Chesapeake Bay
Fiscal 2022 Budget Overview

Department of Legislative Services
Office of Policy Analysis
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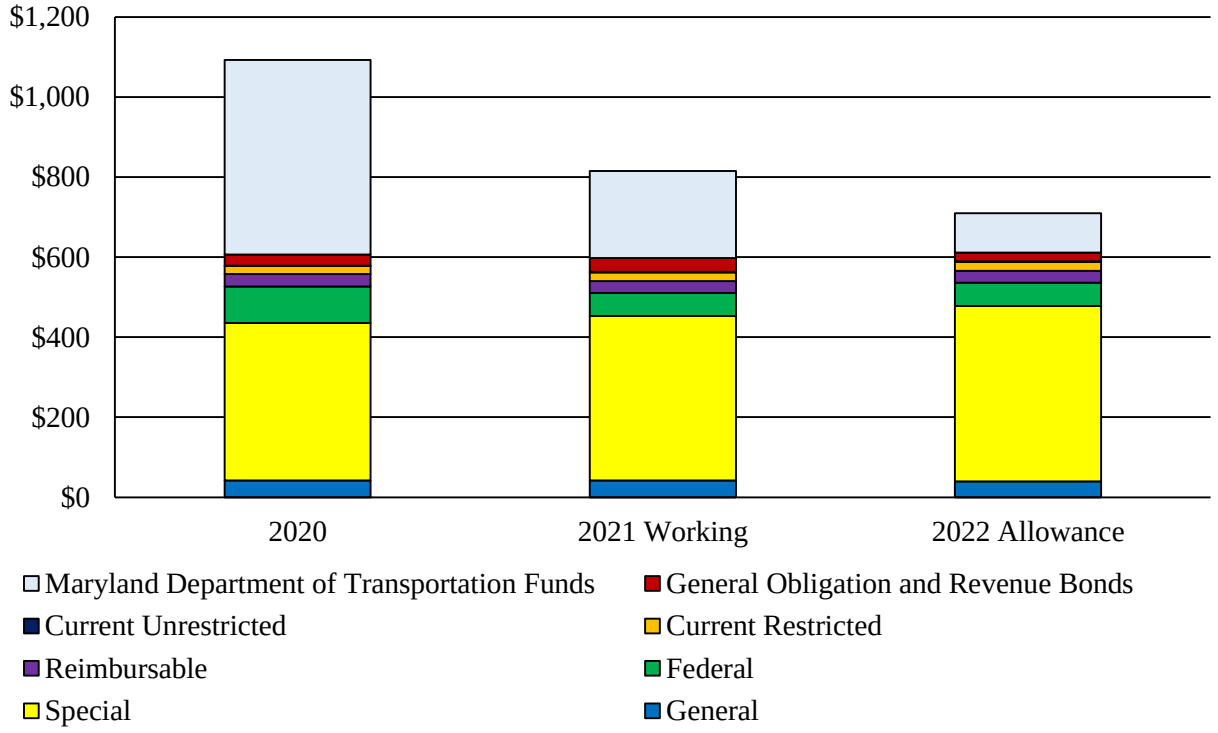
Executive Summary

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 (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.

Fiscal 2022 Budget Decreases $105.9 Million, or 13%, to $709.7 Million
($ in Millions)



Source: Department of Budget and Management

Key Observations

- ***Maryland's Progress:*** In order to meet the statewide pollution reduction goal for nitrogen as part of the Phase III Watershed Implementation Plan (WIP), the State must further reduce nitrogen loading to the bay by an additional 6.2 million pounds per year relative to the calendar 2019 level in order to meet the calendar 2025 target of 45.8 million pounds of nitrogen per year. Maryland intends to reduce nitrogen to 44.7 million pounds per year to account for unforeseen circumstances, but recent analysis indicates that Maryland's WIP may only reduce nitrogen loads to 45.5 million pounds per year, which provides less of a margin.

- ***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 declined slightly in 2019, receiving an overall score of C-, indicating that the bay is in moderate ecosystem health.

- ***Overall Chesapeake Bay Restoration Funding:*** Chesapeake Bay restoration funding declines by a net $105.9 million between fiscal 2021 and 2022. Decreases in funding, primarily from the Maryland Department of Transportation, are offset by increases in special funds for the Water Quality Revolving Loan Fund and additional transfer tax special funds for Program Open Space State Side, Rural Legacy Program, and Maryland Agricultural Land Preservation Foundation.

- ***Historical and Projected Chesapeake Bay Restoration Spending Report Submitted:*** The submitted report provides general funding methodologies but lacks specific year-by-year funding proposals. One area of concern is the apparent lack of a comprehensive plan on how to meet the nitrogen load reductions in the agricultural sector. The report notes the following possible resources: trading ecosystems services; funding agricultural tile drainage best management practices; purchasing nutrient and sediment reductions through an extended Clean Water Commerce Act; and partnering with conservation partners to extend staff technical capacity.

- ***Capacity to Handle Phosphorus Management Tool Requirements Unclear:*** In December 2020, the Phosphorus Management Tool (PMT) Transition Advisory Committee voted against delaying the calendar 2021 transition to a new PMT for Tier A farm operations, which consists of 1,313 agricultural operations on 8,220 fields accounting for 122,705 acres, for a second time. Concerns with moving forward with implementation continue to be funding for satellite manure storage facilities and alternative manure transport assistance for farmers that grow chickens for integrators that do not contribute to the Manure Transport Program.

