

EPA EVALUATION OF FEDERAL AGENCY 2022-2023 and 2024-2025 MILESTONES

Overview

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, phosphorus, and sediment loads to meet the 2025 Goal. The EPA is providing this evaluation of the Federal 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 federal agency progress toward meeting its commitments supporting achievement of the 2025 Goal. To the extent possible, this evaluation includes an assessment of progress toward attaining local federal nutrient and sediment planning goals and the federal programmatic support for the 2023-2023 milestone period. This evaluation also provides an assessment of sector-specific programmatic and numeric commitments (e.g., Best Management Practice (BMP) or implementation targets) for the 2024-2025 milestone period.

In reviewing federal agency 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 and incorporated feedback from the Management Board on the federal two-year milestones.

Some notable strengths from the 2022-2023 milestone period include:

- Completed a report detailing gaps in the completeness of federal reporting and crediting of BMPs, demonstrating progress towards fulfilling Executive Order 13508.
- During the 2022-2023 progress period, United States Department of Defense (DoD), United States Department of Agriculture (USDA), United States Fish and Wildlife Service (USFWS), National Aeronautics and Space Administration’s (NASA) Langley Research Center, National Park Service (NPS), General Services Administration (GSA) National Capitol Region, and United States Forest Service (USFS) submitted information on BMP implementation.
- NPS and DOD reported implementation of stormwater BMPs and developed plans that will support future implementation of stormwater BMPs.
- The federal agencies demonstrated leadership in climate research and assessment and in planning and implementing projects that provide climate resilience benefits.

Some key areas that EPA recommends federal agencies address in the 2024-2025 milestone period and beyond include:

- Update progress on 2022-2023 milestone of applying 300,000 acres of conservation practices in conjunction with U.S. Department of Agriculture (USDA) High Priority Performance Goals.

- All federal agencies should continue to work with the CBP partnership's Federal Facilities Workgroup (FFWG) and to fulfill the Executive Order 13508 federal commitment to lead by example and provide data to verify whether the agencies are meeting local federal planning goals.
- Develop plans to implement BMPs on federal lands to meet the federal local planning goals.
- Continue federal and jurisdiction coordination to establish equitable federal planning goals for pollutant reduction and investigate the feasibility of estimating pollutant reductions from landuse categories not currently tracked on federal land (e.g., timber harvest, construction).
- Consider methods for measuring and tracking multiple benefits of BMP implementation and progress towards habitat, stewardship, and conservation objectives.
- Continue leadership in developing climate resiliency commitments and strategies.

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.

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 in comparing modeled and monitoring data. This indicator may be used in future evaluations of progress.

Progress on 2022-2023 Federal Numeric Milestones

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 (CAST) 2019, this information (or “annual progress runs”) provides an estimate of how much nitrogen, phosphorus, and sediment has been reduced. When evaluating jurisdiction 2022-2023 milestone implementation, EPA simulated nutrient and sediment loads using CAST-19 and wastewater discharge data reported by the jurisdictions and compared those simulated loads to where Chesapeake Bay watershed-wide progress should be by 2023 (90% of the statewide and state-basin Phase III planning targets).

According to the data provided by the jurisdictions for the 2023 progress run, BMPs have been implemented to achieve an estimated 61% of the nitrogen reductions, 67% of the phosphorus reductions, and 100% of the sediment reductions needed to attain applicable water quality standards. These targets include adjustments for 2025 climate change as approved by the PSC.

EPA achieved its numeric milestone for air reductions: EPA's portion of air deposition load reduction to the watershed and to tidal surface waters was reduced by 0.76 million pounds of

nitrogen over the 2022-2023 period based on the Phase 6.0 Watershed Model. EPA has achieved 94 percent of the required atmospheric deposition nitrogen load reductions from 2009, surpassing the goal of 90% of needed load reductions by 2023.

USDA's Natural Resources Conservation Services (NRCS):

- Did not achieve its numeric milestone for conservation practices: No progress reported.

