CHESAPEAKE BAY TMDL: *2024 ANNUAL REVIEW OF PROGRESS*

July 11, 2025

PRESENTATION OUTLINE

- Refresher: Chesapeake Bay Water Quality Goals and TMDL
- 2024 Progress
- Watershed-wide growth & sector changes
- Looking forward: Beyond 2025

Chesapeake Bay TMDL

- Identified the allowable load (pollution diet) of **nitrogen, phosphorus, and sediment** that can be present in the Bay and achieve applicable water quality standards for dissolved oxygen (DO), water clarity, Chlorophyll-A.

Watershed Implementation Plans

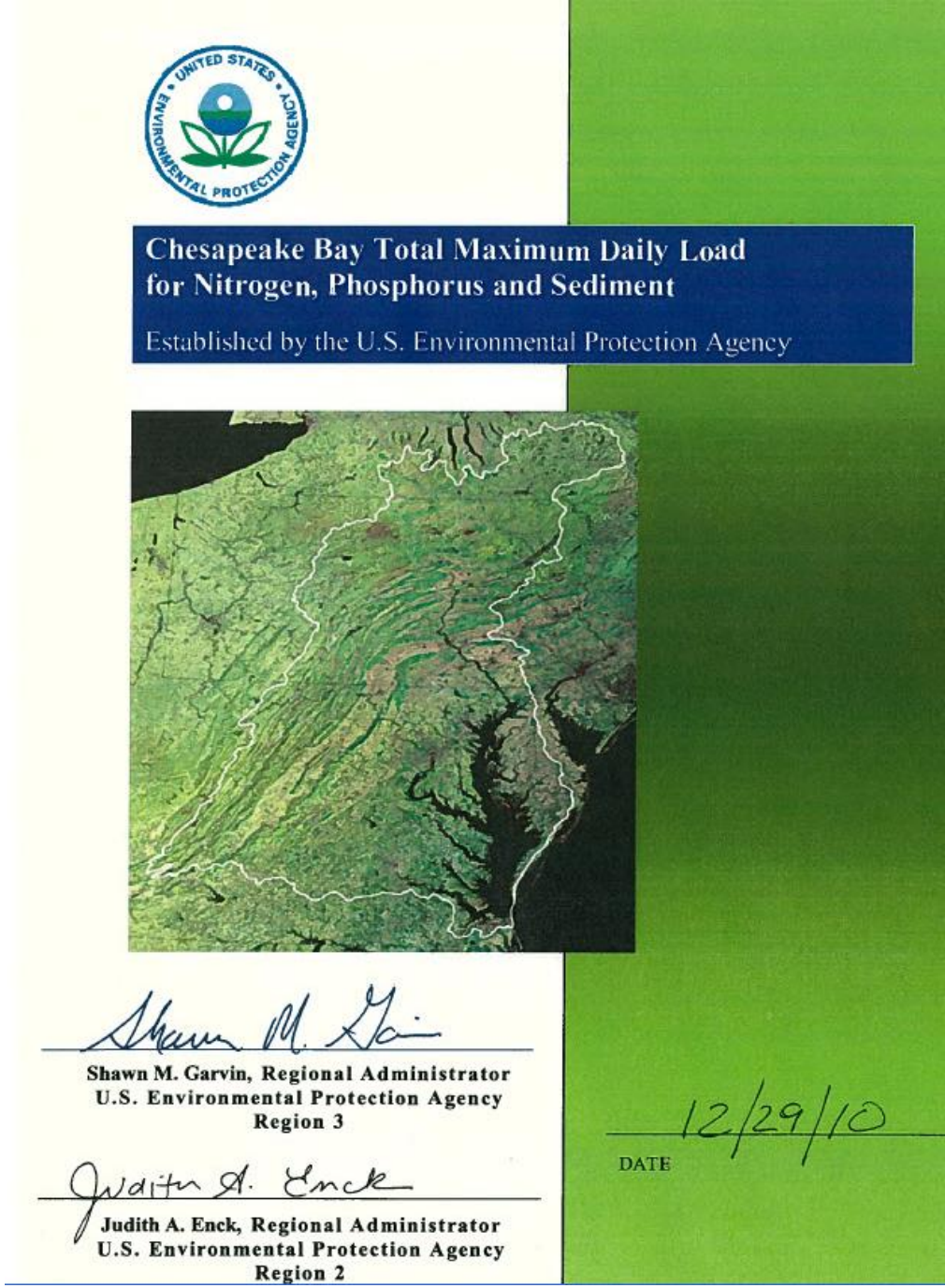
- **Roadmap** for how the Bay jurisdictions, in partnership with federal and local governments, will achieve the TMDL allocations. Phase III (2017-2025)

Two-Year Milestones

- **Near-term restoration commitments** intended to provide greater specificity of load reductions and accountability for implementation.

Assessment of Annual Progress

- **EPA provides an assessment of annual progress** toward each jurisdictions TMDL objectives that is based on modeled load reductions using CAST.



10 Goals from the 2014 Chesapeake Bay Watershed Agreement

1. Sustainable Fisheries
2. Vital Habitats
3. Water Quality
4. Toxic Contaminants
5. Healthy Watersheds
6. Stewardship
7. Land Conservation
8. Public Access

Reduce pollutants to achieve the water quality necessary to support aquatic living resources and protect human health..

