

Evaluation of New York's Final Amended Phase III Watershed Implementation Plan (WIP)

Executive Summary

The U.S. Environmental Protection Agency (EPA) is providing this evaluation of New York's final amended Phase III Watershed Implementation Plan (WIP). New York's final amended Phase III WIP includes areas in which the state addressed the goals of the Chesapeake Bay Total Maximum Daily Load (Bay TMDL) and the expectations set by the Chesapeake Bay Program (CBP) partnership. The final amended Phase III WIP supersedes New York's 2020 draft amended Phase III WIP and New York's 2019 Phase III WIP. This evaluation encompasses a full review of New York's final amended Phase III WIP, and maintains many of the strengths identified in EPA's evaluation of New York's 2020 draft amended Phase III WIP and 2019 Phase III WIP. Many of the recommended enhancements identified in EPA's evaluation of New York's previous WIP submissions were addressed by New York and incorporated into the final amended Phase III WIP. Additional feedback on New York's final amended Phase III WIP is included in this evaluation.

New York's final amended Phase III WIP proposes reductions in loads from agriculture 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 (NYSDEC), and the New York Department of Agriculture and Markets. New York's final amended Phase III WIP includes updated wastewater projections and updated projections of 2025 loads delivered to the Bay. New York also notes that upgrades to wastewater treatment plants (WWTPs) are in process, which will increase nitrogen load reductions in the wastewater sector.

New York's final amended Phase III WIP is projected to meet the CBP's numeric planning targets for nitrogen and phosphorus for New York's portion of Susquehanna basin. New York's WIP meets those state-basin (Susquehanna) levels through the proposed implementation of Best Management Practices (BMPs), updated wastewater projections that translate to additional load reductions, and nitrogen to phosphorous exchanges. EPA identified sector-by-sector strengths in the revised commitments as well as areas that New York should continue to address using the two-year milestones. EPA stands ready to assist New York with implementing its WIP and two-year milestone commitments.

In its final amended Phase III WIP, New York identified implementation of six specific BMPs that account for 83% of the WIP's nitrogen load reduction. New York's final amended Phase III WIP provides EPA with confidence that it will have all practices and controls in place by 2025 to achieve the CBP's load reduction targets. New York's commitments in future two-year milestones will ensure that New York will maintain its goals.

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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 CBP partnership established the goal to have all practices in place by 2025 that were necessary to achieve applicable water quality standards in the tidal Bay. The Chesapeake Bay TMDL (Bay TMDL), which is an informational planning tool, established goals to be met using the CBP partnership's timeline of 2025. In 2010, EPA worked with the CBP partnership to establish the Bay TMDL based primarily on the Phase I WIP commitments made by each of the Bay jurisdictions. The CBP partnership agreed that each Bay state would develop Phase II and Phase III WIPs using an adaptable approach for achieving the pollutant reductions and programmatic commitments in each Phase to meet its commitment to the CBP partnership's 2025 goals.

The CBP partnership agreed that EPA should help provide accountability and assess (1) whether each jurisdiction's WIP sets out sufficient commitments to meet the 2025 goals, and (2) whether there is an adequate level of confidence that the jurisdiction will achieve those specific commitments. While EPA does not approve or disapprove a WIP, EPA provides the assessment for the benefit of the CBP partnership, and as appropriate, may provide additional recommendations for strengthening the WIP or its components. EPA evaluated New York's final amended Phase III WIP to assess (1) whether New York's commitments will meet the 2025 goal that all practices and controls are in place by 2025 to meet the state-basin Phase III WIP planning targets, and (2) whether New York included sufficient information in the final amended Phase III WIP to provide confidence that New York will achieve this goal.

Overview

In reviewing New York's final amended Phase III WIP, EPA found areas in which the state addressed the expectations set by the CBP partnership. Using the CBP partnership's suite of modeling tools, simulations indicate that full implementation of New York's WIP is expected to achieve 100% of the state-basin (Susquehanna) Phase III WIP planning targets (set by the CBP) for nitrogen and phosphorus. State-basin targets will be met, in part, through exchanges of phosphorus to nitrogen¹.

