



Maryland
Department of
the Environment

MD's Chesapeake Bay TMDL Watershed Implementation Plan

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Outline

- TMDL and WIP overview
- History and progress
- Schedule
- Chesapeake Bay Watershed Agreement



Chesapeake Bay TMDL Basics

- Established by EPA in 2010
 - Caps for nitrogen, phosphorus and sediment
 - Six Bay states and DC
- Accountability Framework
 - Develop Watershed Implementation Plans
 - Monitor progress
 - EPA consequences for inadequate progress

TMDL designed to ensure that all pollution control measures needed to fully restore the Bay and its tidal rivers in place by 2025



Watershed Implementation Plan (WIP)

- Required by EPA
- How each state will meet Bay TMDL targets
- Phase I WIP 2010
- Phase II WIP 2012
 - Included specific local actions
- Phase III WIP 2019
 - 2018-2025 actions to achieve and **maintain** TMDL





What's in a WIP?

- Each Bay watershed state & DC, in collaboration with local, regional, and federal partners
 - Implementation commitments to achieve TMDL
 - Local planning goals for areas smaller than major basin scale
 - Address changing conditions from climate change, Conowingo Dam infill, and **growth**



MD's Phase III WIP

- Identify pollution reduction already being done
- What can be accomplished by 2025?
- Identify any gaps
- Strategies to fill any gaps
- Funding needs for implementation
- Implementation **beyond 2025**
- Account for **growth**
- Climate change





Bay TMDL and 3-Phase Planning Process

2010 Chesapeake Bay TMDL established

General plan with strategies to meet at least 60% by 2017

Phase I WIP

2010

2017

2025

More detail on strategies, extensive local engagement, local plans and

Phase II WIP

2012

2017

2025

Detailed plan with local goals to meet 100% by 2025

Phase III WIP

2018

2025



Why a New Cleanup Plan Now?

- Models have been improved
 - **Improvement examples**
 - More monitoring data
 - Land cover
 - Conowingo
 - Updated BMP efficiencies
 - **Updated models approved December 2017**
- New final planning targets for states from EPA
May 2018



MD Progress to Date

- 2025 targets are within reach
- Overall health of Bay continues to improve
- Wastewater & agriculture have taken significant pollution reduction actions
- Reductions in air source contributions
- New stormwater permits
- Trading program

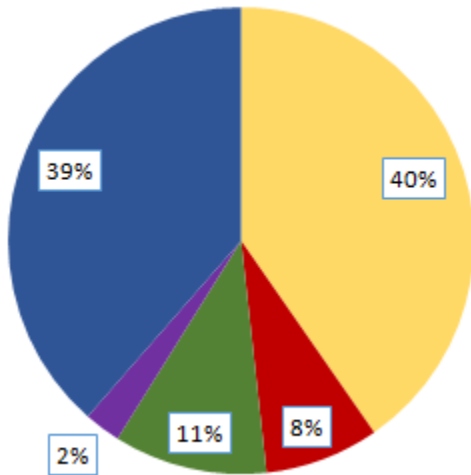
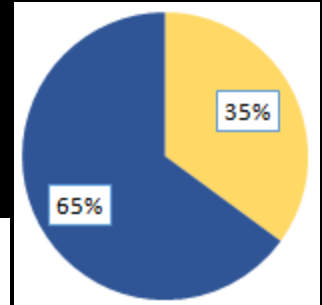




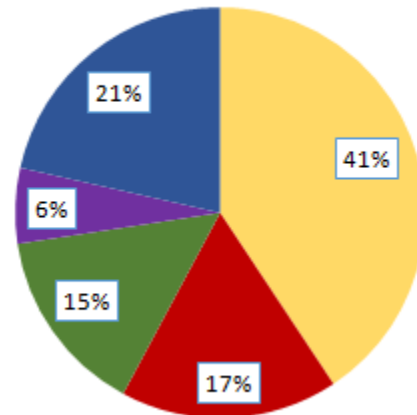
Maryland Nitrogen

■ Agriculture ■ Developed ■ Natural ■ Septic ■ Wastewater

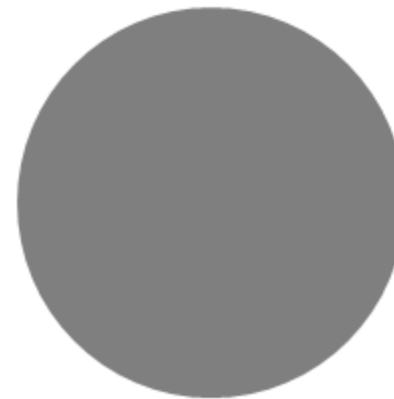
Where did the reductions come from?