2025 WIP Outcome Progress

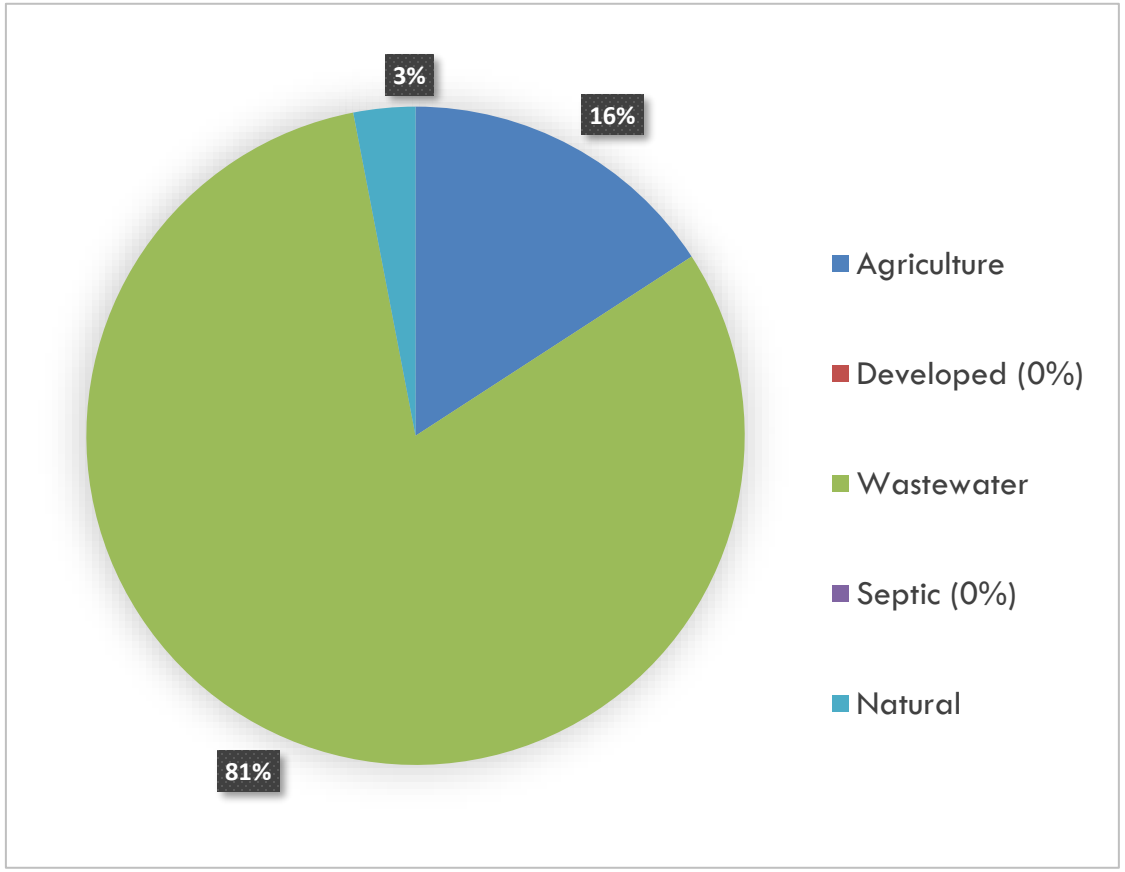
Watershed-wide, the Bay jurisdictions are not on track to meet the 2025 targets

As of 2024, BMP in place are estimated to have achieved:

- 52% of nitrogen reductions
- 92% of phosphorus reductions
- 100% of sediment reductions

- 2023-2024 progress
  - 76% of reductions from Agriculture
  - 11% from Developed

