Compliance with Chesapeake Bay Water Quality Improvement Requirements

To
Manufacturing Development Commission

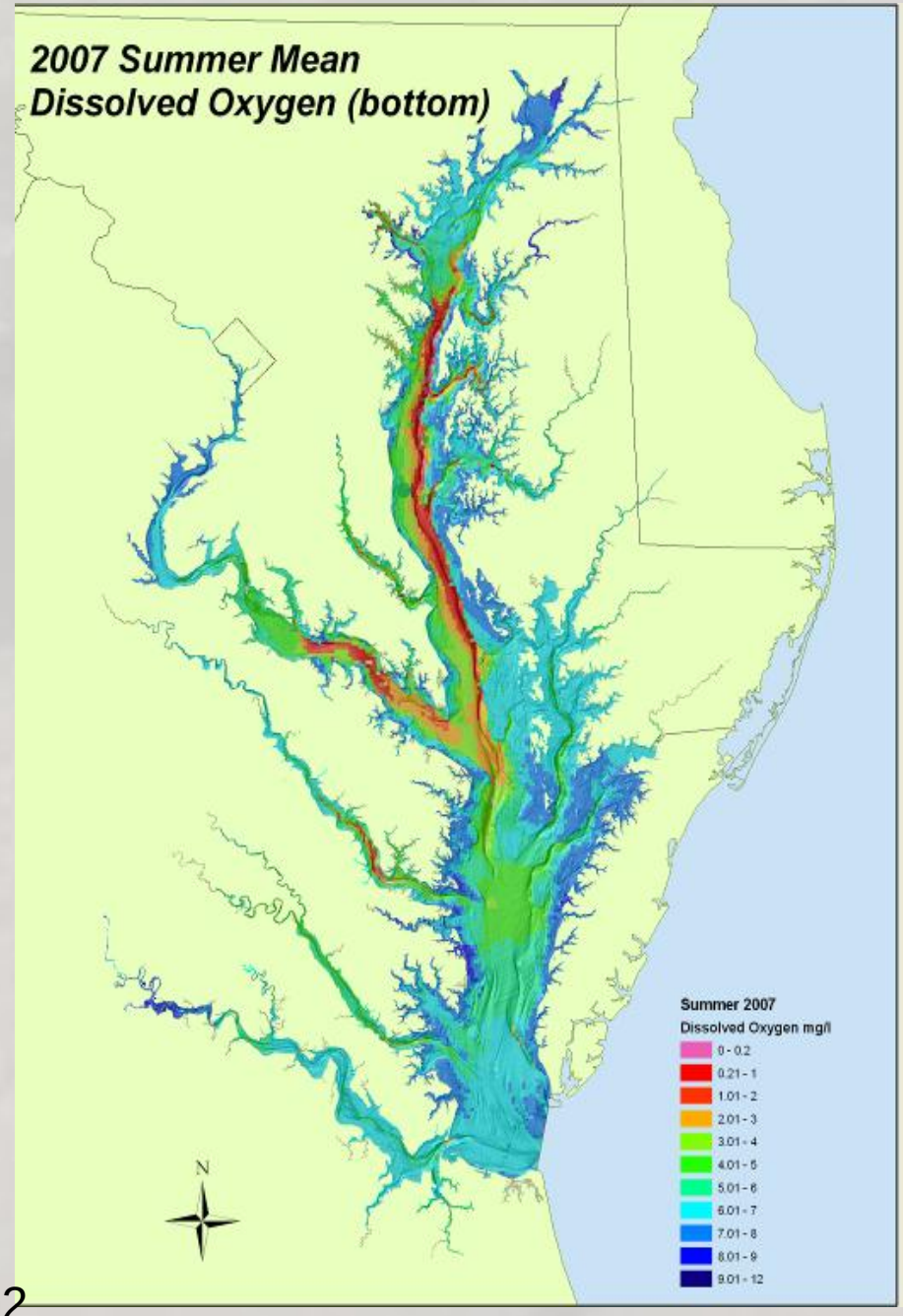
August 4, 2011

DEQ
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

Water Quality Problems

High nutrient and sediment loads in the Chesapeake Bay are resulting in low oxygen, cloudy water, algae blooms

