

RESTORE CLEAN WATER ACTIONS: Federal Water Quality Two-Year Milestones for 2022-2023

The Executive Order (EO) 13508 Strategy calls upon federal agencies to join the Chesapeake Bay watershed jurisdictions in establishing two-year milestones, many of which are designed to support the jurisdictions in meeting their water quality milestones leading to the 2025 implementation goal of 100 percent practices in-place. This set of federal two-year milestones for water quality applies to calendar years 2022 and 2023. The list below presents milestones for the Environmental Protection Agency (EPA) and nine other federal agencies (USDA, DoD, USACE, USGS, NPS, FWS, NOAA, DOT, and GSA) that support the water quality goals and outcomes in the [Chesapeake Bay Watershed Agreement](#). The milestones commitments represent activities with the potential to have significant environmental outcomes, require significant resources, or directly support the jurisdictions in meeting Watershed Implementation Plan (WIP) commitments. These commitments are contingent on receiving adequate funding in the 2022 and 2023 fiscal year budgets.

The federal milestones, along with the jurisdictional milestones, will contribute to the achievement of the Outcomes stated in the Watershed Agreement. Assuming a steady rate of implementation toward the 2025 goal, the following increments of progress will be achieved for the outcomes by the end of the 2022-2023 milestone period.

Numeric Milestones:

- EPA facilitates the CBP Partnership to collectively achieve the 2025 goal for implementing nitrogen, phosphorus and sediment pollution reduction actions to achieve final Total Maximum Daily Load (TMDL) allocations, as measured through the Phase 6.0 Watershed Model.* As of 2023, it is expected that BMPs will be in place to reduce pollution to achieve 90% of the nutrient and sediment reductions needed to attain applicable water quality standards when compared to the 2009 baseline established in the 2010 Bay TMDL.
- Using new air model scenarios developed for the 2017 Midpoint Assessment, EPA's portion of air deposition load reduction to tidal surface waters will be reduced by 0.30 million pounds of nitrogen over the 2022- 2023 period based on the Phase 6.0 Watershed Model. This is 95 percent of the required load reductions from 2010 to achieve the 15.7-million-pound air deposition load allocation to tidal waters by 2025 (2010 = 19.4-million-pound load of atmospheric deposition to the tidal Bay; 2023 = 15.9-million-pound load of atmospheric deposition load to the tidal Bay).
- Apply 300,000 acres of conservation practices in conjunction with U.S. Department of Agriculture (USDA) High Priority Performance Goals.
- Timber harvest 500 acres each year with BMPs (1,000 acres total) in Virginia. (USFS)
- Monitor at least one timber sale/year for water quality BMPs utilizing the USFS National BMP Monitoring protocol for Veg Management (protocol A). The monitoring protocol assesses post-harvest BMP implementation and effectiveness. (If the site is not found to be meeting standards, then follow-up corrective actions are required.) (USFS)
- Implement 1 culvert/road/AOP improvement project per year (2 total). FY22-23 ongoing. FY22 funds secured to replace Railroad Hollow culvert for aquatic organism passage (AOP) improvement. Target completion September 30, 2022. FY23 planning Wilson Dam remediation, funding dependent. (USFS)

- Implement Road Decommissioning or Road Closure of approximately 4 miles (equivalent to ~6 acres restored). (USFS)

* This outcome used 2009 as the baseline year.

Programmatic Milestones:

