

2017 Revised Guide for Chesapeake Bay Water Quality Two-year Milestones

Purpose

Based upon agreements by the Chesapeake Executive Council beginning in 2008, EPA created an accountability framework that guides local, state, and federal water quality restoration efforts in the Chesapeake Bay watershed. As explained in the [Chesapeake Bay Total Maximum Daily Load](#) (Bay TMDL) Section 7.2, the accountability framework is composed of the, Watershed Implementation Plans (WIPs), two-year milestones, EPA's tracking and assessment of progress toward meeting the Bay TMDL allocations, and specific federal actions that might be taken if a Bay watershed jurisdiction (Delaware, the District of Columbia, Maryland, New York, Pennsylvania, Virginia, and West Virginia) does not meet its two-year milestone and Bay TMDL commitments. This accountability framework provides assurance that the Bay TMDL allocations will be achieved and maintained.

In addition, [Executive Order 13508](#) directed federal agencies to "define environmental goals for the Chesapeake Bay and describe milestones for making progress toward attainment of these goals." [The Executive Order Strategy](#) further clarified that federal agencies will join the Bay watershed jurisdictions in establishing two-year milestones that specify federal efforts to support the Bay watershed jurisdictions in meeting their current and future water quality milestones.

This 2017 Revised Milestone Guide provides updates and clarifications to the [2011 Milestone Guide](#) to address the Bay watershed jurisdictions' and federal agencies' two-year water quality milestones from 2018 through 2025. The two-year water quality milestones described in this Guide encompass numeric pollutant load reduction milestones and programmatic milestones. Numeric pollutant load reduction milestones detail the quantitative reductions resulting from pollutant reduction measures such as the implementation of best management practices (BMPs) or wastewater progress. Programmatic milestones reflect new or enhancements to existing water quality programs that will support meeting the Bay TMDL allocations and Phase III WIPs. Examples of programmatic milestones include new legislation, regulations, and/or capacity-building actions to increase the resources needed to support the implementation of pollutant reduction measures.

This Guide summarizes but does not replace related documents, listed in Appendix A, that refer to the two-year water quality milestones. It provides additional detail on EPA's expectations for Bay watershed jurisdictions and federal agencies regarding the establishment and evaluation of future two-year milestones for water quality and includes a detailed schedule in Appendix B.

Expectations for the Bay Watershed Jurisdictions' Development of the 2018-2025 Two-Year Milestones

Bay watershed jurisdictions are to submit draft two-year milestones, both programmatic and numeric, to EPA by January 15 of each even numbered year. EPA evaluates the draft two-year milestones and provides that evaluation to the jurisdictions. Beginning in 2018, jurisdictions are expected to submit final two-year milestones within 1 month of EPA providing its evaluation of the draft two-year milestones and the progress for the prior milestone period.

EPA expects the Bay watershed jurisdictions to:

- Develop detailed two-year milestones that identify and commit to implement specific pollutant reduction measures to remain on pace to achieve Bay TMDL goals. The milestones are expected to contain more detail and more transparent reporting to the public than past Bay restoration efforts as noted in the [November 4, 2009](#) letter from EPA to the chair of the Chesapeake Bay Program (CBP) partnerships' Principals' Staff Committee.
- Describe how the increments of pollutant reductions for each two-year milestone are on pace to implement the measures necessary to achieve the pollutant reductions allocated to the Bay watershed jurisdiction in the Bay TMDL by 2025.
- Work with federal agencies to identify the suite of practices including the number, location (as appropriate) and type of nitrogen, phosphorus, and sediment reductions on federal, state, municipal, and private lands that will be implemented within the two-year period, starting July 1 of the prior odd numbered year and ending June 30 of the following odd numbered year as described in Appendix B.
- Develop the nonpoint source numeric milestone BMPs using the [Chesapeake Assessment and Scenario Tool \(CAST\)](#) and share the final CAST scenario with EPA. Submit an e-mail to EPA with the name of the final milestone scenario in CAST. Wastewater numeric milestones should be submitted using the spreadsheet provided by EPA or by the appropriate tool per the instructions in the current [Chesapeake Bay Grant Guidance](#).
- Identify and commit to implement specific programmatic actions, such as rulemakings and additional resources to reduce nitrogen, phosphorus, and sediment loads, which will be needed in order to achieve the pollutant reductions identified for the current two calendar year period or future two calendar year periods. Programmatic milestones should be submitted using the EPA provided programmatic milestones template.

