



Chesapeake Bay TMDL:

Development and Implementation



**Water Resources Advisory Committee
Meeting**



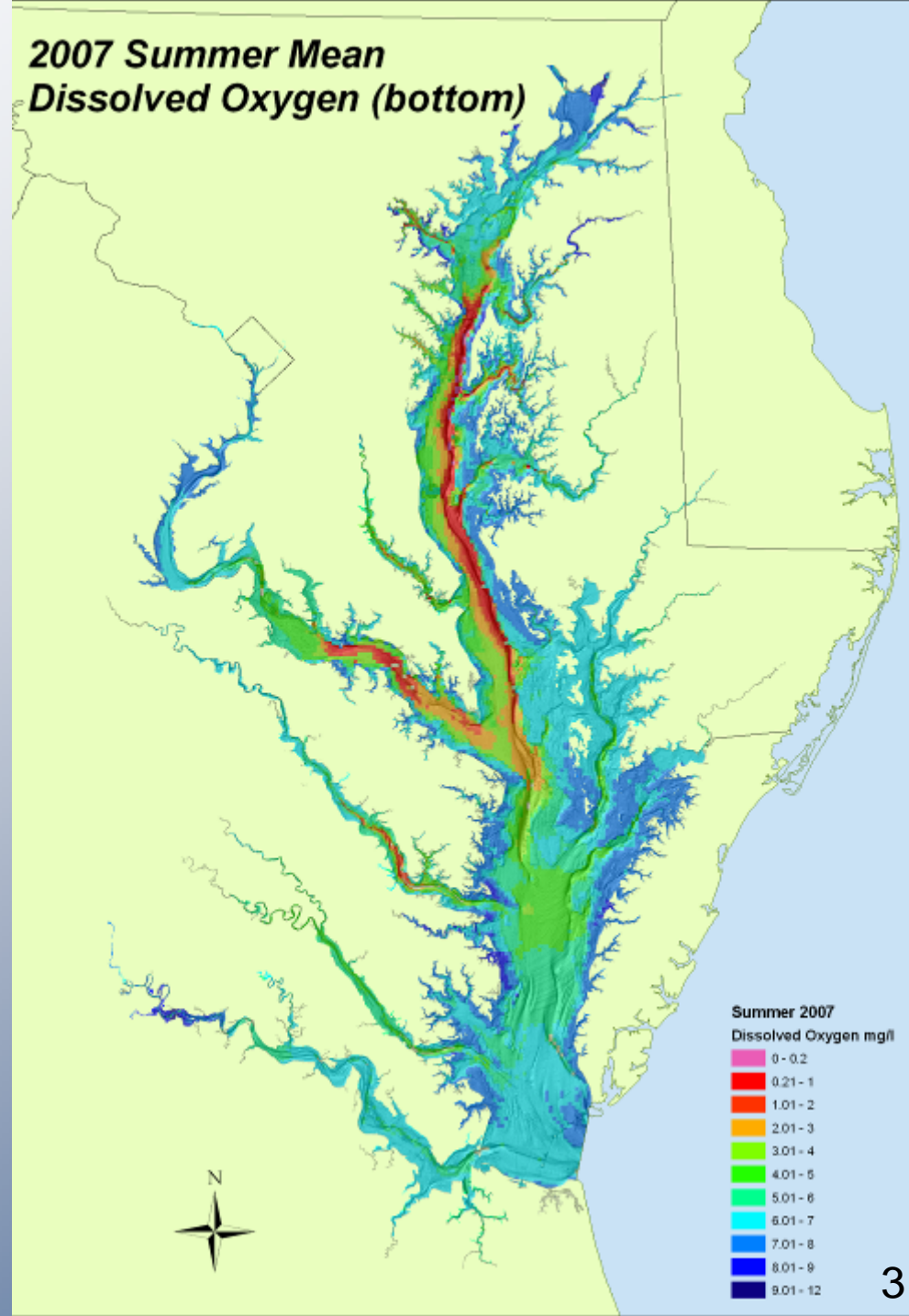
**Suzanne Hall
EPA Region III
May 11, 2010**

Overview

- Chesapeake Bay TMDL
- Watershed Implementation Plans
- Bay TMDL Updates

Why do a Bay TMDL now?

