

Chesapeake Bay TMDL:

Overview of Timing and Tasks related to the 2017 Re-evaluation and Phase III Watershed Implementation Plan Development (WIP III)

Virginia Chesapeake Bay Stakeholder Advisory Group

July 21, 2017

Midpoint Assessment Schedule - Milestones

Midpoint Assessment Deliverable	Current Schedule
Jurisdictions submit 2017 Progress data	December 1, 2017
Jurisdictions submit 2018-2019 milestones and final 2016-2017 milestones closeout report	January 15, 2018
EPA completes assessment of "60% by 2017 goal" using the Phase 5.3.2 suite of modeling tools	March/April 2018
Jurisdictions have opportunity to update 2018-2019 milestone commitments based on EPA feedback and 2017 Progress results	January 15, 2018 – March 2018
2017 Progress run in Phase 6 Model	April 2018

Midpoint Assessment Schedule - Models

Midpoint Assessment Deliverable	Current Schedule
Beta 6 Watershed Model Calibration	April 1 – May 30, 2017
Beta 6 Water Quality Sediment Transport Model Calibration	June 1 – June 30, 2017
Beta 6 Scenario Builder Outputs Review <ul style="list-style-type: none"> • Base Conditions (Land use, Animals, Septic Systems) • Nutrient spread resulting from Phase 6 land uses • BMP application to Phase 6 land uses 	April 1 – July 31, 2017
Partnership's fatal flaw review of the suite of Beta 6 models	June 1, 2017 – July 31, 2017
Resolution of Fatal Flaws Identified Through Partnership Review and Final Calibration (if necessary)	August 2017
Partnership Approval of Phase 6 Modeling Tools	September 2017
Run scenarios supporting Planning Targets, Growth, Conowingo, and Climate Change Decisions	August 1 – September 30, 2017

Midpoint Assessment Schedule - WIP III

Midpoint Assessment Deliverable	Current Schedule
Final policy decisions on Conowingo, climate change and accounting for growth	Late October 2017
Approval of draft Phase III WIP Planning Targets for distribution to other partners and stakeholders	Late October 2017
Partnership's review of draft Phase III WIP planning targets	October 31, 2017 – February 28, 2018
EPA releases final Phase III WIP expectations	November 2017
Any proposed changes to the draft Planning Targets, including special case requests, due to the Chesapeake Bay Program Office	February 28, 2018
Release of final Phase III WIP planning targets	March 2018
Draft Phase III WIPs posted on jurisdictions' websites for partner and public stakeholder review	December 14, 2018
Partners and public stakeholders' feedback on draft Phase III WIPs due to jurisdictions	February 15, 2019
Final Phase III WIPs posted on jurisdictions' websites	April 15, 2019

Phase III WIP Planning Targets

- Process to equitably distribute the Baywide Loads to the Bay States and DC.
- State-Basin Scale load targets for Nitrogen, Phosphorus and Sediment
 - Virginia-Potomac
 - Rappahannock
 - York
 - James
 - Eastern Shore
- Draft: October 31, 2017 Final: March 2018
- WIP III must achieve loads that satisfy these targets
- EPA Expectations includes a requirement that local planning goals must be established at a scale finer than these planning targets.

Local Area Targets Task Force

- **Recommendations:**
 - Should not be targets, but goals
 - Flexibility for Chesapeake Bay jurisdictions to determine the scale of local targets below the river basin scale – establish goals, not targets
 - Scale: numerous options (locality, SWCD, regional, sub watershed)
 - How goals should be expressed: numerous options (numeric, % BMP implementation)
- Recommendations incorporated into final EPA Expectations Document

Local Planning Goals Discussion

Options for Scale

1. Locality jurisdictional boundaries (city, town, county, borough, township) or collections of such sub-state political subdivisions;
2. Federal facilities;
3. State facilities;
4. Soil & Water Conservation District boundaries;
5. Regional entity boundaries (i.e. planning district commissions);
6. Watershed or sub-watersheds;
7. Targeted areas with high nitrogen, phosphorus or sediment yields (loadings);
8. Segment-sheds as depicted in the 2010 Chesapeake Bay TMDL;
9. Any area (e.g., MS₄), entity or political subdivision based on an identified need for pollutant reductions for a given source sector or sectors; and
10. Some combination of the above.

