

## **EPA EVALUATION OF Virginia's 2022-2023 and 2024-2025 MILESTONES**

### **Executive Summary**

The Chesapeake Bay Program (CBP) partnership established the goal to have all practices and controls in place by 2025 that were necessary to meet applicable water quality standards in the Chesapeake Bay (Bay) and its tidal tributaries ("2025 Goal"). The CBP partnership, including the seven jurisdictions (Delaware, the District of Columbia, Maryland, New York, Pennsylvania, Virginia, and West Virginia) and the U.S. Environmental Protection Agency (EPA) agreed to develop and implement a framework for holding each partner accountable for reducing nitrogen, phosphorus, and sediment loads to the 2025 Goal. EPA is providing this evaluation of Virginia's 2022-2023 and 2024-2025 milestones to the CBP partnership and the public in accordance with its oversight role and responsibility under the CBP partnership's accountability framework.

In that role, EPA has evaluated Virginia's statewide progress toward attaining its portion of the 2025 Goal. This evaluation includes an assessment of progress toward attaining nutrient and sediment goals at the state and state-basin level and progress toward meeting sector-specific programmatic commitments for the 2022-2023 milestone period. This evaluation also provides an assessment of sector-specific programmatic and numeric commitments (e.g., Best Management Practices (BMP) or BMP implementation targets) for the 2024-2025 milestone period and the status of the relevant water quality monitoring trends.

In reviewing Virginia's final programmatic progress for the 2022-2023 milestones, the 2023 numeric progress, and the final 2024-2025 milestone commitments, EPA identified sector-by-sector strengths as well as areas for improvement. According to the data provided by Virginia for the 2023 progress run, Virginia did not achieve its statewide 2023 targets for nitrogen and phosphorus but did achieve its statewide 2023 target for sediment. EPA stands ready to assist Virginia with implementing its 2024-2025 two-year milestone commitments.

Some notable strengths identified in this evaluation of Virginia's 2022-2023 milestone progress and the final 2024-2025 milestone commitments include:

- Appropriated record funding for agricultural BMPs for fiscal year (FY) 2023-2024 and expanded funding to support agricultural programmatic and technical assistance capacity, noted in several milestones.
- Appropriated funding in FY 2024-2026 budget sufficient to fully satisfy the state's portion of the Agricultural Needs Assessment.
- Completed regulatory actions and reissued the Phase II Municipal Separate Storm Sewer System (MS4) general permit with an effective date of November 1, 2023.
- Completed amendments to watershed general permit to incorporate Enhanced Nutrient Removal Certainty Program Wasteload Allocations (WLA) and Chlorophyll-a based WLAs.
- Secured significant new funding to support wetlands acquisition, enhancement, and restoration.

Some key areas that EPA expects Virginia to address in the final 2024-2025 milestone period and beyond include:

- Continue to accelerate BMP implementation in the agricultural sector, especially since several BMP implementation targets were not met in the 2022-2023 milestone period.
- Continue to increase opportunities to accelerate implementation to target nonpoint sources of pollution in the urban/suburban stormwater sector and include updates on specific programmatic efforts and associated BMP implementation in progress reporting.

### **Looking Forward for Future Reviews of Progress**

At the 2022 [Executive Council meeting](#), the Executive Council discussed the upcoming year of 2025—the target date the partnership set for achieving certain outcomes under the [2014 Chesapeake Bay Watershed Agreement](#). At that meeting, the Executive Council [charged the Principals' Staff Committee](#) (PSC) to recommend a critical path forward that prioritizes and outlines the next steps for meeting the goals and outcomes of the *Chesapeake Bay Watershed Agreement* leading up to and beyond 2025 with specific considerations for science, restoration, and partnership. Recommendations for actions beyond 2025 will be presented at the 2024 Executive Council meeting.

At the [September 2023 PSC meeting](#), the CBP partners agreed to define the targets to be met by 2025 as the Phase III planning targets, the 2025 targets for climate change, and Conowingo targets<sup>1</sup>. Consistent with that decision, this evaluation measures progress toward the goal of meeting the 2025 planning targets and 2025 climate change targets. In doing so, this evaluation of Virginia's 2022-2023 progress and 2024-2025 commitments uses the Chesapeake Assessment Scenario Tool (CAST) 2019, as agreed to by the CBP partnership.

