

# Evaluation of Virginia's Phase III Watershed Implementation Plan (WIP)

## **Executive Summary**

The U.S. Environmental Protection Agency (EPA) is providing this evaluation of Virginia's Phase III Watershed Implementation Plan (WIP). EPA's review of Virginia's Phase III WIP found the Commonwealth largely addressed the goals of the Chesapeake Bay Total Maximum Daily Load (Bay TMDL) and the additional expectations set by the Chesapeake Bay Program (CBP) partnership.

Through extensive local engagement, Virginia was able to build a strong coalition of stakeholders that resulted in reduction plans at the local level that had the support of the local implementers. This planning has resulted in 56 specific initiatives intended to meet the 2025 goal. Virginia's plan also includes innovation in the form of new agricultural strategies, such as proposing legislation for nutrient management and livestock exclusion should certain reduction goals not be attained. Virginia also proposes to achieve additional reductions in the wastewater sector in the James River and Eastern Shore basins. The Phase III WIP also includes additional proposals such as considering reevaluating the municipal separate storm sewer (MS4) action plan guidance for addressing crediting of projects in unregulated areas. And Virginia's Phase III WIP commits to address the reductions necessary to address climate change now, in advance of the CBP partnership's goal of 2022.

Virginia's plan meets its numeric planning targets for nitrogen and phosphorus at the state and state-basin (Potomac, Rappahannock, York, James and the Eastern Shore) levels through the submission of Best Management Practices (BMPs) and wastewater reductions. Virginia's plan provides confidence in its narrative submission (i.e., adequate funding and programs) that it will attain the necessary load reductions by 2025 through the suite of BMPs and wastewater reductions proposed. The associated level of confidence could be improved as further detailed in this evaluation.

In its evaluation of the Phase III WIP, EPA identified that Virginia will meet its planning targets and its commitment through high rates of BMP implementation. In its Phase III WIP, Virginia identified eleven specific BMPs that account for 60% of the WIP nitrogen load reduction moving forward. For confidence the planned load reductions will occur, Virginia's WIP could have included detailed explanations about how Virginia will strengthen these practices and programs, including the inspection and maintenance of the BMPs already implemented. This could be addressed through development of specific and detailed numeric targets for BMP implementation in selected source sectors. EPA recommends that Virginia include 2-year numeric BMP implementation targets for these eleven practices as part of its programmatic milestones.

## Evaluation of Virginia's Phase III Watershed Implementation Plan (WIP)

### **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. Virginia agreed to develop Phase II and Phase III WIPs to set out an adaptable approach for achieving the pollutant reductions and programmatic commitments that Virginia intended to implement in each Phase so that it would meet its commitment to the CBP partnership's 2025 goals.

The CBP partnership agreed that EPA should help provide accountability and assess whether (1) 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 jurisdictions, and, as appropriate, may provide additional recommendations for strengthening the WIP or its components. EPA evaluated Virginia's Phase III WIP to assess whether Virginia commitments will meet the 2025 statewide and state-basin Phase III WIP planning targets and whether Virginia included sufficient information in the WIP to provide confidence that Virginia will achieve these targets by 2025.

### **Overview**

In reviewing Virginia's Phase III WIP, EPA found many areas in which the Commonwealth addressed the goals of the Bay TMDL and the additional expectations set by the CBP partnership. Using the CBP partnership's suite of modeling tools, simulations indicate that full implementation of Virginia's plan is expected to achieve 100% of the statewide and state-basin (Potomac, Rappahannock, York, James and the Eastern Shore) Phase III WIP planning targets for nitrogen and phosphorus. State-basin targets were met through exchanges of phosphorus to nitrogen.<sup>1</sup>

Additionally, Phase III WIP planning targets for sediment were approved by the CBP partnership's Management Board on October 17, 2019 and recommended to the Principals Staff Committee (PSC) for final approval. In its Phase III WIP, Virginia committed to address the sediment targets approved by the CBP partnership and to provide an addendum to its Phase III WIP once the CBP partnership approves these sediment targets. 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 key strengths identified in the Phase III WIP include:

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<sup>1</sup> 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 Virginia agreed to through the CBP partnership, any adjustments to the state-basin planning targets must still result in all 92 Chesapeake Bay segments achieving the respective jurisdictions' Chesapeake Bay water quality standards under Phase 6 Chesapeake Bay airshed, watershed, and estuarine water quality/sediment transport model simulated conditions.

