

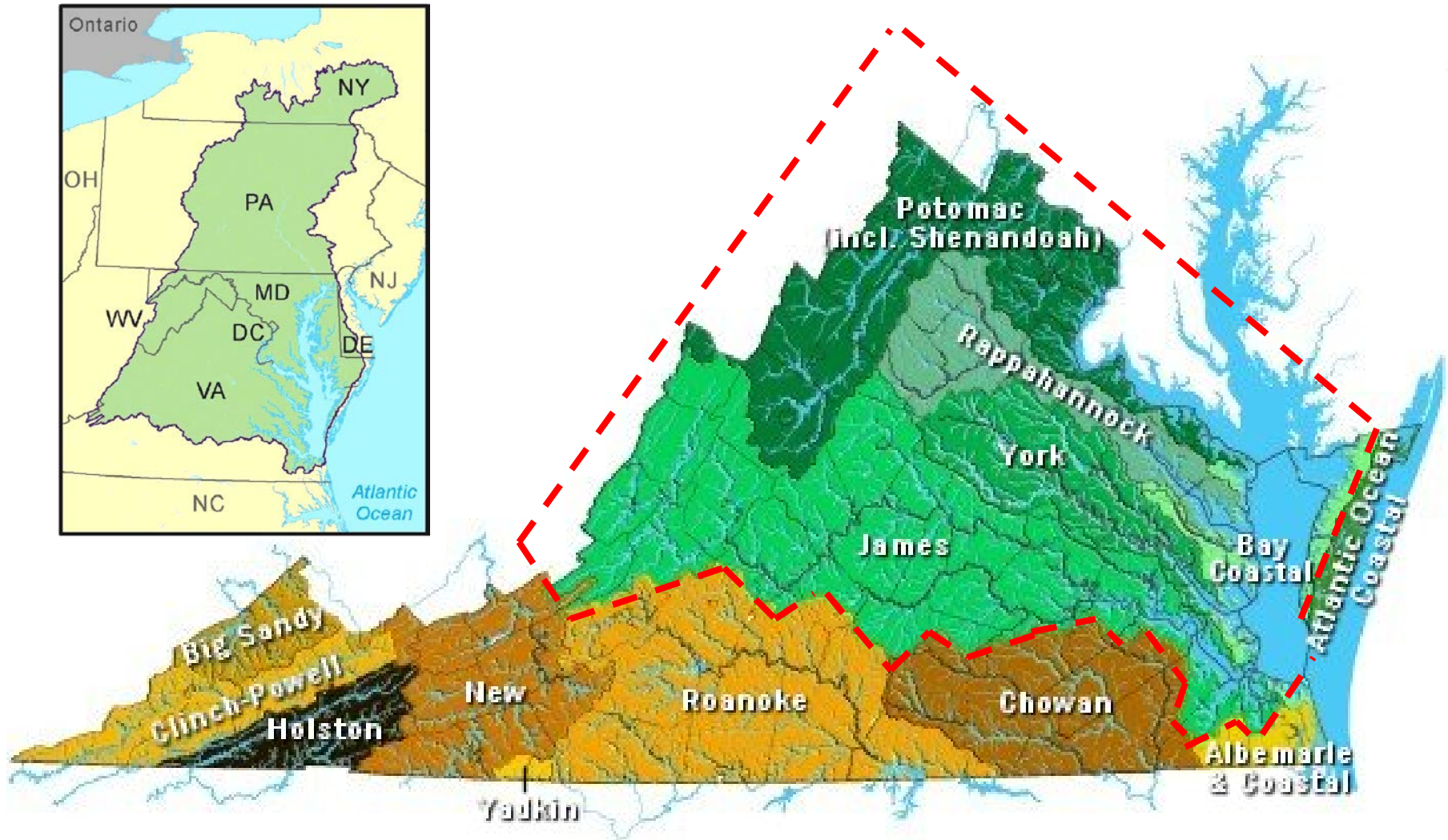
The Chesapeake Bay TMDL Midpoint Assessment – What's Changing, What's New, What to Expect in 2017 and 2018

