Evaluation of New York Draft Phase III Watershed Implementation Plan

Background

The seven jurisdictions (Delaware, the District of Columbia, Maryland, New York, Pennsylvania, Virginia, and West Virginia) in the Chesapeake Bay Program (CBP) partnership agreed to develop Watershed Implementation Plans (WIPs) in three phases to provide a framework for reducing nitrogen, phosphorus, and sediment loads to meet water quality standards in the Chesapeake Bay and its tidal tributaries. The Phase III WIPs provide a road map for the numeric and programmatic commitments the jurisdictions intend to implement between 2019 and 2025 so that all practices are in place by 2025[1] to achieve the Bay's dissolved oxygen, water clarity/submerged aquatic vegetation, and chlorophyll-a standards. The 2010 Chesapeake Bay Total Maximum Daily Load (Bay TMDL) document outlined the process for the development of WIPs and for tracking progress towards attaining the CBP partnership restoration goals.

The U.S. Environmental Protection Agency (EPA) is providing this evaluation to the CBP partnership and the public. The draft Phase III WIP was evaluated to determine whether New York included sufficient information in the WIP to provide confidence[2] that New York will achieve its statewide and state-basin Phase III WIP planning targets by 2025. The seven jurisdictions, EPA, and the Chesapeake Bay Commission jointly approved these Phase III WIP planning targets in July 2018.

The seven jurisdictions each divided their respective Phase III WIP planning targets into reduction goals for specific source sectors to more finely demonstrate how overall pollutant load reductions would be achieved by 2025. Those major source sectors include agriculture, wastewater, and stormwater. Each jurisdiction could shift reductions between source sectors through development and implementation of programs for pollutant trading and offsetting. In addition, the CBP partnership decided that jurisdictions would highlight pollutant reductions from federal facilities separately in each WIP and would consider the following when addressing specific source sector pollutant reductions: growth, local engagement strategies, local planning goals and climate. The CBP partnership expects these local and changing conditions to be addressed in each jurisdiction's Phase III WIP.

This evaluation is also based on whether New York met the numeric and programmatic expectations as described in the June 2018 *U.S. Environmental Protection Agency's Expectations for the Phase III Watershed Implementation Plans*. New York recommitted to the CBP partnership that it would meet these numeric and programmatic expectations.

Overview

EPA's review of New York's draft Phase III WIP found many areas in which the State exceled in addressing the expectations. Some of the notable strengths include:

- Planned reductions in agriculture are based on extensive coordination between farmers, the Upper Susquehanna Coalition (USC, representing all County Soil and Water Conservation Districts in the watershed), New York State Department of Environmental Conservation, and the New York Department of Agriculture and Markets. This outreach included numerous meetings and open houses held across the watershed and several farmer surveys and follow-up analysis.

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[1] This commitment to have all practices and controls installed by 2025 to achieve applicable water quality standards was reaffirmed by the Chesapeake Bay Program signatories in the 2014 Chesapeake Bay Watershed Agreement.

[2] The phrase "reasonable assurance" is a term of art specific to TMDL establishment. In evaluating the Phase I WIPs, EPA used the phrase and concept of "reasonable assurance" because those WIPs ultimately formed the basis of the 2010 Bay TMDL. EPA continued to use the phrase in its evaluation of the Phase II WIPs, but was using it in a more general way, as TMDL establishment had been completed. In Phase III, in an effort to be more consistent with applicable guidance and regulations and to avoid potential confusion, EPA is using the term "confidence" instead of "reasonable assurance."

- The long-established partnership of the State of New York with the local county soil and water conservation districts through the USC provides a framework for and the ability to encourage communications and outreach between the partnership and local agricultural producers and service providers.
- New York is extending its Phase II WIP level of effort for nutrient and sediment reductions into the draft Phase III WIP, providing a high level of confidence that New York's wastewater strategy is feasible.

EPA's review, however, also noted potential enhancements in New York's draft Phase III WIP that should be areas of focus in revising the draft document prior to submitting a final WIP. These areas include:

- New York should provide more detail on how it will accelerate nitrogen reductions in the agricultural sector.
- New York should provide more detail on how it will increase stormwater BMP implementation.

EPA Oversight and Assistance

The 2010 Bay TMDL contains an accountability framework that guides and supports restoration efforts and includes: three phases of WIPs, two-year milestones, and EPA's tracking and assessment of restoration progress. EPA tracks and assesses annual progress and two-year milestone commitments to determine if the Bay jurisdictions are on track toward meeting their water quality goals.

