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# **Chesapeake Bay Fiscal 2021 Budget Overview**

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**Department of Legislative Services  
Office of Policy Analysis  
Annapolis, Maryland**

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*Analysis of the FY 2021 Maryland Executive Budget, 2020*

## ***Executive Summary***

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Past efforts to restore the Chesapeake Bay watershed, which includes parts of Delaware, the District of Columbia, Maryland, New York, Pennsylvania, Virginia, and West Virginia, have resulted in insufficient progress and continued poor water quality. However, a regional restoration initiative, required by the federal government and characterized by accountability measures and shorter term program evaluation, is underway.

In December 2010, the U.S. Environmental Protection Agency (EPA) established a Chesapeake Bay Total Maximum Daily Load (TMDL) as required under the federal Clean Water Act and in response to consent decrees in the District of Columbia and Virginia. This TMDL sets the maximum amount of nutrient and sediment pollution that the bay can receive and still attain water quality standards. It also identifies specific pollution reduction requirements; all reduction measures must be in place by calendar 2025 with measures in place to achieve at least 60% of pollution reductions by calendar 2017.

## ***Key Observations***

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- ***Maryland’s Progress:*** In order to meet the statewide pollution reduction goal for nitrogen as part of the Phase III Watershed Improvement Plan (WIP), the State must further reduce nitrogen loading to the bay by an additional 7.0 million pounds per year relative to the calendar 2018 level in order to meet the calendar 2025 target of 45.8 million pounds of nitrogen per year. Maryland intends to reduce nitrogen loads by 8.1 million pounds per year between 2018 and 2025 in order to reduce loading to 44.7 million pounds per year to account for unforeseen circumstances.
- ***Chesapeake Bay in “Moderate Ecosystem Health”:*** The health of the bay, as measured by the University of Maryland Center for Environmental Science’s Chesapeake Bay Report Card, has generally remained the same since 2003. The overall health of the bay remained unchanged in calendar 2018, receiving an overall score of C, indicating that the bay is in moderate ecosystem health.
- ***Overall Chesapeake Bay Restoration Funding:*** Major changes in Chesapeake Bay restoration funding (between fiscal 2020 and 2021) include an increase of \$31.5 million in special funds for the Water Quality Revolving Loan Fund and an increase of \$29.7 million for the Maryland Transit Administration’s (MTA) Purple Line transit project. These increases are partially offset by decreases of \$20.9 million and \$7.4 million for the State Highway Administration and MTA TMDL activities, respectively.
- ***Historical and Projected Chesapeake Bay Restoration Spending Report Submitted:*** The submitted report notes that the overall success of Chesapeake Bay restoration is dependent upon maximizing the cost effectiveness of Maryland’s three primary Chesapeake Bay restoration

funding programs – the Bay Restoration Fund, the Chesapeake and Atlantic Coastal Bays 2010 Trust Fund, and the Maryland Agricultural Water Quality Cost Share Program – as well as the continuation of loans under the Water Quality Revolving Loan Fund, expansion of water quality trading, meeting municipal separate storm sewer systems permits, implementation of the new Transportation-Infrastructure Restoration Partnership for transportation-related stormwater projects on State lands, promotion of innovation in general, and the increase of knowledge about the co-benefits of stormwater implementation.

- ***Maryland Phase III Watershed Implementation Plan Evaluated:*** Maryland submitted its final Phase III WIP to EPA on August 23, 2019. EPA issued its review of Maryland’s Phase III WIP on December 19, 2019. EPA found that Maryland intends to meet planning targets through high rates of best management practice (BMP) implementation, particularly in the agricultural and wastewater sectors, with 52% of the pollutant reductions coming from the agriculture sector and 42% from the wastewater sector. EPA proposes that Maryland include two-year numeric BMP implementation targets for wastewater controls and the agricultural practices with the highest implementation rate, consider targeting implementation in the most impaired areas, and develop an adaptive growth policy to mitigate the impacts of growth in the stormwater sector.
- ***Phosphorus Management Tool Not Delayed but Capacity Concerns Remain:*** In fall 2019, the Phosphorus Management Tool (PMT) Transition Advisory Committee considered whether there should be a one-year delay in the calendar 2021 transition to the tool for Tier A farm operations, which consists of 1,313 agricultural operations on 8,220 fields accounting for 122,705 acres. The committee was presented with research from Salisbury University about various scenarios on manure infrastructure capacity on November 15, 2019, and voted on December 13, 2019, to continue implementation of the PMT transition as planned. A possible path forward includes increasing the manure transport cost share; coordinating with the poultry integrators; working with the Maryland Environmental Service on possible regional transfer stations for poultry manure; and conducting stakeholder meetings.
- ***Conowingo Dam Relicensing Agreement Reached:*** On October 29, 2019, the State announced an agreement between the Maryland Department of the Environment and Exelon that requires Exelon to invest more than \$200 million in environmental projects and operational enhancements to improve water quality over the 50-year license term, thus settling Exelon’s legal challenges to the water quality certification. The Administration plans to solicit public input concerning how to use the funding negotiated in the agreement with Exelon. One particular funding use of note is the promotion of American eel passage, which could have the added benefit of promoting the reproduction of freshwater mussels.

## **Operating Budget Recommended Actions**

1. Add language on historical and projected Chesapeake Bay restoration spending.

# Chesapeake Bay

## Fiscal 2021 Budget Overview

### *Overview*

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Past efforts to restore the Chesapeake Bay watershed, which includes parts of Delaware, the District of Columbia, Maryland, New York, Pennsylvania, Virginia, and West Virginia, have resulted in insufficient progress and continued poor water quality. However, a regional restoration initiative, required by the federal government and characterized by accountability measures and shorter term program evaluation, is underway. The current bay restoration policy framework is described below.

### **The Overarching Goal: Chesapeake Bay Total Maximum Daily Load**

In December 2010, the U.S. Environmental Protection Agency (EPA) established a Chesapeake Bay Total Maximum Daily Load (TMDL) as required under the federal Clean Water Act (CWA) and in response to consent decrees in the District of Columbia and Virginia. This TMDL sets the maximum amount of nutrient and sediment pollution that the bay can receive and still attain water quality standards. It also identifies specific pollution reduction requirements; all reduction measures must be in place by calendar 2025 with measures in place to achieve at least 60% of pollution reductions by calendar 2017.

To ensure nutrient and sediment reductions are met, EPA developed an accountability framework that includes watershed implementation plans (WIP), two-year milestones, federal review to track and assess progress, and, as necessary, specific federal actions if bay jurisdictions do not meet their commitments.

### **Achieving the Goal: An Accountability Framework for Jurisdictions in the Bay Watershed**

#### **WIPs**

As part of the Chesapeake Bay TMDL, bay jurisdictions must develop WIPs that identify the measures installed to reduce pollution and restore the bay. WIPs are submitted to EPA for review and evaluation to (1) identify pollution load reductions to be achieved by various source sectors and in different geographic areas and (2) help to provide reasonable assurance that sources of pollution will be cleaned up, which is a basic requirement of all TMDLs. In calendar 2010, each bay jurisdiction submitted a Phase I WIP that details how the jurisdiction plans to achieve its pollution reduction goals under the TMDL. In calendar 2012, the bay jurisdictions submitted Phase II WIPs that establish more detailed strategies to achieve the bay TMDL on a geographically smaller scale. A Phase III WIP was submitted in final form to EPA on August 23, 2019, and is intended to ensure that all measures are in place by calendar 2025 so that restoration goals can be met.

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In June 2018, EPA released its expectations for Phase III WIPs that includes several new expectations reflecting decisions made by the Principals’ Staff Committee (the policy advisors to the Chesapeake Executive Council) in December 2017, including expectations regarding the development of local area planning goals and accounting for the impact of growth and climate change on loading targets; a separate WIP is planned for the Conowingo Dam. In July 2018, the Principals’ Staff Committee approved the final Phase III planning targets for nitrogen and phosphorus to inform Phase III WIP development and implementation. The new targets were developed using the updated Phase 6 Chesapeake Bay suite of modeling tools that contain significantly more data and information than the previous version. Sediment reductions are not included in the new planning targets primarily because (1) conservation measures to reduce pollution from agricultural sources also decrease sediment pollution to the bay; and (2) dissolved oxygen levels in the bay are more dependent on nitrogen and phosphorus reductions.