2009-2024 Sources of Nitrogen Reduction to the Bay



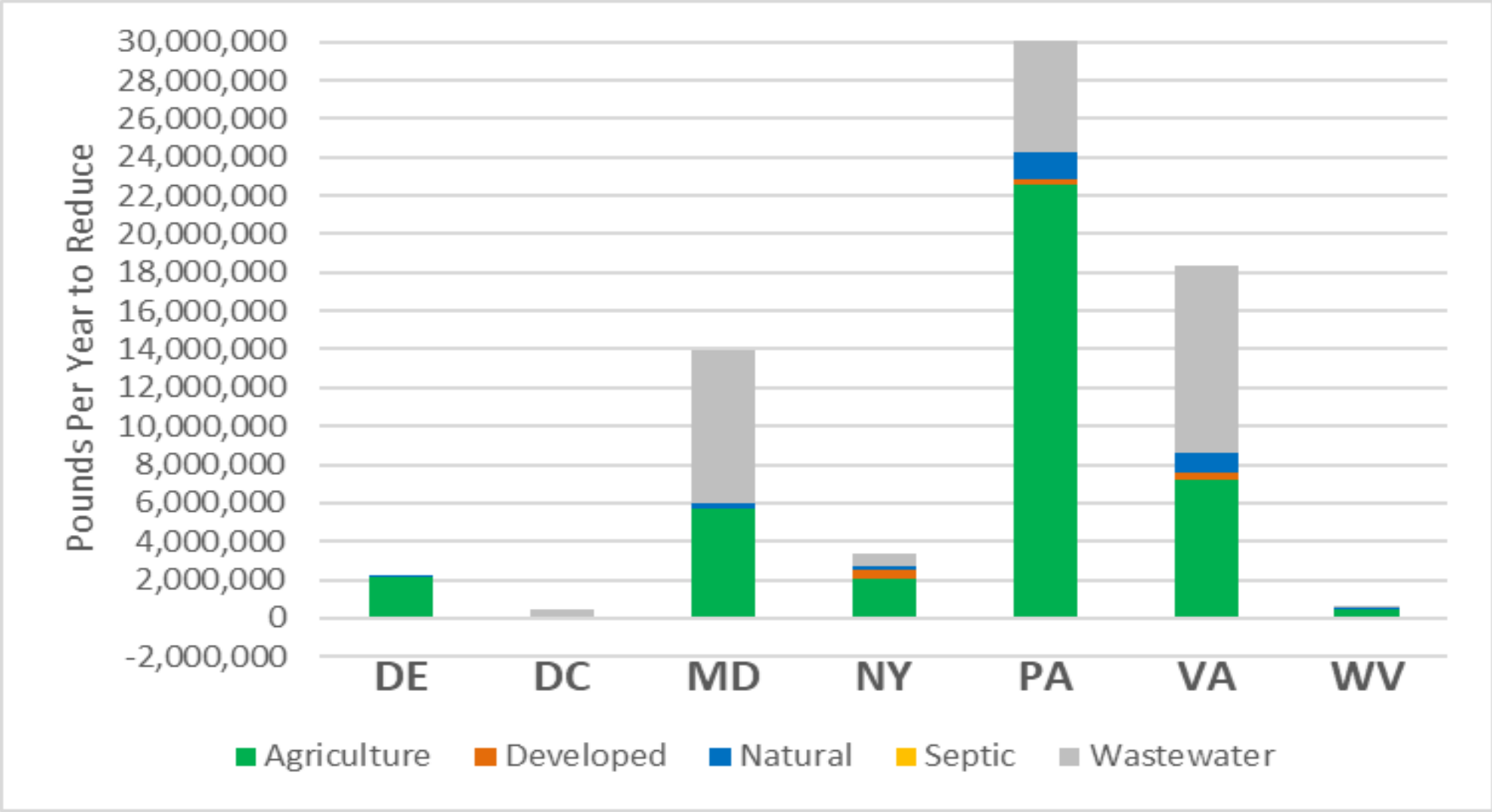
How jurisdictions achieved reductions

*Figures are net of implementation (reductions) and growth (increases). Overall, there has been an increase in loads from developed and septic.

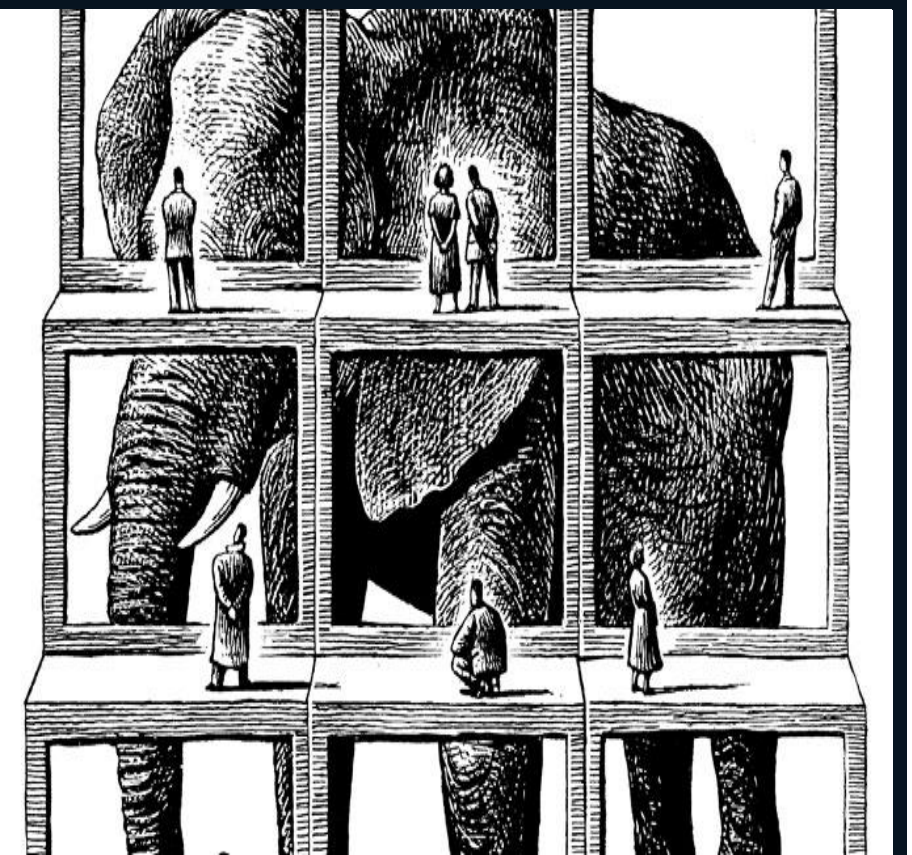
Nitrogen Sector Breakout of Jurisdictional Interim Sector Targets with CEC (pounds/year)

Where are future reductions planned?