Impacts to commercial and recreational fishing, tourism, and property values



Steps & Authorities for Water Quality Management Process

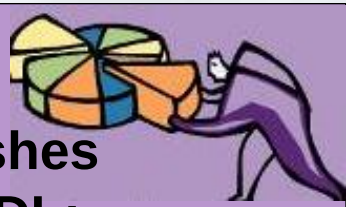
STEPS	FEDERAL CLEAN WATER ACT	CODE OF VIRGINIA
Establish Water Quality Standards to protect uses	§303(c)	§62.1-44.15(3a)
Monitor waters and assess data	§106(d) & §305(b)	§62.1-44.19:5
Establish Impaired Waters List	§303(d)	§62.1-44.19:5
Develop TMDL [Total Maximum Daily Load]	§303(d)	§62.1-44.19:7
Develop TMDL Implementation Plan	§117(g)*	§62.1-44.19:7
Implement TMDL Plan	§117(g)*	§62.1-44.19:7
Remove Waters from List when Standards achieved	§303(d)	§62.1-44.19:5

*Section specific to Chesapeake Bay

EPA's Approach to Ensuring Results

States Develop Watershed Implementation Plans

EPA Establishes Bay TMDL:



States Set 2-Year Milestones

Monitor Progress

Employs Federal Actions or Consequences if Progress Unacceptable

Timeline

1998 - Chesapeake Bay waters listed impaired

1999 - EPA Signs Consent Decree to develop TMDLs in VA; deadline to complete: May 2011

2000 - Chesapeake Bay Agreement: Work to clean Bay by Dec. 2010 to avoid TMDL

2000/10 - Progress made, but not enough: VA reductions: about 2/3 toward nutrient caps

2009/10 – EPA develops TMDL under CWA [Bay is Interstate waters]; VA completes Phase I WIP

Dec. 2010 – EPA approves VA WIP and issues TMDL

Timeline *[cont.]*

2011/12 - Develop VA Phase II WIP

2012/13 - Two-Year Milestones

2014/15 - Two-Year Milestones

2016/17 - Two-Year Milestone

2017 - Phase III WIP; consider revision to TMDL allocations, esp. for James River

[Continue series of Two-Year Milestones]