The final target pollution loads have been adjusted once again for the five major basins in Maryland as part of the Phase III WIP development process and are shown in **Exhibit 1**.

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**Exhibit 1**  
**Final Target Pollution Loads for Maryland’s Major Basins**  
**(Million Pounds Per Year)**

<u>Major Basin</u>	<u>Nitrogen Pollution</u>	<u>Phosphorus Pollution</u>
Susquehanna	1.6	0.05
Eastern Shore	15.6	1.29
Western Shore	9.6	0.95
Patuxent	3.1	0.30
Potomac	15.8	1.09
<b>Total</b>	<b>45.8</b>	<b>3.68</b>

Note: Numbers may not sum due to rounding.

Source: Maryland Department of the Environment

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## **Two-year Milestones**

President Barack H. Obama issued an executive order in May 2009 that directed the federal government to lead a renewed effort to restore and protect the bay and its watershed. At the same time, the bay jurisdictions committed to achieving specific, short-term bay restoration milestones in order to assess progress toward achieving nitrogen, phosphorus, and sediment reduction goals. Generally, milestones are goals to be reached in two-year increments; they include implementation actions,

best management practices (BMP), and program enhancement actions. As a part of this effort, bay jurisdictions must submit pollution reduction progress and program action information to EPA. Although the bay jurisdictions developed the milestones prior to the establishment of the TMDL, the milestones have been incorporated into the TMDL process as a series of checkpoints for assessing progress toward achieving the pollution reduction goals in the TMDL.

## **Federal Review and Contingency Actions**

EPA reviews each jurisdiction's progress toward its two-year milestones. If a jurisdiction's plans are inadequate or its progress is insufficient, EPA may take action ensuring pollution reductions, including increasing oversight of State-issued pollution permits, requiring additional pollution reductions, prohibiting new or expanded pollution discharges, redirecting federal grants, and revising water quality standards to better protect local and downstream waters.

## **Chesapeake Bay Program Funding**

The Chesapeake Bay Program directs bay restoration and operates as a partnership between federal and state agencies, local governments, nonprofit organizations, and academic institutions. President Donald J. Trump's federal fiscal 2020 budget request called for reducing Chesapeake Bay Program funding by 90% to \$7.3 million, which is a significant reduction in funding available for bay water quality monitoring and coordination activities between the bay jurisdictions. On June 25, 2019, the House of Representatives passed an appropriations bill to increase funding for the Chesapeake Bay Program to \$85 million. Although this bill has not yet been voted on by the Senate, on September 24, 2019, the Senate Appropriations Committee approved \$76 million for the Chesapeake Bay Program. Meanwhile, on September 26, 2019, Congress passed the federal fiscal 2020 budget continuing resolution that, among other things, maintains funding for the program at the federal fiscal 2019 level (\$73 million) through November 21, 2019. Subsequently, the House and Senate passed spending bills that President Trump signed on December 20, 2019, to avert a federal government shutdown. The Chesapeake Bay Program's funding for federal fiscal 2020 was \$85.0 million, which is \$12.0 million more than the federal fiscal 2019 appropriation. President Trump's federal fiscal 2021 budget request is anticipated to be released on February 10, 2020.

## **Reaching the Goal: Progress to Date**

### **The 2017 Midpoint Assessment**

On July 27, 2018, EPA released its midpoint assessment of the progress made by the bay jurisdictions toward meeting the 2017 goal of having measures in place to achieve 60% of the necessary pollution reductions. This 2017 midpoint assessment found that the bay jurisdictions exceeded the 2017 pollution reduction goals for phosphorus and sediment but did not achieve the reduction goal for nitrogen. In order to achieve the necessary nitrogen reductions by calendar 2025, the bay jurisdictions must reduce an additional 48.4 million pounds of nitrogen, resulting in the need to reduce more than twice as much nitrogen in the next eight years in comparison to the nitrogen reductions achieved during the previous eight years.

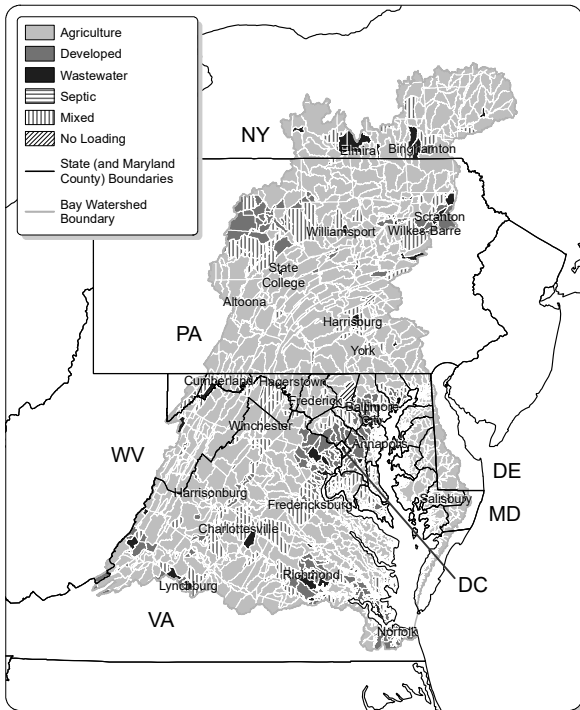
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**Exhibits 2 and 3** reflect (1) the nitrogen and phosphorus predominant loading source for each land river segment – the smallest available geographic area for which data is available; (2) the total loading for each land river segment; and (3) the progress toward the TMDL by State basin – portions of the major watersheds within the Chesapeake Bay watershed. The progress toward the TMDL shown in the maps is based on the Phase III WIP planning targets that were approved in July 2018. Some of the large scale patterns shown in the exhibits are as follows:

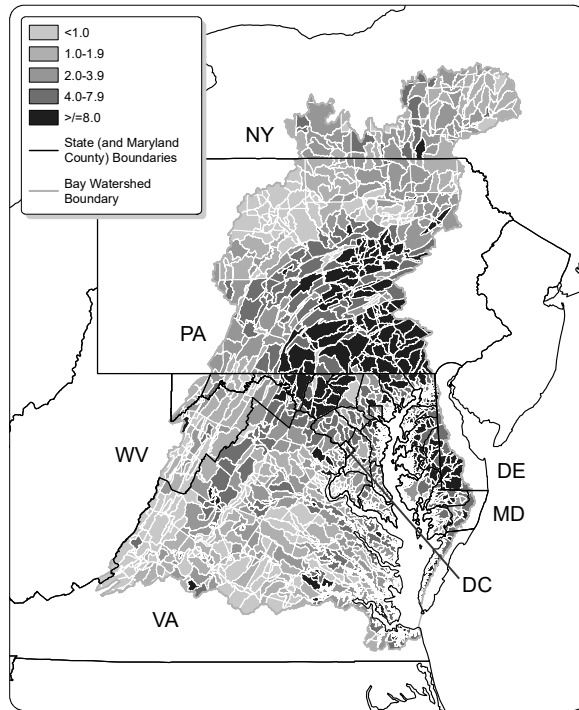
- ***Predominance:*** agriculture is the predominant loading source by land river segment in the Chesapeake Bay watershed with wastewater and stormwater concentrated in urban areas and septic systems in exurban areas;
- ***Loading:*** loading of nitrogen, and to a lesser extent phosphorus, is highest in the Lancaster region of Pennsylvania, the Eastern Shore of Maryland, and the Shenandoah River valley of Virginia; and
- ***Progress:*** more progress has been made in reducing phosphorus than in reducing nitrogen and, while there are basins in which reductions have been achieved or no reductions are required, Maryland’s Eastern Shore has gotten worse in its nitrogen levels.

