

## ATTACHMENT C.

### EPA EVALUATION OF VIRGINIA'S 2018-2019 and 2020-2021 MILESTONES

#### Executive Summary

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 and implement a framework for holding each partner accountable 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. Part of the U.S. Environmental Protection Agency's (EPA's) role in the partnership's accountability framework is to evaluate and report each jurisdiction's progress toward meeting this goal every two years.

In that role, EPA has evaluated Virginia's progress toward attaining the goal of having practices in place by 2025. This evaluation includes an assessment of progress toward attaining this goal at the state and state-basin level and progress toward meeting sector-specific programmatic commitments for the 2018-2019 milestone period. This evaluation also provides an assessment of other sector-specific programmatic and numeric commitments (e.g., Best Management Practices or BMP implementation targets) for the 2020-2021 milestone period and the status of the relevant water quality monitoring trends.

*The following statement should be included to provide context for the 2019 load results discussed in the following paragraph. "The data submitted by Virginia for 2019 progress was incomplete, missing approximately 44,000 best management practice records. As a result, the 2018-2019 simulations are not indicative of Virginia's actual 2019 progress. Virginia has worked diligently with the Chesapeake Bay Program office to restore the missing records in the new CAST2019 model that will be used for the 2020-2021 Milestones."*

In reviewing Virginia's final progress for the 2018-2019 milestones, the 2019 numeric progress, and the draft 2020-2021 milestones, EPA found areas in which the Commonwealth achieved the goals it had set. For areas where the Commonwealth did not achieve its goals, EPA identifies recommendations for additional information and clarification. According to the data provided by Virginia for the 2019 progress run, Virginia did not achieve its statewide 2019 targets for nitrogen and phosphorus. Virginia achieved its 2019 nitrogen target for the James River basin but did not achieve its 2019 targets for nitrogen and phosphorus in all other major basins (Potomac River, Eastern Shore, Rappahannock River and York River). Virginia achieved its statewide and basin wide targets for sediment.

Some notable strengths identified in this evaluation of the 2018-2019 milestones and the draft 2020-2021 milestones include:

- Developed Resource Management Plans (RMPs) on more than 18,000 acres, wrote 77 new nutrient management plans on small farms, exceeding the 2018-2019 goals and issued two

Virginia Pollutant Discharge Elimination System Concentrated Animal Feeding Operation permits.

- Commitment to pursue legislation to reach its goals of 85% implementation of nutrient management plans on cropland and livestock exclusion from perennial streams and to track implementation rates for these BMPs.
- Intent to conduct cover crop/conservation tillage surveys of agricultural producers to evaluate effective approaches for documenting BMPs implemented without cost share dollars.
- Processing 6 Chesapeake Bay Total Maximum Daily Load (TMDL) action plans and issued its Industrial Stormwater General Permit, Phase II municipal separate storm sewer systems (MS4) permit and its Construction General Permit in 2018-2019.
- Adopting the final regulation on the certification of nonpoint source credits.
- Commitment to reissue the Fairfax, Henrico County, Chesapeake, Hampton, Newport News, Norfolk, Portsmouth and Virginia Beach MS4 permits within the 2020-2021 milestone period.
- Commitment to reissue its watershed general permit and complete amendments to its Water Quality Management Planning Regulation to include chlorophyll-a based wasteload allocations for significant James River dischargers and to re-evaluate industrial significant wasteload allocations.

Some key areas that EPA recommends strengthening in this evaluation of the 2018-2019 milestones and the draft 2020-2021 milestones include:

- Reissuing the MS4 permits for Arlington, Prince William and Chesterfield Counties permits which expired in 2018 and 2019.
- Linking programmatic milestones to the anticipated implementation rates for soil and water conservations plans, animal waste management storage, and cover crops. *The numeric milestones specify the expected implementation for key agriculture best management practices through 2021.*
- Providing specific metrics for measuring success of the milestones related to unregulated stormwater, including marketing of funding opportunities in non-MS4 localities and expanding the Healthy Virginia Lawns program.
- Providing detailed information on how non-wastewater (e.g., agriculture and urban/suburban stormwater sector) reductions in the James River will meet both the dissolved oxygen and new chlorophyll-a criteria.
- Providing specific milestones on how wastewater permittees over performance that will address gaps in more challenging sectors, including the resulting reductions.
- Ensuring that the state-basin Phase III WIP planning targets can be achieved by 2025 if the floating Wasteload Allocation regulation is implemented through trades across state-basins.
- Clarifying how the trading program for the MS4 community will be incentivized and from where generated credits will be purchased.
- Clarifying that the milestone to develop protocol for reviewing its post-construction design criteria include a goal of ensuring that new or increased loads will be offset.