- ***Conowingo Dam Relicensing, WIP, and Sediment Study:*** The draft Conowingo Dam WIP developed by the Bay Program partnership completed public review on January 21, 2021, and a draft financing strategy for the WIP was completed on December 8, 2020. The Conowingo Dam is in the midst of relicensing by the Federal Energy Regulatory Commission after an agreement between the Maryland Department of the Environment and Exelon was announced 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. Finally, there is a proposal to study the reuse of sediment stored behind the dam known as the Conowingo Dredging and Innovative and Beneficial Reuse Pilot Project. The sediment characterization is underway with dredging anticipated in fall 2021.

- ***Lawsuits Filed Against EPA:*** On September 10, 2020, the Attorneys General from Delaware, the District of Columbia, Maryland, and Virginia filed a lawsuit in the U.S. District Court for the District of Columbia. The lawsuit seeks to compel EPA to comply with its nondiscretionary duty under the CWA to ensure that each signatory state to the Chesapeake Bay Agreement develops and implements management plans (the Phase III WIPs) that achieve and maintain the nutrient reduction goals in the agreement. In particular, Pennsylvania and New York are singled out for having inadequate Phase III WIPs tacitly approved by EPA that will achieve only 75% and 66% of the required nitrogen reductions, respectively; although, New York has since submitted an addendum to its WIP that meets its obligations, but with a funding gap remaining. A similar lawsuit was filed on September 10, 2020, by the Chesapeake Bay Foundation, Inc.; Maryland Watermen's Association, Inc.; Anne Arundel County; and two Virginia farmers. The beginning of the new Joseph R. Biden, Jr. administration on January 20, 2021, may provide an opportunity to either reach a settlement agreement of some kind or for the litigants to drop the lawsuits altogether if assurances can be provided that the EPA will comply with its duty under the CWA.

Operating Budget Recommended Actions

1. Add language restricting funding pending annual funding report.

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Overview

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 that 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.

In June 2018, EPA released its expectations for Phase III WIPs that include 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 for the five major basins in Maryland are shown in **Exhibit 1**.

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

Major Basin	Nitrogen Pollution	Phosphorus Pollution
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
Total	**45.8**	**3.68**

Note: Numbers may not sum due to rounding.

Source: Maryland Department of the Environment

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. The federal fiscal 2021 budget request called for reducing Chesapeake Bay Program funding by 91% from $85 million to $7.3 million, which would have been a significant reduction in the funding available for bay water quality monitoring and coordination activities between the bay jurisdictions. Of note, the $85 million budgeted in federal fiscal 2020 represented an increase from the $73 million budgeted in recent years. The federal fiscal 2021 funding recently approved for the program totals $87.5 million. Additionally, the House of Representatives passed America's Conservation Enhancement Act, which reauthorized the Chesapeake Bay Program for another five years, providing up to $92 million annually by federal fiscal 2025.

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.

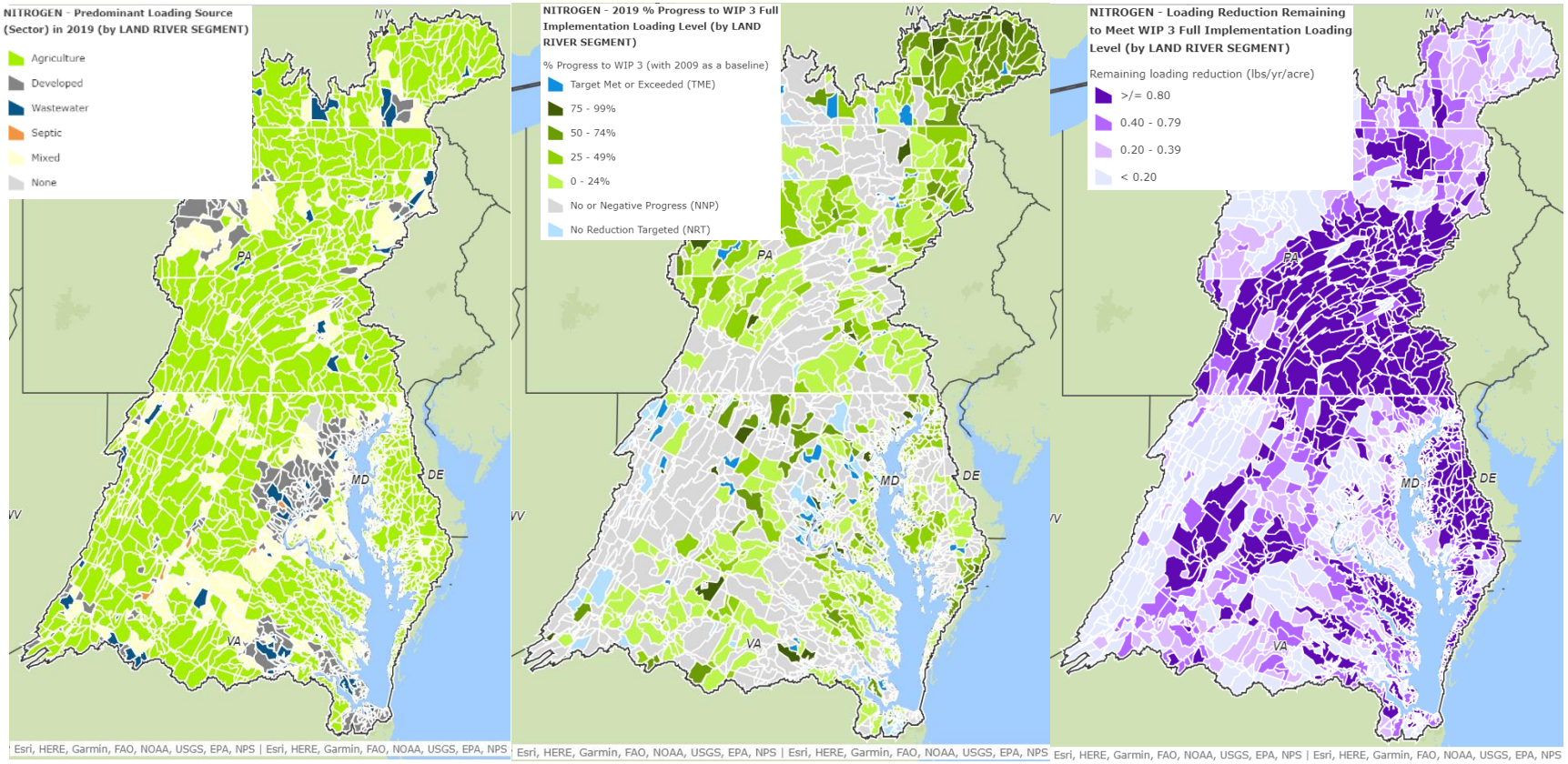
Exhibit 2 reflects (1) the nitrogen predominant loading source in calendar 2019 for each land river segment – the smallest available geographic area for which data is available; (2) the calendar 2019 percent progress toward the Phase III WIP implementation loading level for each land river segment; and (3) the loading reduction remaining to meet Phase III WIP full implementation. 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 exhibit 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;

