

**EPA EVALUATION OF FEDERAL AGENCIES 2016-2017 CHESAPEAKE BAY TOTAL
MAXIMUM DAILY LOAD PROGRESS and 2018-2019 MILESTONES**

The U.S. Environmental Protection Agency (EPA) is providing an evaluation of federal agency progress toward meeting 2016-2017 programmatic milestones and pollutant reduction targets in support of the Chesapeake Bay nutrient and sediment Total Maximum Daily Load (Bay TMDL). In addition, EPA is providing an evaluation of the federal agencies' 2018-2019 milestone commitments.

During 2016-2017, federal agencies continued to implement best management practices (BMPs) to make progress toward permit requirements and the federal facility nutrient and sediment pollutant reduction targets that were established for federal facilities and lands in the Chesapeake Bay watershed in 2015. The federal agencies' 2016-2017 programmatic milestones provided additional support to the jurisdictions in achieving the outcomes described in the jurisdictions' watershed implementation plans (WIPs). For a complete list of all federal programmatic 2016-2017 two-year milestones please see the report available on the [Chesapeake Bay Federal Leadership website](#).

The Chesapeake Bay Program (CBP) partnership set a goal of having practices in place by 2017 that would achieve 60 percent of the nitrogen, phosphorus, and sediment reductions necessary to achieve applicable water quality standards compared to 2009 and agreed to use its 5.3.2 suite of modeling tools through 2017 to measure progress towards attaining that goal. When the Bay TMDL was established in 2010, the CBP partnership anticipated that the science, data and understanding of the watershed would continue to improve and evolve as the restoration work proceeded and that adjustments to the implementation efforts could be necessary. Therefore, the CBP partnership committed to update the modeling tools to allow the Bay Program partners to better predict areas and the extent of water quality non-attainment and provide better estimates of progress toward attaining the 2025 goal. These updated tools (6.0 suite of models) will be used to develop new numeric planning targets (i.e., the "Phase III Watershed Implementation Plan or WIP Planning Targets"), to be approved by the CBP partnership, to meet the 2025 goal and will be used measure nutrient and sediment pollutant reduction progress from 2018 through 2025.

The upgraded 6.0 suite of tools predict a different level of pollutant reduction effort to meet the 2025 goal than the 5.3.2 suite of models predicted. Local area planning goals and Federal Facility Targets will be developed using the upgraded 6.0 suite of tools and the Phase III WIP Planning Targets in coordination with each of the Chesapeake Bay Jurisdictions and federal agency representatives.

Load Reduction Review

When evaluating 2016-2017 milestone implementation, EPA compared nutrient and sediment loads simulated using the 5.3.2 suite of the CBP partnership's modeling tools and wastewater discharge data reported by the jurisdictions to the watershed-wide goal of 60 percent of the necessary reductions compared to 2009.

Based on the data submitted by the jurisdictions, the 2017 watershed-wide target for phosphorus and sediment was met but the nitrogen target was not met. As noted above, progress measured

using the 6.0 suite of tools is different than progress using the 5.3.2 suite of tools. These numeric differences were provided to the jurisdictions in May 2018. The jurisdictions will have the opportunity to optimize their strategies to attain the 2025 goals with the development of Phase III Watershed Implementation Plans (WIPs). The Phase III WIPs will be finalized in 2019.

During 2016-2017 federal agencies continued to demonstrate substantial activity and investment in implementing management practices to meet the nearly 800 individual facility targets issued in 2015. More effective systems will be developed for reporting implementation and using that information for estimating progress toward reaching facility pollution reduction targets.

Through the CBP partnership's Chesapeake Bay Watershed Water Quality Monitoring Network, supported by U.S. Geological Survey (USGS), the Susquehanna River Basin Commission, and the Bay jurisdictions, the non-tidal monitoring trends indicate that an estimated 40 percent of the Chesapeake Bay and its tidal tributaries met applicable water quality standards, the highest estimate since 1985.

