Environmental Education in the Chesapeake Bay Program

A Presentation to the Citizen Advisory Group

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This Presentation will answer …

* What is the status of the CAC recommendations on Environmental Literacy?
* What are the federal programs that support Environmental Education?
* What are the implications to these programs in the Administration's proposed FY 14 Budget
* What are the findings from the STAC workshop for environmental education?
* What is the proposed outcome for the environmental literacy goal under consideration for the new Bay Agreement?

Update on CAC recommendations

* State endorsement of the Mid Atlantic Environmental Literacy Strategy (***Status:*** *New CBP goals and outcomes are based on EL Strategy. Education Workgroup members from MD, PA, VA, DE, and DC have expressed support.)*
* Development of two-year milestones (***Status:*** *Metrics are in development; once baseline is established outcomes will be revised to be more quantitative.)*
* Adoption of a graduation requirement by every state (***Status:*** *Education Workgroup does not have a formal position on this; anticipate broad support for state literacy plans and hesitancy for graduation requirement.)*

What are the federal programs that support Environmental Education?

Federal Funding Programs

* NOAA B-WET: Established in 2002 to support MWEE commitment; Primary funding ($2.5M) for regional priorities
* NOAA ELG: Competitive funding for national priorities; PLUS Funding $1.0M National Geographic Geography Alliance
* NSF Climate Change: $6M to UMCES and UD for MADE CLEAR
* EPA Environmental Education: Region 3 grants support Mid Atlantic ($216K)

What are the implications to these programs in the Administration's proposed FY 14 Budget

FY14 STEM Education Consolidation Proposal

* The Administration is proposing a comprehensive reorganization to facilitate a cohesive national strategy of STEM education programs to increase the impact of Federal investments in four areas:

1) Improve K-12 instruction	**2) Reform undergraduate Education** **3) Graduate Fellowships**	**4) Education activities that typically take place outside the classroom**
Department of Education	National Science Foundation	Smithsonian Institute

STEM Education Programs Proposed for Termination

* More than 114 programs across 11 agencies proposed to be consolidated or restructured as part of this initiative, totaling more than $180M.
* Six NOAA education programs will be terminated in this proposal:
  * Teacher at Sea: $600K
  * National Sea Grant Education: $4M
  * Competitive Education Grants: $3.1M
  * Dr. Nancy Foster Scholarship Program: $601K
  * Ocean Exploration and Research Education: $900K
  * Bay Watershed Education and Training: $5.5M