- ***Progress:*** progress toward reducing nitrogen loading is piecemeal throughout the watershed, with few land river segments meeting or exceeding their targets and a substantial number of land river segments reflecting no or negative progress; and

- ***Remaining:*** nitrogen loading remaining is concentrated in the predominantly agricultural Lancaster region of Pennsylvania, the Delmarva Peninsula of Maryland and Delaware, and the Shenandoah River valley of Virginia as well as in urban areas serviced by wastewater treatment plants.

Exhibit 2
Bay Restoration Maps – Nitrogen Pollution (Loading)
Calendar 2009-2019



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. As of 2018, EPA used a ranking system, as shown in **Exhibit 3**, to identify sector-specific milestone achievements and shortfalls. At the time, 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. EPA does not appear to have updated its oversight status information since 2018.

Exhibit 3
2018 EPA Oversight Status for Bay Jurisdictions

Jurisdiction	Agriculture	Urban/Suburban	Wastewater	Trading/Offsets
Delaware	Enhanced Oversight	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight
District of Columbia	n/a	Ongoing Oversight	Ongoing Oversight	Ongoing Oversight
Maryland	**Ongoing Oversight**	**Enhanced Oversight**	**Ongoing Oversight**	**Ongoing Oversight**
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: U.S. 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 its July 2018 midpoint assessment, EPA concluded that the bay jurisdictions exceeded the 60% goal for reducing phosphorus and sediment but did not achieve the goal for reducing nitrogen. In order to achieve the necessary reductions by calendar 2025, the bay jurisdictions must reduce an additional 48.4 million pounds of nitrogen, which is more than twice the reductions achieved by the bay jurisdictions between calendar 2009 and 2017. Pennsylvania and Maryland are responsible for the majority of the remaining nitrogen reductions (70.6% and 17.4%, respectively). Pennsylvania is responsible for reducing an additional 34.1 million pounds of nitrogen, or 6.3 times its reductions between calendar 2009 and 2017, and Maryland is responsible for reducing an additional 8.4 million pounds of nitrogen, or 2.5 times its reductions between calendar 2009 and 2017.

Maryland's Phase III WIP anticipates that the State will achieve (and possibly exceed) statewide nutrient and sediment pollution reduction goals by calendar 2025. Maryland's strategy relies on continued reductions from the wastewater sector (42% of Maryland's reductions) and on accelerated pollution load reductions from the agricultural sector (52% of Maryland's reductions) 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.

Most recently, in its July 29, 2020 evaluation of Maryland's 2018-2019 completed and 2020-2021 projected milestones, EPA noted that Maryland did not achieve its 2019 targets for nitrogen and phosphorus but did achieve its target for sediment. EPA acknowledged that while the phosphorus loading results from 2019 progress are significantly higher than in past years, this was explained by Maryland as being due to unusually wet weather and known data errors that would be corrected in future reporting years. Initial results of the 2020 progress reflect that phosphorus loads are closer to achieving the Phase III WIP planning targets. In terms of next steps for the 2020-2021 milestone period, EPA recommended that Maryland describe how it will ensure that growth in loads will not exceed Phase III planning targets and how it will meet the local planning goals in the agricultural sector.

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 6.2 million pounds per year relative to the calendar 2019 level in order to meet the 2025 target of 45.8 million pounds of nitrogen per year. **Exhibit 4** shows Maryland's nitrogen pollution loads by sector for calendar 2009, 2018, and 2019; the target load for 2025 using the Phase 6 model; the official Maryland Phase III WIP using the 2017 version of the Chesapeake Assessment and Scenario Tool; and the Maryland Phase III WIP using the 2019 version of the Chesapeake Assessment and Scenario Tool. A couple of observations are as follows:

