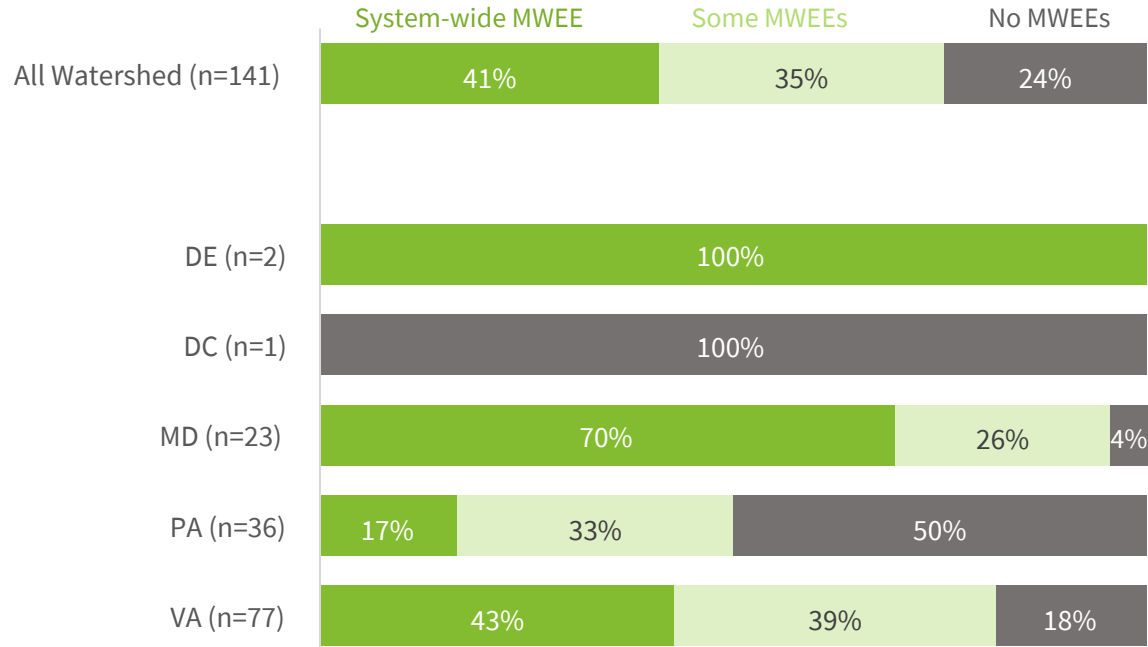
### MWEEs





## What is our progress?

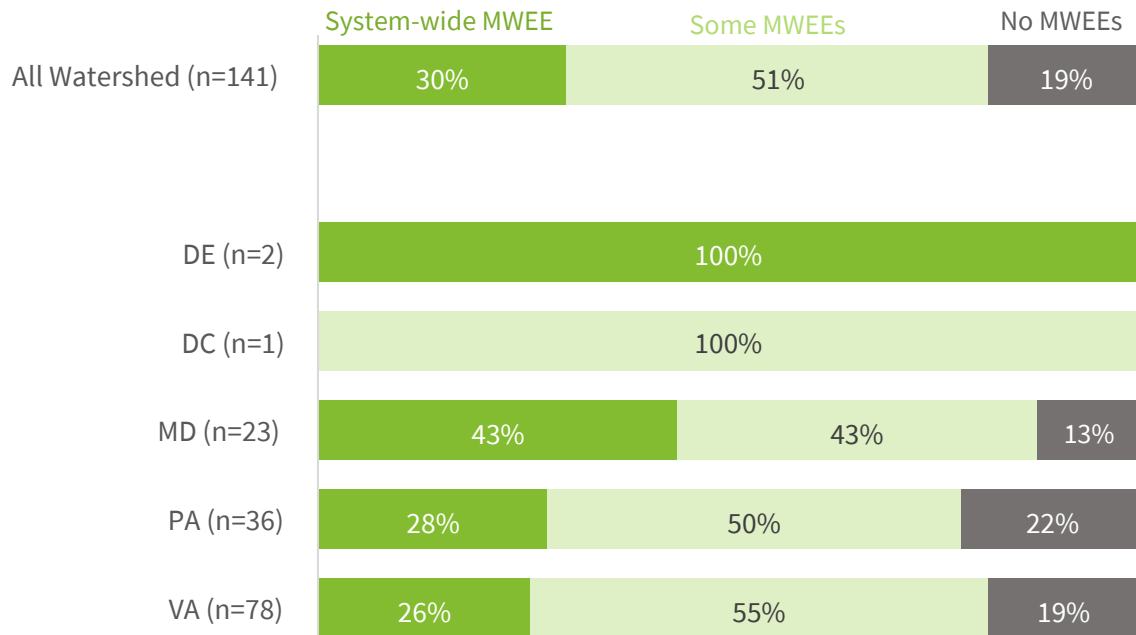
### *Middle School MWEEs*





## What is our progress?

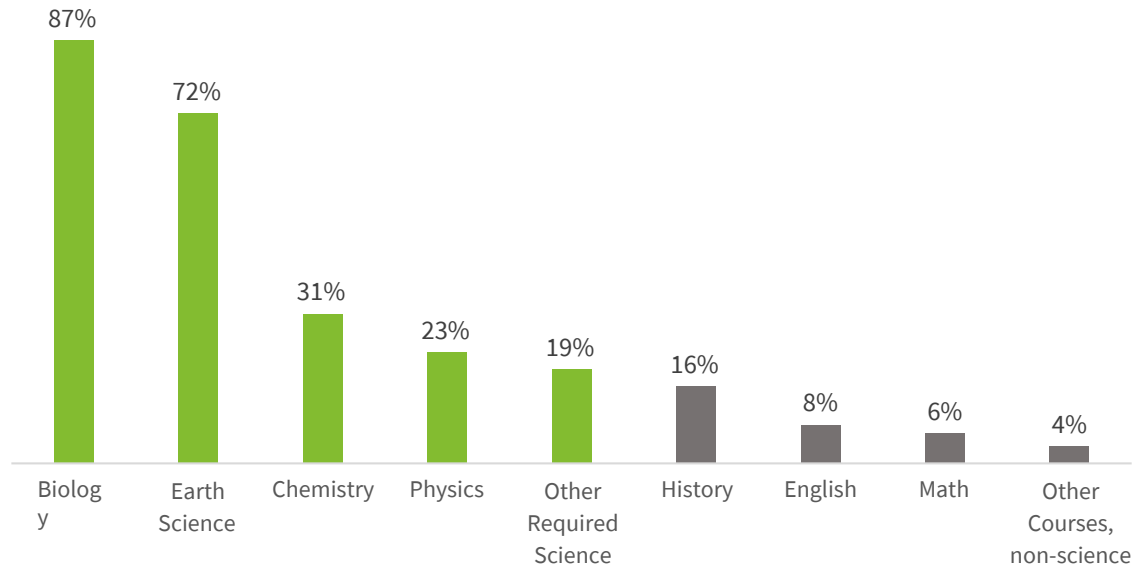
### *High School MWEEs*



# Where in the High School curriculum are MWEEs taught?

## % of LEAs that Provide MWEEs across Required Subjects

(n=114 LEAs that reported any HS MWEE)







## Are we on track?

- No specific target identified
- Prevalence of system-wide MWEEs relatively steady between 2015 and 2017
  - *Middle school and high school rates were within 1%*
  - *Elementary school slight increase (35% to 38%) largely attributable to increases in Maryland*



## Analysis

### Critical actions to date:

- ELIT Survey: raised awareness and drove accountability
- Targeted funding for MWEEs: B-WET grants/CBT grants/MD Stream Grants (CBIG funds)/PA DEP grants
- Regional Collaboration: Sharing best practices and lessons learned on MWEE planning and implementation

### Critical actions moving forward:

- MWEE Guide: provides new focus for shared work
- Engaging leadership: MWEEs need to be higher priority to take hold
- + everything listed above