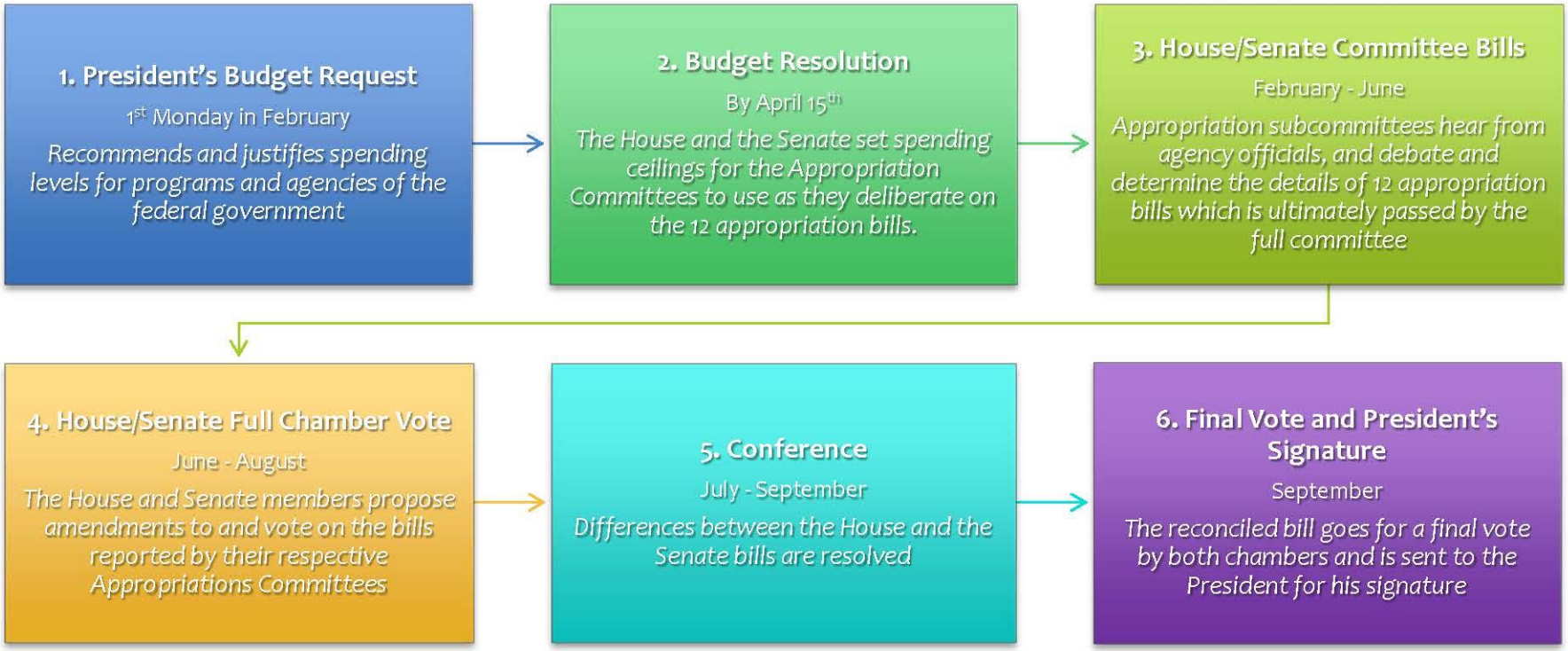
Chesapeake Bay Terminations

* The FY 14 President's Budget does not include funding for any of the federal programs currently supporting CBP education priorities (NOAA B-WET, NOAA ELG, NSF Climate Change, EPA EE Grants)

What will happen to the funds and initiatives?

* The proposal redirects funds for these programs (including the six NOAA programs proposed for termination) to the Dept. of Education, National Science Foundation, and the Smithsonian Institution to implement initiatives in the four core reform areas.
* The Administration will ensure that all science mission agencies have input into the development and implementation of these initiatives so that they align with agency goals while improving STEM education at all levels in a streamlined way.

What Happens Next?



What are the findings from the STAC workshop for environmental education?

Workshop Goals

* Identify best practices of education programs and practices that lead to increased environmental literacy in K-12 students
* Examine the definition of the Meaningful Watershed Educational Experience in order to reflect MWEE's role and importance in broader, more systemic environmental education programs.
* Discuss indicators and metrics that will assess progress toward increasing student stewardship.

Workshop Findings: Students

* Affirmed that all elements of the current definition of the MWEE are essential to the student environmental education experiences
  * include *outdoor experiences*
  * include *preparation, action/outdoor experience, and reflection*
  * be an integral part of *classroom instruction*
  * consider the watershed (or local environment) as part of a system
  * be *multi-disciplinary*
  * involve students in *external sharing and communication*
  * be enhanced by *natural resource personnel*
  * *occur at each level of instruction*
  * be *investigative* and/or *project-based*

Workshop Findings: Students

Additional Recommendations:

* MWEEs should occur each year k-12 as feasible
* Civic engagement should be incorporated into the student led action project and follow-up phases where appropriate
* MWEEs should incorporate issues relevant to the students' lives and offer choices for students (increases buy-in)
* Definition should be expanded to include sustainability, energy, and land-use, with an explicit connection to human communities/ human interaction piece
* Analysis and evaluation periods should be incorporated in each stage of the MWEE (preparation, action and reflection stages) – not just at the end of experience

Workshop Findings: Educators

Teachers must:

* Have both content knowledge and pedagogical strategies for teaching EE as appropriate by grade level and discipline
* View themselves as role models to their students and demonstrate environmentally responsible behaviors and attitudes to their students
* Make environmental education relevant to specific learners at particular developmental levels
* Present information fairly and accurately and should incorporate differing perspectives and points of view
* Implement strategies that enhance the ability of students to think critically about environmental issues
* Implement instruction guided by learners interests and building on their prior knowledge
* Use EE in order to address existing curriculum standards and state department of education initiatives. (STEM, Common Core, NGSS, Service Learning, Reading, etc.)

Workshop Findings: Educators

Trainings should:

* Include at least 30 hours of instructional time in Environmental Education
* Model Environmental Education Pedagogy in its delivery as much as possible, including use of the field and/or communities for instruction
* Increase the environmental literacy of the participating teachers, encouraging them to be environmental role models for their students
* Offer sustained support for EE throughout the school year
  * Mentors and/or role models exist
  * Support from administration for EE exists
  * Exposure to nature resource personnel
  * Participate in learning communities
  * Access to continuing professional development opportunities