In the next round of two-year milestones progress will be measured using [CAST-23](#) and will include progress toward unaccounted additional loads and 2025 climate change conditions. In September 2023, the PSC approved the finalization and use of CAST-23 (update released June 2024) for tracking progress until the Phase 7.0 suite of modeling tools is complete (estimated in 2028). The PSC also determined that unaccounted additional loads (i.e., modeled load increases identified after the PSC adopted the Phase III planning targets in 2018) will be added to the jurisdictions' existing Phase III planning targets to create interim planning targets and that these will be addressed in the Phase 7.0 suite of modeling tools along with 2035 climate change loads.

In addition, in January 2024 the CBP partnership finalized the [Chesapeake Bay Total Maximum Daily Load \(TMDL\) indicator](#), which is a [new indicator](#) designed to combine monitored and modeled data to estimate the progress of annual pollutant loading rate reductions since 1995 in response to implemented management practices. This indicator was developed to address a CBP partnership interest to compare modeled and monitoring data. This indicator may be used in future evaluations of progress.

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<sup>1</sup> The PSC approved a phased approach for what can be achieved at Conowingo by 2025. Conowingo has a separate WIP and milestones to meet those targets.

## **Detailed Evaluation of Overall Load Reductions and Source Sectors**

### **Load Reduction Review – Statewide and by Major River-Basin<sup>2</sup>**

Each year, jurisdictions in the CBP partnership report on BMPs installed, tracked, and verified and the pollutant load reductions from wastewater treatment plants. Using CAST-19, this information (or “annual progress runs”) provides an estimate of how much nitrogen, phosphorus, and sediment has been reduced. When evaluating Virginia's 2022-2023 milestone implementation, EPA simulated nutrient and sediment loads using CAST-19<sup>3</sup> and wastewater discharge data reported by Virginia and compared those simulated loads to where Virginia's progress should be by 2023 (90% of the statewide and state-basin Phase III planning targets).

According to the data provided by Virginia for the 2023 progress run<sup>4</sup>, Virginia did not achieve its statewide 2023 targets for nitrogen or phosphorus. These targets include adjustments for climate change as approved by the PSC. Virginia achieved its statewide 2023 target for sediment. At the major river-basin scale, Virginia achieved its 2023 nitrogen targets for the James basin but did not achieve its 2023 targets for nitrogen in the other major basins (Potomac, Rappahannock, York, and Eastern Shore). Virginia did not achieve its 2023 phosphorus targets for any major basin. Virginia achieved its 2023 sediment targets for all major basins.

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<sup>2</sup> Major river-basin refers to the eight major river basins draining to the Chesapeake Bay, some of which are shared by more than one Bay jurisdiction. For example, the Susquehanna River is shared by New York, Pennsylvania, and Maryland; Pennsylvania-Susquehanna refers to the Pennsylvania portion of the river. The phrase major river-basin is interchangeable with "state-basin" in this document.

<sup>3</sup> CAST-19 is part of the Phase 6.0 suite of modeling tools for the Chesapeake Bay.

<sup>4</sup> Each year, jurisdictions in the CBP partnership report on the BMPs installed, tracked and verified and the pollutant load reductions from wastewater treatment plants. Using the Chesapeake Assessment Scenario Tool 2019, this information (or “annual progress runs”) provides an estimate of how much nitrogen, phosphorus and sediment has been reduced.

**Table 1.** Loads and Targets for Virginia based on CAST-19 and reported wastewater data.

<b>Pollutant</b>	<b>2009 Progress Loads (M lbs/year)</b>	<b>2023 Progress Loads (M lbs/year)</b>	<b>2025 Planning Target Load (M lbs/year)</b>	<b>Additional Load due to 2025 Climate Conditions (M lbs/year)</b>	<b>2025 with Climate Target load (M lbs/year)</b>	<b>% of goal Achieved (90% is considered on track to meet 2025 with climate load)</b>
<b>Nitrogen</b>	67.91	54.70	52.95	1.59	51.37	80%
<b>Phosphorus</b>	6.98	5.90	5.58	0.34	5.25	62%
<b>Sediment</b>	6,557	6,342	6,872	N/A	6,872	100%

Virginia developed specific BMP implementation targets for the 2022-2023 and final 2024-2025 milestones for those practices identified in Virginia's Phase III Watershed Implementation Plan (WIP) that account for the majority of the nitrogen reductions. Table 2 provides a summary of Virginia's 2023 progress compared to the 2009 baseline and the 2025 targets, as well as the final 2024-2025 commitments, for these priority BMPs.