USFS:

- Completed milestone to timber harvest 500 acres each year with BMPs in Virginia. At least 564 acres were harvested in 2022 and 1,260 were harvested with BMPs in 2023.
- Did not complete milestone to monitor at least one timber sale/year for water quality BMPs utilizing the USFS National BMP Monitoring protocol for Vegetation Management (protocol A) due to staff capacity limitations in 2022 and 2023.
- Completed milestone to implement 1 culvert/road/Aquatic Organism Passage (AOP) improvement project per year (2 total). Railroad Hollow culvert replaced for AOP improvement in 2023 and Wilson Creek Dam was removed in 2022.
- Did not complete milestone to implement Road Decommissioning or Road Closure of approximately 4 miles (equivalent to ~6 acres restored). Milestone is off schedule. Progress is uncertain as procedures for officially decommissioning a road make this difficult to track.

DOD:

- Completed milestone to submit 2022-2023 planned BMP implementation in CAST for Virginia, Maryland, Pennsylvania, and the District (Numeric Milestone). The two-year Milestone CAST scenario entitled "SY2022-2023 (credited), 2021 datacall" was shared with the EPA.

Load Reduction Review

Local federal planning goals for federal facility pollutant reductions were established in most jurisdictions during Phase III Watershed Implementation Plan (WIP) development.

Subsequently, issues arose that created a need to revisit the methods used to determine federal planning goals. The Chesapeake Bay Program Office (CBPO) staff and jurisdiction leads are making progress toward reaffirming clear equitable goals.

Federal Facilities Goals and 2024-2025 Targets

- DoD, USFWS, EPA, NPS, United States Geological Survey (USGS), National Oceanic and Atmospheric Administration (NOAA), and the USFS submitted 2024-2025 programmatic or BMP milestones.

Comments on Federal Programmatic Milestones

Agriculture

2022-2023 Milestone Achievements

- USGS, USDA NRCS, and EPA completed agreements to coordinate and enhance monitoring in small watersheds to demonstrate the impacts of agricultural conservation practices on water quality of local streams and rivers.
- USDA NRCS is providing priority funding through climate smart agriculture and forestry programs and Inflation Reduction Act (IRA) funding. EPA announced its Climate Pollution Reduction Grant program, funded via IRA.
- EPA committed 40% of federal fiscal year (FY) 22 and FY23 Infrastructure Investment and Jobs Act (IIJA) funding for the Most Effective Basins (MEB) program for projects in disadvantaged agricultural communities.
- USGS, EPA, and USDA NRCS worked with Pennsylvania to finalize a pilot project to develop a data management methodology to more comprehensively account for agricultural conservation practices implemented through state, federal and voluntary efforts. Agencies shared findings with the CBP partnership and USDA-EPA Federal Crediting Task Force.
- USFS secured partial funding for conducting reviews of grazing permits and restoring grazing allotments along the South Fork of the Shenandoah River and is establishing contracts for non-native invasive species (NNIS) treatments and tree planting for 2024.
- EPA continues to fund USGS to support state agencies in BMP reporting within the Chesapeake Bay watershed through the annual provision to provide aggregated USDA conservation data to the states.

2022-2023 Milestones Not Achieved

- None.

2024-2025 Milestone Strengths

- Continue to coordinate and enhance monitoring, including continuous water quality monitoring, in identified agricultural watersheds to measure the effect of agricultural conservation practices on water local water quality.
- EPA will conduct oversight of authorized state agriculture programs and National Pollutant Discharge Elimination System (NPDES) permits through Animal Agriculture Assessments and conducting real-time permit reviews of draft Concentrated Animal Feeding Operation (CAFO) individual and general permits.
- USFS will implement forest management and habitat restoration practices that will improve water quality and improve climate resiliency.
- NPS will implement ongoing cropland conversion projects in Chesapeake Bay national parks to convert agricultural lands to native grasslands, meadows, and riparian buffers, and evaluate opportunities for future cropland conversion projects, e.g., national battlefield parks.