## Exhibit 2 Bay Restoration Maps – Nitrogen Pollution (Loading) Calendar 2009-2017

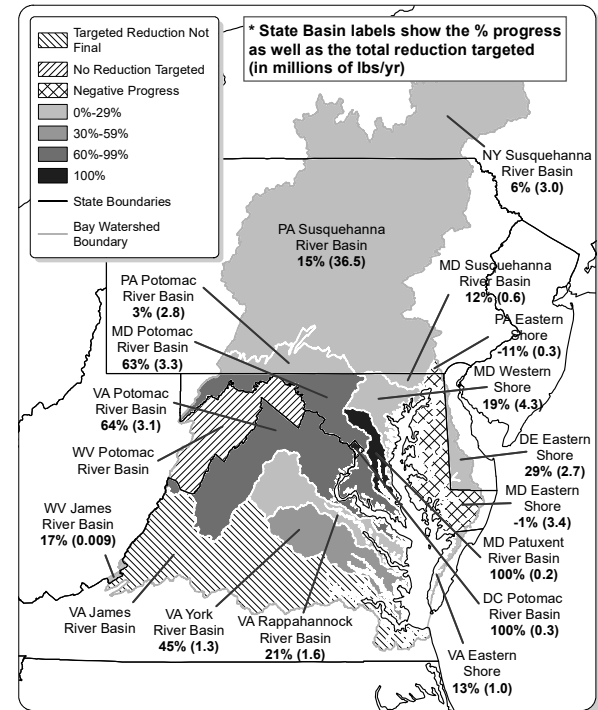
**2017 Predominant Nitrogen Loading Sector  
in Each Land River Segment  
(Excluding Natural Loading Sources)**



**2017 Total Nitrogen Loading  
in Each Land River Segment  
(In lbs/acre, and Excluding Natural Loading Sources)**



**2009-2017 % Progress Toward 2025 TMDL  
Nitrogen Loading Reduction Goals  
in Each State Basin**



TMDL: Total Maximum Daily Load

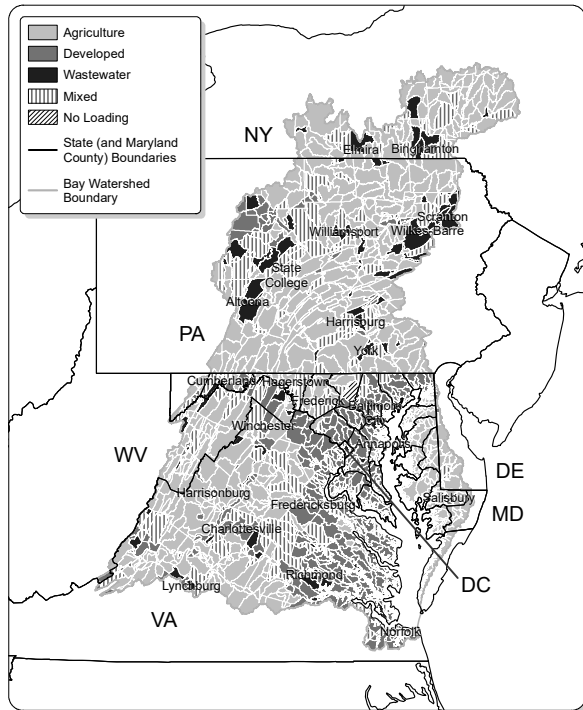
Note: Land river segments are the smallest geographic areas for which nitrogen, phosphorus, and sediment loading are estimated by the Chesapeake Bay Program’s Phase 6 Model. Natural loading sources include forest and other natural areas. State basins consist of the individual states’ portion of each of the major watersheds within the Chesapeake Bay watershed. Predominant loading sectors are responsible for at least 50% of the loading in the land river segment, and the next highest loading sector is not closer than 10 percentage points. (Mixed means no sector meets that definition.) The predominant loading sector shown for each land river segment does not necessarily indicate the predominant land use in that land river segment, especially because natural loading sources are excluded.

Source: Chesapeake Bay Program (loading and geographic data); U.S. Census Bureau (geographic data); Department of Legislative Services

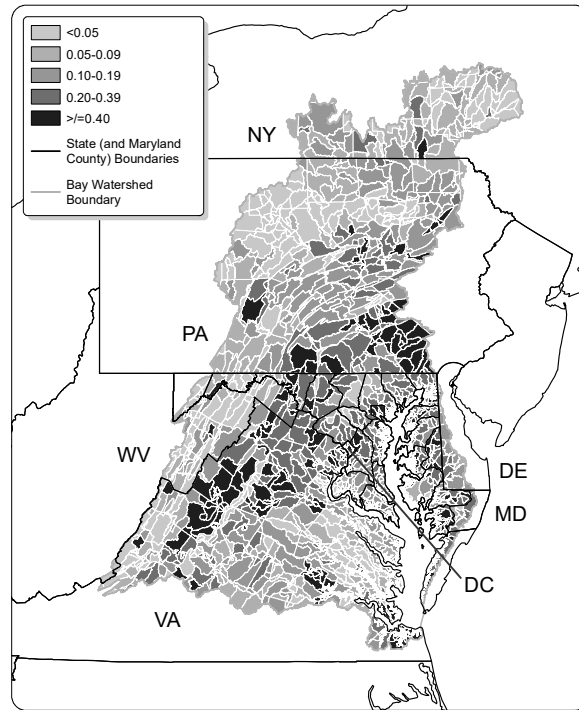


### Exhibit 3 Bay Restoration Maps – Phosphorus Pollution (Loading) Calendar 2009-2017

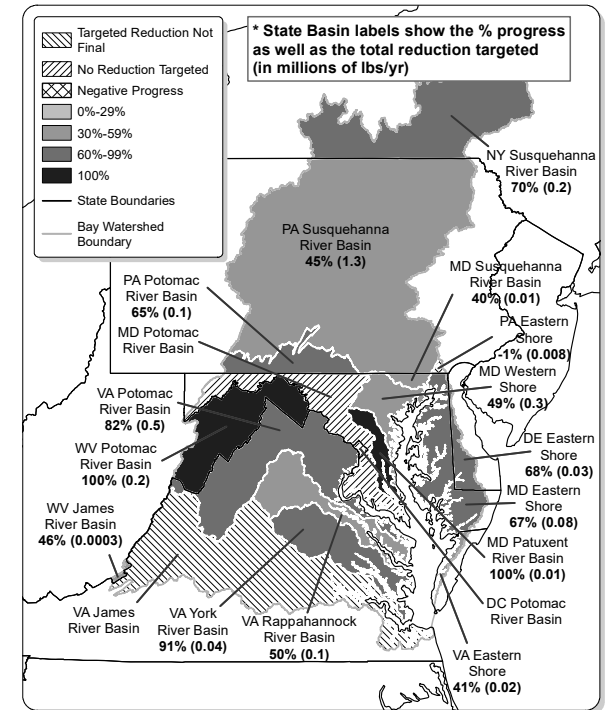
**2017 Predominant Phosphorus Loading Sector in Each Land River Segment (Excluding Natural Loading Sources)**



**2017 Total Phosphorus Loading in Each Land River Segment (In lbs/acre, and Excluding Natural Loading Sources)**



**2009-2017 % Progress Toward 2025 TMDL Phosphorus Loading Reduction Goals in Each State Basin**



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TMDL: Total Maximum Daily Load

Note: Land river segments are the smallest geographic areas for which nitrogen, phosphorus, and sediment loading are estimated by the Chesapeake Bay Program’s Phase 6 Model. Natural loading sources include forest and other natural areas. State basins consist of the individual states’ portion of each of the major watersheds within the Chesapeake Bay watershed. Predominant loading sectors are responsible for at least 50% of the loading in the land river segment, and the next highest loading sector is not closer than 10 percentage points. (Mixed means no sector meets that definition.) The predominant loading sector shown for each land river segment does not necessarily indicate the predominant land use in that land river segment, especially because natural loading sources are excluded.

Source: Chesapeake Bay Program (loading and geographic data); U.S. Census Bureau (geographic data); Department of Legislative Services

## 2018 Oversight Status

EPA primarily evaluates progress toward meeting the TMDL by reviewing a jurisdiction’s combined pollution reductions among four pollution sectors: agriculture, urban/suburban, wastewater, and trading/offsets. EPA uses a ranking system, as shown in **Exhibit 4**, to identify sector-specific milestone achievements and shortfalls. EPA downgraded Maryland’s urban/suburban stormwater sector to an enhanced level of EPA oversight due to the lack of progress on the following: tentative determinations for Phase II stormwater permits; approval of any Phase I stormwater restoration plans; and nutrient and sediment reductions.