Although programmatic actions may not result in on-the-ground implementation within the current two-year milestone period, EPA expects Bay watershed jurisdictions to include this information to demonstrate assurance that future nitrogen, phosphorus, and sediment controls resulting from these capacity-building actions will occur on schedule. For example, a jurisdiction may commit to develop legislation to restrict lawn fertilizer use in the 2018-2019 milestone period. The Bay jurisdiction would report the acres receiving urban nutrient management and EPA would model the nitrogen and phosphorus reductions resulting from this legislation when it became effective; the reductions would then be verified in the subsequent milestone period.

EPA will evaluate whether the draft and final two-year milestones are on pace to achieve the pollutant reductions necessary to meet the Bay TMDL allocations, which were based upon the Bay watershed jurisdictions' WIPs. EPA recognizes that the Bay watershed jurisdictions' actions may differ from their milestone commitments based on changing conditions and the availability of new information. EPA supports adaptive management of two-year milestones so long as the overall pace of pollutant reductions remain on track to implement controls necessary to achieve the pollutant reductions allocated to the Bay watershed jurisdictions in the Bay TMDL by 2025.

In January 2016, the CBP partnership's Management Board agreed to hold the assumptions, including but not limited to land use, BMP efficiency and human and animal populations, set at the beginning of the milestone period constant over the two-year milestone period, beginning with the 2018-2019 milestone period. Those assumptions, such as land uses, will be projected at the beginning of a milestone period, and those projections will be used in EPA's evaluation of the milestones at the end of the two-year milestone period; i.e., for purposes of milestone evaluation the same assumptions (e.g., land uses) used when a set of milestones was developed will be used to evaluate progress in meeting those milestones. At the beginning of the next milestone period, the CBP partners will factor in any new information, BMP efficiencies, land uses, and data previously approved by the CBP partnership into the present and past history of progress runs, back through 2009. That new set of assumptions will then be used for development of the next set of two-year milestones, and will be held constant for that milestone period. As new BMPs are introduced, the jurisdictions can go back and update their past reporting for those new BMPs for any progress runs conducted after the end of the Phase 6 Watershed Model calibration period.

Evaluation of Bay Watershed Jurisdictions' Progress in Meeting the 2018-2025 Two-Year Milestones

The Bay jurisdictions are expected to submit load reduction progress information—tracked, reported, and verified practices over the prior July 1 through June 30 time period—to EPA by

December 1st of each year, except for the District of Columbia and Virginia wastewater which is due January 31st of each year, in accordance with the [Chesapeake Bay Grant Guidance](#) and the schedule in Appendix B. All permitted information, including but not limited to wastewater treatment plant, combined sewer overflow, biosolids, spray irrigation on agricultural and non-agricultural land, large monitored onsite systems and rapid infiltration basins, should be provided in the appropriate format noted in the Chesapeake Bay Grant Guidance; all other implementation practices approved by the CBP partnership for use in the Chesapeake Bay decision support tools should be entered into the National Environmental Information Exchange Network (NEIEN).

In addition, EPA expects the Bay watershed jurisdictions to provide progress updates for programmatic actions that have been implemented over the past calendar year by January 15 each year using the EPA provided programmatic milestones template. EPA will work with the Bay watershed jurisdictions and federal partners to develop progress reports based on the data and information provided to EPA each year. EPA will use NEIEN, [CAST](#), [Chesapeake Progress](#), the [Integrated Compliance Information System \(ICIS\)](#) database and the [Chesapeake Bay TMDL](#) website, respectively, to track and communicate progress to the public in meeting the two-year milestones.