- Agriculture: 89.1%
- Developed: 5.4%



Crucial Context



The targets for annual progress towards meeting the TMDL are now called the Interim Targets with Changing Environmental Conditions (CEC).

- The 2025 Interim Targets with CEC are the 2025 planning targets that incorporate both the Unaccounted Additional Loads and CEC.
- 2024 targets achieve >=95% of the Interim Targets with CEC reductions since the 2009 baseline.
- A value of 0% indicates that increased loads outpace current implementation efforts; in some of these cases these implementation efforts were offset by growth impacts.
- Conowingo progress is currently at 0%, with 25% achievement is planned for 2025. This year these goals are separate from the above Interim Targets with CEC.

Photo: Strengths School

NITROGEN 2024 PROGRESS

	lbs/yr	lbs/yr	lbs/yr	lbs/yr	(2009-2024)/(2009-2025 Interim)
By Jurisdiction	1985	2009	2024	Interim Target w/ CEC	% Completion of Interim Targets w/ CEC
New York	18,636,995	14,423,935	13,293,316	12,169,496	50%
Pennsylvania	122,434,974	112,440,004	104,529,083	77,077,716	22%
Maryland	85,185,956	57,921,805	46,564,455	46,195,902	97%
Virginia	84,443,301	67,960,479	54,540,535	52,030,495	84%
West Virginia	8,719,102	8,028,161	7,793,470	8,445,145	100%
Delaware	7,424,422	6,605,874	7,138,987	5,608,796	0%
District of Columbia	6,480,675	2,759,690	1,810,362	2,417,978	100%
Total Load	**333,325,425**	**270,139,949**	**235,670,207**	**203,945,528**	**52%**

