Chesapeake Bay
EPA TMDLs & State WIPs:
Implications for Local Governments

Presentation to
Water Resources Technical Committee
November 12, 2010

Metropolitan Washington
Council of Governments

Today's Focus

- Staff Overview
  - TDMLs & WIPs – Schedules & Key Features
  - Comments - Common Themes
- WRTC Discussion
  - Additional Questions/Info. Needs as WIPs Revised?
  - Outreach to Local Govt. Elected Officials – WRTC Input
  - Nutrient & Sediment Trading – Viable Options for COG Region?

Schedule for Bay TMDLs & WIPs

2010

- July 1, 2010 – EPA issued Draft TMDL Allocations
- September 1 - States/District issued Phase I WIPs
- September 24 - EPA issued Draft Bay TMDLs
  - October 4 – COG Special Sessions for WRTC & CBPC
  - October 13 – COG Board Meeting
- September 24 – November 8 – Public Comment Period (for TMDLs & WIPs) [COG Comments Submitted to EPA & MD/VA]
- November 29 – States/DC Submit Final Phase I WIPs
- December 31 – EPA Issues Final Bay TMDLs in Federal Register

Schedule for Bay TMDLs & WIPs

2011

- June 1 – States/DC to submit Draft Phase II WIPs **[Deadline could be modified]**
  - Loads to be sub-allocated to local (county) level – MD actually plans to have county liaisons
- November 1 – States/DC submit Final Phase II WIPs
- December - EPA to potentially revised TMDLs - Based on refined Watershed Model (WSM)
- December 31 – Bay States must complete first set of 2-Year Milestones

2017

- Phase III WIPs to be Submitted – Draft by June 1, Final by November 1
- EPA to assess implementation progress
  - 60% of WIP Implementation to be Achieved & Ensure practices in place to achieve 2025 goal
- EPA to determine **whether** to use WSM updates for WIPs & revised TMDL – **and Revise TMDL if necessary**

2020

- Maryland expects to achieve 100% WIP Implementation

2025

- 100% of WIP Implementation to be Achieved Bay-wide

Key Features of Bay TMDLs

- **Draft Allocations**
  - By State/District (e.g., Maryland, Virginia, District)
  - Major Tributary Basins (i.e., Potomac River)
  - Same as the Target Load Allocations (issued 7/1/10)
  - Includes EPA obligations for explicit Nitrogen Reductions
    - Based on implementation of federal air regulations
  - 5% Temporary Reserve – Set-aside load defined for each State/District
    - Purpose is to ensure that loads are set-aside in case WSM updates (~2017) indicate additional load reductions are required
- **Reasonable Assurance & Accountability Framework**
  - Includes 2-Year Milestone reporting – Dec. 31, 2011 (1st set completed)
  - Potential for additional federal action

Key Features of Bay TMDLs

- **Margin of Safety**
  - Assumed to be implicit given models, water quality standards, & other TMDL assumptions
- **Growth**
  - Not accounted for beyond 2010 – except for wastewater plant permitted capacity
  - Up to States/District to define how growth is to be addressed in WIPs
- **Air Deposition**
  - 15.7 Mlb to be achieved by 2020 due to federal regulations - EPA responsibility
  - Recent air quality regulations & newer modeling of controls are NOT accounted for (noted at Sept. 28th state air quality meeting w/ EPA)
    - Not sure of actual impact to loads, but need to pursue/further evaluate implications

Key Features of Bay TMDLs

- **Climate Change**
  - To be addressed formally in 2017 reassessment
- **Federal Lands**
  - Only 5% Bay-wide (but 30% in District)
  - Federal commitments cited in President's Executive Order (but is it occurring?)
- **Recognition of Need for Offsets, Support for Water Quality Trading**
  - **Applicability to COG Region?**
  - **What options/scenarios are likely?**
- **Future Modifications -** Adaptive Management / Phased Approach
  - But, only two options noted that might result in changes in TMDLs:
    - 'State' exchanges of loads across tributaries – if local & Bay water quality standards still met
    - Modifications of Watershed Model Phase 5.3 – if required
- Changes in Modeling Assumptions - IF supported by Monitoring Data
  - Susquehanna River Dam (sediments)
  - Filter Feeders

Draft TMDL Allocations - by State/Major Tributary Basins

Notes:

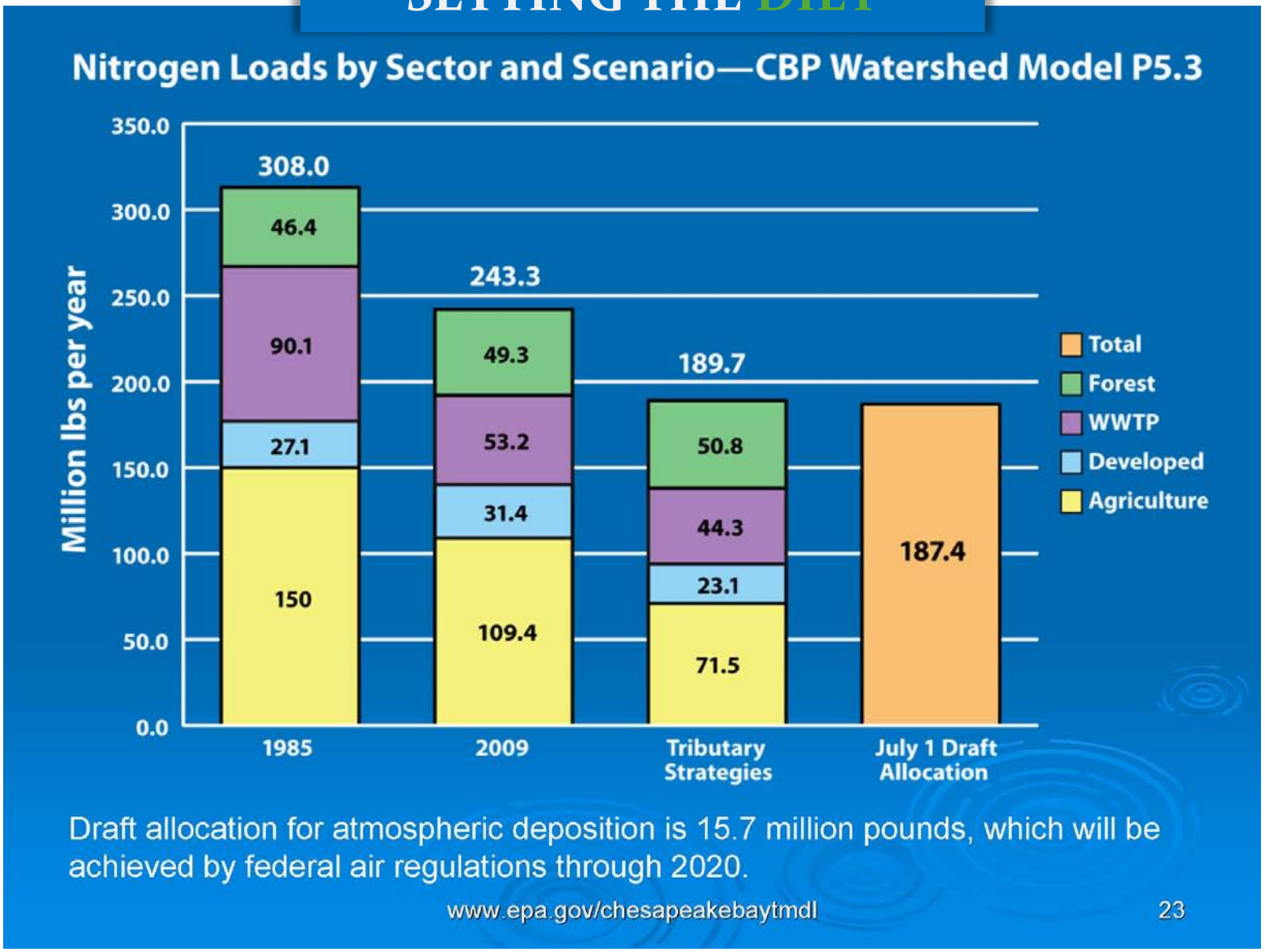
1) *Loads are same as Target Loads (7/1/10);*
2) *This table does NOT include the 5% Temporary Reserve Loads set-aside for each State;*
3) *Loads are further sub-allocated to all 92 tidal segments; and*
4) *~24-25 segments apply to COG region.*