1985
83.6 M lbs



2017
56.0 M lbs



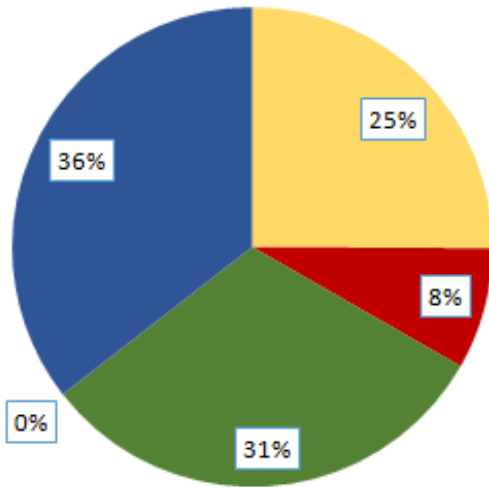
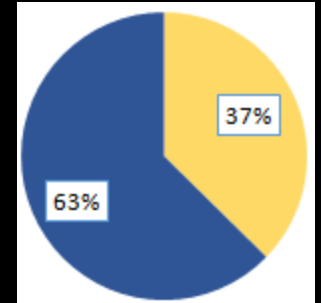
2025 WIP3
Target
45.3 M lbs



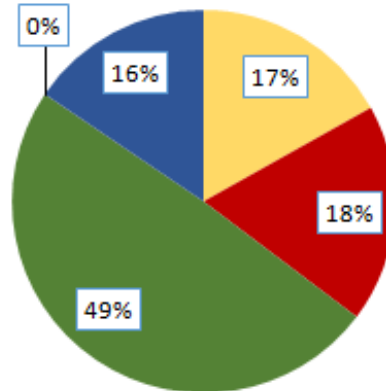
Maryland Phosphorus

Agriculture Developed Natural Wastewater

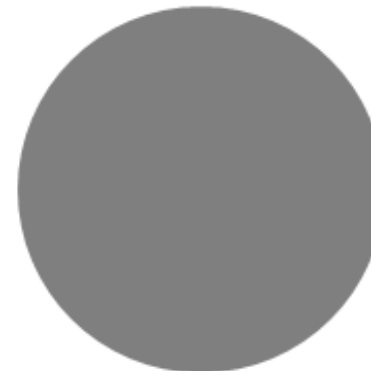
Where did the reductions come from?



1985
7.42 M lbs



2017
3.79 M lbs



2025 WIP3
Target
3.60 M lbs



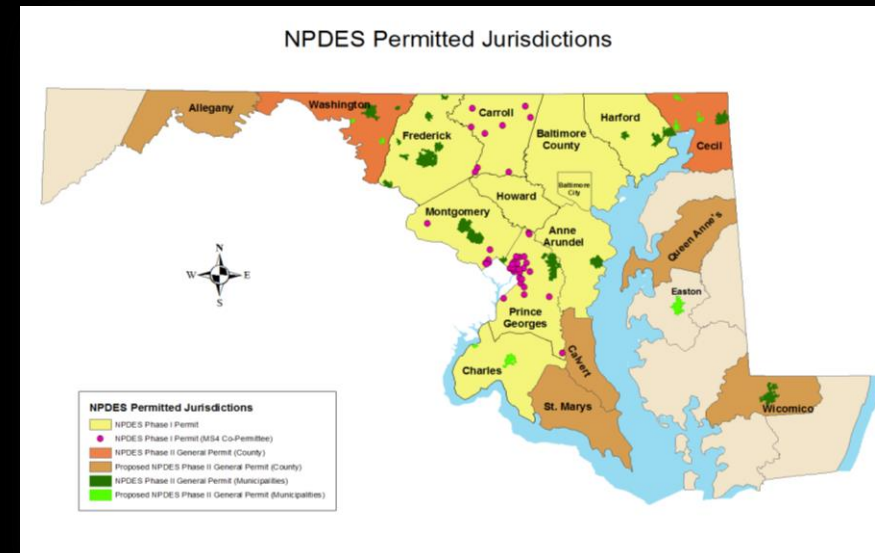
Developed Sector Highlights

- Cost-effective *wastewater* upgrades already implemented, continuing
- Focus on correcting failing *septic systems* to ensure public health protection
- *Stormwater* shift from moving water away fast to water quality improvement
 - Updated permits to align with WIP
 - Will take longer to meet goals