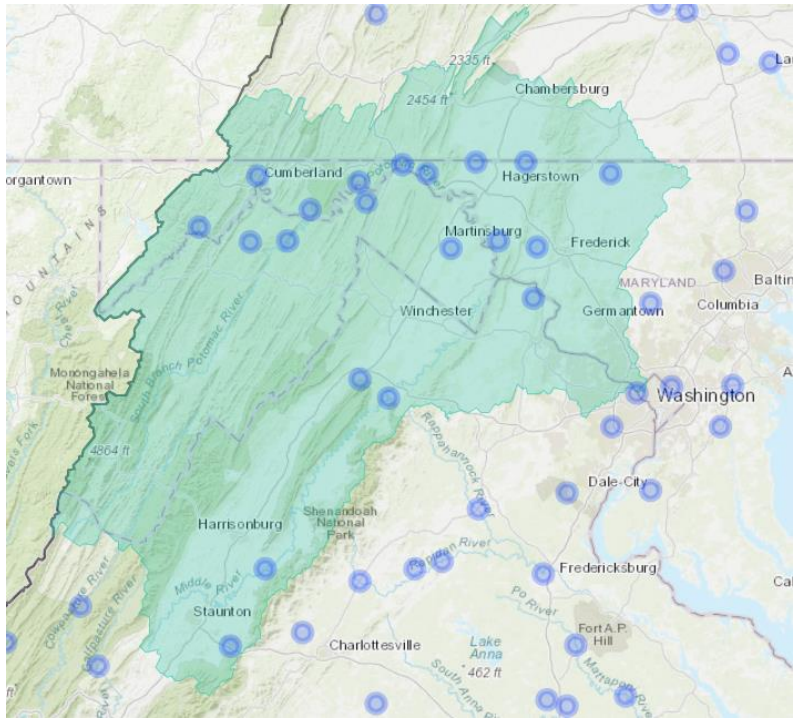
PHOSPHORUS 2024 PROGRESS

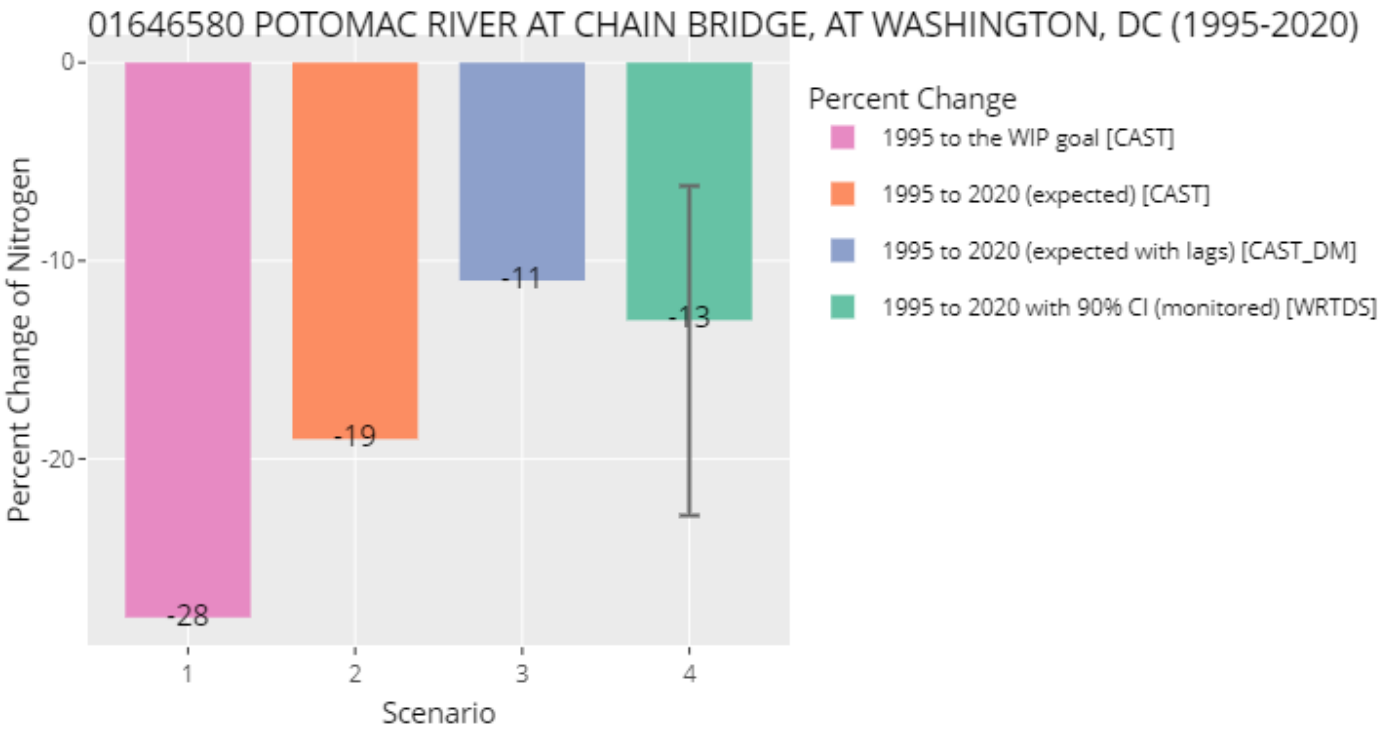
	lbs/yr	lbs/yr	lbs/yr	lbs/yr	(2009-2024)/(2009-2025 Interim)
By Jurisdiction	**1985**	**2009**	**2024**	**Interim Target w/ CEC**	**% Completion of Interim Targets w/ CEC**
New York	1,174,717	749,597	557,061	458,272	66%
Pennsylvania	5,949,239	4,468,918	3,662,096	2,842,760	50%
Maryland	7,450,602	3,946,692	2,910,496	3,568,483	100%
Virginia	13,536,320	6,761,726	5,378,261	5,246,088	91%
West Virginia	746,889	626,102	418,749	429,193	100%
Delaware	218,128	124,374	116,751	106,470	43%
District of Columbia	89,779	69,495	48,730	129,358	100%
Total Load	**29,165,674**	**16,746,904**	**13,092,145**	**12,780,623**	**92%**

SEDIMENT 2024 PROGRESS

	lbs/yr	lbs/yr	lbs/yr	lbs/yr	(2009-2024)/(2009-2025 Interim)
By Jurisdiction	**1985**	**2009**	**2024**	**Interim Target w/ CEC**	**% Completion of Interim Targets w/ CEC**
New York	798,309,700	697,238,081	627,791,318	532,744,767	42%
Pennsylvania	3,641,025,687	3,269,830,513	2,636,480,065	2,161,480,408	57%
Maryland	8,277,151,489	7,612,325,840	7,270,711,347	8,342,863,273	100%
Virginia	6,761,929,559	6,561,269,055	6,252,044,548	6,872,394,877	100%
West Virginia	733,493,219	597,726,013	534,067,032	608,891,265	100%
Delaware	62,958,430	48,193,529	34,216,730	26,711,144	65%
District of Columbia	43,229,182	43,588,478	35,011,790	41,939,847	100%
Total Load	**20,318,097,267**	**18,830,171,509**	**17,390,322,830**	**18,587,025,581**	**100%**