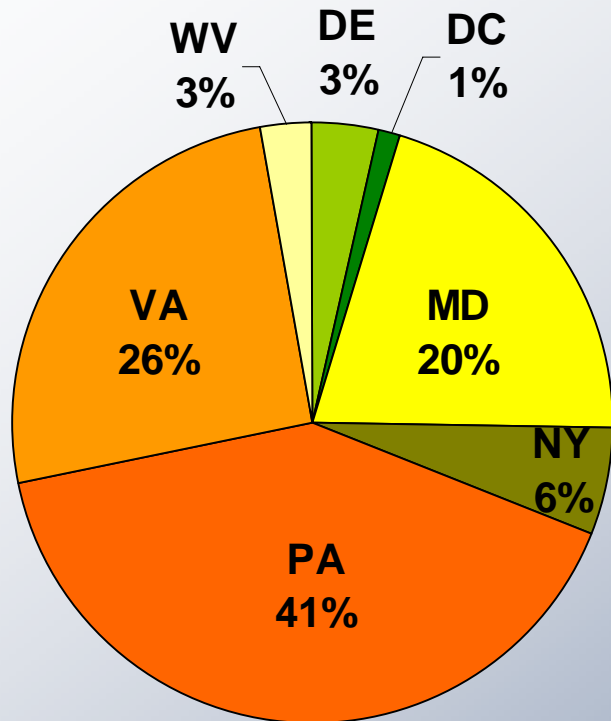
Low to no
dissolved
oxygen in the
Bay and tidal
rivers every
summer



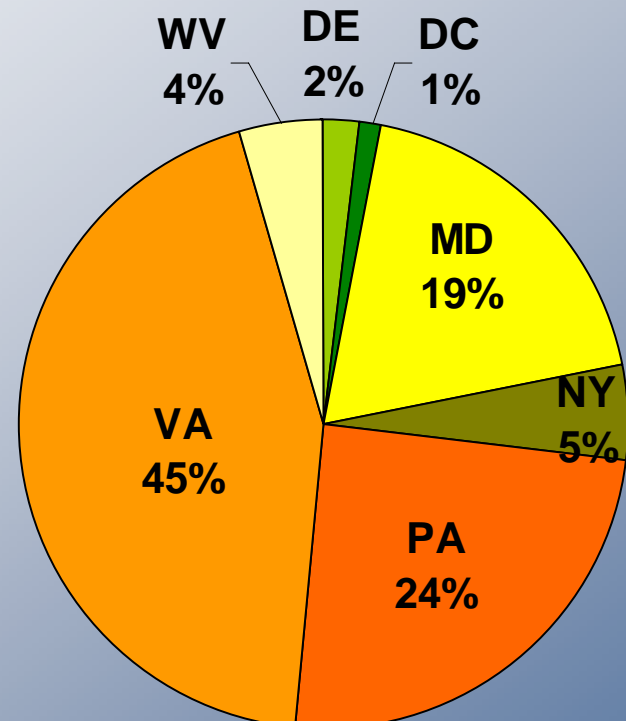
Guidelines for Distributing the Basinwide Target Loads

- Water quality and living resource goals should be achieved.
- Waters that contribute the most to the problem should achieve the most reductions (on a per pound basis).
- All previous reductions in nutrient loads are credited toward achieving final cap loads.

