# Chesapeake Bay
# Fiscal 2025 Budget Overview

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

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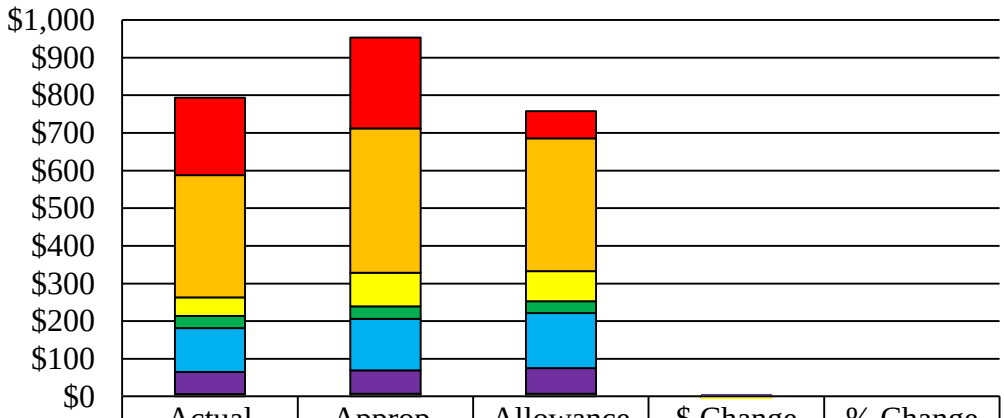
# *Executive Summary*

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 2025 Budget Decreases $195.5 Million, or 20.5%, to $758.0 Million**
**($ in Millions)**




| | Actual 2023 | Approp. 2024 | Allowance 2025 | $ Change 2024-2025 | % Change 2024-2025 |
|---|---|---|---|---|---|
| Total | $793.2 | $953.5 | $758.0 | -$195.5 | -20.5% |
| POS, Rural Legacy, MALPF** | 205.0 | 241.7 | 72.5 | -169.2 | -70.0% |
| MDE | 325.3 | 383.4 | 352.7 | -30.6 | -8.0% |
| MDOT | 48.8 | 89.0 | 80.2 | -08.7 | -9.8% |
| Higher Education | 32.3 | 33.3 | 31.3 | -02.0 | -5.9% |
| DNR* | 116.9 | 137.1 | 146.2 | 09.1 | 6.6% |
| MDA | 58.3 | 62.0 | 67.5 | 05.5 | 8.9% |
| MDP | 6.0 | 6.5 | 6.9 | 0.4 | 5.9% |
| MSDE | 0.5 | 0.6 | 0.6 | 0.0 | 0.0% |

* The exhibit reflects an additional $2.0 million in general obligation bonds in fiscal 2023 for the Resiliency through Restoration Initiative Program (formerly the Coastal Resiliency Program); and $13.3 million in special funds in fiscal 2023 for the Oyster Restoration Program that were inadvertently left out of the Appendix L of the Governor's Budget Highlights.
** The exhibit reflects an adjustment to correct the Rural Legacy Program funding from $20.2 million to $15.3 million in fiscal 2025.

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

Note: The exhibit does not reflect fiscal 2023 funding of $25.0 million in general obligation bonds for the Conowingo Dam Dredging and Watershed Implementation Plan project that remains in the Dedicated Purpose Account.

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

## *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 4.8 million pounds per year relative to the calendar 2022 level 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 (UMCES) Chesapeake Bay and Watershed Report Card, has generally remained the same since calendar 2003. The overall health of the bay improved slightly in calendar 2022, receiving an overall score of C (51%), indicating that the bay is in moderate ecosystem health. In addition, the Chesapeake Bay watershed's health scored 52% (C) in calendar 2022, which is not comparable to 2021 due to the addition of a fish community indicator in calendar 2022.

- ***Overall Chesapeake Bay Restoration Funding:*** Chesapeake Bay restoration funding decreases by a net $195.5 million between fiscal 2024 and 2025. The major change is a combined $169.2 million net decrease for Program Open Space (POS) State Side, the Rural Legacy Program, and the Maryland Agricultural Land Preservation Foundation (MALPF) due to a reduced transfer tax revenue estimate in fiscal 2025 relative to fiscal 2024 and an underattainment of revenue from fiscal 2023 that is applied to fiscal 2025, as well as the

elimination of the general funds mandated by Chapter 39 of 2022 of $16.6 million for MALPF and $5.4 million for the Rural Legacy Program.

- ***Historical and Projected Chesapeake Bay Restoration Spending:*** The submitted spending report notes that new model updates will be addressed after calendar 2025, a consent decree has been issued for the Back River and Patapsco wastewater treatment plants (WWTP) requiring Baltimore City to pay up to $4.75 million, the margin of safety on Maryland's Phase III WIP has been reduced, federal Infrastructure Investment and Jobs Act (IIJA) funding will help with Chesapeake Bay restoration but will not increase the capacity to do work, climate change and population growth are ongoing challenges, a new executive order is intended to accelerate restoration, the pay-for-success financing model led by the Susquehanna River Basin Commission will ensure success of the Conowingo WIP, and nutrient and sediment reductions have not translated to water quality standard improvements.