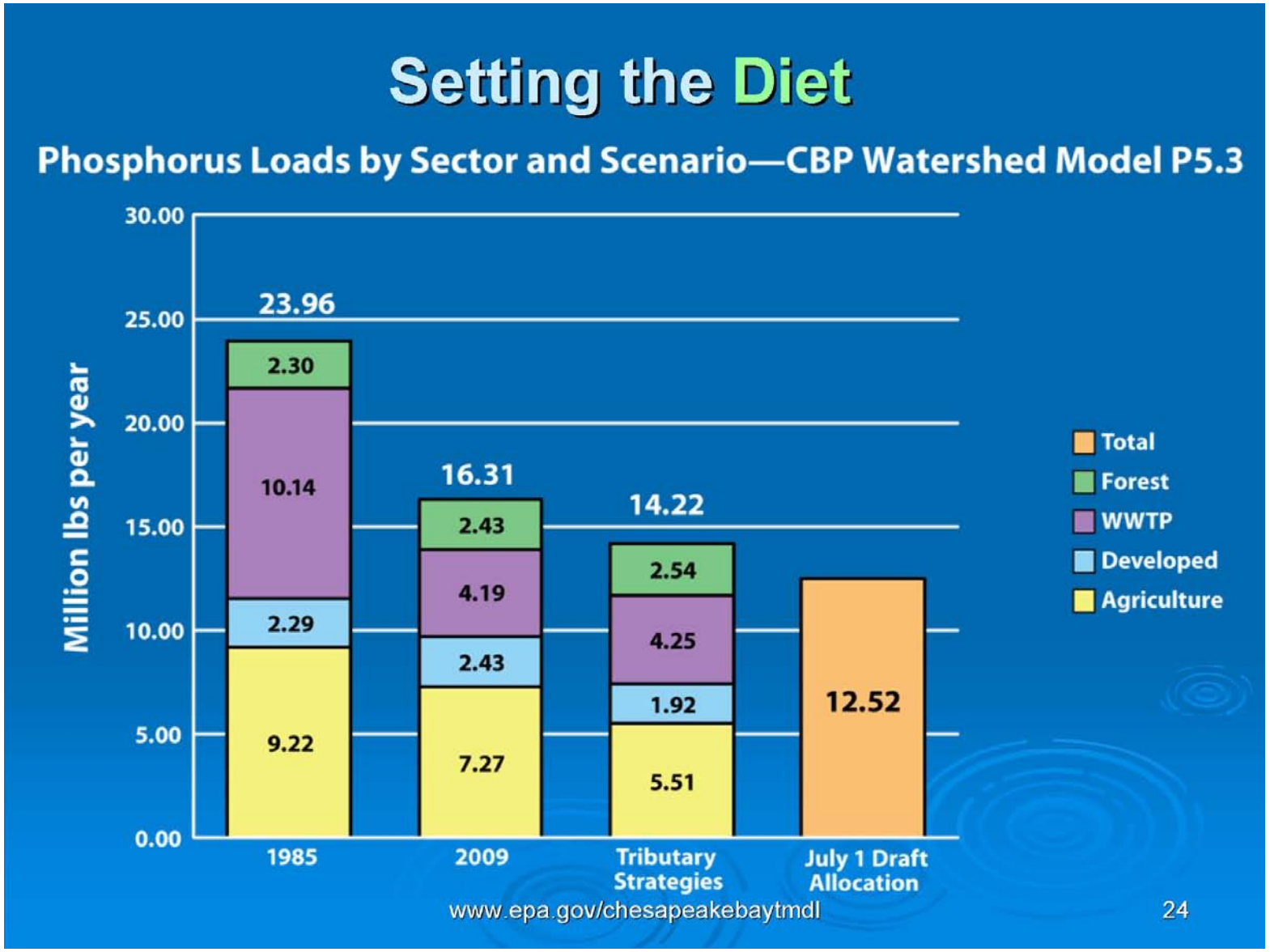
Table ES-1. Chesapeake Bay TMDL watershed nutrient and sediment draft allocations by jurisdiction and by major river basin [proposed standards]