### Exhibit 4 2018 EPA Oversight Status for Bay Jurisdictions

<u>Jurisdiction</u>	<u>Agriculture</u>	<u>Urban/Suburban</u>	<u>Wastewater</u>	<u>Trading/Offsets</u>
Delaware	Enhanced Oversight	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight
District of Columbia	n/a	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight
<b>Maryland</b>	<b>Ongoing Oversight</b>	<b>Enhanced Oversight</b>	<b>Ongoing Oversight</b>	<b>Ongoing Oversight</b>
New York	Ongoing Oversight	Ongoing Oversight	Enhanced Oversight	Ongoing Oversight
Pennsylvania	Backstop Action Levels	Backstop Action Levels	Ongoing Oversight	Enhanced Oversight
Virginia	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight
West Virginia	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight

EPA: Environmental Protection Agency

Note: Ongoing oversight means that EPA will continue to monitor progress; enhanced oversight means that EPA may, after identifying specific concerns with a jurisdiction’s implementation of strategies to meet Total Maximum Daily Load (TMDL) goals, take additional federal actions to ensure that the jurisdiction stays on track; and backstop actions level means that EPA has, after identifying substantial concerns with a jurisdiction’s actions to meet TMDL goals, taken federal actions to help the jurisdiction get back on track.

Source: Environmental Protection Agency

## Maryland’s Progress

In evaluating Maryland’s 2016 to 2017 milestone data submission (the 2018 to 2019 milestone period ends January 15, 2020, and the 2020 to 2021 milestone commitments are due March 1, 2020), EPA found that the State achieved its 2017 pollution reduction goals for phosphorus and sediment but did not achieve the pollution reduction goal for nitrogen; the State achieved its 2017 reduction goals

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for all pollutants in all major basins except for nitrogen in the Eastern Shore and the Western Shore and for phosphorus in the Western Shore.

The EPA assessment of Maryland's 2016 to 2017 milestone pollution reduction goals identified milestone achievements and shortfalls for each of the four sectors, as follows:

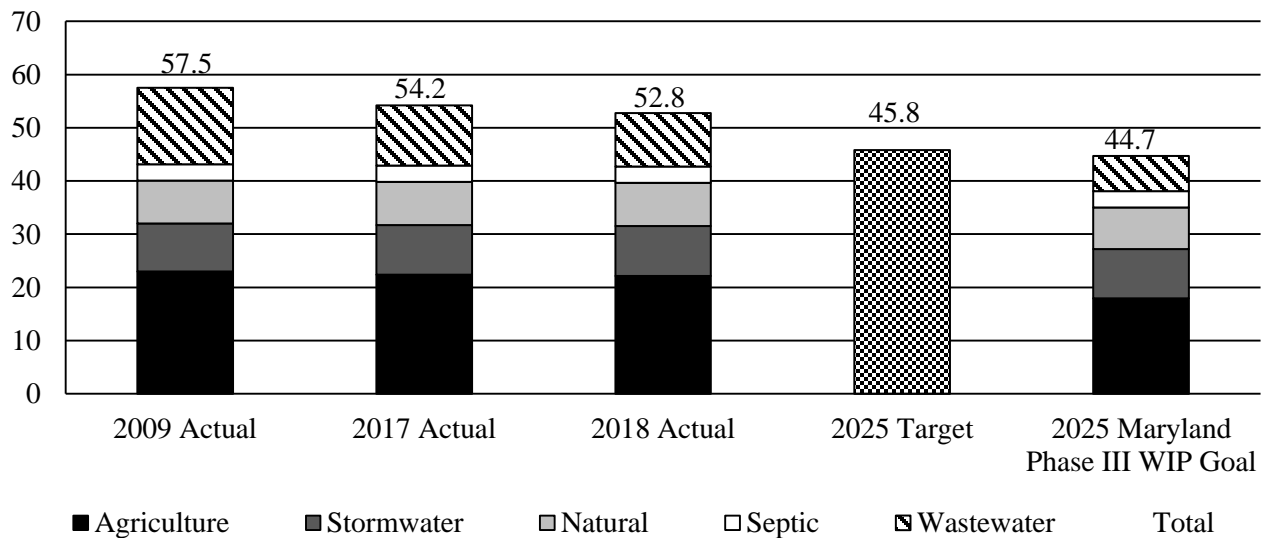
- ***Agriculture:*** EPA reported that Maryland (1) actively promotes the Agricultural Certainty Program and certified six verifiers under the program; (2) is implementing the Phosphorus Management Tool (PMT) in compliance with State regulations; (3) registered 483 farms under the State's Concentrated Animal Feeding Operation program; and (4) achieved its 2025 BMP implementation targets for cover crops, conservation high-residue tillage, and manure transport. EPA further reported that Maryland did not achieve its implementation targets for horse pasture management, alternative crops, and prescribed grazing. (*Ongoing Oversight*)
- ***Urban/Suburban Stormwater:*** EPA reported that (1) Maryland's Phase I stormwater jurisdictions successfully converted to the Geographic Information System BMP database (use of this system will be a requirement in all future Phase I stormwater permits); (2) Maryland submitted its draft Phase I stormwater permit template to EPA; and (3) Maryland conducted Phase II stormwater permit outreach with all eligible municipalities and counties and most of the State and federal permittees. EPA further reported that Maryland lacked sufficient progress for the following: tentative determinations for Phase II stormwater permits, approval of any Phase I stormwater restoration plans, and nutrient and sediment reductions. (*Enhanced Oversight*)
- ***Wastewater Treatment Plants and Onsite Systems:*** EPA reported that Maryland achieved all of its milestones under this sector including (1) upgrading 54 of the 67 major wastewater treatment plants (WWTP) and 6 minor WWTPs as of December 2017; (2) completing 2,067 Best Available Technology (BAT) installations for septic systems; and (3) developing criteria for the evaluation and selection of new BAT systems utilizing national peer-reviewed BMPs. (*Ongoing Oversight*)
- ***Offsets and Trading:*** EPA reported that Maryland (1) finalized its draft trading and offset guidance manual; (2) adopted regulations that establish requirements and standards for the generation and certification of nutrient and sediment credits on agricultural land; and (3) is actively documenting current and future growth in the poultry industry to account for and offset nutrients associated with poultry litter. EPA further reported that Maryland has not made any progress in developing a policy on accounting for growth but noted ongoing activity for developing a policy at the staff level. (*Ongoing Oversight*)

EPA also highlighted key areas for Maryland to address during the 2018 to 2019 milestone period and in the Phase III WIP, including (1) addressing the nitrogen gap under the agricultural sector through the increased implementation of agricultural BMPs; (2) providing the final Phase I stormwater permit template to EPA by the end of calendar 2018; (3) making final determinations for Phase I stormwater permits within six months of a permit's expiration date; (4) providing a status update to

EPA on the septic implementation strategy for systems in the Chesapeake and Atlantic Coastal Bays Critical Area; (5) calculating any loss in pollution reductions due to the November 2016 change to the State’s septic system regulations; and (6) accounting for growth.

In order to meet the statewide pollution reduction goal for nitrogen as part of the Phase III WIP, the State must further reduce nitrogen loading to the bay by an additional 7.0 million pounds per year relative to the calendar 2018 level in order to meet the 2025 target of 45.8 million pounds of nitrogen per year. **Exhibit 5** shows Maryland’s nitrogen pollution loads by sector for calendar 2009, 2017, 2018, the target load for 2025 using the Phase 6 model, and Maryland’s Phase III WIP. As shown, Maryland intends to reduce nitrogen loads by 8.1 million pounds per year between 2018 and 2025 in order to reduce loading to 44.7 million pounds per year to account for unforeseen circumstances.

**Exhibit 5**  
**Maryland Nitrogen Pollution Loads**  
**Trends and Targets**  
**(Million Pounds Per Year)**



WIP: Watershed Implementation Plan

Source: Chesapeake Bay Program – Chesapeake Assessment and Scenario Tool

## Health

The results of implementing BMPs are reflected in the University of Maryland Center for Environmental Science’s Chesapeake Bay Report Card. The report card compares seven indicators – dissolved oxygen, nitrogen, phosphorus, chlorophyll a, water clarity, aquatic grasses, and benthic

community – to scientific goals. The health of the bay, as measured by the report card, has generally remained the same since 2003. The overall health of the bay remained unchanged in 2018, receiving an overall score of C, indicating that the bay is in moderate ecosystem health.

## **Recent Regulatory Highlights**

The Maryland Department of the Environment (MDE) submitted regulations on August 21, 2019, addressing changes made by Chapter 760 of 2019 (Agriculture – Nutrient Management – Monitoring and Enforcement) and the need to develop a new five-year General Discharge Permit for Animal Feeding Operations. The old permit from 2014 expired on November 30, 2019. The Administrative, Executive, and Legislative Review Committee placed a hold on the regulations on November 6, 2019.

