

Chesapeake Bay TMDL Update

Presentation to the Chesapeake Bay and Water Resources
Policy Committee

May 21, 2010



Overview

- Bay TMDL Schedule and Process
- EPA Settlement with CBF
- Moving Toward Final 2010 Nutrient and Sediment Targets
- Summary



Principals' Staff Committee

April 29 – 30, 2010

- EPA reaffirmed the federal – state commitment to establish the Chesapeake Bay TMDL(s) by December 31, 2010
- EPA views the TMDL(s) as a tool to ensure that a “pollution diet” for the Bay and actions to meet it stay on an aggressive pace.

Steps in the TMDL process

Step 1 – Develop
TMDL by
December 2010

- Allocate loads
- Develop Phase I WIPS
- Establish Bay TMDL

Step 2 – 2011

- EPA revises watershed model
- States and the District submit Phase II WIPs

Step 3 – 2017

- States and the District submit Phase III WIPs
- EPA modifies TMDL (if necessary)

Recap of Schedule Changes

About one year ago...

Jurisdictions agree to allocations by October 2009

Draft WIPs due – January 1, 2010

May 2010 – TMDL out for public comment

Comment period – June through September

December 31 – EPA establishes the Bay TMDL

Now

Jurisdictions agree to allocations by July 1, 2010

Draft WIPs due – September 1, 2010

TBA – TMDL out for public comment

Comment period – 30 days

December 31 – EPA establishes the Bay TMDL

CBF-EPA Settlement Preliminary Summary



Settlement Timetable

January 2009 – CBF and partners sue EPA (*Fowler vs. United States of America*)

- Plaintiffs include watermen's associations in MD and VA and four prominent former elected officials
- September 2009 – MAMWA, VAMWA, SWAM and VAMSA successfully petition for intervenor status

January 2010 – April 2010 – settlement discussions with EPA; suit on hold

May 10, 2010 – settlement signed



Settlement Details

By Dec.31, 2010, EPA will issue 92 Bay TMDLs

- Settlement includes a number of details consistent with EPA's development of TMDL to date, e.g. including allocations for new or increased permitted discharges or a provision that any such loads be appropriately offset

Every two years, EPA will review state WIP progress and milestone achievement

- EPA will take “appropriate action” to ensure that the states are making satisfactory WIP progress and achieving their milestones

May 2011 – EPA will announce two-year milestones for federal agency actions

Settlement Details

By Dec. 31, 2017, EPA will review NPDES permits, including:

- Significant WWTPs
- Proposed construction general permits

EPA will issue a “MS4 Stormwater Permitting Approach for the Chesapeake Bay Watershed” that will identify its performance expectations

- Review all new construction general permits drafted by Bay states and make sure they meet federal standards;
- By July 31, 2010 develop a guidance for major municipal stormwater permits in the Bay region; and
- By Nov. 19, 2012, take final action on industrial and municipal stormwater regulations.

By June 1, 2010, EPA will take final action on the NPDES permit for Blue Plains
- Currently, no changes from draft permit are anticipated

EPA will monitor compliance schedules for ENR implementation by significant municipal and industrial wastewater dischargers

Settlement Details

EPA will implement a publicly accessible tracking and accounting system to monitor progress toward WLAs and LAs

By Sept. 30, 2010, EPA will propose new stormwater regulations in the Bay watershed to more effectively achieve Bay TMDL goals and to expand the scope of regulated discharges

- EPA to take final action on these regulations by Nov. 19, 2012

By June 30, 2012, EPA will propose new CAFO regulations to more effectively achieve Bay TMDL goals and to increase the number of farms subject to these regulations

- EPA to take final action on these regulations by June 30, 2014

EPA will require an allocation for air deposition of nitrogen from the states in the Bay TMDL, so that some portion of the total nitrogen budget will be attributed to air pollution.