**Table 2.** Progress toward Targets for Virginia's priority BMPs (those that account for the majority of the nitrogen reductions).

<b>BMP<sup>5</sup></b>	<b>2009 Progress</b>	<b>2023 Progress</b>	<b>2024-2025 Milestone Target</b>	<b>2025 WIP Target</b>
Animal Waste Management Systems (animal units)	1,448,824	955,264	300 cumulative new facilities	2,228,900
Cover Crops (acres)	77,290	318,547	384,396	384,396
Soil Conservation and Water Quality Plans (acres)	None reported <sup>6</sup>	117,938	650,000	1,183,460
Forest Harvesting Practices (% of area, unless otherwise noted)	79%	94%	95%	96%
Nutrient Management Core Nitrogen (acres)	543,549	718,090	800,000	951,395

<sup>5</sup> BMP levels are units reported or planned by the jurisdiction. The levels are calculated using CAST-19 of the Phase 6.0 suite of modeling tools and include everything established or installed, reported, and functioning through the particular year, e.g., through 2009, or through 2023, etc., not just new reported implementation, unless otherwise noted.

<sup>6</sup> CBP partnership modeling tools evolve based on CBP partnership decisions. As a result, some BMPs have “none reported” listed since those particular BMP names were not available for reporting. These practices were often included in another BMP category before the refinement to be more specific in the naming convention.

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Forest Buffers <sup>5</sup> (acres)	12,248	6,095	17,276	21,965
Grass Buffers – Streamside with Exclusion Fencing (acres)	5,262	29,517	Not identified	45,766
Forest Buffer – Streamside with Exclusion Fencing (acres)	None reported	4,241	26,142	26,390
Agricultural Drainage Management (acres)	1,511	26	Not identified; Anticipates installation of 20 bioreactors across Virginia by end of calendar year 2024	164,186
Nutrient Management Nitrogen Rate (acres)	None reported	198,014	550,000; In 2024-25 Milestone submission, targets for Rate and Timing were reported as combined value (Enhanced Nutrient Management).	758,474
Nutrient Management Nitrogen Timing (acres)	None reported	137,814	550,000; In 2024-25 Milestone submission, targets for Rate and Timing were reported as combined value (Enhanced Nutrient Management).	427,076

The summary progress from the CBP partnership’s modeling tools for 2009 and 2023 incorporate BMP credit duration. The CBP partnership decided to remove reported BMPs from the model simulation at the end of their established credit durations unless verified by the state as inspected and continuing to function as designed. Virginia is expected to provide detailed programmatic milestones to support these BMP implementation targets. In the sector-specific sections below, EPA provides its evaluation of these programmatic milestones and the connection to increased implementation.

**Source Sector Review**

**Agriculture**

Virginia is predominantly relying on agriculture BMP implementation to meet its 2025 targets based on its Phase III WIP. Virginia continues to make incremental progress toward its goals, but the current pace of implementation is not on track to meet its statewide nutrient targets. EPA expects Virginia to continue to accelerate BMP implementation in the agricultural sector.

**2022-2023 Milestone Achievements**

- Appropriated record funding for agricultural BMPs for FY 2023-2024.
- Increased funding for poultry litter transport to record levels in FY 2023-2024 state budget.
- Completed development of poultry waste transfer database and external portal for external users.

- Staffed multiple positions to support agricultural outreach and programs, including 5 Agricultural and Natural Resources agent positions.
- Expanded BMP pilot projects including Whole Farm Approach, Small Herd Stream Exclusion Initiative, and Nutrient & Resource Management Plan Direct Pay to additional Soil and Water Conservation Districts.

#### **2022-2023 Milestones Not Achieved**

- Did not fill Chesapeake Bay Program Coordinator position within Virginia Cooperative Extension.
- Did not complete tiered certification program for farmers and growers under the Virginia Grown domestic marketing program.

#### **2024-2025 Milestone Strengths**

- Appropriating funding in FY 2024-2026 budget sufficient to fully satisfy the state's portion of the Agricultural Needs Assessment.
- Commits to further promoting subsidized poultry litter transport.
- Commits to expanding partnerships to achieve riparian forest buffer goals.
- Commits to expanding existing BMP pilot projects to accelerate practice implementation.

