



Chesapeake Bay Restoration

A Changing Bay: A New Paradigm for Stakeholder Engagement

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National Conference on Ecosystem Restoration

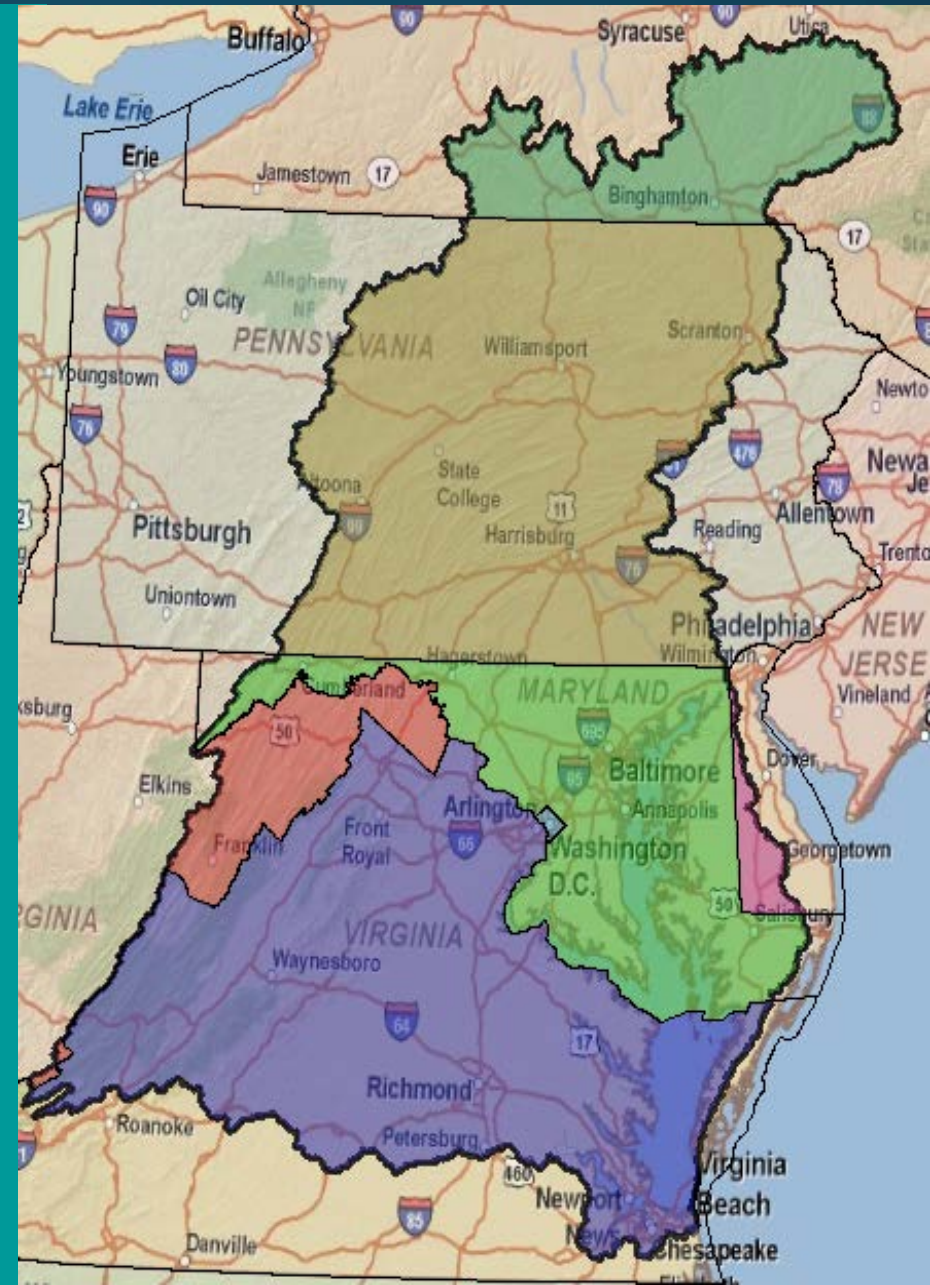
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Key Questions

- 1) How has stakeholder engagement within the Partnership changed since the release of the Bay TMDL?
- 2) What are ways to strengthen stakeholder engagement to achieve shared water quality goals?
- 3) How has strengthening stakeholder engagement led to a recovering ecosystem(e.g., what are the benefits of such engagement)?
- 4) What lessons have we learned as a Partnership as a result of these efforts?

