

Chesapeake Bay TMDL

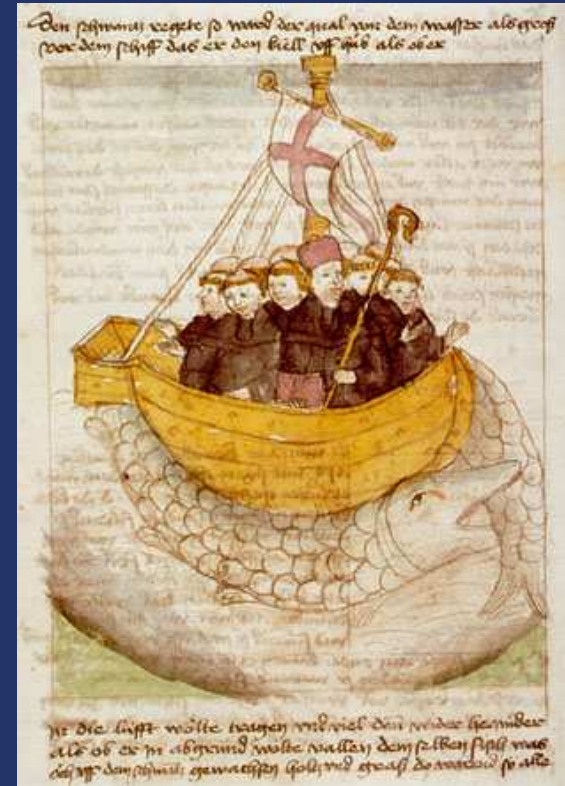
NACWA Summer
Conference 2009

Patrick Bradley
LimnoTech



History

- ▲ 520 A.D. (Approx.) – St. Brendan discovers North America
- ▲ In 1561, Pedro de Menendez de Aviles sailed into the Chesapeake Bay
- ▲ 1607 – Jamestown – First permanent English settlement



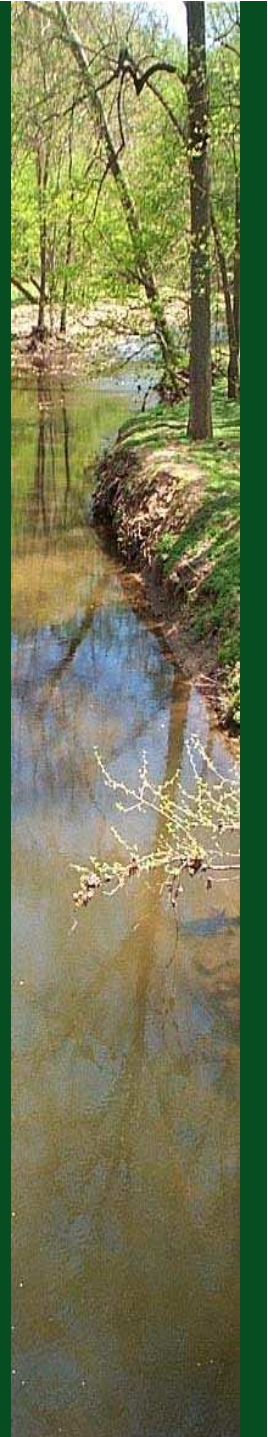
History (2)

- **1983: Chesapeake Bay Agreement** set stage for the collaborative multi-state/federal partnership
- **1987: Chesapeake Bay Agreement** set the first quantitative nutrient reduction goals (40% reduction in controllable nutrient loads)
- **1998: Bay and tidal tributaries** added to Section 303(d) list of impaired waters
- **2000: C2K Agreement** committed Chesapeake Bay partners to correct water quality problems sufficiently to remove bay and tidal tributaries from list of impaired waters by 2010
- **2003: Agreement on nutrient/sediment cap load allocations** necessary for restoring Bay water quality by 2010 (based on attainment of water quality criteria, not percent load reduction goals)
- **2008: Bay and tidal tributaries** remain on Section 303(d)
- **2009: Chesapeake Bay Foundation Lawsuit**
- **2011: TMDL** required under terms of Virginia Consent Decree



