Watershed Implementation Plan (WIP) Planning Targets

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Chesapeake Bay Program
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The 2010 Chesapeake Bay Total Maximum Daily Load (Bay TMDL) outlines the reductions in nitrogen, phosphorus and sediment that are needed to ensure the Bay can meet water quality standards. To collectively achieve these Bay-wide reductions, each watershed jurisdiction is assigned specific nitrogen and phosphorus reduction targets to meet. New planning targets for the Phase III Watershed Implementation Plans (WIPs) have now been developed.

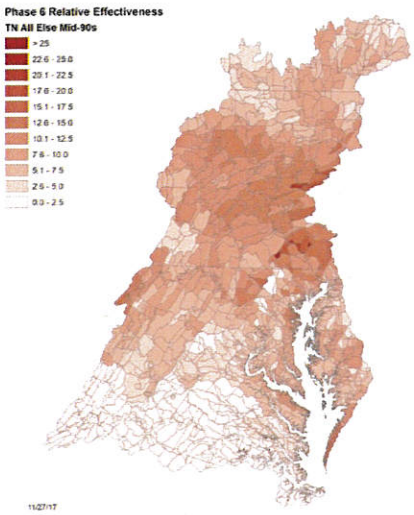
How do the WIPs relate to planning targets?

The 2010 Bay TMDL required reductions of nitrogen, phosphorus and sediment to meet water quality standards. To collectively meet the Bay-wide reductions, each watershed jurisdiction (Delaware, the District of Columbia, Maryland, New York, Pennsylvania, Virginia and West Virginia) were assigned different nitrogen and phosphorus reduction targets to achieve individually.

To help meet these pollution reduction targets, the jurisdictions develop WIPs that include detailed, specific steps that they each will implement. The jurisdictions are currently developing their third (Phase III) WIP since the Bay TMDL was established in 2010. As part of the Phase III WIP development process, the jurisdictions have received draft planning targets that reflect refinements to the model using the most up-to-date science and monitoring data available. Although the planning targets are different from the 2010 Bay TMDL limits, these planning targets establish new goals for the jurisdictions to achieve to meet water quality standards.

How are the target pollution loads determined?

The development of the Phase III WIP planning targets used similar methodology that was employed for the Bay TMDL. The targets were set using the updated Phase 6 Chesapeake Bay suite of modeling tools, which contains significantly more data and information than the previous version. The modeling tools underwent improved calibration, which yields more precise estimates of how much pollution the Bay can handle while still meeting water quality standards.



The targets are not established on a statewide basis, but rather on a state-basin scale. The water quality effects of conservation practices varies by watershed, so implementing the same controls in different watersheds has different levels of effectiveness (i.e., a pound of nitrogen in the James River may not have the same level of impact as a pound of nitrogen in the Potomac River). To account for the differing levels of effectiveness, the planning targets are set depending upon the overall level of impact. *Graphics to the left and on the next page demonstrate the most impactful nonpoint source areas in the watershed (defined as the effect on oxygen in the Bay per pound of nitrogen or phosphorus released in the watershed).*

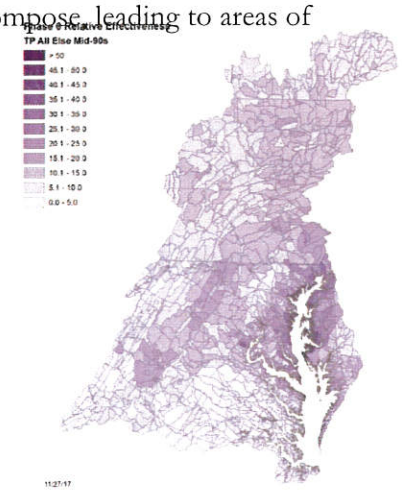
State-Basins

- DC Potomac
- DE Eastern Shore
- MD Eastern Shore
- MD Patuxent
- MD Potomac
- MD Susquehanna
- MD Western Shore
- NY Susquehanna
- PA Eastern Shore
- PA Potomac
- PA Susquehanna
- PA Western Shore
- VA Eastern Shore
- VA James
- VA Potomac
- VA Rappahannock
- VA York
- WV James
- WV Potomac

Why isn't sediment specifically given a target?