**Russ Baxter
Deputy Secretary of Natural Resources**

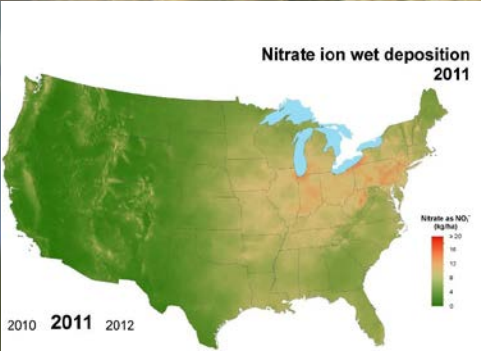
October 5, 2017



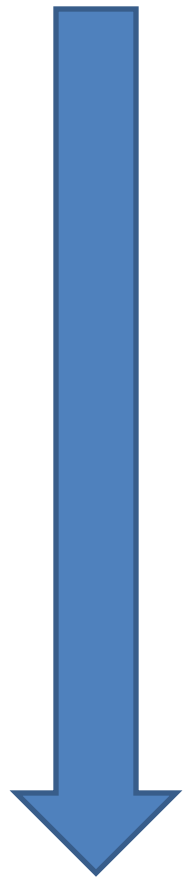
Virginia's Chesapeake Bay Watershed



SUCCESSES—SEEING REAL BAY AND WATERSHED RESPONSES



Chesapeake Bay TMDL and the Midpoint Assessment