### **Load Reduction Review**

When evaluating 2018-2019 milestone implementation, EPA compared nutrient and sediment loads simulated using the 6.0 suite of the CBP partnership's modeling tools and wastewater

discharge data reported by Virginia to the statewide and state-basin Phase III WIP planning targets.

According to the data provided by Virginia for the 2019 progress run, Virginia did not achieve its statewide 2019 targets for nitrogen and phosphorus. Virginia achieved its 2019 nitrogen target for the James River basin but did not achieve its 2019 targets for nitrogen and phosphorus in all other major basins (Potomac River, Eastern Shore, Rappahannock River and York River). Virginia achieved its statewide and basin wide targets for sediment.

This progress review was conducted using the 2017 version Chesapeake Assessment Scenario Tool (CAST). Virginia data used for this evaluation were incomplete. According to the Commonwealth, significant data transmission errors occurred during the submission of Virginia data that were used to evaluate progress for the 2018-2019 milestone review resulting in the loss of 44,000 BMP records. As a result, the 2018-2019 simulations are not indicative of Virginia's actual 2019 progress. These data transmission errors have been corrected for the release of the new version of model, CAST 2019, used for evaluations of 2020-2021 milestone goals, as noted in the BMP table below.

Virginia developed specific BMP implementation targets for the 2020-2021 milestone period for the BMPs, as recommended in EPA's evaluation of Virginia's Phase III WIP. A summary of the 2019 progress, the 2020/21 commitments and the 2025 goals for these BMPs is listed below. Virginia provided programmatic milestones to support most of these BMP implementation targets and EPA, in the sector-specific sections below provides its evaluation of these programmatic milestones. Virginia also committed to BMP implementation targets, and associated programmatic milestones, for urban nutrient management, poultry litter management, stream restoration, forest planting on developed lands, tree planting, tree planting for forest canopy, wetland management, restoration and/or enhancement and oyster restoration.

<b>BMP<sup>1,2</sup></b>	<b>2009 Progress</b>	<b>2019 Progress</b>	<b>2020/2021 Milestone Target</b>	<b>2025 WIP Target</b>
Nutrient Management – Core Plans (acres)	543,549	<del>499,565</del> 495,204	675,000	951,395

<sup>1</sup> Significant data transmission errors occurred during the submission of Virginia data that was used for both the 2009 and 2019 BMP implementation progress in this table. These data transmission errors are being corrected for the release of new version of the Chesapeake Assessment Scenario Tool (CAST 2019) and the BMP implementation data for 2009 and 2019 in this table will be updated prior to the release of the final milestone evaluation. The 2020 progress analysis will reflect the updated Virginia data set.

<sup>2</sup> BMP levels are units reported or planned by the jurisdiction. The levels are calculated using the Phase 6.0 suite of modeling tools and include everything established or installed, reported, and functioning through the particular year, e.g. cumulative through 2009, or through 2019, etc., not just new reported implementation unless otherwise noted.

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BMP <sup>1,2</sup>	2009 Progress	2019 Progress	2020/2021 Milestone Target	2025 WIP Target
Nutrient Management – Precision Rate Nitrogen (acres)	<del>None reported.</del>  <i>Not reported at that time. First reported in 2016.</i>	<del>39,643</del>  <i>39,377</i>	100,000	758,474
Nutrient Management Precision Timing Nitrogen (acres)	<del>None reported.</del>  <i>Not reported at that time. First reported in 2016.</i>	30,704	50,000	427,076
Cover Crops (acres)	<del>77,290</del>  <i>101,688</i>  <i>Acres refers to all types of cover crops eligible for state cost share or tax credits.</i>	<del>125,114</del>  <i>151,441</i>	199,000	<del>384,396</del>  <i>443,557</i>
Animal Waste Storage - livestock and poultry (animal units, unless otherwise noted)	1,448,824	<del>963,830</del>  <i>951,212</i>	250 new units  <i>This is in new units because we are unable to predict the percentage of poultry to bovine units. This will be detailed in each progress report, both in units and number of animal units served.</i>	2,228,900
Livestock Exclusion (acres)	<del>No reported acres of forest</del>	No reported acres of forest buffer on	10,000 acres of newly excluded buffer acres,	72,156 acres of forest and grass buffers