Planning targets only account for nitrogen and phosphorus—not sediment. This is because:

- Conservation practices implemented to reduce pollution from agricultural sources will help decrease sediment flowing into the Bay.
- Dissolved oxygen levels in the Bay are more dependent on nitrogen and phosphorus reductions than sediment because nutrients can cause algal blooms that die off and decompose, leading to areas of hypoxia, or "dead zones".



May jurisdictions exchange pollution loads?

Pollution controls in some watershed areas will be more effective and have a greater impact than those same controls might have in other areas. To improve effectiveness and better allocate resources, states can exchange nitrogen loads for phosphorus loads, phosphorus loads for phosphorus loads and nitrogen loads for nitrogen loads within the same state basin, as well as with other state basins within the same jurisdiction. Exchange ratios are set based on extensive modeling and vary from basin to basin and jurisdiction to jurisdiction. Even though targets are set on a basin, not a state scale, jurisdictions may only exchange pollution loads within the same state.

What happens if the pollution loads are not reduced by 2025?

The Chesapeake Bay Program will provide as many resources as possible to help the jurisdictions meet their Phase III WIP planning targets. Potential federal actions may occur if jurisdictions do not meet their targeted pollution reductions; however, any federal actions will be guided by common sense, the best available information and a shared goal to restore the Chesapeake Bay.

Chesapeake Bay Program
410 Severn Ave, Suite 109
Annapolis, MD 21403
(800)-YOUR-BAY
chesapeakeprogress.com | chesapeakebay.net

Watershed Implementation Plan (WIP) Planning Targets

- In 2010, the Environmental Protection Agency established the Chesapeake Bay Total Maximum Daily Load, or Bay TMDL, which identifies the necessary pollution reductions from major sources of nitrogen, phosphorus and sediment from across the Bay jurisdictions (Delaware, the District of Columbia, Maryland, New York, Pennsylvania, Virginia and West Virginia) and sets pollution limits necessary to meet water quality standards.
- This meant that in order to meet the limits specified by the Bay TMDL in 2010, jurisdictions needed to reduce 25 percent of nitrogen, 24 percent of phosphorus and 20 percent of sediment from pollution loads entering the Chesapeake Bay.
- The pollution limits were further divided by each jurisdiction and major river basin based on state-of-the-art modeling tools, extensive monitoring data and peer-reviewed science.
- To meet these limits to reduce pollution flowing into the Chesapeake Bay, the seven watershed jurisdictions develop Watershed Implementation Plans, or WIPs.
- WIPs include detailed, specific steps each of the Bay jurisdictions will take to reduce pollution loads in order to meet their planning targets.
- The jurisdictions are currently developing their third WIPs since the Bay TMDL was set in 2010.
- As part of the Phase III WIP development process, the jurisdictions have received draft planning targets that reflect refinements to the model using the most up-to-date science and monitoring data available.
- Although different from the pollution limits specified in the 2010 Bay TMDL, these draft planning targets establish new goals that the jurisdictions would need to achieve jurisdictions to meet water quality standards.
- These draft planning targets are currently under review by each of the jurisdictions.
- Final planning targets will be available on May 25, 2018.

How are the target pollution loads determined?

- These target numbers are determined by the Chesapeake Bay Program partnership using a sophisticated process involving the best available science, Chesapeake Bay modeling tools and estimates of future conditions.
- The targets were set using the updated Phase 6 suite of modeling tools, using the same type of calculations that were used to establish the original reductions under the Bay TMDL.
- The updated suite of modeling tools contains a significant amount more data and information than the previous version. This calibration gives the partnership more confidence in how much pollution the Bay can receive while still meeting standards for water quality.
- The Phase III WIPs will take into account future population growth based on estimates of how the land in the Chesapeake Bay watershed will be used in 2025.
- The targets are determined on a state-basin scale. For example, they are not set just for Pennsylvania as a whole state, but rather for the Susquehanna River basin within Pennsylvania.
- The water quality impacts of conservation practices varies by watershed, so implementing the same controls in different watersheds has different level of effectiveness. For example, a pound of nitrogen in the James River might not have the same level of impact as a pound of nitrogen in the Potomac River.
- Planning targets are set depending upon the overall level of impact on reducing pollutant loads within each watershed.