2010: Bay TMDL Established

Phase I WIP

Phase II WIP

2017: **Midpoint Assessment**

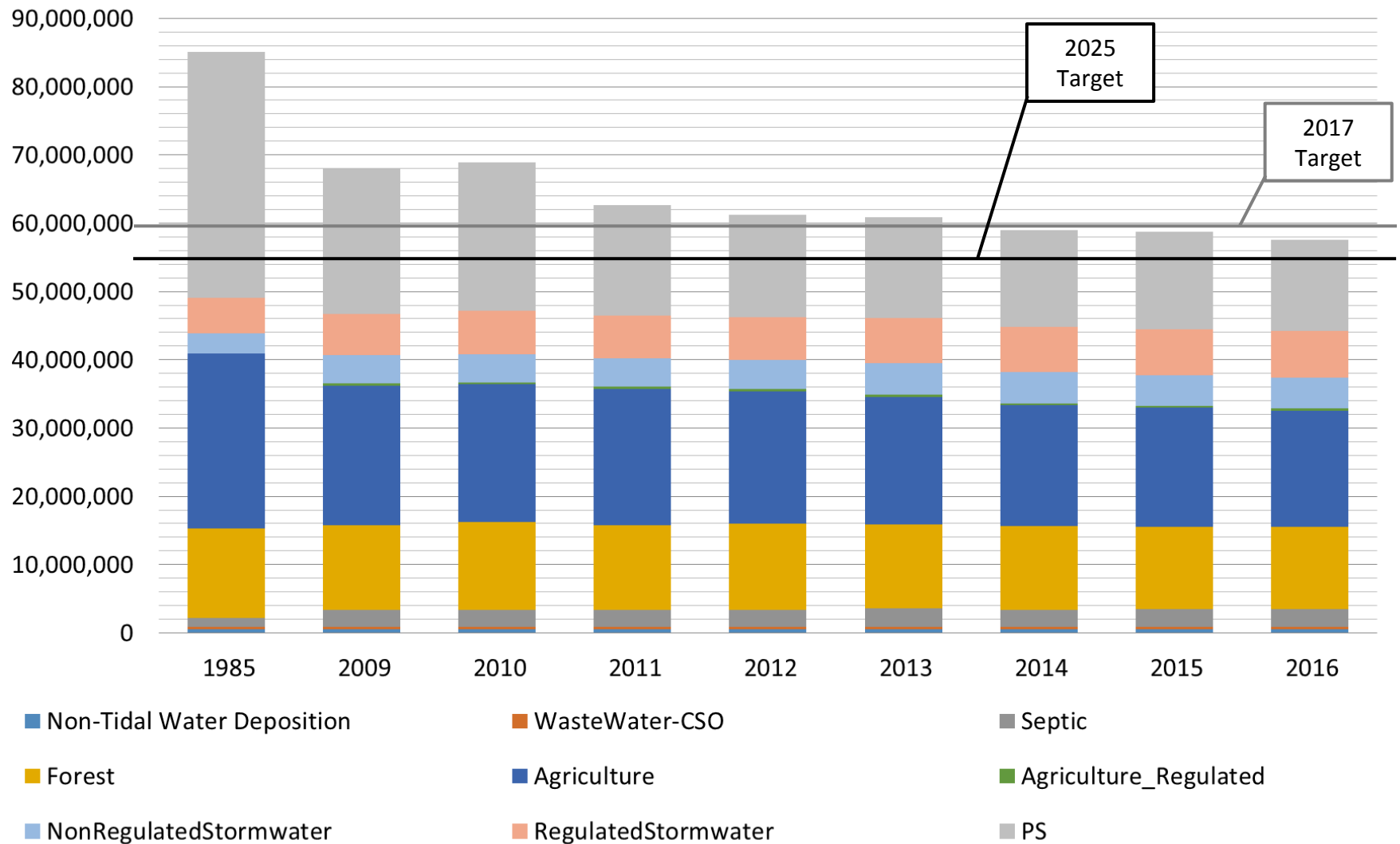
60% of needed reductions

2018: Phase III WIP

2025: 100% of needed practices

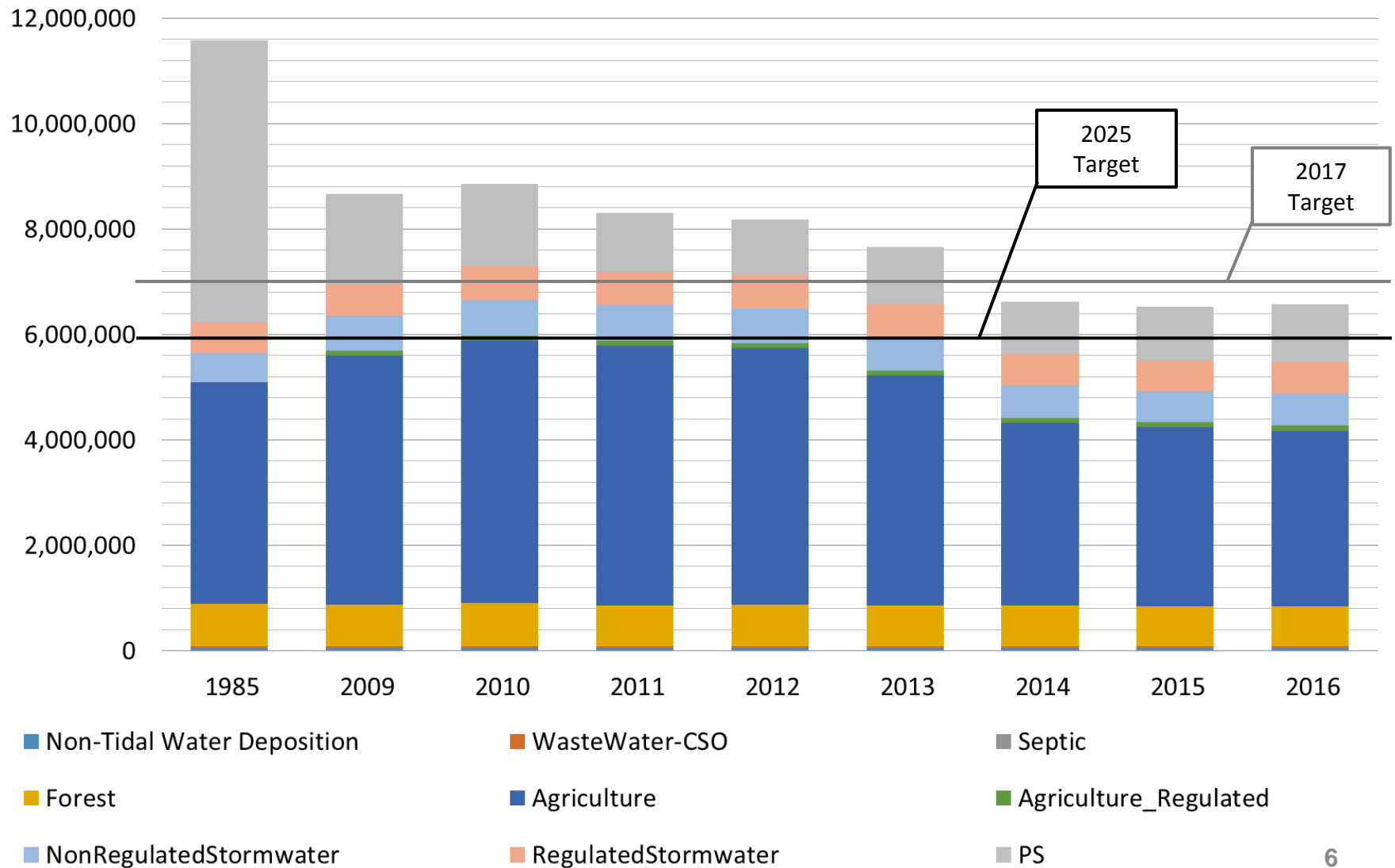
Virginia Delivered Nitrogen Loads

CBWM v.5.3.2