Starting with the 2018-2019 milestone period and through 2025, EPA intends to use the Chesapeake Bay Program's Phase 6 Watershed Model to evaluate whether the proposed pollutant reduction measures, actions, and practices reported are on pace to implement controls that will achieve the Bay TMDL reduction goals by 2025. To evaluate progress, the pace is projected by developing a straight line trajectory between the 60 percent goal from 2017 and the Phase III WIP Planning targets, unless a jurisdiction's Phase III WIP provides information to demonstrate a non-linear alternative to the straight line trajectory projection for reductions. If the Bay watershed jurisdictions implement nitrogen, phosphorus, and sediment reduction actions that differ from the two-year milestone commitments but result in the same or greater nitrogen, phosphorus, and sediment load reductions, then the Bay watershed jurisdiction is considered on pace to meeting the goals of the Bay TMDL. If modeled reductions are not on pace to achieve the Bay TMDL allocations, EPA will then assess and identify which source sectors, basins, and/or local areas are not meeting the milestone commitments.

If EPA finds that the milestones will not keep the Bay watershed jurisdiction on pace to implement controls necessary to achieve the reductions needed by 2025, or that the Bay watershed jurisdiction has not provided assurance that the pollutant reduction measures to achieve the milestones will be implemented as needed, EPA may take appropriate federal actions as identified in [Section 7.2.4 of the Chesapeake Bay TMDL](#) and in [EPA's letter of](#)

[December 29, 2009](#). It is expected that the Bay watershed jurisdictions will continue to work with and be in communication with EPA so that EPA is aware of and could possibly help address any potential issues prior to the final milestone evaluation.

Expectations for Federal Agencies' Development and Support of Water Quality Two-Year Milestones

In the May 2010 13508 Executive Order Strategy (Executive Order Strategy), federal agencies identified the restoration of clean water as one of four goals for achieving the most essential priorities for a healthy Chesapeake Bay ecosystem. Federal agencies then developed [12 key environmental outcomes](#) that will be achieved through federal actions described in the Executive Order Strategy and will reflect progress toward attainment of the overall goals identified in the Executive Order Strategy. As noted earlier, this Guide focuses on those goals and outcomes relating to water quality restoration.

As indicated in the Executive Order Strategy, federal agencies, including EPA, will join the Bay watershed jurisdictions in establishing two-year water quality milestone commitments. Many federal efforts will be designed to reduce nitrogen, phosphorus, and sediment pollutant loads from federal lands and facilities to support the Bay watershed jurisdictions in meeting their current and future water quality milestones. In addition to its other water quality milestones, EPA will develop two-year milestones for reducing atmospheric deposition of nitrogen to the Chesapeake Bay watershed and tidal waters in order to help meet the Bay TMDL allocations. These planned atmospheric nitrogen reductions to tidal surface waters are needed to meet EPA's allocations under the Bay TMDL, which were not allocated to the Bay watershed jurisdictions.

EPA expects federal agencies to work with the Bay watershed jurisdictions to develop two-year milestones that revise programs, policies, and/or investments that will help implement pollutant reduction measures to achieve specific pollutant reduction targets. Federal agencies are expected to develop two-year milestones to meet reduction goals that are set for specific lands and facilities that are sources of nitrogen, phosphorus and sediment to the Bay or that reflect actions for aggregated lands and facilities.

Each federal agency is expected to coordinate with the appropriate Bay watershed jurisdiction(s) and provide draft new two-year milestones to EPA and the appropriate Bay watershed jurisdiction(s) by November 1 of each odd numbered year in order to provide all necessary information and maintain the schedule identified in Appendix B. Federal agencies' final new two-year milestone commitments are due to the appropriate Bay jurisdiction(s) with a copy to EPA, by January 15 of each even numbered year. The federal two-year milestones for

water quality will cover on the same two-year period as Bay watershed jurisdictions' two-year milestones, to the extent possible.

