

## 2019 Revised Guide for Chesapeake Bay Water Quality Two-year Milestones

### Purpose

This 2019 Revised Milestone Guide (Guide) updates the [2011 Milestone Guide](#) regarding the seven states (Delaware, the District of Columbia, Maryland, New York, Pennsylvania, Virginia, and West Virginia), and federal agencies' numeric and programmatic two-year water quality milestones from 2020 through 2025. This revised version is a result of lessons learned from the 2010-2018 implementation of the Chesapeake Bay Total Maximum Daily Load (Bay TMDL) and is supported by: 1. U.S. Environmental Protection Agency's ([EPA](#)) [mid-point assessment of the progress towards attaining the Bay TMDL goals](#); 2. [the Chesapeake Bay Program \(CBP\) partnership's Phase III Watershed Implementation Plan \(WIP\) planning targets](#), which are based on updated science and information and were used to develop Phase III WIPs; 3. development of Federal Facility/Agency targets; 4. [EPA's Expectations for the Phase III WIPs](#); and, 5. [EPA's Expectations for Federal Lands and Facilities in Supporting Chesapeake Bay Watershed Jurisdictions' Phase III WIPs](#).

This Guide provides details for the states and federal agencies regarding the establishment and evaluation of future two-year water quality milestones. This Guide summarizes, but does not replace, the two-year water quality milestone-related documents listed in Appendix A and includes a detailed schedule in Appendix B.

### Background

Based on agreements by the CBP partnership's 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 [Bay TMDL](#) document Section 7.2, the accountability framework includes: three phases of WIPs, two-year milestones, and EPA's tracking and assessment of restoration progress. Under the accountability framework, EPA assigns each state's source sectors (e.g., agriculture, stormwater, wastewater and trading and offsets) a level of oversight based on its evaluation of whether a state provided sufficient information in its WIP and/or two-year milestones that load reductions and programmatic commitments will be achieved in those source sectors by 2025.

In addition, Section 117(f) of the Clean Water Act requires that federal agencies that own or operate a facility in the Chesapeake Bay watershed participate in regional and sub-watershed planning and restoration programs and ensure that actions taken with respect to property owned or operated by federal agencies comply with the 2014 Chesapeake Watershed Agreement. [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 13508 Strategy](#), developed by the Federal Leadership Committee which includes the EPA and the departments of Agriculture, Commerce, Defense, Homeland

Security, Interior and Transportation, further clarified that federal agencies will join the states in establishing two-year milestones that specify federal efforts to support the states in meeting their current and future water quality milestones.

There are two types of water quality milestones. Numeric pollutant load reduction milestones detail the quantitative reductions resulting from pollutant reduction measures (e.g., best management practices [BMPs] approved by the CBP partnership to manage agriculture and stormwater runoff and upgrading a wastewater treatment plant).

Programmatic milestones reflect new or enhanced programs at the state, federal, or local levels and other relevant programs that provide direct or indirect support to achieve Phase III WIP planning targets or provide capacity building actions to increase the resources for implementation of pollutant reduction measures. Examples of programmatic milestones include new legislation, regulations, engineering and feasibility studies, budget actions, and policy development.

Numeric and programmatic milestones also need to address increases in pollutants due to growth (e.g., changes in land uses and animal and human populations). As described on page 7 of EPA's Expectations for the Phase III WIPs, the CBP partnership's Principals' Staff Committee (PSC) approved of a process to account for growth in the Phase III WIPs and two-year milestones. Under this approach, the states will develop BMP implementation scenarios on 2025 forecasted conditions at the state, state-basin, and source sector level, using 2025 projected "current zoning" as the baseline scenario. As part of the development of their two-year milestones from 2020-2025, the states will have the opportunity to factor in updated future growth projections. The milestones should describe how the states are going to offset any increases in nutrient and sediment pollutant loads resulting from sector growth (e.g., new development, changes in agriculture, increases in septic systems) at the state-basin level, which is consistent with the 2010 Bay TMDL. Any planned or proposed offset should not negatively impact local water quality. EPA strongly encourages the states to utilize CBP partnership-approved approaches, data, and decision support tools for forecasting conditions to fully account for projected growth at the appropriate geographic scales (i.e., state-basin) and for each source sector in their 2020-2025 two-year milestones.