- Extensive local engagement which resulted in reduction plans at the local level that had the support of the local implementers.
- New agricultural strategies such as proposing legislation for nutrient management and livestock exclusion should certain reduction goals not be attained. Virginia now commits to conducting a pilot program to determine methods for locating stream exclusion fencing needs.
- Proposal to achieve additional reductions in the wastewater sector in the James River and Eastern Shore basins. While overall statewide phosphorus loads from this sector are expected to decrease, statewide nitrogen loads from this sector are expected to increase slightly by 2025.
- Proposal to continue the annual needs assessment for the agricultural sector and to perform similar assessments in the stormwater sector and the wastewater sector. These assessments will be used to provide information to the legislature on needed funding.
- New proposals since submission of the draft Phase III WIP such as considering options for additional no-discharge zones, advancing oyster restoration efforts, guiding land conservation to lands with the highest conservation value, pursuing Sentinel Landscape Partnerships and reevaluating the municipal separate storm sewer (MS4) action plan guidance for addressing crediting of projects in unregulated areas.

EPA's review also noted potential enhancements that could increase confidence that Virginia's Phase III WIP will attain the 2025 goals. These enhancements include:

- Virginia can provide more detailed information on the funding needed and further define the current funding gaps in its proposed agricultural and stormwater implementation programs for the next 6 years.
- Virginia can provide more detailed information on its commitment to pursue new legislation for nutrient management plans and livestock exclusion if its goals are not achieved, but will not begin any necessary rulemaking processes until after December 31, 2025.
- Virginia states that overperformance of the wastewater sector will make up for slower implementation in the more challenging sectors and that it is planning to reduce wastewater sector loads through either upgrades or trading under its Watershed General Permit. However, Virginia's implementation scenario shows a slight increase in nitrogen loads statewide from the wastewater sector. We recommend that Virginia clarify this discrepancy.
- Virginia could provide more detail on how pollution reducing techniques will be incentivized in the unregulated portion of the stormwater sector and how the trading program will be used to address stormwater reductions as over 70% of this sector is unregulated and Virginia's plan calls for a 13% reduction in nitrogen loads from this sector from 2009 levels.
- Virginia anticipates that both point source (e.g., wastewater) and non-point source (e.g., agriculture and stormwater) reductions called for in the James River to meet the dissolved oxygen (DO) standard will also meet the new chlorophyll-a standards. While most of the reductions anticipated are in the James River wastewater sector, Virginia may want to provide additional programmatic and funding information for the non-point source sector to ensure that all the anticipated reductions will be made.

## **EPA Oversight and Assistance**<sup>2</sup>

As it has done since the release of the Bay TMDL, EPA will continue to commit staff, contractual, and funding resources to support the implementation of Virginia’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 Virginia’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 Virginia on WIP and two-year milestone implementation to reduce pollution from federal lands. EPA plans to continue its commitment to track annual progress of Virginia and all the other Bay jurisdictions and make those results available to the CBP partnership. [See: <https://www.epa.gov/chesapeake-bay-tmdl/epa-oversight-watershed-implementation-plans-wips-and-milestones-chesapeake-bay> ]

In our role to help Virginia improve its accountability to the CBP partnership in meeting its commitment to the 2025 goals, EPA recommends that the following be included in Virginia’s 2020 – 2021 milestones:

<b>Recommended Enhancements to the Phase III WIP (See Detailed Review)</b>	<b>Recommended Actions</b>
Additional information on the significant increase in level of pollutant reduction from agricultural and stormwater BMPs without identifying the supporting program or resources.	Develop specific numeric BMP implementation targets for the 2020-2021 milestone period that tie directly to its planned Phase III WIP BMP implementation levels for the following practices: <ul style="list-style-type: none"> <li>• Animal Waste Management Systems</li> <li>• Cover Crop (Rye Normal Other)</li> <li>• Cover Crop (Wheat Normal Other)</li> <li>• Soil Conservation and Water Quality Plans</li> <li>• Forest Harvesting Practices</li> <li>• Nutrient Management Core N</li> <li>• Forest Buffers</li> <li>• Grass Buffer-Streamside with Exclusion Fencing</li> <li>• Forest Buffer-Streamside with Exclusion Fencing</li> <li>• Denitrifying Ditch Bioreactors</li> <li>• Nutrient Management Nitrogen Rate and Timing</li> </ul>
Additional information on the significant increases in implementation for agriculture and stormwater practices, without supporting documentation and funding needs (WIP calls for a 10-fold increase in	<ul style="list-style-type: none"> <li>• Develop specific programmatic milestones within the 2020-2021 milestone period for its WIP initiatives (e.g., nutrient management, livestock exclusion pilot study, poultry litter alternative study, poultry litter incentives and funding).</li> </ul>

<sup>2</sup> 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.