Additionally, Phase III WIP planning targets for sediment were approved by the CBP partnership's Management Board on October 17, 2019 and approved by the Principal Staff Committee (PSC) on January 24, 2020. New York provided final sediment targets in February 2020. The Phase III WIP sediment targets will not affect the BMPs called for in the WIP and are not intended to be the driver for implementation moving forward.

Some of the notable strengths identified in New York's final amended Phase III WIP include:

- Providing new projections for the wastewater sector that, combined with an exchange of phosphorus to nitrogen discussed herein, will meet the phosphorus target, and exceed the 2025 nitrogen target.

¹ Each jurisdiction has the option of adjusting its Phase III WIP state-basin planning targets through nutrient exchanges and/or exchanges with other basins within that jurisdiction. Consistent with commitments New York agreed to through the CBP partnership, the EPA found that the requested adjustments met the state-basin planning targets in all 92 Chesapeake Bay segments achieving the respective jurisdictions' Chesapeake Bay water quality standards under the Phase 6 Chesapeake Bay watershed, watershed, and estuarine water quality/sediment transport model simulated conditions.

- Including commitments to track growth in each sector, and establish a growth tracking threshold, should increases to nutrient loads occur (although such growth is not expected). The growth tracking threshold would determine additional implementation. New York also included this commitment in its document, [New York Response to January 7, 2021 EPA Evaluation](#), available on NYSDEC's website.
- Including commitments to offset any unexpected growth in the wastewater sector through an alternative agricultural scenario, optimization of wastewater treatment facilities, or remediation of excessive flows due to inflow and infiltration. Growth in the wastewater sector, however, is unlikely due to a 30-year decline in population in the New York portion of the watershed.
- Pursuing a dedicated portion of the NYSDEC Environmental Protection Fund to increase funding for implementation efforts for the New York portion of the Chesapeake Bay watershed.
- Considering tax credit programs for farmers to incentivize implementing agriculture conservation practices. NYSDEC expects to submit a legislative proposal to that effect.
- Planning reductions in agriculture based on extensive coordination among farmers, the Upper Susquehanna Coalition (USC, representing all County Soil and Water Conservation Districts in the watershed), NYSDEC, 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.
- Providing a framework for and the ability to encourage communications and outreach between the partnership and local agricultural producers and service providers through the long-established partnership of the State of New York with the local county soil and water conservation districts through the USC.

EPA's review noted the following areas in New York's final amended Phase III WIP that New York should address in its two-year milestones to increase the level of confidence for New York to maintain its goals:

- Although growth is not expected in this area of the watershed, New York committed, in its document [New York Response to January 7, 2021 EPA Evaluation](#) (available on NYSDEC's website) to work with EPA to develop an agreed-upon methodology to assess growth in all sectors and establish a growth tracking threshold, which if triggered, will require additional actions to be implemented to offset growth in loads. New York should work with EPA to develop this methodology and threshold in 2021.
- New York should continue to report out on its progress towards acquiring additional funding for stormwater and agriculture BMP implementation, if these sectors are targeted for additional nutrient reductions if future growth, though unexpected, occurs.

EPA Oversight and Assistance²

As it has done since the release of the Bay TMDL, EPA plans to continue to commit staff, contractual and funding resources to support the implementation of New York's Phase III WIP 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

² This Evaluation is not a final agency action, and does not create any right, responsibility, or benefit, substantive or procedural, enforceable by law or equity. Pursuant to the Anti-Deficiency Act, 31 U.S.C. §§ 1341 and 1342, all commitments made by EPA in this Evaluation are subject to the availability of appropriated funds and budget priorities. Nothing in this Evaluation obligates EPA to obligate or transfer any funds

two-year milestone implementation to reduce pollution from federal lands. EPA will continue its commitment to track annual progress of New York and all the other 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>]

In our role to help New York improve its accountability to the CBP partnership, EPA recommends that the following be included in New York's 2022-2023 milestones.