Agriculture

2016-2017 Milestone Achievements

- U.S. Department of Agriculture (USDA) National Resources Conservation Service (NRCS) coordinated lessons learned with CBP partners on the Conservation Effects Assessment Project Chesapeake Bay cropland studies to discuss their utility for learning about the effectiveness of nutrient management on Chesapeake Bay cropland and opportunities to fine-tune nutrient management to achieve the greatest water quality benefits.
- EPA completed the review of four Concentrated Animal Feeding Operation permits and associated Nutrient Management Plans and conducted an animal feeding operation review for Rattlesnake Run.
- USDA NRCS is developing a National Instruction to provide further guidance that will clarify options for entering into and/or strengthening data sharing with the Chesapeake Bay jurisdictions.
- USDA NRCS in Pennsylvania recently completed the "Pennsylvania Remote Sensing Pilot Project" which has been accepted as a concept option for verifying BMPs by the CBP partnership's Agriculture Workgroup. NRCS and Pennsylvania collaborated to implement this project. The CBP partnership has accepted several relevant BMPs identified through this remote sensing technique; as a result, jurisdictions received credit for those BMPs in the recent 2016 progress assessment with the CBP partnership's Watershed Model.

2016-2017 Milestones Missed

- USDA has had limited success with enhancing the delivery of technical assistance in support of riparian forest buffer restoration and with developing and piloting strategies for creating incentives for the installation of riparian forest buffers. While staff was hired to provide technical assistance, additional coordination and leadership is needed at the state level. Some effective buffer programs have been piloted, but these programs have not been institutionalized.

2018-2019 Milestone Strengths

- USDA-NRCS will promote practices and systems by agricultural producers that improve soil health.
- EPA and NRCS will coordinate their respective innovative grant programs to ensure the best use of federal funding to support Bay jurisdiction WIP commitments.
- EPA will facilitate meetings, as requested, with state agencies to explore how the Clean Water State Revolving Fund can be used to reduce nutrient and sediment loads from agriculture and rural communities.

Key Areas to Address in the 2018-2019 Milestone Period and in the Phase III WIPs

- The 2017 annual target to apply 472,000 acres of conservation practices in conjunction with USDA High Priority Performance Goals was not met. In 2017, 302,000 acres of conservation practices were applied.

Urban/Suburban Stormwater

2016-2017 Milestone Achievements

- EPA published a draft Municipal Separate Storm Sewer System (MS4) permit for the District of Columbia for public notice and comment.
- EPA conducted an update of the 2012 stormwater assessments for Pennsylvania and Virginia.
- EPA revised the national Phase II MS4 regulations to address the Ninth Circuit remand with the final rule signed November 17, 2016 and published in the Federal Register on December 9, 2016.
- EPA reissued its National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges from Construction Activities. It is applicable, within the Chesapeake Bay watershed, to operators in the District of Columbia and federal operators in Delaware.
- EPA conducted oversight review, per the federal regulations, of draft state MS4 permits to ensure consistency with the Bay TMDL allocations, the level of pollutant reductions called for in jurisdictions' WIPs, and to ensure permits contain enforceable performance measures. Permits reviewed include the Phase II MS4 general permit for Pennsylvania (PAG-13), the Phase II MS4 general permit for Maryland, multiple permits in Virginia (6 Tidewater Phase I MS4 permits and the Virginia Department of Transportation (VDOT) MS4 permit, and the Pennsylvania Turnpike MS4 permit.

2016-2017 Milestones Missed

- Federal agencies and District of Columbia's Department of Energy & Environment (DDOEE) did not meet quarterly as part of the 2013 Memorandum of Understanding (MOU). Only two meetings were held in 2016 and no meetings were held in 2017.

- EPA did not conduct MS4 permittee and state inspector trainings.

2018-2019 Milestone Strengths

- EPA intends to update the 2012 stormwater assessments for Delaware, Maryland and West Virginia.
- The General Services Administration (GSA) intends to oversee all active projects to ensure that they are designed to meet federal, state and local requirements and that the construction meets the specified design parameters.

Key Areas to Address in the 2018-2019 Milestone Period and in the Phase III WIPs

- Ensure that the federal agencies and DDOEE move forward with their plan to coordinate activities per the 2013 MOU.
- EPA should continue to review and comment on draft state MS4 permits to ensure consistency with the Bay TMDL allocations, the level of pollutant reductions called for in jurisdictions' WIPs, and to ensure permits contain enforceable performance measures.
- EPA should continue to provide technical assistance to communities to help better implement stormwater programs.

Wastewater Treatment Plants and Onsite Systems

2016-2017 Milestone Achievements

- Nutrient loads from significant federally-operated wastewater treatment plants (WWTPs) continued to decrease in 2017.
- EPA proposed draft of the Blue Plains NPDES permit for comment.

2016-2017 Milestones Missed

- None.