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BMP <sup>1,2</sup>	2009 Progress	2019 Progress	2020/2021 Milestone Target	2025 WIP Target
	<p><del>buffer on fenced pasture;</del>  <b>Forest buffer on fenced pasture was reported as forest buffers in 2009</b></p> <p>5,262 acres grass buffer on fenced pasture</p>	<p>fenced pasture; 9,688 acres of grass buffer on fenced pasture</p>	<p>including 3,000 acres of forested buffers and 2,300 acres of existing grass buffer that is converted to forested buffers</p>	<p>on fenced pasture</p>
<p>Soil Conservation and Water Quality Plans (acres)</p>	<p><del>None reported.</del>   <i>Not reported at that time.</i></p>	<p><del>None reported.</del>   <i>See Note Below.**</i></p>	<p>200,000</p>	<p>1,183,460</p>
<p>Denitrifying Bioreactors (acres <del>treated unless otherwise noted</del>)</p>	<p><del>None reported.</del>   <i>Not reported at that time.</i></p>	<p><del>None reported.</del>   <i>Not reported at that time.</i>   <i>The spring bioreactors proposed as part of Virginia's WIP III were just recently approved as a BMP.</i></p>	<p>Seek funding for bioreactors on 4 springs in Shenandoah Valley</p>	<p><del>162,682</del>   <b>300,000 lbs/yr nitrogen reduced</b>   <i>(see Phase III WIP page 154)</i>   <i>The Ag ditch bioreactor acres was used as a surrogate in WIP III pending</i></p>

BMP <sup>1,2</sup>	2009 Progress	2019 Progress	2020/2021 Milestone Target	2025 WIP Target
				<i>approval of the spring bioreactor BMP.</i>
Forest Buffer (acres)	<del>12,561</del> 12,248	<del>3,176</del> 3,384****	4,400	21,965
Forest Harvest Practices (% of area, unless otherwise noted)	76	<del>None reported.</del> 84	Maintain 95% BMP compliance	96

*\*\* There are four components of this milestone: (a) Conservation Plans written by Soil and Water Conservation Districts in the Chesapeake Bay watershed under the Department of Conservation and Recreation (DCR) Conservation Planning Certification Program; (2) Resource Management Plan Acres (100,016 acres through 2019); (3) Department of Environmental Quality (DEQ) acres of Chesapeake Bay Preservation Act agricultural plans; (4) USDA-NRCS/FSA acres newly enrolled in EQIP (49,862 acres in 2019), CSP, or CREP in a given year (all such acres must have a federal conservation plan).*

*\*\*\*We believe more work is needed to understand the drop from 2009 to 2019.*

## **Agriculture**

### **2018-2019 Milestone Achievements**

- Developed Resource Management Plans (RMPs) on more than 18,000 acres in 2018-2019. More than 25,000 acres of land were included in RMPs that were certified as having completed implementation in state fiscal year 2019.
- Seventy-seven new nutrient management plans were written on small farms during fiscal year 2018-2019, exceeding its goal of 25 new small farm plans each year.
- Issued two Virginia Pollution Discharge Elimination System (VPDES) Concentrated Animal Feeding Operations (CAFO) permits in the Chesapeake Bay watershed on April 23, 2018.
- Completed its Agricultural Needs Assessment in October 2019 and updated it to incorporate the Phase III WIP planning targets. This assessment continues to be a valuable tool in funding decisions.
- Virginia made progress in acquiring precision agricultural application data from fertilizer companies.

### **2018-2019 Milestones Missed**

- Virginia did not meet its goal of completing evaluations of 95 poultry farm operations. It is unclear how much progress was made on this milestone. Virginia should provide how many

evaluations were completed in the 2018/2019 milestone period and how many are outstanding. *Virginia prepared 193 poultry operation nutrient management plans in 2018 and 2019.*

- It is unclear if Virginia completed its milestone to increase the number of nutrient management plans on unpermitted beef operations. Virginia should clarify if the 18 unpermitted confined beef operations that have current plans is an increase above the number at the beginning of the 2018/2019 milestone period. *Virginia prepared 18 beef operation nutrient management plans in 2018 and 2019. The cumulative total is now 35 beef operation nutrient management plans with an additional 6 beef operation nutrient management plans currently under development.*

### **2020-2021 Milestone Strengths**

- Virginia intends to conduct cover crop and conservation tillage surveys of agricultural producers in the Chesapeake Bay watershed seeking information on BMPs and will conduct spot checks of 10% of producers participating in the survey. This information will be used to evaluate effective approaches for documenting BMPs implemented without cost share dollars.
- In February 2020, Virginia conducted a pilot study to determine where to best target stream exclusion practices.
- Virginia committed to pursue legislation to reach its goals of 85% implementation of nutrient management plans on cropland and livestock exclusion from perennial streams. Virginia also committed to track and report on implementation rates for these BMPs.
- Continue its plan to conduct an Agricultural Needs Assessment and report funding needs to Governor and Virginia General Assembly.
- Virginia linked its implementation projections for such BMPs as nutrient management, livestock exclusion, and poultry litter transport to programmatic milestones such as bundling all of its RMP plans into one cost share contract, conducting periodic reviews of nutrient management regulations, recommending and pursuing regulatory changes, and reissuing its Virginia Pollution Abatement Regulation and General Permit for Poultry Waste Management.
- Virginia provided implementation targets for the BMPs that EPA recommended in its December 2019 Phase III WIP evaluation. Most of these targets are linked to programmatic milestones.

