

DRAFT Conowingo WIP (CWIP) Presentation to the PSC

May 22, 2020

Conowingo WIP Agenda

- Timeline
- Principles
- Modeling Summary
- Geographic Extent
- Financing Principles
- Lessons Learned
- Decisions Needed

Proposed CWIP Timeline

- PSC Decisional Call – June 26
- Draft CWIP released for public comment – July 1
- PSC comments on Draft Final CWIP – October 23
- Final CWIP Released – November 6
- Draft Finance Strategy to Steering Committee and PSC – December 1
- Final CWIP Finance Strategy Released – March 2021

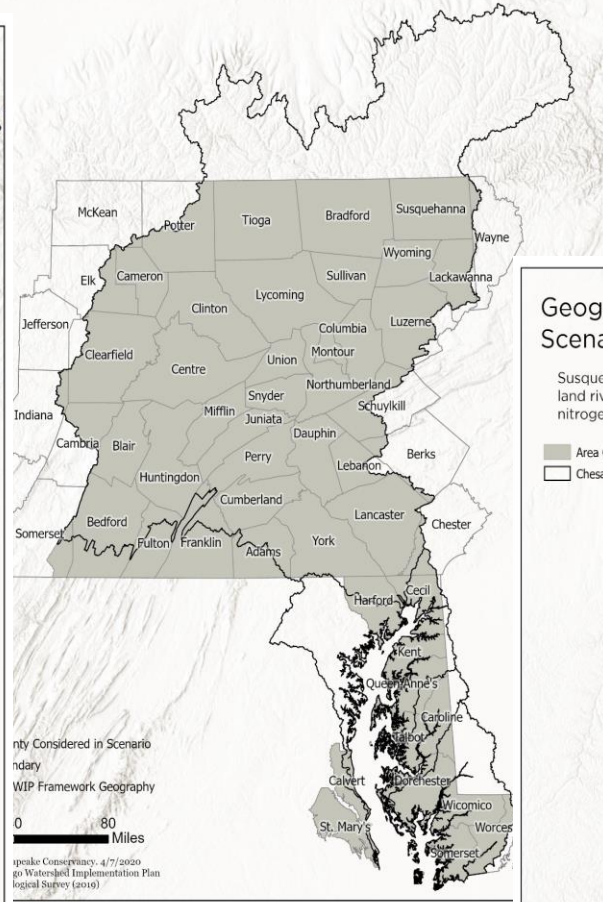
CWIP Principles*

- 1. Fairness Principle:** Strive for fairness, equity, and feasibility among state, local, and federal and other partners participating in the Conowingo WIP regarding level of effort, financing, tracking, resource sharing, and third party access.
- 2. Governance Principle:** Operate as an Action Team as defined in the document “Governance and Management Framework for the Chesapeake Bay Program Partnership”. Strive for consensus using the Chesapeake Bay Program Partnership Consensus Continuum as described in the document. When consensus cannot be reached, the issue will be deferred to the PSC with a summary of the issue and the different options and opinions expressed by the members.
- 3. Consistency Principle:** Ensure consistency with the EPA Phase 3 WIP expectations and Conowingo WIP framework documents.
- 4. Transparency Principle:** Establish clear tracking, accountability and verification consistent with expectations for jurisdictions and to transparently demonstrate which practices are planned for, implemented and maintained in the Conowingo WIP vs state WIPs in order to avoid double-counting.
- 5. Efficiency in Innovation Principle:** Implement the Conowingo WIP building on existing, successful programs, as much as is feasible, to avoid creating duplicative bureaucracies. At the same time, strive for innovation, leverage new technologies, and, where appropriate, develop new implementation approaches.

CWIP Modeling Scenarios Summary

- Twelve CAST scenarios were developed in order to meet 6 million pound nitrogen reduction goal
 - Steering Committee agreed to focus on nitrogen consistent with jurisdictional WIPs
- Range of Geographic Scales
 - Susquehanna Watershed only – MD, PA, NY
 - Phosphorus “Conowingo Shell” entire – MD, PA, NY
 - Phosphorus “Conowingo Shell” with only N-effective Land River Segments within the shell – MD, PA, NY
 - Susquehanna Watershed with additional N-effective Bay-Wide Land River Segments outside of the Susquehanna – WV, VA, DE, MD, PA, NY
- Range of Best Management Practices
 - Stream restoration and natural filter practices
 - Cost-effective agricultural best management practices with and without urban stormwater best management practices
- Range of Costs
 - ~ \$51 – \$367 million/yr.