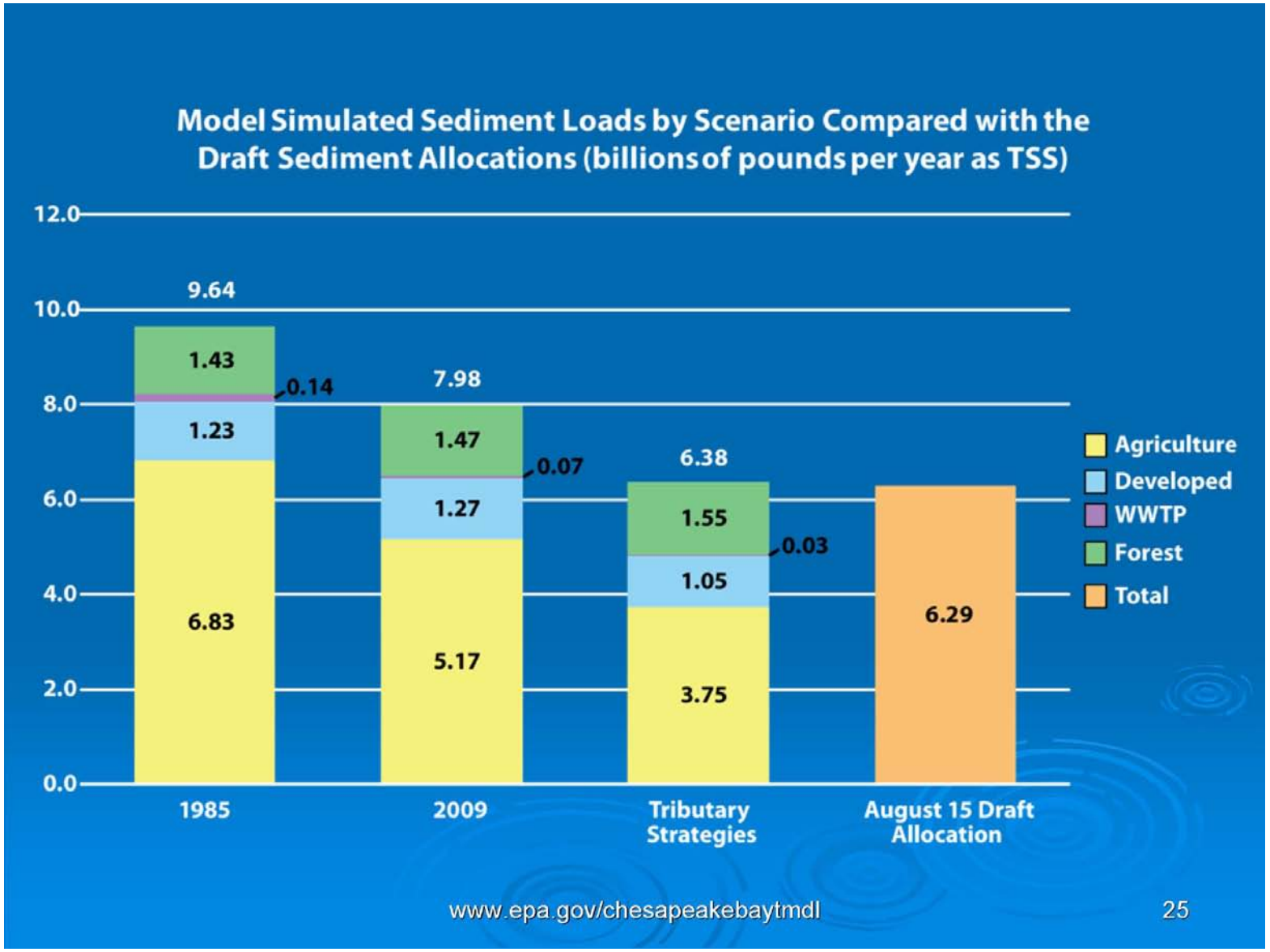
Jurisdiction	Basin	Nitrogen draft allocations (million lbs/year)	Phosphorus draft allocations (million lbs/year)	Sediment draft allocations (million lbs/year)
Pennsylvania	Susquehanna	71.74	2.31	1,758.20
	Potomac	4.72	0.42	233.93
	Eastern Shore	0.28	0.01	21.12
	Western Shore	0.02	0.001	0.37
	PA Total	76.77	2.74	2,013.62
Maryland	Susquehanna	1.08	0.05	62.94
	Eastern Shore	9.71	1.09	169.70
	Western Shore	9.74	0.46	170.38
	Patuxent	2.85	0.21	90.12
	Potomac	15.70	0.90	682.33
	MD Total	39.09	2.72	1,175.47
Virginia	Eastern Shore	1.21	0.16	10.91
	Potomac	17.46	1.47	810.07
	Rappahannock	5.84	0.90	688.51
	York	5.41	0.54	107.09
	James	23.48	2.34	852.77
	VA Total	53.40	5.41	2,469.35
District of Columbia	Potomac	2.32	0.12	11.16
	DC Total	2.32	0.12	11.16
New York	Susquehanna	8.23	0.52	292.96
	NY Total	8.23	0.52	292.96
Delaware	Eastern Shore	2.95	0.26	57.82
	DE Total	2.95	0.26	57.82
West Virginia	Potomac	4.67	0.74	248.11
	James	0.02	0.01	16.65
	WV Total	4.68	0.75	264.76
Total Basin/Jurisdiction Draft Allocation		187.44	12.52	6,285.14
Atmospheric Deposition Draft Allocation		15.70	--	--
Total Basinwide Draft Allocation		203.14	12.52	6,285.14

a. Cap on atmospheric deposition loads direct to Chesapeake Bay and tidal tributary surface waters to be achieved by federal air regulations through 2020.

SETTING THE DIET




Setting the Diet
Phosphorus Loads by Sector and Scenario—CBP Watershed Model P5.3
Million lbs per year
30.00
25.00
20.00
15.00
10.00
5.00
0.00
23.96
2.30
10.14
2.29
9.22
16.31
2.43
4.19
2.43
7.27
14.22
2.54
4.25
1.92
5.51
12.52
1985
2009
Tributary Strategies
July 1 Draft Allocation
Total
Forest
WWTP
Developed
Agriculture
www.epa.gov/chesapeakebaytmdl
24