Restore Clean Water – TMDL/WIP Support	
Target Date	2022-2023 Programmatic Milestone
October 2022	Announce federal 2022-2023 water quality two-year milestones. (EPA, USDA, DoD, USACE, DOT, USGS, FWS, NPS, NOAA, GSA)
Fall 2022	Evaluate Pennsylvania’s final amended Phase III WIP. (EPA)
Summer 2022	Evaluate jurisdictional and federal 2020-2021 two-year milestone progress and 2022-2023 two-year milestones. Evaluate jurisdictional, Conowingo, and federal 2022-2023 two-year milestones. (EPA)
Summer 2022	Evaluate how jurisdictions accounted for 2025 climate change conditions in a Phase III WIP addendum or two-year milestones. (EPA)
Summer 2022	Assess progress made to implement the 2020-2021 two-year milestones to ensure jurisdictions remain on pace to achieve 100% practices in place by 2025 to achieve the CBP partnership’s restoration goal. (EPA)
October 2022 and 2023	Federal agencies to report BMP implementation progress to the Bay jurisdictions annually with copy to EPA. (Multiple Federal Agencies/EPA)
2022/2023	Complete technical review of the CBP analysis of future climate risk to the living resource-based Chesapeake water quality standards. Work on 2035 climate impacts ongoing. (EPA)
2022/2023	Complete technical work on understanding climate resilient BMPs given future climate change risk to the living resource-based Chesapeake Bay water quality standards. Starting with the 2022-2023 milestones, determine how climate change will impact the BMPs included in the WIPs and address these vulnerabilities in the two-year milestones. (EPA)
2022/2023	Determine methods for improving the reporting and crediting of BMPs on federal land (EPA)

2022/2023	Continue to provide funding to support a consortium of land grant universities to provide technical expertise to the partnership. (EPA)
2022/2023	Provide trainings on CAST to federal, state and local partners in the Bay watershed. (EPA)
2022/2023	Develop BMP planning, prioritization, tracking and reporting tools in coordination with jurisdictions and their local partners to provide access to data that can help with BMP siting and streamline tracking and reporting, especially from local partners. (EPA working with Chesapeake Conservancy)
2022/2023	Communicate findings of trends updates in the watershed and tidal waters to support WIP implementation. Provide key results updates for watershed trends (nutrients and sediment) and tidal trends (DO, clarity and nutrients) to WQ GIT and associated work groups. Work with jurisdictions to understand water-quality response in selected areas to practices being implemented to reduce nutrients and sediment. See agriculture, storm water and science support sections for more details. (USGS, academic partners, working with EPA)
2022/2023	Continue to work with Chesapeake Conservancy and partners to update the watershed-wide high-resolution land cover and land use, and to develop methods for improved mapping of hydrologic features, particularly streams, throughout the watershed. (EPA, USGS)
2022/2023	Federal agencies will work with jurisdictions to correct any errors identified in the federal land GIS files for landholdings within the Chesapeake watershed. (USGS coordinating; DoD, GSA, NPS, USFWS, USDA-USFS, USDA-other, Smithsonian) <i>Pending decision on whether to postpone this activity to closer to Phase 7 model development.</i>
2022/2023	Continue to work with Chesapeake Commons, Chesapeake Conservancy and jurisdictions to develop BMP siting, tracking and reporting tools, such as Field Doc, that incorporate available high-resolution data for use in WIP implementation. (EPA, USGS)
2022/2023	Take appropriate action on proposed state water quality criteria updates developed to be consistent with the <i>Ambient Water Quality Criteria for Dissolved Oxygen, Water Clarity and Chlorophyll-a for the Chesapeake Bay and Its Tidal Tributaries- 2017 Technical Addendum</i> . (EPA)
2022/2023	By 1 October, report BMP implementation progress to EPA and the Bay jurisdictions annually. (Multiple federal agencies)
2022/2023	Conduct DoD CB TMDL Progress Evaluations in VA, MD, DC, and PA. (DoD)
2022	Submit 2022-2023 planned BMP implementation in CAST for VA, MD, DC, and PA. (DoD)
2022/2023	Participate in the Federal Facilities Workgroup to enhance collaborative efforts within the Chesapeake Bay Program Partnership. (multiple federal agencies)
2022/2023	Work with USGS to produce updated shapefile of forest boundaries and land use (e.g., in FY20 the GWJ NF acquired Grace Furnace (4,664.5 acres) and The Knob (91.23 acres). (FS)

