

Chesapeake Bay Total Maximum Daily Load

Presented to
Hampton Roads Planning District Commission
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Chesapeake Bay Ecosystem

- Largest U.S. estuary
- Six-state, 64,000 square mile watershed
- 10,000 miles of shoreline
- Over 3,600 species of plants, fish and other animals
- Average depth: 21 feet
- \$750 million contribution annually to local economies
- Home to 17 million people
- 77,000 principally family farms
- Declared “national treasure” by President Obama



History of the Bay TMDL

**Clean
Water
Act**

**The Bay
Act**

**EPA TMDL
Program**

**Tributary
Strategies**

1972

1983

1988

1997

1998

2000

2005

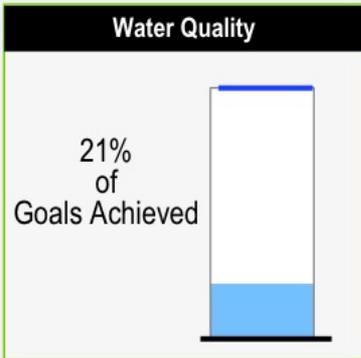
**Chesapeake
Bay
Program/
Bay
Agreement**

**Virginia Water
Quality
Improvement
Act**

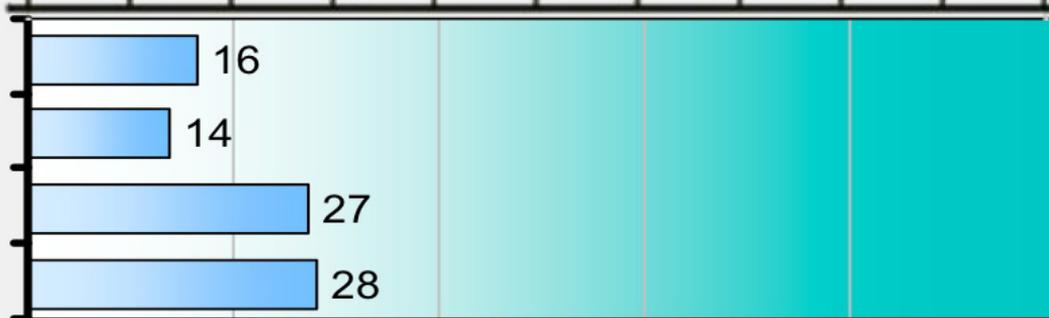
**Chesapeake
2000
Agreement**

Priority Areas

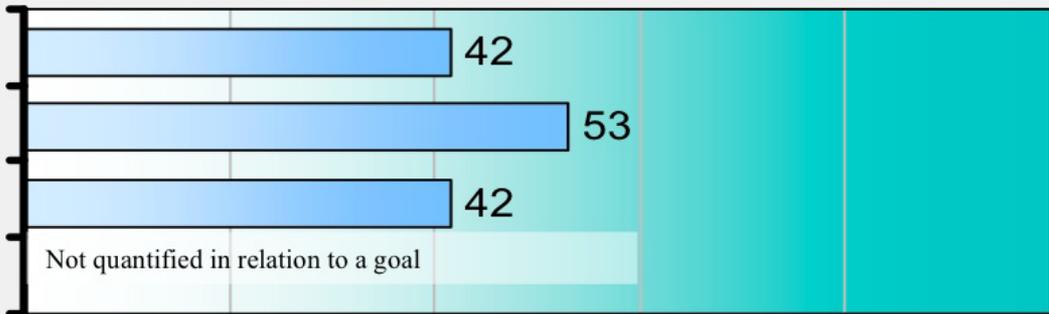
Percent of Goal Achieved



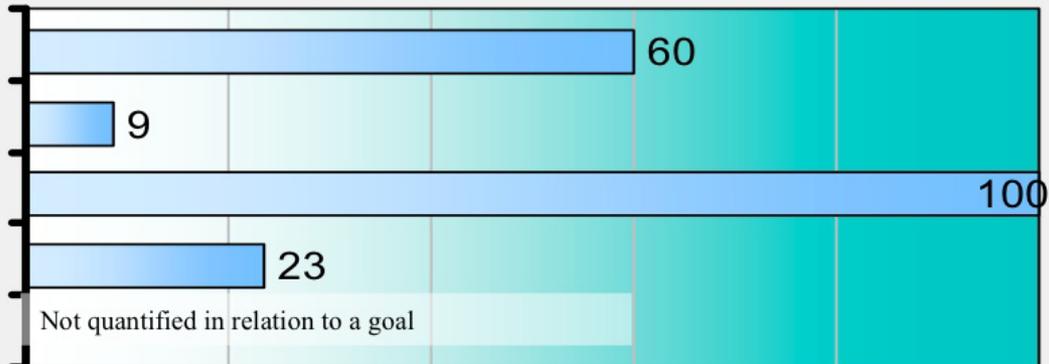
Dissolved Oxygen 16
 Mid-Channel Clarity 14
 Chlorophyll a 27
 Chemical Contaminants 28