Settlement Details

A number of other required actions

- For example, EPA to develop a model state program for reducing discharges from septic systems

Agreement terminates on Dec. 31, 2017 (mid-point of proposed TMDL process by which 60% of progress toward WLAs and LAs is to be achieved)

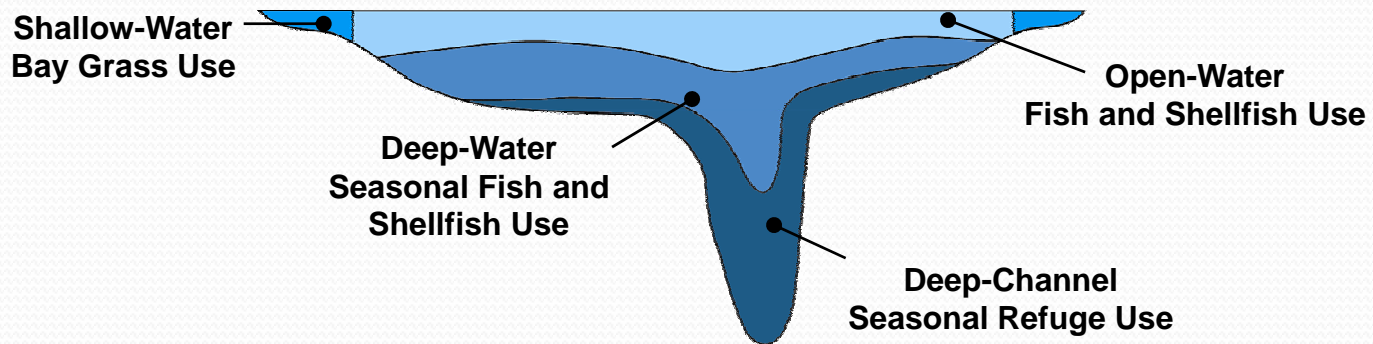
If disputes arise, plaintiffs reserve right to re-introduce original lawsuit