Model Simulated Sediment Loads by Scenario Compared with the Draft Sediment Allocations (billions of pounds per year as TSS)
12.0
10.0
8.0
6.0
4.0
2.0
0.0
9.64
1.43
0.14
1.23
6.83
7.98
1.47
0.07
1.27
5.17
6.38
1.55
0.03
1.05
3.75
6.29
1985
2009
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August 15 Draft Allocation
Agriculture
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WWTP
Forest
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www.epa.gov/chesapeakebaytmdl
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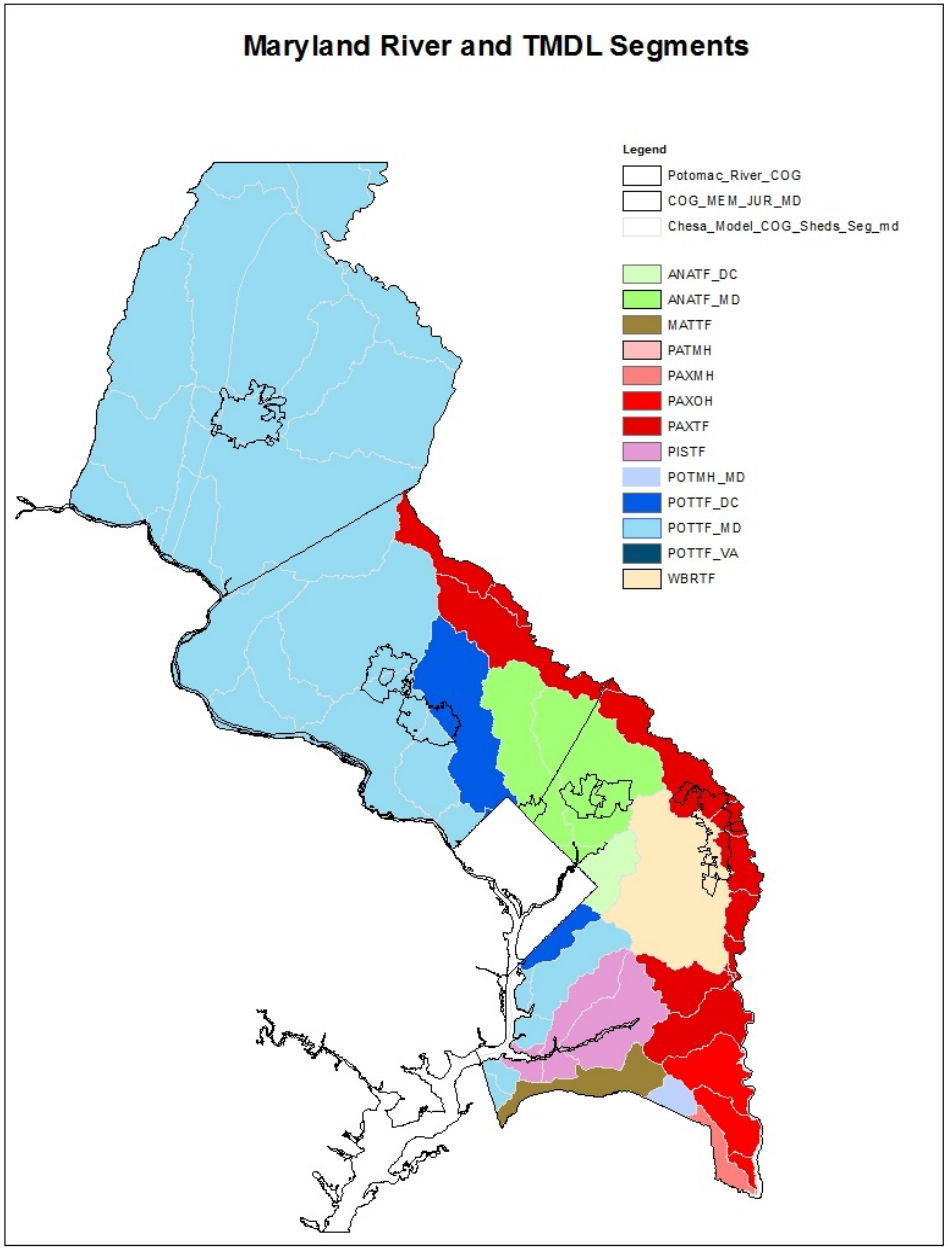
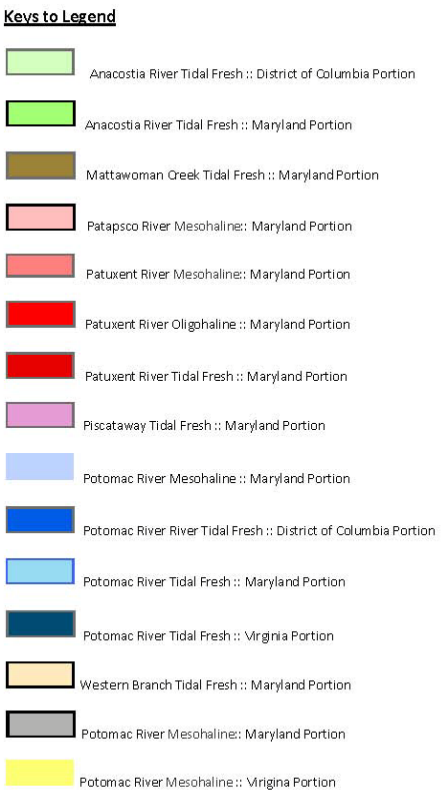
Segment-sheds in COG region