#### **Key Areas to Address in the Final 2024-2025 Milestone Period and beyond**

- Continue to accelerate BMP implementation in the agricultural sector, especially since several BMP implementation targets were not met in the 2022-2023 milestone period.

### **Urban/Suburban Stormwater**

#### **2022-2023 Milestone Achievements**

- Completed regulatory actions and reissued the Phase II MS4 general permit with an effective date of November 1, 2023.
- Completed consolidation of Erosion and Sediment Control, Stormwater Management Certification, and Virginia Stormwater Management Program Regulations (9VAC25-840, 9VAC25-850, 9VAC25-870) into a single regulatory chapter for regulating post-construction water quality design criteria requirements. Effective date of July 1, 2023.
- Completed a reporting system to report annual fertilizer sales.
- Completed comprehensive marketing plan of funding opportunities for non-MS4 municipalities.
- Presented information (via three education and outreach methods) to turfgrass industry contacts regarding changes to Virginia state fertilizer application requirements to ensure accurate reporting.

#### **2022-2023 Milestones Not Achieved**

- Did not reissue any Phase I MS4 permits during the 22-23 milestone period. However, all ten administratively extended permits were reissued by February 1, 2024.

#### **2024-2025 Milestone Strengths**

- Commits to updating the Virginia Stormwater Handbook and water quality design criteria to include the Virginia Runoff Reduction Method (VRRM).

- Commits to amending the Virginia Stormwater Management regulation to incorporate the use of future projected design storms for managing runoff.
- Commits to reissuing the Virginia Department of Transportation MS4 permit.

### **Key Areas to Address in the Final 2024-2025 Milestone Period and beyond**

- Virginia is expecting additional nutrient reductions from the stormwater sector by 2025 according to its Phase III WIP. EPA expects Virginia to accelerate BMP implementation in the urban/suburban stormwater sector.

### **Wastewater Treatment Plants and Onsite Systems**

#### **2022-2023 Milestone Achievements**

- Installed 117 septic repairs and sewer connections, exceeding goal of 100.
- Completed amendments to watershed general permit to incorporate Enhanced Nutrient Removal Certainty Program WLAs and Chlorophyll-a based WLAs.
- Developed map of septic systems within Virginia along with other environmental health and climate change hazards.
- Modified all individual Virginia Pollutant Discharge Elimination System (VPDES) permits to incorporate Enhanced Nutrient Removal Certainty (ENRC) Program schedules and technology-based effluent limits.

#### **2022-2023 Milestones Not Achieved**

- Did not establish a Regulatory Advisory Panel to develop proposed amendments for consideration by Virginia Soil and Water Conservation Board.
- Did not complete the mapping of failed, failing, and threatened onsite septic systems including systems in the coastal plain at risk to sea level rise.

#### **2024-2025 Milestone Strengths**

- Commits to installing at least 100 new onsite sewage systems or public sewer connections to replace failing onsite sewage systems, straight pipes, and pit privies.
- Commits to developing revisions to the Sewage Handling and Disposal Regulations (12VAC-5-610) including considerations of the impacts of climate change on proposed treatment works.

### **Key Areas to Address in the Final 2024-2025 Milestone Period and beyond**

- None.

### **Growth, Offsets and Trading**

#### **2022-2023 Milestone Achievements**

- Finalized protocol for re-evaluating post-construction water quality design criteria requirements. 9VAC25-840 is being consolidated with 9VAC25-850 and 9VAC25-870 into a single regulatory chapter. This has gone through the rulemaking process and is effective as of July 1, 2023.
- Established a Regulatory Advisory Panel which developed proposed amendments for 9VAC25-870 to be considered by the State Water Control Board.

- Virginia is currently in the process of updating the Virginia Stormwater Handbook and water quality design criteria to include the VRRM, which has already been advertised for informal public comment. The revised Stormwater Handbook and VRRM are in internal review and QA/QC and is expected to begin Public Notice by January 31, 2024. Once fully approved, the effective date is planned to coincide with the effective date of the Consolidated Regulations of July 1, 2024.
- Published annual reports on watershed general permit nutrient loads as required by state code on April 1, 2022 and April 1, 2023.
- Published annual reports on watershed general permit trades as required by state code on July 1, 2022 and July 1, 2023.

#### **2022-2023 Milestones Not Achieved**

- Delayed decision to amend Virginia Stormwater Management Program Regulation (9VAC25-870) to update the water quality design criteria requirements and incorporate the use of future projected design storms for managing stormwater.