## **Bay Watershed Jurisdictions' Development and Submission of the 2020-2025 Two-Year Milestones**

The states agreed to develop and 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 (as well as progress towards attaining the prior two-year milestones) and provides that evaluation to the states in early spring of each even-numbered year. Beginning in 2020, the

states agreed to submit final two-year milestones within 1 month of EPA providing its evaluation of the draft two-year milestones and the final progress results for the prior milestone period.

In developing their two-year milestones, the states will:

- Identify and commit to implement specific pollutant reduction measures to achieve the Phase III WIP planning targets by 2025. The two-year milestones should 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 CBP partnership's PSC.
- Through the numeric and programmatic commitments, address potential enhancements noted in EPA's evaluation of the Phase III WIPs.
- Work with federal agencies and other non-federal entities, such as municipal governments, to identify pollutant reduction measures that will be implemented within the two-year period.
- Develop nonpoint source numeric milestone BMP scenarios 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 template provided by EPA or using the appropriate tool per the instructions in the current Chesapeake Bay Grant Guidance.
- Identify and commit to taking programmatic actions needed to achieve the pollutant reductions identified in the numeric two-year milestones and/or remain on track to achieve the Phase III WIP planning targets by 2025, such as rulemakings or increased resources for implementing BMPs that reduce pollutant loads. Programmatic milestones should be submitted using the template provided by EPA.
- Upload a copy of the draft programmatic milestones to the respective state website for public access by the end of January every even numbered year. Final programmatic milestones should replace the draft version when available.
- As part of the development of their two-year milestones from 2020-2025, the states will have the opportunity to factor in updated future growth projections and ensure local partner review of the future growth forecasts with each two-year update, thus adjusting their milestone commitments accordingly. Any planned or proposed offset(s) should not negatively impact local water quality.

Although programmatic actions may not result in on-the-ground implementation within the current two-year milestone period, they may build capacity for future implementation of

pollutant reduction measures. The states should include programmatic milestones to increase confidence that future implementation of pollutant reduction measures will occur on schedule.

The two-year milestones should not be confused with local planning goals, discussed in [EPA's Expectations for the Phase III Watershed Implementation Plans](#), or with federal facility planning goals. Local planning goals are goals below the state-major basin scale that are intended to engage local, regional, and federal partners in WIP implementation. Federal facility planning goals are goals set at the federal facility level. The states should work closely with the stakeholders involved with local planning goals and the federal partners involved in federal facility planning goals and engage those local, regional, and federal partners in the development of the two-year water quality milestones. EPA will not hold local partners accountable to meeting the local planning goals.

In January 2016, the CBP partnership's Management Board agreed, beginning with the 2018-2019 milestone period, to hold the assumptions and projections (e.g., land use, BMP efficiencies, human and animal populations) that were set at the beginning of the milestone period constant over the two-year milestone period. Therefore, for purposes of a two-year milestone evaluation, the same assumptions or projections identified when the milestones were developed will be used to evaluate progress in meeting those milestones. At the beginning of the next milestone period, the CBP partnership will be able to factor in any new information, such as BMP efficiencies, land uses, and data previously approved by the CBP partnership into the present and past history of progress runs, back through 2009. The new set of assumptions or projections will then be used for development of the next set of two-year milestones and held constant for that particular milestone period. The states will be able to use the updated assumptions and incorporate that information into the final milestone submission.

Following the direction from the CBP partnership's PSC, the states agreed to account for additional nutrient and sediment pollutant loads due to 2025 climate change conditions starting with the 2022-2023 milestones.