Evaluation of Federal Agencies' Water-Quality Related Two-Year Milestones

Federal agencies are expected to report annually to the appropriate Bay watershed jurisdiction(s) with a copy to EPA on pollutant reduction practices implemented for all federal lands and facilities that are consistent with the jurisdictions' reporting (see Section VI). The deadline for federal agencies to report pollutant reduction practices—tracked, reported, and verified over the prior July 1 through June 30 time period—is October 1 of each year to allow time for the Bay watershed jurisdictions to account for the information in their annual progress submission to EPA due December 1 of each year.

EPA expects federal agencies to report to EPA on programmatic actions taken in the prior calendar year by March 31 of each year. Federal agencies are expected to report on programmatic milestones for building capacity for future pollutant load reductions for federal lands and facilities (e.g., engineering and feasibility studies, budget actions, policy development) by January 15 of each year through a data call that is coordinated by the Chesapeake Bay Program Federal Office Directors group.

Similar to its evaluation of the Bay watershed jurisdictions' two-year milestones, EPA will evaluate the submitted numeric and programmatic milestones on whether federal agencies' commitments to pollutant load reduction implementation are at least comparable to the jurisdictions' actions. Also consistent with the Bay watershed jurisdictions, EPA may take appropriate actions, consistent with its December 29, 2009 letter, if federal agencies do not set and/or meet sufficient milestones to show progress toward the nitrogen, phosphorus, and sediment reductions agreed to with the jurisdictions. Actions could include but are not limited to creating public report cards, reports to the White House Council on Environmental Quality and the Office of the Federal Environmental Executive, increasing frequency of inspections, expanding the universe of federal facilities subject to national pollutant discharge elimination system (NPDES) permits, taking enforcement actions and/or entering into federal facility compliance agreements.

Summary of Developing and Reporting Progress on Two-Year Milestones

EPA's expectations of both the Bay watershed jurisdictions and federal agencies with respect to the development of the two-year water quality milestones is to develop the numeric milestones using CAST and wastewater related milestones using the spreadsheet provided by EPA.

EPA's expectations of both the Bay watershed jurisdictions and federal agencies with respect to reporting their respective progress on two-year milestones is that both will submit wastewater progress using the appropriate format noted in the Chesapeake Bay Grant Guidance, which is

transitioning into using ICIS, and use NEIEN for providing all other water quality related implementation practices.

EPA expects Bay watershed jurisdictions and federal agencies to utilize the template provided for programmatic milestones to be used for both the development of the two-year water quality milestones and progress reporting.

Closing

The WIPs, two-year milestones, tracking and assessment of progress, and EPA's commitment to take federal actions together create an accountability framework for the Chesapeake Bay TMDL that ensures long-term goals will be achieved. The expectations set forth in this Guide are intended to facilitate the development of future two-year milestones that are consistent, transparent, easily evaluated, and supportive of adaptive management efforts to restore the streams and rivers flowing to the Bay and the Chesapeake Bay.

Appendix A

Historic Documents that reference Two-year Milestones

- September 11, 2008 - [EPA Letter to PSC on Chesapeake Bay TMDL Development](#) (PDF)
- November 4, 2009 - [EPA Letter to PSC Outlining EPA's Expectations for Watershed Implementation Plans \(WIPs\)](#) (PDF)
- December 29, 2009 - [EPA Letter to PSC on the Chesapeake Bay Accountability Framework and Federal Actions](#) (PDF)
- April 2, 2010 - [EPA Guide for the States Regarding EPA's Evaluation of Phase I WIPs](#) (PDF)
- November 9, 2010 - [Clarification on Watershed Implementation Plans and 2-year Milestones: Memorandum](#) (PDF)
- May 12, 2010 - [Executive Order 13508 Strategy for Protecting and Restoring the Chesapeake Bay Watershed](#) (PDF)
- December 29, 2010 - [Chesapeake Bay Total Maximum Daily Load \(TMDL\)](#)
- January 12, 2011 - [EPA Expectations & Draft Schedule for Phase II Watershed Implementation Plans: Fact Sheet](#) (PDF)
- [January 19, 2017 - EPA's Interim Expectations for the Phase III Watershed Implementation Plans](#) (PDF)