2022/2023	<p>The NPS will select and fund at least two prioritized projects from the Wetland Restoration Action Plan for Catoclin, Monocacy, Harper’s Ferry, and Chesapeake and Ohio Canal.</p> <p>See the 2022/2023 Key BMP Milestones document provided to the FFWG for detail on planned implementation of BMPs</p>
2022/2023	NPS will continue to update and refine the BMP database for tracking and reporting of stormwater BMPs.
2022/2023	The NPS will evaluate opportunities to integrate stormwater management with NPS climate resilience goals in the Chesapeake Bay, such as creating a Climate Action Projects Database.
2022/2023	The NPS will evaluate opportunities to support partnership projects in the MD, PA, VA, and WV similar to the tennis court retrofits and stream restoration projects in Rock Creek Park in the District of Columbia.
2022/2023	The NPS will evaluate development of a bundled Chesapeake Bay design and construction contract as a resource for park staff to implement pollutant reduction and climate resilience projects.
2022/2023	NPS completed evaluations of voluntary BMP opportunities in six parks in 2021. NPS will continue to evaluate opportunities at additional parks in 2022-2023.
2022/2023	The NPS will evaluate opportunities to integrate stormwater management with NPS climate resilience goals in the Chesapeake Bay, such as creating a Climate Action Projects Database.
2022/2023	The NPS will evaluate opportunities to support partnership projects in the MD, PA, VA, and WV similar to the tennis court retrofits and stream restoration projects in Rock Creek Park in the District of Columbia.
2022/2023	The NPS will evaluate development of a bundled Chesapeake Bay design and construction contract as a resource for park staff to implement pollutant reduction and climate resilience projects.
2022/2023	NPS completed evaluations of voluntary BMP opportunities in six parks in 2021. NPS will continue to evaluate opportunities at additional parks in 2022-2023.
	USACE will finalize Facilities TMDL Action Plan-- assess impervious surfaces and develop recommendations for stormwater BMP implementation

Restore Clean Water - Agriculture	
Target Date	Programmatic Milestone
2022/2023	Identify watersheds in which to coordinate/enhance monitoring to demonstrate the impact of agricultural conservation practices on water quality of local streams and rivers. (USGS, NRCS, EPA)
2022/2023	EPA and USDA will work together to fund climate-smart agricultural conservation practices that benefit both climate resiliency (sequester carbon, reduce greenhouse gas emissions) and local/Chesapeake Bay water quality.
2022/2023	EPA and NRCS will assess opportunities to prioritize support historically under-served farmers and ranchers through outreach, ranking, match adjustment options, and the selection process associated with agricultural conservation practice grants in the Chesapeake Bay watershed.
2022/2023	<ul style="list-style-type: none"> ● Provide Delaware with technical assistance and oversight to develop, issue, and grant permit coverages under the DNREC NPDES General Permit for CAFOs for Non-Poultry and Diversified AFOs with land and no-land application of manure (GP3). (EPA) ● Provide Delaware with technical assistance and oversight to develop, reissue, and grant permit coverages under the DNREC NPDES General Permit for CAFOs for Poultry AFOs with no-land application of manure (GP1). (EPA) ● Provide Delaware with technical assistance and oversight to continue grant permit coverages under the DNREC NPDES General Permit for CAFOs for Poultry AFOs with land application of manure (GP2). (EPA) ● Provide Pennsylvania with technical assistance and oversight to develop, reissue, and grant permit coverages under the PADEP NPDES General Permit for CAFOs (PAG-12). (EPA)
2022/2023	USDA, USGS, and EPA will continue to support State agencies in BMP reporting within the Chesapeake Bay watershed through the annual provision of aggregated USDA conservation data to the States. (EPA, USDA, USGS)
2022/2023	EPA, USDA, and USGS present the findings of the pilot project in PA to develop a data management methodology to more comprehensively account for agricultural conservation practices implemented through state, federal and voluntary efforts.
2022/2023	EPA will facilitate meetings, as requested, with State agencies, local partners, and the agricultural community to explore how the Clean Water State Revolving Fund can be used to reduce nutrient and sediment loads from agriculture and rural communities. (EPA)
2022/2023	Continue to support the implementation of agricultural certainty and recognition programs in the Bay watershed states. (EPA, USDA)