Bay Grasses 42
 Phytoplankton 53
 Bottom Habitat 42
 Tidal Wetlands Not quantified in relation to a goal



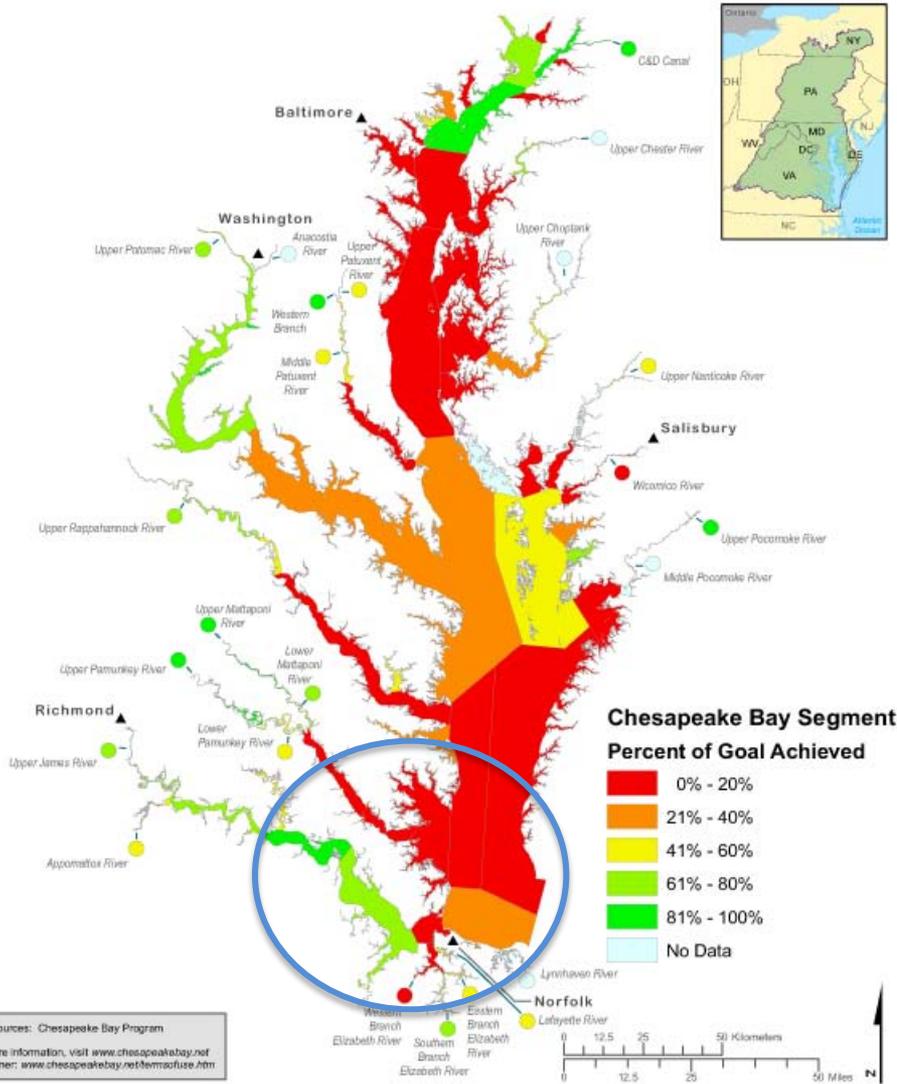
Blue Crab 60
 Oyster 9
 Striped Bass 100
 Shad 23
 Juvenile Menhaden Not quantified in relation to a goal