The Chesapeake Bay and Watershed

North America's Largest Estuary



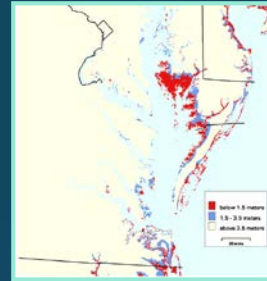
Bay Pressures

Land & People



Population growth
Development
Impervious surfaces
Storm water

Climate Change



Sea level rise
Warmer water temperatures
Greater storm events
Higher Nutrient Loadings

Air & Water Pollution



Nitrogen
Phosphorous
Sediment
Chemical Contam.

Invasive Species



Nutria
Phragmites
Blue catfish

Fisheries

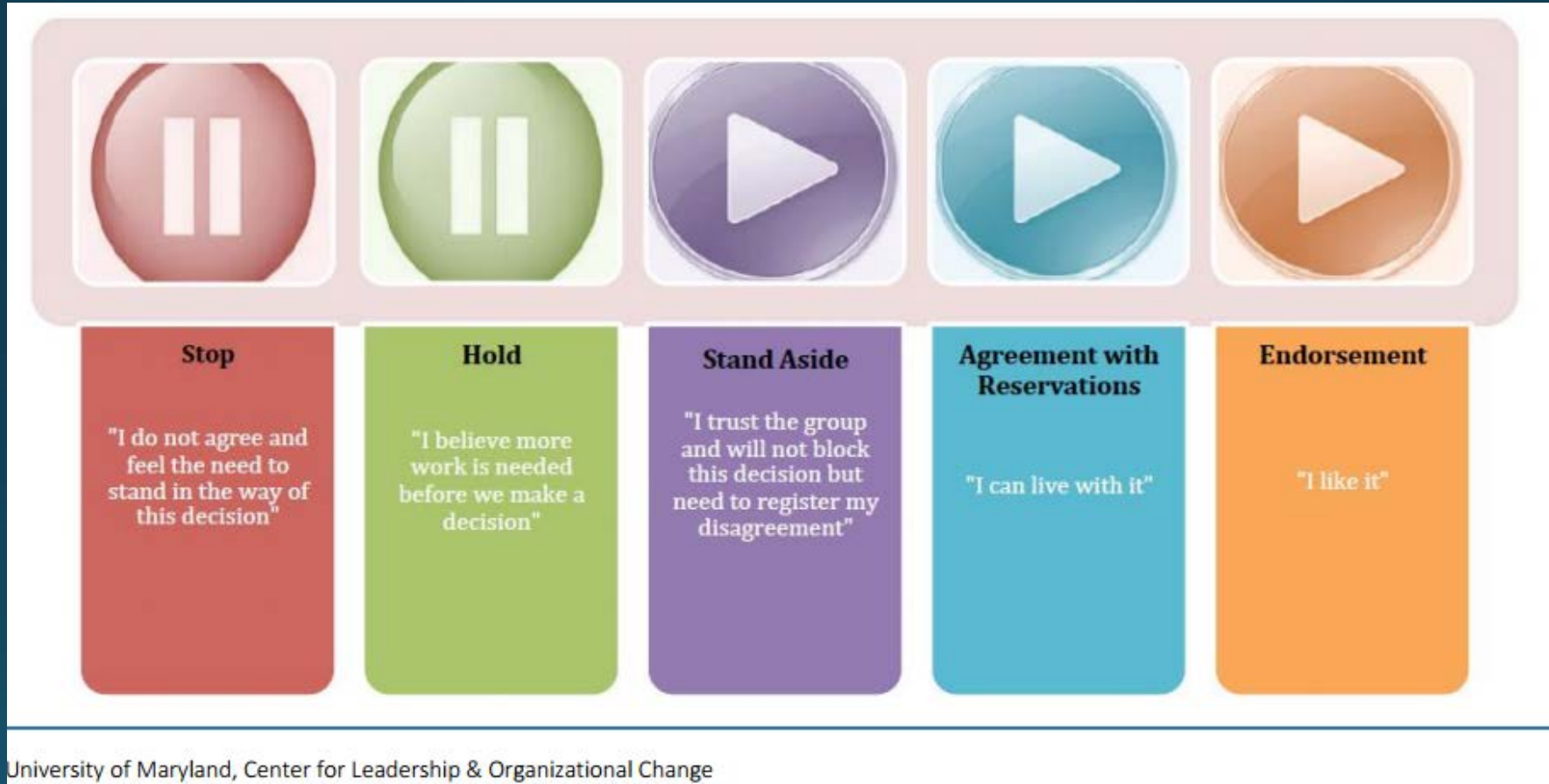


Disease
Over-harvesting

CBP Organizational Structure



Consensus Continuum



Recent Partnership “Drivers”