METRIC: 01646580 POTOMAC RIVER TOTAL NITROGEN





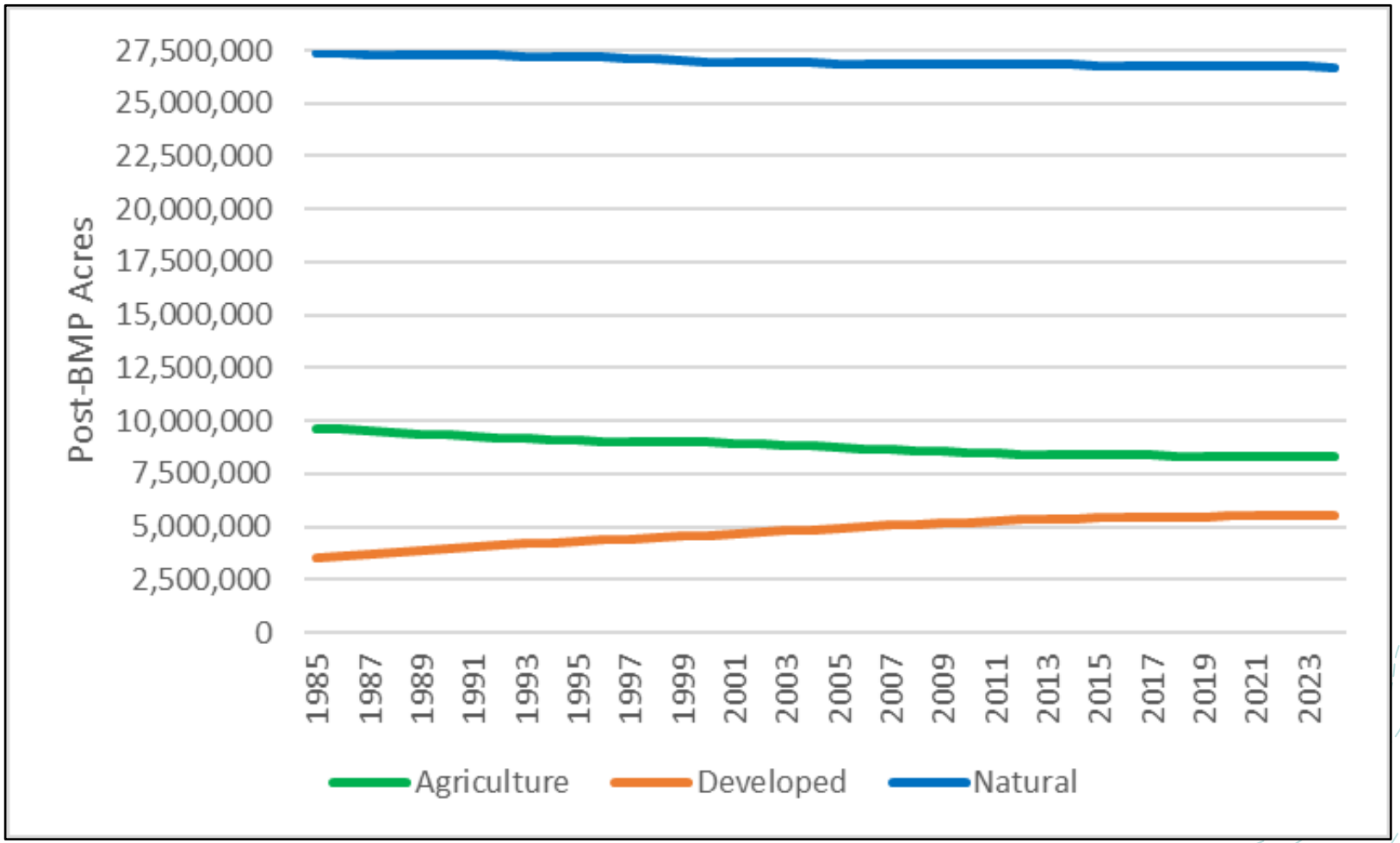
Interpretive Text

1. CAST estimates a 28 percent reduction in the long term from implementation of the WIP using 2025 land use and inputs.
2. CAST estimates a 19 percent reduction in the long term from 2020 land use, inputs, and management practices.
3. The Dynamic Watershed Model estimates that only a 11 percent reduction would have been seen by 2020, accounting for lags, sampling frequency, and other factors.
4. The river monitoring data show a 13 percent reduction with a 90% uncertainty range between 6 and 23 percent reduction.

Implication: The observed response is as expected over the period of 1995-2020.

WATERSHED-WIDE SECTOR CHANGE (1985-2024)

- Developed Sector grows ~2M acres, and Agriculture+Natural goes down ~2M acres.
- The Decrease of Agriculture to Natural is at a 2:1 ratioso Agriculture is more affected by this shift.



Looking Forward

Beyond 2025

- New planning targets (2028), Phase IV WIPs
- Shallow waters and priority living resource areas (CESR)
- 2035 environmental conditions