Nutrient Loads by State



Nitrogen*

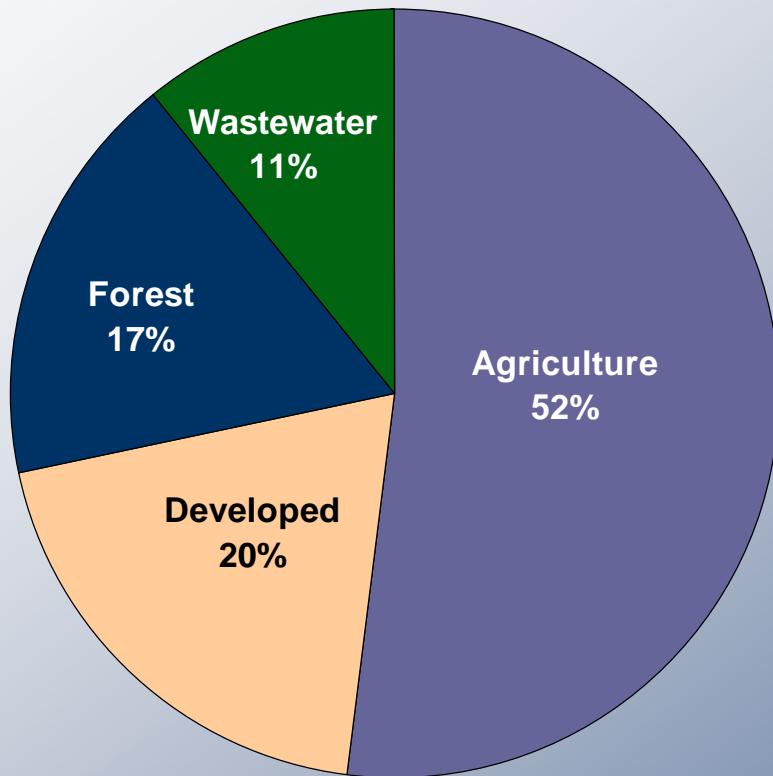


Phosphorus

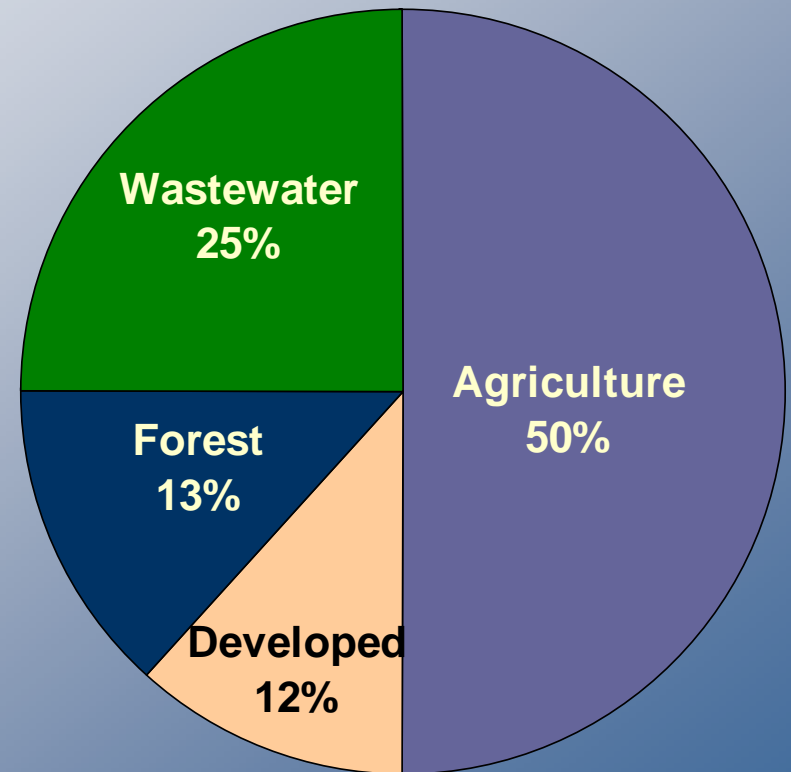
*EPA estimates a nitrogen load of 284 million lbs nitrogen in 2008. EPA assumes a reduction of 7 million lbs due to the Clean Air Act. This leaves 77 millions lbs to be addressed through the TMDL process.

Nutrient Sources of Pennsylvania

Sources of Nitrogen from PA



Sources of Phosphorus from PA



N and P values from 2008 Scenario of Phase 5.2 Watershed Model

Current State Target Loads

Nitrogen

State	2008 Load	Tributary Strategy	Target Load
DC	3.54	2.12	2.37
DE	9.91	6.43	5.25
MD	58.00	42.37	41.04
NY	16.71	8.68	10.54
PA	114.40	73.48	73.64
VA	72.82	56.75	59.21
WV	7.77	5.93	5.71
Total	283.15	195.75	197.76

Phosphorus

State	2008 Load	Tributary Strategy	Target Load
DC	0.14	0.10	0.13
DE	0.34	0.25	0.28
MD	3.10	2.54	3.04
NY	0.83	0.56	0.56
PA	3.99	3.10	3.16
VA	7.18	6.41	7.05
WV	0.70	0.43	0.62
Total	16.28	13.39	14.84