### **Key Areas to Address in the 2020-2021 Milestone Period**

- EPA recommends that Virginia include a 2020/2021 milestone to complete the remaining poultry farm operation evaluations. *The Department of Conservation and Recreation (DCR) will continue to provide nutrient management plans to poultry operations if the operator provides the destination for excess poultry litter. Also small poultry operations are now addressed by other programs in the Phase III Watershed Implementation Plan that are focused on unpermitted farms and, thus, no longer need to be singled out from other small farm operations.*
- Virginia should explain how its programmatic milestones will contribute to the anticipated implementation rates for soil and water conservations plans, animal waste management storage, and cover crops. *The numeric milestones specify the expected implementation for key agriculture best management practices through 2021.*

- Virginia should consider metrics for its programmatic milestones such as the measurement of success of prioritizing and regionalizing its agricultural cost share program, which recommendations from the Allocation Subcommittee will be implemented to increase base technical assistance funding to the Soil and Water Conservation Districts (SWCDs), how much increased cost share funding will be directed to key WIP SWCDs, and which specific changes will be made to animal waste practices, riparian buffer BMDs and livestock stream exclusion, as recommended by the Agricultural BMP Technical Advisory Committee. *The Department of Conservation and Recreation (DCR) will employ a three-step process that does not lend itself to measurement of incremental success via a numeric milestone: (1) DCR will explore the EPA CAST system to attempt to determine a logical regionalization scheme; (2) if #1 is successful, a proposed regionalization scheme that prioritizes agricultural BMPs differently in different regions within Virginia's Chesapeake Bay watershed, will be presented to the Agricultural Best Management Technical Advisory Committee (TAC); (3) a recommendation from the TAC will be presented to the Virginia Soil and Water Conservation Board for incorporation into the state agricultural cost share program on July 1, 2021. Regarding increased cost share funding to key Soil and Water Conservation Districts (SWCDs), DCR has adopted a funding prioritization strategy for key SWCDs based on the 2025 agricultural best management practice input decks. The 10 key SWCDs in Virginia's Chesapeake Bay watershed have been identified as DCR's "Targeted Ten." Also, Virginia's budget for fiscal years 2020-2021 includes for the first time "base-level" funding for SWCD technical assistance. Finally, during June 2020, the Virginia Soil and Water Conservation Board will adopt revisions to the Virginia Agricultural BMP Cost Share Manual addressing needs for animal waste practices, riparian buffer BMPs and livestock stream exclusion. These revisions will be published no later than July 1, 2020.*
- As requested in its Phase III WIP evaluation, EPA recommends that Virginia provide detailed information on how non-wastewater (e.g., agricultural sector) reductions in the James River will meet both the dissolved oxygen and new chlorophyll-a criteria. *As discussed with EPA during the May 7<sup>th</sup> milestone evaluation meeting, water quality modeling analysis by both the EPA-CBPO and VIMS demonstrated that the dissolved oxygen criteria are achieved in the James through full implementation of Virginia's approved Phase III Watershed Implementation Plan implementation scenario. The Department of Environmental Quality (DEQ) is continuing its efforts to finalize and confirm the chlorophyll criteria attainment results, which will be included in the ongoing rulemaking for point source nutrient waste load allocations in several regulations (i.e., Chesapeake Bay Watershed General Permit, Water Quality Management Planning Regulations). There are no basin-specific, non-wastewater reductions for the James River directed at criteria attainment -- the Phase III Watershed Implementation Plan level-of-effort for nonpoint source reductions is an aggregation across all of Virginia's Chesapeake Bay tributary basins.*

### **Urban/Suburban Stormwater**

#### **2018-2019 Milestone Achievements**

- Virginia processed the Chesapeake Bay Total Maximum Daily Load (TMDL) action plans for Chesapeake City, Hampton City, Newport News City, Norfolk City, Portsmouth City and Virginia Beach City by July 2018.

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- Virginia issued its Industrial Stormwater General Permit with an effective date of July 1, 2019.
- Virginia issued its Construction General Permit with an effective date of July 1, 2019.
- Virginia issued its Phase II Municipal Separate Storm Sewer System (MS4) permit with an effective date of November 1, 2018 and reissued coverage for 103 facilities by that date. The remaining facility was issued coverage on January 23, 2019.
- Although Virginia did not release a solicitation in 2018 for Stormwater Local Assistance Funding (SLAF) due to funding issues, it authorized \$20,000,000 in 2019 for 24 projects in 15 localities.