2022/2023	NRCS will continue to support voluntary actions by farmers and landowners to improve water quality and other resources by providing technical assistance through its Conservation Technical Assistance (CTA) program; and technical and financial assistance from the Environmental Quality Incentives Program (EQIP), Regional Conservation Partnership Program (RCPP), Agricultural Management Assistance (AMA) Program, Agricultural Conservation Easement Program (ACEP), Conservation Stewardship Program (CSP). (USDA-NRCS)
2022/2023	USDA will continue to provide financial and technical support for voluntary temporary retirement of cropland and marginal pasture and establishment of conservation cover for water quality and wildlife habitat improvement, through the Conservation Reserve Program (CRP) and Conservation Reserve Enhancement Program (CREP). (USDA-FSA, USDA-NRCS)
2022/2023	Incorporate changes in Farm Bill Conservation Programs resulting from any new Farm Bill or conservation funding bill into ongoing efforts to improve water quality in the Chesapeake Bay. Work with partners to inform Chesapeake Bay Program partners and the general public about farm bill conservation program opportunities. (USDA-NRCS)
2022/2023	Work with partners to develop and implement strong projects to improve water quality, working with agricultural producers through the Regional Conservation Partnership Program (RCPP). (USDA-NRCS)
2022/2023	Provide opportunities for non-USDA conservation professionals to participate in NRCS technical training activities such as for conservation planning and practice design and implementation. (USDA-NRCS)
2022/2023	Promote adoption of practices and systems by agricultural producers that improve soil health and mitigate climate change. (USDA-NRCS)
2022/2023	Annual review of grazing permits and restore grazing allotments along the SF Shenandoah River. Restoration plans for allotments along SF Shen River floodplain were submitted, as part of the Dupont Settlement case. Only partial funding secured for implementation. (USFS)

Restore Clean Water – Atmospheric Deposition	
Target Date	Programmatic Milestone
2022/2023	<p>Significantly reduce nitrogen deposition to the Bay and watershed by 2023 through implementation of national rules under the Clean Air Act. (EPA)</p> <ul style="list-style-type: none"> ● Apply and track new Community multi-scale Air Quality Model (CMAQ) air deposition modeling for future climate risk in the CB watershed incorporating estimated increased wet deposition loads. (EPA) ● Continue implementation of Tier 3 vehicle emission standards. (EPA) ● Oversee state implementation of Clean Air Act 129 rules, including those for Commercial and Industrial Solid Waste Incineration Units (CISWI); Sewage Sludge Incineration Units (SSI); and Hospital, Medical, Infectious Waste Incinerators (HMIWI). Once fully implemented, these rules will reduce emissions of NO_x as well as air toxic pollutants. (EPA)
2022/2023	<ul style="list-style-type: none"> ● Work with states and review SIPs that address reasonably available control technology (RACT) standards for the 2008 ozone National Ambient Air Quality Standards (NAAQS). RACT requirements limit the NO_x emissions at certain sources. (EPA) ● Work with states to develop State Implementation Plan (SIP) revisions to reduce NO_x emissions. (EPA) ● Work with states and review SIPs that address infrastructure requirements, including interstate transport, for the 2015 ozone NAAQS. (EPA) ● Work with states to develop rules to implement the 2015 ozone NAAQS. (EPA) ● Assist states with their development of state implementation plan submissions to address reasonably available control technology (RACT) for the 2015 ozone NAAQS. (EPA) ● Assist states with their development of regional haze state implementation plan submissions for the second planning period. These plans may include federally enforceable rules that reduce air emissions of visibility impairing pollutants, including NO_x. (EPA)
2022/2023	Review state permits which may include rules that limit emissions of NO _x . (EPA)

RESTORE CLEAN WATER - Stormwater	
Target Date	Programmatic Milestone
2022/2023	Conduct oversight review and comment, per federal regulations and NPDES Memoranda of Agreement with the states, on draft state Municipal, Construction, and Industrial Stormwater permits: to ensure consistency with the Bay TMDL allocations and the level of pollutant reduction called for in state WIPs; and to ensure permits contain enforceable performance measures. (EPA)
2022/2023	Review certain MS4 TMDL Plans for compliance with permit requirements. (EPA)
2022/2023	Conduct MS4 permittee and state inspector trainings in coordination with jurisdictions. (EPA)
2022/2023	Conduct Forums/Workshop for regulated MS4s in Maryland.
2022/2023	Reissue DC MS4 permit (expiration date is 6/22/23) (EPA)
2022/2023	Develop Facilities Master Plan - assess impervious surfaces and maintenance/operational changes. (USFS)

