

EPA EVALUATION OF DELAWARE'S 2016-2017 and 2018-2019 MILESTONES

In its role in the accountability framework described in the Chesapeake Bay Total Maximum Daily Load (Bay TMDL) document, EPA is evaluating each Bay jurisdiction's progress toward attaining the goal of having practices in place by 2017 that would achieve 60 percent of the nitrogen, phosphorus, and sediment reductions necessary to achieve applicable water quality standards compared to 2009. In addition to including an assessment of this 60 percent goal at the state and state-basin level, this evaluation includes assessments of progress toward meeting sector-specific programmatic commitments, water quality monitoring trends, and the sector-specific commitments for the 2018-2019 milestone period.

The Chesapeake Bay Program (CBP) partnership agreed to use its 5.3.2 suite of modeling tools through 2017 to measure progress towards attaining the 60 percent goal. When the Bay TMDL was established in 2010, the CBP partnership anticipated that the science, data and understanding of the watershed would continue to improve and evolve as the restoration work proceeded and that adjustments to the implementation efforts could be necessary. Therefore, the CBP partnership committed to update the modeling tools to allow the Bay Program partners to better predict areas and degrees of water quality non-attainment and provide better estimates of progress toward attaining the 2025 goal. These updated tools (6.0 suite of models) will be used to develop new numeric planning targets (i.e., the "Phase III Watershed Implementation Plan or WIP Planning Targets"), to be approved by the CBP partnership, to meet the 2025 goal and will be used measure pollutant reduction progress from 2018 through 2025.

The upgraded 6.0 suite of tools predict a different level of pollutant reduction effort than the 5.3.2 suite of models to meet the 2025 goal.

Load Reduction Review

When evaluating 2016-2017 milestone implementation, EPA compared nutrient and sediment loads simulated using the 5.3.2 suite of the CBP partnership's modeling tools and wastewater discharge data reported by Delaware to the statewide and state-basin goal of 60 percent of the necessary reductions compared to 2009.

According to the data provided by Delaware for the 2017 progress run, Delaware achieved its statewide 2017 targets for phosphorus and sediment but did not achieve the target for nitrogen.

As noted above, progress measured using the 6.0 suite of tools is different than progress using the 5.3.2 suite of tools. These numeric differences were provided to the jurisdictions in May 2018. Delaware will have the opportunity to optimize its strategies to attain the 2025 goals with the development of a Phase III Watershed Implementation Plan (WIP). This Phase III WIP will be finalized in 2019.

Through the CBP partnership's Chesapeake Bay Watershed Water Quality Monitoring Network, supported by U.S. Geological Survey (USGS), the Susquehanna River Basin Commission (SRBC), and the Bay jurisdictions, the monitoring trends indicate that there are no significant trends in phosphorous loads over the past 10 years at a Delaware station located in the Nanticoke River. However, nitrogen loads at this location are degrading (increasing). Both nitrogen and phosphorous loads are degrading (increasing) over the past 10 years at a Delaware station on the

Marshyhope. A Maryland station across the Delaware border on the Choptank River, that receives loads from Delaware, shows both nitrogen and phosphorous loads are degrading (increasing) over the past 10 years. Additional work funded and supported by the CBP partnership will continue by USGS, EPA, SRBC, numerous academic partners, and others to better understand and, ultimately, explain the causes behind the short-term and long-term monitoring trends observed at all of the CBP partnership's tidal and watershed networks' monitoring stations. The continued investment in monitoring allows the CBP partnership to demonstrate observed improvements to local water quality, to make linkages to pollutant load reduction actions being taken by farmers, municipalities, homeowners, federal facilities and many others, and to assist in identifying where additional implementation is necessary to restore local streams and rivers and achieve the jurisdictions' water quality standards in the Chesapeake Bay.

Agriculture – Maintain Enhanced Oversight

2016-2017 Milestone Achievements

- The Sussex County Conservation District purchased a mobile application, PracticeKeeper, for reporting, tracking, and verifying Best Management Practices (BMPs). The app will be implemented in the first quarter of 2018.
- Sussex County exceeded its goal for the number of acres of cover crops planted using an air seeder.
- Issued coverage for the majority of operations under the Concentrated Animal Feeding Operation (CAFO) General Permit 1 (GP-1). As of December 2017, permit coverage was provided for 133 of 167 operations under GP-1. EPA anticipates a further increase in coverage will be achieved in the 2018-2019 milestone period.

2016-2017 Milestones Missed

- Did not meet its target for nitrogen from the agriculture sector and, based on Delaware's WIP, the majority of the nitrogen reductions are expected from this sector.

2018-2019 Milestone Strengths

- Increasing agricultural conservation practice implementation for beginning new poultry farmers, pilot-testing new practices for wider use - such as the wood chip bioreactor -, and promoting soil health practices through workshops.
- Committed to inspect agriculture conservation practices in order to verify proper and continued function of practices.
- Committed to incorporate phosphorous soils trends assessment to verify effectiveness of the nutrient management program.
- Developed a milestone for implementation of its recently-approved nutrient management *Standard Operating Procedures for Delaware Nutrient Management Plan Verification for Land and/or Animal Operations*.

Key Areas to Address in the 2018-2019 Milestone Period and in the Phase III WIPs

- EPA expects Delaware to include specific completion dates and number of inspections with respect to implementation of the CAFO GPs.
- EPA recognizes that Delaware has implemented agricultural BMPs to offset historic growth that has occurred from a thriving agricultural sector however, the CBP partnership-approved Poultry Litter Subcommittee data indicate increases in bird numbers, bird weights, and nutrient generation of Delaware broilers since 2010. EPA expects Delaware to continue to monitor and quantify any increases in agricultural loads and to take appropriate steps to offset any increases in resulting pollutant loads, as necessary.