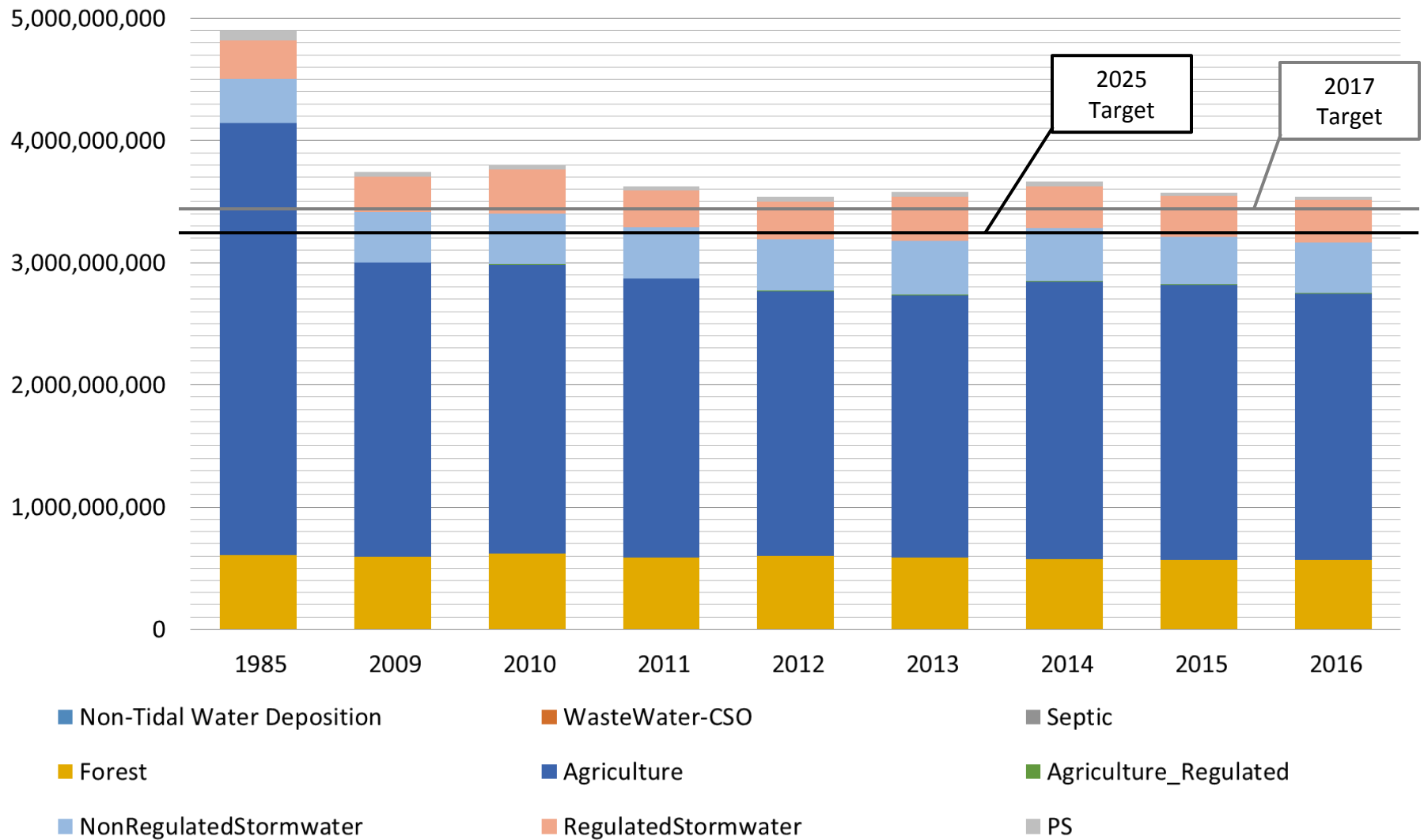
Virginia Delivered Phosphorus Loads

CBWM v.5.3.2



Virginia Delivered Sediment Loads

CBWM v.5.3.2



Total Nitrogen per Acre Loads and Trends: 2005-2014

Trend Direction

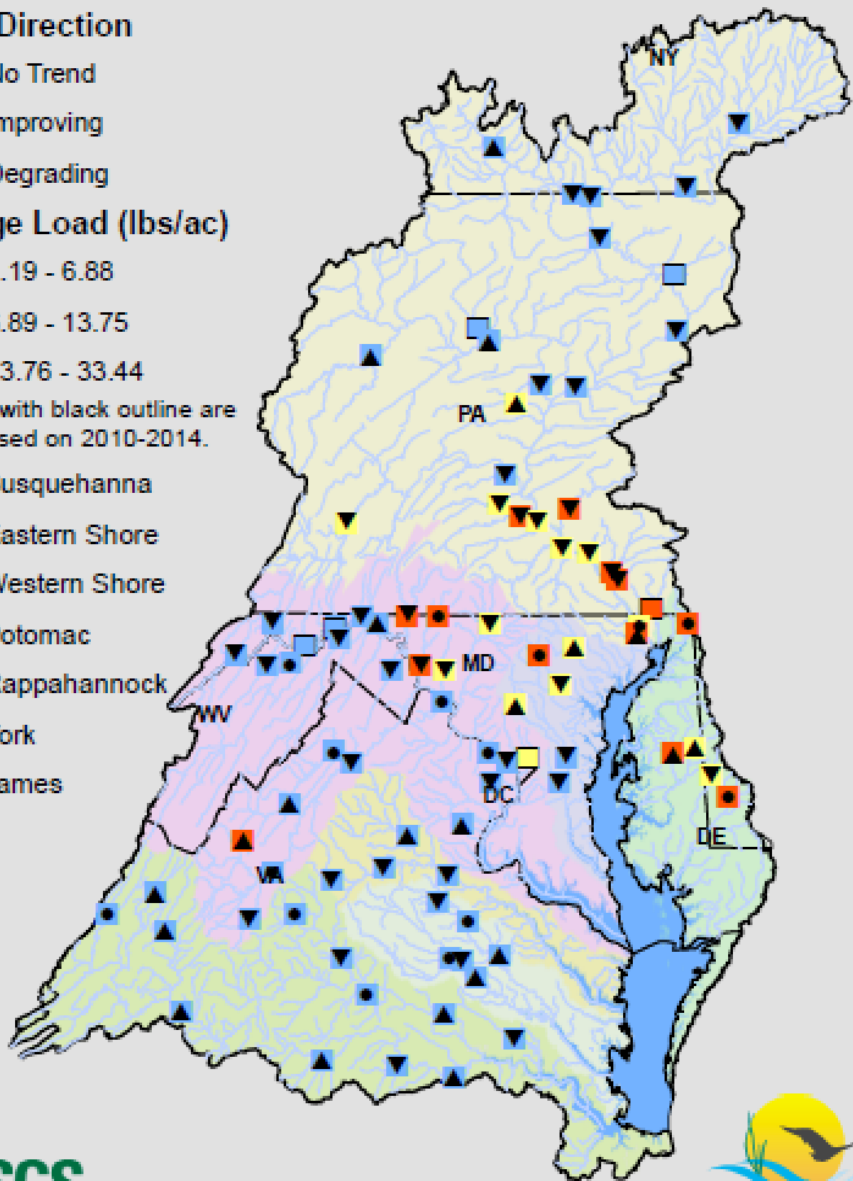
- No Trend
- ▼ Improving
- ▲ Degrading

Average Load (lbs/ac)

