

CHESAPEAKE BAY PROGRAM UPDATES

A Look Ahead to 2025

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CBPC Meeting
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Today's Presentation

- Review of 2025 Bay TMDL “deadline”
- Where are we with WIP progress
- Monitoring results
- Conowingo WIP update
- Looking ahead to 2035
- Bay funding increase

Bay TMDL 101

- Bay TMDL promulgated in 2010
 - Designed to meet water quality standards in the Bay by addressing certain criteria: dissolved oxygen, chlorophyll-a and water clarity
- Using models, the Bay Program established the amounts of nitrogen, phosphorus and sediment that the Bay can handle while meeting water quality standards
 - These levels are the **planning targets**
- Bay Program partners states, including DC, have made watershed implementation plans (WIPs) that are supposed to achieve sufficient reductions in N, P and sediment to reach the planning targets



Bay TMDL 101 (cont.)

- Neither the deadline nor the planning targets are set in concrete
 - Current 2025 deadline for achieving the TMDL – i.e. achieving sufficient reductions to reach the planning targets -- is a voluntary decision made by the Bay Program’s Executive Council
 - Planning targets have changed and will change again with various model upgrades and climate change assessments

Estimates of climate change impact through 2025 already baked into planning targets: requiring further reductions of 5 million pounds TN and 600,000 pounds TP

Major	State	StateBasin	2018 Planning Targets approved by PSC		2019 Planning Targets with Exchanges and Sediment			2020 Climate Adjustments		2020 Planning Targets with Climate	
			Nitrogen	Phosphorus	Nitrogen	Phosphorus	Sediment	Nitrogen	Phosphorus	Nitrogen	Phosphorus
Potomac	DC	DC Potomac	2.42	0.130	2.42	0.130	41.9	0.01	0.001	2.42	0.129
Eastern Shore	DE	DE Eastern Shore	4.55	0.108	4.55	0.108	26.7	0.04	0.003	4.51	0.105
Eastern Shore	MD	MD Eastern Shore	15.21	1.286	15.60	1.290	2903.4	0.37	0.032	15.23	1.258
Patuxent	MD	MD Patuxent	3.21	0.301	3.21	0.300	437.7	0.11	0.019	3.09	0.281
Potomac	MD	MD Potomac	15.30	1.092	15.80	1.090	1928.0	0.21	0.033	15.59	1.057
Susquehanna	MD	MD Susquehanna	1.18	0.053	1.60	0.050	113.8	0.14	0.007	1.46	0.043
Western Shore	MD	MD Western Shore	10.89	0.948	9.63	0.950	2959.9	0.31	0.020	9.32	0.929
Susquehanna	NY	NY Susquehanna	11.53	0.587	11.53	0.587	532.7	0.40	0.044	11.13	0.543
Eastern Shore	PA	PA Eastern Shore	0.45	0.025	0.46	0.022	27.4	0.05	0.005	0.41	0.017
Potomac	PA	PA Potomac	6.11	0.357	6.14	0.338	295.5	0.04	0.008	6.11	0.330
Susquehanna	PA	PA Susquehanna	66.59	2.661	66.87	2.544	1838.2	1.72	0.082	65.14	2.462
Western Shore	PA	PA Western Shore	0.02	0.001	0.02	0.001	0.3	0.00	0.000	0.02	0.001
Eastern Shore	VA	VA Eastern Shore	1.43	0.164	1.83	0.152	473.3	0.01	0.000	1.82	0.152
James	VA	VA James	25.92	2.731	21.81	2.241	2015.2	0.30	0.143	21.51	2.097
Potomac	VA	VA Potomac	16.00	1.892	16.51	1.823	1929.7	0.56	0.073	15.95	1.750
Rappahannock	VA	VA Rappahannock	6.85	0.849	7.09	0.819	1505.1	0.54	0.102	6.54	0.717
York	VA	VA York	5.52	0.556	5.71	0.548	949.1	0.17	0.018	5.54	0.530
James	WV	WV James	0.04	0.005	0.05	0.006	13.0	0.00	0.000	0.05	0.006
Potomac	WV	WV Potomac	8.18	0.427	8.18	0.427	595.9	0.00	0.008	8.18	0.418

Bay TMDL (cont.)