Local Planning Goals Discussion

Options for How to Express Goals

1. Percentage of BMP Implementation;
2. Quantifying implementation goals for particular BMPs;
3. Numeric nitrogen, phosphorus and sediment goals
 - a. Numeric loads for one or more pollutants (delivered load of 300 lbs. phosphorus)
 - b. Numeric reductions for one or more pollutants (reduce loads by 4000 lbs. nitrogen)
 - c. Yield based goals for one or more pollutants (0.41 lbs. phosphorus/acre/year from developed lands);
4. Programmatic goals that include specific implementation, oversight and enforcement requirements;
5. Pace of implementation over a certain time frame;
6. Percent reduction of existing loads over a certain time frame; and
7. Percent of flow in certain tributaries/runoff captured – flow-based goals.

Discussion of Key Midpoint Assessment Policy Decisions: Accounting for Growth, Conowingo Dam, Climate Change

Virginia Chesapeake Bay Stakeholder Advisory Group

July 21, 2017

Accounting for Growth Policy Decision

How to account for growth:

- Using 2025 forecasted conditions to account for projected growth
 - Build Phase III WIP input decks on 2025 forecasted conditions
 - Factor into future milestones, updating forecasted conditions every 2 years

OR

- Using 2010, 2012 or 2017 conditions and making each jurisdiction responsible for developing specific procedures, underlying data sources, and programmatic commitments for regular accounting for growth and tracking/accountability mechanisms for ensuring all new or increased pollutant loads are fully offset

Accounting for Growth Policy Decisions

Base Conditions for WIP 3 Alternatives Under Consideration

- 2010 – Base Year used in TMDL, Phase 1 and Phase 2 WIPs
- 2012 – Year associated with most recent Land Use data
- 2017 – Mid-Point Assessment Year
- 2025 – Goal date for full implementation of WIPs. All practices in place to meet water quality standards

Accounting for Growth Policy Decisions

Base Conditions for WIP 3

Factors to Consider

- Each year after 2010 means additional effort to explicitly plan to reduce loads resulting from forecasted land use change
- The further from 2012, the greater the uncertainty associated with forecasting or hind casting land use change
 - 2-year Milestone process includes forecast of land use change that could reduce uncertainty risk through time
- The further from 2025, the greater the burden of demonstrating that growth is accounted for to meet reasonable assurance requirements
- In 2025, jurisdictions will be evaluated on progress against forecasted 2025 conditions regardless of the WIP base year

Accounting for Growth Policy Decisions

Base Conditions for WIP 3

Evaluating the 2025 Alternative

- Pros
 - WIP 3 explicitly accounts for forecasted growth through 2025
 - Establishes a basis for crediting land use planning and land conservation as “BMPs”
 - WIPs developed with the end state in mind
 - Could provide additional flexibility for economic considerations at the locality level
- Cons
 - Increases uncertainty as a result of forecasting land use to 2025
 - Higher level of effort needed in WIP

Accounting for Growth Policy Discussion

How to account for growth:

- Using 2025 forecasted conditions to account for projected growth
 - Build Phase III WIP input decks on 2025 forecasted conditions
 - Factor into future milestones, updating forecasted conditions every 2 years

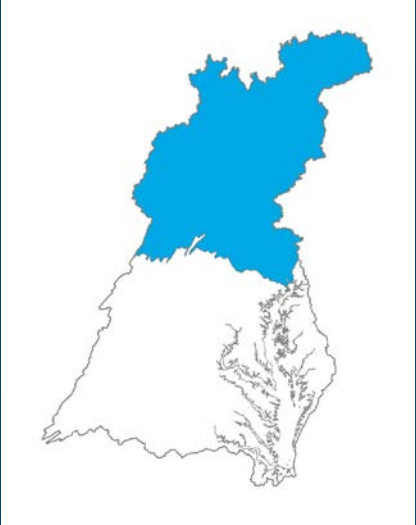
OR

- Using 2010, 2012 or 2017 conditions and making each jurisdiction responsible for developing specific procedures, underlying data sources, and programmatic commitments for regular accounting for growth and tracking/accountability mechanisms for ensuring all new or increased pollutant loads are fully offset

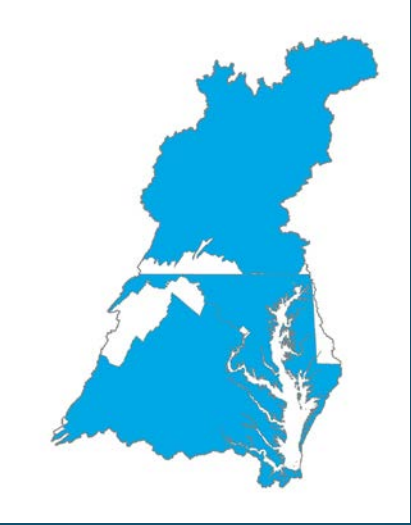
Conowingo Dam Infill Policy Decisions

Who?

Susquehanna
Watershed Only



Susquehanna +
MD and VA



Entire
Watershed



When?

