

EPA Expectations: Implementation of the Conowingo Watershed Implementation Plan's Phased Approach

Purpose

The U.S. Environmental Protection Agency (EPA) is providing these expectations for the phased approach for the Conowingo Watershed Implementation Plan (CWIP) to the Chesapeake Bay Program (CBP) partnership and the public in accordance with its oversight role under the CBP partnership's Accountability Framework and the CBP partnership's Principals' Staff Committee (PSC) framework for the CWIP. These expectations are intended to provide further detail and benchmarks to fully implement the CWIP's phased approach that was agreed to by the PSC so EPA, the CBP partnership, and the public have confidence that the CWIP load reductions will be achieved.

Background

The Conowingo Dam is a hydroelectric power facility that spans the width of the Susquehanna River just south of the Pennsylvania/Maryland border. When the Chesapeake Bay Total Maximum Daily Load (Bay TMDL) was established in 2010, it was estimated that the reservoir behind the Conowingo Dam would trap sediment and associated nutrients through 2025. Since then, the CBP partnership, building from the U.S. Army Corps of Engineers Lower Susquehanna River Watershed Assessment study, assessed the loss of trapping capacity of three dams and reservoirs on the lower Susquehanna River, especially the Conowingo Dam and reservoir. The CBP partnership determined that the Conowingo reservoir has reached dynamic equilibrium, which means that it has no more trapping capacity. As a result, more nitrogen, phosphorus, and sediment are now entering the Chesapeake Bay than were estimated when the Bay TMDL was established in 2010. The CBP partnership estimates that, after fully implementing the Bay TMDL and the jurisdictions' Phase III WIPs, an additional reduction of approximately 6 million pounds of nitrogen and 0.26 million pounds of phosphorus is needed to mitigate the water quality impacts of Conowingo Reservoir infill. This additional reduction must be addressed to attain applicable water quality standards in the Chesapeake Bay.

The PSC agreed to address the additional nutrient loads due to Conowingo Dam infill through a collaborative WIP in which all jurisdictions would participate and pool resources. To assist in this effort, the PSC established the CWIP Steering Committee and EPA funded three cooperative agreements to support the development and implementation of the CWIP and the associated two-year milestones.

The CWIP Steering Committee, in collaboration with EPA grantee support, developed and finalized a CWIP that targeted BMP implementation in the most effective areas within the Susquehanna Basin. EPA, in its evaluation of the CWIP, found that while the proposed plan included a modeling scenario that met the nutrient targets, there were concerns with the continued lack of dedicated funding from the jurisdictions to implement the final CWIP and associated two-year milestones. Without dedicated funding in place or firm commitments to support implementation of the practices outlined in the CWIP, EPA could not be confident that these load reductions would be achieved.

Since the release of EPA's evaluation in January 2022, there have been ongoing discussions with the jurisdictions about a proposed path forward to either implement the CWIP or incorporate the CWIP nutrient targets into the jurisdictions' Phase III WIPs. As a result of these discussion and at its July 19, 2022 meeting, the PSC reached consensus that the Susquehanna Basin jurisdictions of Pennsylvania, New York, and Maryland can address the Conowingo nutrients loads through the actions outlined in the

CWIP using a phased approach that extends beyond 2025. This phased approach will allow time to build the organizational infrastructure to implement the CWIP. Phase 1 will focus on implementation through 2025. EPA, in coordination with the PSC, will assess progress towards achievement of the Conowingo nutrient targets in 2026 to determine if there will be a Phase 2 of implementation or if an alternative path forward needs to be pursued. The Conowingo nutrient assignments to the Susquehanna jurisdictions will be those as reflected in the final PSC-approved CWIP and shown in the table below.

Summary of Load Reductions (Millions of Pounds) in Primary CWIP Strategy

Jurisdiction	Nitrogen Load Reduction	Phosphorus Load Reduction	Sediment Load Reduction
Maryland	0.18	0.003	8
New York	0.08	-0.013	-3
Pennsylvania	6.41	0.153	172
Total	6.67	0.143	177

EPA Expectations for the CWIP Phased Approach

Through the Conowingo two-year milestones and/or an amended CWIP, EPA expects the following numeric and programmatic elements to be addressed by the end of 2025 to demonstrate that sufficient progress is being made towards achievement of the CWIP nutrient targets. EPA recognizes that the actions implemented by the Susquehanna Basin jurisdictions may differ from the CWIP and associated two-year milestone commitments based on changing conditions and the availability of new information.

EPA will continue to provide technical, contractual, and programmatic assistance to the CWIP Steering Committee to support CWIP and two-year milestone planning and implementation efforts.