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

- EPA and USDA should continue to coordinate grant programs with an emphasis on innovative agricultural practices and practices with multiple environmental/social benefits, and to directly support the agriculture sector strategies in the jurisdictions' Phase III WIPs.

- EPA and USDA NRCS should continue to coordinate with jurisdictions to identify means for crediting USDA Chesapeake Bay conservation investments that maintain scientific integrity and ensure producer privacy is protected, working with appropriate Chesapeake Bay Program committee(s) per the CBP partnership structure and delegation.

Urban/Suburban Stormwater

2022-2023 Milestone Achievements

- EPA reviewed several draft industrial, construction, and municipal stormwater permits from Chesapeake Bay jurisdictions to ensure consistency with federal regulations and Chesapeake Bay Total Maximum Daily Load (Bay TMDL) allocations, including that permits contain enforceable performance measures.
- EPA completed a workshop with Pennsylvania Department of Transportation for regulated Municipal Separate Storm Sewer System (MS4) permit holders.
- EPA reissued the District MS4 permit, effective 12/20/2023.
- EPA developed design criteria (i.e., climate adapted Intensity, Duration, Frequency Curve) for climate adapted stormwater management BMPs for all 304 counties of the Chesapeake watershed. EPA awarded a contract in 2023 for development of tools to support resilient stormwater management under future climate hydrologies, which will have results by 2026.
- NPS and DoD reported stormwater BMPs to jurisdictions in 2022-2023.
- NPS is conducting Historic Building Floodplain Lidar Mapping in the Potomac and Anacostia Rivers.
- United States Army Corps of Engineers (USACE) completed a Facilities TMDL Action Plan to assess impervious surfaces and develop recommendations for stormwater BMP implementation.
- DoD worked with the District of Columbia to reconcile BMP datasets and improve crediting in CAST.

2022-2023 Milestones Not Achieved

- USFS did not develop a Facilities Master Plan assessing impervious surfaces and maintenance/operational changes.

2024-2025 Milestone Strengths

- EPA will review certain MS4 plans for compliance with permit requirements and will conduct MS4 permittee and state inspector trainings in coordination with jurisdictions.
- EPA will conduct oversight, review and comment on draft state municipal, construction, and industrial stormwater permits to ensure consistency with the Bay TMDL and the jurisdictions' WIPs and to ensure permits contain enforceable performance measures.
- EPA will provide funding toward the Green Streets, Green Towns, Green Jobs (G3) program to help communities develop and implement plans that reduce stormwater runoff and improve climate resiliency.
- NPS will perform Stormwater BMP Opportunity Assessment Phase 2 Study at six or more priority parks.
- NPS will collaborate with partners and develop projects providing co-benefits for stormwater management and climate resilience in Chesapeake Bay parks. NPS will implement ongoing partnership Stormwater BMP and native restoration projects that are designed, funded, and

permitted. NPS will advance its Sustainability tracking system, “Green Parks Plan,” and “Climate Friendly Parks Plan.”

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

- Continue to develop plans to implement BMPs, including stormwater BMPs, to meet the federal local planning goals and local stormwater permit requirements.
- Identify methods for improving the tracking, reporting, and crediting of stormwater BMPs on federal land.
- EPA should continue to develop tools and support implementation of resilient stormwater management under future climate hydrologies, working with the Chesapeake Bay Urban Stormwater Workgroup.

Wastewater Treatment Plants and Onsite Systems

2022-2023 Milestone Achievements

- EPA reviewed 64 significant Chesapeake Bay wastewater discharge permits in calendar year (CY) 2022 and 66 in CY23 and issued an objection in 2023.
- EPA conducted 5 classroom trainings on process control with Pennsylvania and provided assistance to 5 wastewater treatment plants in Pennsylvania.

2022-2023 Milestones Not Achieved

- None.