Workshop Findings: Schools

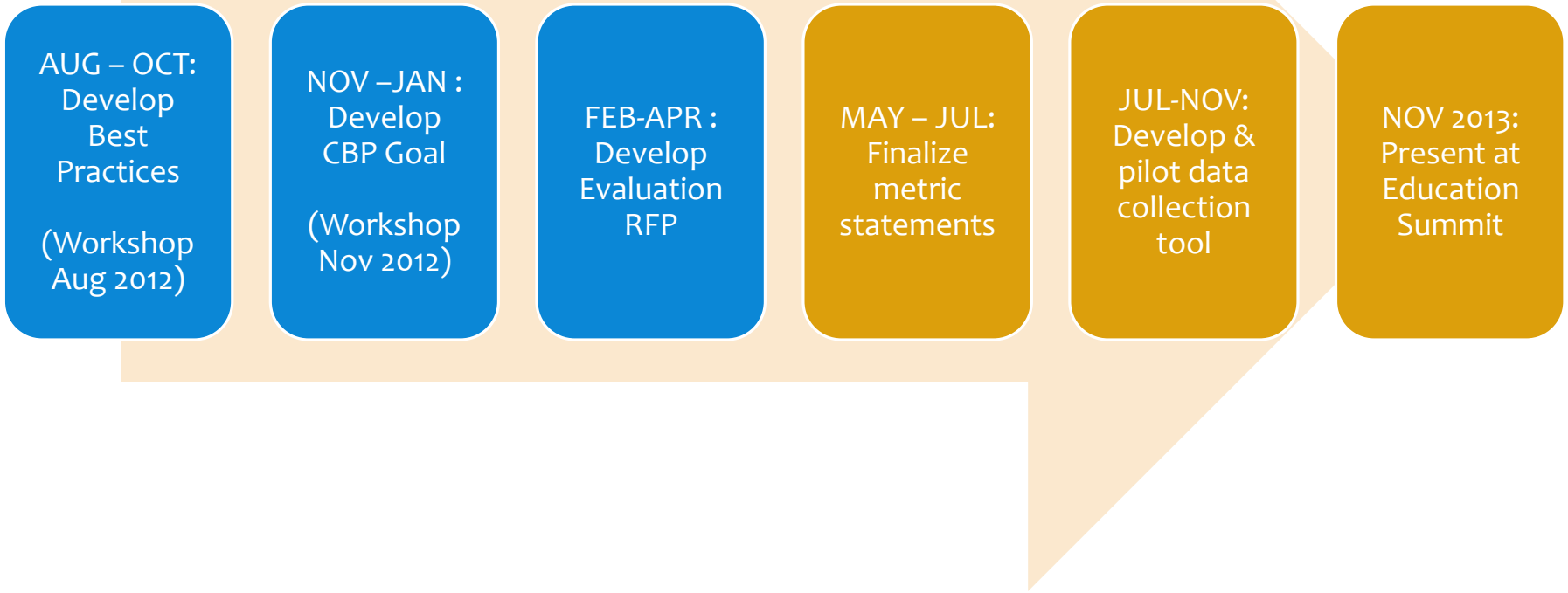
School certification programs should:

* use *accountability mechanisms* to provide assurance that the data used to determine a rating are accurate
* use *performance-focused criteria* to quantitatively measure aspects of a school's sustainability performance
* include a *range of sustainability topics in curriculum and community engagement and service* (e.g. energy, waste, water, wildlife, transportation, etc.)
* *offer more than one level of recognition* (e.g., Bronze, Silver, Gold), to encourage continuous improvements
* *allow for the involvement of a variety of stakeholders* in creating and refining the system
* ensure that *schools' ratings are made available publicly*
* include *transparent criteria* that are publicly available

Workshop Findings: Schools

* School buildings, grounds, and operations should make continual progress towards *net-zero environmental impacts,* and;
* The school environment should have a *positive effect on the health* of students, staff, and the surrounding community
* Students should be engaged and knowledgeable about school environmental outcomes and practices that are implemented to achieve those outcomes
* School administrators should be aware of and support any green initiative taking place in the school
* Grounds and maintenance staff should be be involved in the Green School initiatives throughout implementation
* Teachers and students should have access to school energy use, water consumption, and waste production data so it can be used in teaching

Metrics Development



Instrument

* Survey instrument submitted/endorsed by state DOEs
* Questions will center on the four CBP outcomes:
  * Local Education Agency: Plan and Capacity for Implementation
  * Students: Outdoor experiences
  * Teachers: Professional development
  * Schools: Certified schools

What is the proposed outcome for the environmental literacy goal under consideration for the new Bay Agreement?

Environmental Literacy Goal

Every student in the region graduates environmentally literate having participated in meaningful watershed educational experiences in elementary, middle, and high school that were supported by teachers who have received professional development in environmental education and schools that are models of environmental sustainability.

Environmental Literacy Outcomes

* ***Student Outcome***: Students participate in meaningful watershed educational experiences in elementary, middle, and high school
* ***Educator Outcome***: All educators in the region responsible for instruction about or in the environment have access to sustained professional development opportunities, tools, and resources that support their efforts to provide students with high-quality environmental education
* ***School Outcome***: Every school in the region maintains its buildings, grounds, and operations to support positive environmental and human health outcomes
* ***Local Education Agency Outcome***: Local education agencies establish and support a system wide curricular framework for environmental education, including meaningful watershed educational experiences

Questions?