2018-2019 Milestone Strengths

- EPA intends to finalize the Blue Plains NPDES permit.

Key Areas to Address in the 2018-2019 Milestone Period and in the Phase III WIPs

- Federal agencies should continue the level of effort to reduce or maintain existing loadings.

Offsets and Trading

2016-2017 Milestone Achievements

- USDA Office of Environmental Markets (OEM) worked with EPA Region III to develop credit estimates for manure technologies in the Chesapeake Bay using the Chesapeake Bay Nutrient Tracking Tool. Credit estimates were meant to estimate potential reductions from manure technologies from avoided manure applications within the watershed. OEM met with the CBP partnership, EPA Region III, and state administrators from Pennsylvania, Maryland, Virginia, and Delaware to discuss how manure technologies could be credited in the Chesapeake Bay watershed. It was decided to credit these technologies for 1) avoided ammonia emissions and 2) avoided manure applications on the landscape.
- EPA updated the 2012 trading and offset assessments for all Bay jurisdictions.

- EPA issued a final “baseline demonstration” technical memorandum setting forth expectations for the Bay jurisdictions’ offset and trading programs.

2016-2017 Milestones Missed

- EPA did not issue technical memoranda on “MS4 and construction mitigation”.
- While a final sector load growth evaluation was not conducted, the CBP partnership agreed to develop 2025 growth projections for jurisdictions to use in developing the Phase III WIPs. Jurisdictions will use these projections to determine how increased loads will be offset. These projections will be updated every two years and jurisdictions will need to address any projected growth in their two-year milestones.

2018-2019 Milestone Strengths

- EPA will issue a draft “MS4 and construction mitigation” technical memoranda setting forth EPA expectations for the jurisdictions’ offset and trading programs.

Key Areas to Address in the 2018-2019 Milestone Period and in the Phase III WIPs

- EPA expects federal facilities to continue to work to understand where growth is occurring and, where loads need to be offset, to offset these new loads within the appropriate timeframe, and to continue to track and account for new or increased loads.

Federal Facilities and Land Implementation Activities

2016-2017 Milestone Achievements

- The federal agencies owning most federal land in the Bay watershed and EPA maintained a joint jurisdictional and federal workgroup under the CBP partnership’s Water Quality Goal Implementation Team to coordinate advancement of federal involvement in implementing actions to meet the Bay TMDL allocations. The Department of Defense (DoD) continued to co-chair the workgroup along with the Commonwealth of Virginia.
- DoD developed an in-depth process to collect, review and report implementation of stormwater management practices. Staff from DoD and the Bay jurisdictions worked cooperatively to review and validate the data for submission to EPA and maximize the credit of DoD BMP implementation in the Chesapeake Bay Watershed Model.
- DoD installations continue to utilize the information collected from BMP opportunity assessments to identify and prioritize retrofits to develop stormwater conceptual designs and construction documents.
- DoD facilitated routine internal Chesapeake Bay Action Team meetings to educate and exchange information with installation environmental directors, water program managers, and natural resource managers. The Fall 2016 DoD Chesapeake Bay Program Journal provided an editorial focus on Phase III WIPs. The Journal is distributed to DoD leadership and installations.
- Federal agencies and USGS identified and mapped all federal landholdings in the Chesapeake Bay watershed for which data is available using a new online Federal Facilities Editor Tool in order to inform the CBP partnership’s Phase 6 Watershed Model.
- EPA invested over one million dollars to acquire high resolution land cover data, which was processed by USGS in coordination with the Chesapeake Conservancy to provide the jurisdictions and federal agencies with more accurate data for use in BMP targeting.

Enhanced land cover classifications completed by USGS will be used in the CBP partnership's Phase 6 modeling tools and the Bay TMDL's midpoint assessment.

- U.S. Army Corps of Engineers (USACE) assessed existing and future BMPs at their properties in the watershed.

2016-2017 Milestones Missed

- None.

2018-2019 Milestone Strengths

- DoD will implement \$45 million dollars in nutrient and sediment reduction practices.
- GSA will complete an assessment of the first year of the new fertilization policy to determine if any soil nutrient testing is necessary and confirm preferable alternatives.
- GSA will complete four stormwater management studies and conduct design and construction for any successfully funded projects.
- USACE will continue efforts to foster healthy land and waters at USACE reservoirs and dams.