Moving Toward Final 2010 Nutrient and Sediment Loads



Refined Designated Uses for Chesapeake Bay and Tidal Tributary Waters

A. Cross Section of Chesapeake Bay or Tidal Tributary



B. Oblique View of the "Chesapeake Bay" and its Tidal Tributaries

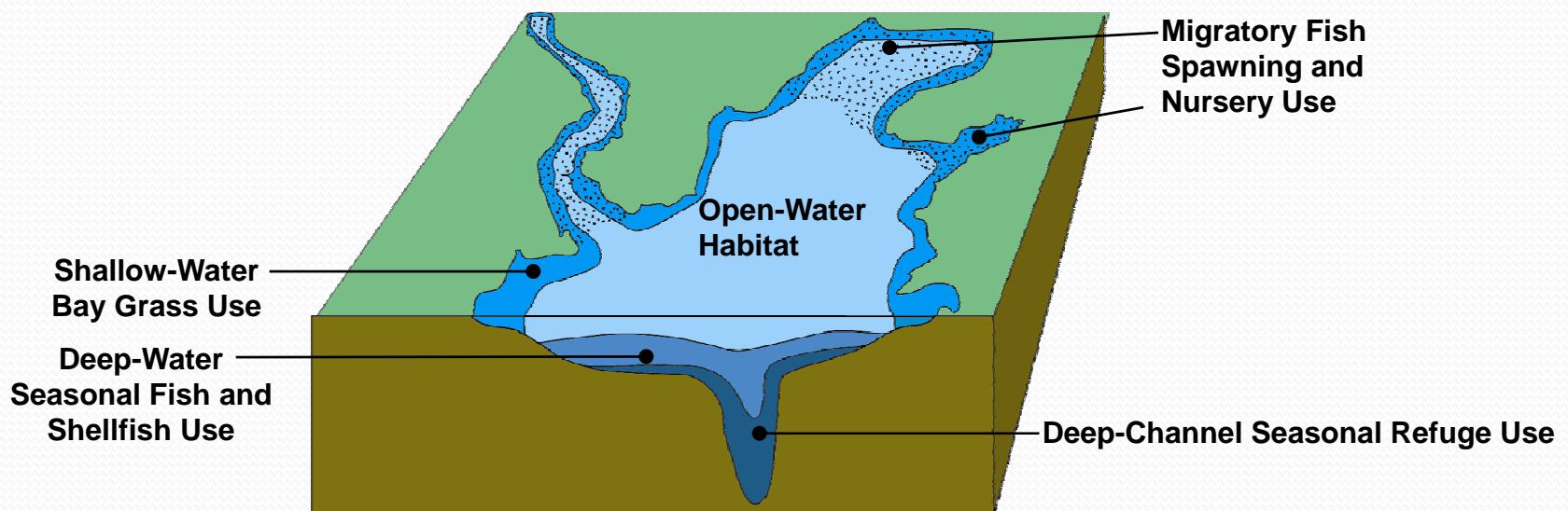
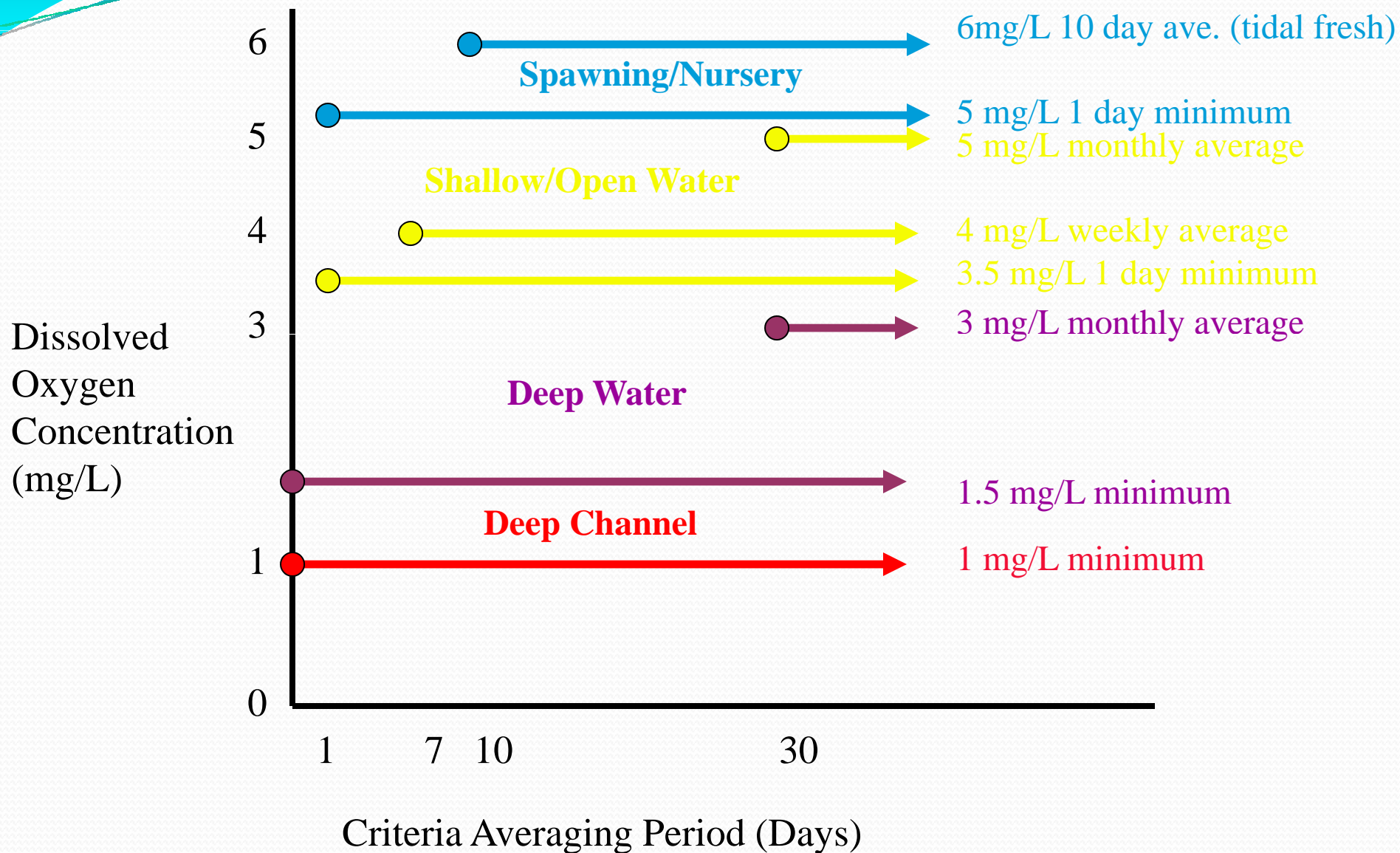


Illustration of Chesapeake Bay Dissolved Oxygen Criteria





A few key points

The Bay Program is developing new information every week, so these results are likely to change.

We need to achieve all water quality standards in the Chesapeake Bay and tidal tributaries.