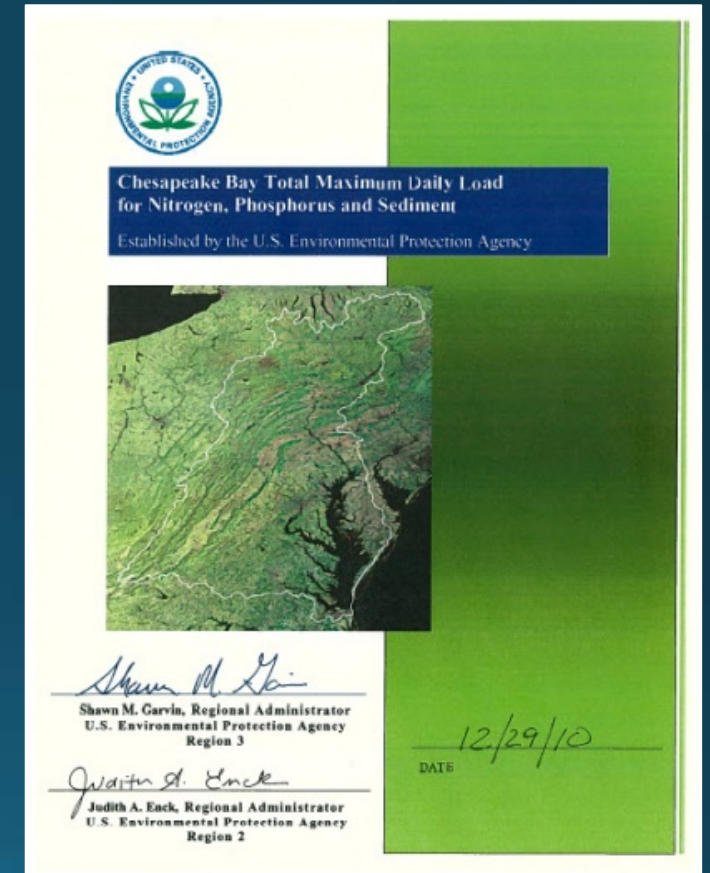
- **Chesapeake Bay TMDL (Total Maximum Daily Load) – December 2010**
 - Informed by jurisdictions’ plans
- **Chesapeake Bay Watershed Agreement – June 2014**
 - Commits headwater states to full partnership; contains goals & outcomes to advance restoration and protection of Bay watershed
- **Chesapeake Bay TMDL Midpoint Assessment – 2012-2018**
 - Assessment of progress to date; incorporation of new science and information; and refining decision support tools



Chesapeake Bay TMDL: What's Different?

A New Accountability Framework

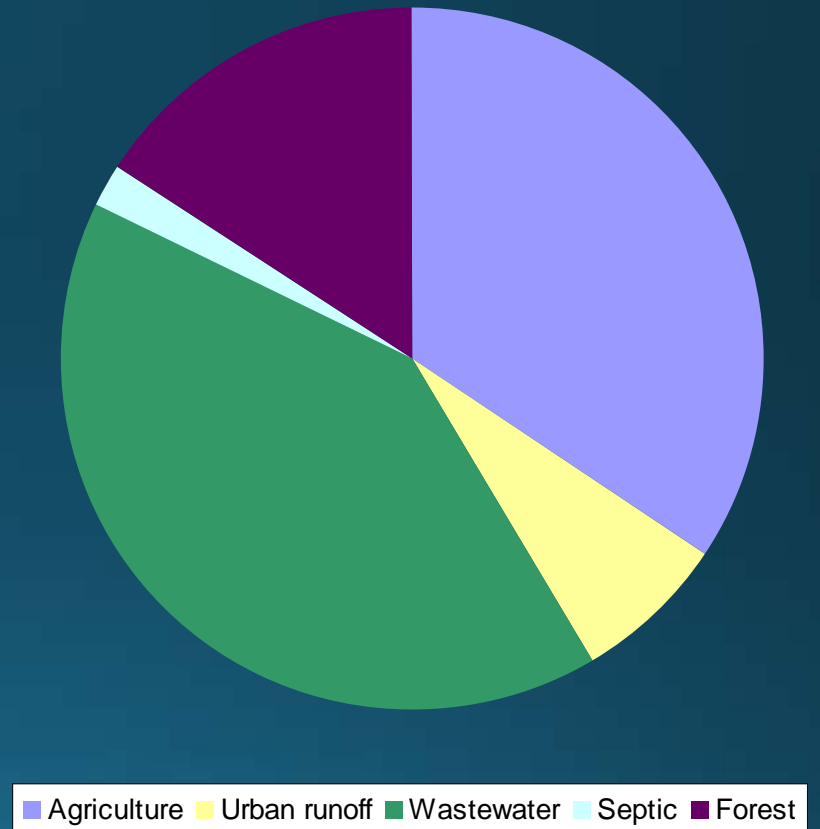
- TMDL: Set limits for sources of nitrogen, phosphorus and sediment to meet water quality standards.
- Watershed Implementation Plans (WIPs): States/DC describe what amount, how, where, and when.
- 2-Year Milestones: States and DC, working with local partners, implement actions to reduce loads
- 60% by 2017, 100% of practices in place by 2025
- Consequences: State contingencies and/or EPA consequences if targets aren't met.