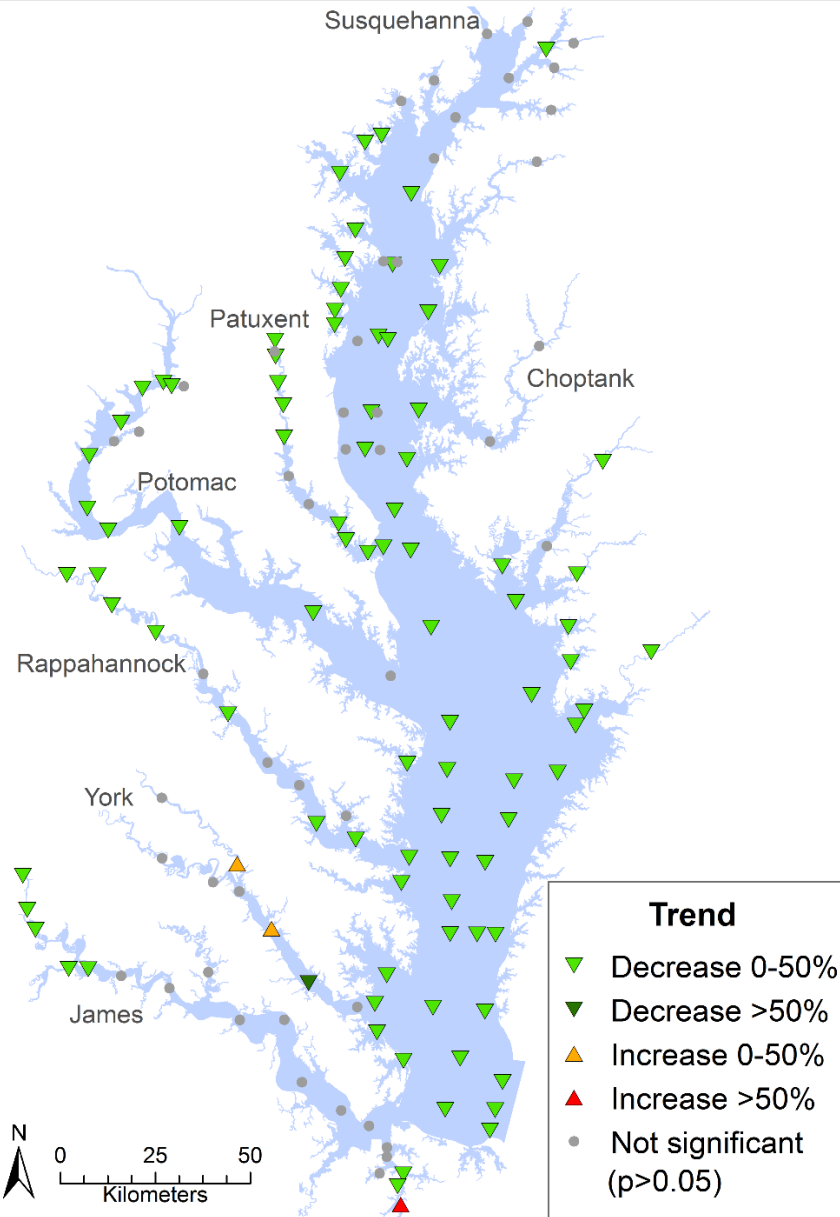
- 1.19 - 6.88
- 6.89 - 13.75
- 13.76 - 33.44

Squares with black outline are yields based on 2010-2014.

- Susquehanna
- Eastern Shore
- Western Shore
- Potomac
- Rappahannock
- York
- James



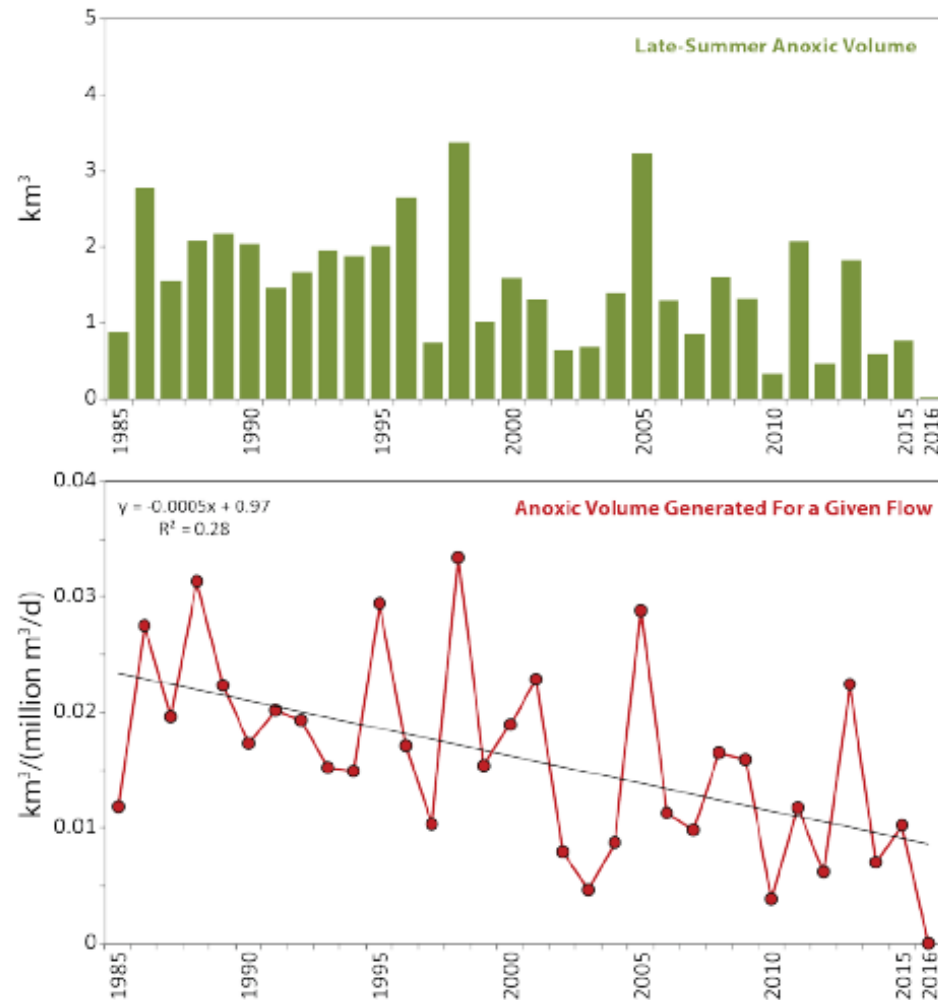
Trends for Surface Total Nitrogen in the Chesapeake Bay: 2005-2014



Trend

- ▼ Decrease 0-50%
- ▲ Decrease >50%
- ▲ Increase 0-50%
- ▲ Increase >50%
- Not significant (p>0.05)

