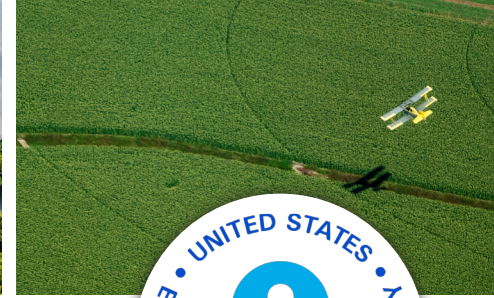




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# Midpoint Assessment of the Chesapeake Bay Total Maximum Daily Load

## Overview

The Chesapeake Bay Program (CBP) partnership set [restoration goals](#) under the [Chesapeake Bay Total Maximum Daily Load](#) (Bay TMDL) of having all practices in place by 2025 to achieve the nitrogen, phosphorus and sediment pollution reductions necessary to meet applicable Chesapeake Bay water quality standards, with practices in place by the 2017 midpoint to achieve 60 percent of the needed pollutant reductions.

The seven jurisdictions committed to implementation of the Bay TMDL in three phases—developing Phase I and Phase II [Watershed Implementation Plans](#) (WIPs) in 2010 and 2012 and finalizing their Phase III WIP in 2019. This commitment was reaffirmed through the signing of the 2014 [Chesapeake Bay Watershed Agreement](#).

## Pollutant Reduction Progress and Future Targets

Collectively, the six Bay watershed states and the District of Columbia have made considerable progress in reducing pollution to local waters and the Bay. That progress has been demonstrated in measurable ways, including [record acreage](#) of underwater grasses and the [highest estimates](#) of water quality standards attained in more than 30 years.

According to data submitted by the Bay jurisdictions, while the CBP partnership exceeded the 60 percent goals for reducing phosphorus and sediment as measured under the current suite of modeling tools, it did not achieve its 2017 goal for reducing nitrogen. Full evaluations for each jurisdiction can be found at [www.epa.gov/chesapeake-bay-tmdl](http://www.epa.gov/chesapeake-bay-tmdl).

Efforts to improve local water quality upstream will benefit the Chesapeake Bay restoration. Since 2010, in Maryland, streams and lakes previously impaired by phosphorus and total suspended solids are now showing higher dissolved oxygen levels and increased submerged aquatic vegetation, which has led to improvements in aquatic life. Since 2014, Pennsylvania has removed 17 waterbodies in the Susquehanna River watershed from the impaired waters listing for nutrients and/or sediment.

[Two-year milestones](#) are short term objectives in the Bay TMDL accountability framework used to assess progress toward restoration



The Chesapeake Bay Total Maximum Daily Load (Bay TMDL) is a comprehensive “pollution diet” to restore the health of the Bay and its local streams, creeks and rivers. The Bay TMDL—the largest such cleanup plan ever developed by the EPA—sets limits on nitrogen, phosphorus and sediment pollution necessary to meet water quality standards in the Bay and its tidal rivers.



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goals while allowing jurisdictions to flexibly adapt their WIPs. EPA will continue to evaluate the jurisdictions' progress on achieving its two-year milestone commitments on a more localized scale using metrics that include monitoring information from the CBP partnership's extensive network of stations throughout Bay watershed. EPA will also continue to assess progress by the jurisdictions in meeting their implementation commitments, such as developing programs to permit, finance, install and maintain pollution controls. In addition, EPA will use [upgraded modeling tools](#) designed by the CBP partnership to estimate progress toward the 2025 goals. As a result, assessments of progress levels will change in the next round of evaluations.

## Jurisdiction Sector-Specific Milestone Achievements and Shortfalls

Since 2010, EPA has conducted [evaluations](#) of the jurisdictions' two-year milestones, as well as [assessments](#) of the state-wide wastewater, agricultural, stormwater and trading/offset programs. Based on these evaluations, EPA has highlighted achievements and shortfalls, using a "ranking system" shown below.

### 2018 Oversight Status

■ Ongoing
 ■ Enhanced
 ■ Backstop

	Agriculture	Urban/Suburban	Wastewater	Trading/Offsets
Delaware	Enhanced Oversight	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight
District of Columbia	Not Applicable	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight
Maryland	Ongoing Oversight	Enhanced Oversight	Ongoing Oversight	Ongoing Oversight
New York	Ongoing Oversight	Ongoing Oversight	Enhanced Oversight	Ongoing Oversight
Pennsylvania	Backstop Action Levels	Backstop Action Levels	Ongoing Oversight	Enhanced Oversight
Virginia	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight
West Virginia	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight

- Definitions**
- Ongoing Oversight:** EPA will continue to monitor progress.
  - Enhanced Oversight:** Having identified specific concerns with a jurisdiction's implementation of strategies to meet TMDL goals, EPA may take additional federal actions to ensure that jurisdiction stays on-track.
  - Backstop Actions Level:** Having identified substantial concerns with a jurisdiction's actions to meet the TMDL goals, EPA has taken federal actions to help the jurisdiction get back on-track.





## Agriculture

EPA recognizes that success can be achieved when states have strong, well implemented regulatory programs, voluntary incentive programs that address farming operations, and/or targeted annual state agriculture cost share and other financing programs that supplement the U.S. Department of Agriculture (USDA) Farm Bill funding for agricultural conservation practices called for in the state WIPs.