Elements of a WIP:

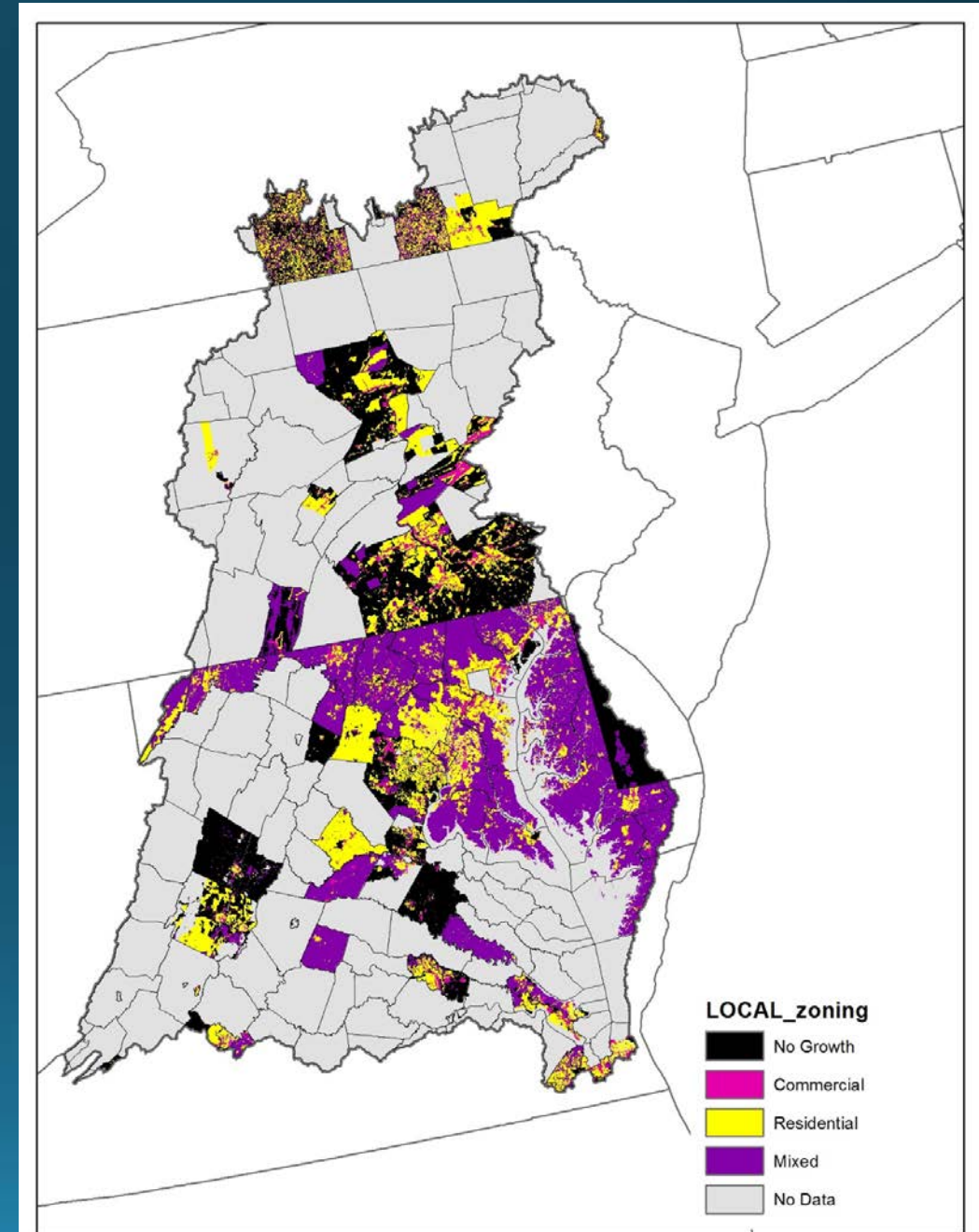
A Roadmap to Achieve Water Quality Standards

- Phase I WIP and Phase II WIPs were developed and submitted to EPA in 2010 and 2012, respectively. Phase III WIPs due in 2019
- These documents focused on the following elements:
 - Interim and final N, P, and SED Target Loads
 - Numeric & Programmatic Commitments
 - Current and Future Program Capacity
 - Account for Growth
 - Local & Federal Engagement
 - Gap Analysis
 - Tracking and Reporting Protocols
 - Contingencies
 - Detailed Schedule



