Chesapeake Bay TMDL Frequently Asked Questions

What makes the Chesapeake Bay TMDL unique?

More than 40,000 TMDLs have been completed across the United States, but the Chesapeake Bay TMDL is the largest and most complex thus far. It is designed to achieve significant reductions in nitrogen, phosphorus and sediment throughout a 64,000-square-mile watershed that includes seven jurisdictions. Bay jurisdictions include Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia and the District of Columbia.

The TMDL is actually a combination of 276 nitrogen, phosphorus and sediment TMDLs for 92 individual Chesapeake Bay tidal segments. Pollution limits are designed to meet applicable water quality standards for dissolved oxygen, water clarity, underwater Bay grasses and chlorophyll-a, an indicator of algae levels.

The Chesapeake Bay TMDL is unique because of the extensive measures EPA and the jurisdictions adopted to ensure accountability for reducing pollution and meeting target progress dates. The TMDL will be implemented using an accountability framework that guides restoration efforts using four elements. These elements include Watershed Implementation Plans (WIPs), two-year milestones, EPA's tracking and assessment of restoration progress and specific federal actions if jurisdictions do not meet their commitments.

This accountability framework helps demonstrate the reasonable assurance provisions of the Bay TMDL pursuant to both the Clean Water Act and Chesapeake Bay Executive Order 13508. However, the accountability framework is not part of the Bay TMDL itself.

What are the pollutant limits set by the Chesapeake Bay TMDL?

The Bay TMDL set annual Bay watershed limits of 185.9 million pounds of nitrogen, 12.5 million pounds of phosphorus, and 6.45 billion pounds of sediment. That represents, based on 2009 levels, a 25 percent reduction in nitrogen, 24 percent reduction in phosphorus and 20 percent reduction in sediment. These limits are divided by state and river basin based on state-of-the-art modeling tools, extensive monitoring data, peer-reviewed science, and close interaction with Bay partners.

When was the Bay TMDL established and when does the TMDL anticipate the Bay will be restored?

The Bay TMDL was established on December 29, 2010. The TMDL is designed to ensure that all pollution control measures needed to fully restore the Bay and its tidal rivers are in place by 2025. EPA expects practices in place by 2017 to meet 60 percent of the necessary reductions. While it will take years after 2025 for the Bay and its tributaries to fully heal, EPA expects some areas of the Bay will recover before others. There will be gradual and continued improvement in water quality as controls are put in place around the watershed.

There have been many TMDLs written in the Chesapeake Bay watershed. How do they relate to this Bay TMDL?

Previously-approved TMDLs were established to protect local waters. While some were based on reducing nitrogen, phosphorus, and sediment, many were for other pollutants. In contrast, the Bay TMDL is based on protecting the Bay and its tidal waters from excessive nitrogen, phosphorus, and sediment. For waters that have both local TMDLs and Bay TMDLs for nitrogen, phosphorus, and/or sediment, the more stringent of the TMDLs will apply.

How large is the Chesapeake Bay?

The Bay itself is about 200 miles long, home to more than 3,700 species of plants, fish and other animals. The Bay watershed totals about 64,000 square miles, covering parts of six states and the District of Columbia. Nearly 18 million people

live in the watershed, and the population is growing by more than 130,000 each year. The map to the left shows the Chesapeake Bay watershed in green.

Who developed the Bay TMDL?

EPA Region III's Water Protection Division had primary responsibility for completion of the Bay TMDL. The region worked closely with modeling and water quality experts at the Chesapeake Bay Program Office. EPA Headquarters and EPA Region II also provided guidance and technical support. The Bay TMDL was co-signed by the Regional Administrators in Regions II and III since the Chesapeake Bay watershed spans both regions.

The Chesapeake Bay Program (CBP) partnership's committee structure was used to engage the Bay jurisdictions in the development of the TMDL. The Bay jurisdictions include Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia, and the District of Columbia. Bay TMDL decisions were vetted through the CBP partnership's Water Quality Goal Implementation Team, and major policy decisions were further reviewed by the Principals' Staff Committee. When consensus could not be reached on key decision points, EPA was the final decision-maker.

What factors were considered in developing the Bay TMDL?

Development of the Chesapeake Bay TMDL required extensive knowledge of the watershed, sources of pollution, land uses, best management practices, precipitation data, and other factors. The TMDL is informed by a series of models, calibrated to decades of water quality and other data, and refined based on input from Bay scientists. Modeling is an approach that uses observed and simulated data to replicate what is occurring in the environment to make future predictions. Modeling was a critical and valuable tool used to develop the Chesapeake Bay TMDL.

What steps were involved in developing the Bay TMDL?

The development of the TMDL consisted of several steps, including:

1. EPA provided the jurisdictions with target loads for nitrogen, phosphorus and sediment at the basin-jurisdiction level. Bay jurisdictions include Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia and the District of Columbia.

2. Jurisdictions developed Phase I Watershed Implementation Plans (WIPs) that detailed how they proposed to achieve those target loads. Jurisdictions made decisions on how to further sub-divide the basin-jurisdiction target loads to various individual point sources and point and nonpoint source sectors.

3. EPA evaluated the Bay jurisdictions' draft Phase I WIPs. EPA used the jurisdictions' proposed allocations where they met their respective target loads and met EPA's expectations for reasonable assurance. Where they did not, EPA supplemented gaps in allocations and reasonable assurance with allocation adjustments and determinations of reasonable assurance to achieve the necessary reductions.

4. EPA published the draft TMDL on September 24, 2010 for a 45-day public comment period and held 18 public meetings in all seven jurisdictions. EPA received, reviewed and considered tens of thousands of public comments for the final TMDL. EPA's response to those public comments is Appendix W of the Chesapeake Bay TMDL.

5. Working closely with EPA, the jurisdictions revised and strengthened their respective Phase I WIPs and submitted final Phase I WIPs to EPA.

6. EPA evaluated the jurisdictions' final Phase I WIPs and used them, where possible, to develop the final TMDL.