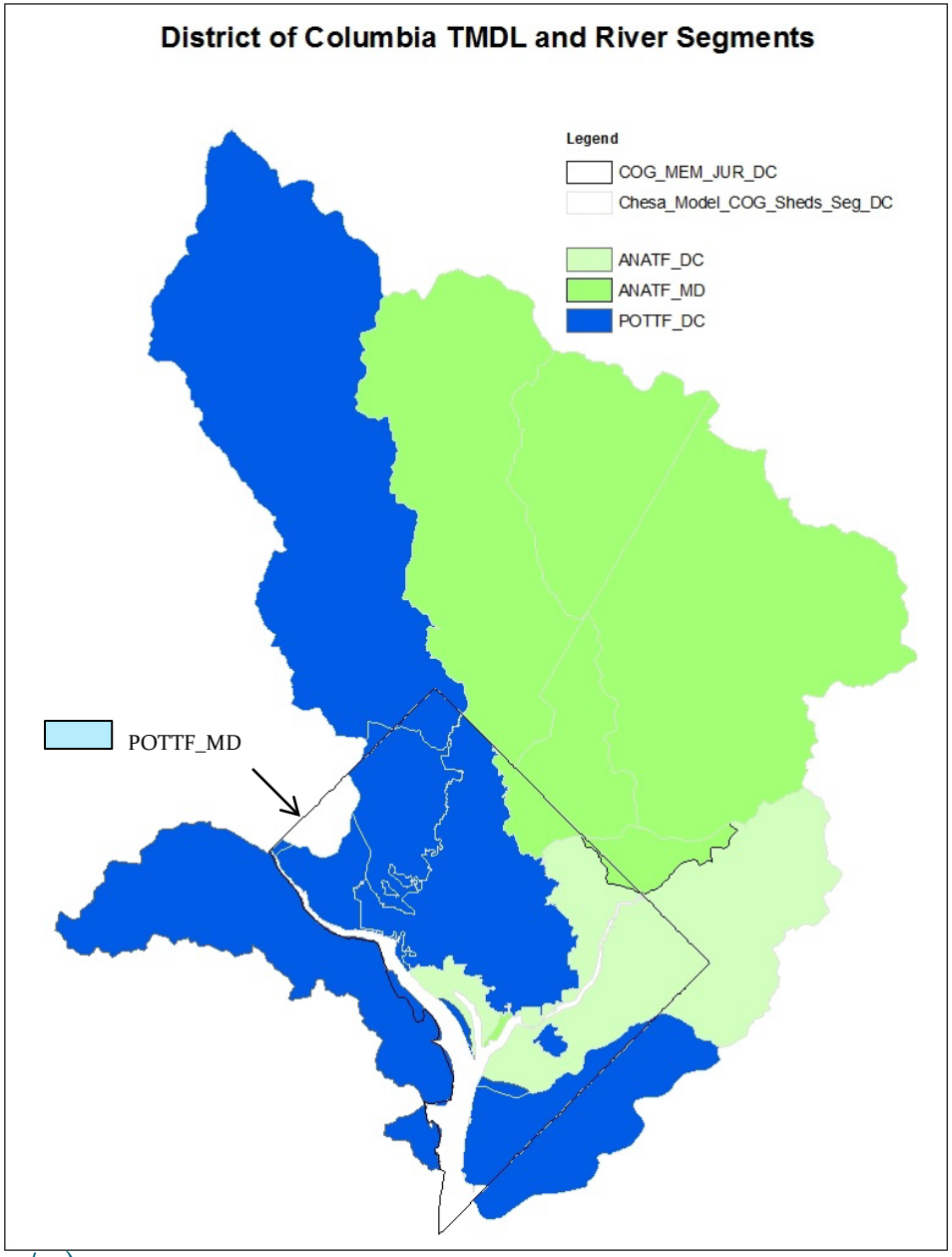
Keys to Legend

- Anacostia River Tidal Fresh :: District of Columbia Portion
- Anacostia River Tidal Fresh :: Maryland Portion
- Mattawoman Creek Tidal Fresh :: Maryland Portion
- Patapsco River Mesohaline:: Maryland Portion
- Patuxent River Mesohaline:: Maryland Portion
- Patuxent River Oligohaline :: Maryland Portion
- Patuxent River Tidal Fresh :: Maryland Portion
- Piscataway Tidal Fresh :: Maryland Portion
- Potomac River Mesohaline :: Maryland Portion
- Potomac River River Tidal Fresh :: District of Columbia Portion
- Potomac River Tidal Fresh :: Maryland Portion
- Potomac River Tidal Fresh :: Virginia Portion
- Western Branch Tidal Fresh :: Maryland Portion
- Potomac River Mesohaline:: Maryland Portion
- Potomac River Mesohaline :: Virigina Portion