Accounting for Growth

Approval to use 2025 growth projections to account for growth in the Phase III WIPs and two-year milestones. Updates to projections will occur every two years



Partnership Approved Local Planning Goal Recommendations

WQGIT Approved – December 19, 2016

Final Recommendations of the Local Planning Goals Task Force

Introduction:

This document serves as a framework of the key questions and options that the Local Planning Goals Task Force (Task Force) recommends¹ that jurisdictions consider when developing their Phase III Watershed Implementation Plans (WIPs). The charge given to the Task Force by the Water Quality Goal Implementation Team (WQGIT) poses three primary questions: 1) should the Phase III WIPs include local planning goals; and 2) if there are local planning goals, what are the options for the scale of the goals; and 3) how these goals could be expressed in different jurisdictions. In order to provide jurisdictions with the flexibility to develop plans that fit their needs, this paper presents options for how a jurisdiction could define “local”, and what is meant by a goal. Below is the full charge to the Task Force as well as the Task Force’s recommendations.

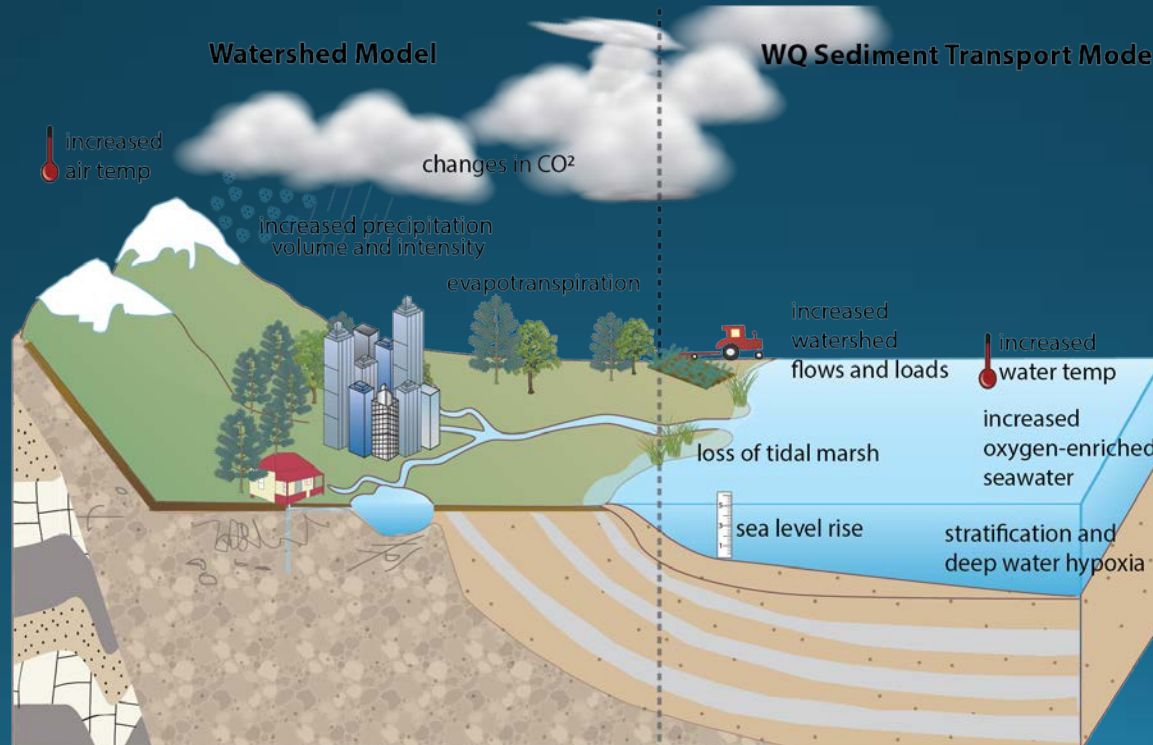
Task Force Charge² - as Assigned by the WQGIT

“To make recommendations to the Water Quality Goal Implementation Team (WQGIT) regarding whether the Phase III WIPs should include local area planning targets³ (LAPTs) and, if so, options for how these targets could be expressed in different jurisdictions. The Local Area Planning Targets Task Force (Task Force) will address findings from the Chesapeake Bay Total Maximum Daily Load (Bay TMDL) Stakeholder Assessment, including the goal of raising awareness of local partners’ contribution toward achieving the Bay TMDL; the technical capacity of the Chesapeake Bay Program’s Phase 6 modeling suite; how local implementation addresses local conditions, needs and opportunities, such as local water quality; and the availability of tools to assist in the development and optimization of local implementation strategies. The Task Force will review the efforts of some jurisdictions to develop LAPTs as part of the Phase II WIPs and recent work to establish federal facility targets. Task Force recommendations will be presented as part of the development of the Phase III WIP expectations by EPA.”