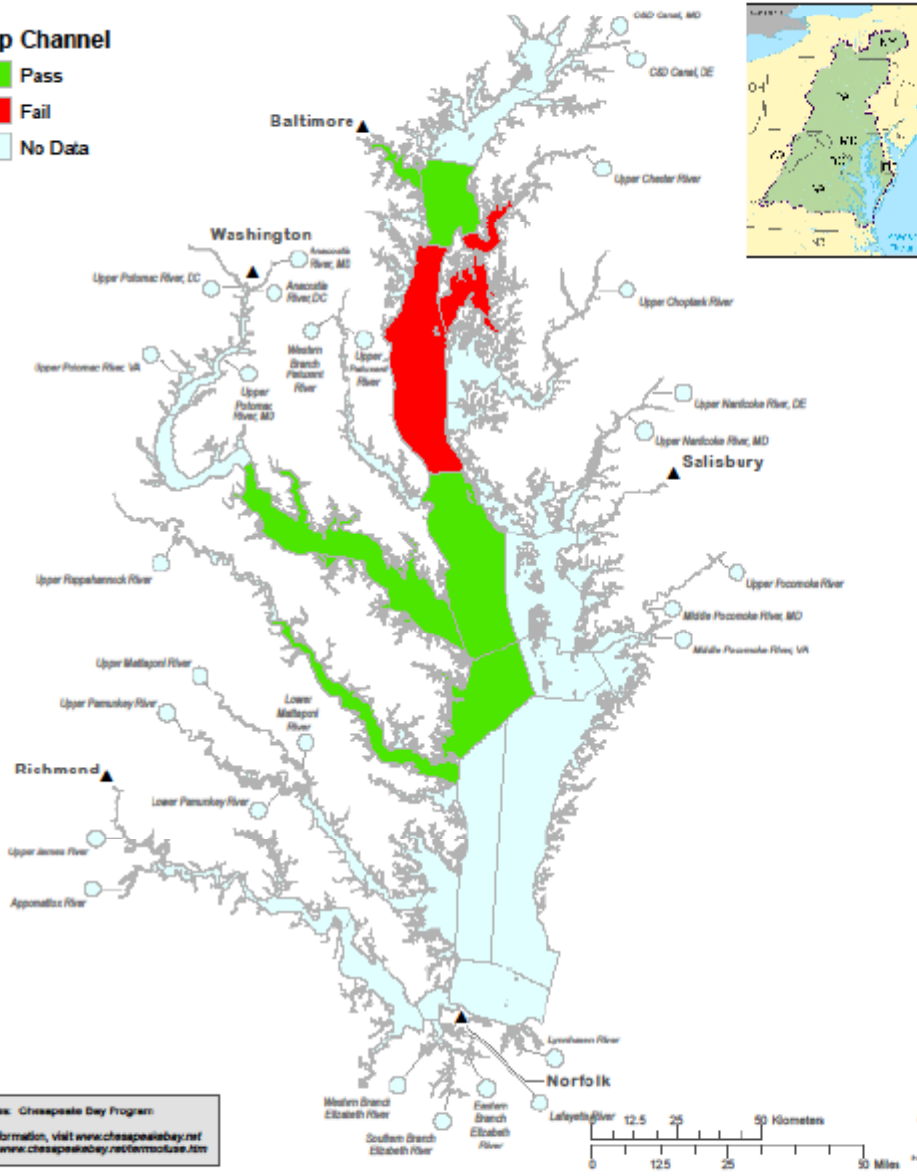
In general, nutrient reductions needed to attain WQS are consistent with the 2003 nutrient allocation:

- Deep Water and Deep Channel designated use attainment will require global reductions.
- Open Water, Chlorophyll, and Clarity designated uses respond more to local reductions.
- A limited number of the 92 TMDL segments will need to go beyond E₃
- E₃ Scenario assumes maximum technically feasible with no aspect of cost feasibility and limited notions of 'implementation' feasibility. Critical for point sources.

Attainment Status, Draft Target Load Scenario (200 TN, 15TP)
Critical Period 1993-1995



Deep Channel
Pass
Fail
No Data



Data Sources: Chesapeake Bay Program
For more information, visit www.chesapeakebay.net
Disclaimer: www.chesapeakebay.net/termsuse.htm

Created by HW, 4/27/10

UTM Zone 18N, NAD 83

Deep-Channel Use Dissolved Oxygen at Current Target Loads

(200 TN, 15 TP+ 15.7 air
allocation)

- Non-attainment in 3 segments (>1%)
 - CB4 (2%)
 - Lower Chester (14%)
 - Eastern Bay (4%)
- Reaching attainment will require further reductions in nutrient loads from larger Bay watershed

Potomac River Clarity and SAV assessment

- Potomac mesohaline and oligohaline segments are meeting the respective clarity standards.
- Some Potomac tidal fresh segments are not meeting the clarity standard, but existing SAV acres should result in attainment.