### **2018-2019 Milestones Missed**

Virginia did not meet its commitment to issue the Arlington County Phase I MS4 permit. The new goal is to issue the permit by July 30, 2020. *Although the Department of Environmental Quality (DEQ) was unable to reissue this MS4 permit on time, the permittee continues to make progress implementing required projects. Although the 2<sup>nd</sup> permit in the 3 term cycle has not been reissued, Arlington has achieved 10.5% of the TN reductions, 24.1 % of the TP reductions and 19.2 % of the Sediment reductions required by the Chesapeake Bay TMDL to date.*

- Virginia did not meet its goal to expand its Master Gardener program into 3 additional urbanizing counties. To help achieve this goal, a new grant was provided to 4-H at Virginia State University in 2019.

### **2020-2021 Milestone Strengths**

- Virginia has committed to reissue the Fairfax and Henrico County MS4 permits by March 2021 and the Chesapeake, Hampton, Newport News, Norfolk, Portsmouth and Virginia Beach MS4 permits by December 2021. All of these permits will expire in the 2020-2021 milestone period.
- Virginia has committed to conduct an annual SLAF Requests Estimates Report and include findings in the annual Chesapeake Bay and Virginia Waters Clean Up Plan Report for the Governor and Virginia General Assembly so that SLAF funding can be renewed each year to assist communities with funding Bay clean-up activities.
- Virginia has committed to publish a Notice of Intended Regulatory Action to amend statewide Erosion & Sediment Control Regulations.
- Virginia has committed to establishing a Stakeholder Advisory Group for re-evaluating post-construction water quality design criteria requirements and updating the Chesapeake Bay TMDL Special Condition Guidance for MS4s.

### Key Areas to Address in the 2020-2021 Milestone Period

- Virginia should reissue the Arlington County MS4 permit, which expired in 2018, and the Prince William and Chesterfield County MS4 permits, which expired in 2019. Delays in reissuing these permits will further extend the date by which Virginia intends to meet its TMDL reduction goals. Originally, Virginia intended to meet these reduction goals over three permit cycles by 2025 and then extended that date to June 2031 in its Phase III WIP. *Virginia is committed to reissuance of the administratively continued MS4 permits. Virginia has committed to meet the Chesapeake Bay TMDL reduction goals in aggregate by 2025. Individual sectors may be ahead of or behind the 2025 deadline.*
- Because over 70% of the stormwater sector is unregulated, milestones such as enhancing the marketing of funding opportunities for non-MS4 localities and expanding the Healthy Virginia Lawns program will be critical to Virginia's success.
  - EPA recommends that Virginia detail its marketing strategy, including how the marketing survey results were used and set metrics for the implementation and adjustment of this strategy, if necessary. *The development of the marketing strategy, including use of the survey results, is the goal for the 2020-2021 milestone period. Updates and details will be provided as part of the milestone reporting.*
  - Virginia should explain the baseline used in setting the metric of 20% growth in clients, plans or acres under urban nutrient management in its Healthy Virginia Lawns Program. *Growth in urban nutrient management planning is based upon past progress under state certification requirements for lawn care companies as well as requirements for state agencies and golf courses and success of the Healthy Lawns Program. The Virginia Department of Agriculture and Consumer Services (VDACS) successfully pursued increased oversight and enforcement authorities, through SB 849, for certified nutrient management planning by lawn care companies. Statutory changes become effective July 1<sup>st</sup> and VDACS will amend the corresponding regulations and consider additional amendments to the regulations to increase compliance. See 2020-2021 Milestone Number D13. Growth in the Healthy Lawns Program is based upon additional funding support from the Chesapeake Bay Restoration Fund to expand Virginia Cooperative Extension office participation, increase support for existing offices implementing the program, encouraging the use of summer interns, and prioritizing areas with larger parcels.*
  - Virginia should explain how its programmatic milestones will contribute to the anticipated implementation rates for urban nutrient management. Most of the programmatic milestones relate to data collection and reporting. *See note above. In addition, all applicable state agencies, with the exception of one, have reported they have nutrient management plans. The Department of Conservation and Recreation (DCR) will work to bring that one state agency into compliance. DCR will also work with golf courses that require renewal of their nutrient management plans in 2020 and 2021; this activity has been added to the 2020-2021 Milestones (D21).*
- As requested in its Phase III WIP evaluation, EPA recommends that Virginia provide detailed information on how non-wastewater (e.g., urban/suburban stormwater sector) reductions in the James River will meet both the dissolved oxygen and new chlorophyll-a criteria. *Please refer to the response to this comment under Agriculture.*

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

### **2018-2019 Milestone Achievements**

- In 2019, the General Assembly approved legislation requiring Virginia Department of Health (VDH) to develop a plan to transition oversight and enforcement of the septic pump-out program from localities to VDH in the Northern Neck, Middle Peninsula and Eastern Shore regions of Virginia.
- Installed 846 alternative on-site sewage systems, resulting in over a 21,000-pound reduction in Total Nitrogen (TN) load compared with conventional on-site sewage systems which surpassed Virginia's goal of a 13,500 pound reduction in TN.