Addressing Climate Change

Include a narrative strategy in the Phase III WIPs that describes the jurisdictions current action plans and strategies to address climate change, as well as the jurisdiction-specific nutrient and sediment pollution loadings due to 2025 climate change conditions, while incorporating local priorities and actions to address climate change impacts.



Accounting for Additional Loads – Conowingo Dam & Reservoir



February 16 DRAFT

FOR DISCUSSION PURPOSES, SUBJECT TO
MODIFICATION

Framework for the Conowingo Watershed Implementation Plan

Objective: To obtain final PSC approval on this draft Framework for developing the Conowingo Watershed Implementation Plan.

Background: When the TMDL was established in 2010, it was estimated that Conowingo Dam would be trapping sediment and associated nutrients through 2025. New research has determined this is not the case, and that the reservoir behind Conowingo Dam has now reached dynamic equilibrium. As a result, more sediment, nitrogen, and phosphorus are now entering the Chesapeake Bay than were estimated when the TMDL was established. Even with full implementation of the seven Bay jurisdictions' WIPs, this additional pollutant loading from Conowingo reservoir reaching dynamic equilibrium will cause or contribute to water quality standards exceedances in the upper Bay. This additional pollutant load must be addressed if the Bay's water quality standards, as they are currently written and implemented, are to be met. The Chesapeake Bay Program (CBP) partnership estimates that, after fully implementing the Bay TMDL and Phase I/II WIPs, an additional reduction of 6 million pounds of nitrogen and 0.26 million pounds of phosphorus is needed in order to mitigate the water quality impacts of Conowingo Reservoir infill. Although further analysis may alter the total nitrogen and phosphorus loads needing to be reduced, these current estimates are also based on reductions occurring in the most effective sub-basins of the watershed – that is, the geographic areas with the greatest influence on Chesapeake Bay water quality. If implementation were directed watershed-wide, including less effective areas, the total pollution reduction needed would increase.

Monitoring Trends to Support Implementation

Total Phosphorus per Acre Loads and Trends: 2005-2014

Trend Direction

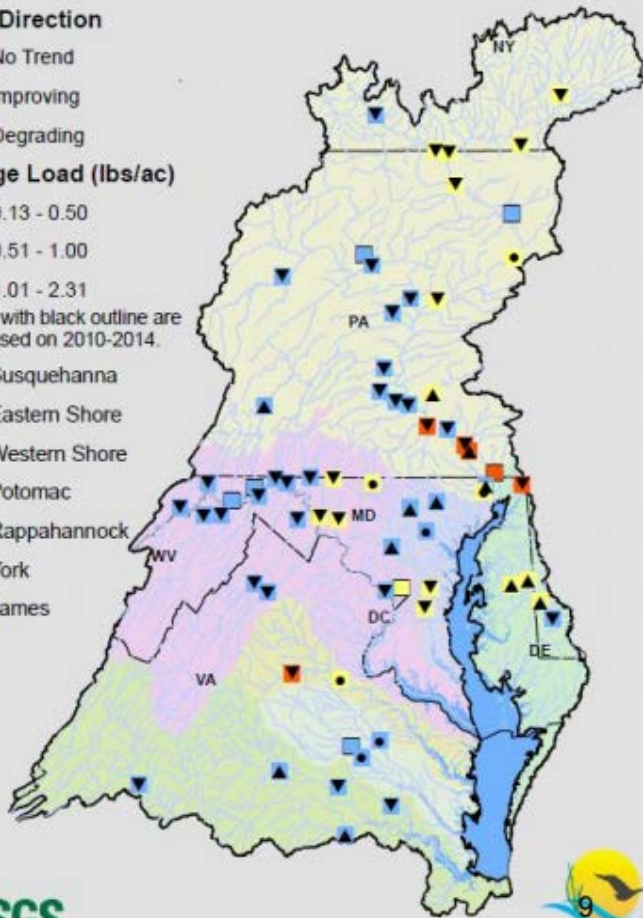
- No Trend
- ▼ Improving
- ▲ Degrading

Average Load (lbs/ac)