Recommended Enhancements to the Phase III WIP (See Detailed Review)	Recommended Actions
Although growth is not expected, develop a strategy for how growth will be tracked.	<ul style="list-style-type: none"> • Work with EPA in 2021 to develop an agreed-upon methodology to assess growth in all sectors and establish a growth tracking threshold, which if triggered, will require additional actions to be implemented to offset growth in loads. • Include a milestone, starting with the 2022-2023 milestone period, that tracks growth trends in all sectors and implements the agreed upon threshold methodology completed in 2021.
Provide more detailed information for BMPs that account for most of the nitrogen load reductions.	<p>Develop specific numeric BMP implementation targets for the 2022-2023 milestone period for BMPs expected to account for 83% of the nitrogen reductions:</p> <ul style="list-style-type: none"> • Wastewater Controls, • Animal Waste Management Systems, • Bioretention/Raingardens, • Infiltration Practices, • Forest Harvesting Practices, and • Soil Conservation and Water Quality Plans <p>Develop a specific milestone that addresses which BMPs will yield the highest reductions using the most cost-effective approach.</p>
Continue to carryout strategies to increase financial incentives for producers in the agriculture sector to implement BMPs, where New York is relying on voluntary implementation.	Continue to report out on progress towards acquiring funding for stormwater and agriculture BMP implementation.
Include a strategy to expand technical assistance capacity through the Agriculture Environmental Management (AEM) Base Program.	Include a specific programmatic milestone for the 2022-2023 period on progress toward increasing farm participation in the AEM Program.
Reissue the Municipal Separate Storm Sewer (MS4) general permit.	Continue to report out on the progress toward reissuing the MS4 general permit in the 2022-2023 milestones. While growth is not expected to occur, if there are increased loads, EPA recommends that New York consider broadening MS4 permit coverage.

Over the 2022-2023 milestone period, EPA plans to provide the following specific assistance to New York:

General

- Provide annual grant (e.g., Chesapeake Bay Implementation Grant, Chesapeake Bay Regulatory and Accountability Program, Local Government, etc.) and WIP assistance funding to New York to support implementation of their Phase III WIP.
- Track New York's progress with its initiatives and report to the CBP partnership.
- Assist New York in targeting practices in higher loading counties.
- Continue to provide technical assistance, data, and tools to aid New York in conducting assessments at local levels, including water quality monitoring data, model analyses, high-resolution land cover, improved stream networks, BMP opportunity layers and application of management-relevant research findings, upon request.

Agriculture

- Continue to work with New York to provide targeted financial assistance, if available, to support its agricultural initiatives.
- Advance opportunities to provide EPA grant funding directly to the New York's Department of Agriculture and Markets, particularly in those instances where it can improve the timely expenditure of Federal funds to support environmental protection goals (e.g., Chesapeake Bay Program grants).

Stormwater

- Provide New York with the opportunity to discuss current and future needs (financial, programmatic, staffing) towards making progress on updating the MS4 permit to include Chesapeake Bay reporting requirements.

Wastewater

- Track progress on New York's WWTP upgrades, specifically its progress toward reducing its average nitrogen treatment level for significant WWTP's.

Trading and Offsets

- Continue to provide oversight and input into New York's trading and offset program by reviewing draft regulations, and policies as well as participating on regulatory advisory committees.

Growth

- For each milestone period, provide to New York a growth breakout for each sector based on progress data submitted by New York.

Detailed Evaluation of Overall Load Reduction and Source Sectors

The following sections provide specific highlights of key strengths of New York's final amended Phase III WIP. These sections also highlight areas for enhancement to assist New York in implementing its final amended Phase III WIP and subsequent two-year milestones, to provide confidence that New York will maintain its 2025 goals.

Load Reduction Review

When evaluating New York's final amended Phase III WIP numeric commitments, EPA modeled implementation scenarios through the CBP partnership's Phase 6 suite of modeling tools and compared

those simulated nutrient³ loads to New York's state-basin Phase III WIP planning targets. New York provided a final amended Phase III WIP scenario. Simulations indicate that full implementation of New York's final amended Phase III WIP is expected to achieve 100% of the state-basin Phase III WIP planning targets for nitrogen and phosphorus. The final amended Phase III WIP includes CBP-approved phosphorus to nitrogen exchanges which will result in New York exceeding the nitrogen target (i.e., doing better than required). New York divided its respective final amended Phase III WIP planning targets into source sector goals to demonstrate how all practices and controls will be in place by 2025. In New York's final amended Phase III WIP, nitrogen load reductions are planned primarily from implementation of BMPs in the following sectors: wastewater (34%), agriculture (34%) and stormwater (25%). Phosphorus load reductions are planned primarily from implementation of BMPs in the following sectors: wastewater (47%), agriculture (20%) and stormwater (15%).