The Chesapeake Bay's Summertime Dead Zone is Decreasing in Size



Source: Testa, 2017 unpublished

TF OH MH PH



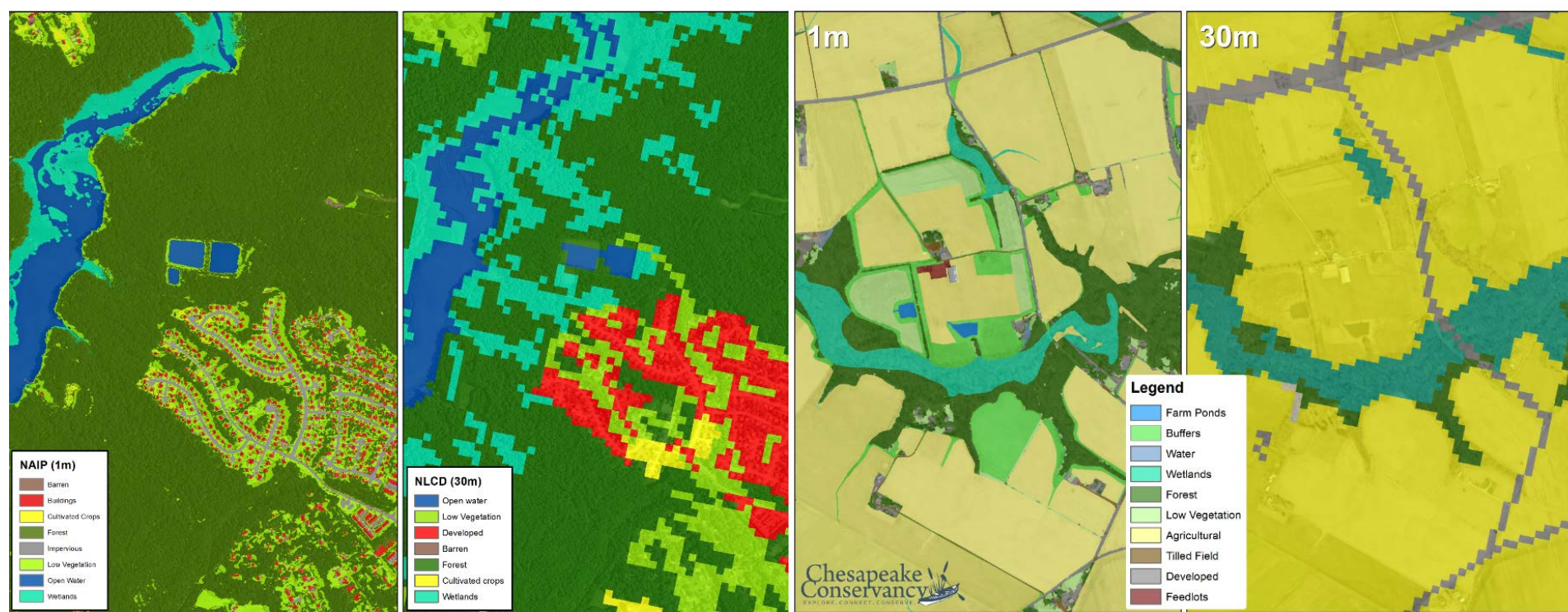
Chesapeake Bay Watershed Land Cover and Land Use Data Spatial Resolution Improved

1 Meter

30 Meter

1 Meter

30 Meter



Urban/Suburban Settings

Rural Settings

1 meter resolution land cover data for entire Bay watershed and all of Virginia supplemented by local government's submission of local land cover, land use, planning and zoning data

Midpoint Assessment Schedule

- **September 25-26:** Water Quality Goal Implementation Team meeting
- **December 19-20:** Principals' Staff Committee meeting
- **December 15:** EPA releases final Phase III WIP planning targets
- **December 2017– April 2018:** Review of draft Phase III Planning Targets
- **April 2018:** Decisions on final Phase III Planning Targets by the Principals' Staff Committee