- Full implementation of the Phase III WIPs would not mean that water quality standards will be met in 2025
 - Considerable lag time built into models
- The 2025 deadline – if met – is only for implementation of enough practices that – based on model predictions --will eventually result in enough improvement in water quality criteria to meet water quality standards

How Are We Doing

Spoiler alert:

The Bay Program, as a whole, won't meet its 2025 WIP 3 reduction targets

- DC and W VA are on track to meet their Phase 3 WIP commitments
- MD and VA are likely to meet their Phase 3 WIP commitments
- DE and NY - ?
- Separate Conowingo WIP – highly unlikely
- PA will not meet its Phase 3 WIP commitment

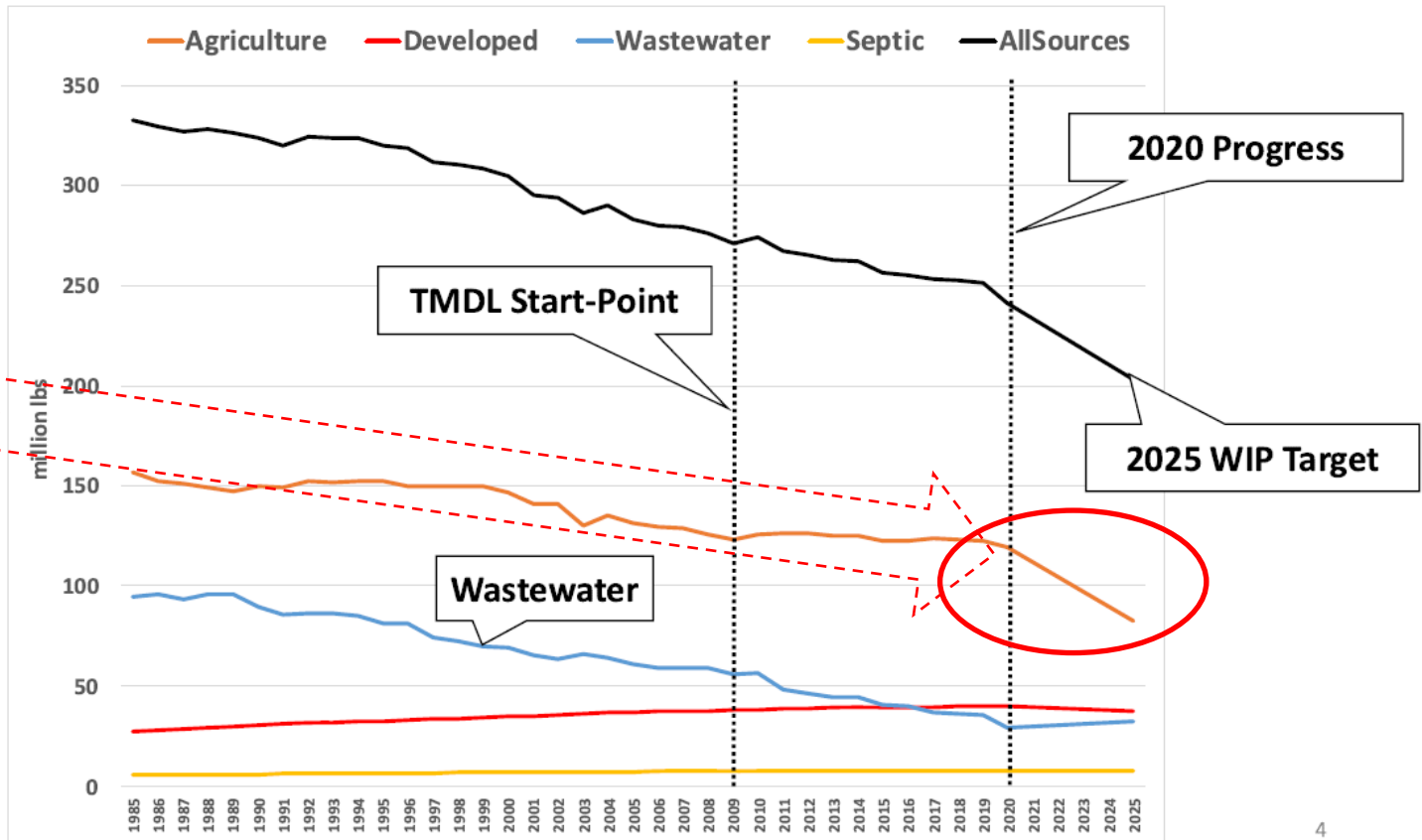


Why the 2025 WIP Goal is Unattainable



CBW Nitrogen Loads Delivered to CB

Achieving WIP implementation goals primarily dependent on unprecedented rate of reduction from ag sector