Segment-sheds in COG region





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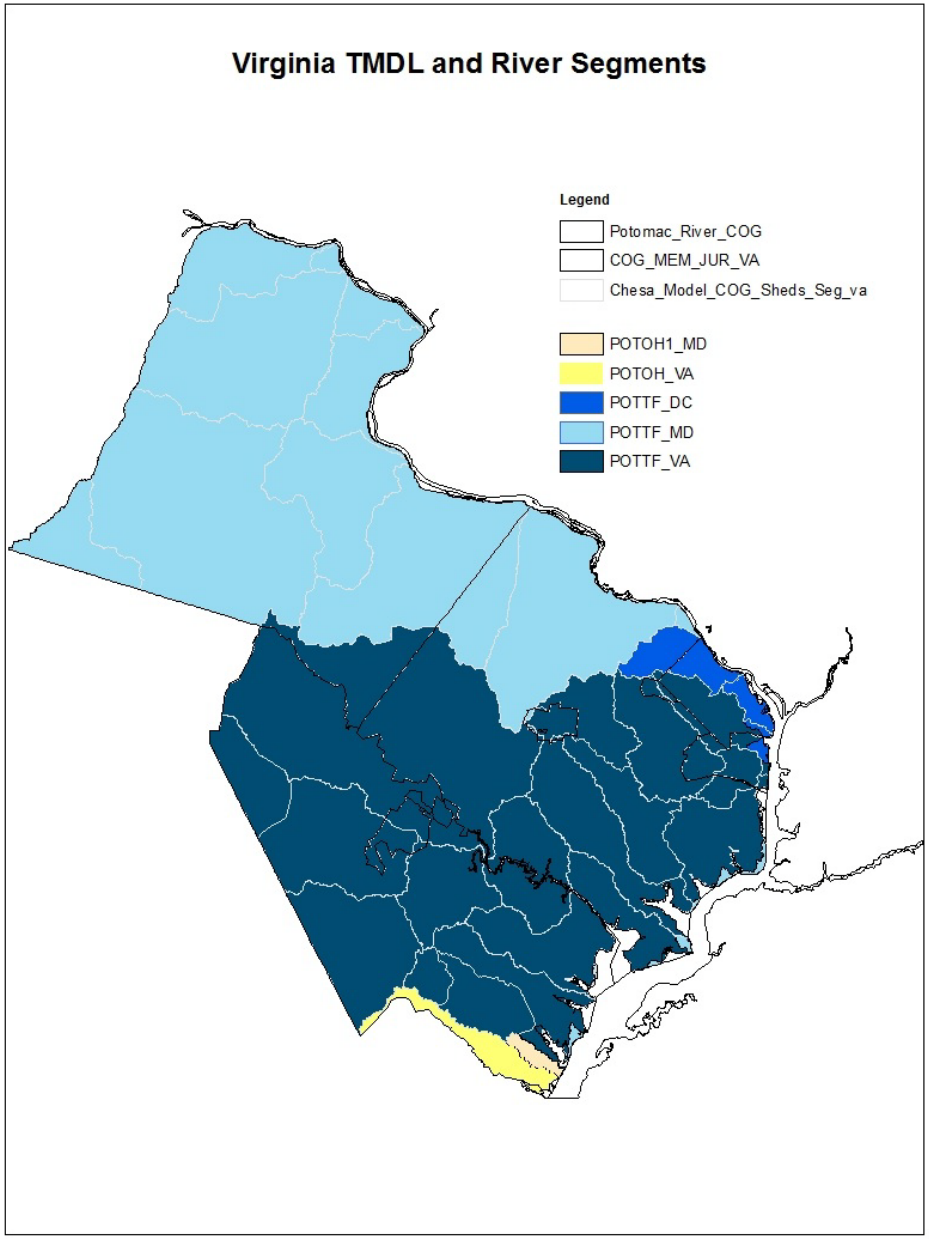


Segment-sheds – COG Region

- Defined by impaired water-segments and its contributing watersheds
- TMDLs defined for each segment-shed
- Counties/District generally have multiple segment-sheds, e.g.,
  - District (4)
  - Montgomery (5)
  - Prince George's (7)

Segment-sheds	DC	MD	VA
ANATF_DC	X	X	
ANATF_MD	X	X	
POTTF_DC	X	X	X
POTTF_MD	X	X	X
POTTF_VA		X	X

Bay TMDL – WIP Evaluation

- EPA evaluated WIPs
  - Achieve targets?
  - Provide "reasonable assurance"?
- Overall assessment – WIPs not adequate *****
  - Often don't meet targets
  - Inadequate gap strategies, limited enforceability/accountability, few dates for action, etc.
- Federal 'Backstops' *****
  - IF Final Phase I WIPs are not strengthened
  - For which federal regulatory authority exists

[Final Phase I versus Draft/Final Phase II WIPs]

Comments - Common Themes

- EPA has failed to:
  - Adequately engage affected entities
  - Underestimated financial burdens & hence feasibility
  - Set unrealistic implementation schedule (i.e., for 2017 and for 2025)
  - Failed to allow sufficient time for input/comment
  - Not provided sufficient details to assess actual responsibilities & impacts
- Technical basis is flawed
  - Watershed model (WSM) assumptions & loads
    - Percent impervious assumptions, land cover data – not valid
    - Tables not clear & all loads Not accounted for (CSOs, errors for various WWTPs, practices missing, etc.)
  - WSM fails to incorporate/credit all practices (Ag & Urban)
  - Not all proposed practices are appropriate/feasible

Comments - Common Themes

- Unreasonable/Inappropriate
  - Seeks to control growth and local/state prerogatives
  - Exceeds EPA's regulatory authority or assumes where no authority exists
    - (e.g., SW – maximum extent feasible vs. proposed levels of effort)
  - EPA shouldn't be issuing the TMDL (states should)
  - EPA has no implementation authority
  - May not be appropriate as a 'national model'
- Cannot impose automatically federal 'Backstop Measures' (& some not w/in EPA's authority)
- Must assess cost/financial burden given scale/scope/impacts
  - Unaffordable, costs to implement (esp. SW & Ag) much higher than assumed (based on attempts to quantify costs)
- Must ensure that flexibility (adaptive management) is used
- Must ensure that Water Quality Trading is viable
- Must allow sufficient time for input (e.g., **extend Phase II WIP deadline)**