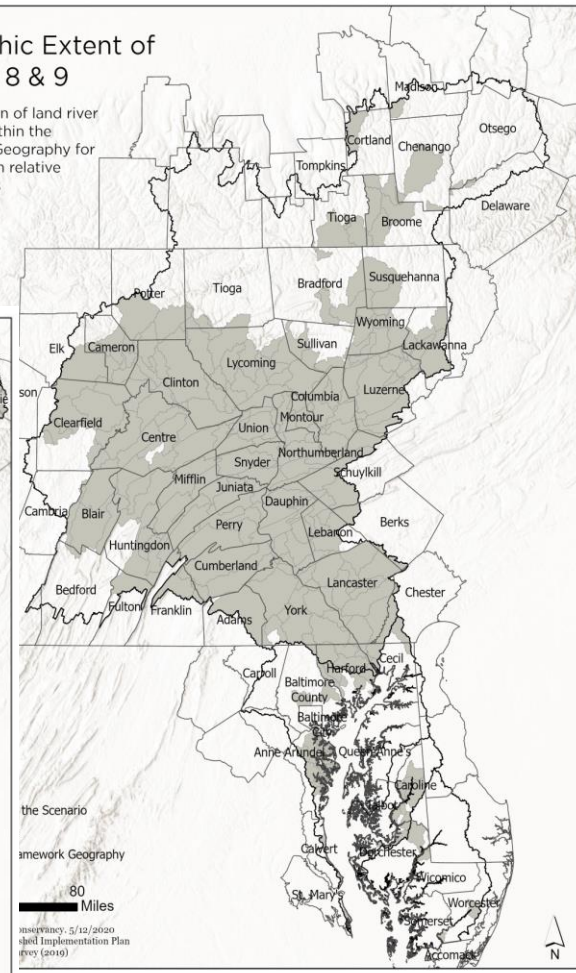
Geographic Extent of Scenario 1



Pennsylvania, Maryland

Geographic Extent of Scenario 8 & 9

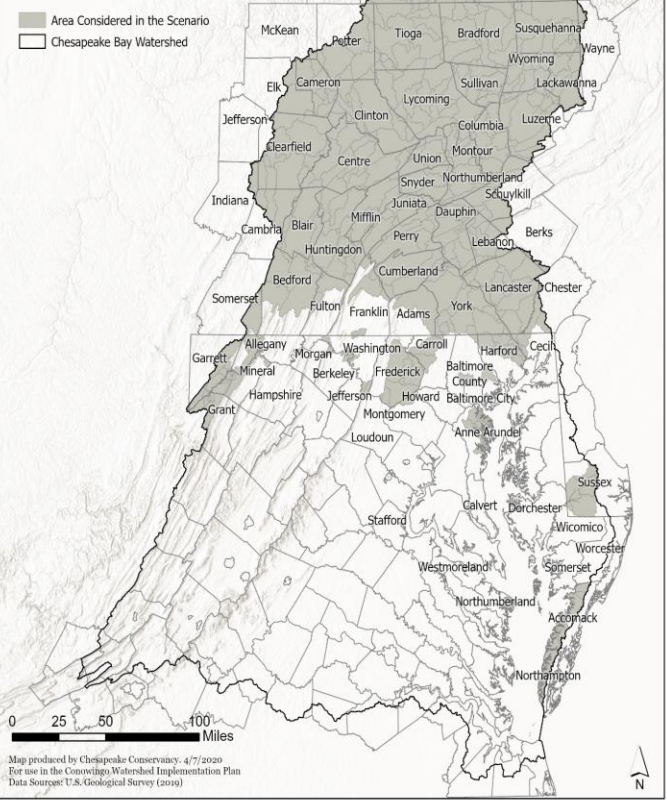
Upper median of land river segments within the Framework Geography for total nitrogen relative effectiveness



New York, Pennsylvania, Maryland

Geographic Extent of Scenario 2

Susquehanna + top quartile of land river segments for total nitrogen relative effectiveness