Summary of Bay Health 2008

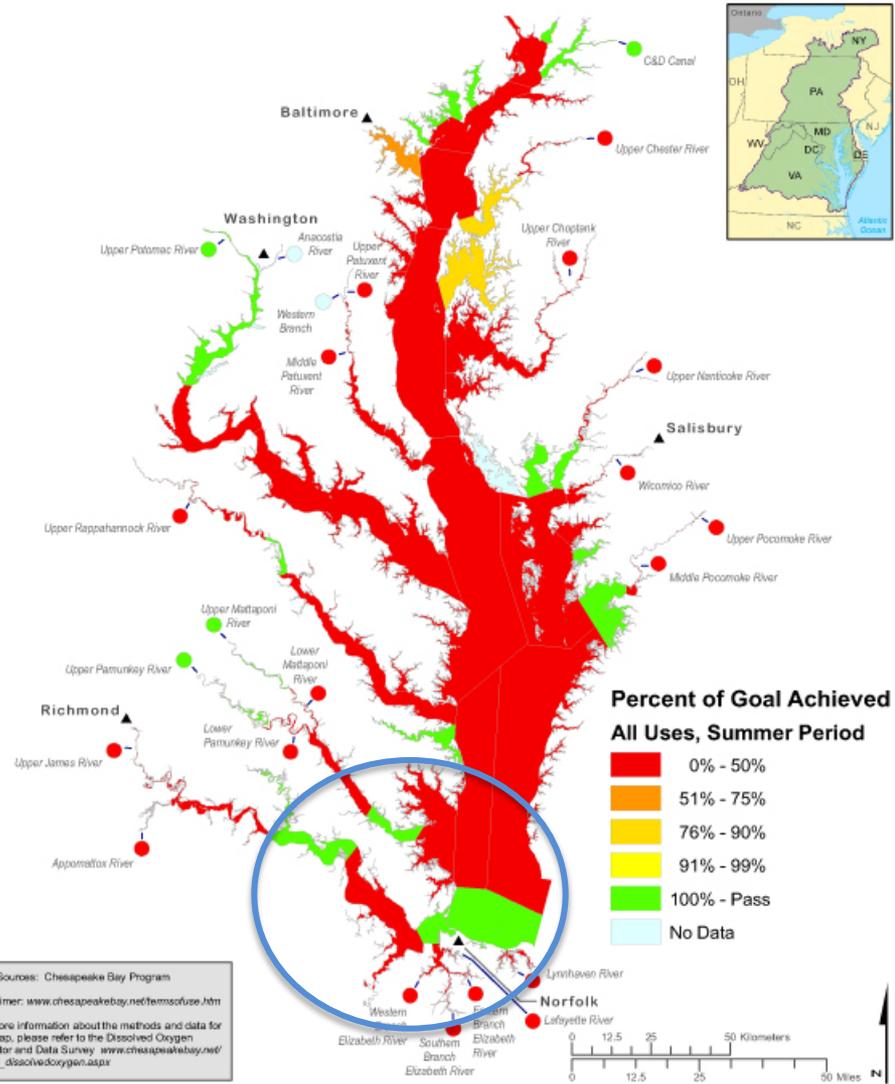
Chlorophyll a (2008)

