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EPA EVALUATION OF THE DISTRICT OF COLUMBIA'S
2022-2023 and 2024-2025 MILESTONES

Executive Summary

The Chesapeake Bay Program (CBP) partnership established the goal to have all practices and controls in place by 2025 that were necessary to meet applicable water quality standards in the Chesapeake Bay (Bay) and its tidal tributaries ("2025 Goal"). 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, phosphorous, and sediment loads to meet the 2025 Goal. The EPA is providing this evaluation of the District of Columbia's (the District) 2022-2023 and 2024-2025 milestones to the CBP partnership and the public in accordance with its oversight role and responsibility under the CBP partnership's accountability framework.

In that role, EPA has evaluated the District's statewide progress toward attaining its portion of the 2025 Goal. This evaluation includes an assessment of progress toward attaining nutrient and sediment goals at the state and state-basin level and progress toward meeting sector-specific programmatic commitments for the 2022-2023 milestone period. This evaluation also provides an assessment of sector-specific programmatic and numeric commitments (e.g., Best Management Practices (BMP) or BMP implementation targets) for the 2024-2025 milestone period and the status of the relevant water quality monitoring trends.

In reviewing the District's final programmatic progress for the 2022-2023 milestones, the 2023 numeric progress, and the final 2024-2025 milestone commitments, EPA identified sector-by-sector strengths as well as areas for improvement. According to the data provided by the District for the 2023 progress run, the District achieved its 2025 Planning Targets for nitrogen, phosphorus, and sediment. EPA applauds the District's achievement and stands ready to assist the District with implementing its 2024-2025 two-year milestone commitments.

Some notable strengths identified in this evaluation of the District's 2022-2023 milestone progress and the final 2024-2025 milestone commitments include:

- Met its 2025 planning targets for nitrogen, phosphorus, and sediment.
- Achieved its wastewater sector Watershed Implementation Plan (WIP) goals for nutrients and sediment. Blue Plains facility discharges are considerably under 2025 WIP goals.
- Specified how and when the next phase would occur where programs are ongoing.
- Included milestones on climate change/resilience.

Some key areas that EPA expects the District to address in the final 2024-2025 milestone period and beyond include:

- Continue to implement BMPs, report progress, and maintain meeting the District's Phase III planning targets.
- Continue to work with federal agencies as they make progress towards the federal Phase III WIP Goals.

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

Looking Forward for Future Reviews of Progress

At the 2022 Executive Council meeting, the Executive Council discussed the upcoming year of 2025—the target date the partnership set for achieving certain outcomes under the *2014 Chesapeake Bay Watershed Agreement*. At that meeting, the Executive Council charged the Principals' Staff Committee (PSC) to recommend a critical path forward that prioritizes and outlines the next steps for meeting the goals and outcomes of the *Chesapeake Bay Watershed Agreement* leading up to and beyond 2025 with specific considerations for science, restoration, and partnership. Recommendations for actions beyond 2025 will be presented at the 2024 Executive Council meeting.

At the September 2023 PSC meeting, the CBP partners agreed to define the targets to be met by 2025 as the Phase III planning targets, the 2025 targets for climate change, and Conowingo targets[1]. Consistent with that decision, this evaluation measures progress toward the goal of meeting the 2025 planning targets and 2025 climate change targets. In doing so, this evaluation of the District's 2022-2023 progress and 2024-2025 commitments uses the Chesapeake Assessment Scenario Tool (CAST) 2019, as agreed to by the CBP partnership.

In the next round of two-year milestones, progress will be measured using CAST-23, and will include progress toward unaccounted additional loads and 2025 climate change conditions. In September 2023, the PSC approved the finalization and use of CAST-23 (update released June 2024) for tracking progress until the Phase 7.0 suite of modeling tools is complete (estimated in 2028). The PSC also determined that unaccounted additional loads (i.e., modeled load increases identified after the PSC adopted the jurisdictions' Phase III planning targets in 2018) will be added to the jurisdictions' existing Phase III planning targets to create interim planning targets and that these will be addressed in the Phase 7.0 suite of modeling tools along with 2035 climate change loads.

In addition, in January 2024 the CBP partnership finalized the Chesapeake Bay Total Maximum Daily Load (TMDL) indicator which is a new indicator designed to combine monitored and modeled data to estimate the progress of annual pollutant loading rate reductions since 1995 in response to implemented management practices. This indicator was developed to address a CBP partnership interest to compare modeled and monitoring data. This indicator may be used in future evaluations of progress.