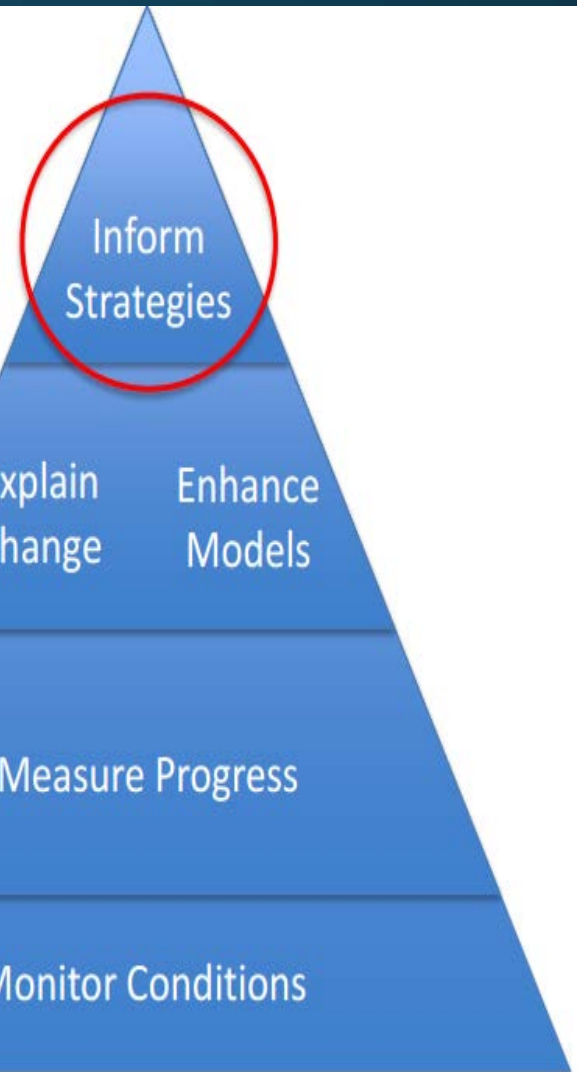
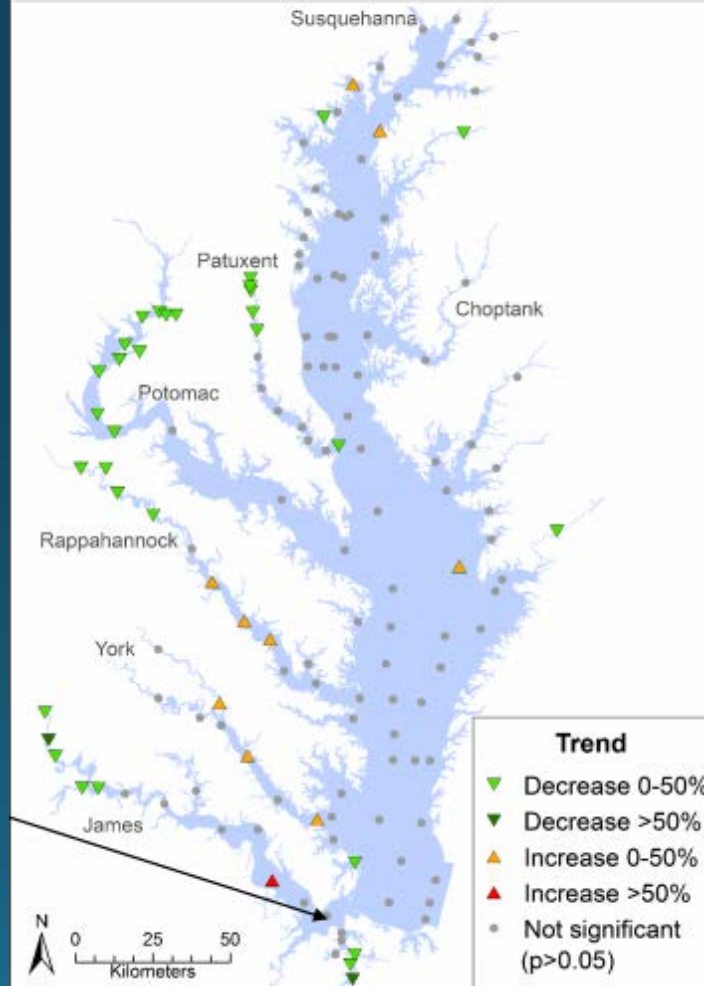
- 0.13 - 0.50
- 0.51 - 1.00
- 1.01 - 2.31

Squares with black outline are yields based on 2010-2014.