What Prompted the Lawsuit

- ▲ In February 2007, The Washington Post reported: “In the world of missed deadlines, it’s hard to find anyone who does it on the scale of the EPA.” The Post documented several examples of open-ended pollution cleanup promises by EPA, including one involving Washington DC’s Blue Plains sewage treatment plant, the largest single source of pollution in the Chesapeake Bay Watershed. In 2006, EPA required the plant to reduce its nitrogen pollution, but didn’t say when it had to be done. So the Chesapeake Bay Foundation sued, asking the courts to set a timeline.
<http://www.cbf.org/Page.aspx?pid=760>



2000 Tributary Strategies vs TMDL

Tributary Strategies

- Only 500 significant dischargers
- No “reasonable assurance” for achievement of nonpoint source allocations
- Limited public input

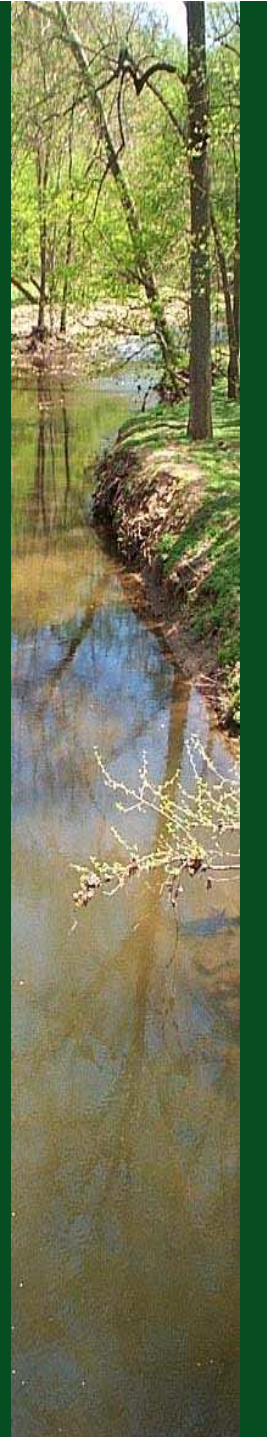
TMDL

- All 3,000 permitted discharges, including CSOs
- Includes stormwater systems and large animal feedlots
- “Reasonable assurance” that goals can be achieved
- Formal process for public input



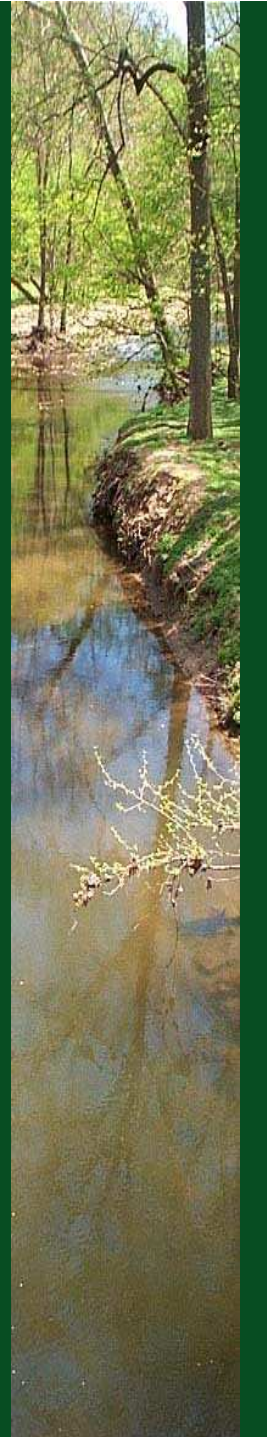
Impairments/Water Quality Issues

- ▲ Deep water main channel of the Bay (CB4)
 - Dissolved Oxygen
- ▲ Potomac Mesohaline (Deep water) – DO
- ▲ Chlorophyll a and clarity responses
- ▲ Submerged Aquatic Vegetation