<p>implementation in some cases, a 75% reduction in agriculture nitrogen load since 2009, and a reversal in the 30-year trend of increasing stormwater loads).</p>	<ul style="list-style-type: none"> <li>• Develop milestones that link specific programs or strategies with the BMP implementation increase for the 2020-2021 period for BMPs expected to provide the most significant reductions.</li> <li>• Information could include how its proposed or new strategies, legislative programs, incentive programs, compliance programs, additional resources and/or funding mechanisms support the specific BMPs and any contingencies for funding should there be gaps.</li> </ul>
<p>Additional information related to the high level of voluntary implementation of nutrient management plans on 85% of the available land and livestock exclusion on 100% of the perennial streams by 2025</p>	<p>Provide additional information to support that reliance and develop a milestone to track and report on the implementation rates for nutrient management and livestock exclusion for the 2020-2021 period.</p>
<p>Supporting documentation needed for implementation of Virginia's livestock exclusion proposal.</p>	<p>Provide the plan for conducting its proposed pilot study to determine where to best target stream exclusion measures.</p>
<p>Supporting documentation needed for targeting BMP implementation in the higher loading counties.</p>	<p>Commit to implementing its process for targeting BMPs in higher loading counties.</p>
<p>Additional information on certain stormwater permits that will not be finalized until 2028-2031.</p>	<p>Include specific milestones for the 2020-2021 period on permit issuance.</p>
<p>Information on wastewater overperformance that will address gaps in more challenging sectors.</p>	<p>Include specific milestones for the 2020-2021 period on wastewater permittees overperforming and their resulting reductions.</p>
<p>Supporting documentation needed for how both the planned wastewater and non-wastewater reductions will address the new chlorophyll-a criteria in the James River Basin.</p>	<p>Include specific milestones for the wastewater and non-wastewater reductions in the James River Basin.</p>
<p>Supporting documentation needed regarding funding needs, gaps and contingencies for the 56 initiatives in the agriculture, stormwater, wastewater, forestry and septic sectors.</p>	<p>Include specific milestones for the 2020-2021 period on the funding committed for each initiative implemented during the milestone period.</p>

Over the 2020-2021 milestone period, EPA plans to provide the following specific assistance to Virginia to increase the level of confidence in achieving the current WIP III goals:

**General**

- Provide annual grant (e.g., Chesapeake Bay Implementation Grants, Chesapeake Bay Regulatory and Accountability Program grants, Local Government, etc.) and WIP assistance funding to Virginia to support implementation of their Phase III WIP.
- Assist Virginia in such actions as targeting practices in higher loading counties and in specific segment sheds. EPA plans to continue to provide technical assistance, data and tools to aid Virginia 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.
- Track Virginia's progress with its initiatives to support the state's iterative decision-making process.

**Agriculture**

- Continue to work with Virginia to provide targeted financial assistance, if available, to support its agricultural initiatives.
- Conduct inspections or evaluations of small dairies, upon request, to assist Virginia in implementation of its nutrient management initiative.
- Continue to work with Virginia to develop approaches to measure and account for farmers' conservation efforts and the resulting environmental benefits.
- Continue to identify opportunities to coordinate and leverage Federal (EPA and United States Department of Agriculture), State, and private funding to increase agricultural conservation practice implementation in Virginia.
- Work to advance opportunities to provide grant funding to Virginia agencies that work directly with agriculture, 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).
- Work with the appropriate Virginia agencies to host joint trainings for the agricultural community to ensure effective implementation of federal and State agricultural regulatory programs and to host EPA trainings for Virginia agencies for delegated programs, upon request.