[1] 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.

Detailed Evaluation of Overall Load Reductions and Source Sectors

Load Reduction Review – Statewide and by Major River-Basin[2]

Each year, jurisdictions in the CBP partnership report on BMPs installed, tracked, and verified and the pollutant load reductions from wastewater treatment plants. Using CAST-19, this information (or "annual progress runs") provides an estimate of how much nitrogen, phosphorus, and sediment has been reduced. When evaluating the District's 2022-2023 milestone implementation, EPA simulated nutrient and sediment loads using CAST-19[3] and wastewater discharge data reported by the District and compared those simulated loads to where the District's progress should be by 2023 (90% of the statewide and state-basin Phase III planning targets).

According to the data provided by the District for the 2023 progress run, the District achieved its statewide 2023 targets for nitrogen, phosphorus, and sediment for all sources combined. These targets include adjustments for 2025 climate change as approved by the PSC.

Table 1. Loads and Targets for the District based on CAST-19 and reported wastewater data.

Pollutant	2009 Progress Loads (M lbs/year)	2023 Progress Loads (M lbs/year)	2025 Planning Target Load (M lbs/year)	Additional Load due to 2025 Climate Conditions (M lbs/year)	2025 with Climate Target Load (M lbs/year)	% of goal Achieved (90% is considered on track to meet 2025 with climate load)
Nitrogen	2.76	1.56	2.43	0.01	2.42	100%
Phosphorus	0.072	0.070	0.13	0.00	0.13	100%
Sediment	44	36	42	N/A	42	100%

The District developed specific BMP implementation targets for the 2022-2023 and final 2024-2025 milestones for those practices identified in the District's Phase III WIP that account for the majority of the nitrogen reductions. Table 2 provides a summary of the District's 2023 progress compared to the 2009 baseline and the 2025 targets, as well as the final 2024-2025 commitments, for these priority BMPs.

[2] 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.

[3] CAST-19 is part of the Phase 6.0 suite of modeling tools for the Chesapeake Bay.

Table 2. Progress toward Targets for the District's priority BMPs (those that account for the majority of the nitrogen reductions).

BMP[4]	2009 Progress	2023 Progress	2024-2025 Milestone Target	2025 WIP Target
Runoff Reduction Performance Standard (acres)	120	1,304	1,504	1,901
Urban Stream Restoration	0	22,386	67,386	56,928

The summary progress from the CBP partnership's modeling tools for 2009 and 2023 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. The District 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.

Source Sector Review

Urban/Suburban Stormwater

2022-2023 Milestone Achievements

- Reissued the Municipal Separate Storm Sewer System (MS4) permit with an effective date of December 20, 2023.
- Achieved 141 acres managed with stormwater BMPs during the MS4 2023 reporting year. The District has achieved 1,243 acres across the 2019-2023 reporting period (surpassing its 5-year goal).
- Remained on track to update its Stormwater Management Guidebook and updating technical specifications for certain BMPs.
- Planted 6,100 trees in the 2023 reporting period. The total trees planted in the current 5-year permit period is 37,758, exceeding the 5-year goal to plant 33,525 trees.
- Completed 2,459 audits for the RiverSmart Homes programs (122% of the goal) to determine feasibility for green infrastructure practices.
- Continued implementation of Green Infrastructure Job Training Program (aimed at youth 18-24) and the Returning Citizens Workforce Development Program.

[4] BMP levels are units reported or planned by the jurisdiction. The levels are calculated using CAST-19 of the Phase 6.0 suite of modeling tools and include everything established or installed, reported, and functioning through the particular year, e.g., through 2009, or through 2023, etc., not just new reported implementation, unless otherwise noted.

- Continued to use the Surface and Groundwater System (formerly Stormwater Database) to track and verify BMPs across the District and to prioritize maintenance inspections.
- Continued to work with federal agencies to make progress towards Phase III WIP Goals, coordinating with the Department of Defense, National Park Service, and General Services Administration. The District is coordinating with other federal agencies to reconcile missing or inaccurate BMP data to ensure proper crediting of BMPs on federal land.

2022-2023 Milestones Not Achieved
- None to report.