CBPO Strategy

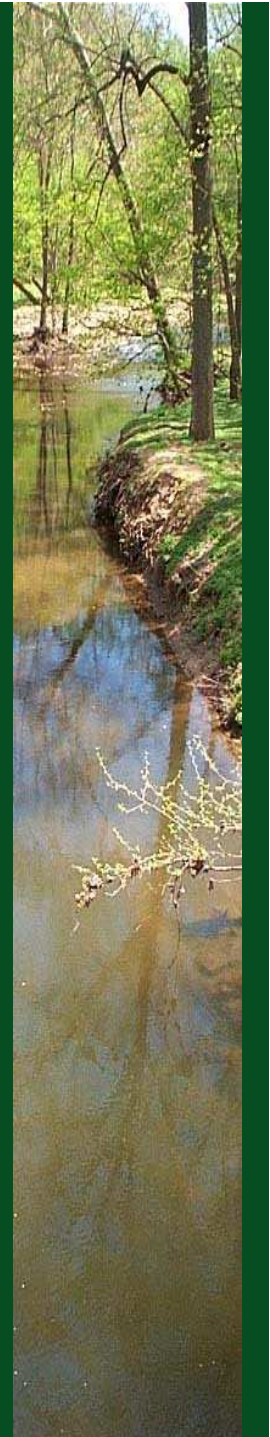
- ▲ TMDL Schedule
- ▲ TMDL Implementation Plans
- ▲ Reasonable Assurance requirement
- ▲ Maximum Extent Feasible/UAA





E.O. 13508: Chesapeake Bay Protection and Restoration

- ▲ Signed by **President Obama** May 12, 2009
- ▲ Creates **Federal Leadership Committee**, chaired by EPA and with membership from USDA, DoC, DoI, DoD and DoT, to oversee development and coordination of agencies' reporting, data management and other programs and activities to restore the Bay
- ▲ Federal agencies must submit 7 reports to FLC (draft by September 12, 2009; final by November 12, 2009) detailing **recommendations and next steps**
- ▲ FLC must develop strategy (draft by November 12, 2009; final by May 12, 2010) for coordinated **implementation of existing programs and projects** to guide efforts to protect and restore the Chesapeake Bay
- ▲ Federal agencies must consult with **7 Bay jurisdictions, stakeholders and public**
- ▲ FLC will publish **annual Chesapeake Action Plan** describing how Federal funding will be used for Bay restoration in the coming year as well as **annual progress report**
- ▲ To strengthen accountability, **independent evaluator** will periodically report to FLC on progress toward E.O. goals



EPA's Position

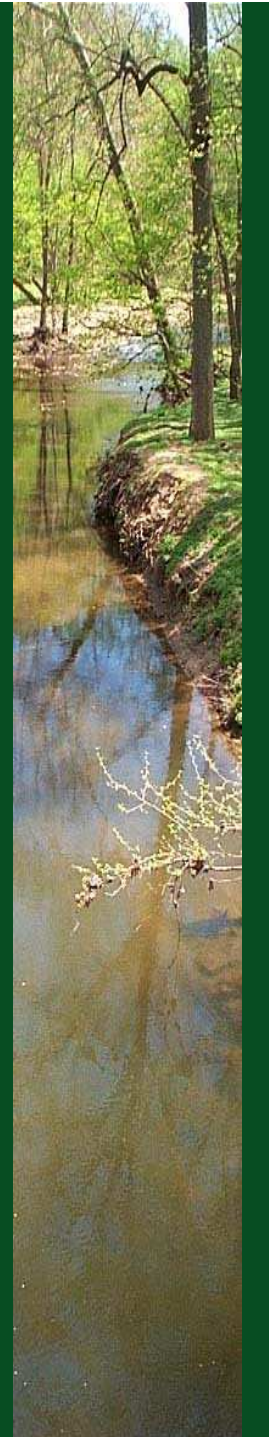
- ▲ States' existing Chesapeake Bay water quality standards should remain unchanged.
- ▲ The Bay TMDLs must contain the load allocations and the waste load allocations necessary to achieve the states' existing Chesapeake Bay water quality standards.
- ▲ State implementation plans will be written to achieve the loadings assigned in the Bay TMDLs to achieve the states' existing Chesapeake Bay water quality standards.
- ▲ Wastewater discharge load requirements will continue to be set at the discretion of the states.
- ▲ While a use attainability analysis is not needed, an affordability assessment will be completed.