Under the accountability framework, EPA assigns each jurisdiction's source sectors (e.g., agriculture, stormwater, wastewater, and trading and offsets) a level of oversight based on its evaluation of whether the jurisdiction provided sufficient information in its WIP and/or two-year milestones that load reductions and programmatic commitments will be achieved in those source sectors by 2025. The levels of oversight are as follows:

- **Ongoing oversight**: EPA, while having no significant concerns with a jurisdiction's strategy to implement the TMDL goals, will continue to monitor progress.
- **Enhanced oversight**: EPA, having identified specific concerns with a jurisdiction's strategy to implement the TMDL goals, may take additional federal actions, as necessary, to ensure that the jurisdiction stays on-track.
- **Backstop oversight**: EPA, having identified substantial concerns with a jurisdiction's strategy to implement the TMDL goals, has taken necessary federal actions to help the jurisdiction get back on-track.

New York is currently subject to enhanced oversight in the wastewater sector and ongoing oversight in all source sector categories.

Since the release of 2010 Bay TMDL, EPA has provided technical and financial assistance to New York to support meeting its 2025 planning goals and during Phase III WIP development, EPA continued to assist staff at New York's Department of Environmental Conservation (NYDEC). EPA provided approximately 1,400 hours of technical assistance to help NYDEC incorporate the results of the Bay TMDL's Midpoint Assessment into their input data for the draft Phase III WIP. This included understanding changes in pollutant loadings and Best Management Practice (BMP) implementation under a new suite of modeling tools; acquiring high resolution land use and land cover data; developing local planning goals; and adapting to changing conditions, such as climate.

EPA has worked with New York to increase and accelerate BMP implementation and identify options to strengthen programmatic commitments. EPA remains committed to providing resources to help improve water quality in New York. This assistance has been instrumental in advancing New York's Chesapeake Bay cleanup

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efforts, and continued support will be critical as New York begins Phase III WIP implementation and considers new strategies to reduce nutrient pollution to its local waters.

On February 6, 2019, EPA issued an updated Water Quality Trading Policy Memo to promote market-based mechanisms for improving water quality. This policy update includes additional flexibilities that state and local policy makers may consider incorporating into trading and other market-based programs to promote water quality improvements and may provide New York with an opportunity to update or improve its current policies and regulations related to nutrient accounting and trading. EPA welcomes the opportunity to discuss with New York new market-based approaches to consider in support of finalizing the Phase III WIP.

EPA will continue to commit staff, contractual, and funding resources to support the finalization and implementation of New York's Phase III WIPs and future two-year milestones. This support includes evaluation of the most-effective practices and locations, annual WIP assistance funding to address priority implementation needs, evaluation of New York's implementation capacity under various staffing, funding, regulatory and programmatic scenarios, local planning outreach, legislative and regulatory gap analysis, and monitoring trend analyses. In addition, EPA will continue to work with federal partners to provide leadership and coordinate with New York on WIP and two-year milestone implementation to reduce pollution from federal lands.

Detailed Evaluation

The following sections provide specific highlights of key strengths of New York's draft Phase III WIP. These sections also provide potential enhancements for the WIP, designed to provide greater confidence to the CBP partnership and the public that New York will have programs and practices in place by 2025 that will promote achievement of its Phase III WIP planning targets. New York should maintain these key strengths and address potential enhancements in its final Phase III WIP.

Load Reduction Review

When evaluating New York's Phase III WIP numeric commitments, EPA modeled implementation scenarios through the CBP partnership's Phase 6 suite of modeling tools and compared those simulated nutrient[3] loads to the New York's 2025 statewide and state-basin Phase III WIP planning targets. New York provided two implementation scenarios (Current Program Scenario and 2025 Program Scenario) in support of its draft Phase III WIP. The "Current program" scenario describes the numeric goals that New York is committed to achieving by 2025. This scenario extends the Phase II level of implementation into Phase III and assumes current levels of effort and funding. The 2025 Program Scenario is a theoretical scenario that New York could use to close the gap between its Current Program Scenario for agriculture and New York's Phase III WIP planning targets assuming significant additional funding and resources. The following discussion of draft numeric Phase III WIP loads is based on the Current Program Scenario.