Urban/Suburban Stormwater – Maintain Ongoing Oversight

2016-2017 Milestone Achievements

- Used Geographical Information System (GIS) analysis of high risk lawns to target outreach for improved urban nutrient management.
- Continued increase in homeowner participation in Livable Lawns Program.
- Increased the number of certified commercial fertilizer applicators to six (6) statewide.
- Training was provided to new Phase II Municipal Separate Storm Sewer System (MS4) communities on how to develop realistic and budget friendly MS4 programs. This training was followed-up with one-on-one meetings with individual communities.
- Provided technical assistance to municipalities on MS4 permit compliance. Fact sheets were developed on MS4s for municipal officials, a Western Sussex MS4 Consortium was established, and MS4 workshops were held.
- Green infrastructure improvements were planned and are currently under construction in Laurel.
- Completion of a stormwater retrofit project in the Town of Blades.

2016-2017 Milestones Missed

- Delaware missed their December 2017 deadline for revising the Sediment and Stormwater Regulations to include offsets.
- There is no active effort for inter-agency Sediment and Stormwater offset program. This is carried forward into the 2018-2019 milestone commitments.
- Per the Tree Canopy Expansion Expert Panel Report guidance (300 trees=1 acre of canopy), Delaware fell short of its 5 acre/year tree canopy expansion goals and planted 460 trees in the milestone period (1.5 acres).
- Phase II MS4 permits were expected to be finalized in May 2018, barring further changes to the timeline and need for a public hearing. The milestone target for finalization was October 2016.

2018-2019 Milestone Strengths

- The towns of Laurel, Seaford, and Bethel are moving forward with the implementation of green infrastructure projects.
- Outreach to MS4 communities and delegated agencies through one-on-one MS4-related meetings to explain permit requirements, provide onsite technical guidance, participate in outreach events, provide networking opportunities, and present information on funding resources to the regulated community.
- Included BMP maintenance inspections as part of Delaware's Verification Plan.

Key Areas to Address in the 2018-2019 Milestone Period and in the Phase III WIPs

- EPA expects the Delaware Sediment and Stormwater Regulations to be published in August 2018, with the regulations becoming effective in January 2019.
- EPA recommends Delaware include a milestone for improving documentation and reporting of fertilizer sales data used to track future fertilizer application rates.

Wastewater Treatment Plants and Onsite Systems – Maintain Ongoing Oversight

2016-2017 Milestone Achievements

- All four significant wastewater permits have been issued and are compliant.
- There are slight increases in wastewater nutrient loads from last year, but Delaware is still under the statewide caps for wastewater loads.

2016-2017 Milestones Missed

- None

2018-2019 Milestone Strengths

- Committed to review Wastewater Treatment Work Group protocol for advanced onsite systems to approve nitrogen-reducing units for individual onsite wastewater and disposal systems.
- Committed to develop and deploy a septic tank pump-out tracking database.

Key Areas to Address in the 2018-2019 Milestone Period and in the Phase III WIPs

- None.

Offsets and Trading – Maintain Ongoing Oversight

2016-2017 Milestone Achievements

- Held an interagency trading and offset meeting on January 25, 2017 to discuss program potential.

2016-2017 Milestones Missed

- None.

2018-2019 Milestone Strengths

- Continuing to hold periodic meetings of the Stormwater Regulations Regulatory Advisory Committee (RAC) Policies and Procedures Subcommittee to discuss the development of offset regulatory language to potentially expand the program.
- Delaware will incorporate CBP partnership model outputs and local planning targets into the Phase III WIP to evaluate growth.

Key Areas to Address in the 2018-2019 Milestone Period and in the Phase III WIPs

- The CBP partnership agreed to develop 2025 growth projections for jurisdictions to use in developing their Phase III WIPs. EPA will provide growth projections to Delaware by sector and basin based on Delaware's data. EPA expects Delaware to account for and describe how it will offset any sector or basin growth in its Phase III WIP (e.g., programs, regulations, etc.). Growth projections will be updated every two years and EPA expects Delaware to address any projected growth in its two-year milestones. In particular, EPA has observed data showing increases in loads (e.g., growth in the agriculture and septic sectors and increases in nitrogen in the Urban/Suburban Stormwater sector).

Other

Key Areas to Address in the 2018-2019 Milestone Period and in the Phase III WIPs

- In 2018, EPA expects that Delaware's BMP Verification Program will be fully implemented for all BMPs except for Nutrient Management Practices, which EPA expects will be fully implemented in 2019. The CBP partnership agreed that all reported practices and control technologies must be implemented, maintained, and working so they effectively yield nutrient and sediment load reductions. EPA recognizes the 2018-2019 milestones reflect Delaware's commitment to this implementation effort. The BMP verification process should be updated through Delaware's BMP Verification Program Plan (Quality Assurance Project Plan) whenever changes are made after approval by relevant CBP partnership workgroups and Goal Implementation Teams.

Potential Federal Actions and Assistance

- EPA's Chesapeake Bay Program Office intends to commit staff, contractual and funding resources to support of the development and implementation of each of the seven watershed jurisdictions' Phase III WIPs. This support includes evaluation of the most-effective practices and locations, evaluation of a jurisdiction's implementation capacity under various staffing, funding, regulatory and programmatic scenarios, local planning outreach, legislative and regulatory gap analysis, and monitoring trend analysis.