EPA recognizes that the states' and the District's actions may differ from their milestone commitments based on changing conditions and the availability of new information. EPA supports adaptive management of the two-year milestones so long as the overall pace of pollutant reductions remains on track to implement controls necessary to achieve the Phase III WIP planning targets by 2025.

## **Evaluation of the States' Progress in Meeting the 2020-2025 Two-Year Milestones**

By December 1<sup>st</sup> of each year, the states agreed to submit information regarding the tracked, verified, and reported BMPs that the state implemented during the prior July 1 through June 30

time period to EPA, except for the District of Columbia and Virginia wastewater data, which is due the following January 31<sup>st</sup>, in accordance with the Chesapeake Bay Grant Guidance and the schedule in Appendix B. All information related to National Pollutant Discharge Elimination System permittees should be provided in the appropriate format noted in the Chesapeake Bay Grant Guidance (e.g. wastewater treatment plants, combined sewer overflow, biosolids, spray irrigation on agricultural and non-agricultural land, large monitored onsite systems, and rapid infiltration basins); all other CBP partnership-approved BMPs for use in the Chesapeake Bay decision support tools should be entered into the National Environmental Information Exchange Network (NEIEN). The information provided by the states will include federal agency and facility data and information as described in the "Federal Agencies' Development and Support of Water Quality Two-Year Milestones" section of this document.

BMPs reported by specific federal agencies should be included in the states' progress submittal, to allow accurate assessment of federal progress in meeting the [federal facility planning goals](#). The states should collaborate with federal agencies to address any issues related to the progress data and reconcile federal agency records with state databases or other BMP record systems. The [Chesapeake Bay Program partnership's Federal Facility Workgroup](#) is a resource for that collaboration.

By January 15<sup>th</sup> of each even-numbered year, the states agreed to provide progress updates for programmatic actions that have been implemented for the prior two-year milestone period using the template provided by EPA. EPA may seek more frequent progress updates depending on EPA's oversight status of a particular source sector.

EPA will work with the states to develop annual numeric progress reports based on the data and information provided to EPA each year by December 1 as discussed in the prior section of this Guide. EPA will use NEIEN, [CAST](#), [Chesapeake Progress](#), the [Integrated Compliance Information System \(ICIS\)](#) database and the [Chesapeake Bay TMDL](#) website to track and communicate progress to the public in meeting the two-year milestones. Annually, numeric progress reports will be used for the CBP partnership's Reducing Pollution Indicator. In even-numbered years, EPA will use these numeric progress reports for its milestone evaluations.

EPA will evaluate whether the draft and final two-year milestones are on pace to achieve the pollutant reductions necessary to meet the Phase III planning targets. If a state implements nitrogen, phosphorus, and sediment pollutant reduction measures that differ from the two-year milestone commitments, but result in the same or greater nitrogen, phosphorus, and sediment load reductions, then the state is considered on pace to achieve Phase III planning

targets. If modeled reductions are not on pace, EPA will then assess and identify which source sectors, state-basins, and/or local areas are not meeting the milestone commitments.

EPA intends to use the individual states' numeric progress reports (developed using CAST for the CBP partnership's [Reducing Pollution Indicator](#)) as one of several metrics to evaluate whether the states are on pace to achieve the Phase III WIP planning targets by having all practices in place by 2025. Numeric progress is evaluated by developing a straight-line trajectory between the 60 percent goal from 2017 and the Phase III WIP Planning targets, unless a state's Phase III WIP provides information to demonstrate a non-linear alternative to the straight-line trajectory projection for reductions. EPA will identify in its evaluations where the states are demonstrating an increased rate of implementation from the 2017 progress level that will lead to meeting the Phase III WIP planning targets by 2025.

If EPA finds that the two-year milestones will not keep the states on pace to achieve the Phase III WIP planning targets by 2025, or if there is insufficient confidence that the pollutant reduction measures to achieve the milestones will be implemented, EPA may take appropriate federal actions. States agree 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.