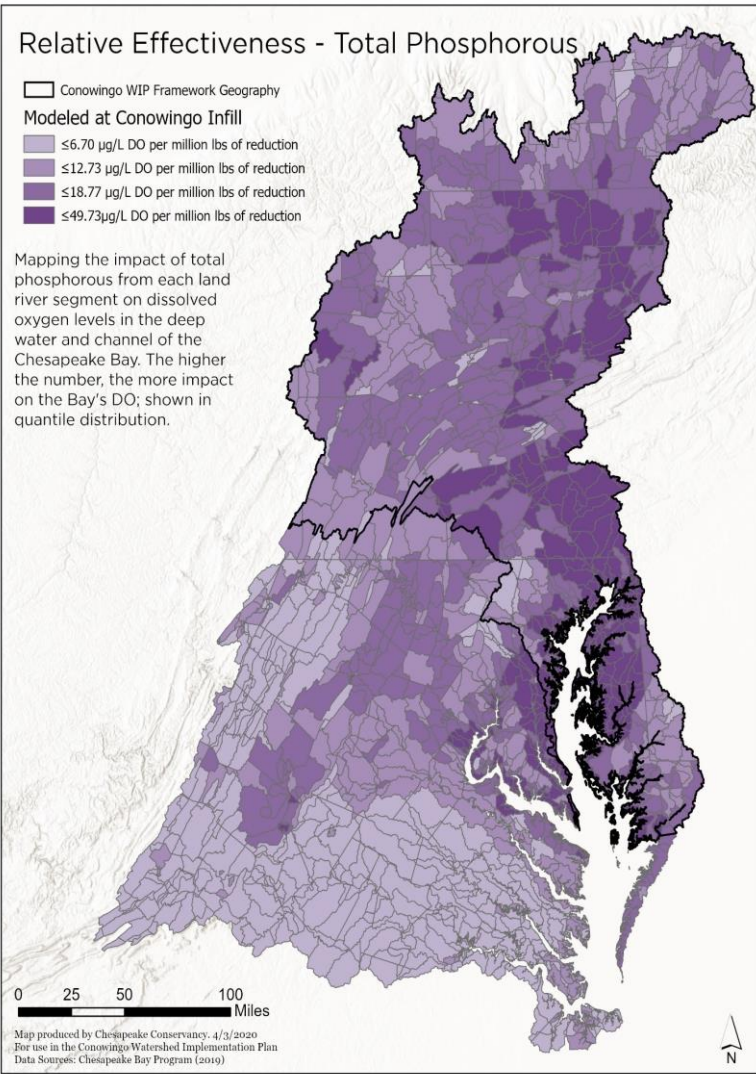


New York, Pennsylvania, Maryland, West Virginia, Virginia, Delaware

Relative Effectiveness - Total Phosphorous

- Conowingo WIP Framework Geography
- Modeled at Conowingo Infill
- ≤6.70 µg/L DO per million lbs of reduction
- ≤12.73 µg/L DO per million lbs of reduction
- ≤18.77 µg/L DO per million lbs of reduction
- ≤49.73µg/L DO per million lbs of reduction

Mapping the impact of total phosphorous from each land river segment on dissolved oxygen levels in the deep water and channel of the Chesapeake Bay. The higher the number, the more impact on the Bay's DO; shown in quantile distribution.



PSC Conowingo WIP Framework Geography

Draft Financing Principles

- BMP implementation and funding will work across jurisdictional boundaries
 - Collaborative and holistic
- New financing system needs to work in harmony with existing financing systems
- Three components of the financing system
 - Efficiency
 - Provides return on investment - \$/pound nitrogen
 - Outcome, not practice-based – i.e., pay for performance.
 - Durability
 - Ensuring revenue flow and investment over the long-term
 - Requires predictability – e.g., risk adjusted cost needs to be accounted for (annual practices are higher risk than multi-year structural practices)
 - Scale
 - Has to provide enough money to pay for CWIP implementation.
 - Considers all fund sources (unregulated/regulated public capital; unregulated/regulated private capital; philanthropic capital)
 - Should positive externalities/cobenefits and make the market work to Bay's benefit

Lessons Learned

- When BMPs are kept the same across larger geographic scales, there is no relative increase in costs.
- The Steering Committee could not reach consensus on a single modeling scenario, geography or responsible sector(s) for the draft CWIP, needing more programmatic and policy analysis to do so. To do so presented conflicts with the following CWIP principles:
 - Governance Principle – getting closer to consensus was not going to lead to timely decisions given ongoing needs for information and discussion.
 - Fairness Principle – prescribing geographies and BMPs raised questions of equity, and feasibility among the partnership.
 - Efficiency in Innovation Principle - the financing strategy's emphasis on market forces and private capital to decide the type and location of practices suggest that restrictions on geography or BMPs may stifle innovation and raise costs.
- Presenting multiple scenarios in the CWIP illustrates relative costs and opportunities for the private sector while providing room for flexibility and innovation.
- BMP costs do not account for all the factors that can affect costs (e.g., opportunity costs and diminishing returns as you approach capacity).

PSC Decisions Needed

- Decision to use Nitrogen-based effectiveness for targeting
- Decision on geographic scale for the Draft CWIP?
 - Limit or not limit the scale to:
 - Susquehanna Watershed only – MD, PA, NY
 - Phosphorus “Conowingo Shell” entire – MD, PA, NY
 - Phosphorus “Conowingo Shell” with only N-effective Land River Segments within the shell – MD, PA, NY
 - Susquehanna Watershed with additional N-effective Bay-Wide Land River Segments outside of the Susquehanna – WV, VA, DE, MD, PA, NY
- Decision on BMP/Sectors for the Draft CWIP?
 - Limit or not limit BMPs to current scenarios:
 - Stream restoration and natural filter practices \$\$\$
 - Agriculture and Urban Stormwater \$\$
 - Agriculture Only \$
- Decision on whether to include one or more scenarios in the draft CWIP when released for public comment?
 - Steering Committee recommends multiple scenarios (up to 4 scenarios)