# 3

## **Challenges:**

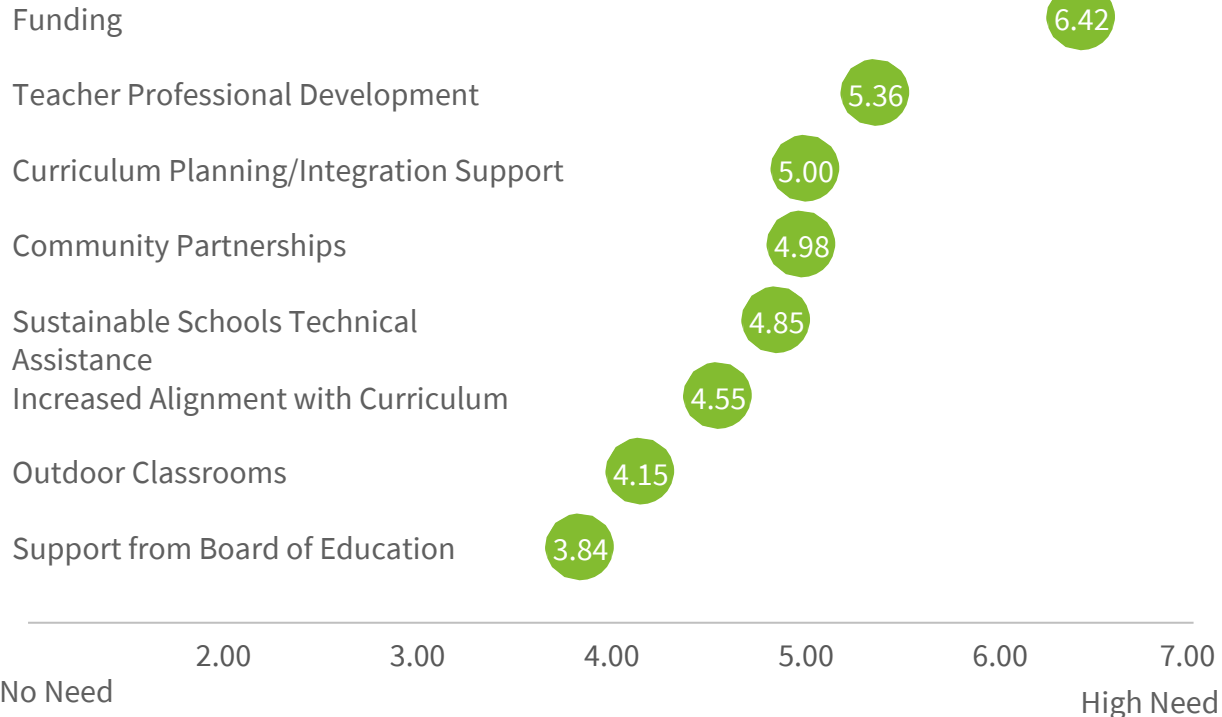
*Are our actions having the expected effect?*



## Challenges

- Inconsistencies in the priority level for MWEEs among State Education Agencies -- some value it, others ignore it, some are in the middle
- Staffing
  - *Varying levels of staffing at state departments of education: Sometimes small to negligible portion of a single staff's portfolio*
  - *Education staff at resource agencies often not focused on MWEEs*
- Principals and teachers have many priorities related to testing, new standards, 21st century skills, etc. and MWEE is seen as an additional task
- Many teachers do not have the training/confidence/support they need to implement this type of inquiry-based and outdoor learning
- Insufficient funding to reach almost 3 million students