Percent of Goal Achieved

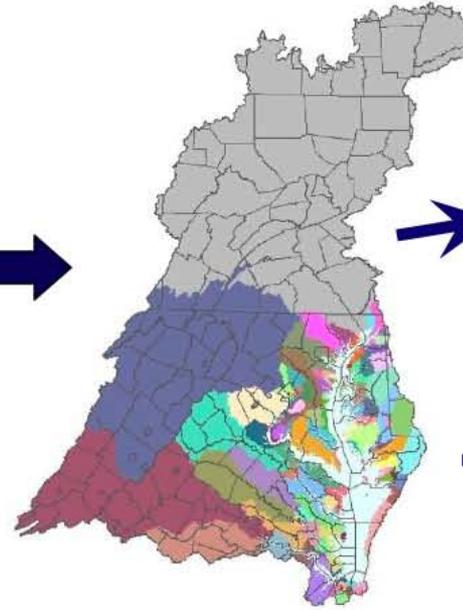
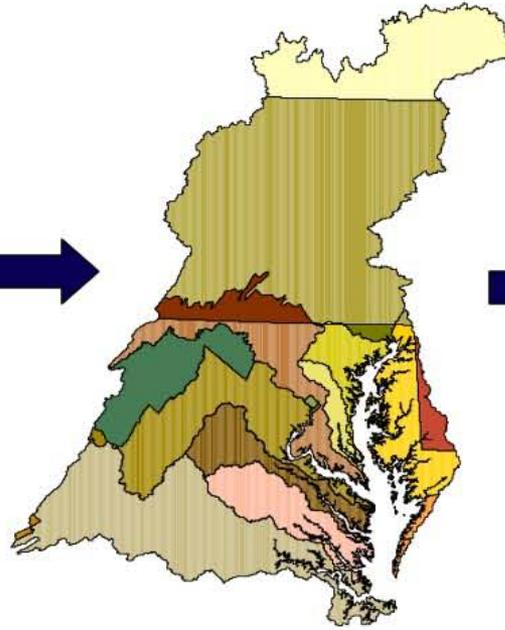
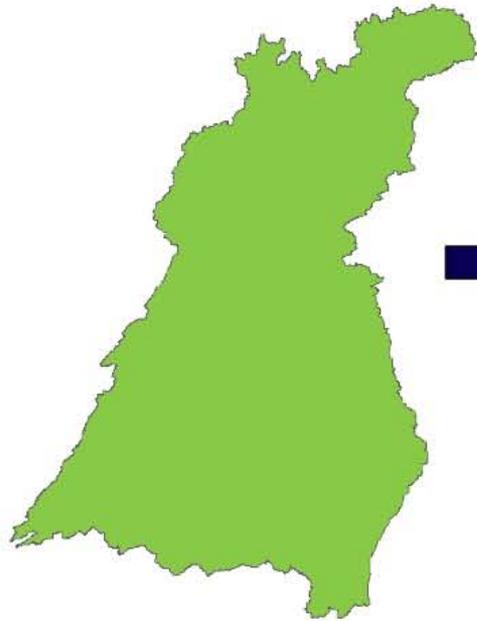


Dissolved Oxygen (June - September, 2006 - 2008)

Percent of Goal Achieved (3 Year Analysis)



Taking Responsibility for Load Reductions



**Identify
basinwide target
loads**

EPA, States, DC

**Identify major
basin by
jurisdiction
target loads**

EPA, States, DC

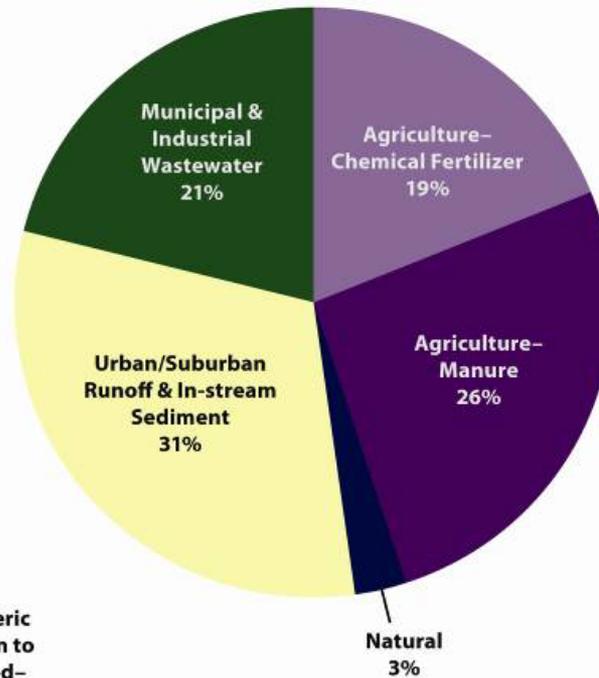
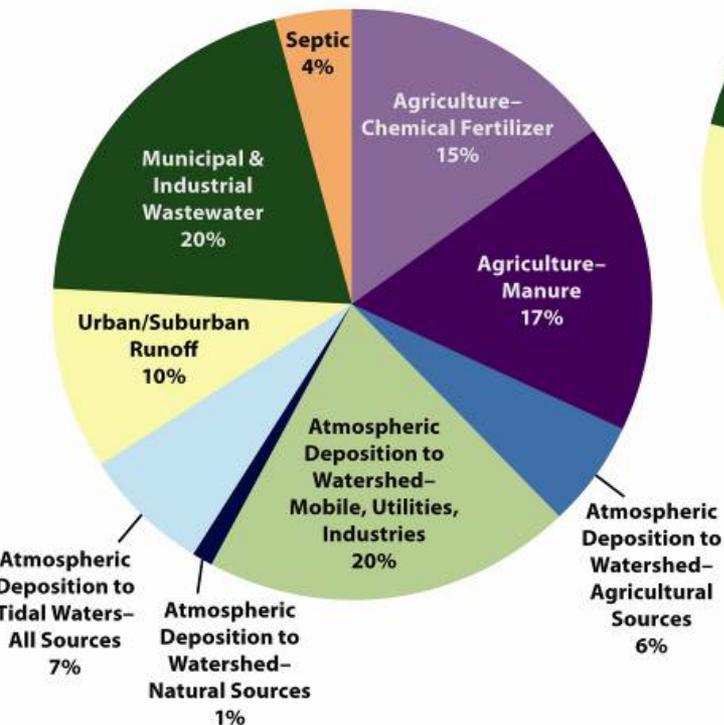
**Identify tidal segment
watershed, county and source
sector target loads**