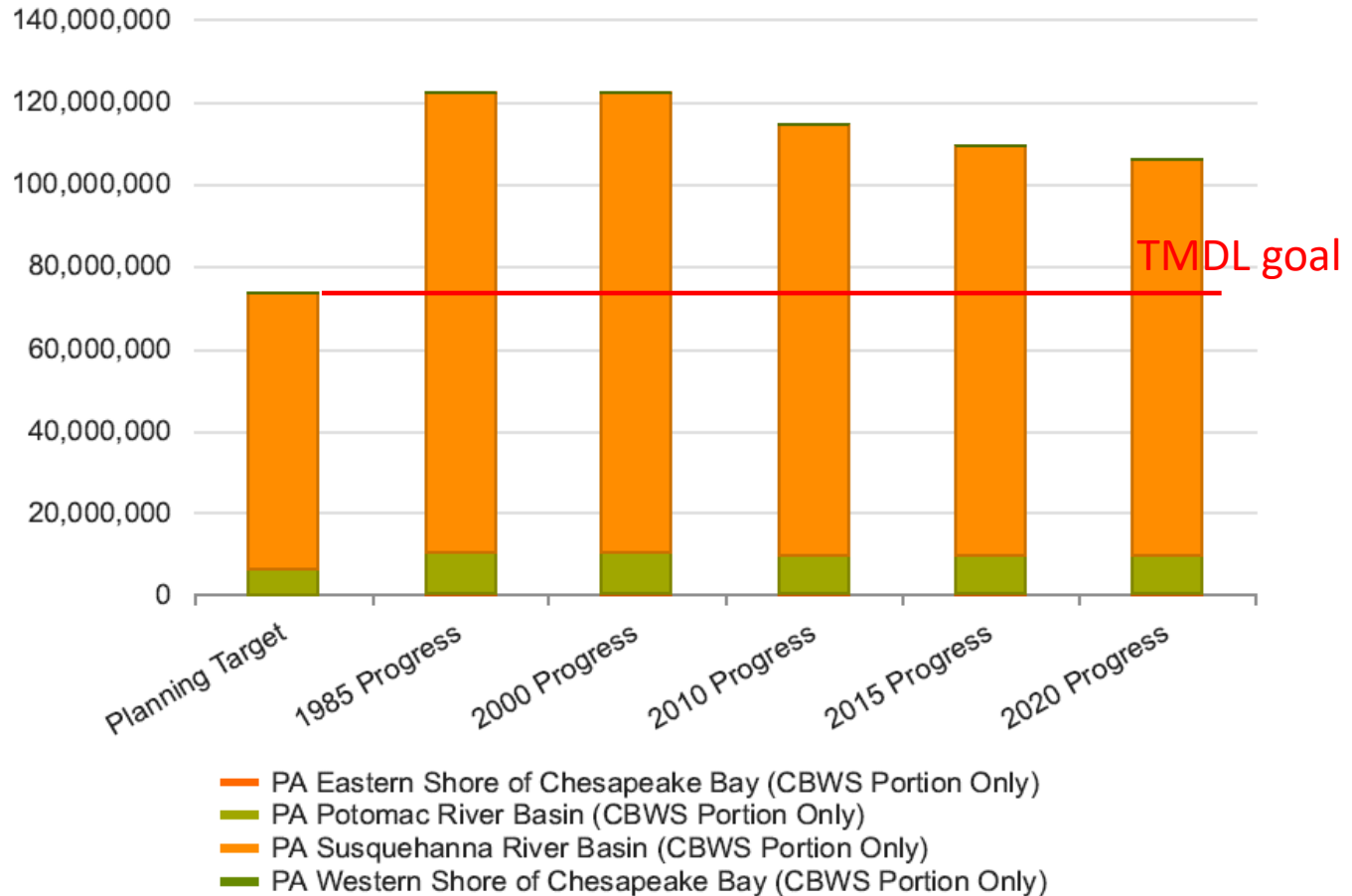
PA WIP Progress

Difference between 2020 Progress and WIP 3 target = 32.5 million pounds

About 90 % of Conowingo WIP load of 6 million pounds comes from PA

Pennsylvania

Total Nitrogen



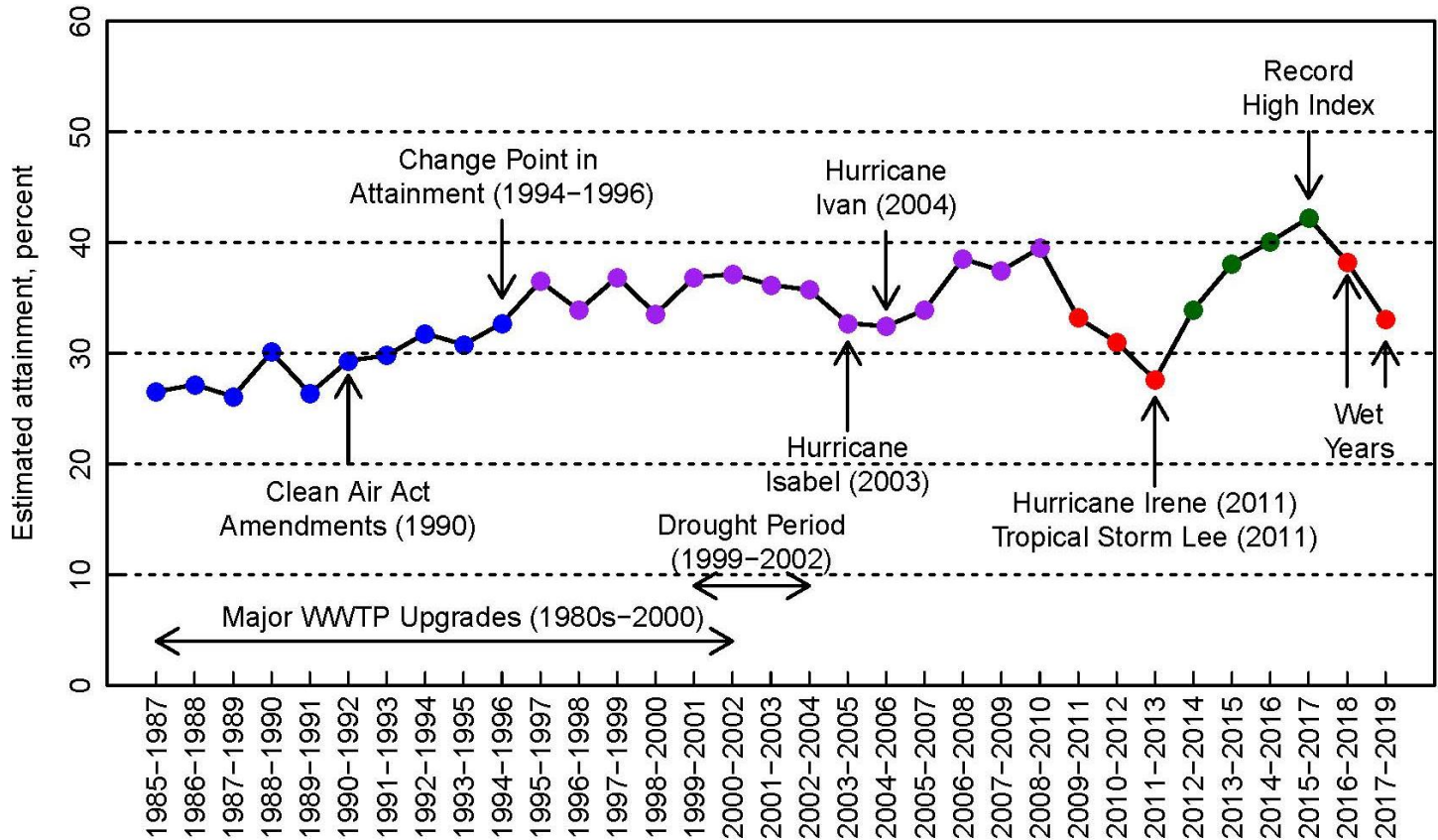
What Does Monitoring Tell Us

Combined metric of all Bay TMDL water quality criteria

Highest value was just 42 % attainment for 2015 – 2017 period

Indicator has a positive long-term trend from 1985-2019.

Long-term Water Quality Standards Indicator



Conowingo WIP

- Under “dynamic equilibrium” dams on the lower Susquehanna no longer retain sediment and associated nutrients
 - Additional 6 million lbs/yr TN and 0.26 million lbs/yr TP – based on model estimates
- Steering Committee (all Bay Partner states) established in 2019 issued final Conowingo WIP in July
 - Cost about \$50 million per year for number of years