Next Steps

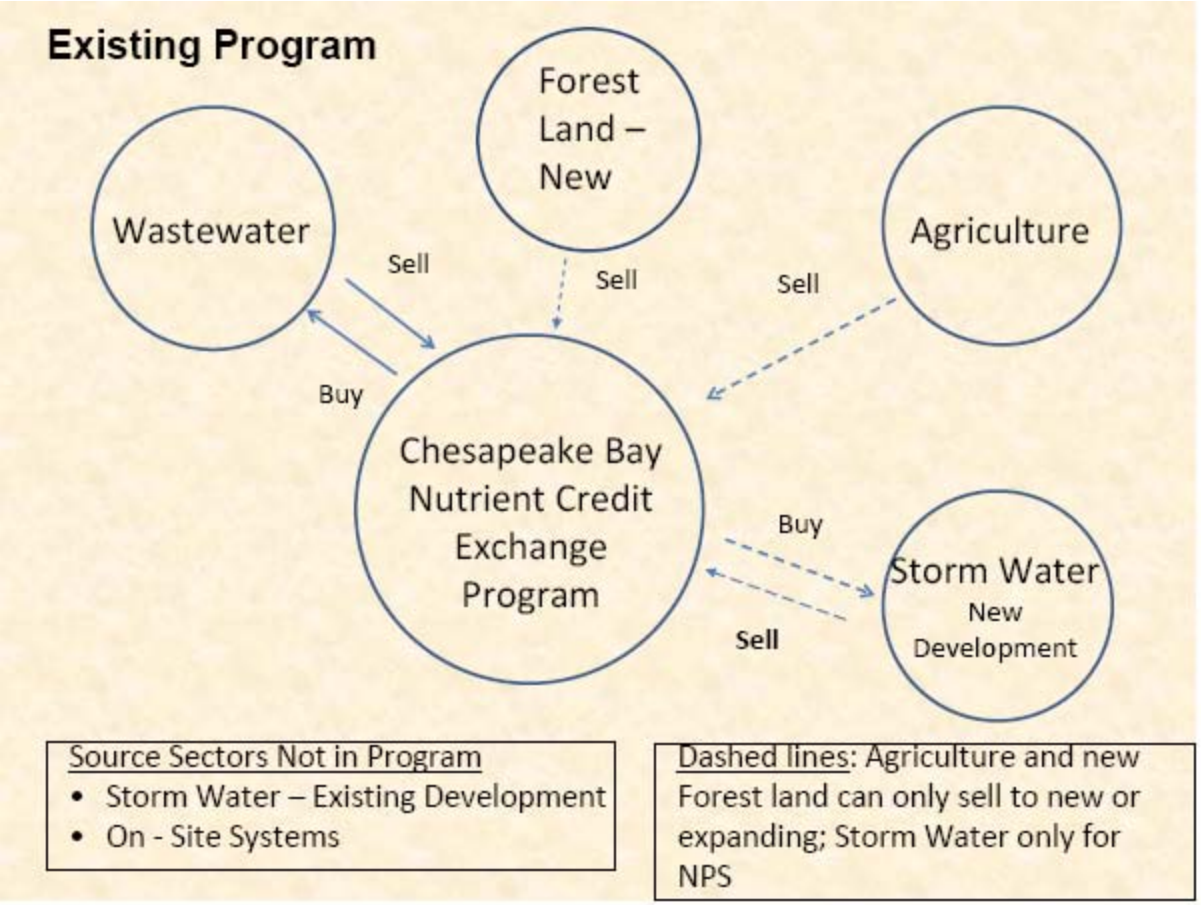
- Public comment jointly and individually - Continue
  - Evaluate Final Phase I WIPs vs. comments
  - Key up issues for Phase II WIPs (June – Nov. 2011 or later)
  - COG technical & policy work into 2011 …2017…2025
- Pursue federal legislation
  - Another look at Cardin bill ?
  - Other alternatives
- Pursue state legislation
  - Support more regulation or funding for agriculture ('Reasonable Assurance')
  - Support for viable trading mechanisms *****
- Other/Litigation?
  - Several actors rumored to be readying lawsuits challenging the terms of the TMDL

Trading (TMDL/WIPs/other legislation)

- Pollutants:
  - Nutrients (Nitrogen & Phosphorus)
  - Sediment
- Viable Option for COG Region?
  - WWTPs with other WWTPs? With Ag? With?
  - SW with Ag? With ?
  - When likely needed?
- What features are good vs. bad for trading?
  - TMDL/WIPs/other legislation
- Existing & Expanded Programs
  - Viable?
  - Missing key elements?
  - Other issues?

VA WIP - Reliance on Trading

Proposed Nutrient Credit Exchange Program



VA WIP - Reliance on Trading

Existing Nutrient Credit Exchange Program