2024-2025 Milestone Strengths

- EPA has committed to assist jurisdictions, as requested, with nutrient optimization and compliance assistance.
- EPA will track significant NPDES permits reviewed and objections.

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

- None

Programmatic Support to Bay TMDL/WIPs

2022-2023 Milestone Achievements

- EPA CBPO is on-schedule for completing the assessment of future climate risk to water quality standards, as well as key living resources, with complete, fully operational assessments of 2035 climate change expected to be available to the CBP partners for a year-long review in 2026.
- EPA provided contractor resources to complete a report (Brown and Caldwell) on gaps in the federal reporting and accountability system.
- NPS worked with jurisdictions to identify and correct discrepancies in boundaries and land ownership and in stormwater BMP records.
- NPS secured funding for multiple projects in Chesapeake & Ohio National Historic Park & Monocacy Battlefield Park to restore wetland functions (native plantings, invasive species removal).
- NPS partnered with the District and other jurisdictions on stream/river restoration and BMP projects in the Potomac and Anacostia watersheds.

- NPS reviewed data and identified priority parks to reduce TDML loads for a Park BMP Opportunity Assessment Phase 2 Study.
- DoD completed progress evaluations with recommendations and action items for use in internal program evaluation and improvement in FY22 and FY23.
- DoD completed crediting reports for FY 2021 and FY 2022 for Maryland, Pennsylvania, Virginia, and the District.

2022-2023 Milestones Not Achieved

- Some federal agencies did not report BMP implementation to the Bay jurisdictions annually with copy to EPA.
- Federal agencies should provide additional detail about progress made on milestones marked as having “ongoing” implementation to further illustrate the activities completed during the milestone period.

2024-2025 Milestone Strengths

- EPA will complete a technical review of the CBP partnership analysis of future climate risk to the living resource-based Chesapeake water quality standards and work on 2035 climate impacts.
- EPA will complete technical work to support understanding of climate resilient BMPs given future climate change risk and develop tools to support resilient stormwater management.
- EPA and NOAA will conduct outreach on the oyster restoration BMP to increase awareness and facilitate its implementation.
- USGS and EPA will continue to work with Chesapeake Conservancy and additional partners, including the Land Use Workgroup, to update the watershed-wide high-resolution land cover and land use, analyses of land use/land cover changes, and additional metrics, and to develop methods for improved mapping of hydrologic features, particularly streams, throughout the watershed.
- USACE will ensure technical assistance and other programs are disseminated and available to all communities, including disadvantaged communities.
- DoD Chesapeake Bay Program will support Middle Chesapeake (Maryland) Tidewater and Potomac (Virginia), and Kittatinny Ridge (Pennsylvania) Sentinel Landscapes to implement off-base projects that provide for water quality improvements in support of the jurisdiction WIPs and meet other co-benefits for habitat, climate resilience, and carbon sequestration.
- DoD will encourage military installation cleanup activities to reduce plastic pollution.

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

- Reaffirm commitment to participate in the CBP partnership’s Federal Facilities Workgroup (FFWG) and to fulfill the Executive Order 13508 expectation that federal agencies lead by example and provide data to verify whether the agencies are meeting local federal planning goals.
- Report specific deliverables and dates of completion for milestone progress reporting. Where appropriate, indicate quantifiable BMP implementation progress associated with programmatic milestone activities.

Other (Monitoring and Science Support, Atmospheric Deposition, Toxic Contaminants, Enforcement, Climate, Funding Support)