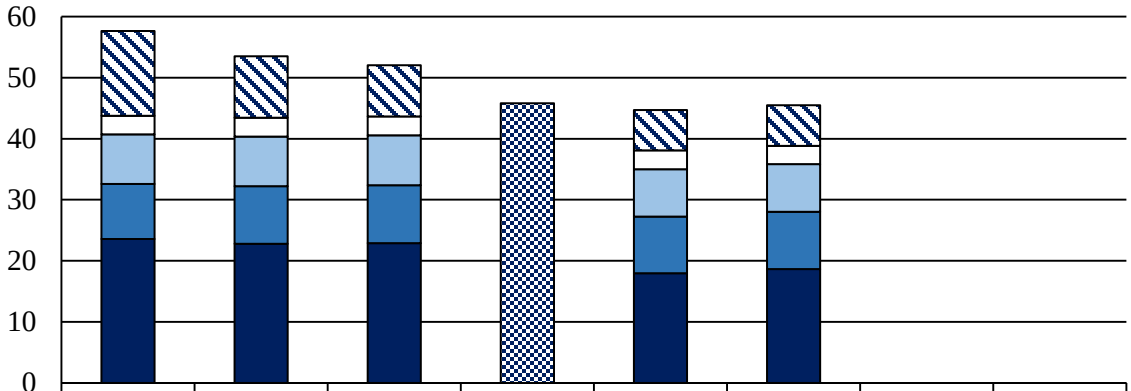
- ***Progress:*** Maryland reduced 1.5 million pounds of nitrogen between calendar 2018 and 2019, which would appear to be sufficient to reach the 45.8 million pounds of nitrogen if this recent progress is maintained;

- ***Target Exceeded:*** Maryland intends to reduce nitrogen loads to 44.7 million in calendar 2025 – the 2025 WIP Goal (Official) noted in the exhibit – and thus exceed the 45.8 million pounds per year target in order to account for increased pollution reductions needed to address climate change;

- ***Data Updated:*** the 2019 version of the Chesapeake Assessment and Scenario Tool indicates that the loading under Maryland's 2025 WIP Goal will actually be closer to 45.5 million pounds per year, which is less of a margin than was previously anticipated under the 2017 version of the Chesapeake Assessment and Scenario Tool; and

- ***Percent Changes:*** Maryland will have to increase the pace of progress relative to the overall 2009-2019 period in order to meet the 2025 target with the greatest percentage reductions in the agriculture sector, which will have to reduce 21.5% of its load compared to the 3% reduced in the 2009-2019 period.

Exhibit 4
Maryland Nitrogen Pollution Loads
Trends and Targets
(Million Pounds Per Year)



	2009 Actual	2018 Actual	2019 Actual	2025 Target	2025 WIP Goal (Official)	2025 WIP Goal (2019)	2009-2019 Percent Change	2019-2025 Official Percent Change
Total	57.6	53.5	52.0	45.8	44.7	45.5	-9.7%	-14.0%
Wastewater	13.8	10.0	8.4		6.6	6.6	-39.4%	-20.8%
Septic	3.0	3.1	3.1		3.1	3.0	1.6%	-1.3%
Natural	8.1	8.1	8.2		7.8	7.8	0.7%	-4.6%
Developed	9.0	9.4	9.5		9.3	9.4	5.3%	-2.4%
Agriculture	23.6	22.8	22.9		18.0	18.6	-3.0%	-21.5%

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 declined slightly in 2019, 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 proposed regulations to the Maryland Register on January 15, 2021, authorizing MDE to provide additional funding to local governments for operation and maintenance grants for wastewater treatment plants beyond enhanced nutrient removal or below 3 mg/L nitrogen and 0.3 mg/L phosphorus. MDE has only awarded approximately $6 million a year in operation and maintenance grants despite the authorization to issue up to 10% of annual revenues, or approximately $11 million, since wastewater treatment plants have been upgraded and certified as operating at 3 mg/L nitrogen and 0.3 mg/L phosphorus. The current revenue allocation includes $30,000 per 1 million gallons per day (MGD) design capacity with a maximum of $300,000 for a 10 MGD or larger wastewater treatment plant.

At the January 14, 2021 meeting, the Bay Restoration Fund Advisory Committee recommended implementation of a proposal made by MDE to allocate the additional $4,676,000 in available funding through incentive payments made to wastewater treatment plants that go beyond enhanced nutrient removal. This would allow for an immediate award of $5.65 per additional pound of nitrogen reduced that would eventually level off to $3.31 per additional pound of nitrogen reduced once all wastewater treatment plants meet enhanced nutrient removal benchmarks.

In addition, the committee recommended that consideration also be given to a proposal from the Maryland Association of Municipal Wastewater Agencies that would increase payments for capacity up to 15 MGD as well as provide incentive payments, as long as there was sufficient revenue to implement the proposal once all of the wastewater treatment plants are meeting enhanced nutrient removal benchmarks.

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 approximately $1.0 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. In 2013, 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 raising 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 (BRFA)) 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 5 reflects the most recent SHA WIP funding estimate, which in the fiscal 2021 to 2026 *Consolidated Transportation Program* is $591.4 million, including $460.3 million expended prior to fiscal 2021 and $36.0 million added in fiscal 2026. SHA notes that the $25.2 million decrease in total estimated costs from last year's estimate of $616.6 million is due to the addition of fiscal 2026 funding, which is more than offset by one primary source of efficiency. 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. In addition, SHA is expecting efficiencies from the use of a new smart pond technology being piloted that improves stormwater pond operations with the use of sensors and software that monitor real-time conditions such as water level and storage volume. The system uses internet-based forecasts to remotely operate valves to control timing and volume of water discharge. Longer retention time in the pond increases water quality by capturing more sediment and nutrients. This is reflected as $3.3 million in the fiscal 2020 portion of the prior authorization and $3.2 million in fiscal 2021. Overall, as noted above, 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 5
SHA Watershed Implementation Plan Funding
Fiscal 2021-2026
($ in Thousands)

