

EPA EVALUATION OF MARYLAND'S 2024-2025 and 2026-2027 MILESTONES

Executive Summary

The Chesapeake Bay Program (CBP) partnership established a 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 that role, EPA evaluated Maryland's progress toward attaining nitrogen, phosphorus, and sediment goals at the state and state-basin level and progress toward meeting sector-specific programmatic commitments for the 2024-2025 milestone period. This evaluation also provides an assessment of the final 2026-2027 commitments to maintain and accelerate progress over the next two years.

In reviewing Maryland's final programmatic progress for the 2024-2025 milestones, the 2025 numeric progress, and the final 2026-2027 milestone commitments, EPA identified sector-by-sector strengths as well as areas for improvement. According to the data provided by Maryland for the 2025 progress run, Maryland nearly achieved its [statewide interim targets](#) for nitrogen and achieved its interim targets for phosphorus and sediment. EPA stands ready to assist Maryland with implementing its 2026-2027 two-year milestone commitments.

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

- The continued effort towards implementing forest buffers in their 2026-2027 milestone commitments (tied to many projects including the 5 Million Trees Program, Marylanders Plant Trees Program, Maryland Stream ReLeaf Program, and Healthy Forest, Healthy Waters) and completion of this implementation work in Maryland's past milestones.
- The continued focus on upgrading non-significant wastewater treatment facilities to enhance cost-efficient nutrient reductions.

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

- Continue to accelerate implementation of best management practices (BMPs). Although Maryland is close to or meeting its targets, additional reductions are still needed and there is continued growth from the developed (urban/suburban stormwater) sector watershed wide.

- As more BMPs are constructed and implemented and wastewater plants upgraded, the level of effort to keep these practices in optimal working condition increases. Operations and maintenance should be considered in future milestone planning efforts.

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 Watershed Implementation Plans (WIPs) and to document progress toward the partnership's water quality targets. In January 2025, the Principals' Staff Committee¹ (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 Conowingo WIP 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 those updated targets by 2040.

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

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.

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 Maryland's 2024-2025 milestone implementation, EPA simulated nutrient and sediment loads using CAST-23⁶ and wastewater discharge data reported by Maryland and compared those loads to its water quality targets.

According to the data provided by Maryland for the 2025 progress run, Maryland nearly achieve its statewide target for nitrogen and achieved its statewide targets for phosphorus and sediment. At the state-basin level, Maryland achieved its nitrogen targets for the Patuxent, Potomac and Western Shore basins but did not achieve its targets for nitrogen in the Eastern Shore and Susquehanna basins. Maryland achieved its phosphorus targets for the Eastern Shore, Patuxent, Potomac and Western Shore basins but did not achieve its phosphorus target for the Susquehanna basin. Maryland achieved its sediment targets for the Eastern Shore, Patuxent, Potomac, Western Shore, and Susquehanna basins. EPA expects Maryland to meet and maintain BMP implementation levels to ensure progress is sustained.

Table 1. Loads and Targets for Maryland based on CAST-23 and reported wastewater data.

Pollutant	2009 Progress Loads (M lbs/year)	2025 Progress Loads (M lbs/year)	Water Quality Target Loads (M lbs/year)	Percent of Target Achieved
Nitrogen	57.92	46.3	46.19	99%
Phosphorus	3.95	2.98	3.57	100%
Sediment	7,612	7,370	8,343	100%

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.

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

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. Maryland is expected to provide detailed programmatic milestones to support these BMP implementation targets. In the sector-specific sections 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, 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.

Source Sector Review

Agriculture

Maryland will predominantly rely on agriculture BMP implementation to meet its interim water quality targets. EPA expects Maryland to maintain BMP implementation levels to ensure progress is sustained.

2024-2025 Milestone Achievements

- Met forest buffer implementation milestone. Achievement is tied in part to several implementation programs across Maryland.
- Met traditional cover crop and cumulative conservation tillage implementation milestones.

2024-2025 Milestones Not Achieved

- Did not meet the milestone for conservation practices on leased land though efforts to increase adoption of conservation practices on leased land have been successful. Continuation of outreach proves necessary in an ever changing landscape.
- Did not meet the implementation milestone for Soil Conservation and Water Quality Plans, though significant work has been done to greatly increase implementation.

2026-2027 Milestone Strengths

- Redoubled efforts to continue focusing on both agricultural land conservation and forest buffer implementation through state-funded programs.
- Continued focus on implementation of agricultural drainage management by further integrating the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) work on this practice and practice design into training curriculums.

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

- Implementation and outreach surrounding pasture and grazing management.
- Report progress on efforts to accelerate BMP implementation in the agricultural sector and identify what programs were implemented to achieve the implementation targets, especially since some BMP implementation targets were not met in the 2024-2025 milestone period.

Urban/Suburban Stormwater

2024-2025 Milestone Achievements

- Reissued Maryland State Highway Association Phase I Municipal Separate Storm Sewer System (MS4) permit.
- Published both draft regulations and draft updates to the Design Manual during the milestone period as part of the Advanced Stormwater Resiliency in Maryland (A-Storm) initiative.
- Submitted the draft Phase II MS4 general permit to EPA for review in March 2026.

2024-2025 Milestones Not Achieved

- None.

2026-2027 Milestone Strengths

- Managing the Phase I permits that are set to expire in 2026-2027.
- Committing to provide technical assistance to stormwater permittees on a quarterly basis.

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

- EPA recognizes that Maryland met its Phase III WIP commitments for the developed sector. Continue to seek opportunities to reduce nutrient and sediment loads from the developed (urban/suburban stormwater) sector, because this sector continues to show growth in loads across the watershed.

Wastewater Treatment Plants and Onsite Systems

2024-2025 Milestone Achievements

- Reviewed facility compliance with National Pollutant Discharge Elimination System (NPDES) permits. All facilities were operating within their total nitrogen (TN) and total phosphorus (TP) limits at the time of review.

2024-2025 Milestones Not Achieved

- None.

2026-2027 Milestone Strengths

- Continued focus on upgrading non-significant wastewater facilities to enhance cost-efficient nutrient reductions.

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

- As more BMPs are constructed and implemented and wastewater plants upgraded, the level of effort to keep these practices in optimal working condition increases. Operations and maintenance should be considered in future milestone planning efforts.

Growth, Offsets, and Trading

2024-2025 Milestone Achievements

- Continued service on the Chesapeake Bay Program Land Use Workgroup to ensure CBP land use data, impervious cover change data, and Chesapeake Bay Land Change model forecasts are as accurate as possible and incorporate Maryland's data and knowledge base.
- Continued to update and maintain Maryland's land preservation datasets to inform CBP modeling tools.

2024-2025 Milestones Not Achieved

- Delayed in finalizing the Water Quality Trading Registry and online marketplace. On hold until US Army Corps of Engineers fixes its website (RIBITs).

2026-2027 Milestone Strengths

- Focusing on migrating its nutrient credit trading platform to RIBITS to expand use of the website.

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

- Continue to work with EPA in offsetting any new or increased nutrient and sediment loads in Maryland's portion of the Chesapeake Bay watershed.

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 funding, technical assistance and analysis, training, and regulatory reviews.

EPA plans to continue to commit staff, contractual and funding resources to support the seven watershed jurisdictions in implementing the 2026-2027 milestones and future two-year milestones. This support includes evaluation of the most-effective practices and locations; annual funding assistance to address priority implementation needs; 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: <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>]