**Stormwater**

- Conduct National Pollutant Discharge Elimination System (NPDES) state inspector training, upon request.
- Provide technical assistance for the review and state approval of MS4 TMDL Action Plans, upon request.
- Review selected annual reports and review BMPs implemented as part of MS4 TMDL Action Plans as part of oversight inspections to determine progress towards meeting MS4 permit requirements.
- EPA can:
  - Provide MS4 forums as an opportunity for local permittees to collaborate and exchange ideas on improved permitting and compliance.
  - Conduct green infrastructure workshops.
  - Recommend projects to prioritize in unregulated areas to address the considerable reductions needed in this portion of the sector.
- Aid in reviewing draft policies and rulemakings related to water quality trading to address the reductions required in the phased MS4 permits once Virginia provides specifics on the incentives it intends to provide and how the credits will be used.

**Wastewater**

- Assist Virginia, as requested, with nutrient optimization and compliance assistance in this sector.

**Trading and Offsets**

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

**Growth**

- Provide to Virginia a sector growth breakout for each sector based on state submitted progress data each milestone period.

**Detailed Evaluation of Overall Load Reduction and Source Sectors**

The following sections provide specific highlights of key strengths of Virginia's Phase III WIP. These sections also highlight areas for improvement to assist Virginia in implementing its Phase III WIP and subsequent two-year milestones to provide confidence that Virginia will have programs and practices in place by 2025 to achieve its Phase III WIP planning targets.

**Load Reduction Review**

When evaluating Virginia'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<sup>3</sup> loads to Virginia's 2025 statewide and state-basin Phase III WIP planning targets.

Simulations using that scenario indicate that full implementation of Virginia's plan is expected to achieve 100% of the statewide and state-basin (Potomac, Rappahannock, York, James and the Eastern Shore) Phase III WIP planning targets for nitrogen and phosphorus. State-basin targets were met through exchanges of phosphorus to nitrogen.<sup>4</sup>

Virginia also made numeric reduction commitments to address climate change (i.e., 1.72 million pounds of nitrogen and 0.19 million pounds of phosphorus). EPA determined that the additional climate change reduction commitments (with the associated nutrient exchanges and state-basin exchanges) will achieve dissolved oxygen water quality standards in the Chesapeake Bay and its tidal tributaries.

EPA plans to continue to work with Virginia to determine the impact on its Bay commitments resulting from the proposed modifications to the numeric chlorophyll-a criteria applicable to the tidal James River. Since the submission of the draft Phase III WIP, Virginia provided a public comment period for amendments to its water quality standards regulations to modify and add site-specific chlorophyll-a criteria applicable to the tidal James River. EPA received the final criteria package by Virginia on November 12, 2019. EPA is currently reviewing and will make a final decision on any amendments to these water quality standards before they become final for purposes of the Clean Water Act. Virginia anticipates that its plan to meet the dissolved oxygen standards in the James River through reductions in both the point source and non-point source sectors will also meet the new chlorophyll-a standards.

<sup>3</sup> Phase III WIP planning targets for sediment were developed by the CBP partnership after the Phase III WIP submittal. Virginia committed to address the sediment targets approved by the CBP partnership and to amend its Phase III WIP once the CBP partnership approves these sediment targets.

<sup>4</sup> 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. Any adjustments to the state-basin planning targets must still result in all 92 Chesapeake Bay segments achieving the respective jurisdictions' Chesapeake Bay water quality standards under Phase 6 Chesapeake Bay airshed, watershed, and estuarine water quality/sediment transport model simulated conditions.

Virginia proposes to achieve most of its pollutant reductions by implementing BMPs in the agricultural sector: 76% for nitrogen and 56% for phosphorus. The remainder of the pollutant reductions are to come primarily from enhancements to existing programs for stormwater management and the natural sector which includes preservation of forests and wetlands and controls on stream bed and bank loads. Virginia also proposes to shift reductions between sectors through enhancement and implementation of its existing program for trading and offsetting. Finally, Virginia's Phase III WIP addresses each of the additional changing and local conditions identified by the CBP partnership.

## **Source Sectors**

### **Agriculture**

#### **Key Strengths**

Key strengths in the Phase III WIP include:

- Commitment to conduct a pilot program in one county to determine where to target stream exclusion measures and providing additional detail on how to incentivize stream exclusion through its agricultural cost share program (e.g., flexibility in buffer width, length of contracts, payment rates).
- Commitment to explore alternative uses of poultry litter.
- Virginia conducted a thorough review of its agricultural cost share program (VACS), solicited recommendations from the Soil and Water Conservation Districts (SWCDs), formed subcommittees to fully vet recommendations, and is advancing the consensus recommendations and refining the program in 2019, 2020, and 2021.
- Virginia proposes to enhance coordination of state agency activities and funding through a formalized letter of agreement to better assist farmers, including identifying capacity needs.
- Commitment to continue to conduct its annual needs assessment to ensure appropriate resources for meeting WIP commitments.
- Commitment to refining its Resource Management Plan (RMP) program to maximize implementation.
- Commitment to pursuing new legislation to ensure accelerated implementation of agricultural practices such as increasing nutrient management plans on agricultural lands and legislation establishing a date by which all farms with livestock accessing perennial streams must provide exclusion measures.