CB SEG.	State	91-'00	2007	Target		91-'00	2007	Target		91-'00	2007	Target
		Base '91-93	Scenario '91-93	Load '91-93		Base 92-43	Scenario 92-43	Load 92-43		Base 93-95	Scenario 93-95	Load 93-95
POMMH	MD	0.00%	0.00%	0.00%		0.00%	0.00%	0.00%		0.00%	0.00%	0.00%
POVMH	VA	0.00%	0.00%	0.00%		0.00%	0.00%	0.00%		0.00%	0.00%	0.00%
PO1OH	MD	0.00%	0.00%	0.00%		0.00%	0.00%	0.00%		0.00%	0.00%	0.00%
PO2OH	MD	0.00%	0.00%	0.00%		0.00%	0.00%	0.00%		0.00%	0.00%	0.00%
PO3OH	MD	0.00%	0.00%	0.00%		0.00%	0.00%	0.00%		0.00%	0.00%	0.00%
POVOH	VA	0.00%	0.00%	0.00%		0.00%	0.00%	0.00%		0.00%	0.00%	0.00%
DCPTF	DC	54.04%	35.12%	28.38%		54.04%	31.70%	26.25%		42.12%	30.13%	21.76%
MDPTF	MD	66.43%	54.94%	42.54%		70.72%	52.70%	40.24%		71.27%	50.64%	40.24%
POVTF	VA	22.34%	0.00%	0.00%		22.34%	0.00%	0.00%		24.17%	1.68%	0.00%



Again, of the Phase 5.3 Scenarios Run So Far On the WQSTM the Phase 5.1 and 5.3 Calibration Results Look Much the Same For James Chlorophyll

Spring Chlorophyll Response

Cbseg	Scenario→	P51	P53	2007 (P53)	Target Load (P53)	P51	P53	2007 (P53)	Target Load (P53)	P51	P53	2007 (P53)	Target Load (P53)
	Year →	'91-'93	'91-'93	'91-'93	'91-'93	'92-'94	'92-'94	'92-'94	'92-'94	'93-'95	'93-'95	'93-'95	'93-'95
	State	CL Spring Seasonal	CL Spring Seasonal	CL Spring Seasonal	CL Spring Seasonal	CL Spring Seasonal	CL Spring Seasonal	CL Spring Seasonal	CL Spring Seasonal	CL Spring Seasonal	CL Spring Seasonal	CL Spring Seasonal	CL Spring Seasonal
DCATF	DC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
DCPTF	DC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
JMSTFL	VA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.0%	5.6%	5.7%	3.7%
JMSTFU	VA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
JMSOH	VA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
JMSMH	VA	29.6%	29.6%	19.5%	2.1%	5.3%	5.3%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%
JMSPH	VA	21.8%	19.8%	0.9%	0.0%	0.0%	5.4%	0.9%	0.0%	0.0%	5.4%	0.9%	0.0%