2024-2025 Milestone Strengths
- Commits to implementing the District's BMP verification program, including the recently updated Quality Assurance Program Plans (QAPPs) to reflect current verification practices.
- Commits to continue development of the Green Infrastructure Maintenance database.
- Commits to complete the Park Drive Gully stream restoration project in fiscal year (FY)24.
- Commits to working with the National Park Service to complete the Environmental Assessments for restoring the streams and wetlands at Fort Dupont (17,000 linear feet of stream & 10 acres of wetlands).
- Commits to starting cleanup work for the Anacostia River Sediment Project in winter of 2025, starting with the Washington Channel early action area (where polychlorinated biphenyls (PCB) contamination is high).
- Commits to continue implementing the Surface and Groundwater System (SGS) to track and target verification of BMPs around the District.

Key Areas to Address in the Final 2024-2025 Milestone Period and beyond
- It is recommended that the milestone progress for sewer-shed investigations for illicit discharges also include the Broad Branch in the Rock Creek watershed, as this is a requirement of the new MS4 permit to be completed by the end of 2025.

<u>Wastewater Treatment Plants and Onsite Systems</u>
2022-2023 Milestone Achievements
- The wastewater sector has achieved its WIP goals for nutrients and sediment. The Blue Plains facility discharges are considerably under 2025 WIP goals.
- Continues work to update the Blue Plains Service Area flow projections. District of Columbia Water and Sewer Authority (DC Water) and the District Department of Energy & Environment (DOEE) completed the 2023 Progress Submission for Blue Plains and 8 other active insignificant facilities with the help of the Chesapeake Bay Program's Point Source Application. The District met with the EPA Chesapeake Bay Program Office (CBPO) to clarify and refine the submission in January 2024.
- The Northeast Boundary Tunnel was placed in service in September, providing an additional 90 million gallons of storage for combined sewage and stormwater.
- Construction of Rock Creek Green Infrastructure Project B continued in calendar year 2023.

- In October 2023, the DC Water Board of Directors approved a design-build contract for construction of the Potomac River Tunnel (PRT). The 5.5-mile-long tunnel will control combined sewer overflows (CSOs) to the Potomac River. This work is part of the larger Clean Rivers Project, a $2.99 billion program to improve the water quality of the Anacostia and Potomac rivers and Rock Creek by increasing the capacity of the sewer system.
- Completed the 2023 Progress Submission for Blue Plains and 8 other facilities.

2022-2023 Milestones Not Achieved
- None.

2024-2025 Milestone Strengths
- Commits to completing post-construction work and to monitoring at the Northeast Boundary Tunnel.
- Commits to initiating in early 2024 the design-build contract for construction of the 5.5 mile Potomac River Tunnel to help control CSOs along the Potomac River.
- Commits to updating the process for reporting fully quality controlled wastewater data from the Blue Plains Treatment Plant to EPA's National Pollutant Discharge Elimination System (NPDES) databases and to the CBP Point Source online application.

Key Areas to Address in the Final 2024-2025 Milestone Period and beyond
- None.

Growth, Offsets, and Trading

2022-2023 Milestone Accomplishments
- Continued implementation of the Stormwater Retention Credit (SRC) Price Lock Program, including support for developers to purchase from SRC Price Lock Program participants and look for ways to incorporate diversity, equity, inclusion, and justice efforts into the program. Since 2022, 14 applications were approved: 10 purchase agreements and 4 subsidy agreements. These agreements provide financial certainty for projects that generate more than 450,000 SRCs, resulting in the green infrastructure retrofit of over 14 acres of the MS4. Applicants were required to identify how their projects benefit the surrounding community and explain how property owners and community members will be engaged in project decision-making.
- Relaunched the SRC Aggregator Startup Grant Program during this period with two grants of $75,000 each awarded. These grants support technical and outreach work to identify Green Infrastructure (GI) opportunities on properties whose owners are interested in the financial and other benefits of SRC-generating GI. DOEE expects this program to be ongoing moving forward.

2022-2023 Milestones Missed
- Committed to refine the proposed regulations prioritizing the use of High-Impact SRCs generated from new voluntary GI in the MS4 by December 31, 2023 but was delayed. Now commits to publish proposed rule in Spring 2024.

2024-2025 Milestone Strengths

- Commits to report Blue Plains wastewater and combined sewer system data to the EPA CBPO for required annual reporting and to EPA NPDES databases.

