

EPA EVALUATION OF THE CONOWINGO WIP STEERING COMMITTEE'S 2024-2025 and 2026-2027 MILESTONES

Executive Summary

The Chesapeake Bay Program (CBP) partnership established the goal to implement and maintain practices and controls to reduce nitrogen, phosphorus, and sediment in order to achieve applicable water quality standards as described in the [Chesapeake Bay Total Maximum Daily Load](#) (Bay TMDL). The CBP partnership, including the seven jurisdictions (Delaware, the District of Columbia, Maryland, New York, Pennsylvania, Virginia, and West Virginia) and the U.S. Environmental Protection Agency (EPA), agreed to develop and implement a framework for holding each partner accountable for reducing nitrogen, phosphorus, and sediment loads to meet the [CBP partnership interim water quality targets](#).

In 2015, the CBP partnership determined that the Conowingo Dam, located in the Susquehanna River near the border of Pennsylvania and Maryland, is no longer trapping nutrients and sediment upstream. As a result of that infill additional nitrogen, phosphorus, and sediment loads are being delivered to the Bay. The CBP partnership's Principals' Staff Committee¹ (PSC) agreed to develop a separate and collaborative Conowingo Watershed Implementation Plan (CWIP) and associated two-year milestones that would outline the programmatic and numeric commitments that would be taken in the Susquehanna watershed to reduce the adverse water quality impacts to the Chesapeake Bay resulting from that infill. According to the CBP partnership's Phase 6 suite of modeling tools, it is estimated that an additional reduction of 6.67 million pounds of nitrogen and 0.26 million pounds of phosphorus is needed to mitigate the water quality impacts of Conowingo Dam infill. This additional reduction must be addressed to attain applicable water quality standards in the Chesapeake Bay.

To assist in this effort, the PSC established the CWIP Steering Committee (Steering Committee), which is composed of a representative from each Bay watershed jurisdiction and the Chesapeake Bay Commission. This Steering Committee is responsible for coordinating the development and implementation of the CWIP and two-year milestones, with oversight and direction from the PSC.

In 2022, the PSC reached consensus that the Conowingo nutrients loads can be addressed 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 focused on implementation through 2025. [Expectations for the CWIP phased approach](#) were developed in July 2023 and included a commitment from EPA to conduct an assessment in 2026 related to progress in implementing the CWIP. The CWIP milestones committed to implement practices to reduce 25 percent of the nutrient load (1.675 million pounds of nitrogen and 0.07 million pounds of phosphorus) by 2025.

¹ As of July 2026, the PSC name changed to the Policy Steering Committee.

In accordance with its oversight role outlined in the CBP partnership's accountability framework and the Expectations for the CWIP phased approach, EPA evaluated the Steering Committee's progress toward attaining nitrogen, phosphorus, and sediment overall and jurisdiction-level targets and progress toward meeting the 2024-2025 programmatic commitments. This evaluation also provides an assessment of the final 2026-2027 commitments to maintain and accelerate progress over the next two years. In addition, EPA is providing the CBP partnership with a recommendation on a path forward for the CWIP, specifically whether to continue the phased approach or pursue an alternative path forward consistent with the Expectations for the CWIP phased approach.

EPA recommends that the CBP partnership extend phased implementation of the CWIP through the 2026-2027 milestone period. In 2028, EPA will reassess progress and provide a revised recommendation to the partnership on a path forward based on additional years of best management practice (BMP) implementation data and program development. This recommendation reflects the Steering Committee's strong interest in continuing the collaborative structure that has facilitated innovation and communication, the planned numeric BMP commitments for 2026–2027 and beyond as evidenced by pay-for-performance contracts in the [Conowingo Reductions Summary](#), and the promising advancements in implementation strategies, including strengthened engagement with agricultural producers and local partners and expanded capacity to advance projects in target watersheds.

While EPA recommends extending phased implementation of the CWIP for an additional two years, it expects the Steering Committee to demonstrate, through annual submission of BMP data to EPA, that at least 25 percent of the necessary nitrogen reductions and 25 percent of the necessary phosphorus reductions will be achieved by December 31, 2027, in line with the numeric commitments described in the Expectations for the CWIP phased approach. Given the scale of the activities described in the 2026-2027 milestone commitments (milestones 1-3 anticipate reductions totaling 245,300 pounds of nitrogen and 13,720 pounds of phosphorus annually over the two-year period, representing 3.6 percent of the overall nitrogen reduction goal of 6.67 M lbs/year and 9 percent of the phosphorus reduction goal of 0.143 M lbs/year, respectively), EPA expects the Steering Committee to demonstrate during the 2026-2027 milestone period clear progress building programs and securing dedicated funding needed to achieve the 25 percent goal.