All loads are in millions of pounds per year

Pa loads in the Bay TMDL

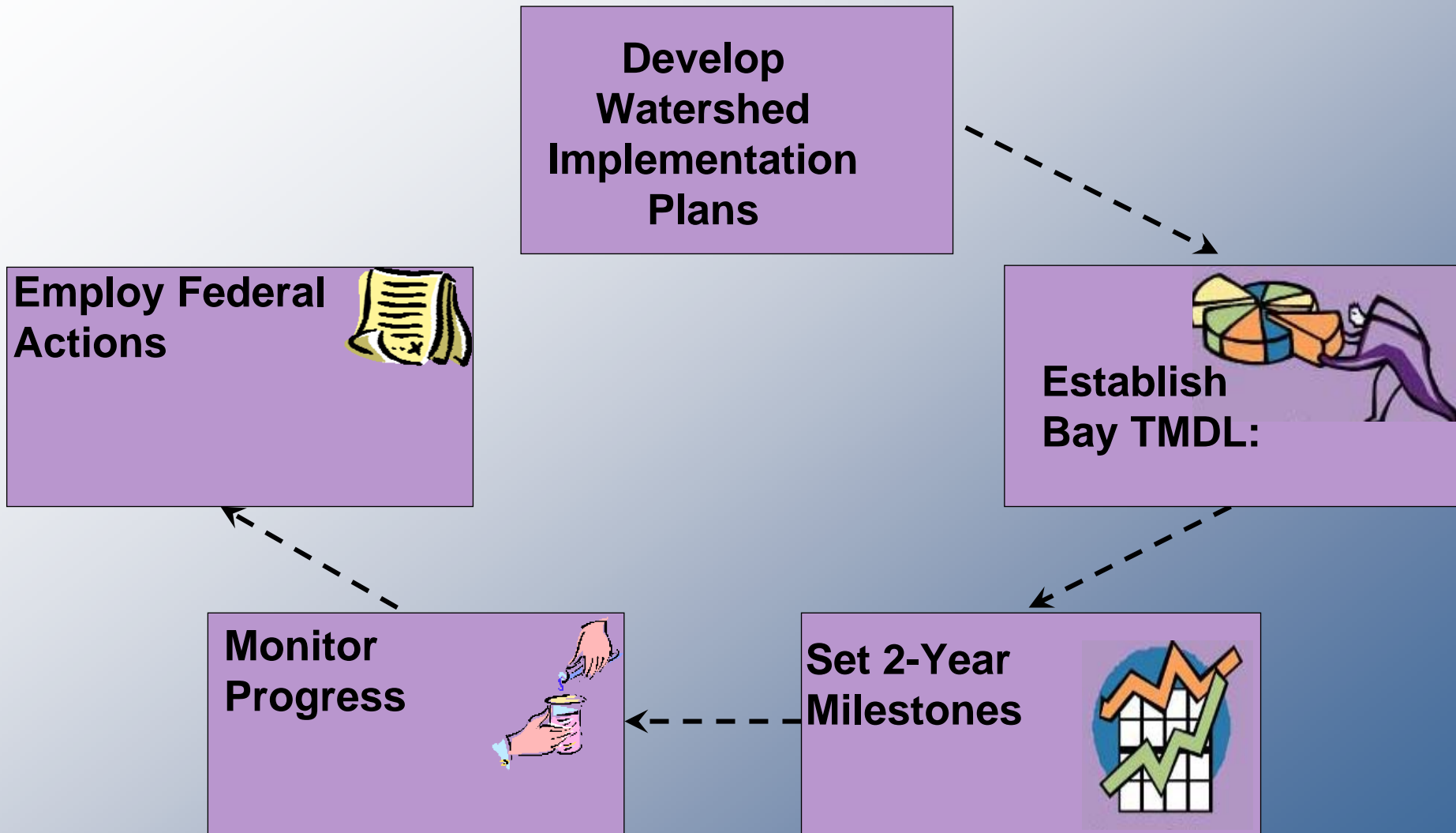
- For Pa (and upland states), only **aggregate** loads will be in the TMDL for NPS and PS*
- Those aggregate loads will be split into the Potomac Drainage and the Susquehanna drainage

* Only if the state WIP provides more detail on loadings from individual sources or source sectors

The Bay TMDL and Performance and Accountability System will..