Source Sectors

Agriculture

Key Strengths

Key strengths in New York's final amended Phase III WIP include:

- New York committed to increase its implementation of nutrient management plans from 9% (69,000 acres currently) to 21% (151,000 acres).
- Planned reductions in pollutant loads from agriculture based on extensive coordination among farmers, the Upper Susquehanna Coalition (USC, representing all County Soil and Water Conservation Districts in the watershed), NYSDEC, and the New York Department of Agriculture and Markets. This outreach includes numerous meetings and open houses held across the watershed and several farmer surveys and follow-up analyses.
- New York provided a framework for and the ability to encourage communications and outreach between the partnership and local agricultural producers and service providers through the long-established partnership of the State of New York with the local county soil and water conservation districts through the USC.
- New York released an updated version of the Clean Water Act State Pollutant Discharge Elimination System (SPDES) Concentrated Animal Feeding Operation (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.
- New York committed to increasing adoption of core nutrient management, as well as supplemental rate, placement, and timing.
- New York committed to pursuing additional funding to increase staff in the USC and its member districts.
- New York provided more strategies and opportunities to effectively use its existing resources and access additional state funding. More information is available in section 5.10. of New York's Final Amended Phase III WIP.

³ Phase III WIP planning targets for sediment were developed by the CBP partnership after the Phase III WIP submittal and were approved in October 2019. New York committed to address the sediment targets approved by the CBP partnership and to amend its Phase III WIP in February 2020 to include the approved sediment targets.

Enhancements

EPA recommends that New York consider the following enhancement in the next round of two-year milestones to increase the level of confidence for New York to maintain its goals.

- Continue to report out on the progress made toward acquiring funding for agriculture BMP implementation.

Stormwater

Key Strengths

Key strengths in New York's final amended Phase III WIP include:

- New York committed to achieve significant reductions in this sector for the first time.
- New York proposed a detailed list of potential strategies to improve its stormwater sector program delivery.
- New York identified funding sources for each strategy and lead partners have been identified. Additional information is available in section 7.10 of New York's final amended Phase III WIP.
- New York is currently revising its Municipal Separate Storm Sewer System (MS4) general permit. Any changes will be included as an appendix to the final amended Phase III WIP.
- New York provided additional information on strategies and funding mechanisms for achieving implementation levels for each BMP or group of BMPs listed in Table 25 of New York's final amended Phase III WIP for MS4 and non-MS4 areas.

Enhancements

EPA recommends that New York consider the following enhancements in the next round of two-year milestones to increase the level of confidence for New York to maintain its goals:

- Report all current and historical stormwater BMP implementation data in its new stormwater BMP database once the database is completed.
- Continue to report out the progress made toward acquiring funding for stormwater BMP implementation.
- Should growth, though not expected, occur, resulting in increased loads, New York could consider broadening MS4 permit coverage.

Wastewater

Key Strengths

Key strengths in New York's final amended Phase III WIP include:

- Planned WWTP facility upgrades should yield positive results and an overall reduction in nitrogen concentrations and loads.
- NYSDEC is committed to reporting planned wastewater facility upgrades or closures in future two-year milestones.
- New York's estimated 2025 delivered loads were re-calculated for each Bay-significant facility using 3-year average flows (July 2016 to June 2019) instead of design flows. Use of average flows are more reflective of actual conditions in New York due to decreasing population in this area of the Chesapeake Bay watershed.
- New York is in the process of completing several inflow and infiltration (I&I) studies, and facilities that are experiencing increases or exceedances in flow will be prioritized for state funding to address aging infrastructure.
- New York plans to remove the nitrogen bubble permit by the end of 2021. New York is open

to using nitrogen and phosphorous trading between point sources in the future as a means of providing flexibility for the implementation of the final amended Phase III WIP, however no trades have occurred as of 2021.