## **Transportation Stormwater Management**

Funding for stormwater management sector improvements associated with State transportation infrastructure, across the Maryland Department of Transportation (MDOT) and including operational expenditures related to BMPs and the anticipation of future requirements, represents \$1.5 billion. The State Highway Administration (SHA) owns more than 2,500 stormwater management facilities and nearly 17,000 lane miles of roadway located throughout the State. After many years of discussion regarding the lack of transportation funding for new infrastructure, Chapter 429 of 2013 (the Transportation Infrastructure Investment Act) was enacted. Chapter 429 increased transportation funding by increasing motor fuel taxes and transit fares. Chapter 429 also required that the Governor include specified annual appropriations in the budget bill (between fiscal 2015 and 2019) totaling \$395 million for SHA to use to comply with the WIP. Chapter 489 of 2015 (Budget Reconciliation and Financing Act) authorized the Transportation Trust Fund (TTF) to be used to fund the WIP in fiscal 2016 only, which reflects \$65 million in funding. Subsequently, the Administration adopted, and the General Assembly approved, a policy of authorizing the TTF as the fund source for the \$395 million mandated cost of complying with the WIP.

**Exhibit 6** reflects the most recent SHA WIP funding estimate, which in the fiscal 2020 to 2025 *Consolidated Transportation Program* is \$608.7 million, including \$372.4 million expended prior to fiscal 2020 and \$23.1 million added in fiscal 2025. SHA notes that the \$102.4 million decrease in total estimated costs from last year's estimate of \$711.1 million is due to the addition of fiscal 2025 funding, which is more than offset by two sources of efficiencies. First, SHA is expecting efficiencies from the use of a new smart pond technology being piloted that will allow for wet ponds to be drained slowly after rains in order to let sediment settle, resulting in possible savings for many projects. Second, SHA has received a final determination from MDE on the pollutant reduction credits and particularly the pollutant reduction credits from stream restoration that are two to three times the expected credit depending on the watershed where the work is completed. Overall, SHA estimates that it will be able to comply with the Phase I municipal separate storm sewer system (MS4) permit for less than \$1.0 billion.

**Exhibit 6**  
**SHA Watershed Implementation Plan Funding**  
**Fiscal 2020-2025**  
**(\$ in Thousands)**

<u>Source</u>	<u>Prior Auth.</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>Total</u>
Special Funds	\$271,900	\$69,270	\$59,270	\$12,000	\$12,000	\$19,200	\$18,400	\$462,040
Federal Funds	55,500	24,700	13,800	3,000	3,000	4,900	4,700	109,600
GO Bonds	45,000	0	0	0	0	0	0	45,000
<b>Total</b>	<b>\$372,400</b>	<b>\$93,970</b>	<b>\$73,070</b>	<b>\$15,000</b>	<b>\$15,000</b>	<b>\$24,100</b>	<b>\$23,100</b>	<b>\$616,640</b>

GO: general obligation

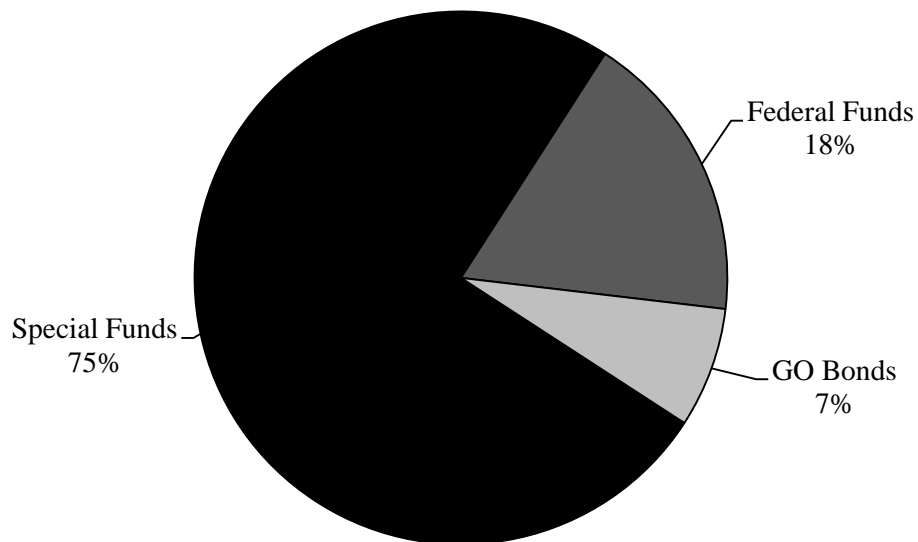
SHA: State Highway Administration

Note: For fiscal 2020 and 2021, \$4.0 million of the special funds are budgeted in the Secretary’s Office capital program for an innovative stormwater pond management pilot program and the remaining funds are budgeted in the SHA capital program.

Source: Maryland Department of Transportation; Fiscal 2020 to 2025 *Consolidated Transportation Program*

As shown in **Exhibit 7**, special funds comprise the largest share of the projected fund sources, accounting for 75% of the planned funding, followed by federal funds (18%) and general obligation (GO) bonds (7%); no general funds are reflected because of the decision to use the TTF to comply with the WIP. SHA has noted in the past that the increase in federal funds reflected since the fiscal 2020 analysis is based on formula funding that could be used for a variety of projects and that federal funds are difficult to use because stormwater work related to the TMDL is not related to mobility and is thus less likely to be approved for this purpose.

**Exhibit 7**  
**SHA Watershed Implementation Plan**  
**Total Program Funding Sources**



GO: general obligation  
SHA: State Highway Administration

Source: Maryland Department of Transportation; Fiscal 2020 to 2025 *Consolidated Transportation Program*

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## *Issues*

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### **1. Overall Chesapeake Bay Restoration Funding**

The current state of Chesapeake Bay restoration funding may be reviewed at three levels (two of which are discussed below):

- **Overall Chesapeake Bay Restoration:** actions that include environmental education, land preservation, transit projects, and nutrient and sediment reduction among others;
- **Two-year Milestones:** actions for nutrient and sediment reduction only; and
- **Chesapeake and Atlantic Coastal Bays 2010 Trust Fund:** actions for nutrient and sediment reduction from nonpoint sources only using certain revenues.

### **Overall Chesapeake Bay Restoration**

Section 37 of the Fiscal 2020 Budget Bill expressed the General Assembly’s intent that the Department of Natural Resources (DNR), the Department of Budget and Management, and MDE submit a report on overall Chesapeake Bay restoration expenditures. The report was requested to include operating and capital expenditures by agency, fund type, and particular fund source based on programs that have over 50% of their activities directly related to Chesapeake Bay restoration for the fiscal 2019 actual, the fiscal 2020 working appropriation, and the fiscal 2021 allowance.

The overall Chesapeake Bay restoration expenditures exhibit was first included in the Governor’s Fiscal 2009 Budget Books. The purpose of the exhibit is to understand the overall scope of Chesapeake Bay restoration funding. The current version of overall Chesapeake Bay restoration funding is in Appendix L of the *Maryland Budget Highlights* book and is shown in **Exhibit 8**.