### **Federal Agencies' Development and Support of Water Quality Two-Year Milestones**

The Federal Leadership Committee's May 2010 [Executive Order 13508 Strategy](#) stated that federal agencies, including EPA, "will join the states in establishing two-year milestones with many federal efforts designed to support the states and District in meeting their current and future water quality milestones... and will also develop appropriate two-year milestones for the other outcomes outlined in the strategy, beyond those for water quality." Subsequently, federal agencies also made a commitment, as signatories to the 2014 Chesapeake Watershed Agreement, to help achieve the goal of meeting Bay water quality standards.

Federal agencies have their own planning goals that will support achieving the states' Phase III WIP planning targets. Information on these planning goals can be found on the [Chesapeake Bay Program partnership's Federal Facility Workgroup webpage](#). Federal agencies should work with the CBP partnership to develop both numeric (i.e., "BMP implementation") and programmatic water quality two-year milestones to demonstrate progress toward meeting those federal facility planning goals.

In addition to its other water quality milestones, EPA is responsible for developing two-year milestones for reducing atmospheric deposition of nitrogen to the Chesapeake Bay watershed and tidal waters. These planned atmospheric nitrogen reductions to tidal surface waters are needed to meet EPA's allocation under the Bay TMDL, which was not allocated to the states.

By January 15 of each even-numbered year, the federal agencies should submit facility-level programmatic and numeric milestones and agency-level programmatic milestones to EPA for review and compilation. Programmatic federal agency-level milestones to address the outcomes of the Executive Order strategy and the 2014 Chesapeake Watershed Agreement should be submitted to EPA in the template provided by EPA. Numeric milestones should be developed using CAST and the final scenario should be shared with the appropriate state and EPA.

By January 31 of each even-numbered year, EPA will compile all draft federal agency-level and facility-level programmatic milestones and share them with the CBP partnership's Management Board and the Federal Office Directors for a 15-day review and comment period. Federal agencies' final two-year programmatic milestones will be posted to the [Federal Leadership](#) website. The federal water quality two-year milestones will cover the same two-year periods as the states' two-year milestones.

### **Evaluation of Federal Agencies' Water-Quality Two-Year Milestones**

By October 1<sup>st</sup> of each year, federal agencies will report numeric two-year milestones to the appropriate states and EPA on the tracked, verified, and reported pollutant reduction measures that the federal agencies implemented for all federal lands and facilities over the prior July 1 through June 30 time-period. The October 1<sup>st</sup> date to submit these pollution reduction measures allows time for the states to account for the federal information in their annual progress submission to EPA, which is due by December 1 of each year. Federal agencies should work with the appropriate states to address any data reporting issues to ensure an accurate and timely progress submission.

Federal agencies agreed to report on their progress toward achieving their federal agency-level and facility-level programmatic milestones by January 15 of each even-numbered year through a data call that is coordinated by the Chesapeake Bay Program Federal Office Directors.

Similar to its evaluation of the states' two-year milestones, EPA will evaluate the federal numeric and programmatic milestone commitments. EPA will continue to track which federal agencies are reporting pollution reduction measures to the states and whether that data is being accurately reported for progress. EPA will use NEIEN, [CAST](#), [Chesapeake Progress](#), the [Federal Leadership](#) website and the [Chesapeake Bay TMDL](#) website to track and communicate

the federal agencies' progress to the public in meeting the two-year numeric and programmatic water quality milestones.

## **Closing**

The two-year milestones are an integral part of the Bay TMDL's accountability framework that helps ensure long-term goals of restoring water quality in the Bay will be achieved. This Guide is intended to facilitate the development of future two-year milestones that are consistent, transparent, and supportive of adaptive management efforts to restore the Chesapeake Bay and its local streams and rivers.