### **2018-2019 Milestones Missed**

- Virginia did not report on its target of 36,000 septic tank pump-outs each year.  
*In 2018, Chesapeake Bay Preservation Act (CBPA) localities and the Virginia Department of Health (VDH) reported a total of 3,344 septic tank pump outs throughout the Chesapeake Bay watershed. In 2019, CBPA localities and VDH reported a combined total of 2,473 systems throughout the watershed. Legislation approved during the 2019 Virginia General Assembly Session (HB 2322) directed VDH to develop a plan to transition oversight of the septic tank pump-out program from twelve (12) localities within the Northern Neck, Middle Peninsula, and Eastern Shore Regions of Virginia to VDH. VDH provided an interim report to the General Assembly in December, 2019, with the final transition plan due November, 2020.*
- Although Virginia conducted a pilot project to determine the feasibility of using online county information to update data on septic systems, it did not meet its goal of 600 sewer connections during the milestone period.

*Virginia included initiative #53 in its Chesapeake Bay TMDL Phase III Watershed Implementation Plan to address increased reporting of sewer connections for homes previously served by onsite sewage systems. The initiative is for the Department of Environmental Quality (DEQ) to amend the Sewage Collection and Treatment Regulations (9VAC25-790) to require reporting of connections. Please refer to 2020-2021 Milestone Number W6.*

### **2020-2021 Milestone Strengths**

- Virginia commits to reissue its watershed general permit by December 31, 2021.
- Virginia commits to complete amendments to its Water Quality Management Planning Regulation to include chlorophyll-a based wasteload allocations for significant James River dischargers and to re-evaluate industrial significant wasteload allocations by December 31, 2021.
- Virginia has designated VDH as a state certifying authority to provide a sales tax exemption for community on-site systems serving 10 or more households that use TN reducing treatment systems.
- Virginia has committed to establish a regulation to limit TN for all on-site sewage systems dispersing greater than 1,000 gallons per day, including conventional on-site sewage systems.

### **Key Areas to Address in the 2020-2021 Milestone Period**

- As requested in its Phase III WIP evaluation, EPA recommends that Virginia include specific milestones on wastewater permittees over performance that will address gaps in more challenging sectors, including the resulting reductions.
  - As an example, Virginia could describe the specific projected reductions in the wastewater sector (i.e., the James River and Eastern Shore basins) that will ensure that any gap in needed reductions in other sectors is addressed in all basins by providing a list of facilities that will achieve the additional reductions. This description should include information on how the wastewater reductions in the James River will meet both the dissolved oxygen and new chlorophyll-a criteria.
  - EPA recommends that Virginia share draft regulatory language with EPA for the watershed general permit to ensure that the proposed nutrient reduction goals will address gaps in the more challenging sectors.

*Because of the regulatory nature of the NPDES permit program, the wastewater sector always over performs and the proposed floating waste load allocations (WLAs) will help to ensure the continued supply of excess reductions. No language is planned in the watershed general permit to ensure continued over performance. Dischargers under the watershed GP have averaged less than 65% of their aggregate WLA over the last four years despite significant reductions in James River WLAs during that period. This equates to an average of 6.2 million lbs/yr of excess TN credits and 460,000 lbs/yr of excess TP credits.*

- Virginia should ensure that the state-basin Phase III WIP planning targets can be achieved by 2025 if the floating Wasteload Allocation regulation is implemented through trades across state-basins.

*This was demonstrated in Virginia's Phase III Watershed Implementation Plan. Virginia met its state-basin planning targets, so additional documentation of specific plants should not be necessary at this time. In addition, Virginia's regulatory development process will consider multiple approaches to achieving the reduction goals for wastewater facilities.*

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

#### **2018-2019 Milestone Achievements**

- Virginia's Final Regulation on the Certification of Nonpoint Source Credits was adopted by the State Water Control Board on December 13, 2019.

#### **2018-2019 Milestones Missed**

- None

#### **2020-2021 Milestone Strengths**

- Virginia commits to publish an annual watershed general permit nutrient loads report by April 1, 2020 and April 1, 2021.
- Virginia commits to publish annual watershed general permit trades report by July 1, 2020 and July 1, 2021.