RESTORE CLEAN WATER - Wastewater	
Target Date	Programmatic Milestone
2022/2023	Continue to partner with state technical assistance (TA) staff and non-profit TA staff to conduct classroom and on-site training to wastewater professionals on topics ranging from compliance assistance to nutrient removal optimization. (EPA)
2022/2023	Track number of significant NPDES permits reviewed and objections. (EPA)
2022/2023	Review Bay jurisdictions' trading and offset regulations and policies and support Bay jurisdictions as they develop trading and/or offset programs. (EPA)
2022/2023	Work with other Federal agencies to build capacity that will support an efficient and robust trading market. (USDA, EPA, DOT, USACOE)

RESTORE CLEAN WATER - Toxic Contaminants	
Target Date	Programmatic Milestone
2022/2023	Take appropriate action on proposed PCB TMDLs submitted in the Bay watershed for local waters. (EPA)
2022/2023	Take appropriate action on proposed state water quality criteria updates developed to be consistent with the 2015 EPA Updated Ambient Water Quality Criteria for the Protection of Human Health. (EPA)
2022/2023	Update a GIS desktop tool to identify potential land sources of contamination in the watershed (PCBs and mercury). The use of EJ SCREEN will be evaluated to identify the location of such sites in areas with diverse populations. (EPA)
2022/2023	Review NPDES permits to ensure consistency with the requirements and assumptions with the PCB TMDLs. (EPA)
2022/2023	Conduct inspection(s) and take appropriate enforcement follow-up to ensure compliance with the Toxic Substances Control Act regulations related to PCBs. (EPA)
2022/2023	Conduct studies of the sources and occurrence of PCBs in the Washington DC region to help support multi-jurisdictional approach for reduction. (USGS working with DC and MD)

RESTORE CLEAN WATER - Enforcement	
Target Date	Programmatic Milestone
2022/2023	<p>Track EPA-led enforcement cases for Stormwater, Wastewater, Agriculture, Trading/Offsets, Air that result in nitrogen, phosphorus, sediment, and/or nitrogen oxides reductions.</p> <ul style="list-style-type: none"> ● Clean Water Act enforcement case conclusions for stormwater, wastewater and agriculture operations (EPA) ● Clean Air Act stationary source enforcement case conclusions with nitrogen oxide reductions (EPA) ● Clean Air Act case enforcement case conclusions for stopping after-market defeat devices (EPA)

RESTORE CLEAN WATER – Climate Actions	
Target Date	Programmatic Milestone
2022/2023	Make meaningful progress on all elements of the Climate Change Directive—Workplan July 5th, 2022, Appendix B: Federal Commitment to Implement the Chesapeake Executive Council Directive No. 21-1 Collective Action for Climate Change.

RESTORE CLEAN WATER - Monitoring and Science Support	
Target Date	Programmatic Milestone
2022/2023	Conduct trainings to jurisdictional and local partners on the Chesapeake Bay Watershed Data Dashboard. Conduct user testing and iteratively incorporate feedback to improve content and usability of the tool. (EPA, USGS)
2022/2023	Assess current decision-support tools developed and used by the Partnership and develop path forward for integrating new information on water quality and other outcomes. (EPA, USGS)
2022/2023	Continue to support the Chesapeake Monitoring Cooperative's ongoing integrated non-traditional monitoring partners into the Chesapeake Bay Program Partnership's Watershed and Tidal Monitoring Networks, thereby expanding data of documented quality available to support Chesapeake Bay and watershed restoration decision making. (EPA, USGS)
2022/2023	Collaborate with the all six states and DC to continue monitoring of nutrient and suspended-sediment conditions across the full range of hydrologic conditions at each of the stations in the CBP nontidal network and the associated river-input stations. Work through STAR Integrated Monitoring Networks work group to coordinate activities. (USGS working with States and EPA)
2022/2023	Compute total loads to the Bay to help understand changes in tidal water-quality conditions. The CBP monitoring and modeling teams combine information from the RIM stations with loadings from unmonitored areas to estimate annual loads for N, P, and S. Activity is funded by EPA. (UMCES, PSU, USGS, EPA)
2022/2023	Conduct monitoring of tidal waters to assess attainment of water-quality standards and associated conditions. Monitoring conducted by multiple partners in MD and VA and funding provided mostly by USEPA. (EPA, MD, VA)