Chesapeake Bay TMDL: Schedule

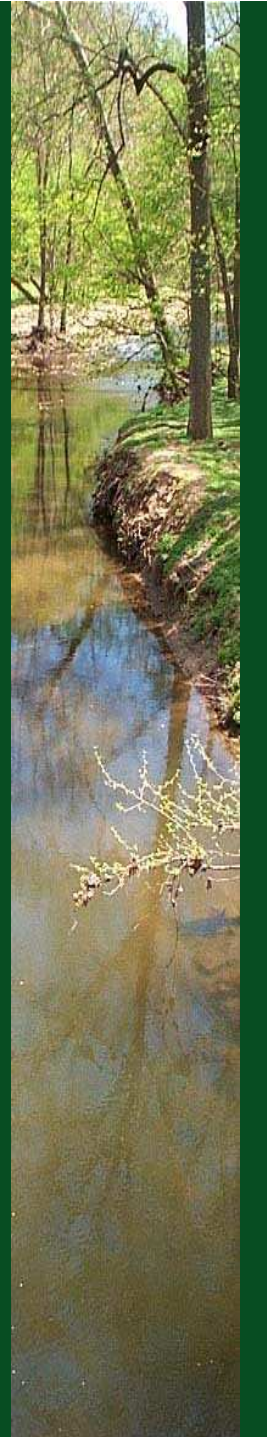
- ▲ Summer 2009: Develop Implementation Plan guidelines; present draft guidelines to PSC
- ▲ Summer/Fall 2009: Bay TMDL Public Meetings
- ▲ Fall 2009: Region 3 Administrator distributes letter with **Implementation Plan guidelines**; training for jurisdictions on Scenario Builder
- ▲ ~~April~~ **Fall** 2009: Basin-Jurisdiction Loading Targets
- ▲ Fall 2009 – Spring 2010: Implementation Plan development and verification
- ▲ Summer 2010: Public comment period for Draft TMDL and Draft Implementation Plans
- ▲ Fall 2010: Revise TMDL and Implementation Plans
- ▲ Dec. 2010: Publish Final TMDL and Implementation Plans
- ▲ Post-2010: Evaluate implementation and adapt, adopt contingencies or impose Federal consequences as necessary