In its Phase III WIP, Virginia addressed the following potential enhancements that were suggested by EPA in its draft Phase III WIP evaluation:

- Virginia expanded on its reinstatement of the agricultural BMP loan program by explaining such things as the incentives for participation (e.g., zero percent interest, no long-term loan requirement and the possibility for principal forgiveness).
- Virginia provided additional detail on incentives beyond the current 100% cost share that will enhance farmer participation in its livestock exclusion proposal, such as flexibility in buffer width, length of contracts and payment rates to incentivize stream exclusion and proposed a pilot in one county to determine where to best target stream exclusion measures.
- Virginia clarified the timeframes for initiating proposed legislation for nutrient management. The draft Phase III WIP noted that the regulatory requirement would be initiated "within 6 months" but the final WIP indicates that that initiation will not begin until December 2025.
- Virginia described its process for targeting BMP implementation in the higher loading counties.



## **Enhancements**

EPA recommends Virginia address the following in its 2020-2021 milestones to satisfy its CBP partnership commitments:

- Virginia is replacing the draft Phase III WIP proposal to annually track progress towards meeting the nutrient management goals in order to determine the need for nutrient management legislation and then initiate this legislative process within 6 months of an off-track determination. The Phase III WIP replaces that commitment with a plan to pursue legislation if the goals are not achieved by December 31, 2025. In addition, Virginia now states that this legislative effort will consider the availability of cost-share funds and capacity of certified nutrient management plan developers. EPA recommends that Virginia track and report on the implementation rates for nutrient management.
- Virginia states it will not initiate any necessary proposed legislation for livestock exclusion until after December 31, 2025, the date by which Virginia will determine if its livestock exclusion goals are not attained. EPA recommends that Virginia should track and report on the implementation rates for livestock exclusion.
- In its Phase III WIP, Virginia provided information (e.g., new strategies, legislative programs, incentive programs, compliance programs, and/or funding mechanisms) on such initiatives as its BMP loan program, VACS revisions, technical assistance funding, and its tax credit program. However, Virginia should provide additional information to demonstrate how Virginia will support the proposed implementation levels.
- Virginia's final WIP provides additional information on the number of counties that could receive poultry litter in its poultry litter transport program. EPA recommends Virginia provide details on whether farmers in those counties are willing to use the litter and what additional funding will be necessary to support more transport.

## **Stormwater**

### **Key Strengths**

Key strengths in the Phase III WIP include:

- Reevaluating the baseline requirements in the MS4 TMDL action plan guidance to see if BMPs can be put on unregulated land and credited under the MS4 permit.
- Proposing a new initiative, Sentinel Landscapes Partnerships, a federal, local and private collaboration dedicated to promoting natural resource sustainability in areas surrounding military installations.
- Utilizing the expertise of SWCDs, Planning District Commissions (PDCs) and local governments to determine the most feasible BMP implementation rates for the localities.
- Preparing an annual "needs assessment" for the stormwater sector (both regulated and non-regulated) to present to the General Assembly to secure appropriate funding to assist in achieving reduction goals.
- An established trading program to achieve nutrient and sediment reduction goals in the stormwater sector (as well as other sectors) and anticipates greater use of this program during Phase III WIP implementation and beyond.
- Plan to initiate a regulatory action to amend the erosion and sediment regulations to require nutrient management planning for regulated land disturbing activities greater than or equal to one acre.
- Plan to initiate a review of post-development design criteria to determine whether these criteria continue to satisfy the Bay TMDL assumption that new or increased loads will be offset.

- Commitment to load reductions for BMPs managing stormwater on non-municipal separate storm sewer systems in addition to those regulated by MS4 permits.
- Virginia established the key role of PDCs and SWCDs for both large and small communities in BMP implementation.
- Plan to expand the focus on forestry practices in both rural and urban areas (e.g., tree planting, urban tree canopy, forested stream buffers and other green practices).