2022/2023	Analyze tidal monitoring data, including results from SAV surveys, to assess progress toward attainment of water-quality standards. The CBP monitoring team is responsible for the analysis and funded primarily by EPA. (EPA, UMCES, ICPRB, USGS)
2022/2023	Analyze tidal monitoring data to assess changes in water-quality conditions important for living resources. The CBP monitoring team works with state and academic partners to employ consistent trend methods for updates in nutrients, clarity, and selected parameters important for living resources. The effort is funded primarily by EPA. (UMCES, ICPRB, USGS, agencies in MD and VA, EPA)
2022/2023	Conduct surveys of submerged aquatic vegetation (SAV) to provide information for attainment of water-quality standards and assess progress toward SAV acreage goals. (VIMS, EPA)
2022/2023	Complete the third 2-year cycle of the Biennial Strategy Review System, an adaptive management process designed to improve our effectiveness in achieving the Chesapeake Agreement Goals and Outcomes.
2022/2023	USGS and NOAA will provide technical leadership to complete the Chesapeake Bay mainstem vertical profile hypoxia monitoring pilot and work with the Chesapeake Bay Program to explore longer term implementation. USGS efforts are through the CBP monitoring team. (USGS, NOAA)

RESTORE CLEAN WATER - EPA Grant Support to States and the District of Columbia	
Target Date	Programmatic Milestone
2022/2023	Provide financial support to Bay jurisdictions, as authorized and assuming adequate appropriations, through EPA's assistance programs including CWA Section 319, SRF, CWA, Sewer Overflow and Stormwater Reuse Municipal Grants (OSG), 117 CBIG and CBRAP. The recent passing of the Bipartisan Infrastructure Law will provide supplemental funding for the Chesapeake Bay Program and SRF programs for the next five years.(EPA)
2022/2023	Provide financial support to localities and other entities, as authorized and assuming adequate appropriations, through the Innovative Nutrient and Sediment Reduction Grants and the Small Watershed Grants. (EPA)

Acronym Guide

BayFAST/CAST/MAST/VAST – Federal Assessment Scenario Tool/Chesapeake AST/Maryland AST/Virginia AST
BMP – Best Management Practice
CAFO – Concentrated Animal Feeding Operation
CBP – Chesapeake Bay Program
CBIG – Chesapeake Bay Implementation Grants
CBRAP – Chesapeake Bay Regulatory and Accountability Program Grants
CEAP – Conservation Effects Assessment Project
CWA - Clean Water Act
DNREC - Department of Natural Resources and Environmental Control
DoD – Department of Defense
DOT – Department of Transportation
EJ SCREEN – Environmental Justice Screening and Mapping Tool
EO Strategy – Executive Order 13508 Strategy for Protecting and Restoring the Chesapeake Bay Watershed
EPA – Environmental Protection Agency
FSA - Farm Services Agency
FWS – Fish and Wildlife Service
GIS – Geographic Information System
GSA - General Services Administration
Maryland DNR – Maryland Department of Natural Resources
MS4 – Municipal Separate Storm Sewer System
NAAQS – National Ambient Air Quality Standards
NFWF - National Fish and Wildlife Foundation
NOAA – National Oceanic and Atmospheric Administration
NOx - Nitrogen Oxides
NPDES – National Pollutant Discharge Elimination System
NRCS – Natural Resources Conservation Service
NPS – National Park Service
PCB – Polychlorinated Biphenyl
RACT - Reasonably Available Control Technology
SAV – Submerged Aquatic Vegetation
SIP - State Implementation Plan
SRF - State Revolving Fund
STAC – Scientific and Technical Advisory Committee
STAR – Scientific and Technical Assessment Reporting team
TMDL – Total Maximum Daily Load
UMCES – University of Maryland Center for Environmental Science

USACE – U.S. Army Corps of Engineers
USDA – U.S. Department of Agriculture
USFS- U.S. Forest Service
USGS – U.S. Geological Survey
WIP – Watershed Implementation Plan
WQ GIT - Water Quality Goal Implementation Team