 - Revenue plan to be developed for pilot program among participating states (at least MD, PA, NY)
- If no financing strategy in place, EPA has warned Conowingo load reductions will be assigned to (all) Bay jurisdictions
- Precedent for what may happen when Bay TMDL reductions not achieved?



Looking Ahead to 2035

- Bay Program is beginning to look beyond 2025
 - New assessment of climate change impacts through 2035
 - Better assessment of what's happening in shallow tidal water
- Will do so with a new suite of models now under development
- COG's WRTC will track these developments and provide comment as appropriate
 - Potential new water quality model for tidal Potomac
- Likelihood that these steps will lead to requirements for further reductions of TN and TP

Between making up for any shortfalls in WIP 3 implementation, maintaining the cap and additional reductions to address climate change and other factors, the impact of the Bay TMDL will continue long past 2025

Increased Federal \$ for Bay Program

- Under the new federal infrastructure bill, Bay Program slated to receive additional \$47.6 million/year over 5 years
 - Total increase of \$238 million
 - Will raise EPA's annual Bay Program budget to \$138.1 million/year
 - Will allow for significant increases in staffing, projects, assistance to states
- Are there COG region priorities for how to spend this increased funding?
 - Propose to get WRTC feedback in early January
 - Bring input to Bay Policy Committee meeting of Jan. 21



Next Steps

- Report back on WRTC's funding priorities for additional Bay Program funding in January
- Input on other Bay updates committee members would like to have
- Begin consideration of looming issues
 - What happens if MD or VA fails to achieve 2025 WIP goal?
 - Are there local consequences to PA not meeting WIP goal?
 - How does region respond to need for additional reductions post 2025