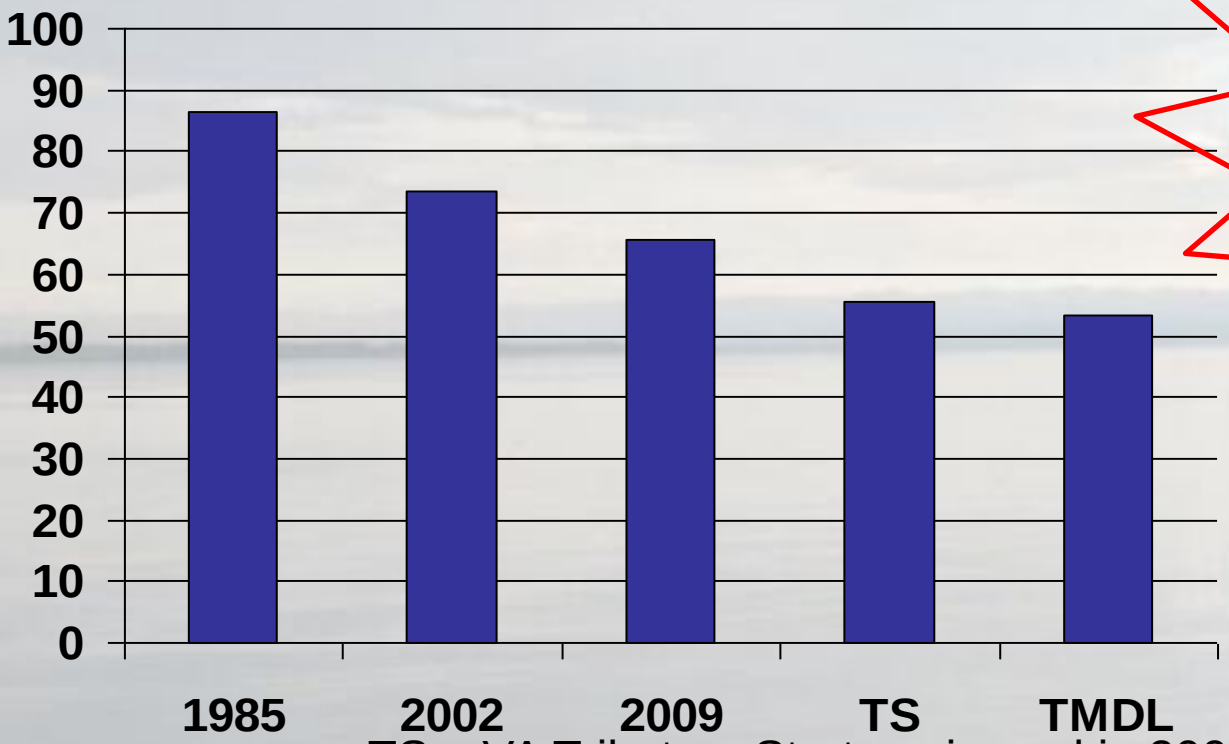
2025 – Expectation for full implementation of TMDL

Pre-TMDL VA Progress

- VA has already achieved reductions in wastewater and agriculture sectors
- Wastewater progress based on watershed general permit for major dischargers, and WQIF funding [~$1.5 billion in state & local funds]
- Agriculture progress based on $20 million per year for SWCDs; targeting most cost-effective BMPs; improved coordination with federal programs; revised Nutrient Mgt. regulations; MOA to reduce P content of poultry litter; and, voluntary poultry waste transfer program

Total Virginia Nitrogen Loads

[million lbs/yr]