**Exhibit 8**  
**Overview of Maryland's Funding for Chesapeake Bay Restoration**  
**Fiscal 2017-2021**

	<u>Actual 2017</u>	<u>Actual 2018</u>	<u>Actual 2019</u>	<u>Approp. 2020</u>	<u>Allowance 2021</u>	<u>\$ Change 2020-2021</u>	<u>% Change 2020-2021</u>
<b>Agency/Program Total Funds</b>							
Department of Natural Resources <sup>1</sup>	\$94,204,417	\$95,829,042	\$104,574,459	\$106,268,973	\$120,512,523	\$14,243,550	13.4%
Program Open Space	16,515,928	34,476,663	48,532,004	53,179,317	56,385,426	3,206,109	6.0%
Rural Legacy	17,663,385	22,913,725	25,017,704	18,852,009	19,892,139	1,040,130	5.5%
Department of Planning <sup>2</sup>	4,747,494	4,726,121	4,780,521	11,401,992	5,949,148	-5,452,844	-47.8%
Department of Agriculture	47,263,229	47,523,761	51,982,820	59,437,004	61,598,994	2,161,990	3.6%
Maryland Agricultural Land Preservation Foundation	20,692,064	34,465,938	50,727,806	48,896,965	50,864,706	1,967,741	4.0%
Maryland Department of the Environment <sup>3</sup>	270,248,755	441,171,644	291,314,759	266,128,885	303,176,197	37,047,312	13.9%
Maryland State Department of Education	416,945	416,945	436,998	458,375	21,034	-437,341	-95.4%
Maryland Higher Education	25,507,054	24,738,971	24,305,543	27,658,061	25,130,763	-2,527,298	-9.1%
Maryland Department of Transportation	298,948,863	391,147,731	382,733,958	344,358,345	347,231,527	2,873,182	0.8%
<b>Total</b>	<b>\$796,208,134</b>	<b>\$1,097,410,539</b>	<b>\$984,406,571</b>	<b>\$936,639,926</b>	<b>\$990,762,457</b>	<b>\$54,122,532</b>	<b>5.8%</b>
<b>Fund Type</b>							
General Fund	\$36,660,395	\$33,597,584	\$34,330,361	\$45,565,343	\$45,063,931	-\$501,412	-1.1%
Special Fund	328,687,023	344,736,093	430,993,468	403,607,552	448,496,144	44,888,592	11.1%
Federal Fund	55,597,477	53,624,001	53,566,901	58,432,146	60,630,360	2,198,214	3.8%
Reimbursable Funds	28,507,322	28,374,161	26,781,340	26,079,479	29,653,732	3,574,253	13.7%
Current Unrestricted	21,997,774	21,317,762	22,522,169	25,628,457	23,712,782	-1,915,675	-7.5%
Current Restricted	3,509,280	3,421,208	1,783,373	2,029,604	1,417,981	-611,623	-30.1%
General Obligation and Revenue Bonds <sup>1,3</sup>	22,300,000	221,192,000	31,695,000	30,939,000	34,556,000	3,617,000	11.7%
Maryland Department of Transportation Funds	298,948,863	391,147,731	382,733,958	344,358,345	347,231,527	2,873,182	0.8%
<b>Total</b>	<b>\$796,208,134</b>	<b>\$1,097,410,539</b>	<b>\$984,406,571</b>	<b>\$936,639,926</b>	<b>\$990,762,457</b>	<b>\$54,122,532</b>	<b>5.8%</b>

<b>Spending Category</b>	<b>Actual 2017</b>	<b>Actual 2018</b>	<b>Actual 2019</b>	<b>Approp. 2020</b>	<b>Allowance 2021</b>	<b>\$ Change 2020-2021</b>	<b>% Change 2020-2021</b>
Land Preservation	\$56,571,415	\$92,848,482	\$125,676,709	\$122,016,718	\$128,239,795	\$6,223,077	5.1%
Septic Systems	20,172,494	21,151,121	21,225,521	27,901,992	22,449,148	-5,452,844	-19.5%
Wastewater Treatment	236,675,142	409,340,422	248,461,134	221,635,502	255,925,362	34,289,860	15.5%
Urban Stormwater	12,723,956	127,601,758	141,873,775	156,051,714	135,628,765	-20,422,949	-13.1%
Agricultural BMPs	65,535,383	65,488,794	70,055,992	76,442,004	81,954,582	5,512,578	7.2%
Oyster Restoration	6,413,023	10,406,431	9,257,692	8,503,315	15,215,261	6,711,946	78.9%
Transit and Sustainable Transportation	298,948,863	263,775,495	243,795,070	189,277,090	215,374,685	26,097,595	13.8%
Living Resources	55,437,059	58,072,450	68,255,731	68,898,883	73,776,082	4,877,199	7.1%
Education and Research	\$29,186,279	25,185,664	24,788,383	28,246,436	25,211,797	-3,034,639	-10.7%
Other	14,544,520	23,539,924	31,016,564	37,666,272	36,989,980	-679,292	-1.8%
<b>Total</b>	<b>\$796,208,134</b>	<b>\$1,097,410,539</b>	<b>\$984,406,571</b>	<b>\$936,639,926</b>	<b>\$990,762,457</b>	<b>\$54,122,532</b>	<b>5.8%</b>

BMP: best management practice

<sup>1</sup> Reflects an additional \$4.725 million in general obligation (GO) bonds in fiscal 2019, \$6.065 million in GO bonds in fiscal 2020, and \$4.160 million in GO bonds in fiscal 2021 for the Coastal Resiliency Program that were inadvertently left out of the Appendix L of the Governor’s Budget Highlights.

<sup>2</sup> Reflects an additional \$54,000 in general funds in fiscal 2021 that were inadvertently left out of the Appendix L of the Governor’s Budget Highlights.

<sup>3</sup> Reflects \$260.1 million in fiscal 2018 (\$200.0 million for the Water Quality Revolving Loan Fund and \$60.1 million for the Bay Restoration Fund in order to fund the Biological Nutrient Removal program) and \$150.0 million in fiscal 2019 for the Water Quality Revolving Loan Fund. Also reflects an additional \$3.180 million in GO bonds in fiscal 2021 for the Comprehensive Flood Management Grant Program that were inadvertently left out of the Appendix L of the Governor’s Budget Highlights.

Note: This presentation only includes State agency programs that have over 50% of their activities directly related to Chesapeake Bay restoration. In addition, funding related to salaries and fringe benefits does not reflect health insurance or increment adjustments.

Source: Department of Budget and Management; Department of Legislative Services

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The major changes between the fiscal 2020 working appropriation and the fiscal 2021 allowance reflected in the overall Chesapeake Bay restoration spending are as follows.

- ***MDE:*** increases by \$37.0 million primarily due to increases of \$31.5 million in special funds for the Water Quality Revolving Loan Fund and \$5.0 million in special funds for the Bay Restoration Fund wastewater projects.
- ***DNR:*** increases by \$14.2 million primarily due to an increase of \$6.1 million in GO bond funding for oyster restoration, \$3.7 million in general funds for repayment of prior year diversions of the transfer tax to the State’s General Fund, and \$3.0 million in special funds reflecting additional Chesapeake and Atlantic Coastal Bays 2010 Trust Fund spending from the gas tax and short-term rental vehicle tax, which are offset partially by a decrease of \$1.9 million in GO bond funding for the Coastal Resiliency Program.
- ***Program Open Space, Rural Legacy, Maryland Agricultural Land Preservation Foundation:*** increases by \$6.2 million due to an increase of \$3.0 million in federal Forest Legacy Act funding for Program Open Space and additional transfer tax funding for the Rural Legacy Program and the Maryland Agricultural Land Preservation Foundation.
- ***Maryland Department of Planning:*** decreases by \$5.5 million primarily due to a reduction of \$5.0 million for the Census Grant Program, which is a component of the Planning Data and Research program and thus is included in the funding for the Maryland Department of Planning.
- ***MDOT:*** increases by \$2.9 million, primarily due to an increase of \$29.7 million for the Maryland Transit Administration’s (MTA) Purple Line transit project, which is partially offset by decreases of \$20.9 million for a TMDL compliance program in SHA, and \$7.4 million for a TMDL program in MTA.

### **Chesapeake and Atlantic Coastal Bays 2010 Trust Fund**

Chapter 6 of the 2007 special session established a Chesapeake and Atlantic Coastal Bays 2010 Trust Fund to be used to implement the State’s tributary strategy. The fund is financed with a portion of existing revenues from the motor fuel tax and the sales and use tax on short-term vehicle rentals. Subsequently, Chapters 120 and 121 of 2008 established a framework for how the trust fund money must be spent by specifying that it be used for nonpoint source pollution control projects and by expanding it to apply to the Atlantic Coastal Bays. The Chesapeake and Atlantic Coastal Bays 2010 Trust Fund will be discussed further in DNR’s operating budget analysis.

**The Department of Legislative Services (DLS) recommends the addition of committee narrative to request that the Administration continue to publish the overall Chesapeake Bay restoration data in the Governor’s Budget Books and provide the electronic data separately. For administrative purposes, this recommendation will appear in the DNR operating budget analysis. In addition, DLS recommends that budget bill language be added to DNR’s budget to request that the Administration provide the Chesapeake and Atlantic Coastal Bays 2010 Trust Fund annual report at the time of the fiscal 2022 budget submission.**

## **2. Historical and Projected Chesapeake Bay Restoration Spending Report**

Section 36 of the Fiscal 2020 Budget Bill requested the submission of a report on historical and projected Chesapeake Bay restoration spending and associated impacts and the overall framework to meet the calendar 2025 requirement of having all BMPs in place to meet water quality standards for restoring the Chesapeake Bay. The submitted report provides general funding methodologies but lacks specific year-by-year funding proposals since the Maryland Bay Cabinet agencies are currently evaluating funding levels, distribution, and effectiveness now that the Phase III WIP has been completed.