In reviewing the Steering Committee's final programmatic progress for the 2024-2025 milestones, the 2025 numeric progress, and the final 2026-2027 milestone commitments, EPA identified programmatic milestone strengths as well as areas for improvement. According to the data provided by the Steering Committee for the 2025 progress run, the Steering Committee did not achieve its overall or state-specific targets for nitrogen, phosphorus, and sediment. EPA stands ready to assist the Steering Committee with implementing its 2026-2027 two-year milestone commitments.

Some notable strengths identified in this evaluation of the Steering Committee's 2024-2025 milestone progress and the final 2026-2027 milestone commitments include:

- Awarded three rounds of pay for performance contracts through the Pennsylvania Clean Water Procurement Program administered by PENNVEST and one round of projects through the Maryland Verified Nutrient Reduction Program administered by the Susquehanna River Basin Commission (SRBC).
- Reported progress toward implementing projects currently in the planning or design stage across New York, Pennsylvania, and Maryland. Completed two implementation projects under the Pennsylvania Clean Water Procurement Program.
- Hired an Octoraro Watershed Coordinator and completed a National Fish and Wildlife Foundation (NFWF) Innovative Nutrient and Sediment Reduction (INSR) grant application to fund a Susquehanna Watershed Coordinator.

Some key areas that EPA expects the Steering Committee to address in the 2026-2027 milestone period and beyond include:

- Take further actions to build programmatic and implementation capacity at the regional, state, and local levels to accelerate BMP adoption.
- Pursue strategies to secure dedicated funding sufficient to implement the CWIP and achieve the necessary load reductions.
- EPA supports the Steering Committee's plan to evaluate new and innovative best management practices as creditable BMPs and to complete the Conowingo Reservoir Modeling Study. The Steering Committee is encouraged to coordinate with the EPA Chesapeake Bay Program Office regarding technical assistance, as appropriate.
- Coordinate with EPA to ensure that implemented BMPs are reported and appropriately credited.

Background and Looking Forward for Future Reviews of Progress

Since 2009, the CBP partnership has used two-year milestones to identify shorter-term actions for implementing WIPs and to document progress toward the partnership's water quality targets. In January 2025, the PSC approved an updated approach to the two-year milestones to streamline both the development of milestone commitments and the reporting of progress, starting with the 2026-2027 milestone cycle. Under this updated approach, jurisdictions, the Steering Committee, and Federal Agencies--collectively referred to as Milestone Partners--are [expected to identify](#) high-level programmatic actions they plan to implement during the 2026-2027 milestone period to maintain or accelerate implementation toward meeting interim water quality targets.

At the September [2024 Management Board² meeting](#) the CBP partners agreed to define the “water quality targets” as the Interim Targets and Conowingo Targets.³ The Interim Targets are the Phase III Planning Targets factoring in 2025 changing environmental conditions and Unaccounted Additional Loads (UALs)⁴. In the most recent [Chesapeake Bay Watershed Agreement](#), the CBP partnership agreed that through 2030, the signatories will continue to accelerate completion of all water quality targets through implementation of Chesapeake Bay WIPs, two-year milestone commitments and other innovative strategies to achieve and maintain reduced levels of nitrogen, phosphorus and sediment. This evaluation and future evaluations through 2030 will measure progress toward the water quality targets using Chesapeake Assessment Scenario Tool (CAST 2023), unless amended by a future CBP partnership decision.

Concurrently, the CBP partnership is updating to the Phase 7.0 suite of modeling tools, which are expected to be completed and approved by the partnership in 2028. By December 31, 2030, the CBP partnership committed to revise the planning targets approved by the PSC for nitrogen, phosphorus, and sediment, incorporating the latest watershed modeling, monitoring data and research findings. The CBP partnership also committed to develop new or amended WIPs to meet the updated targets by 2040.

In addition to updating tools, targets, and WIPs, the CBP partnership is exploring ways to better explain progress and the changing environmental conditions of the Chesapeake Bay, using a combination of modeling results and monitoring data. EPA encourages each of the Milestone Partners to review and assess both the available real-world monitoring data and the most recent modeling results (Progress Year 2025) to inform the priority strategies.