## Identified Needs



# 4

## **Adaptations:**

*How should we adapt?*



## **Based on what we've learned, we plan to...**

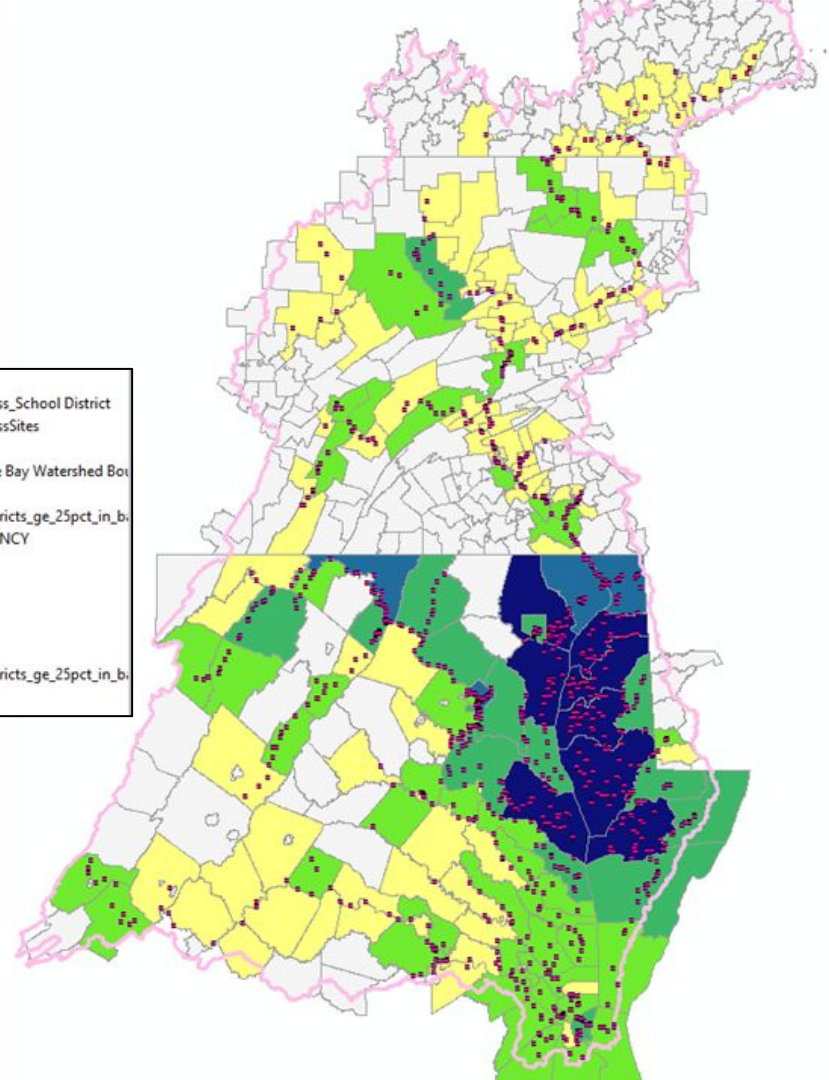
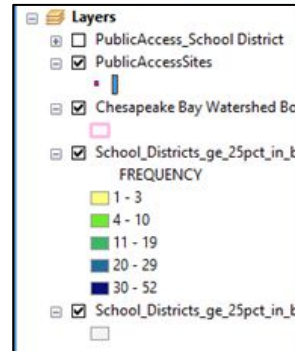
- Reduce the number of Management Approaches and Actions; Focus on collaborative actions
- Better engage leaders at state departments of education to raise awareness of how MWEE can be used to meet education goals; encourage the development of state policy drivers
- Work with states and school districts to integrate MWEEs into curriculum to reduce perceived burden
- Train “Ambassadors” using the new MWEE Guide to support the development of more and better MWEEs; Create online training and maintain resources on Bay Backpack
- Pursue private and innovative funding



## Cross-Outcome Considerations

Graphic shows number of known public access sites in each school district

How can we take advantage of these public access sites to deliver MWEEs?







## What We Want



Ensure that there are appropriate and sufficient staff resources at state DOEs and natural resource agencies to meaningfully advance student MWEEs

- *2 Virginia DOE FTE positions in budget language; Potential to fill gap left by VA Ofc of EE*
- *PA DOE position lapsed in 2012; Multi-agency FTE hire anticipated 2018.*
- *Limited engagement from Delaware DOE; opportunity to connect with Next Generation Science Standards*
- *Maryland DOE staffed by contract position as opposed to FTE*

# Discussion