- New York committed to annually track growth to determine if additional implementation may be necessary should growth, though not expected, occur.
- New York committed to offset any unexpected growth in the wastewater sector through either implementation of an alternative agricultural scenario, optimization of wastewater treatment or remediation of excessive flows due to inflow and infiltration. Growth in the wastewater sector, however, is unlikely due to a 30-year decline in population in the New York portion of the watershed.

Enhancements

EPA recommends that New York consider the following enhancements in the next round of two-year milestones to increase the level of confidence for New York to maintain its goals.

- Continue to provide the most up to date information on the Binghampton-Johnson City WWTP permit and consent order in the two-year milestones.
- Although growth is not expected in this area of the watershed, New York should work with EPA in 2021, to develop an agreed-upon methodology to assess growth in all sectors and establish a growth tracking threshold, which if triggered, will require additional actions to be implemented to offset growth in loads.

Trading & Offsets

New York does not have any reserve nitrogen or phosphorus allocations for new or expanded discharges from WWTPs of any size. All such new or expanded WWTP discharges are expected to be offset 100% and SPDES permits are expected to include enforceable provisions to implement offsets. Facilities may secure offsets by assimilation of existing septic systems, consolidation with other WWTPs with wasteload allocations, improving treatment at expanded facilities, and/or use of future trading programs.

Federal Facilities

Federal facilities contribute less than 1% of New York's total nitrogen and phosphorus load to the Bay.

Changing and Local Conditions

Growth

Key Strengths

Key strengths in New York's final amended Phase III WIP include:

- 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.

Enhancements

EPA recommends that New York consider the following enhancement in the next round of two-year milestones to increase the level of confidence for New York to maintain its goals:

- Although growth is not expected in this area of the watershed, New York should work with EPA in 2021, to develop an agreed-upon methodology to assess growth in all sectors and establish a growth tracking threshold, which if triggered, will require additional actions to be implemented to offset increases in loads.

Climate

Key strengths

Key strengths in New York's final amended Phase III WIP include:

- New York documented its jurisdiction-specific 2025 numeric climate change loads in the final amended Phase III WIP.
- New York committed to adopting and addressing the new numeric climate change loads starting with the 2022-2023 milestones.
- New York committed 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.

Enhancements

EPA recommends that New York consider the following enhancements in the next round of two-year milestones to increase the level of confidence for New York to maintain its goals:

- To account for the impacts of climate change, provide a more detailed explanation of how New York could increase funding and implementation efforts towards agricultural BMPs, including a description of the inspection and maintenance of the BMPs already on the ground.
- Describe sources of funding and programmatic implementation of BMPs with planned implementation rates 10 times greater than historic rates (from 2009 to 2019), particularly for those that may be used to offset load increases due to climate change.

Local Engagement Strategies

Key Strengths

Key strengths in New York's final amended Phase III WIP include:

- New York included detailed descriptions of local engagement strategies during Phase III WIP implementation in its final amended Phase III WIP.

Local Planning Goals

Key Strengths

Key strengths in New York's final amended Phase III WIP include:

- 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.
- New York explained that its local planning goals will be tracked using the Chesapeake Bay Assessment Scenario Tool (CAST) and reported as part of New York's two-year milestones and/or annual progress reporting.
- New York provided further clarification of its key local partners responsible for implementing the BMPs and load reductions in the agricultural and stormwater sectors. More information on these partners is available in Section 3 of New York's final amended Phase III WIP.

BMP Verification

Jurisdictions agreed to follow CBP partnership-approved BMP verification protocols when developing and implementing the Phase III WIPs. Because New York is proposing to increase BMP implementation rates of some BMPs by 10-fold or more in the next several years, New York should ensure that implementation at this higher rate can be tracked, verified, and reported within that period in accordance with the agreed upon verification protocols or by another method established by the CBP partnership.

Regarding New York's plans to conduct an inventory of data for BMPs that have already been implemented, it is important that New York's future reporting of this data include accurate implementation and inspection dates, following the CBP partnership's verification protocols or by another method established by the CBP partnership.