In its Phase III WIP, Virginia addressed the following potential enhancements that were suggested by EPA in its draft Phase III WIP evaluation:

- Virginia provided a link to its website for a full listing of all its NPDES permits having individual wasteload allocations or that are part of aggregate wasteload allocations, such as stormwater individual and general permits.
- Virginia stated that its Stormwater Management Program (VSMP) regulations considers nitrogen because nitrogen is calculated based on the phosphorus reductions.
- Virginia provided additional details on technical assistance for its proposed higher demand for new forestry practices, as well as details on its Tree City USA and tree conservation programs
- Virginia committed to targeting practices in higher loading counties and to adaptively manage this process.

### **Enhancements**

EPA recommends Virginia address the following in its 2020-2021 milestones to satisfy its CBP partnership commitments:

- Virginia has indicated that “Any gap in this sector meeting its permit requirements by 2025 that are due to timing will be offset by the excess capacity achieved in the wastewater sector.” EPA recommends Virginia clarify the magnitude of the gap that is expected to be offset by the excess capacity achieved in the wastewater sector.
- EPA recommends Virginia provide additional information on its funding needs and gaps, including estimated funding, technical assistance, and staffing, required to achieve the (increased) implementation levels called for in the Phase III WIP as Virginia has committed to do in its two-year milestones.
- EPA recommends Virginia clarify how its trading program for the MS4 community will be incentivized and from where generated credits will be purchased.

### **Wastewater**

#### **Key Strengths**

Key strengths in the Phase III WIP include:

- Commitment to annually conduct a “Wastewater Needs Assessment” beginning in fiscal year 2020 to estimate Water Quality Improvement Fund funding expected by local governments for eligible wastewater treatment projects.
- Commitment to provide incentives to reduce loads from this sector through various septic initiatives.

In its Phase III WIP, Virginia addressed the following potential enhancements that were suggested by EPA in its draft Phase III WIP evaluation:

- Virginia provided some clarification on how and when the new requirements for additional reductions related to the proposed chlorophyll-a standards for the James River will be incorporated into the Watershed General Permit.
- Virginia provided additional detail on its assumption that wastewater treatment plants will be operating at the 2018 actual flowrates in 2025. Virginia provided a link to a listing of all its NPDES permits (VPDES individual and general permits) that are part of its Phase III WIP major river-basin targets and have individual wasteload allocations and/or are part of aggregate wasteload allocations.
- Virginia clarified how and when the James River chlorophyll-a water quality standards will be finalized. Virginia also clarified that additional modeling will be needed to confirm that the DO-based wasteload allocations are protective of the revised chlorophyll-a criteria.
- Virginia provided a summary of its planned watershed reductions including how the additional nitrogen reductions in the James River will be exchanged with the other four basins to, in part, address its climate change commitments.
- Virginia committed to develop a plan to transfer oversight for annual alternative on-site sewer inspections from local governments to the Department of Health.

### **Enhancements**

EPA recommends Virginia address the following in its 2020-2021 milestones to satisfy its CBP partnership commitments:

- Virginia committed to require additional reductions from wastewater treatment plants in the James River and Eastern Shore basins through either facility upgrades or trading under the Watershed General Permit. Statewide, Virginia anticipates a slight increase in actual nitrogen loads and an increase in actual nitrogen loads in the remaining three basins. EPA recommends Virginia describe how these reductions will ensure that any gap in needed reductions is addressed in all basins. For example, Virginia could identify in its list of permits which facilities will achieve the additional reductions.
- EPA recommends Virginia provide detailed information on the planned Phase III WIP wastewater and non-wastewater reductions in the James River needed to meet the Dissolved Oxygen (DO) and the new chlorophyll-a criteria.

### **Trading & Offsets**

#### **Key Strengths**

Key strengths in the Phase III WIP include:

- Virginia provides permittees subject to MS4 requirements opportunities to take advantage of point source and nonpoint source trading programs to achieve their nutrient and sediment reduction goals.

### **Federal Facilities**

#### **Key Strengths**

Key strengths in the Phase III WIP include:

- Virginia included information on detailed collaboration with Department of Defense (DoD) and included a description of DoD's activities and commitments for the draft Phase III WIP.
- Virginia included a federal facility discussion in each basin-specific section of the draft Phase III WIP, which is a strong improvement over the Phase II WIP.

- Virginia provides ongoing support and leadership in the CBP partnership's Federal Facilities Workgroup.