Why isn't sediment specifically given a target?

- Sediment reductions are not included in the WIP planning targets for a variety of reasons, but primarily because the conservation practices implemented to reduce pollution from agricultural sources, as well as actions taken to reduce nitrogen and phosphorus from other watershed areas, will also cause corresponding reductions in sediment.
- Dissolved oxygen levels in the Bay are more dependent on nitrogen and phosphorus reductions than sediment, as nutrients can cause algal blooms that die off and decompose, leading to "dead zones".

How does water quality trading fit in?

- Water quality trading is a market-based approach that provides economic incentives for voluntary pollutant reductions.
- Trading can allow one pollution source to meet its regulatory obligations by using pollutant reductions created by another pollution source that has lower-cost pollution controls.

Can jurisdictions "exchange" pollution loads?

- Jurisdictions may exchange nitrogen loads for phosphorus loads, nitrogen loads for nitrogen loads, and phosphorus loads for phosphorus loads within the same state-basin, as well as with other state-basins within the same jurisdiction.
- Exchange ratios are set based on extensive modeling; these vary from basin to basin and jurisdiction to jurisdiction.
- Jurisdictions may only exchange pollution loads within the same state.

What happens if the pollution loads are not reduced by 2025?

- The Chesapeake Bay Program partnership will provide as many resources as possible to help the jurisdictions meet their WIP planning targets.
- Potential federal actions may occur if jurisdictions do not meet their planning targets.
- Any federal actions will be guided by common sense, the best available information and a shared goal to restore the Chesapeake Bay.

Targeting pollution, one load at a time
The Chesapeake Bay Program sets new targets for nutrient reductions

Established in 2010, the Chesapeake Bay Total Maximum Daily Load, or Bay TMDL, set limits for major sources of nitrogen, phosphorus and sediment pollution entering the Chesapeake Bay. Pollution reductions are critical in order to meet water quality standards, which ensure the water of the Bay is healthy for humans, plants and animals.

These pollution limits, or allocations, were divided across the six Chesapeake Bay watershed states – Delaware, Maryland, New York, Pennsylvania, Virginia and West Virginia – as well as the District of Columbia. These allocations were set using state-of-the-art modeling tools, extensive monitoring data and peer-reviewed science.

The six watershed states and the District of Columbia prepare Watershed Implementation Plans (WIPs), which include detailed, specific steps they will take to reduce their pollution loads and meet these allocations. Currently in the process of developing their third WIP since the establishment of the Bay TMDL, these jurisdictions now have new targets to meet for pollution reduction.

These new planning targets were set based on refinements made to the most recent version of the model, Phase 6, which uses the most up-to-date science and monitoring data available to replicate the conditions of the Bay. The Phase 6 Model includes more insight on how pollution loads have changed as pollution control practices have been implemented across the region. The new planning targets take into account the importance of location and geography in the effectiveness of pollution control, so implementing the same action in different areas could have varying levels of impact. For example, a pound of nitrogen reduced in the James River might not have the same impact as a pound of nitrogen reduced in the Potomac River.

Currently, each jurisdiction is reviewing the draft version of their planning targets, with the final versions on track to be issued in May 2018.

Learn more about planning targets.

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- Chesapeake Bay watershed jurisdictions—D.C., Delaware, Maryland, New York, Pennsylvania, Virginia and West Virginia—have new targets to meet for pollution reduction. LINK
- The Chesapeake Bay Total Maximum Daily Load, or pollution diet, sets pollution limits necessary to meet water quality standards. Now, the states in the region and Washington, D.C., have new targets for pollution reduction. LINK
- The new pollution-reduction targets were set based on the most up-to-date science and monitoring data available. LINK

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- #ChesBay states have new pollution-reduction targets. LINK
- Final planning targets will be available in mid-May 2018. LINK
- The #ChesBay pollution diet sets pollution limits necessary to meet water quality standards. Now, the states in the region and D.C. have new targets for pollution reduction. LINK
- The new pollution-reduction targets were set based on the most up-to-date science and monitoring data available. LINK