### **Key Areas to Address in the 2020-2021 Milestone Period**

- Final Regulation on the Certification of Nonpoint Source Credits, adopted by the State Water Control Board on December 13, 2019, will be promulgated as regulations once executive review is completed in 2020.
- EPA recommends Virginia clarify how its trading program for the MS4 community will be incentivized and from where generated credits will be purchased. *The incentive provided is in the form of MS4 permit provisions requiring expensive nutrient and sediment reductions. Although most MS4 permittees prefer to achieve these reductions through best management practices (BMPs) implemented within their service areas, the trading program does provide a lower cost option that allows the MS4 to implement projects over a longer period of time. MS4s may purchase either point source or nonpoint source credits. Point sources registered under the Watershed General Permit have produced an average 6.2 million lbs. of excess TN credits and 460,000 lbs. of excess TP credits over the past 4 years.*
- Virginia should clarify that its milestone to develop protocol for reviewing its post-construction design criteria include a goal of ensuring that new or increased loads will be offset. Virginia could also consider encouraging additional pollution reductions beyond what the new development creates, perhaps through its trading program, to address pollutant loads from existing development and as a means to meet its goals of decreasing loads in the stormwater sector by 2025. *This was demonstrated in the Virginia's Phase III Watershed Implementation Plan. The review will determine if the criteria continue to satisfy the offset requirement of the Chesapeake Bay TMDL. Subsequent amendments to the Virginia Stormwater Management Program Regulation may be necessary if the criteria are no longer consistent with the TMDL. The amendments, if necessary, would be accomplished during the next milestone reporting period.*

### **Natural Sector**

#### **2018-2019 Milestone Achievements**

- Over 53,421 trees have been planted on riparian and urban projects throughout Virginia's portion of the Chesapeake Bay watershed.
- Virginia's Department of Forestry recorded 8,570 acres of conservation easements on 25 properties in the Chesapeake Bay watershed.
- Virginia Department of Forestry conducted 44 classes on harvest planning and BMP implementation for 1,047 loggers, foresters and forest practitioners.

#### **2018-2019 Milestones Missed**

- Twenty-two of the anticipated 60 projects for BMP implementation by forest harvesting contractors were approved for funding in late 2019, using Virginia's Water Quality Improvement Fund. However, an additional 22 projects will be funded in the next milestone period.

*The Virginia Department of Forestry notes that additional Water Quality Improvement Fund support will be needed to achieve the goal of 60. As additional funds are made available, or re-allocated, efforts will be made to achieve the goal of 60 projects. Currently, 70% of potential projects will be focused in the Chesapeake Bay Watershed.*

### **2020-2021 Milestone Strengths**

- Virginia intends to use a variety of funding sources to implement its forest buffer, tree planting, urban tree canopy and forest harvesting practices goals.
- Virginia will set oyster restoration goals and develop a restoration plans for five tributaries and seek state capital funding for oyster restoration.
- Virginia commits to collaborate with partners to secure over \$2M in new funding to support wetlands acquisition, enhancement or restoration projects and will leverage the Department of Game and Inland Fisheries Virginia Migratory Waterfowl Stamp Fund to implement six projects to restore or enhance wetlands.

### **Key Areas to Address in the 2020-2021 Milestone Period**

- Virginia should include metrics for its programmatic milestones such as improving technical assistance and oversight of stream protection projects, encouraging tree conservation, pursuing Sentinel Landscape Partnerships and implementing the Healthy Watershed Initiative. *Please refer to additions to the 2020-2021 Milestones, Numbers F7-F14.*

### **Other (Federal Facilities, Multiple Sectors, James River Phased Implementation/Chlorophyll-a Study, Segment-shed Goals for the Tidal Jurisdictions, BMP Verification)**

#### **2018-2019 Milestone Achievements**

- For the James River Phased Implementation and Chlorophyll-a Study, Virginia completed its rulemaking and revised chlorophyll-a criteria assessment method, sending it to EPA in early November 2019 for approval. In November 2019, Virginia initiated its intent for regulatory action to establish facility-specific wasteload allocations to achieve the remaining load reduction to meet the new chlorophyll-a criteria.
- Virginia developed and deployed a local communication strategy used in Phase III WIP development.
- Virginia conducted 1,830 inspections of structural and land management BMPs, determining that 1,582 were verified, 10 were in need of maintenance and 238 could not be verified.

#### **2018-2019 Milestones Missed**

- Virginia did not develop a verification Standard Operating Procedure (SOP) template for use by non-state data verifiers to satisfy the Chesapeake Bay Verification Program Plan requirements. Although Virginia noted that this commitment was contingent on WIP Assistance funding, Virginia did not seek funding for this effort. This SOP would strengthen Virginia's existing verification program. *Due to shifting priorities, Virginia did not request WIP Assistance funding for this activity in 2019. This project to develop a Verification SOP Document was funded this year and will be included in Virginia's 2020-2021 grant workplan as well as added to the 2020-2021 Milestones (R12).*

### **2020-2021 Milestone Strengths**

- Virginia's State Water Control Board approved the final amendments for the James River chlorophyll-a criteria and these amendments were approved by EPA on January 6, 2020. These revised criteria are effective for regulatory purposes.