**States, DC, local governments
& local partners**

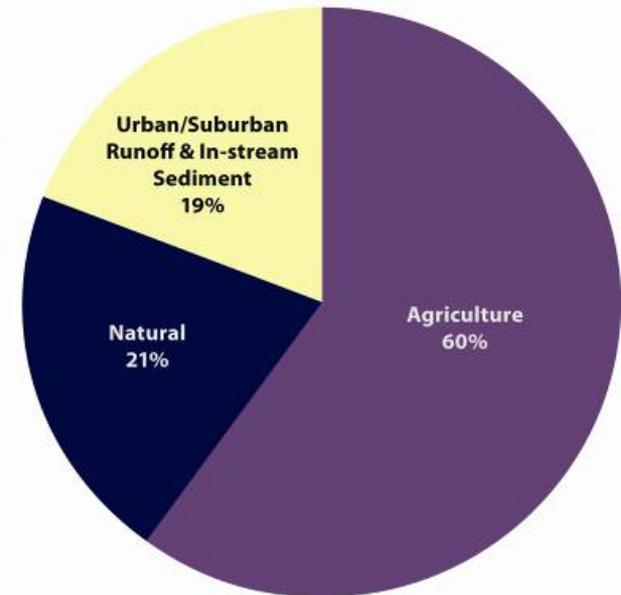
Bay Pollution Sources

Phosphorous

Nitrogen

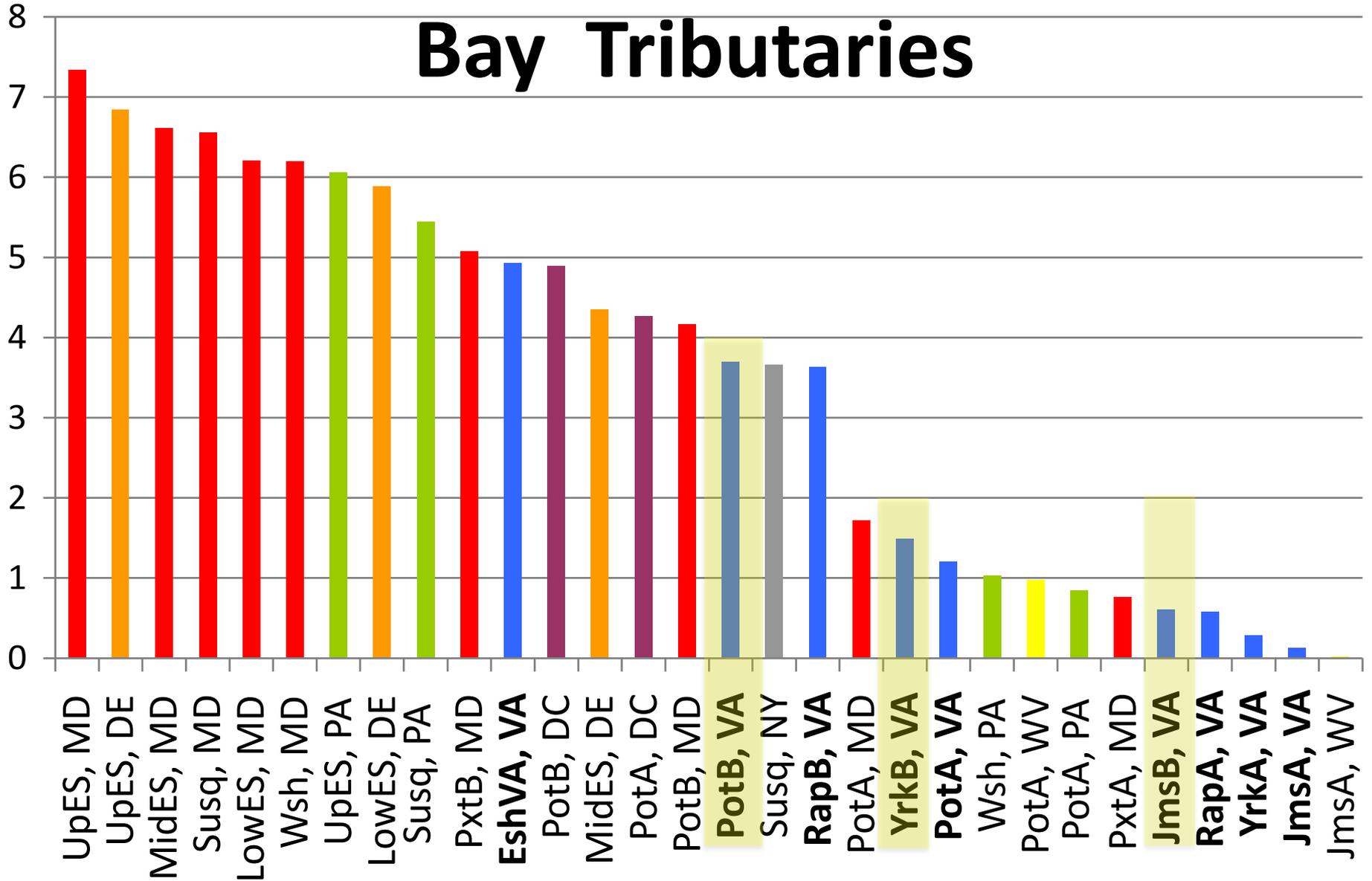


Sediment



Note: Does not include loads from tidal shoreline erosion or the ocean. Urban/suburban runoff loads due to atmospheric deposition are included under atmospheric deposition loads. Wastewater loads based on measured discharges; other loads are based on an average hydrology year using the Chesapeake Bay Program Airshed Model and Watershed Model Phase 4.3 (CBPO, 2009).

Relative Water Quality Impact of Bay Tributaries





Develop Watershed Implementation Plans to identify nutrient and sediment reduction targets by drainage area of impaired tidal segments, county and sector to meet TMDL



Employ EPA Consequences if insufficient commitments in Watershed Implementation Plans or 2-year milestones, or enhancements and reductions behind schedule



Model and Monitor Effectiveness to assess actions, load reduction progress and water quality response



Evaluate Program Capacity* (programmatic, financial, technical) necessary to fully achieve reductions



Establish Chesapeake Bay TMDL