By 2025

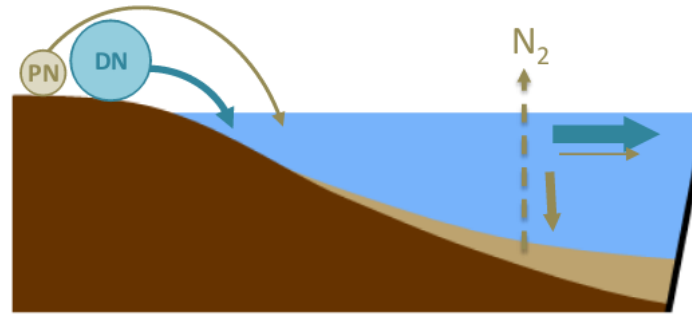
Beyond 2025

Post 2025

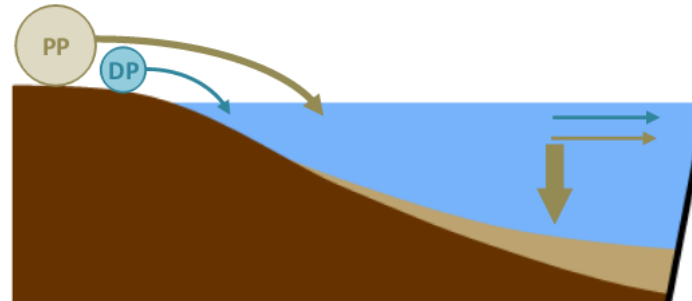
Understanding the Conowingo Problem

Characteristics of Net Reservoir Trapping

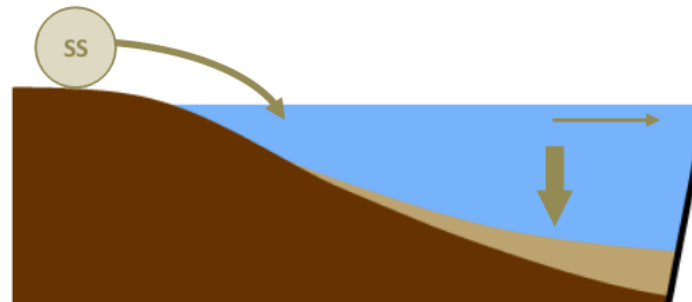
Nitrogen



Phosphorus



Sediment

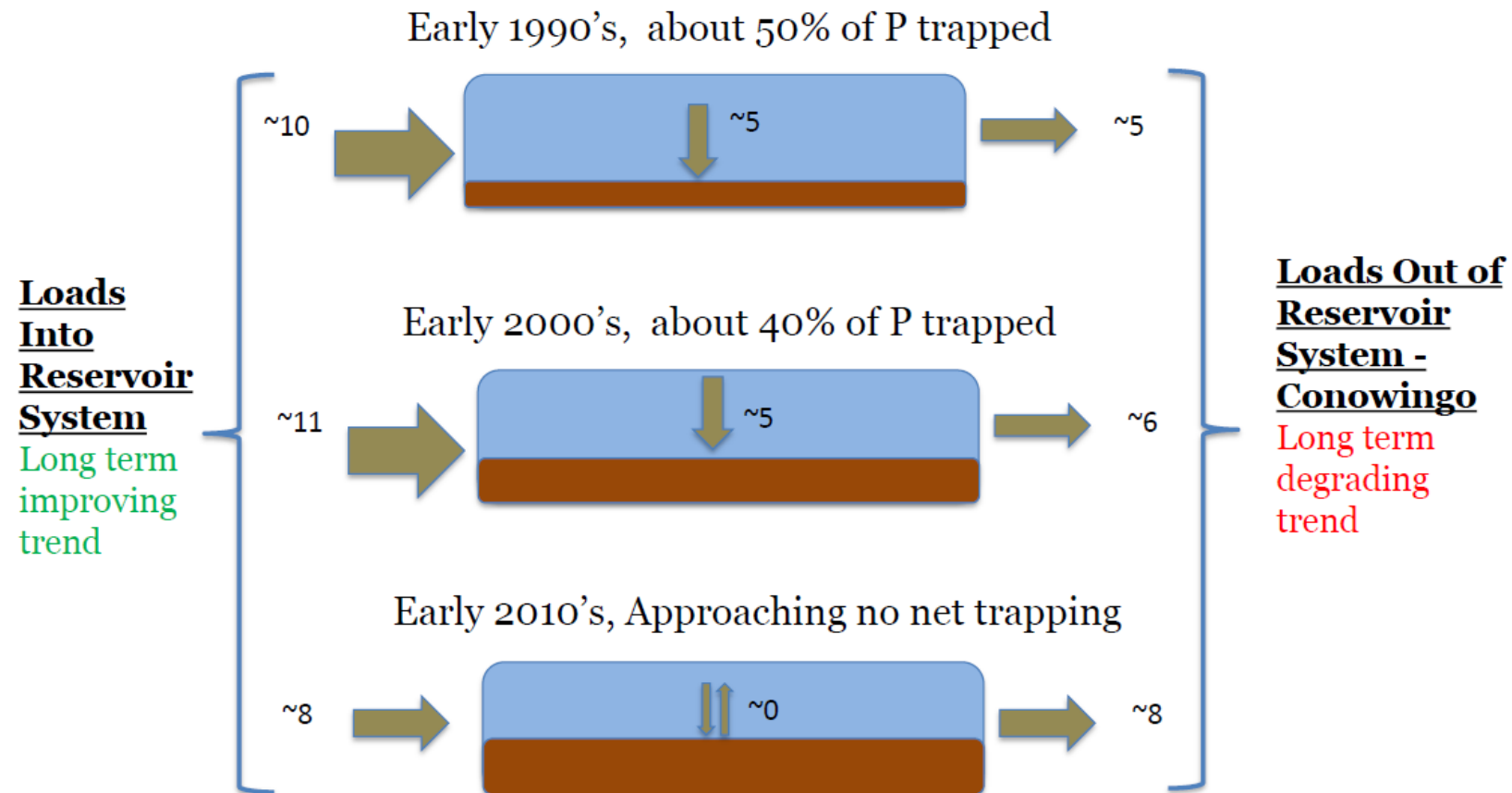


Key:

PN=	Particulate Nitrogen
DN=	Dissolved Nitrogen
PP=	Particulate Phosphorus
DP=	Dissolved Phosphorus
SS=	Suspended Sediment

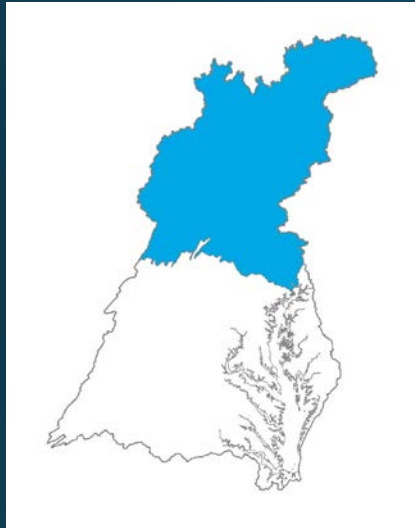
Understanding the Conowingo Problem

Phosphorus Loads Into, Trapped Within and Exiting the Reservoir System: 1990s-2010s



Conowingo Dam Infill Decision – Who?

Susquehanna
Watershed Only



Susquehanna +
MD and VA



Entire
Watershed



Potential Range of Percent Increase in Phosphorus Load Above Each Jurisdiction's Phase II WIP Load

NY:	10 - 21
PA:	12 - 25
MD:	1 - 1
VA:	0 - 0
DE:	0 - 0
DC:	0 - 0
WV:	0 - 0

NY:	6 - 11
PA:	7 - 14
MD:	7 - 16
VA:	4 - 9
DE:	0 - 0
DC:	0 - 0
WV:	0 - 0

NY:	5 - 10
PA:	7 - 14
MD:	6 - 14
VA:	4 - 8
DE:	9 - 20
DC:	1 - 3
WV:	5 - 11

Conowingo Dam Infill Decision – When?

By 2025

- Additional Conowingo loads included in planning targets
- Implementation planned to address additional loads in Phase III WIPs
- Implementation completed by 2025

Beyond 2025

- Additional Conowingo loads included in planning targets
- Implementation planned to address additional loads in Phase III WIPs
- **Implementation completed by a date specified after 2025**

Post 2025

- **Additional Conowingo loads identified, but not included in planning targets**
- **Phase III WIPs commit to address loads post-2025**
- **Implementation planning to address loads after 2025**

Conowingo Dam Infill Policy Discussion

Who?

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Watershed Only



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When?

By 2025

Beyond 2025

Post 2025

Climate Change Policy Decisions

How to address climate change considerations:

- **Quantitatively** – accounting for forecasted additional loads due to climate change impacts explicitly in the Bay Models (projected through 2025 or 2050)
 - Base Conditions (Watershed and Estuary)
 - Assimilative Capacity (Estuary)
- **Qualitatively** – adaptively manage climate change considerations through the implementation of BMPs (with climate resilient characteristics) through the Phase III WIPs and 2-year milestones
 - Programmatic commitments to evaluate new information
 - BMP Selection
 - Adaptive Management