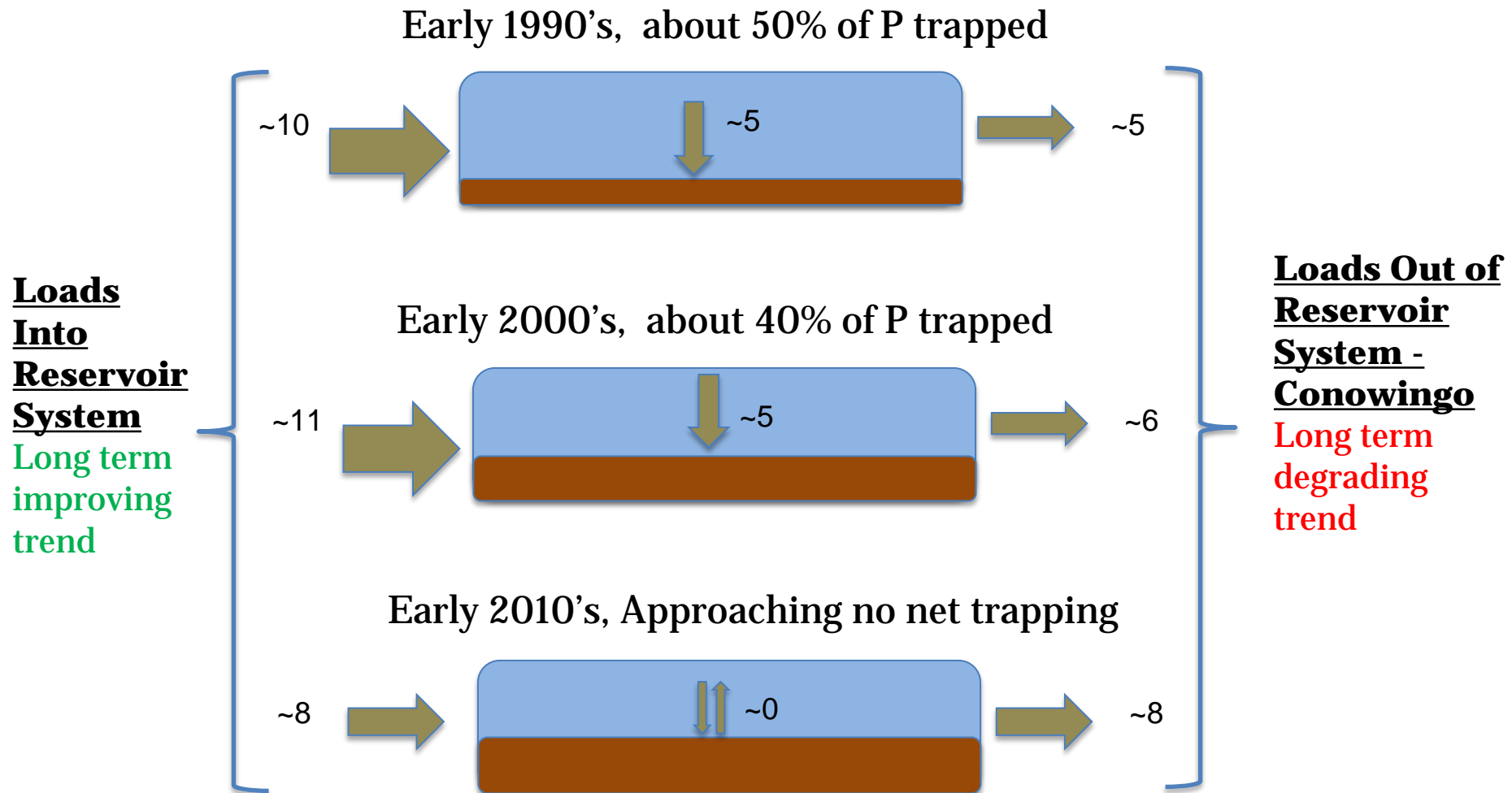
EPA Phase III WIP Expectations: Top 4

- Programmatic and numeric implementation commitments for 2018-2025
- Strategies for engagement of local, regional and federal partners in implementation
- Account for changed conditions: climate change, Conowingo Dam infill, growth
- Develop, implement local planning goals below the state-major basin scales

Phase III WIP Schedule

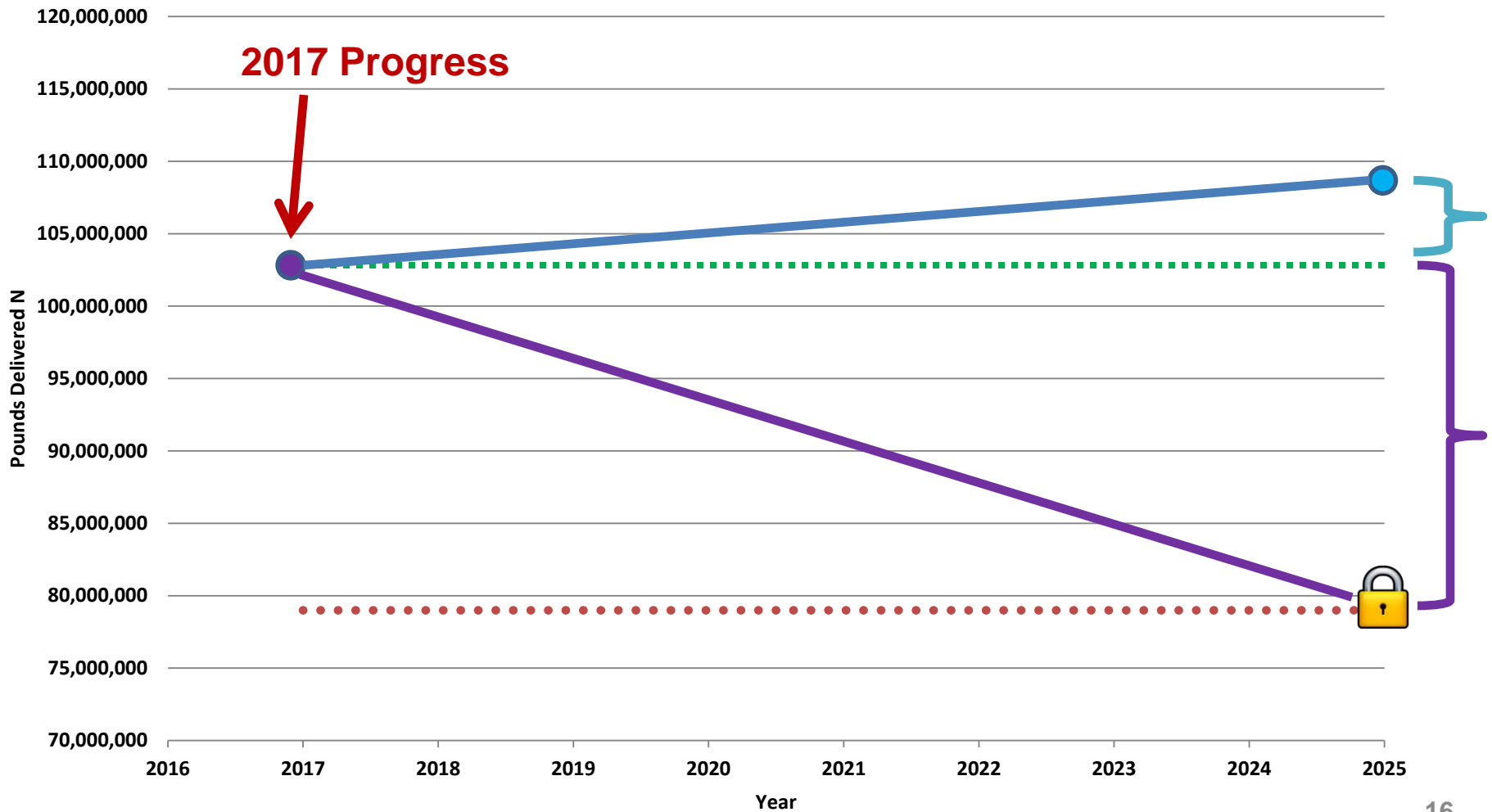
- **May-June 2018:** Jurisdictions work with local partners to develop local planning goals
- **January 2019:** Draft Phase III WIPs posted on jurisdictions' websites for partner and public stakeholder review
- **March 2019:** Partners and public stakeholders' feedback on draft Phase III WIPs due to jurisdictions
- **May 2019:** Final Phase III WIPs posted on jurisdictions' websites