- ...Learn from lessons of the past
 - Bay Program
 - Long term goals + ***short term goals***
 - Planning and commitment + ***accountability***
 - TMDL Program
 - Point source implementation + ***non-point source implementation***

Mandatory Pollution Diet at Work

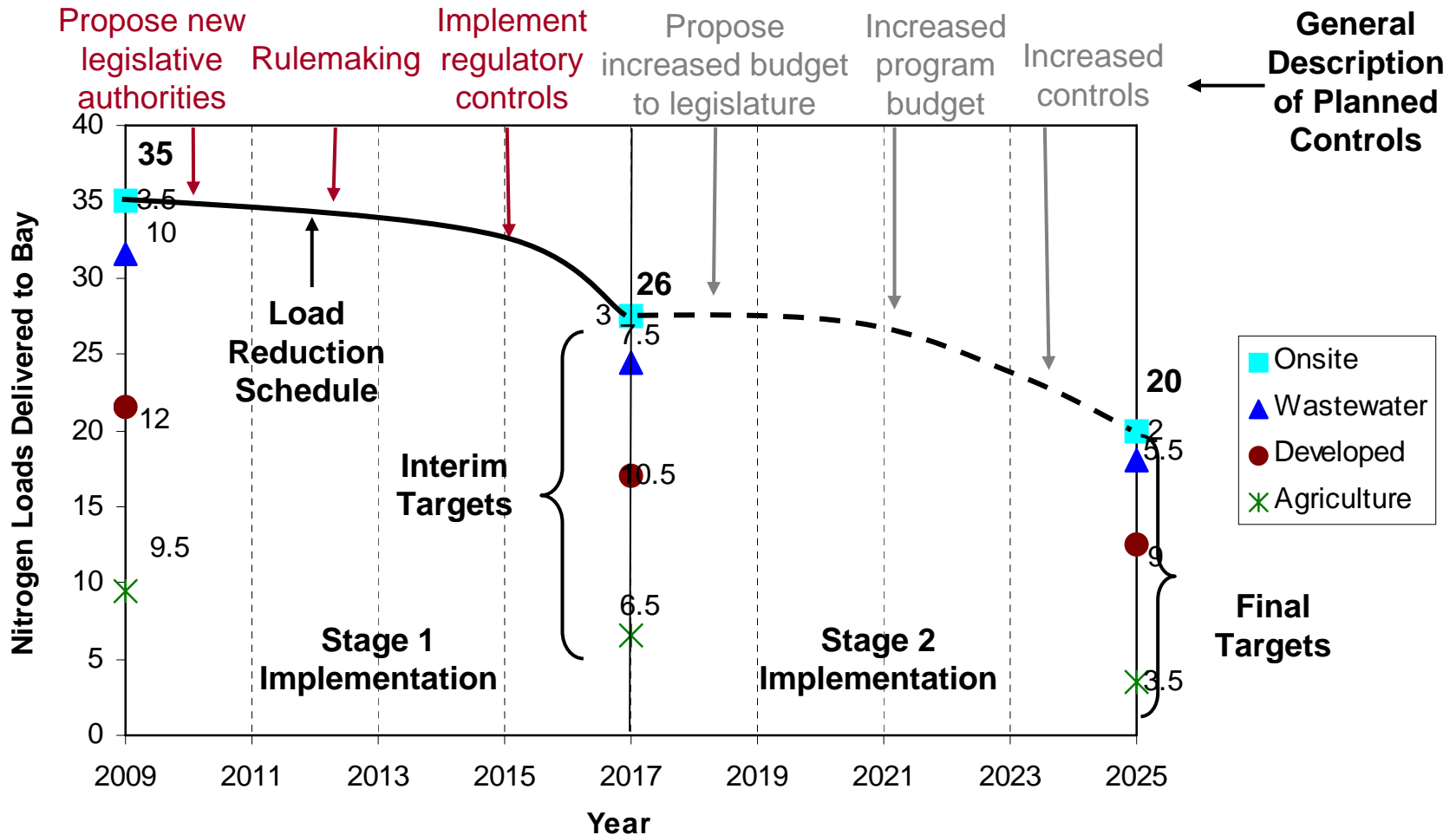


State Watershed
Implementation Plans (WIP)
Details and Updates

Watershed Implementation Plans (WIPs)

- Stage 1: 60% reductions achieved by 2017
- Stage 2: All controls in place no later than 2025