Source	Prior Auth.	2021	2022	2023	2024	2025	2026	Total
Special Funds	$321,062	$5,263	$637	$6,475	$4,240	$6,126	$18,796	$362,599
Federal Funds	94,260	35,409	3,777	7,851	10,056	15,614	16,797	183,764
GO Bonds	45,000	0	0	0	0	0	0	45,000
Total	**$460,322**	**$40,672**	**$4,414**	**$14,326**	**$14,296**	**$21,740**	**$35,593**	**$591,363**

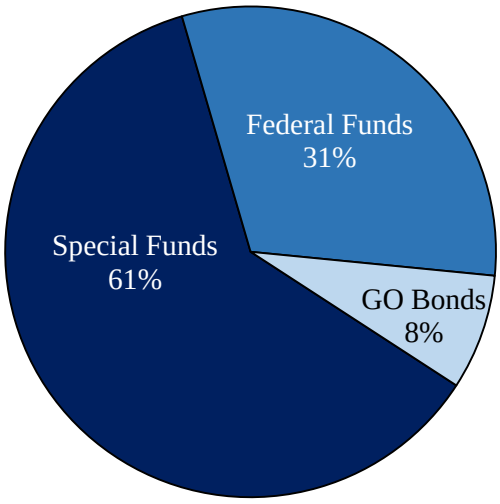
GO: general obligation
SHA: State Highway Administration

Note: For the prior authorization and fiscal 2021, respectively, $3.3 million and $3.2 million in 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 2021-2026 *Consolidated Transportation Program*

As shown in **Exhibit 6**, special funds comprise the largest share of the projected fund sources, accounting for 61% of the planned funding, followed by federal funds (31%) and general obligation (GO) bonds (8%); 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 2021 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 6
SHA Watershed Implementation Plan
Total Program Funding Sources



GO: general obligation
SHA: State Highway Administration

Source: Maryland Department of Transportation; Fiscal 2021 to 2026 *Consolidated Transportation Program*

Issues

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):

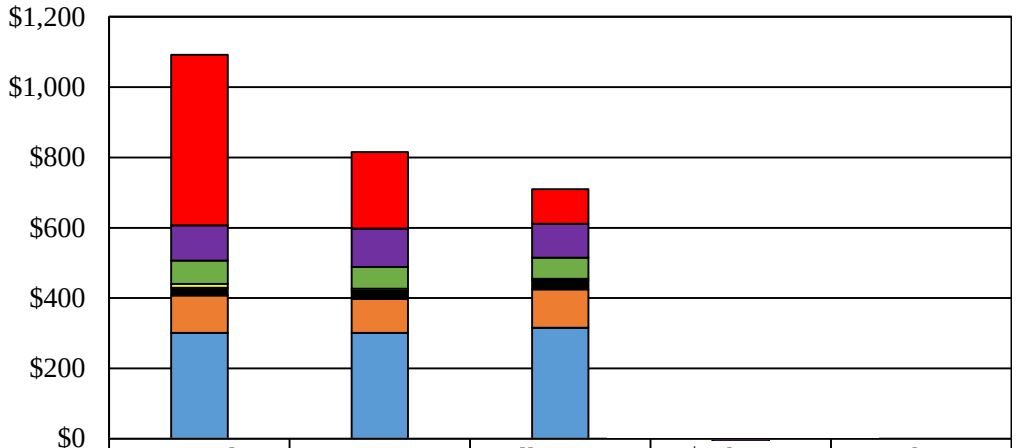
- ***Overall Chesapeake Bay Restoration:*** actions that include environmental education, land preservation, transit projects, and nutrient and sediment reduction among others;
- ***Two-year Milestones:*** actions for nutrient and sediment reduction only; and
- ***Chesapeake and Atlantic Coastal Bays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

Overall Chesapeake Bay Restoration

Section 34 of the fiscal 2021 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 2020 actual, the fiscal 2021 working appropriation, and the fiscal 2022 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. **Exhibit 7** illustrates the change in funding by State agency. The full funding detail by agency, fund source, and spending category is provided in **Appendix 1.**

Exhibit 7
Overview of Maryland's Funding for Chesapeake Bay Restoration
Fiscal 2020-2022



	Actual 2020	Approp. 2021	Allowance 2022	$ Change 2021-2022	% Change 2021-2022
Total	$1,092.5	$815.5	$709.7	-$105.9	-13.0%
MDOT	485.7	217.8	98.4	-119.4	-54.8%
DNR [1]	100.2	109.0	96.5	-12.5	-11.5%
MDA	66.2	62.4	60.2	-2.2	-3.6%
MDP	11.4	5.9	5.5	-0.3	-5.5%
MSDE	0.5	0.0	0.0	0.0	-10.0%
Higher Education	20.8	23.1	23.9	0.8	3.4%
POS, Rural Legacy, MALPF	106.8	96.0	109.5	13.4	14.0%
MDE	300.9	301.2	315.6	14.4	4.8%

DNR: Department of Natural Resources
MALPF: Maryland Agricultural Land Preservation Foundation
MDA: Maryland Department of Agriculture
MDE: Maryland Department of the Environment
MDOT: Maryland Department of Transportation
MDP: Maryland Department of Planning
MSDE: Maryland State Department of Education
POS: Program Open Space

[1] The exhibit reflects additional general obligation bond funding in fiscal 2020 through 2022 for the Resiliency through Restoration Initiative Program (formerly the Coastal Resiliency Program) that was inadvertently left out of 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

The major changes between the fiscal 2021 working appropriation and the fiscal 2022 allowance reflected in the overall Chesapeake Bay restoration spending are as follows.