The report notes that Maryland spent \$10.9 billion for Chesapeake Bay restoration between fiscal 2000 and 2019, and that as of October 2019, 58,000 pounds of nitrogen reduction credit, 9,400 pounds of phosphorous reduction credit, and 1,460,000 pounds of sediment reduction credit have been certified. The report also notes that the overall success of Chesapeake Bay restoration is dependent upon maximizing the cost effectiveness of Maryland’s three primary Chesapeake Bay restoration funding programs – the Bay Restoration Fund, the Chesapeake and Atlantic Coastal Bays 2010 Trust Fund, and the Maryland Agricultural Water Quality Cost Share Program – as well as the continuation of loans under the Water Quality Revolving Loan Fund, expansion of water quality trading, meeting MS4 permits, implementation of the new Transportation-Infrastructure Restoration Partnership for transportation-related stormwater projects on State lands, promotion of innovation in general, and the increase of knowledge about the co-benefits of stormwater implementation.

### **Bay Restoration Fund**

The Bay Restoration Fund has two components: the Wastewater Account and the Septic Account. To date, the primary use of the Wastewater Account has been to pay for the upgrade of the 67 major wastewater treatment plants to enhanced nutrient removal technology. This has enabled nitrogen reductions at an estimated \$10 per pound of nitrogen, which is one of the highest cost-effective levels for all BMPs. Recent changes to the Integrated Project Priority System for project evaluation have increased the focus on projects that have high nitrogen reduction or significant public health benefits. In addition, the Wastewater Account also pays directly for nutrient reductions through the Clean Water Commerce Act funding made available through Chapter 366 and 367 of 2017 (Clean Water Commerce Act) – up to \$4 million in fiscal 2018, \$6 million in fiscal 2019, and \$10 million per year in fiscal 2020 and 2021 – and operations and maintenance grants, which pay wastewater treatment plants to optimize their performance after being upgraded to enhanced nutrient removal technology.

The Septic Account provides for septic upgrades, which are estimated to be around \$300 per pound of nitrogen.

Over time, there will be a greater focus on the stormwater sector as wastewater treatment plant nutrient loads grow. This may require a greater use of the Bay Restoration Fund – Wastewater Account for stormwater management projects. The Bay Restoration Fund – Wastewater Account as well as the Water Quality Revolving Loan Fund could benefit from a greater appreciation of the co-benefits of stormwater implementation for helping funding dollars go further.

### **Chesapeake and Atlantic Coastal Bays 2010 Trust Fund**

The Chesapeake and Atlantic Coastal Bays 2010 Trust Fund provides efficient cost-effective nonpoint source pollution control projects in contrast to the point source reductions from the Bay Restoration Fund – Wastewater Account. One of the key components of the trust fund is the targeting of funding by using the U.S. Geological Survey SPARROW version 4 model. A competitive solicitation process ensures that projects are cost-effective and the incorporation of monitoring data maintains accountability. Finally, the trust fund is focused on performance rather than implementation rates and thus has allowed for the shift away from practice- to performance-based metrics. Current estimates indicate cost-efficiencies of approximately \$100 per pound of nitrogen reduced for trust fund projects.

Looking forward, the targeting component of the trust fund’s funding process may be of greater interest for nonpoint source projects in the agriculture sector. For instance, funding could be targeted, given willing landowners, to properties that have higher than average nitrogen loss from their fields.

### **Maryland Agricultural Water Quality Cost Share Program**

The Maryland Agricultural Water Quality Cost Share Program has a built-in efficiency factor. The cost share for each BMP is up to 87.5% of eligible projects. This incentivizes both maintenance of the practice given the 12.5% personal stake in each BMP and extends the amount of funding that can be offered. The report notes that MDA will be further evaluating the Maryland Agricultural Water Quality Cost Share Program to make sure it is in alignment with the agricultural sector’s WIP goals.

**DLS recommends that the Administration comment on when its evaluation of funding levels, distribution, and effectiveness of resources will be completed and what will be included in the evaluation, the role of the Bay Restoration Fund in future nutrient and sediment reductions, the possibility of targeting funding in the agricultural sector to high nitrogen loss properties, and the supply and demand for the Maryland Agricultural Water Quality Cost Share Program between now and calendar 2025. DLS also recommends that language be included requesting a similar report from the agencies for the fiscal 2022 budget submission on updated historical spending and projected Chesapeake Bay restoration spending and associated impacts and the overall framework to meet the calendar 2025 requirement of having all BMPs in place to meet water quality standards for restoring the Chesapeake Bay. The report should include updated information on the Phase III WIP implementation and how the loads associated with the Conowingo Dam infill, growth of people and animals, and climate change will be addressed.**

### **3. Maryland’s Phase III WIP Evaluated**

Maryland’s Phase III WIP anticipates that it will achieve (and possibly exceed) statewide nutrient and sediment pollution reduction goals by calendar 2025. Maryland’s strategy focuses on accelerated pollution load reductions from both the wastewater and agricultural sectors to achieve a majority of the necessary reductions. Although the State anticipates meeting its 2025 pollution reduction goals, concerns have been raised regarding whether Maryland is fully on track to meet its restoration goals. Among those concerns are (1) whether Maryland’s Phase III WIP includes sufficient detail regarding the actions that must be taken in order to achieve pollution reduction goals; (2) the feasibility of continued reliance on the wastewater sector to meet pollution reduction goals when other sectors fall short; and (3) whether adequate resources to implement necessary agricultural practices are available. In addition, Maryland’s Phase III WIP acknowledges that pollution loading resulting from climate change, population growth, and the Conowingo Dam may impact the achievement and sustainability of restoration beyond calendar 2025.

EPA issued its review of Maryland’s final Phase III WIP on December 19, 2019. EPA’s review found that Maryland’s Phase III WIP addresses the goals of the Chesapeake Bay TMDL by meeting planning targets through high rates of BMP implementation, particularly in the agricultural and stormwater sectors, with 52% of the pollutant reductions coming from the agriculture sector and 42% from the wastewater sector. For instance, EPA noted that Maryland’s Phase III WIP relies on wastewater controls (42%) and six agricultural BMPs (35%) to meet 77% of the nitrogen reduction by 2025. EPA proposes that Maryland include two-year numeric BMP implementation targets for at least 60% of the nitrogen reductions between now and 2025 for wastewater controls and the six agricultural practices as part of its programmatic milestones. In addition, EPA recommends that Maryland consider targeting implementation in the most impaired areas, including the Pocomoke River, and develop an adaptive growth policy to mitigate the impacts of growth in the stormwater sector. **DLS recommends that the Administration comment on how it plans to address EPA’s evaluation of its Phase III WIP in its 2020 to 2021 milestone commitments due on March 1, 2020.**

### **4. PMT Implementation Not Delayed but Capacity Concerns Remain**

PMT was developed by scientists at the University of Maryland and is used to identify agricultural lands where the soil is saturated with phosphorus and has a high risk of runoff. PMT is a component of the State’s WIP and is being used to reduce phosphorus loads. Regulations incorporated PMT into the State’s existing nutrient management planning process in 2015. The regulations also added recordkeeping and reporting requirements and established a PMT Transition Advisory Committee within the Maryland Department of Agriculture (MDA).

In fall 2019, the PMT Transition Advisory Committee considered whether there should be a one-year delay in the calendar 2021 transition to the tool for Tier A farm operations, the final and largest group to transition to the use of the tool with the lowest levels of soil phosphorus, which consists of 1,313 agricultural operations on 8,220 fields accounting for 122,705 acres. The concern was whether the infrastructure is in place to handle the phosphorus from manure, primarily poultry but cow manure as well. The PMT Transition Advisory Committee was presented with research from Dr. Memo Diriker

of Salisbury University about various scenarios on manure infrastructure capacity on November 15, 2019. On December 13, 2019, the Advisory Committee voted to continue implementation of the PMT transition to the tool for Tier A farm operations as planned.