- Set total maximum nutrient and sediment loads
- Wasteload and load allocations by state/DC, drainage area of impaired tidal segments, and sector



Biennial Milestones with specific controls and program enhancements to maintain schedule. Contingencies by state/DC for not achieving milestones



Identify Gaps* between needed reductions and existing program capacity



Identify Schedule* for reducing loads based on description of planned enhancements



*Included in Watershed Implementation plans

October
2009

Major basin
jurisdiction
loading
targets



November-
December
2009

Bay TMDL
Public
Meetings

Load
Allocations



Watershed
Implementation
Plans: November
2009 – March 2010

Program
Capacity/Gap
Evaluation

Chesapeake Bay Watershed Nitrogen Load Allocations										
Bay Segment	State	Nutrient	Agriculture Allocated Load (Bb/yr)	Forest Allocated Load (Bb/yr)	Other NPS Allocated Load (Bb/yr)	Atmospheric Allocated Load (Bb/yr)	Urban/Res./Road Allocated Load (Bb/yr)	PA Gross Load (Bb/yr)	NY Gross Load (Bb/yr)	WV Gross Load (Bb/yr)
POTBH	MD	Nitrogen	1000	500	200	200	200			
POTBH	VA	Nitrogen	500	250	100	150	900			
POTBH	PA	Nitrogen					200			
POTBH	NY	Nitrogen							50	
POTBH	WV	Nitrogen								20