- ***MDOT:*** Decreases by $119.4 million, consistent with less overall transportation spending to match lower revenues generated during the pandemic. Specific funding reductions primarily include $54.3 million for the Maryland Transit Administration's Purple Line transit project, a decrease of $44.9 million for a TMDL compliance program in SHA, a decrease of $7.5 million for the Baltimore-Washington SCMaglev project, and a $7.4 million Maryland Port Authority environmental mitigation project, which are partially offset by an increase of $9.9 million for two SHA stormwater projects.

- ***MDE:*** Increases by $14.4 million primarily due to increases of $19.1 million in special funds for the Water Quality Revolving Loan Fund and $3.0 million in Bay Restoration Fund special funds for operations and maintenance grants to plants upgraded to enhanced nutrient removal technology, which are offset partially by a decrease of $10.0 million in Bay Restoration Fund for Clean Water Commerce Act grants since the funding was mandated through fiscal 2021.

- ***Program Open Space (POS), Rural Legacy, Maryland Agricultural Land Preservation Foundation (MALPF):*** Increases by $13.4 million due to an increase of $10.4 million in additional transfer tax special funds for POS State Side, Rural Legacy Program, and MALPF and $3.0 million in federal Forest Legacy Act funding for POS State Side. Of note, the Governor's fiscal 2022 budget plan includes a reduction of $69.6 million in transfer tax special funds for POS and allied DNR capital programs and $31.0 million in MALPF contingent on the enactment of a provision in the BRFA of 2021 authorizing the use of an identical amount of GO bond funding for the same purposes.

- ***DNR:*** Decreases by $12.5 million primarily due to a decrease of $8.5 million in GO bond funding for oyster restoration, $3.1 million in general funds for repayment of prior year diversions of the transfer tax to the State's General Fund in the Forest Service, and $1.4 million in GO bond funding for the Resiliency through Restoration Initiative Program (formerly the Coastal Resiliency Program), which are offset partially by an increase of $1.8 million in special funds reflecting additional available Chesapeake and Atlantic Coastal Bays 2010 Trust Fund spending from the gas tax and short-term rental vehicle tax relative to the revised fiscal 2021 revenue estimate.

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. Funding was restricted pending the submission of

the Chesapeake and Atlantic Coastal Bays 2010 Trust Fund annual work and expenditure plans with the fiscal 2022 budget submission but was not received in time for inclusion in this analysis. Therefore, 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 again 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 2023 budget submission.

2. Historical and Projected Chesapeake Bay Restoration Spending

Section 34 of the fiscal 2021 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. One area of concern is the apparent lack of a comprehensive plan on how to meet the nitrogen load reductions in the agricultural sector. The report notes the following resources to address the nitrogen load reductions in the agricultural sector:

- ***Ecosystem Services:*** the report notes that Maryland's predominantly small farms, by either acreage or revenue, can realize the co-benefits from nutrient and sediment reduction, and thus on-farm revenue, through ecosystem services trading, whether it be nutrient reduction, carbon sequestration (Soil Health Initiative of the Healthy Soils Act of 2017), local water quality improvement, or biodiversity enhancement;

- ***Agricultural Tile Drainage:*** the Maryland Department of Agriculture (MDA) approved cost-share funding for agricultural drainage BMPs for tile-drained areas, but no information was provided about the status of funding these projects;

- ***Clean Water Commerce Act:*** the Clean Water Commerce Act, which sunsets at the end of fiscal 2021, could be extended and expanded to include the purchase of cost-effective nutrient and sediment reductions on agricultural land as is proposed by SB 119 and HB 507 of the 2021 legislative session (Clean Water Commerce Act of 2021); and

- ***Partnering with Conservation Partners:*** MDA is partnering with conservation partners on project implementation and increasing staff technical capacity to design and oversee project installations. The report does not provide any specifics, although it is assumed that this is related to the soil conservation district work required to help farmers develop soil and water conservation plans preliminary to the planning and design of BMPs to be installed on agricultural land.

DLS recommends that the Administration comment on a timeline and specific BMP implementation plan for meeting the nutrient and sediment reductions target under the TMDL by 2025. DLS also recommends that language be included requesting a similar report from the agencies for the fiscal 2023 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. Capacity to Handle Phosphorus Management Tool Requirements Unclear

The Phosphorous Management Tool (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 MDA.

In fall 2019, despite concerns raised regarding a potential lack of infrastructure in place to handle phosphorus from manure, the PMT Transition Advisory Committee considered and voted against 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.

There is continued concern about whether the infrastructure is in place to handle the phosphorus manure. Based on Dr. Memo Diriker's research, the continued generation of poultry manure is straining the existing manure infrastructure capacity, and 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 (MES) 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.

In terms of specific plans, the Animal Waste Technology Fund continues to support manure management projects, although no breakthrough technologies have been found to fully address the phosphorus loads. This is all the more important as alternative uses for poultry manure such as Perdue AgriRecycle's anaerobic digester project was shut down a couple of years ago. In addition, demand from mushroom farmers in Pennsylvania has declined as a result of the COVID-19 pandemic reducing restaurant demand, and there are concerns about future nutrient import restrictions. In terms of research, MDA has signed a memorandum of understanding with the University of Maryland, College Park Campus to complete a five-year study of phosphorus loss risk assessment tools.

On December 14, 2020, the PMT Advisory Committee again voted to not delay the implementation of PMT. Two of the main concerns raised about moving forward with implementation were as follows.