Key Areas to Address in the 2018-2019 Milestone Period and in the Phase III WIPs

- EPA should continue to plan how the CBP partnership's Phase 6 Watershed Model will be used to evaluate federal agencies' progress toward facility-specific 2017 targets.
- Federal agencies and the jurisdictions should continue to improve the process related to reporting federal BMP progress data.
- Federal agencies should improve the completeness of reported annual progress data.
- Jurisdictions should work with the EPA Chesapeake Bay Program Office (CBPO) and federal agencies to ensure that reported data is entered into the National Environmental Information Exchange Network (NEIEN) so that the CBP partnership's Phase 6 Watershed Model reflects a more complete representation of implementation at the federal level.
- In coordination with EPA, federal agencies should develop plans to meet 2025 reduction targets.
- Several jurisdictions within the Chesapeake Bay watershed have MS4 permits under development. Regulatory requirements drive the funding necessary for implementing stormwater controls that reduce nutrients and sediment. DoD and other federal agencies should continue to participate in development of MS4 permits.
- Based on available funding, DoD may pursue a project in coordination with EPA that identifies mechanisms to assess numeric progress in meeting 2017 goals and develop plans to meet 2025 reduction goals.

Programmatic Support to Bay TMDL/ WIPs

2016-2017 Milestone Achievements

- EPA provided financial support to jurisdictions by maintaining funding, as authorized, through EPA's assistance programs including Clean Water Act (CWA) Section 319, State Revolving Fund (SRF), Chesapeake Bay Implementation Grants (CBIG) and Chesapeake Bay Regulatory and Accountability Program (CBRAP). In 2017, EPA distributed \$30.3 million in CBIG and CBRAP grant funds to the Bay jurisdictions, including an allocation of local government funding to state and local governments in 2017.

- EPA provided financial support to localities and other entities through the [Innovative Nutrient and Sediment Reduction Grants](#) and the [Small Watershed Grants](#). In 2017, each program received \$13.1 million, which included appropriated funds and additional funds from EPA.
- EPA provided Bay jurisdictions and federal agencies with an interim evaluation of their 2016-2017 milestone progress.

2016-2017 Milestones Missed

- EPA did not issue the Phase III WIP expectations document. This document was released in the Summer 2018.
- EPA did not issue the final expectations for two-year milestone development. A final guide for two-year milestones is expected to be released in the Summer 2018.
- The Phase III WIP planning targets will be released by the CBP partnership, rather than EPA. This release is expected in July 2018.

2018-2019 Milestone Strengths

- DoD will participate in jurisdictions' WIP processes by disseminating jurisdiction information throughout DoD to support effective implementation.
- DoD will develop draft 2025 implementation plans to support Phase III WIPs in Virginia, Maryland, Pennsylvania and the District of Columbia.
- EPA and USGS will begin updating the high-resolution land cover data.
- EPA will evaluate the Phase III WIPs.

Key Areas to Address in the 2018-2019 Milestone Period and in the Phase III WIPs

- EPA will review the jurisdictions Phase III WIPs in 2019.
- EPA and federal agencies will set federal facility targets.

Monitoring and Science Support

2016-2017 Milestone Achievements

- EPA and USGS, working with the University of Maryland Center for Environmental Science, issued a report summarizing patterns in water-quality criteria attainment in tidal waters during 1985-2014.
- USGS updated nutrient and sediment load trends in the Chesapeake Bay watershed to help assess progress toward implementing the Bay TMDL.
- USGS, EPA, and USACE refined the Chesapeake Bay Watershed model with a new framework for simulating nutrients and sediment. New land use data and other information are being included for the Phase 6 suite of modeling tools in 2017.
- EPA completed [ChesapeakeProgress](#), which is one of a suite of [ChesapeakeStat](#) tools that will provide progress to stakeholders on all 2014 Chesapeake Bay Watershed Agreement goals and outcomes.

2016-2017 Milestones Missed

- EPA did not complete “ChesapeakeDecisions”, the second in the suite of ChesapeakeStat tools that will allow decision makers to improve how they adaptively manage their implementation activities.

2018-2019 Milestone Strengths

- Publish new approaches for quantifying and explaining watershed trends of nutrients and sediment to support the development of the Phase III WIPs.
- EPA and NOAA will utilize information from the Chesapeake Bay Interpretive Buoy System to enhance tidal monitoring results.