Maryland's federal and state regulatory programs, including Concentrated Animal Feeding Operation (CAFO) permitting programs and state-wide nutrient management regulatory programs, cover most of its agricultural operations. Maryland has a dedicated annual agriculture cost share program for implementing the priority agricultural practices in its WIP.

Virginia's state permitting program regulates most of its poultry and swine operations. The Commonwealth has also developed voluntary incentives such as the Virginia Resource Management Plan which encourages non-regulated farmers to implement agricultural conservation practices. In addition, Virginia has a dedicated annual agriculture cost share program for implementing priority agricultural practices.

Although states can have very different agricultural programs and approaches, in some cases, they are not making sufficient progress in implementing their planned programs and policies and achieving their pollutant reduction commitments. This lack of progress can be partially attributed to inadequate compliance assurance for state regulatory programs, lack of strong supplemental state voluntary incentive programs, and the absence of dedicated and targeted state agricultural cost share programs and other mechanisms to adequately fund agricultural conservation practices.

For example, while Pennsylvania effectively regulates hundreds of livestock operations through its CAFO permit program, Pennsylvania needs to improve the implementation of its state-wide manure management and agriculture erosion and sediment regulatory programs for thousands of other farms. Pennsylvania has also yet to adequately update its nutrient credit trading regulations pertaining to agriculture.

In Delaware, an agricultural cost-share program provides funding to farmers for implementing conservation practices, but Delaware needs to ensure adequate regulatory coverage of its livestock operations by more timely processing of its CAFO permit applications, and adequately implementing recently developed verification protocols of its nutrient management program.

## Urban/Suburban

EPA's milestone and stormwater program evaluations found that success can be achieved when strong federal and state regulatory programs are enforced and have adequate financial support. Trading programs have also shown success in cost-effectively achieving pollution load reductions in the stormwater sector. For example, Virginia has a successful program for highway construction mitigation with land bank conservation practices.

Most states have passed bans on fertilizer to reduce the effect of nutrient runoff from the urban sector, and have established Municipal Separate Storm Sewer Systems (MS4) permits that must meet the requirements of the Chesapeake Bay TMDL.

The District of Columbia has promulgated regulations that require retention of 1.2 inches of stormwater, developed a stormwater retention credit program and developed a stormwater user fee discount program to encourage stormwater controls.

All the jurisdictions have made significant efforts to inform the public of their role in Bay restoration and offered trainings



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to stormwater permittees on Best Management Practices (BMPs).

However, while states have improved their regulatory programs, overall loads in this sector continue to increase due to population growth and development. Maryland and Pennsylvania committed to significant reductions in this sector and will need to reevaluate their strategies to meet the 2025 goals. In some states, over 70 percent of the urban/suburban land is not regulated under an MS4 permit, which means the jurisdictions need to either implement additional voluntary programs or consider broadening their regulatory authorities to reduce runoff pollution from these areas.

Additional inspection and enforcement programs are also needed to ensure compliance with MS4 permits. Many of those MS4 permits are slated to expire in the coming years, and jurisdictions will need to ensure timely reissuance of permits which could incorporate new pollution reduction strategies such as trading.

## Wastewater

The [wastewater sector](#) has effectively achieved its 2025 load reduction goals 10 years ahead of schedule due to treatment plant upgrades, advances in technology, enforceable Clean Water Act (CWA) discharge permits and funding from multiple sources. These investments were largely driven by a 2004 nutrient permitting approach that called for placing enforceable permit limits on pollution from wastewater treatment plants.

States in the watershed have used innovative solutions, such as trading programs, to ensure regulatory compliance in a timely, cost-effective manner. The wastewater sector success has also been aided by state laws setting strict limits on the amount of phosphorus in consumer cleaning products, including laundry and dishwasher detergents.

Moving forward, jurisdictions will need to ensure that this sector maintains its nutrient and sediment pollutant limits in the face of growing populations, increased storm events, sea level rise, temperature changes and other factors. New York did not achieve its nitrogen goals in this sector, largely due to the failure and reconstruction of its largest plant in Binghamton/Johnson City. Jurisdictions may need to consider more stringent limits for this sector to meet or maintain the overall pollution reduction goals of the Bay TMDL. EPA and the jurisdictions need to continue to invest in new tools to help communities reduce energy use, reuse water and optimize operations to promote additional nutrient removal at wastewater treatment plants.

## Air

In the Bay TMDL, EPA [committed](#) to reducing nitrogen deposition to the Bay and its surrounding waters by a total of 3.7 million pounds by 2025. As of 2017, EPA and its partners have achieved an estimated 3.2 million pounds of reductions through actions under the Clean Air Act. This puts EPA on track to meet its commitment. Clean Air Act regulations have also led to sharp reductions in nitrogen that washes into the Bay after falling on watershed lands and upstream waters. EPA and the jurisdictions will need to continue implementing Clean Air Act regulations for both stationary and mobile source pollution to ensure that the air deposition reduction goals will be achieved.

## Looking Forward

The CBP partnership is moving into its third and final phase of implementing the Chesapeake Bay TMDL. Using information gathered over the past seven years, the jurisdictions are building on their implementation strategies to optimize their pollution reduction practices. Since many of these practices are implemented at the local level, local engagement and participation will be increasingly critical to achieving water quality goals going forward. Impacts from increased loads from the Conowingo Dam and helping communities become more resilient will also be addressed.