Susquehanna River Dam and Reservoir System Has Lost its Former Trapping Capacity



Source: Data from USGS (2016), http://cbrim.er.usgs.gov/loads_query.html
loads are approximate and in units of million lbs/year using estimates for 1992, 2002, and 2012

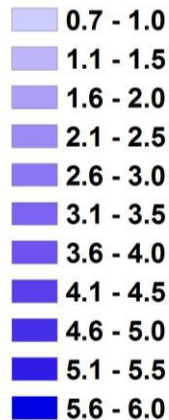
Phase III WIPs Need to Account for and Offset Growth in Pollutant Loads



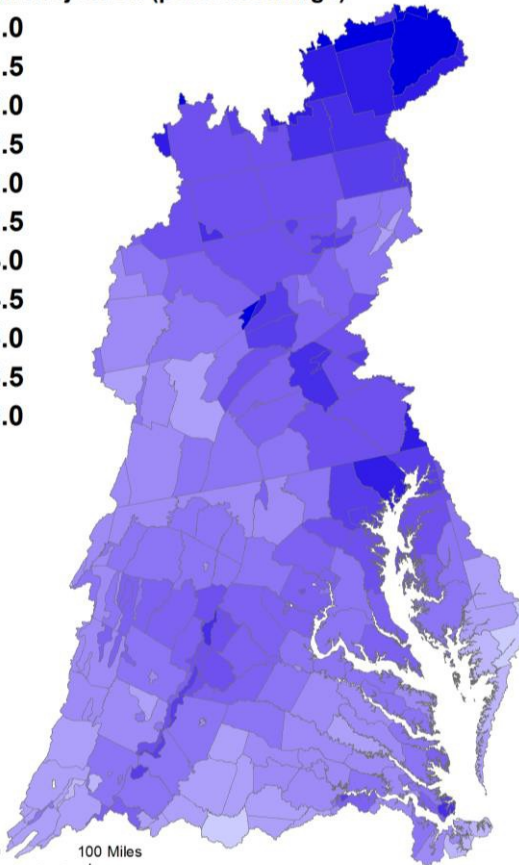
How to Incorporate Climate Change Considerations into the Phase III WIPs

Rainfall projections using the trends in 88-years of annual PRISM^[1] data

2025 Rainfall Projection (percent change)



0 25 50 100 Miles



Change in Rainfall Volume
2021-2030 vs. 1991-2000

Major Basins	PRISM Trend
Youghiogheny River	2.1%
Patuxent River Basin	3.3%
Western Shore	4.1%
Rappahannock River Basin	3.2%
York River Basin	2.6%
Eastern Shore	2.5%
James River Basin	2.2%
Potomac River Basin	2.8%
Susquehanna River Basin	3.7%
Chesapeake Bay Watershed	3.1%

Funding

Agriculture – Budget will specify allocation to WQIF
\$13.4 million (Part A), \$9.1 (Part B) + recordation fee (\$8 - \$10 million) is available

Stormwater – Unfunded SLAF Projects

2016 - \$27.5 million

2017 - \$14.38 million

Estimated Needs from VAMSA survey (14 local government)
for 2018 – 2019 Survey: \$152.6 million (50% match \$76 million) understates needs

Wastewater - No significant needs expected in 2018 -2019,
some projects on a longer term horizon; insignificant
compared to historical expenditures.

Assessing Funding Needs

Agricultural BMPs: Estimated annually in DCR “Needs Assessment” contained in annual Chesapeake Bay and Virginia Waters Clean-up Plan Report, 2016 report estimated approx. \$310 million from 2017 – 2025 (only bay watershed)

Stormwater: Some needs identified, likely further refined by MS4 permit obligations; Phase III WIP.

Wastewater: Most plants upgraded or in process, some future needs likely.

Future Role of EPA and other Federal Agencies



Contact Info

- Russ Baxter, russ.baxter@governor.virginia.gov
804-786-0044
- Jutta Schneider, jutta.schneider@deq.virginia.gov
804-698-4099
- Melanie Davenport, melanie.davenport@deq.virginia.gov
804-698-4038
- Joan Salvati, joan.salvati@deq.virginia.gov
804-698-4230
- James Davis-Martin, james.davis-martin@deq.virginia.gov
804-698-4298