Numeric Implementation Commitments

- ***Load Reduction Progress:*** Demonstrate, through the annual submission of BMP data to EPA, that at least 25 percent¹ of the necessary nitrogen reductions and 25 percent of the necessary phosphorus reductions will be achieved by December 31, 2025.
- ***Best Management Practice (BMP) Targeting:*** Target implementation of BMPs in the most effective areas within the Susquehanna Basin as reflected in the final and PSC approved CWIP. In addition, the BMPs that are the most effective load reduction practices and that account for at least 60 percent of the nitrogen reductions in the CWIP should be prioritized for implementation. All BMPs implemented, tracked, verified, and reported to EPA for annual progress must be CBP partnership-approved BMPs.
- ***Annual Submission of BMP Progress and Verification Data:*** Submit load reduction progress information – tracked, reported, and verified practices over the prior July 1 through June 30 period – to EPA by December 1st of each year by entering the BMPs into the National Environmental Information Exchange Network.

Programmatic Implementation Commitments

¹ The 25 percent reduction goal is based on EPA’s understanding of what was submitted by the CWIP Steering Committee in the Conowingo 2022-2023 milestones.

- Identify the specific funding, financing, cost-share, technical assistance, voluntary, incentive, policy, programmatic, legislative, and regulatory actions needed to be taken to achieve at least 25 percent of the CWIP nutrient targets by December 31, 2025.
 - This includes increasing and/or sustaining financial cost share, technical assistance, regulatory oversight, and other incentives to implement the practices specified in the CWIP and two-year milestones.
- Provide detailed and more systematic documentation of planned changes to existing programmatic capacity or development of new programmatic capacity to implement the BMPs to achieve at least 25 percent of the CWIP nutrient targets by December 31, 2025.
 - This includes documentation of which programs will be targeted and how to balance resource and technical assistance needs with the existing jurisdictions' Phase III WIPs.
- Commit the necessary funding to implement the programmatic and numeric actions to achieve at least 25 percent of the nutrient reductions by December 31, 2025.

Local Engagement Strategies

- Identification of specific target audiences for local, regional, and federal engagement in the CWIP and milestone implementation process where BMP implementation is expected to occur.
- Clear description of the specific roles that local, regional, and federal partners will play in implementing programmatic and numeric commitments in each of the identified source sectors of the CWIP and two-year milestones between 2022-2025, including tracking, verification, and reporting of those commitments.

EPA's Assessment of Progress

EPA will evaluate the CWIP and Conowingo two-year milestones in the same way that EPA evaluates the Bay jurisdictions' WIPs and two-year milestones. Specifically, EPA will evaluate progress² towards meeting these numeric and programmatic elements on an annual basis and will post the results of these progress assessments to EPA's [Chesapeake Bay TMDL website](#). EPA also will conduct a numeric and programmatic assessment in 2026 of the CWIP Phase I implementation to determine whether sufficient programmatic and numeric progress has been made in meeting 25 percent of the CWIP nutrient targets and how to proceed going forward. This assessment of Conowingo progress in 2026 will be separate from the assessment of the Bay jurisdictions' progress toward the CBP partnership's 2025 goal.

EPA will use the latest version of the CBP partnership's Chesapeake Assessment Scenario Tool to estimate the nitrogen and phosphorus load reductions, distributed by source sector, based on the nonpoint source BMP implementation data reported by the CWIP Steering Committee to determine whether 25 percent of the nutrient reductions have been achieved by December 31, 2025, as well as the current rates of BMP implementation to reduce CWIP nutrient loads. This estimation will be based on BMP implementation data submitted to EPA by December 1, 2025.

² Each year, jurisdictions in the CBP partnership report on the BMPs installed, tracked, and verified and the pollutant load reductions from wastewater treatment plants. Using the Chesapeake Assessment Scenario Tool, this information (or "annual progress runs") provides an estimate of how much nitrogen, phosphorus and sediment has been reduced. [See: <https://www.epa.gov/chesapeake-bay-tmdl/epa-oversight-watershed-implementation-plans-wips-and-milestones-chesapeake-bay> and <https://www.chesapeakeprogress.com/>]

EPA will also conduct an evaluation of the programmatic commitments, including funding, policies, (regulatory and/or voluntary) programs, staffing, and resources, that have been implemented by 2025 to support the actual levels of BMP implementation achieved and those BMPs that are planned for implementation in 2026 and beyond. This evaluation will be based on final 2024-2025 milestone progress submitted to EPA by January 15, 2026.

Based on this assessment of progress, EPA will provide recommendations to the CBP partnership on a path forward for the Conowingo WIP (i.e., whether this phased approach should continue until a date certain or whether an alternative path needs to be pursued).