Simulations indicate that New York' plan achieves its statewide Phase III WIP planning target for phosphorus (with an excess of 73,000 pounds). New York's plan does not achieve its statewide Phase III WIP planning target for nitrogen. New York's plan will only achieve 61 percent of needed statewide nitrogen reductions by 2025.

Jurisdictions divided their respective Phase III WIP planning targets into source sector goals to demonstrate how pollutant load reductions will be achieved by 2025. In New York's draft Phase III WIP, nitrogen load reductions are planned from implementation of best management practices (BMPs) in the following sectors: stormwater (37%), wastewater (25%) and agriculture (24%). Phosphorus load reductions are planned from implementation of BMPs in the following sectors: wastewater (25%), stormwater (21%), and agriculture (9%).

[3] Phase III WIP planning targets for sediment are currently under development by the CBP partnership.

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Source Sectors

Agriculture

Key Strengths

- Planned reductions are based on extensive coordination between farmers, the Upper Susquehanna Coalition (USC), New York State Department of Environmental Conservation, and the New York Department of Agriculture and Markets. This outreach included numerous meetings and open houses held across the watershed and several farmer surveys and follow-up analysis.
- The long-established partnership of the State of New York with the local county soil and water conservation districts through the USC provides a framework for and the ability to encourage communications and outreach between the partnership and local agricultural producers and service providers.
- New York released an updated version of the Clean Water Act State Pollutant Discharge Elimination System (SPDES) CAFO General Permit in February 2019. This permit includes mandatory training of farm staff, enhanced practices in sensitive groundwater areas, in-person oversight of manure transfer systems, and should help ensure that previously implemented agricultural practices and management systems are properly utilized and maintained through improved education and oversight.
- New York created the CAFO Waste Storage and Transfer Program to assist CAFO farms with meeting the minimum storage capacity required by the CAFO permit.

Potential Enhancements

- Although EPA commends New York for conducting a thorough agricultural gap analysis, New York should also provide a more detailed strategy and commitment to implement such a strategy to reduce the nitrogen gap in the agricultural sector.
- New York should include more detailed information on how new strategies, incentive programs, compliance programs, and/or funding mechanisms will be used to achieve higher BMP implementation levels. Examples of BMPs where such information is expected include soil and water conservation plans, prescribed grazing, and barnyard control and loafing lot management, non-urban stream restoration and wetland restoration.
- New York proposes increases of implementation for structural practices such as animal waste management and barnyard runoff control to address a significant percentage of animals in the watershed. However, implementation of nutrient management plans is planned for less than 10 percent of available acres. Nutrient management plans are typically an essential management element of the implementation and long-term operation and maintenance of effective manure management BMPs. New York should consider increasing coverage under nutrient management plans to ensure that structural BMPs are managed properly and can achieve their full nutrient reduction potential.
- Establishing the USC greatly enhanced communication and implementation throughout the New York's Chesapeake Bay watershed. Unfortunately, maintaining the organizational structure in its current configuration may not be adequate to achieve CBP partnership goals. Steps to ensure that Soil and Water Conservation District staff fully understand New York's role in watershed restoration and CBP partnership-approved BMPs and are familiar with how other partners are increasing implementation and improving tracking, reporting, and verification using innovative methods, may be necessary to allow New York to achieve its 2025 goals.
- New York should fully explore how to more effectively use its existing resources and access additional state funding to bolster agricultural nutrient reductions in its final Phase III WIP. Increased programmatic and numeric commitments from New York are needed to reduce the nitrogen gap in the agriculture sector as well as expected shortfalls in the stormwater sector.

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Urban/Suburban Stormwater

Key Strengths

- This is the first time that New York plans to achieve significant reductions in this sector.

Potential Enhancements

- New York should provide more detail on how it will increase stormwater BMP implementation. For example, New York's draft Phase III WIP plans to achieve about 30 – 35% nutrient and sediment reductions in this sector. To achieve these reductions, implementation of specific BMPs will need to increase, requiring new funding and staff resources. In addition, urban nutrient management has not been reported previously by New York, and the draft Phase III WIP assumes that this BMP will be implemented, reported and verified in over 18,000 developed acres by 2025.
- New York should provide a clear basis/rationale for increased BMP implementation levels in its final Phase III WIP. For example, it is not clear how implementation levels will increase significantly in Municipal Separate Storm Sewer System (MS4) areas when the draft Phase III WIP relies on the existing draft MS4 permit that does not include numeric Bay load reduction requirements or reporting requirements. Therefore, New York should revise its final MS4 permit to include numeric Bay load reduction requirements and Bay BMP reporting requirements as described in EPA Region 2's comments provided on February 2, 2017.
- New York should provide additional detailed information (e.g., new strategies, incentive programs, compliance programs, and/or funding mechanisms) describing what organization/personnel will be responsible for achieving the implementation levels for each BMP, or group of BMPs listed in Table 20 for both MS4 and non-MS4 areas.