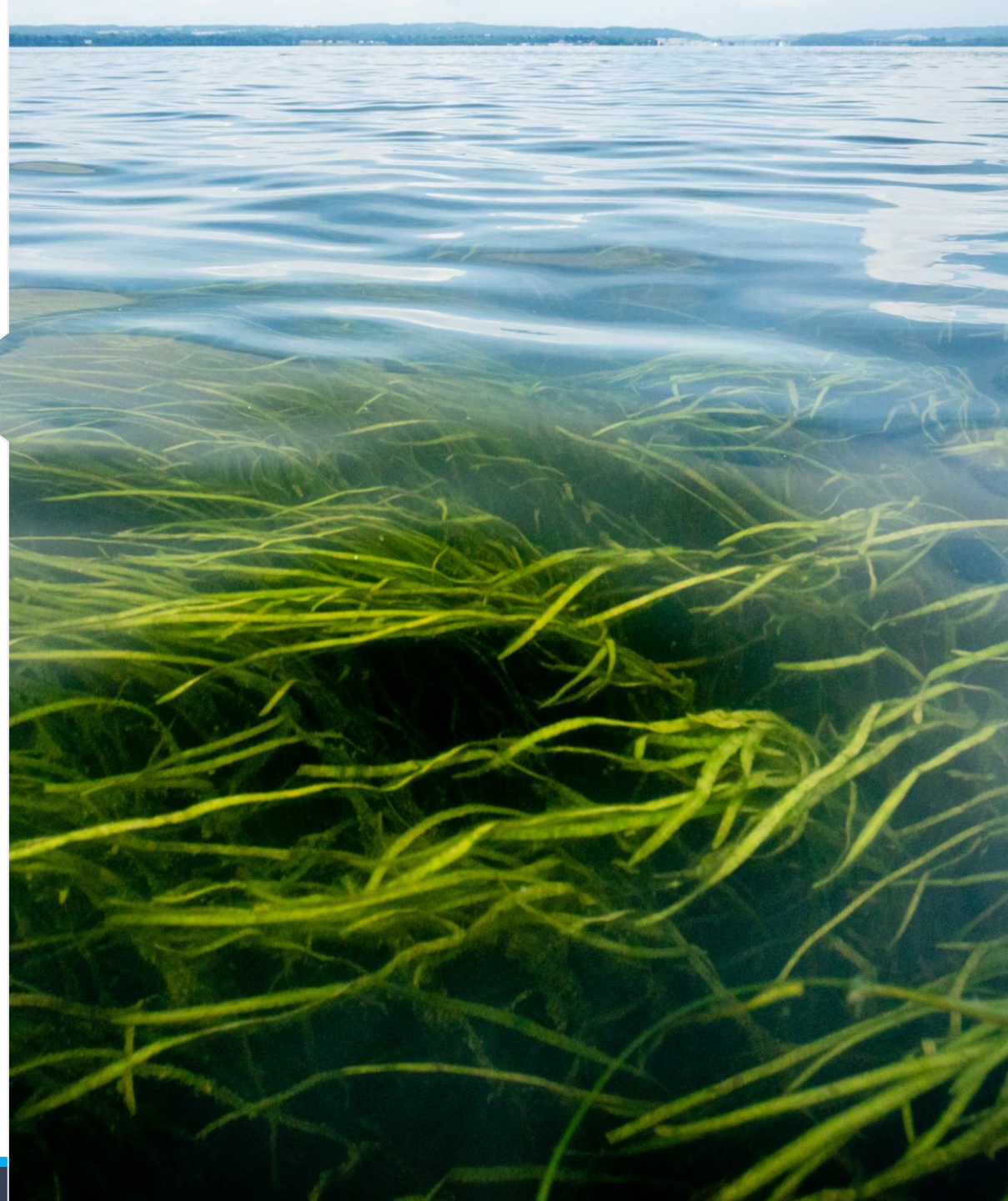
Better tools and targeting

- Phase 7 suite of modeling tools
- BMP optimization

Measuring Progress & Accountability

- Multiple lines of evidence (monitoring and modeling); TMDL Indicator and METRIC tools

Addressing nonpoint sources and growth in loads from agriculture and urban sectors



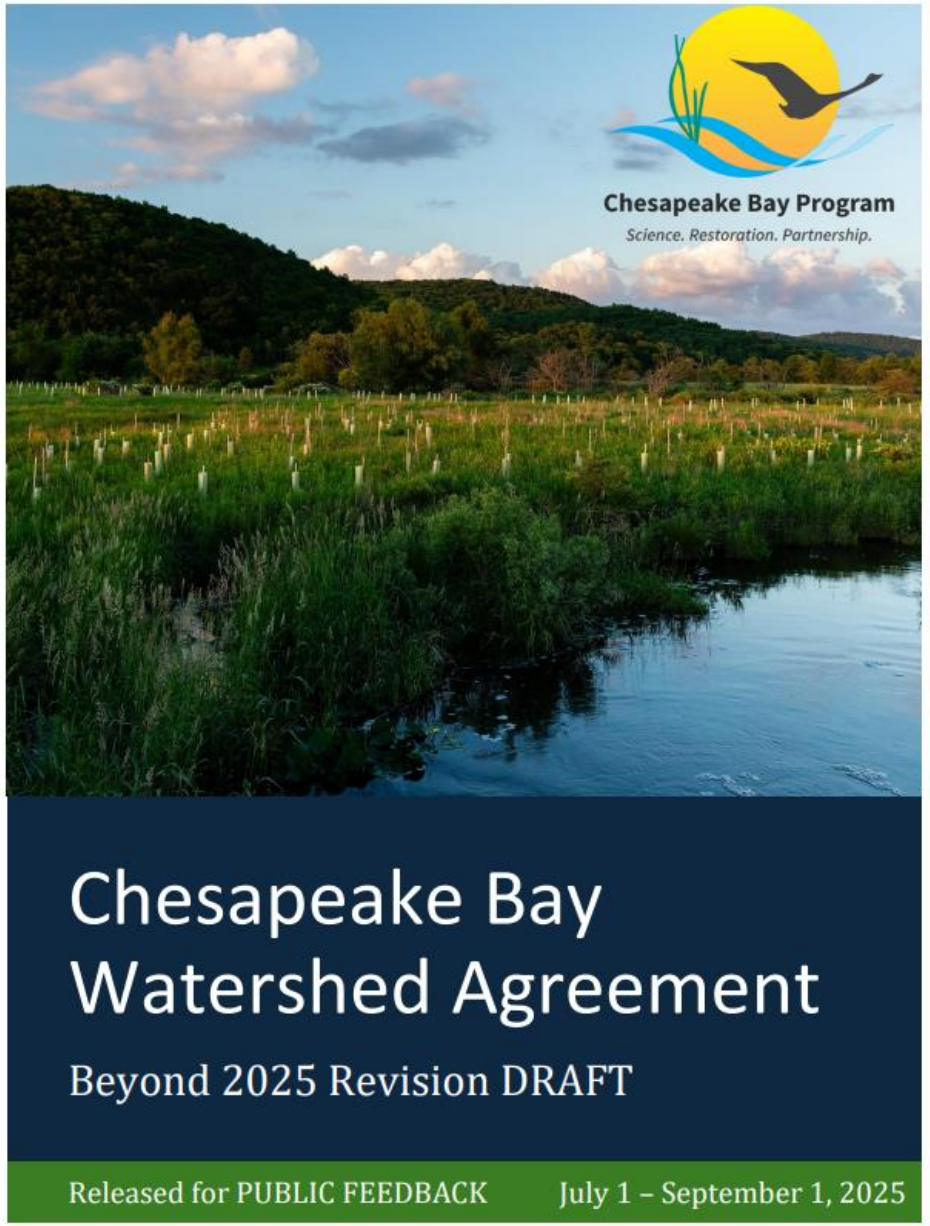
Revised Chesapeake Bay Watershed Agreement