Summer Chlorophyll Response

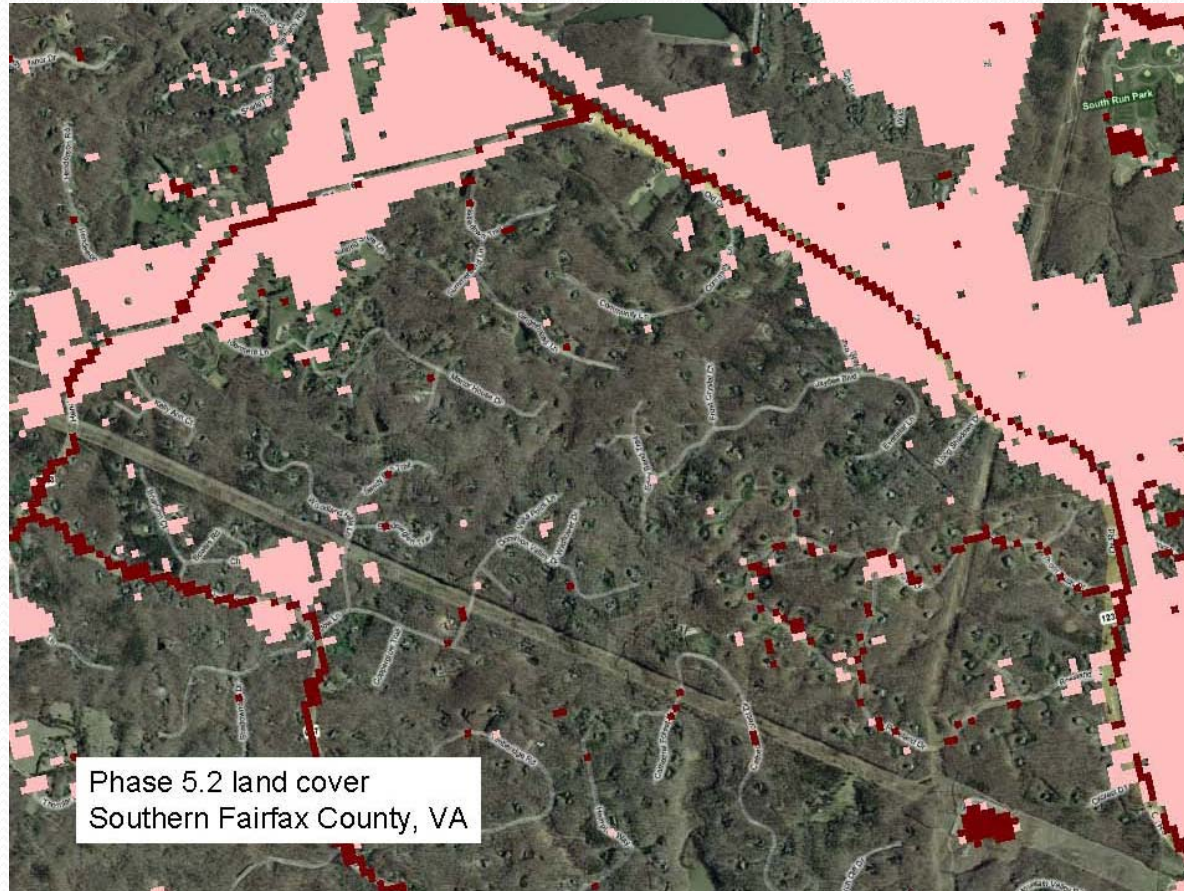
Cbseg	Scenario→	P51	P53	2007 (P53)	Target Load (P53)	P51	P53	2007 (P53)	Target Load (P53)	P51	P53	2007 (P53)	Target Load (P53)
	Year →	'91-'93	'91-'93	'91-'93	'91-'93	'92-'94	'92-'94	'92-'94	'92-'94	'93-'95	'93-'95	'93-'95	'93-'95
	State	CL Summer Seasonal	CL Summer Seasonal	CL Summer Seasonal	CL Summer Seasonal	CL Summer Seasonal	CL Summer Seasonal	CL Summer Seasonal	CL Summer Seasonal	CL Summer Seasonal	CL Summer Seasonal	CL Summer Seasonal	CL Summer Seasonal
DCATF	DC	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData	NoData
DCPTF	DC	9.3%	9.3%	2.8%	0.0%	9.3%	9.3%	2.8%	21.8%	33.6%	33.6%	27.1%	46.1%
JMSTFL	VA	35.6%	35.1%	0.0%	0.0%	36.4%	36.2%	0.0%	0.0%	28.6%	20.2%	0.0%	0.0%
JMSTFU	VA	22.2%	22.3%	10.3%	6.3%	21.7%	21.7%	7.5%	5.3%	17.1%	17.1%	7.5%	5.3%
JMSOH	VA	3.3%	0.0%	0.0%	0.0%	3.3%	0.0%	0.0%	0.0%	3.3%	0.0%	0.0%	0.0%
JMSMH	VA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
JMSPH	VA	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.7%	0.0%	0.0%