Example: Projected N Delivery by Source Sector for Major Basin/Jurisdiction



- Attaining specific load reductions by the interim target would be required
- Jurisdiction would determine desired reduction schedule to meet load reduction
- EPA would first evaluate milestones based on whether consistent with major basin/jurisdiction load target. EPA accepts shifts among source sectors, segment drainages, and local targets as long as major basin/jurisdiction target is met and local and Bay water quality goals are achieved

Difference in WIP Phases

- Phase I
 - Basinwide Loads
 - 2010 – 2017

Due:
11/2010
- Phase II
 - Loads by Local Area
 - 2010 - 2017

11/2011
- Phase III
 - Loads by Local Area
 - 2017-2025

11/2017

Watershed Implementation Plans Relevance to TMDL

- Reasonable Assurance to the TMDL
- Informs WLAs/LAs for the TMDL

Bay TMDL Watershed Implementation Plans Will Include 8 Elements:

- 1. Interim and Final Target Loads**
- 2. Current Program Capacity**
- 3. Mechanisms to Account for Growth**
- 4. Gap Analysis**
- 5. Commitment to Fill Gaps: Policies, Rules, Dates for Key Actions**
- 6. Tracking and Reporting Protocols**
- 7. Contingencies for Failed, Delayed or Incomplete Implementation**
- 8. Appendix with:**
 - a. Loads divided by 303(d) segment drainage and source sector
 - b. 2-year milestone loads by jurisdiction – EPA will use to assess milestones
 - c. No later than November 2011: Update to include loads divided by local area and controls to meet 2017 interim target load

	Tributary Strategy	WIP
1) Scale of interim and final target loads	Basin and Source Sector-Specific	Basin, Segment, Local, and Source Sector-Specific
2) Nutrient and sediment reductions by sector, segment drainage and local area		✓
3) Load reduction schedule that meets interim and final targets		✓
4) Identification of program gaps		✓
5) Program enhancements (legal, funding,)		✓ (with schedule)
6) State/District contingencies		✓
7) Account for growth by setting aside allocations or specifying how will offset		✓
8) General description of planned pollutant controls	✓	✓
9) Quantitative planned BMP controls	✓	2 Year Milestones
10) Quantitative planned PS controls	✓	✓
11) Local/segment drainage location of reduction practices, controls, technologies		✓ 17

Phase I Major Basins

- Susquehanna River
- Potomac River
- Gunpowder River (Western Shore, MD)
- Elk River (Eastern Shore, MD)
- North East River (Eastern Shore, MD)

WIP Expectations

- Provide loads by individual source and sectors
- Commit to program enhancements
- Account for growth
- Identify 2-year milestone loads
 - Achieve 60% reduction in load by 2017
- Describe a tracking and reporting system
- Identify contingency plans for implementation

EPA Support to States WIPs

- \$11.2 Million in supplemental Bay grants to the states
- \$400,000 in WIP contractual support to states
- \$300,000 for local WIP pilots
- Identified extensive WIP expectations
- Modeling and other technical support
- ***Additional \$200,000 sought for state WIPs support esp. offset program development***



Revised TMDL & WIP Schedule

Deliverable	Previous Schedule	Revised Schedule
Preliminary Phase I WIPs	6/1/2010	N/A
Draft Phase I WIPs	8/1/2010	TBD
Bay TMDL public comment period	8/15 to 10/15/2010	TBD
Final Phase I WIPs	11/1/2010	11/29/2010
Bay TMDL Established	12/31/2010	12/31/2010
Final Phase II WIPs	11/1/2011	11/1/2011
Final Phase III WIPs	11/1/2017	11/1/2017

Highlights of getting to December 2010

- Set TMDL/WIPs on current 5.3 model
- More time for WIPs, eliminate preliminary WIP
- Post-TMDL intra-state load/WIP changes
- More contract support for WIPs
- Revise 5.3 model asap, and ...
 - ...Use revised model for WIP modifications and 2 year milestone accountability
- Phase II, 2011 will allow for the adaptive management for the State allocations. The next opportunity will be Phase III, 2017

Further Information

- **Chesapeake Bay TMDL web site**
www.epa.gov/chesapeakebaytmdl
- **U.S. EPA Region 3 Contacts**
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Questions?