<u>Reducing Excess Nitrogen, Phosphorus, and Sediment</u>

- Continue to implement practices to reduce N, P, and S to achieve interim targets.
- **By 2030**, update outcome with revised targets that include timeline for meeting water quality targets
- Demonstrate reduction through multiple lines of evidence (modeled and monitored)

<u>Evaluate Water Quality Standards Attainment and Monitoring</u>

- Through management actions in support of the Reducing Excess Nitrogen, Phosphorus and Sediment Outcome, **maintain a long-term trend of improvement in the water quality standards attainment indicator at a rate of at least 0.2%** per year, aligned with the historical baseline trend of the multi-metric water quality standards indicator between 1985 and 2022.



We Want All the Feedback!

- Public feedback period opened on Tuesday, July 1 and runs for 60 days until Monday, September 1.
- Everything you need to know can be found at https://www.chesapeakebay.net/what/what-guides-us/planning-for-2025-and-beyond
- Feedback can be emailed to comments@chesapeakebay.net
- Chesapeake Bay Program staff is available to talk with any of your members or groups about Beyond 2025.

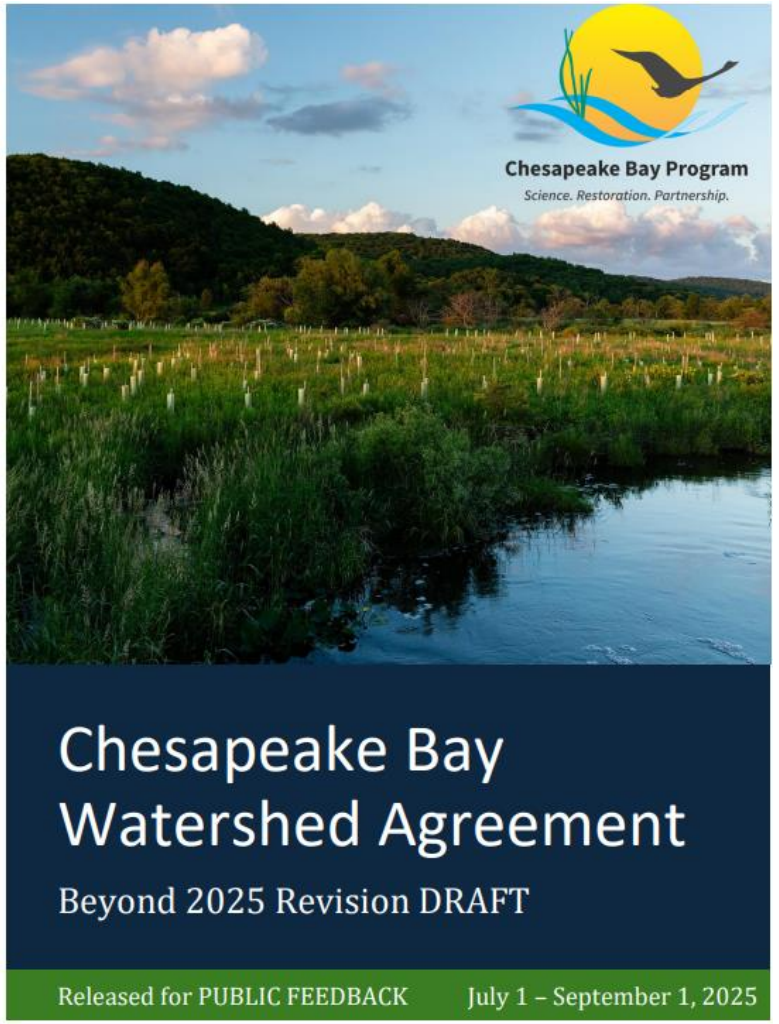


Photo: Chesapeake Bay Program

THANK YOU

Bo Williams
Senior Technical Advisor
EPA Chesapeake Bay Program Office