#### **2024-2025 Milestone Strengths**

- Commits to publish the annual reports on watershed general permit trades required by state code on July 1, 2024 and July 1, 2025.
- Commits to publish the annual reports on watershed general permit nutrient loads as required by state code on April 1, 2024 and April 1, 2025.
- Commits to finalize protocol for re-evaluating post-construction water quality design criteria requirements.
- Commits to submit for executive review a Notice of Intended Regulatory Action to amend Virginia Stormwater Management Program Regulation (9VAC25-870) to incorporate the use of future projected design storms for managing stormwater.

#### **Key Areas to Address in the Final 2024-2025 Milestone Period and beyond**

- Continue to work with EPA in offsetting any new or increased nutrient and sediment loads in Virginia's portion of the Chesapeake Bay watershed.

### **Forestry**

#### **2022-2023 Milestone Achievements**

- Allocated \$1.9 million to 109 Virginia Trees for Clean Water Program projects.
- Department of Forestry (DOF) completed 192 pre-harvest plans and conducted 240 BMP audits that had a 96.8% BMP implementation rate.

#### **2022-2023 Milestones Not Achieved**

- Did not secure permanent general funds to support critical Urban and Community Forestry (U&CF) Field positions.
- Did not complete implementation of DOF's Healthy Watershed Initiative recommendations.
- Did not secure term length carbon credit contracts for forestland owners within the voluntary carbon credit market.



### **2024-2025 Milestone Strengths**

- Commits to distributing \$6.6 million in Inflation Reduction Act funding in underserved communities over a 4-year period through the Urban and Community Forestry Program.
- Commits to conducting outreach to reintroduce DOF's Healthy Water Initiative, with the goal of reinvigorating locality interest and contract development.
- Commits to using the updated Statewide Riparian Buffer Action Plan to support an increase in riparian forest buffer implementation.

### **Key Areas to Address in the Final 2024-2025 Milestone Period and beyond**

- None.

### **Climate**

In 2020, the PSC issued a directive that by 2022 all jurisdictions would account for the additional nutrient loads due to 2025 climate change conditions in a Phase III WIP addendum, or in the two-year milestones, if it had not already done so in its Phase III WIP. All Bay jurisdictions met this goal in 2022 to update Phase III WIPs or milestones to address the 2025 climate change conditions. Virginia addressed the 2025 climate change conditions in its Phase III WIP. The Bay jurisdictions maintained the commitment to meet the 2025 climate change conditions by 2025.

### **2022-2023 Milestone Achievements**

- Drafted guidance to aid in locality adoption of climate adaptation and resiliency provisions.
- Added wetland vulnerability to climate change to the Virginia Wetland Condition and Assessment Tool.
- Introduced a soil health bundle pilot practice for pastures into the Virginia Agricultural BMP Cost-Share program.

### **2022-2023 Milestones Not Achieved**

- None.

### **2024-2025 Milestone Strengths**

- Commits to including considerations of climate change impacts on proposed treatment works in revisions to the Sewage Handling and Disposal Regulations (12VAC-5-610).

### **Key Areas to Address in the Final 2024-2025 Milestone Period and beyond**

- None.

### **Other (Multiple Sectors; Reporting, Verification and Accountability)**

#### **2022-2023 Milestone Achievements**

- Initiated implementation of State Lands Watershed Implementation Plan.
- Secured over \$4 million in new funding for wetlands acquisition, enhancement, and restoration.
- Committed substantial staff time to coordination, outreach and technical assistance for wetland conservation efforts.

- Met oyster restoration construction targets in the Piankatank, Great Wicomico, Lafayette, Elizabeth, and York Rivers.

### **2022-2023 Milestones Not Achieved**

- Did not establish an integrated Submerged Aquatic Vegetation (SAV) mitigation policy for unavoidable losses of SAV.
- Did not produce integrated shoreline guidance with Virginia Department of Environmental Quality for ensuring consistent management of shoreline resources through each jurisdiction.
- Did not complete development of pay-for-documented-performance pilot program incentivizing contracting and construction of innovative nutrient removal technologies.
- Did not complete a decision-support model for computing sediment and nutrient removals of a living shoreline based on design parameters.