Watershed Model Changes

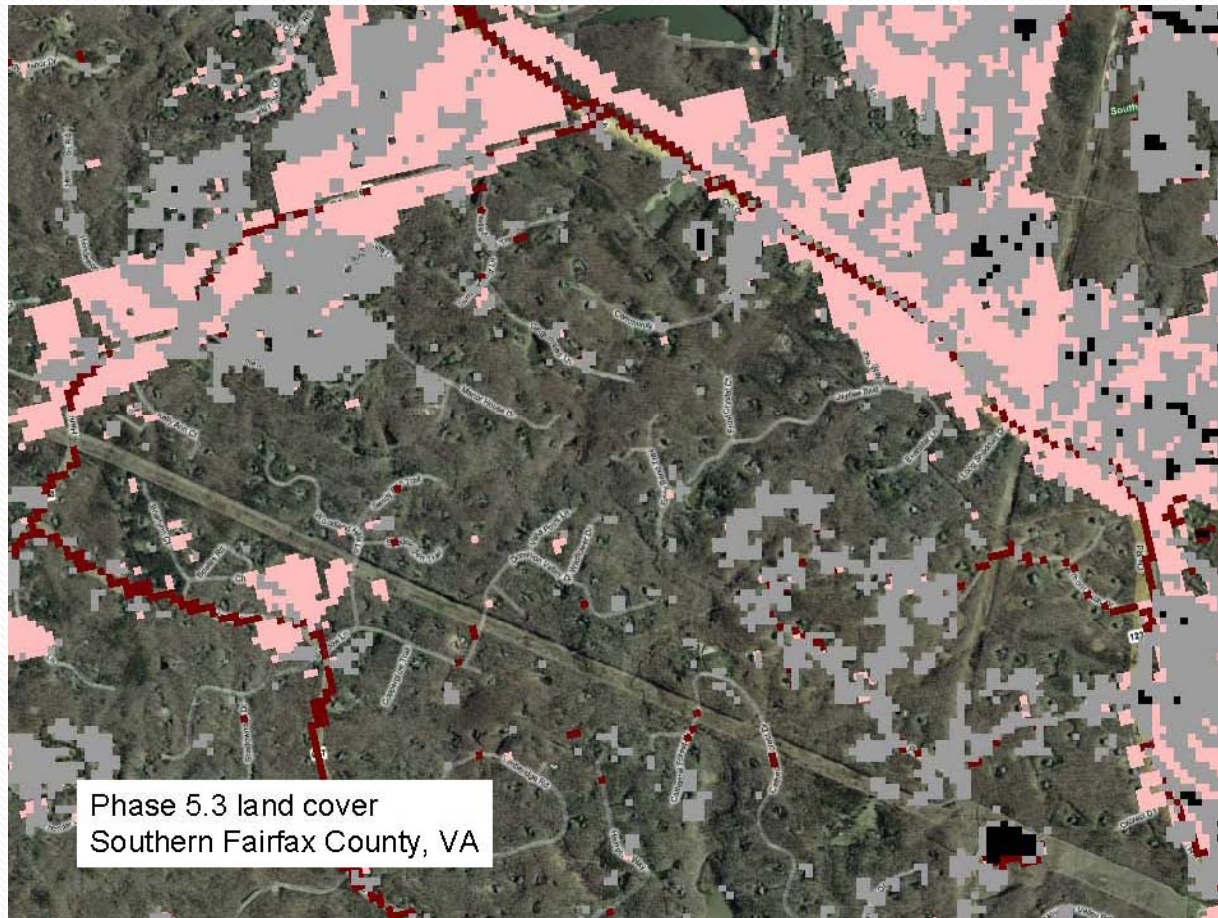
- Major changes are being planned to the watershed model, which drives load allocations.
 - Agricultural nutrient management
 - Manure transport
 - Excess manure
 - Urban land use

Model Version	Impervious Surface (acres)	Pervious Surface (acres)
Phase 5.2 (2002)	799,989	3,591,799
Phase 5.3 (2002)	675,917	1,885,935
Phase 5.3mod (2001)	1,651,682	6,532,401