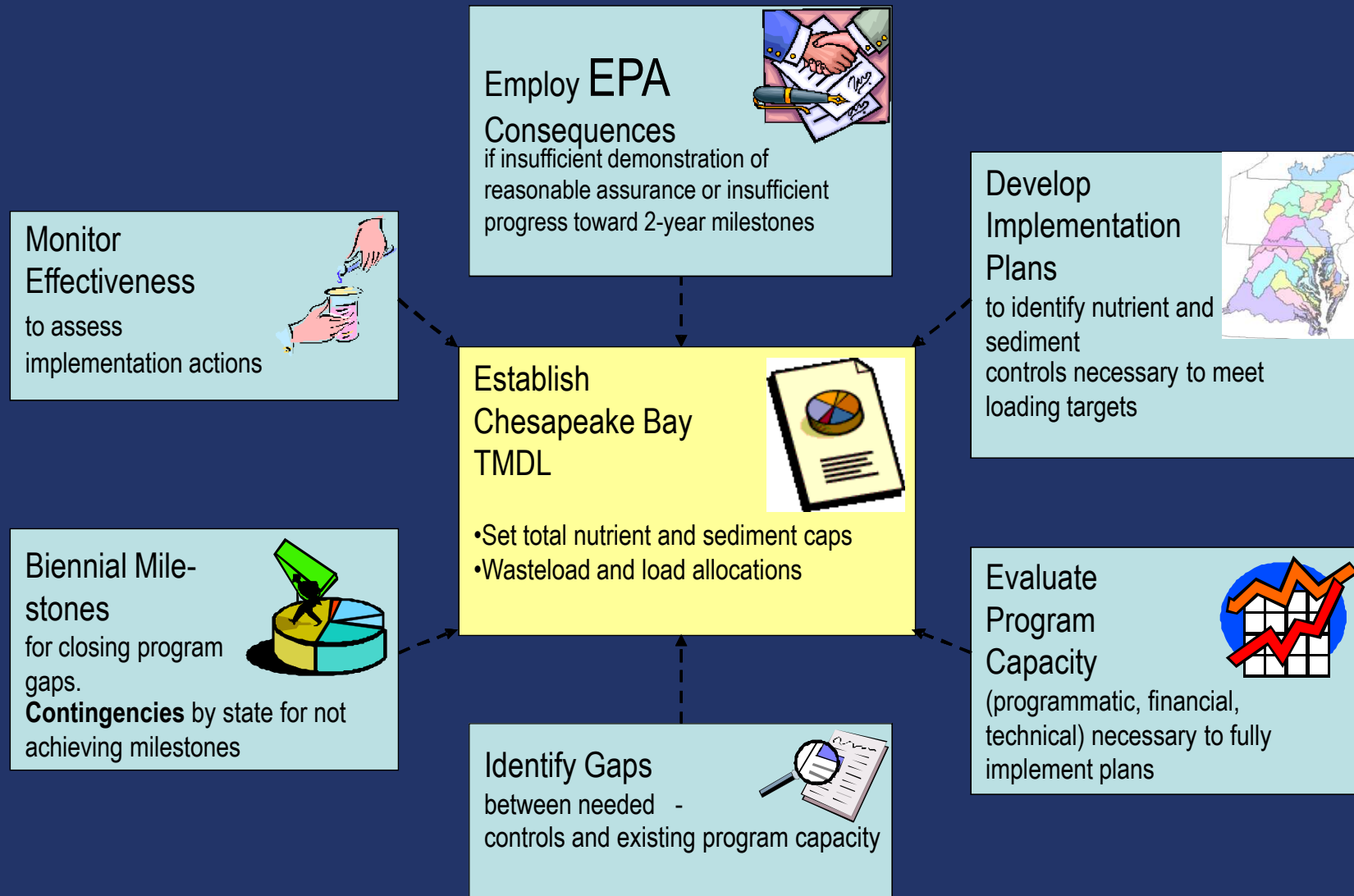
Bay TMDL: Reasonable Assurance

▲ What is it?

- As part of the TMDL, there needs to be an **assurance** that point and nonpoint sources will **achieve wasteload and load allocations**



Bay TMDL: Reasonable Assurance and Implementation Framework



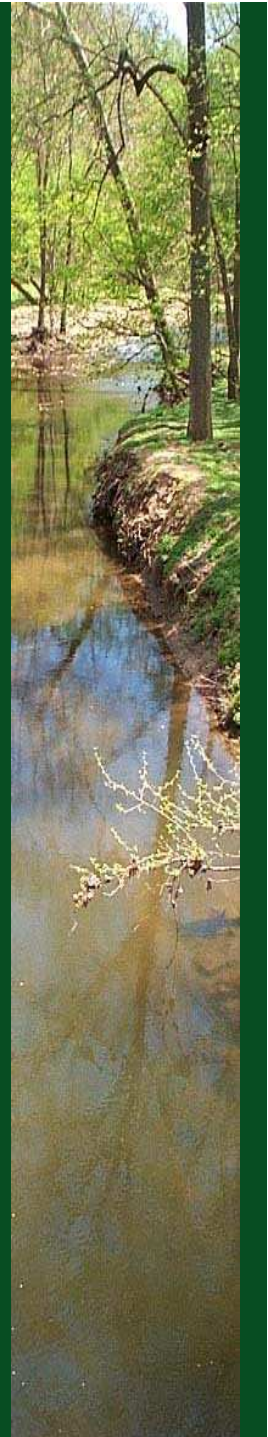
When Does EPA Conduct Reasonable Assurance Assessment?