### **2024-2025 Milestone Strengths**

- Commits to securing substantial funding to support wetlands acquisition, enhancement, and/or restoration projects.
- Commits to continue considering options for No Discharge Zones in the Chesapeake Bay and its tributaries.
- Commits to prioritization of TMDLs to address benthic impaired waters.

### **Key Areas to Address in the Final 2024-2025 Milestone Period and beyond**

- None.

### **Potential Federal Actions and Assistance**

EPA remains prepared to assist each of the seven watershed jurisdictions in implementing the 2024-2025 milestones. EPA will work with each jurisdiction to develop specific oversight and assistance activities to provide prioritized support for implementation efforts, including funding, technical assistance and analysis, training, and regulatory reviews.

EPA plans to continue to commit staff, contractual and funding resources to support the seven watershed jurisdictions in implementing the 2024-2025 milestones and future two-year milestones. This support includes evaluation of the most-effective practices and locations, annual funding assistance to address priority implementation needs, evaluation of Bay jurisdictions' implementation capacity under various staffing, funding, regulatory and programmatic scenarios, local planning outreach, legislative and regulatory gap analysis, and monitoring trend analyses.

At the sector level, every jurisdiction, except the District of Columbia, is significantly off track in meeting its Phase III WIP commitments in the urban/suburban stormwater sector. Recognizing this, and that the stormwater sector supplies a significant portion of the nutrient and sediment loads to the Bay, EPA is exploring opportunities for increased oversight in this sector.

In addition, EPA will continue to work with federal partners to provide leadership and coordinate with Bay jurisdictions on WIP and two-year milestone implementation to reduce pollutants from federal lands. EPA will continue its commitment to track annual progress of the Bay jurisdictions and make those results available to the partnership and the public. [See:

<https://www.epa.gov/chesapeake-bay-tmdl/epa-oversight-watershed-implementation-plans-wips-and-milestones-chesapeake-bay> and <https://www.chesapeakeprogress.com/>

### **Monitoring Trends Summary**

The CBP partnership's Chesapeake Bay Program Nontidal Water Quality Monitoring Network, supported by EPA, the U.S. Geological Survey (USGS), the Susquehanna River Basin Commission, and the Bay jurisdictions, generates water quality monitoring data in freshwater rivers and streams throughout the watershed that is analyzed by USGS for nutrient and sediment loads and trends. The most recent USGS results ([www.usgs.gov/CB-wq-loads-trends](http://www.usgs.gov/CB-wq-loads-trends)) over the long-term 1985-2020 and short term 2011-2020 were made available in January 2023. The analysis below mainly focuses on the short term 2011-2020 trends.

While identifying drivers behind individual trends is often complex, the monitoring results are worthy of Virginia's consideration as it develops the programs and BMPs planned for the next two years. EPA's initial summary of how the monitoring results in Virginia's watersheds can potentially inform planning are below.

- Trends are improving in many of Virginia's monitored watersheds for nitrogen and phosphorus. Of the highest loading watersheds for nitrogen and phosphorus, there is a mix of trends including degrading, improving, and no trend. Implementing efforts in high loading areas can potentially yield the greatest nutrient reduction benefits.
- Trends in Virginia's monitored watersheds that are dominated by agriculture loads show that most stations are improving for nitrogen and phosphorus. More exploration on what is occurring in these monitored watersheds can potentially reveal successful programs, policies, or practices. While more information would be needed to determine what is driving individual trends, this suggests agricultural areas should be a continued focus.
- Trends at the North and South Fork Shenandoah Rivers are improving for nitrogen and phosphorus, and the majority of monitored Shenandoah River tributaries are improving for nitrogen. More exploration on what is occurring in these monitored watersheds can potentially reveal drivers of these improving trends.
- Trends at the Rappahannock and Appomattox Rivers are degrading for both nitrogen and phosphorus. Stations monitored in the Mattaponi River shows degrading or no trends for nitrogen and no trend for phosphorus. The Pamunkey River shows no trend for nitrogen or phosphorus. The James River is improving for nitrogen and shows no trend for phosphorus. These areas should be explored for potential focus in future milestones.

A comprehensive effort has been made to compile and analyze data sets for the watersheds of the Chesapeake Bay Program Nontidal Water Quality Monitoring Network stations. For the first time, station-level monitoring and modeling results, available through the [Monitored and Expected Total Reduction Indicator for the Chesapeake \(METRIC\) tool](#), can be compared to help resource managers gauge expectations on the trajectory and pace of reduction progress at a localized scale.