- Virginia will update its *Conserve Virginia* model to include a water quality layer to identify the highest non-point nitrogen, phosphorus and sediment loading reductions should the property be subject to BMPs and minimum conservation criteria.
- Virginia will consider options to apply to EPA under the Clean Water Act for No Discharge Zones for all or portions of the Chesapeake Bay mainstem and its tributaries.
- Virginia will complete an initial coastal resilience master plan.

#### **Key Areas to Address in the 2020-2021 Milestone Period**

- For the James River Phased Implementation and chlorophyll-a Study, Virginia began testing its compliance results, varying point source nutrient loads coupled with the Phase III WIP non-point source control levels to determine which scenarios will meet the new chlorophyll-a criteria. Implementation of the scenario which complies with the new criteria will be key to meeting the 2025 goals. *Please refer to the response to this comment under Agriculture and Urban/Suburban Stormwater.*
- Virginia should commit to using its process for segment-shed targeting to prioritize implementation in its 2020-2021 milestones.
- Virginia should commit to implementing a process for targeting BMPs in higher loading counties. *Virginia conducted a lengthy process, with stakeholder input and involvement, in the development of our Phase III Watershed Implementation Plan. As a result, 10 Soil and Water Conservation Districts (SWCDs) within Virginia's Chesapeake Bay watershed have voluntarily committed to achieve 70% plus of the nitrogen reductions needed from the agricultural sector by year 2025, provided adequate resources are made available. Virginia maintains that success in the agricultural sector will be dependent on the 10 SWCDs that have volunteered to do most of the work needed in this sector. In addition, Virginia will be providing the Chesapeake Bay watershed Planning District/Regional Commissions the training necessary to use the Bay Data Dashboard and other Partnership targeting tools. This effort is described in the 2020-2021 Milestone Number M14.*

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

As noted in its Phase III WIP evaluations, EPA remains prepared to assist each of the seven watershed jurisdictions in implementing the 2020/2021 milestones. EPA will work with each jurisdiction to develop specific oversight and assistance activities to provide prioritized support for implementation efforts, including funding, technical assistance and analysis, training, and regulatory reviews.

#### **2009-2018 Monitoring Trends Summary**

The CBP partnership's Chesapeake Bay Program Nontidal Water Quality Monitoring Network, supported by EPA, the U.S. Geological Survey (USGS), the Susquehanna River Basin Commission (SRBC), and the Bay jurisdictions, generates water quality monitoring data in freshwater rivers and streams throughout the watershed that is analyzed by USGS for nutrient and sediment loads and trends. The most recent USGS results (<https://cbrim.er.usgs.gov/summary.html>) over the period of 2009-2018 were made available in March 2020. While identifying drivers behind individual trends is often complex, the monitoring results are worthy of Virginia's consideration as it develops the programs and BMPs planned for the next two years. EPA's initial summary of how the monitoring results in Virginia watersheds can potentially inform planning are below.

- Trends are improving in the majority of Virginia's highest loading monitored watersheds for phosphorus. Of the two highest loading watersheds for nitrogen, one is improving and the other shows no trend. Implementing efforts in high loading areas can potentially yield the greatest nutrient reduction benefits.
- Trends in Virginia's monitored agricultural watersheds show that most stations are improving for phosphorus. More exploration on what is occurring in these monitored watersheds can potentially reveal successful programs, policies, or practices. For nitrogen, equal proportions of monitored agricultural watersheds are improving and degrading. While more information would be needed to determine what is driving individual trends, this suggests agricultural areas should be a continued focus.
- Trends at the North and South Fork Shenandoah Rivers are improving for nitrogen and phosphorus, and the majority of monitored Shenandoah River tributaries are improving for nitrogen. More exploration on what is occurring in these monitored watersheds can potentially reveal drivers of these improving trends. Trends at the Rappahannock, Pamunkey, Mattaponi, and Appomattox Rivers are degrading for both nitrogen and phosphorus. All stations monitored in the Mattaponi River show degrading trends for nitrogen or phosphorus. These areas should be explored for potential focus in future milestones. *This presents an opportunity for technical support from the Chesapeake Bay Program Office (CBPO). More work is needed in scientific synthesis and local engagement to understand these trends and to guide local and state management decisions. If resources permit, Virginia recommends establishing a joint workgroup between the Department of Environmental Quality Office of Ecology and CBPO/U.S. Geological Survey (specific personnel -- Keisman, Moyer and Trentecoste) to develop a work plan and identify necessary resources.*