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## 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)
- July 6, 2011 - [Guide for Chesapeake Bay Water Quality Two-year Milestones](#) (PDF)
- June 11, 2015 – [Protocol for Setting Targets, Planning BMPs and Reporting Progress for Federal Facilities and Lands](#)
- June 20, 2018 - [EPA's Expectations for the Phase III Watershed Implementation Plans](#)
- August 16, 2018 - [EPA's Expectations for Federal Lands and Facilities in Supporting Chesapeake Bay Watershed Jurisdictions' Phase III Watershed Implementation Plans.](#)

## Appendix B: 2020-2025 Milestone Schedule

### Two-year Water Quality Milestones Timeframe

Numeric milestones for most states cover July 1 of an odd numbered year through June 30 of the following odd numbered year. This is based upon historic Chesapeake Bay reporting deadlines. For example, for the 2020-2021 numeric milestones, the time period reported on is July 1, 2019 - June 30, 2021. However, numeric milestones for the District of Columbia and Virginia wastewater cover January 1 through December 31 of each calendar year.

Programmatic milestones cover January 1 of an even numbered year through December 31 of an odd numbered year. For example, for the 2018-2019 programmatic milestones, the period reported on is January 1, 2018 - December 31, 2019.

### Chesapeake Bay Milestone Timeline in Chronological Order [all dates reflect the nearest business day]

2019 (and each subsequent year)

- **September** – EPA sends instructions to federal agencies on submitting numeric progress to the states
- **October 1** - Federal agencies report numeric progress to the states and EPA covering the progress made from July 1 of the prior year through June 30 of the current year
- **December 1** – The states report to EPA on consolidated federal/non-federal numeric progress for pollution reduction measures that are that are tracked, verified, and reported, based on the timeframes noted above
  - The District of Columbia and Virginia wastewater data is due January 31 each year
- **February 8 each year** – CBP partnership finalizes numeric progress reports

2019 (and subsequent odd numbered years)

- **Winter (January-March)** - EPA conducts check-in meetings with the states on progress for current milestone period
- **April 30** – All data from states and CBP partnership source sector workgroups that may inform modeling changes for the next milestone period are submitted to EPA
- **June 30** – All data from non-state sources (e.g., Federal Agencies) that inform modeling changes for the next milestone period are submitted to or gathered by EPA
- **June to September** – Draft changes to modeling tools reviewed and approved by CBP partnership Water Quality Goal Implementation Team and workgroups
- **September** – EPA sends instructions to federal agencies for submitting numeric and programmatic milestone commitments (including templates)
- **November 1** – Final changes to modeling tools provided on CAST for use in next milestone period

- **November 1** - Federal agencies submit draft numeric facility-level milestone commitments to the appropriate state for incorporation into the CAST scenario to be shared with EPA in January of the even-numbered years
- **December** - EPA sends instructions to the states for submitting numeric and programmatic milestone commitments (including templates)

#### 2020 (and subsequent even numbered years)

- **January 15** - The states submit drafts of the next set of numeric and programmatic two-year milestones. Federal agencies submit drafts of next set of numeric two-year milestones and federal facility-level and federal agency-level programmatic two-year milestone commitments
- **January 15** - The states and federal agencies report to EPA on progress toward achieving existing programmatic milestone commitments, based on the timeframes noted above
- **January 31**– EPA compiles all draft federal agency programmatic milestone commitments, posts to the Federal Leadership website and shares with the CBP partnership's Management Board and the Federal Office Directors for 15-day review and comment
- **January 31** – The states post draft two-year programmatic milestone commitments to their websites for public access
- **Spring (March-June)** – EPA provides draft evaluations of states' and federal agencies' programmatic and numeric milestone commitments and prior milestone period progress
- **Within 30 days of the EPA evaluation of draft milestone commitments and milestone progress** - The states and federal agencies submit final two-year programmatic and numeric milestone commitments to EPA
- **Spring (March-June)** – EPA posts the final evaluation of progress on existing milestones and evaluation of the new milestone commitments for each state and the federal agencies to the Chesapeake Bay TMDL website