- ***Satellite Manure Storage Facilities Funding:*** The Maryland Agricultural Cost-Share Program is currently only authorized to provide cost-share funding for manure storage structures on farms that have animals. Yet, there are farms that do not have animals but that could store manure until the manure is spread on that farm. Therefore, the question is what would need to be changed (law, regulation, or administrative policy) to allow for the Maryland Agricultural Cost-Share Program to fund satellite storage facilities for manure on farms that do not have animals. One potential limitation on the use of funding in this way is the requirement that a manure storage structure on a farm receiving manure must address a natural resource concern, as required by Chapters 304 and 305 of 2020 (Agriculture – Cost-Sharing Program – Fixed Natural Filter Practices).

- ***Manure Transport Assistance Eligibility:*** Manure transport assistance through the Manure Transport Program only is available to farmers that grow chickens for integrators that contribute cost-share funding to the Manure Transport Program. The question was raised about what manure transport assistance is available for farmers that grow chickens for integrators that do not contribute to the Manure Transport Program.

DLS recommends that the Administration comment on what determination has been made about whether satellite manure storage facilities can receive Maryland Agricultural Cost-Share Program funding and on what manure transport assistance is available for farmers that grow chickens for integrators that do not contribute cost-share funding to the Manure Transport Program.

4. Conowingo Dam Relicensing, WIP, and Sediment Study

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 dam, which is 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 managed by a trio of third parties contracted for this purpose – the Center for Watershed Protection, the Chesapeake Bay Trust, and the Chesapeake Conservancy. The draft Conowingo WIP was released on October 14, 2020, and reflects an over-the-target reduction of 6.7 million pounds of nitrogen per year. The total annualized cost of nitrogen reduction is still to be determined but ranges from $53.3 million per year to $266 million per year. The draft WIP is the first of three WIP-related documents for the dam and reflects the recommended BMP implementation strategy. The draft Conowingo WIP public comment period completed on January 21, 2021, and so the two remaining documents include (1) a financing plan -- a draft version of which was completed on December 8, 2020 -- which will be crucial for

jurisdictions like Pennsylvania that are already struggling to meet their own WIPs and (2) a more detailed implementation strategy that will be an addendum to the draft Conowingo WIP. The next Conowingo WIP steering committee meeting is scheduled for February 2021.

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 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, which led Exelon to file an administrative appeal with MDE and lawsuits in federal and State court. 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. FERC has not ruled on the relicensing of the Conowingo Dam, and there have been ongoing challenges to the validity of MDE's agreement with Exelon. In addition, it is possible that the federal government may now look more favorably on State involvement in water quality certifications, thus changing the relicensing dynamic, although Maryland would then need to renegotiate with Exelon.

A third category of Conowingo Dam activity is a proposal to study the reuse of sediment stored behind the dam known as the Conowingo Dredging and Innovative and Beneficial Reuse Pilot Project. The idea is to characterize the sediment to determine whether it can be used and thus generate revenue to either offset or pay for sediment dredging behind the dam. Exelon filed an application with FERC requesting approval to authorize MES to implement a dredging project approximately five miles upstream from the Conowingo Dam. The notice was published in the Federal Register on July 14, 2020. The project calls for mechanically dredging 1,000 cubic yards of sediment. On November 12, 2020, MES announced that it had been authorized for right of entry in order to begin the sediment characterization portion of the pilot project, which began in December 2020. The pilot dredging project awaits FERC approval as noted above. The expectation is that the pilot dredging project would begin in fall 2021. **DLS recommends that the Administration comment on the expected outcome of the Conowingo Dam WIP financing strategy, the status of Conowingo Dam relicensing, and the status of the sediment characterization and next steps for the pilot dredging project.**

5. Lawsuits Filed Against EPA

On September 10, 2020, the Attorneys General from Delaware, the District of Columbia, Maryland, and Virginia filed a lawsuit in the U.S. District Court for the District of Columbia. The lawsuit seeks to compel EPA to comply with its nondiscretionary duty under the CWA to ensure that each signatory state to the Chesapeake Bay Agreement develops and implements management plans (the Phase III WIPs) that achieve and maintain the nutrient reductions goals in the agreement. In particular, New York and Pennsylvania are singled out for having inadequate Phase III WIPs tacitly approved by EPA that will achieve only 75% and 66% of the required nitrogen reductions, respectively; although, New York has since submitted an addendum to its WIP that meets its obligations, but with a funding gap remaining. The lawsuit further states that EPA's failure to ensure the development of adequate plans is tantamount to jeopardizing the success of overall Chesapeake Bay restoration, since the Phase III WIP process is the final period in which a statutory or regulatory mechanism is available to ensure that the bay states will achieve and maintain those reductions. A similar lawsuit was filed on September 10, 2020, by Anne Arundel County; the Chesapeake Bay Foundation, Inc.; Maryland Watermen's Association, Inc.; and two Virginia farmers.

The new Biden administration may provide an opportunity to either reach a settlement agreement of some kind or for the litigants to drop the lawsuits altogether if assurances can be provided that EPA will comply with its duty under the CWA. In addition, the new administration may also be more receptive to funding increases, particularly in terms of agricultural BMPs. **DLS recommends that the Administration comment on the ramifications of the new Biden administration in terms of both regulatory oversight and additional Chesapeake Bay restoration funding.**

Operating Budget Recommended Actions

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 2021 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 2022 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 2021 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 Quality Revolving Loan Fund among others, are for Chesapeake Bay restoration purposes; and

(6) updated information on the Phase III Watershed Implementation Plan 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, 2021, and the budget committees shall have 45 days from the date of the receipt of the report 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, 2021, 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 intent 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 Watershed Implementation Plan implementation; and how Conowingo Dam infill, people and animal growth, and climate change will be addressed.