Extra Slides



What Does Monitoring Tell Us

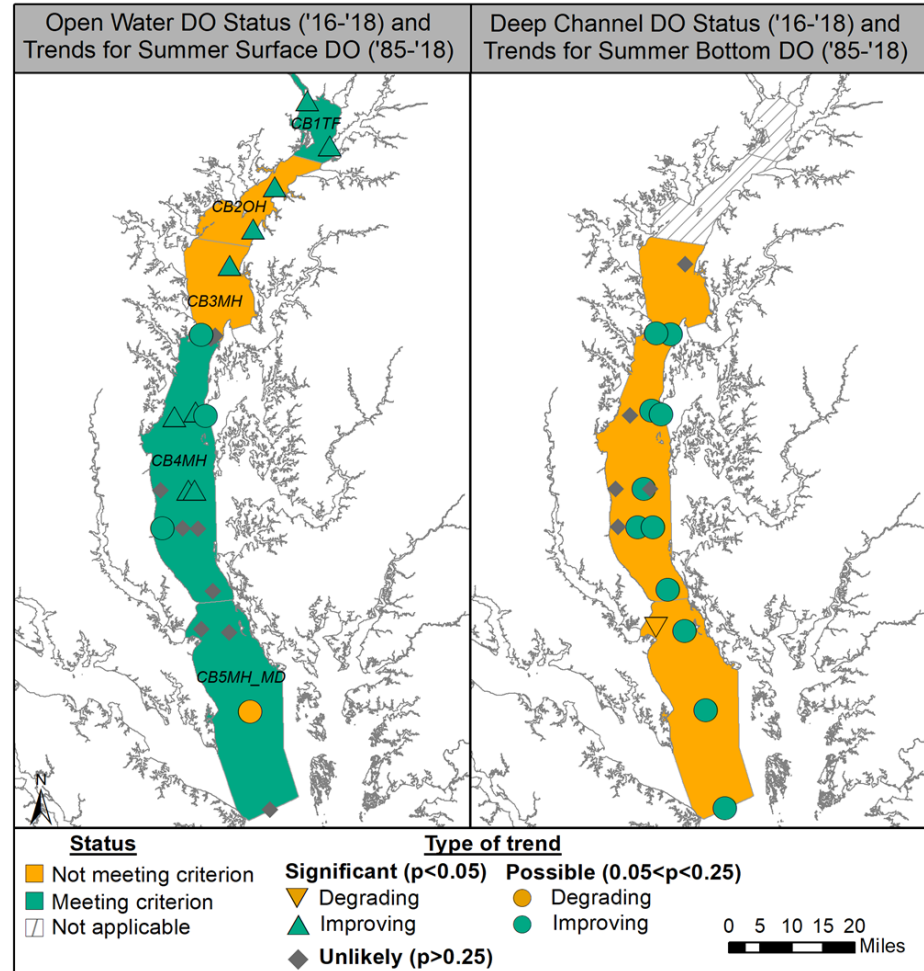
Deep water and channel criteria have never been met

Deep Water and Deep Channel Summer DO

Time Period	Deep Water			Deep Channel		
	CB3MH	CB4MH	CB5MH_M D	CB3MH	CB4MH	CB5MH_MD
1985-1987						
1986-1988						
1987-1989						
1988-1990						
1989-1991						
1990-1992						
1991-1993						
1992-1994						
1993-1995						
1994-1996						
1995-1997						
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2006-2008						
2007-2009						
2008-2010						
2009-2011						
2010-2012						
2011-2013						
2012-2014						
2013-2015						
2014-2016						
2015-2017						
2016-2018						

What Does Monitoring Tell Us

Improvements in segments that are not meeting the criteria is promising.



Gearing Up for 2025

- Under the TMDL – Bay Partners agreed to full implementation of WIPs that meet planning targets
 - TMDL accountability framework based on 2024-2025 milestones
 - What happens if planning targets not met?
- Reassessment of climate change through 2035

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Why There May Be New Planning Targets

- Different results from new watershed model or new calibration of phase 6
 - Theoretically + or -, but most likely lower (harder to achieve)
- Different results from new estuarine model
 - Theoretically + or -, but most likely lower (harder to achieve)
- A change in the equity rules governing the planning target calculation
- Some new resolution of PA and Conowingo WIP situation
 - **Highly unlikely to achieve enough BMP implementation to meet current targets**
- Climate change reassessment



Bay Program's Modeling Suite