Wastewater

Key Strengths

- New York is extending its Phase II WIP level of effort for nutrient and sediment reductions into the draft Phase III WIP, providing a high level of confidence that New York's wastewater strategy is feasible.
- New York plans to remove the nitrogen bubble permit and nitrogen and phosphorus trading as described in its Phase II WIP from existing permits to improve New York's ability to achieve reductions at individual facilities.

Potential Enhancements

- New York could consider reducing its average nitrogen treatment level (8.0 mg/l) for significant wastewater treatment plants (WWTPs) to compensate for not increasing reductions in agriculture and concerns about achieving planned stormwater goals.
- New York should revise this section using updated model delivery factors.

Trading & Offsets

Key Strengths

- New York does not have any reserve nitrogen or phosphorus allocations for new or expanded discharges from WWTPs of any size. All such discharges must offset 100% of new loadings and SPDES permits will include enforceable provisions to implement offsets. Facilities may secure offsets by assimilation of existing septic systems, consolidation with other WWTPs having wasteload allocations (WLAs), expanded facilities improve treatment, and/or use of future trading program.
- New York plans to consider individual trading among SPDES with a WLA as a means of providing flexibility for the implementation of the TMDL.

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Federal Facilities

Key Strengths

- None, as federal facilities contribute less than 1% of the total load to the Bay.

Changing and Local Conditions

Key Strengths

- New York developed its implementation scenarios based on 2025 forecasted growth conditions, per the CBP partnership decision, and indicated that these growth conditions will be updated every two years.
- The nutrient and sediment loads in the agricultural and stormwater sectors are projected to change over time. New York plans to address these increased loads with improved BMP reporting.

Climate

Key Strengths

- New York documented its jurisdiction-specific 2025 numeric climate change loads in the Phase III WIP.
- New York commits to several actions to address climate, including reducing greenhouse gas emissions through its participation and development in ClimAid (the Integrated Assessment for Effective Climate Change Adaptation strategies in New York), Smart Climate Communities, Cleaner Greener Southern Tier Plan, and the Climate Resilient Farming Program. New York also fully participates in the Regional Greenhouse Gas Initiative.

Potential Enhancements

- New York should signal its commitment to adopt its numeric climate change loads starting with the 2022 – 2023 milestones.

Local Engagement Strategies

Key Strengths

- New York's local engagement during the draft Phase III WIP development was strong in the agriculture, wastewater, and stormwater sectors.

Potential Enhancements

- New York should include detailed descriptions of local engagement strategies during Phase III WIP implementation in its final Phase III WIP. This is especially important for the stormwater sector.

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Local Planning Goals

Key Strengths

- New York developed local planning goals that are measurable and below the major state-basin scale in the Chesapeake Bay watershed, following the CBP partnership decision.
- New York developed local planning goals at the sub-watershed scale and numeric BMP implementation goals for the agricultural sector. New York also developed local planning goals at the county scale and a percent reduction of existing loads will be tracked as the measurable outcome for the stormwater sector.

Potential Enhancements

- New York should explain how its local planning goals will be tracked and reported through its two-year milestones and/or annual progress reporting to EPA.
- New York should provide further clarification of its key local partners responsible for implementing the BMPs and load reductions in the agricultural and stormwater sectors.

Other Comments

Potential Enhancements

- New York should consider changing acres of "Wetland Enhancement" to "Wetland Rehabilitation." The current CBP partnership Wetland BMP Expert Panel expects to recommend elimination of "Wetland Enhancement" as a water quality BMP. Both practices will remain for the next two-year milestone period, but New York should not rely on the Wetland Enhancement BMP as part of its implementation scenario.
- Regarding plans to conduct an inventory of data for BMPs that have already been implemented, it is important that future reporting of this data include accurate implementation and inspection dates, following the CBP partnership's verification protocols. Much of the historic implementation of practices and programs has already been accounted for in the calibration of the CBP partnership's Phase 6 suite of modeling tools through the changes in loads and water quality at monitored locations.

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