Key Areas to Address in the Final 2024-2025 Milestone Period and beyond

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

Climate

In 2020, the PSC issued a directive that by 2022 all jurisdictions would account for the additional nutrient loads due to 2025 climate change conditions in a Phase III WIP addendum, or in the two-year milestones, if it had not already done so in its Phase III WIP. All Bay jurisdictions met this goal in 2022 to update Phase III WIPs or milestones to address the 2025 climate change conditions. The District addressed the 2025 climate change conditions in its Phase III WIP. The Bay jurisdictions maintained the commitment to meet the 2025 climate change conditions by 2025.

2022-2023 Milestone Achievements

- Submitted a proposed update to the District's floodplain regulations for general counsel for review with changes expected during FY24. Major proposed changes include expanding the regulatory floodplain to the 500-year floodplain, increasing the design flood elevation, and establishing a sea level rise buffer.
- Published its heat adaptation strategy and is collaborating multiple District agencies to increase tree plantings in public spaces, encourage more visitation at cooling centers, and enhance neighborhood parks to include more green infrastructure.
- The District's Climate Ready by 2050 strategy outlines how the District will regularly track progress toward achieving its goal to be climate resilient by 2050.

2022-2023 Milestones Not Achieved

- None.

2024-2025 Milestone Strengths

- Commits to focusing on both Environmental Justice (EJ) and Climate Resiliency goals to develop more climate resilience resources and target more at-risk communities.
- Commits to use the review of the District's performance standards in the context of future climate projections to initiate potential regulatory changes to the District's 2-year and 15-year peak discharge requirements.
- Commits to initiating updates to the Climate Resilient Design Guidelines that incorporate the updated Flood Hazard Rules.

Key Areas to Address in the Final 2024-2025 Milestone Period and beyond

- None.

Other (Environmental Justice and Local Engagement)

2022-2023 Milestone Achievements

- Continued supporting grantee Anacostia Watershed Society in incorporating diversity equity and inclusion in the Watershed Stewards Academy and their efforts to recruit a more diverse set of participants.
- Continued to advance efforts towards a comprehensive sign framework for all District-owned green infrastructure (GI). The signs program integrates opportunities for the public to submit maintenance requests via the District's 311 system and helps educate District residents and visitors on the benefits of GI.

2022-2023 Milestones Not Achieved

- None

2024-2025 Milestone Strengths

- Commits to continuing to implement strategies to engage residents in under-represented communities and encourage participation in the RiverSmart Homes program (specifically in Wards 7 and 8).
- Commits to developing GIS Story Maps to showcase progress under the MS4 program, State Revolving Fund, and water quality monitoring.
- Commits to creating an implementation plan for community outreach recommendations from Urban Land Institute for compliance assistance programs that improve water quality.
- Commits to continuing to support the Watershed Stewards Academy to enhance diversity, equity and inclusion within the program and specifically to recruit District residents from historically under-represented communities in Wards 7 and 8 as potential Stewards.

Key Areas to Address in the Final 2024-2025 Milestone Period and beyond

- None

Potential Federal Actions and Assistance

EPA remains prepared to assist each of the seven watershed jurisdictions in implementing the 2024-2025 milestones. EPA will work with each jurisdiction to develop a 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 2024-2025 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.chesapeakeprogress.com/]

Monitoring Trends Summary

The CBP partnership's Chesapeake Bay Program Nontidal Water Quality Monitoring Network, supported by 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 for nutrient and sediment loads and trends. The most recent USGS results (www.usgs.gov/CB-wq-loads-trends) over the long-term 1985-2020 and short term 2011-2020 were made available in January 2023 The analysis below mainly focuses on the short term 2011-2020 trends.

While identifying drivers behind individual trends is often complex, the monitoring results are worthy of the District's consideration as it develops the programs and BMPs planned for the next two years. Information on tidal monitoring trends can be summarized using the bay trends map tool, which includes water clarity for the Anacostia River.

EPA's initial summary of how the monitoring results in the District's watersheds can potentially inform planning are below.

- Trends for the Northwest Branch of the Anacostia River, based on Nontidal Network results, show no trend for total nitrogen, an improving trend for total phosphorus, and a degrading trend for sediment.
- Water quality trends for the tidal portions of the Anacostia River have shown recent improvements in water clarity.

A comprehensive effort has been made to compile and analyze data sets for the watersheds of the Chesapeake Bay Program Nontidal Water Quality Monitoring Network stations. For the first time, station-level monitoring and modeling results, available through the Monitored and Expected Total Reduction Indicator for the Chesapeake (METRIC) tool, can be compared to help resource managers gauge expectations on the trajectory and pace of reduction progress at a localized scale.