- Susquehanna
- Eastern Shore
- Western Shore
- Potomac
- Rappahannock
- York
- James



Trends for Surface Total Nitrogen in the Chesapeake Bay: 1999-2014



BAY TMDL & WIPs = CLEAN LOCAL & BAY WATERS

EVERYONE HAS A ROLE TO PLAY



Indicators of Improving Ecosystem Health We Are Making Progress



- Bay Grasses
- WQ Standards Attainment
- Reducing Pollution



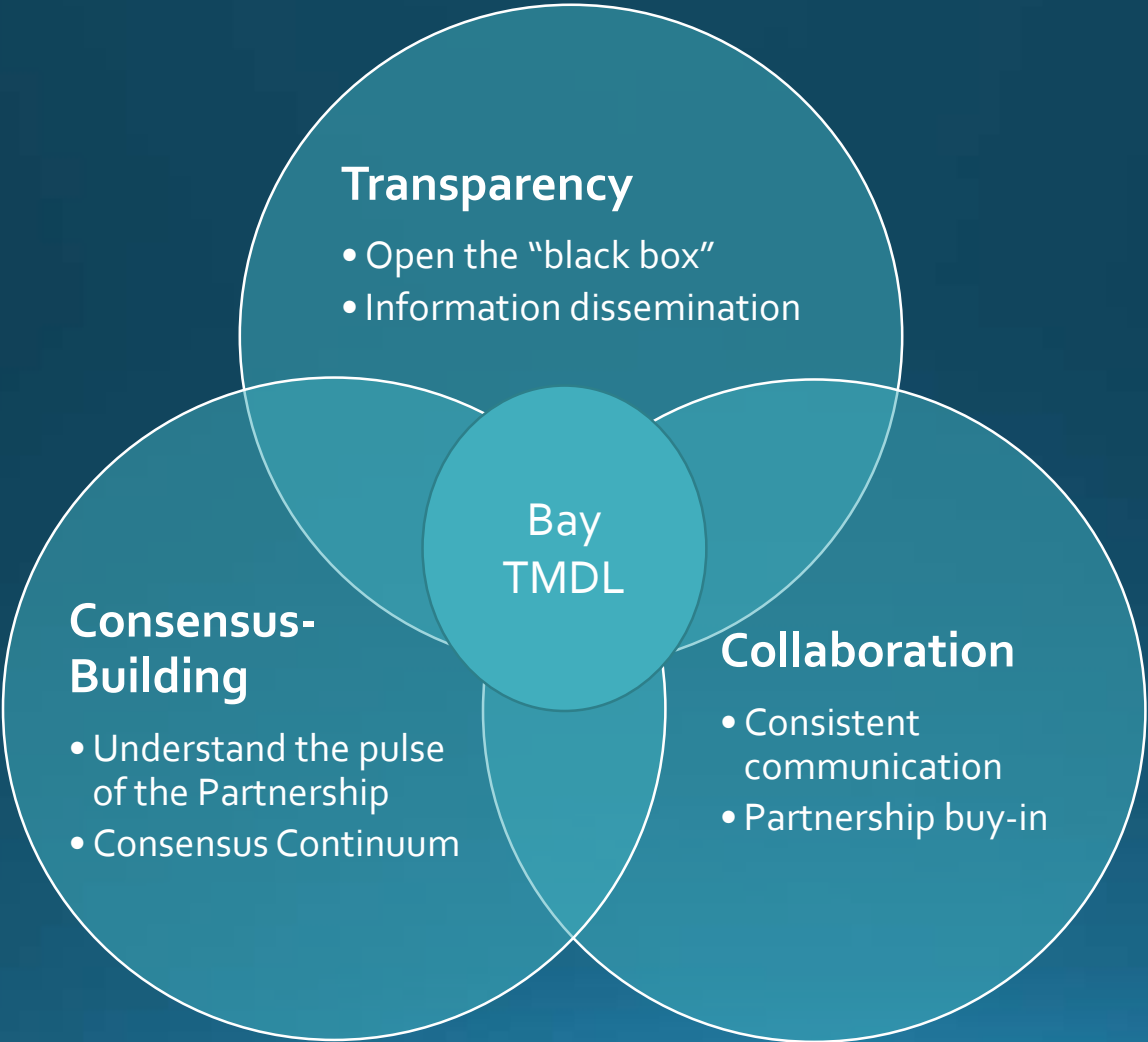
Successes & Challenges

- **Aligning local watershed restoration priorities with state and federal programs**
 - Targeting resources, building capacity
- **Understanding stakeholder needs at state and local levels**
 - Building consistent communication & feedback mechanisms
- **Role for adaptive management**
 - Changes in Partnership dynamics
 - Shifting priorities

Suggested Questions to Consider

- **How can federal and state planning efforts best reflect local priorities and needs?**
 - E.g., Infrastructure maintenance and financing; public health; and economic development
- **How can local planning advance implementation goals?**
 - E.g., Emphasis on targeting BMPs in “priority” watersheds (“priority” can be based on funding, most effective at reducing loads, or higher loading areas)
- **How can federal, state, and local planning capture co-benefits beyond just water quality improvements?**
 - E.g., riparian forest buffers, stream/pasture fencing, wetland creation or enhancements

Bay TMDL: Lessons Learned for Stakeholder Engagement



Thank you!

Questions & Comments