Key Areas to Address in the 2018-2019 Milestone Period and in the Phase III WIPs

- EPA will provide assistance to the District of Columbia, Delaware, Maryland and Virginia to promulgate the appropriate sections of the *Ambient Water Criteria for Dissolved Oxygen, Water Clarity and Chlorophyll a for the Chesapeake Bay and its Tidal Tributaries – 2017 Addendum*.

Atmospheric Reductions

2016-2017 Milestone Achievements

- EPA updated the 2017 air deposition modeling scenario for the Chesapeake Bay watershed incorporating the federal plan to address interstate transport for the 2008 national ambient air quality standards and other recent finalized rules with significant nitrogen oxide reductions.
- EPA finalized a federal plan to implement the Emission Guidelines for Sewage Sludge Incinerators.
- EPA finalized a federal plan to address interstate transport for the 2008 ozone national ambient air quality standards (NAAQS).
- EPA finalized the implementation rule for the 2012 fine particulate matter (PM_{2.5}) NAAQS.

2016-2017 Milestones Missed

- EPA did not develop a federal plan for states that do not submit a Clean Power Plan (CPP) state plan for existing sources, nor did it review CPPs for existing sources. On October 10, 2017, EPA proposed to repeal the Clean Power Plan.

2018-2019 Milestone Strengths

- Work with states to develop rules to implement the 2015 ozone NAAQS and to address infrastructure requirements.
- Continue implementation of Tier 3 vehicle emission standards.

Key Areas to Address in the 2018-2019 Milestone Period and in the Phase III WIPs

- Develop federal plan to address interstate transport for the 2015 NAAQS.
- Apply and track new Community Multi-Scale Air Quality Model (CMAQ) air deposition modeling, incorporating the most recent finalized rules with significant NO_x reductions.

Federal Agency BMP Progress Reporting to the Bay Jurisdictions

- Previous federal evaluations included an appendix with an annual summary of the extent to which federal agencies reported BMP implementation progress to the jurisdictions and whether the jurisdictions included the federal data in their annual progress reports. This federal evaluation does not include such a summary due to competing priorities and resource demands during 2017.
- Completeness of federal reporting during the 2017 assessment period was approximately the same as the previous year, which was incomplete for some agencies. However, continued improvement in the direct communication between federal agencies and the jurisdictions has been noted.
- Federal agencies are expected to report annual BMP progress to the jurisdictions (copy EPA) using tools provided by the jurisdictions that are compatible with requirements for the National Environmental Information Exchange Network (NEIEN). The CBP partnership's Phase 6 Watershed Model now enables EPA to track federal agency BMP implementation progress by federal agency instead of the previous designation of "federal lands." With this new capability in place, EPA will track federal agency progress for each agency for each of the Bay jurisdictions on an annual basis. EPA will not hold jurisdictions accountable if federal facilities fail to meet their expected load reductions and planning targets. (Per the July 3, 2018 [EPA Expectations for Federal Lands and Facilities](#)).
- EPA is committed to developing a new tool to allow this extent-of-reporting information to be tracked efficiently and will propose a new approach to the Federal Office Directors and Federal Facilities Workgroup prior to the 2018 annual BMP progress reporting cycle.

Potential Federal Actions and Assistance

- EPA's Chesapeake Bay Program Office intends to commit staff, contractual, and funding resources to support of the development and implementation of each of the seven watershed jurisdictions' Phase III WIPs and to assist federal agencies. This support includes evaluation of the most-effective practices and locations, evaluation of a jurisdiction's implementation capacity under various staffing, funding, regulatory and programmatic scenarios, local planning outreach, legislative and regulatory gap analysis, and monitoring trend analysis.

Acronym List

AOC - Architect of the Capitol
CIA – Central Intelligence Agency
DHS – Department of Homeland Security
DOC – NOAA – Department of Commerce, National Oceanic and Atmospheric Administration
DOC – USGS – Department of Commerce, US Geological Survey
DOI – BLM – Department of Interior, Bureau of Land management
DOI – FWS - Department of Interior, Fish and Wildlife Service
DOI – NPS - Department of Interior, National Park Service
DoD (Army, Navy, etc.) Department of Defense
USACE US Army Corps of Engineers
DOV – Department of Veterans Affairs
EPA – Environmental Protection Agency
GSA – NCR - General Services Administration, National Capital Region
Misc. – Miscellaneous
NASA – National Aeronautics and Space Administration
USDA - US Department of Agriculture
USDA – FS - US Department of Agriculture, Forest Service
USPS – US Postal Service