Information Request	**Authors**	**Due Date**
Historical and projected Chesapeake Bay restoration spending	MDP DNR MDA MDE DBM	December 1, 2021

Appendix 1
Overview of Maryland's Funding for Chesapeake Bay Restoration
Fiscal 2018-2022

	Actual 2018	Actual 2019	Actual 2020	Approp. 2021	Allowance 2022	$ Change 2021-2022	% Change 2021-2022
Agency/Program Total Funds							
Department of Natural Resources[1]	$95,829,042	$104,574,459	$100,229,050	$109,031,441	$96,504,508	-$12,526,933	-11.5%
Program Open Space	34,476,663	48,532,004	41,127,317	35,939,587	44,964,714	9,025,127	25.1%
Rural Legacy	22,913,725	25,017,704	18,852,009	17,999,092	19,000,537	1,001,445	5.6%
Department of Planning	4,726,121	4,780,521	11,381,759	5,867,117	5,542,374	-324,743	-5.5%
Department of Agriculture	47,523,761	51,982,820	66,166,531	62,418,584	60,173,263	-2,245,321	-3.6%
Maryland Agricultural Land Preservation Foundation	34,465,938	50,727,806	46,815,967	42,105,178	45,517,785	3,412,607	8.1%
Maryland Department of the Environment[2]	441,171,644	291,314,759	300,943,995	301,194,480	315,609,470	14,414,990	4.8%
Maryland State Department of Education	416,945	436,998	458,375	18,931	17,038	-1,893	-10.0%
Maryland Higher Education	24,738,971	24,305,543	20,798,820	23,133,412	23,927,558	794,145	3.4%
Maryland Department of Transportation	391,147,731	382,733,958	485,686,817	217,816,042	98,407,604	-119,408,438	-54.8%
Total	**$1,097,410,539**	**$984,406,571**	**$1,092,460,640**	**$815,523,865**	**$709,664,851**	**-$105,859,014**	**-13.0%**
Fund Type							
General Fund	$33,597,584	$34,330,361	$41,962,395	$42,092,876	$39,919,964	-$2,172,912	-5.2%
Special Fund	344,736,093	430,993,468	393,864,109	410,688,099	437,562,658	26,874,559	6.5%
Federal Fund	53,624,001	53,566,901	90,863,039	57,665,401	59,084,833	1,419,432	2.5%
Reimbursable Funds	28,374,161	26,781,340	31,326,460	29,572,234	29,089,235	-483,000	-1.6%
Current Unrestricted	21,317,762	22,522,169	20,092,124	21,767,780	22,597,181	829,401	3.8%
Current Restricted	3,421,208	1,783,373	706,696	1,365,632	1,330,376	-35,256	-2.6%
General Obligation and Revenue Bonds[1,2]	221,192,000	31,695,000	27,959,000	34,555,800	21,673,000	-12,882,800	-37.3%
Maryland Department of Transportation Funds	391,147,731	382,733,958	485,686,817	217,816,042	98,407,604	-119,408,438	-54.8%
Total	**$1,097,410,539**	**$984,406,571**	**$1,092,460,640**	**$815,523,865**	**$709,664,851**	**-$105,859,014**	**-13.0%**

Spending Category	Actual 2018	Actual 2019	Actual 2020	Approp. 2021	Allowance 2022	$ Change 2021-2022	% Change 2021-2022
Land Preservation	$92,848,482	$125,676,709	$109,692,236	$99,438,353	$112,939,340	$13,500,987	13.6%
Septic Systems	21,151,121	21,225,521	27,836,759	22,367,117	22,042,374	-324,743	-1.5%
Wastewater Treatment	409,340,422	248,461,134	259,333,475	256,632,689	278,451,517	21,818,828	8.5%
Urban Stormwater	127,601,758	141,873,775	131,936,584	89,515,918	45,360,199	-44,155,719	-49.3%
Agricultural BMPs	65,488,794	70,055,992	82,349,091	80,460,614	78,259,110	-2,201,504	-2.7%
Oyster Restoration	10,406,431	9,257,692	9,006,661	15,219,572	5,731,454	-9,488,118	-62.3%
Transit and Sustainable Transportation	263,775,495	243,795,070	355,059,457	129,912,145	60,096,462	-69,815,683	-53.7%
Living Resources[1,2]	58,072,450	68,255,731	59,939,388	61,901,010	56,077,995	-5,823,015	-9.4%
Education and Research	25,185,664	24,788,383	21,331,990	23,207,603	23,994,596	786,992	3.4%
Other	23,539,924	31,016,564	35,974,999	36,868,843	26,711,805	-10,157,038	-27.5%
Total	**$1,097,410,539**	**$984,406,571**	**$1,092,460,640**	**$815,523,865**	**$709,664,851**	**-$105,859,014**	**-13.0%**

BMP: best management practice

[1] Reflects an additional $4,725,000 in general obligation (GO) bonds in fiscal 2019, $3,085,000 in GO bonds in fiscal 2020, $4,160,000 in GO bonds in fiscal 2021, and $2,770,000 in GO bonds in fiscal 2022 for the Resiliency through Restoration Initiative Program (formerly the Coastal Resiliency Program) that was inadvertently left out of Appendix L of the Governor's Budget Highlights.
[2] 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.

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