▲ With the **Establishment** of the TMDL

- Do states and DC have the program capacity or an assured plan to build capacity necessary to implement controls that will meet wasteload and load allocations?

▲ **After** the TMDL

- Are states and DC making strong enough commitment to improve program capacity? (2 year commitments)
- Are the states delivering on their commitments to improve program capacity? (2 year milestones)



What Documentation is Necessary to Demonstrate Reasonable Assurance?

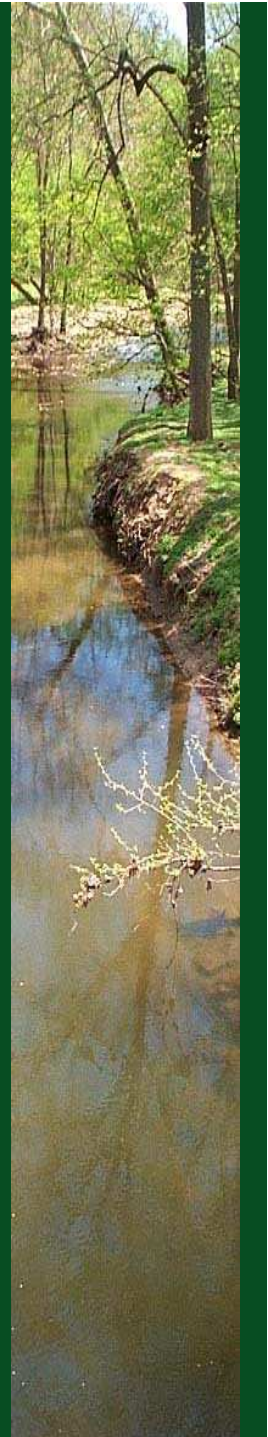
- ▲ Do **controls exist** that, if implemented, would achieve TMDL loads from all sources?
- ▲ What is the **existing program capacity**? What program **gaps** must be filled to meet TMDL allocations?
 - **Standard format** to report controls into **Scenario Builder** and confirm through CBP Models that practices will meet water quality standards
- ▲ How can EPA be assured that existing programs **will be implemented**? (compliance and participation rates, etc.)
- ▲ **Staged implementation** schedule to achieve the TMDL; provisions for **adaptive management**
 - Through Scenario Builder, CBP Models provide **ongoing verification** that actions will achieve water quality standards
- ▲ State **contingencies** for failed implementation
- ▲ Federal **consequences** for failed implementation



Maximum Extent Feasible (MEF)

▲ What is MEF?

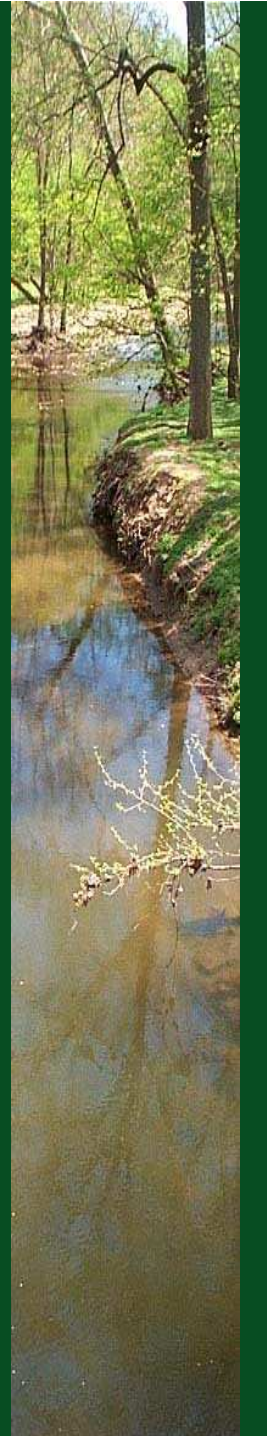
- MEF is an effort to try to quantify the ‘do-ability’ of achieving various nutrient controls in the Chesapeake Bay. A working qualitative definition of MEF is suggested as: the amount of nutrient controls for different source sectors that can be expected to be employed on a large scale. The MEF may include limit of technology (LOT) for some sources sectors but for non-point sources is perhaps less than limit of technology for all NPS sectors. Do-ability can be expressed at several levels, including:



MEF (2)

▲ Including:

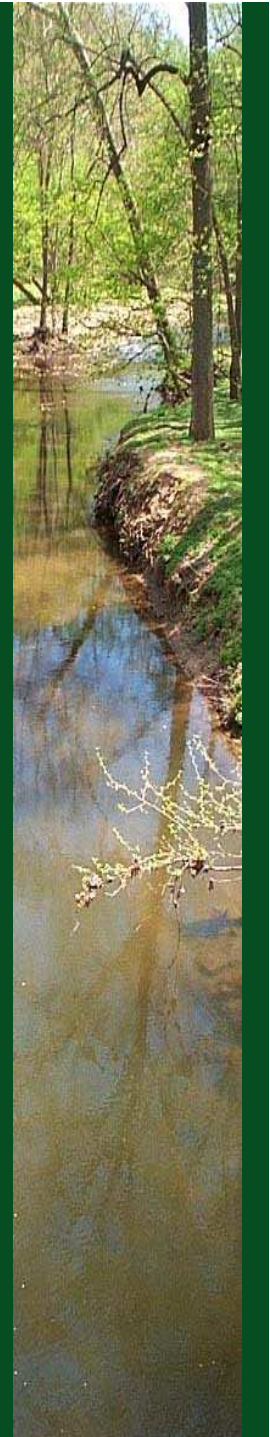
- Technical achievability- the maximum of current technology to reduce nutrients
- Operational achievability- the maximum tolerance for individuals and society to support nutrient controls. For example, will society support 100% conversion of cropland to forest? Can operators of small package WWTP operate sophisticated plants designed to achieve low levels of nutrients?
- Financial achievability- the maximum cost burden on individuals or society to reduce nutrients





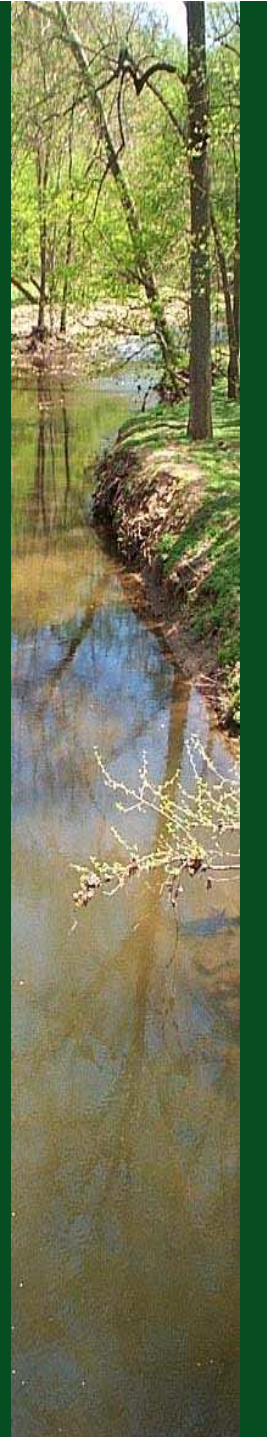
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Areas for Focus

- ▲ Water Quality Standards and Compliance Schedules
- ▲ Requirement for Implementation Plans and Reasonable Assurance
- ▲ Permit limits must be consistent with the assumptions of the WLA of the approved TMDL



THANK YOU