2022-2023 Milestone Achievements

- EPA provided financial support to the Bay jurisdictions through assistance programs including Clean Water Act (CWA) Section 319, Clean Water State Revolving Fund (SRF), Sewer Overflow and Stormwater Reuse Municipal Grants (OSG), 117 Chesapeake Bay Implementation Grants (CBIG) and Chesapeake Bay Regulatory and Accountability Program Grants (CBRAP). EPA provided financial support to localities and other entities, as authorized and assuming adequate appropriations, through the Innovative Nutrient and Sediment Reduction Grants (INSR) and the Small Watershed Grants (SWG).
- USGS and EPA published the Principals' Staff Committee (PSC) Monitoring Review in collaboration with Chesapeake Bay watershed jurisdictions. EPA applied Bipartisan Infrastructure Law (BIL) funding to address recommendations of the report for monitoring needs, including addition of continuous water quality monitoring at River Input Monitoring sites.
- EPA awarded funding to explore the use of Artificial Intelligence to monitor Submerged Aquatic Vegetation (SAV).
- USGS and NOAA deployed a Chesapeake Bay mainstem vertical profile hypoxia monitoring pilot in 2022 (2 stations) and 2023 (3 stations) and completed a Quality Assurance Plan for hypoxia systems. Resources from EPA and NOAA have been acquired for the phased implementation of a 10-array system by 2025.
- In CY2022, EPA finalized 7 administrative orders on consent (AOCs) (2 stormwater and 5 wastewater) and 5 final agreement and penalty orders (FAPOs) (5 wastewater). EPA also entered into 1 wastewater judicial consent decree. In CY2023, EPA finalized 11 administrative orders on consent (AOCs) (4 stormwater and 7 wastewater) and 4 final agreement and penalty orders (FAPOs) (1 stormwater and 3 wastewater).
- In CY23, EPA completed 3 Clean Air Act (CAA) Administrative Settlements that support Stopping After-Market Defeat Devices National Compliance Initiatives that included nitrogen oxide (NOx) reductions.
- EPA funded the Tidal Wetlands Capacity Building project with the Chesapeake Trust for strategic planning, capacity building, landowner engagement, and wetland project design. This work will produce a landscape-wide plan for tidal wetland restoration, marsh migration, and coastal resiliency.
- In FY2022, 6 DoD military installations reported new land conservation projects, 5 of which provide climate resilience co-benefits. In FY2023, 6 military installations reported new land conservation projects, 3 of which provide climate resilience co-benefits.
- The DoD CBP worked with the Commonwealth of Virginia to achieve designation of the Virginia Security Corridor Sentinel Landscape, including the Tidewater and Potomac Sentinel Landscapes.
- In FY22, DoD military installations in the watershed spent \$13,972,043 on 82 BMP projects with climate resilience co-benefits. In FY23, DoD military installations in the watershed spent \$20,557,653 on 169 BMP projects with climate resilience co-benefits.
- DoD provided 64 military installations in the watershed with Climate Assessment Tool (DCAT) threat assessments.

- DoD reported collaborative efforts to enhance resilience, including with the Commonwealth of Virginia, Strategic Environmental Research and Development Program research, and the Army Corps of Engineers.

2022-2023 Milestones Not Achieved

- USFS is off schedule to develop a Facilities Master Plan to assess impervious surfaces and maintenance/operational changes.

2024-2025 Milestone Strengths

- EPA will optimize a site assessment tool to ensure it provides the information of greatest use to the jurisdictions in planning management actions within Polychlorinated biphenyls (PCBs) TMDLs and other regulatory programs that promote track-down studies.
- EPA will coordinate on Per- and Polyfluorinated Substances (PFAS) CWA 304 recommended criteria for water quality protection and coordinate with states.
- DoD will complete a pilot project to report on the carbon sequestration resulting from annual BMP and other conservation project implementation on DoD-managed lands in the Chesapeake Bay watershed. Literature review was shared with CBP workgroups.
- EPA will work with Old Dominion University to conduct surveys of SAV to provide information for attainment of water-quality standards and assess progress toward SAV acreage goals. Explore artificial intelligence approaches for mapping SAV coverage.

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

- Continue to provide leadership in developing climate resiliency commitments and strategies.

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/>]

EPA will continue to coordinate the CBP partnership's Federal Facilities Workgroup and the Federal Office Directors group to coordinate on programmatic and BMP-specific milestones.