Detailed Evaluation of Overall Load Reductions and Source Sectors

Load Reduction Review – Statewide and by Major River-Basin⁵

Each year, jurisdictions in the CBP partnership report the BMPs they have installed, tracked and verified, along with the pollutant load reductions from wastewater treatment plants. When evaluating the Steering Committee's 2024-2025 milestone implementation, EPA simulated

² As of July 2026, the Management Board was dissolved as part of the revised Governance and Management Framework.

³ The PSC approved a phased approach for what can be achieved at Conowingo by 2025. Conowingo has a separate WIP and milestones to meet those targets.

⁴ The UALs are equal to the increased load from cumulative Phase 6 CAST updates to model inputs that occurred after the Phase 3 Planning Targets were set in 2018. Accounting for the UALs balances the load increases from the model changes. Additional reductions necessary to account for Conowingo infill are not included.

⁵ Major river-basin refers to the eight major river basins draining to the Chesapeake Bay, some of which are shared by more than one Bay jurisdiction. For example, the Susquehanna River is shared by New York, Pennsylvania, and Maryland; Pennsylvania-Susquehanna refers to the Pennsylvania portion of the river. The phrase “major river-basin” is interchangeable with “state-basin” in this document.

nutrient and sediment loads using CAST-23⁶ data reported by the Steering Committee and compared those loads to its water quality targets.

According to the data provided by the Steering Committee for the 2025 progress run, the Steering Committee did not achieve its overall or statewide targets for nitrogen, phosphorus, and sediment. New York does not have phosphorus or sediment reduction targets and is reflected in the table below. EPA expects the Steering Committee to accelerate and maintain BMP implementation levels to ensure targets are met and progress is sustained.

Table 1. Loads and Targets for Conowingo based on CAST-23 reported data.⁷

	Conowingo N Target (M lbs/year)	2025 Conowingo N Percent Progress	Conowingo P Target (M lbs/year)	2025 Conowingo P Percent Progress	Conowingo S Target (M lbs/year)	2025 Conowingo S Percent Progress
Maryland	0.18	93%	0.003	56%	8	0%
New York	0.08	0%	-0.013	N/A	-3	N/A
Pennsylvania	6.41	0%	0.153	0%	172	0%
Grand Total	6.67	3%	0.143	1%	177	0%

The summary progress from the CBP partnership's modeling tools for 2009 and 2025 incorporate BMP credit duration. The CBP partnership decided to remove reported BMPs from the model simulation at the end of their established credit durations unless verified by the state as inspected and continuing to function as designed. Verification is labor intensive but critical for ensuring practices are implemented and reductions are credited. The CBP partnership is exploring opportunities for new technologies and systems to streamline verification. The Conowingo WIP Steering Committee is expected to provide detailed programmatic milestones to support these BMP implementation targets. In the programmatic milestone review section below, EPA provides its evaluation of these programmatic milestones and the connection to increased implementation.

Monitoring

EPA encourages each of the Milestone Partners to review and assess both the available real-world monitoring data and the most recent modeling results (Progress Year 2025) to support meeting the priority strategies and actions identified in the final 2026-2027 milestones. Milestone Partners can use the [Chesapeake Assessment Scenario Tool \(CAST\)](#) to access the latest modeled progress results and build scenarios estimating future nitrogen, phosphorus,

⁶ CAST-23 is part of the Phase 6.0 suite of modeling tools for the Chesapeake Bay.

⁷ A value of 0% indicates that percent completion of a target from the implementation of BMPs was less than 0.5%.

and sediment loads. The CBP partnership's Chesapeake Bay Nontidal Water Quality Monitoring Network, [supported by twenty-five groups](#) representing local, State, and Federal agencies, including the EPA, the U.S. Geological Survey (USGS), the Susquehanna River Basin Commission (SRBC), and the Bay jurisdictions, generates water quality monitoring data in freshwater rivers and streams throughout the watershed that is analyzed by USGS to provide monitoring-based information about the amount of nitrogen, phosphorus, and sediment entering the Chesapeake Bay through its nontidal rivers. These data inform watershed management by providing information on which to base restoration and conservation actions. The most recent results (www.usgs.gov/CB-wq-loads-trends) for the full 123-station network over the long-term 1985-2023 and short term 2014-2023 were published in March 2025.