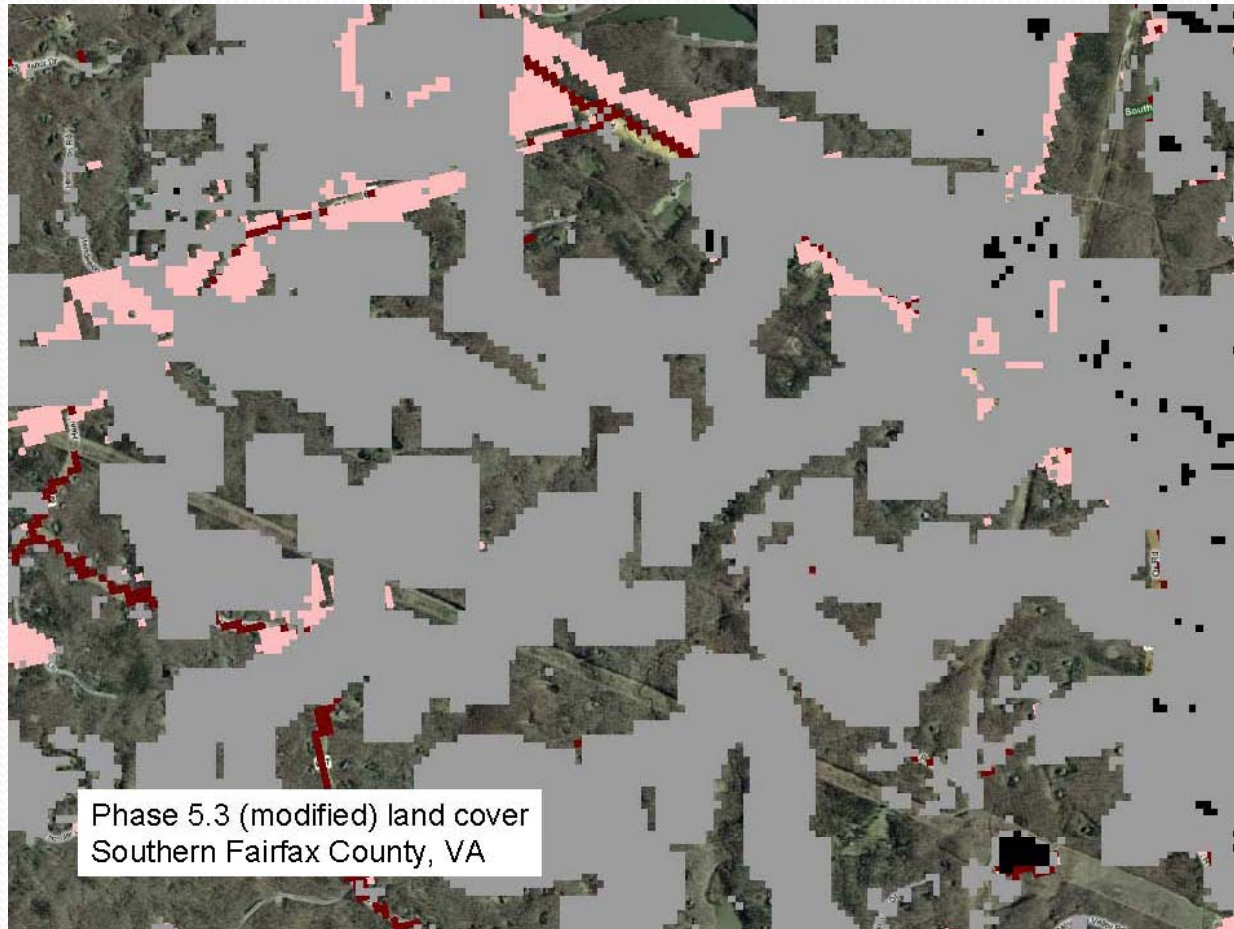
Watershed Model Land Use Adjustments



Watershed Model Land Use Adjustments



Watershed Model Land Use Adjustments



In summary

The TMDL schedule is highly compressed.

- The new 30- (or 45-) day public comment period for the TMDL is insufficient.
- EPA delays in producing reliable model output has prevented state and local governments from assessing the implications of the TMDL.

There has been inadequate time to review and comment on key model assumptions.

- Changes in land use
- Nutrient management
- Definition of E₃

The tools EPA promised for better outside review of the model have not been developed.

- Model scenarios can only be established by the Bay Program.
- Tools for local governments to develop and assess their own scenarios are years away.

We are concerned about the EPA approach to TMDL development.

- Establish TMDL load allocations with one set of (admittedly flawed) modeling assumptions; and
- Then revise them with a revised set of modeling assumptions in the next year.
- No consideration of cost-effectiveness or affordability.

**Any questions about the
schedule, settlement, or
nutrient and sediment
loads?**