In its Phase III WIP, Virginia addressed the following potential enhancements that were suggested by EPA in its draft Phase III WIP evaluation:

- Virginia incorporated information provided by United States Forestry Service, Fish and Wildlife Service, and National Park Service, National Aeronautics and Space Administration, and Langley Air Force Base in its Phase III WIP. Virginia will assume that all lands addressed by agencies which did not provide information will meet their planning goals.

## **Changing and Local Conditions**

### **Growth**

#### **Key Strengths**

Key strengths in the Phase III WIP include:

- Development of implementation scenarios based on 2025 forecasted growth conditions, per the CBP partnership decision.
- Virginia plans to initiate a review of the stormwater construction post-development water quality design criteria requirements established under the VSMP Regulation, 9VAC25-870-63 in 2011 for phosphorus. Virginia's review will determine if the criteria continue to satisfy the assumption of the Bay TMDL that any new or increased loads will be offset.

In its Phase III WIP, Virginia addressed the following potential enhancements that were suggested by EPA in its draft Phase III WIP evaluation:

- Virginia provided additional language on how it is accounting for growth, why it used 2018 current flow as an estimate for the 2025 expected flow from its wastewater treatment plants, and why it did not choose to use the land use scenario it designed to address future growth beyond the current zoning baseline.
- Virginia committed to include milestones to track, discuss and address growth, as needed.

### **Climate**

#### **Key Strengths**

Key strengths in the Phase III WIP include:

- Virginia documented its jurisdiction-specific 2025 numeric climate change loads based on factors such as increasing precipitation and rising sea level in the Phase III WIP and committed to address these numeric loads now, as opposed to in its 2022-2023 milestones.
- Commitment to several actions to address climate resilience.

## **Local Engagement Strategies**

### **Key Strengths**

Key strengths in the Phase III WIP include:

- Virginia’s Soil and Water Conservation Board approved the creation of an Allocation Subcommittee to fairly distribute technical assistance funding to all SWCDs.
- Conducted outreach beginning in January 2017 to engage local partners in the development of the Phase III WIP through training seminars, meetings, webinars, and the development of a Phase III WIP webpage.
- Engaged not only SWCDs, PDCs, and local governments but also conservation groups and other non-governmental organizations, citizens, federal and state agencies, and utilities.
- Utilized the expertise of SWCDs, PDCs and local governments to determine the most feasible BMP implementation rates for the localities.
- Articulated a plan for on-going engagement during Phase III WIP implementation, including entering into contracts with the PDCs.
- Maintained a Chesapeake Bay Stakeholder Advisory Group to seek input from local governments, the agriculture and conservation communities, wastewater agencies, and private businesses and industry on the Phase III WIP.
- Incorporated input from seven local government roundtables held across the watershed and sponsored by the CBP partnership’s Local Government Advisory Committee in its draft Phase III WIP.

In its Phase III WIP, Virginia addressed the following potential enhancements that were suggested by EPA in its draft Phase III WIP evaluation:

- Virginia provided additional details on how increased capacity and funding needs will be tied to the PDCs and SWCDs. Virginia committed to form an allocation subcommittee to fairly distribute technical assistance funding to all SWCDs. Virginia also entered into contracts with all Bay watershed PDCs to assist in the transition from planning to implementation.

### **Local Planning Goals**

#### **Key Strengths**

Key strengths in the Phase III WIP include:

- Virginia developed local planning goals that are measurable and below the major state-basin scale, including goals for the unregulated urban, septic, and urban forestry sectors in each of the 15 regional PDCs and goals for unregulated agriculture and forestry in each of the SWCDs in the Chesapeake Bay watershed.
- Virginia specified basin-specific BMP goals for the agriculture, developed land, natural, and septic sectors in each of its five major state-basins.

In its Phase III WIP, Virginia addressed the following potential enhancements that were suggested by EPA in its draft Phase III WIP evaluation:

- Virginia stated that it will not be tracking the local area planning goals and it will be using the CBP partnership’s modeling tools with as much geographic specificity as allowed and the verification program to track progress at the local level.

### **Segment-shed Goals for the Tidal Jurisdictions**

In its Phase III WIP, Virginia addressed the following potential enhancement that was suggested by EPA in its draft Phase III WIP evaluation:

- Virginia's Phase III WIP now addresses the process for segment-shed targeting. However, in its two-year milestones, Virginia should commit to using this process in prioritizing implementation.

### **BMP Verification**

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