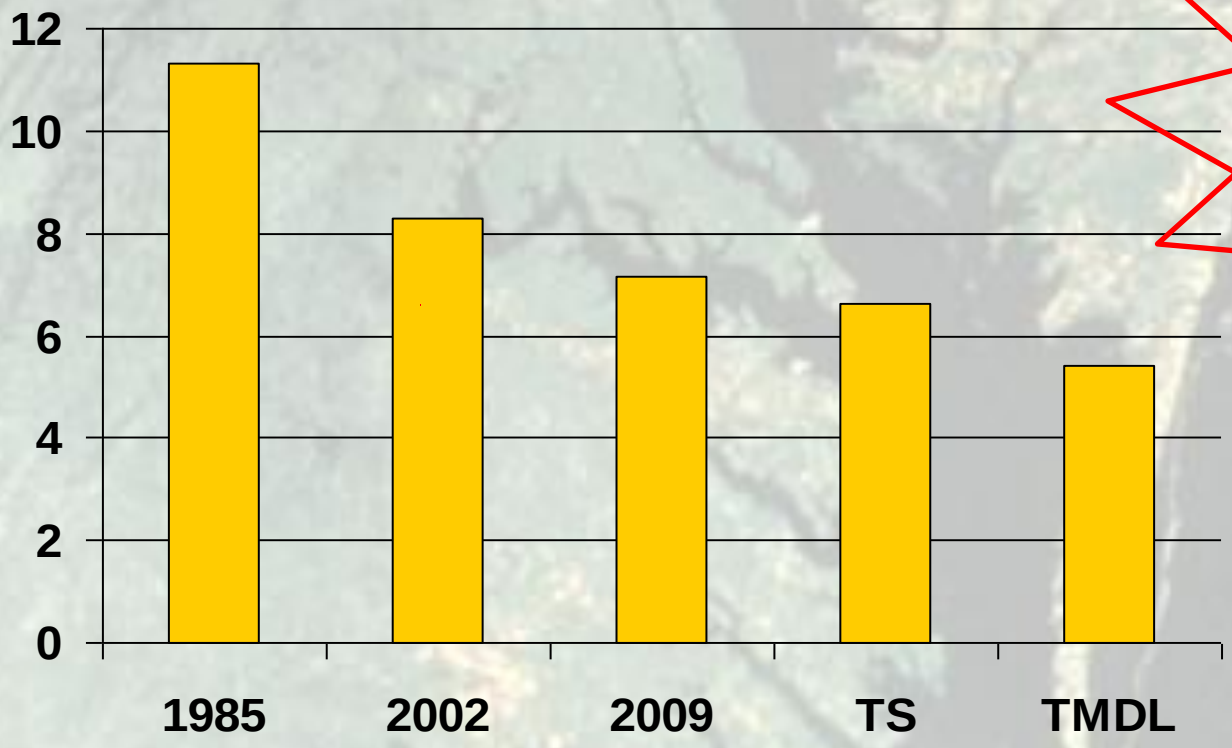


TS – VA Tributary Strategy issued in 2005

Main TMDL Issue:
James River Cap
Much Lower Than
Expected

Total Virginia Phosphorus Loads

[million lbs/yr]



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WIP Highlights for Wastewater

- Recognizes wastewater sector began significant reduction in nutrient loads in 2005
- Continue working towards nutrient caps for localities and industries through use of Watershed General Permit and trading
- TMDL maintained 2005 nutrient caps for Potomac, Rappahannock and Eastern Shore basins
- TMDL calls for further reductions in two basins; York and James [significant]

Bay TMDL and James River Basin

- EPA set nutrient caps for James basin much lower than VA had expected when EPA approved chlorophyll standard in 2005
- Impact estimated to add $1-2 billion to nutrient reduction costs for wastewater treatment
- Conclusion: let's make sure first
- VA Negotiated a two-track approach with EPA

James Basin Two Track Approach

Phased Implementation

- Continue nutrient reductions expected by EPA taking several steps
- Additional reductions scheduled after 2017 Phase III WIP

Scientific Study with Standards Adjustment

- Conduct 3-4 year additional scientific study to provide a more precise and defensible basis for setting chlorophyll standard
- Revise standard/TMDL by 2017, as appropriate

Department of Environmental Quality
Water Quality Improvement Fund Summary
As of July 2011

Total Bond Authority	$ 250.0 MM
Less:	
• Fiscal Year 2010 (July 2009 to June 2010) payments	($ 83.0) MM
• Fiscal Year 2011 (July 2010 to June 2011) payments	($ 89.0) MM
• July 2011 payments as of July 20th	($ 5.4) MM
Bond Authority, Available Balance as of July 20th, 2011	$ 72.6 MM
Grant Commitment Remaining (Signed Agreements)	($ 176.4 MM)
Current Shortfall for Existing Grants	($ 103.8 MM)
Applications Submitted, under active processing	($ 42.5 MM)
Applied for, unsigned projects - estimated costs	($ 158.0 MM)
Potential Shortfall for all projects that have been applied for	**($ 304.3 MM)**

Note 1: Pro-rating reimbursements at 85% since July 2010 to equitably disburse limited remaining funds, except for 'hardship' localities

Note 2: Additional $3.6 MM approved during the 2011 GA session from additional revenue as of June 30, 2010. However, this amount has already been designated for other projects, so it is not listed here

Cost Estimates to Implement the VA WIP

- WQIF municipal wastewater need:
  - Existing grants + applications = ~$304 million
- Industrial wastewater costs vary, due to:
  - Unique wastewater characteristics
  - Options to treatment, e.g., materials substitution
- Estimates of Costs – all sectors
  - Ballpark: ~$7+ billion for VA
  - At recent EC meeting, Governors asked EPA to work with states in developing watershed wide cost-estimates for Bay TMDL

Question & Answer