Appendix B

Two-year Water Quality Milestones Timeframe

Two-year Milestones cover the following timeframe per the Milestone Guide:

Numeric Milestones cover July 1 of an odd numbered year through June 30 of the following odd numbered year. This is based upon the historic Chesapeake Bay reporting deadlines.

- For the 2018-2019 milestones, the numeric time period reported on is from July 1, 2017- June 30, 2019.
- District of Columbia and Virginia wastewater data is reported from January 1 through December 31 each year.

Programmatic Milestones cover January 1 of an even numbered year through December 31 of an odd numbered year.

- For the 2018-2019 milestones, the programmatic period reported on is from January 1, 2018- December 31, 2019.

Chesapeake Bay Milestone Timeline in Chronological Order

2017

- **October 1 each odd numbered year** - Federal agencies report numeric progress to the Chesapeake Bay watershed jurisdictions over the prior time period of July 1 through June 30
- **November 1, 2017 and subsequent odd numbered years** - Federal agencies submit drafts of the next set of two-year milestones to the appropriate Bay watershed jurisdiction(s) with a copy to EPA
- **December 1 each year** - Chesapeake Bay watershed jurisdictions and federal agencies report to EPA on numeric progress for practices that are tracked, reported, and verified, based on the timeframes noted above
 - District of Columbia and Virginia wastewater data is due January 31 each year

2018 (and subsequent even numbered years)

- **January 15, 2018 and subsequent even numbered years** - Federal agencies final new two-year milestone commitments are due to EPA, with a copy to the appropriate Bay watershed jurisdiction(s)
- **January 15, 2018 and subsequent even numbered years** - Chesapeake Bay watershed jurisdictions submit draft numeric and programmatic two-year milestones
- **January 15 each year** - Chesapeake Bay watershed jurisdictions and federal agencies report to EPA on programmatic progress toward achieving milestone commitments, based on the timeframes noted above
- **March, each year** - EPA aims to provide final model results for reductions achieved from prior set of two-year milestones and/or single year progress runs
- **March 31, each year** - Federal agencies report on programmatic and capacity -building (non-implementation) progress for two-year milestones

- **Within 30 days of the EPA evaluation of draft milestones, even numbered years** - Chesapeake Bay watershed jurisdictions final new two-year milestone commitments are due to EPA
- **December 1 each year** - Chesapeake Bay watershed jurisdictions and federal agencies report to EPA on numeric progress for practices that are tracked, reported, and verified, based on the timeframes noted above
 - District of Columbia and Virginia wastewater data is due January 31 each year

2019 (and subsequent odd numbered years)

- **January 15 each year** - Chesapeake Bay watershed jurisdictions report to EPA on programmatic progress toward achieving milestone commitments, based on the timeframes noted above
- **March, each year** - EPA aims to provide final model results for reductions achieved from prior set of two-year milestones and/or single year progress runs
- **March 31, each year** - Federal agencies report on programmatic and capacity -building (non-implementation) progress for two-year milestones
- **October 1 each odd numbered year** - Federal agencies report numeric progress to the Chesapeake Bay watershed jurisdictions over the prior time period of July 1 through June 30
- **November 1 each odd numbered year** - Federal agencies submit drafts of the next set of two-year milestones to the appropriate Bay watershed jurisdiction(s) with a copy to EPA
- **December 1 each year** - Chesapeake Bay watershed jurisdictions and federal agencies report to EPA on numeric progress for practices that are tracked, reported, and verified, based on the timeframes noted above
 - District of Columbia and Virginia wastewater data is due January 31 each year