Based on Dr. Diriker's research, the continued generation of poultry manure is straining the existing manure infrastructure capacity and so funding and resource changes will need to occur to handle future loads. MDA has determined a possible path forward regarding manure infrastructure capacity as follows: increase the manure transport cost share; coordinate with the poultry integrators, presumably on manure transport or alternative uses; work with the Maryland Environmental Service on possible regional transfer stations for poultry manure; and conduct stakeholder meetings with groups that handle municipal wastewater and biosolids, soil conditioners, and amendments such as food, and other livestock manures. **DLS recommends that the Administration comment on the funding plans for addressing the manure infrastructure capacity shortfall.**

## **5. Conowingo Dam Relicensing Agreement Reached**

The Conowingo Dam, a peaking hydroelectric facility that uses reservoir storage to generate electricity during peak electricity demand periods, has been described as the biggest BMP on the Susquehanna River because it collects sediment and phosphorus that would otherwise flow into the bay. However, the Conowingo Dam, owned by Exelon Corporation, has reached an end state in terms of sediment storage capacity. The Conowingo Dam officially has its own reduction target of 6.0 million pounds of nitrogen and 260,000 pounds of phosphorus under a separate WIP to be managed by a third-party contracted for this purpose.

While decisions are still being made about how to distribute nutrient and sediment loads from the Conowingo Dam among bay jurisdictions, Maryland appears to be relying on October 26, 2018, EPA guidance reflecting Maryland's share being additional load reductions of 1.76 million pounds of nitrogen per year and 0.091 million pounds of phosphorus per year. Decisions are also still being made about when the reductions need to occur. In the meantime, agreement has been reached on the concept of pooling resources in areas determined to have the most impact on the bay, as determined by a financial strategy to be developed by the third-party awardee. The financial strategy will be crucial because bay jurisdictions, particularly Pennsylvania, are already struggling to meet nitrogen reduction goals, and the reductions credited to the Conowingo Dam WIP will not be available to Pennsylvania for meeting its own WIP. On September 26, 2019, EPA announced awards totaling nearly \$600,000 to support third-party activities relating to Conowingo Dam WIP development and management, including development of the financial strategy. The draft Conowingo Dam WIP is expected to be completed by March 13, 2020; the final Conowingo Dam WIP is expected to be completed by June 19, 2020.

In addition, the Conowingo Dam is in the midst of relicensing by the Federal Energy Regulatory Commission (FERC). The license expired on September 1, 2014, and the Conowingo Dam will receive automatic one-year renewals until it is relicensed. FERC cannot act on an application for licensing unless a CWA Section 401 water quality certification is issued by MDE. On April 27, 2018, MDE issued the water quality certification with special conditions requiring Exelon annually to reduce

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6.0 million pounds of nitrogen and 260,000 pounds of phosphorus, which could be accomplished by Exelon in one of three ways: installing BMPs and/or ecosystem restoration actions; paying MDE \$17 per pound of nitrogen and \$270 per pound of phosphorus, which would total \$172 million per year; or dredging the reservoir behind the Conowingo Dam.

Exelon filed an administrative appeal with MDE and lawsuits in federal and State court alleging that the water quality certification imposes on it the sole responsibility to remove pollutants that Exelon did not introduce into the Susquehanna River but that flow through the Conowingo Dam. Ultimately, on October 29, 2019, the State announced an agreement between MDE and Exelon that requires Exelon to invest more than \$200 million in environmental projects and operational enhancements to improve water quality over the 50-year license term, thus settling Exelon’s legal challenges to the water quality certification. The agreement is in part a realization that the U.S. Court of Appeals for the District of Columbia Circuit’s decision to establish a maximum one-year period for states to act on a request for water quality certification – a case involving the relicensing of the Klamath Hydroelectric Project – could jeopardize Maryland’s negotiations with Exelon.

The Administration plans to solicit public input concerning how to use the funding negotiated in the agreement with Exelon. One particular funding use of note is the promotion of American eel passage, which could have the added benefit of promoting the reproduction of freshwater mussels. The most common freshwater mussel in the Susquehanna River is the eastern elliptio mussel, which needs the American eel to serve as a temporary host for the mussel’s larvae in order to allow the larvae to grow to adulthood. The mussels in turn could provide water clarity benefits similar to oysters in that they are both filter feeders. Adult mussels can filter about 10 gallons of water each day, which is substantially less than the 50 gallons of water each day that can be filtered by oysters, but mussels live in freshwater and can live in areas that oysters cannot or at least in areas that oysters cannot breed well. **DLS recommends that the Administration comment on its funding plans for the Conowingo Dam WIP and the funding anticipated from the agreement with Exelon.**



## ***Operating Budget Recommended Actions***

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1. Add the following section:

SECTION XX. AND BE IT FURTHER ENACTED, That \$200,000 of the general fund appropriation in the Maryland Department of Planning, \$200,000 of the general fund appropriation in the Department of Natural Resources, \$200,000 of the general fund appropriation in the Maryland Department of Agriculture, \$200,000 of the general fund appropriation in the Maryland Department of the Environment, and \$200,000 of the general fund appropriation in the Department of Budget and Management made for the purpose of general operating expenses may not be expended unless the agencies provide a report to the budget committees on Chesapeake Bay restoration spending. The report shall be drafted subject to the concurrence of the Department of Legislative Services (DLS) in terms of both electronic format to be used and data to be included. The report shall include:

- (1) fiscal 2020 annual spending by fund, fund source, program, and State government agency; associated nutrient and sediment reductions; and the impact on living resources and ambient water quality criteria for dissolved oxygen, water clarity, and “chlorophyll a” for the Chesapeake Bay and its tidal tributaries to be submitted electronically in disaggregated form to DLS;
- (2) projected fiscal 2021 to 2025 annual spending by fund, fund source, program, and State government agency; associated nutrient and sediment reductions; and the impact on living resources and ambient water quality criteria for dissolved oxygen, water clarity, and “chlorophyll a” for the Chesapeake Bay and its tidal tributaries to be submitted electronically in disaggregated form to DLS;
- (3) an overall framework discussing the needed regulations, revenues, laws, and administrative actions and their impacts on individuals, organizations, governments, and businesses by year from fiscal 2020 to 2025 in order to reach the calendar 2025 requirement of having all best management practices in place to meet water quality standards for restoring the Chesapeake Bay, to be both written in narrative form and tabulated in spreadsheet form that is submitted electronically in disaggregated form to DLS;
- (4) an analysis of the various options for financing Chesapeake Bay restoration including public-private partnerships, a regional financing authority, nutrient trading, technological developments, and any other policy innovations that would improve the effectiveness of Maryland and other states’ efforts toward Chesapeake Bay restoration;
- (5) an analysis on how cost effective the existing State funding sources, such as the Bay Restoration Fund, Chesapeake and Atlantic Coastal Bays 2010 Trust Fund, and Water

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Quality Revolving Loan Fund among others, are for Chesapeake Bay restoration purposes; and

- (6) updated information on the Phase III WIP implementation and how the loads associated with the Conowingo Dam infill, growth of people and animals, and climate change will be addressed.

The report shall be submitted by December 1, 2020, and the budget committees shall have 45 days to review and comment. Funds restricted pending the receipt of a report may not be transferred by budget amendment or otherwise to any other purpose and shall revert to the General Fund if the report is not submitted to the budget committees.

**Explanation:** This language restricts funding in the Maryland Department of Planning (MDP), the Department of Natural Resources (DNR), the Maryland Department of Agriculture (MDA), the Maryland Department of the Environment (MDE), and the Department of Budget and Management (DBM) unless the agencies provide a report by December 1, 2020, on recent and projected Chesapeake Bay restoration spending and associated impacts and the overall framework to meet the calendar 2025 requirement of having all best management practices in place to meet water quality standards for restoring the Chesapeake Bay. In addition, the language expresses the interest that the report include information on policy innovations that improve the effectiveness of Maryland and other states' efforts toward Chesapeake Bay restoration; an analysis of how cost effective the State funding sources are that are being used; updated information on the Phase III WIP implementation; and how Conowingo Dam infill, people and animal growth, and climate change will be addressed.

<b>Information Request</b>	<b>Authors</b>	<b>Due Date</b>
Historical and projected Chesapeake Bay restoration spending	MDP DNR MDA MDE DBM	December 1, 2020