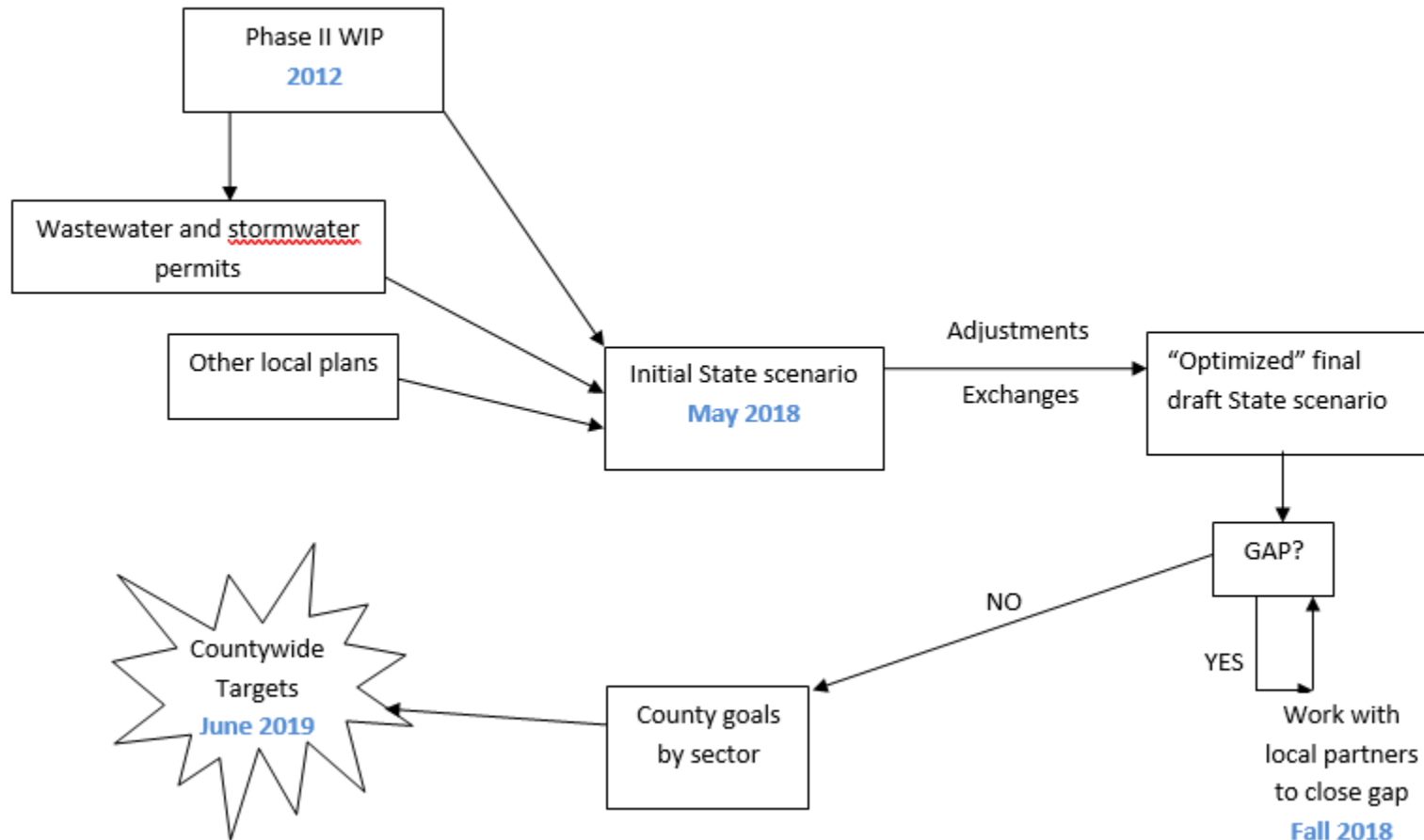
Stormwater Permits

- Phase I MS4 Permits to be issued in coming year
 - 70% of impervious land in MD
- Phase II MS4 Permits to incorporate restoration requirement
 - +20% of impervious land in MD
- Incorporate water quality trading
- Assess **growth in loads**
- Focus on improved reporting of stormwater management retrofits and practices on new development
- Implementation to continue **well beyond 2025**





MD WIP Development Process (draft)





MD Phase III WIP Schedule

- Spring 2018: Review draft state targets
- May-June 2018: Phase III WIP regional meetings
- Summer 2018: Technical webinars
- March 2019: Draft WIP complete
- June 2019: Final WIP complete
- *2025: Meet pollution reduction goals*



Beyond 2025

- “Trading in time”
 - Some sectors can achieve reductions faster
 - All sectors must eventually meet ultimate goals
- Wastewater capacity
- Permanent solutions needed
 - Example: Plant trees, or cover crops?
- Avoid “growth in loads,” not growth



Accounting for Growth

- Sometimes call “Aligning” for Growth in MD
- Required element of WIP
- When must we account for growth?
 - Depends on whether there’s a gap for 2025
 - Gap will be better understood by June 2018



Chesapeake Bay Watershed Agreement

- Signed 2014
 - Bay watershed states, DC, US
- Water quality
- Land conservation
- Vital land & water habitats
- Stewardship
- Sustainable fisheries
- Public access
- *And more...*





Progress Beyond Nutrients, Sediment

- Watershed-wide, improvements in
 - ✓ Forest buffers
 - ✓ Protected lands
 - ✓ Blue crab abundance
 - ✓ Public access site development
 - *And more!*
- **chesapeakeprogress.com**



In Summary

- Together, we're making progress
- Together, we'll update the Bay's cleanup plan
- We need to hold the line beyond 2025
- Everybody has a role





Questions?



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