Additionally, the [Monitored and Expected Total Reduction Indicator for the Chesapeake \(METRIC\) tool](#) can be used to compare observed water-quality trends with expected outcomes based on management actions, helping to clarify progress and guide priorities.

Future EPA evaluations will continue to stress the importance of using both modeling and monitoring information to target water quality actions such as milestone commitments to maintain and accelerate meeting the partnership's water quality targets. This integrated approach supports more accurate assessments and reduces misinterpretation, ultimately aiding partnership efforts to maintain and accelerate restoration and conservation efforts to achieve the water quality targets.

Programmatic Milestone Review

2024-2025 Milestone Achievements

- Awarded three rounds of pay for performance contracts through the Pennsylvania Clean Water Procurement Program administered by PENNVEST and one round of projects through the Maryland Verified Nutrient Reduction Program administered by SRBC.
- Reported progress toward implementing projects currently in the planning or design stage across New York, Pennsylvania, and Maryland. Completed two implementation projects under the Pennsylvania Clean Water Procurement Program.
- Hired an Octoraro Watershed Coordinator and completed a NFWF Innovative Nutrient and Sediment Reduction grant application to fund a Susquehanna Watershed Coordinator.
- Completed a workplan which details strategies and actions to adapt existing programmatic capacity or develop new programmatic capacity to implement the necessary BMPs to achieve at the CWIP targets.

2024-2025 Milestones Not Achieved

- Did not implement practices sufficient to achieve at least 25% of the nitrogen, phosphorus, and sediment reductions identified in the CWIP, or 1.675 million pounds of nitrogen, 0.07 million pounds of phosphorus, and 177 million pounds of sediment per year.

2026-2027 Milestone Strengths

- Commits to support Plain Sect outreach and watershed coordinator positions to strengthen engagement with producers and partner organizations and advance project implementation in target watersheds.
- Provides numeric estimates for the anticipated nitrogen, phosphorus, and sediment reductions resulting from planned implementation activities.
- Commits to evaluate possible uses of the water quality mitigation fund established in the settlement agreement⁸ as part of the Water Quality Certification for Constellation Energy's operation of the Conowingo Dam.

Key Areas to Address in the 2026-2027 Milestone Period and beyond

Some key areas that EPA expects the CWIP Steering Committee to address in the 2026-2027 milestone period and beyond include:

- Take further actions to build programmatic and implementation capacity at the regional, state, and local levels to accelerate BMP adoption.
- Pursue strategies to secure dedicated funding sufficient to implement the CWIP and achieve the necessary load reductions.
- Coordinate with EPA to ensure that implemented BMPs are reported and appropriately credited.
- EPA supports the Steering Committee's plan to evaluate new and innovative best management practices as creditable BMPs and to complete the Conowingo Reservoir Modeling Study. EPA encourages the Steering Committee to coordinate with the EPA Chesapeake Bay Program Office regarding technical assistance, as appropriate.

Potential Federal Actions and Assistance

EPA remains prepared to assist each of the seven watershed jurisdictions in implementing the 2026-2027 milestones. EPA will work with each jurisdiction to develop specific oversight and assistance activities to provide prioritized support for implementation efforts, including technical assistance and analysis, training, and regulatory reviews.

EPA plans to continue to commit staff resources to support the Conowingo jurisdictions in implementing the 2026-2027 milestones. This support includes evaluation of the most-effective practices and locations; evaluation of Bay jurisdictions' implementation capacity under various staffing, funding, regulatory and programmatic scenarios; local planning outreach; legislative and regulatory gap analysis; and monitoring trend analyses.

In addition, EPA will continue to work with federal partners to provide leadership and coordinate with Bay jurisdictions on WIP and two-year milestone implementation to reduce pollutants from federal lands. EPA will continue its commitment to track annual progress of the Bay jurisdictions and make those results available to the partnership and the public. [See:

⁸ The settlement agreement and revised 401 certification are available at:
<https://mde.maryland.gov/programs/water/wetlandsandwaterways/pages/exelonmd-conowingo-wqcapp.aspx>

<https://www.epa.gov/chesapeake-bay-tmdl/epa-oversight-watershed-implementation-plans-wips-and-milestones-chesapeake-bay> and
<https://www.chesapeakebay.net/news/pressrelease/chesapeake-bay-watershed-jurisdictions-continue-working-toward-nitrogen-and-phosphorus-goals-with-sediment-goal-already-achieved>]