June-
September
2010

Public
Review
And
Comment



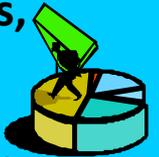
December
2010

Final
TMDL
Established



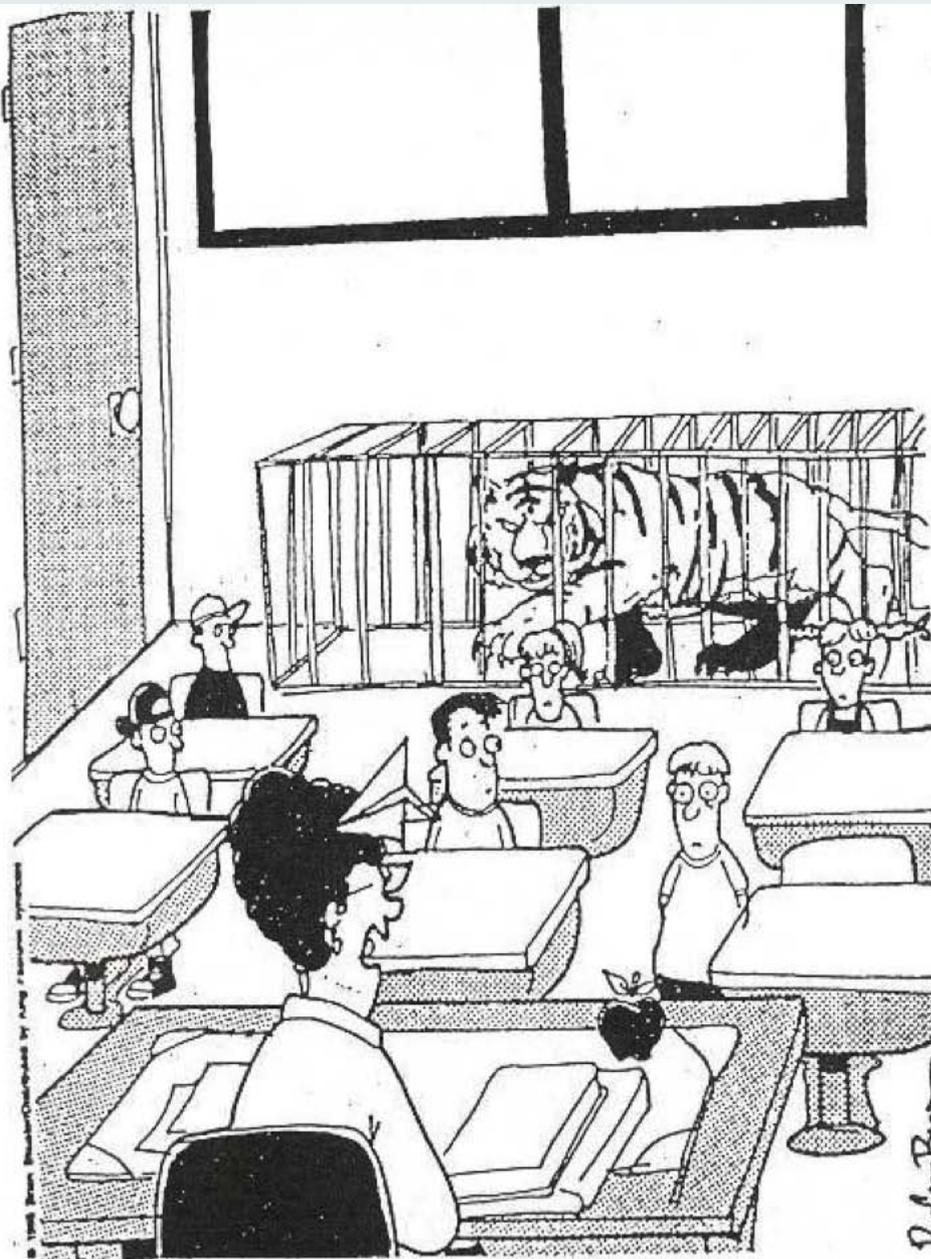
Starting
2011

2-year
milestones,
reporting,
modeling,
monitoring



EPA

Consequences



"Well, Timmy, it looks like you've just earned yourself 10 minutes in the cage with Mr. Whiskers."

Proposed Virginia Stakeholder Process

Two-Pronged Approach

1. Smaller “scoping group” produce strawman of options
2. Larger, more active, Stakeholder Group

PDC Actions

1. Request representation on Virginia's Chesapeake Bay TMDL Stakeholder Group
2. Continue to monitor evolving process