- ***Comprehensive Evaluation of System Response Provides a Guide:*** In May 2023, the Chesapeake Bay Program's Science and Technical Advisory Committee released a report titled *Achieving Water Quality Goals in the Chesapeake Bay: A Comprehensive Evaluation of System Response*, which assesses why progress toward meeting the TMDL has been slower than anticipated. Report findings and recommendations focus on the need to shift from meeting water quality goals to enhancing living resources, use pay-for-success funding (outcome) as opposed to practice-based (output) funding, and target resources to areas identified with the greatest possible reductions (high-loss nonpoint agricultural areas) and greatest possible benefits (shallow water habitats).

- ***Choptank River Watershed Challenges and Opportunities:*** The Choptank River watershed is a barometer for success of Maryland's agricultural strategies for Chesapeake Bay restoration. The Choptank River had low scores for both UMCES Chesapeake Bay scorecards: the Chesapeake Bay health score that decreased from C, or 50%, to D+, or 36%; and the Chesapeake Bay watershed health score that had a D+ score at least partially due to the low score for stewardship index (F). Despite these challenges, or perhaps because of them, NEIWPCC – a nonprofit regional commission helping Northeast states manage water quality – has selected the Envision the Choptank partnership as one of its two Maryland nutrient success stories.

- ***New Model Highlights Importance of Growth Management and Land Preservation for Chesapeake Bay Restoration:*** Growth is a key long-term challenge for Chesapeake Bay restoration. The Chesapeake Bay Land Change Model highlights the importance of both growth management and targeted land preservation for reducing nutrient loads to the Chesapeake Bay and preserving ecosystems.

- ***Conowingo Dam WIP (CWIP), Relicensing, and Sediment Study:*** Maryland has committed $25.0 million to CWIP with the January 4, 2023 Board of Public Works (BPW) approval of the Susquehanna River Basin Commission as the fiscal agent for the pay for performance project. The deadline for a pay-for-success request for proposals (RFP) is January 22, 2024. On December 20, 2022, the U.S. Court of Appeals for the District of

Columbia Circuit ordered the Conowingo Dam license to be vacated. On June 1, 2023, The Maryland Department of the Environment (MDE) resumed its administrative review of the 2018 water quality certification. The future of the settlement agreement between MDE and Constellation Energy that requires Constellation Energy to invest more than $200 million in environmental projects and operational enhancements to improve water quality over the 50-year license term remains unclear. The Lawrence J Hogan, Jr. Administration released $3.3 million of a $6.0 million fiscal 2023 appropriation for the Maryland Environmental Service's (MES) Conowingo Dam Capacity Recovery and Dredge Material Reuse Project despite concerns of the budget committees, but the Budget Reconciliation and Financing Act (BRFA) of 2024 has a provision to send the full $6.0 million to the General Fund.

- ***Back River and Patapsco WWTPs Receive Additional Scrutiny with a Consent Decree:*** The Back River and Patapsco WWTPs have garnered a substantial amount of scrutiny in recent years due to process failures – primarily in terms of the management of biosolids – permit limit violations, sewage discharges, obnoxious odors, and even a March 15, 2023 explosion and fire at Back River contractor Synagro's sludge handling building. Chapters 178 and 179 of 2023 established a task force to study approaches to water and wastewater governance in the Baltimore region, but there does not appear to be an easy solution. Most recently, MDE announced a consent decree on November 2, 2023, covering the two WWTPs and requiring Baltimore City to pay up to $4.75 million for wastewater violations.

- ***Targeting Cover Crop Program and Other Best Management Practice (BMP) Funding:*** The committees requested that the Maryland Department of Agriculture (MDA) submit a report evaluating strategies for improving the targeting of the Cover Crop Program and other BMP funding. The submitted report notes funding for the Maryland Agricultural Cost-Share Program has been targeted to 12 priority watersheds but does not explain when the funding was last targeted. The Cover Crop Program is not targeted, although the Envision the Choptank's common agenda notes that by the end of 2016, cover crops were planted on 60% of eligible cropland. Therefore, information is available about the spatial coverage of the Cover Crop Program even if funding is not targeted spatially. Research on reducing nitrogen and phosphorus losses from nonpoint agricultural sources in combination with fine spatial scale mapping may be reaching a point where high-loss areas, perhaps at the farm or even field level, may be identified and targeted for funding or outreach.

- ***Resolution of 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 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. 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. On July 10, 2023, EPA entered into a settlement agreement resolving the litigation that requires EPA to take a number of actions. EPA must evaluate each Bay state's progress toward meeting the 2025 TMDL and report the results online by December 31, 2026.

## Operating Budget Recommended Actions

1. Nonbudgeted.

# *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 in the following.

## The Overarching Goal: Chesapeake Bay TMDL

In December 2010, EPA established a Chesapeake Bay TMDL as required under the federal 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 WIPs; two-year milestones; federal review to track and assess progress; and as necessary, specific federal actions if the 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, the 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. Most recently, Maryland submitted a climate change addendum to its Phase III WIP in January 2022 to address additional load reductions associated with climate change.

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 | Sediment Pollution |
|---|---|---|---|
| Susquehanna | 1.6 | 0.1 | 113.8 |
| Eastern Shore | 15.6 | 1.3 | 2,903.4 |
| Western Shore | 9.6 | 0.9 | 2,959.9 |
| Patuxent | 3.2 | 0.3 | 437.7 |
| Potomac | 15.8 | 1.1 | 1,928.0 |
| **Total** | **45.8** | **3.7** | **8,342.9** |

Note: Numbers may not sum due to rounding.

Source: Chesapeake Bay Program – Chesapeake Assessment and Scenario Tool

## 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 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, BMPs, 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.

## 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 to ensure pollution reductions, including increased 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. In October 2020, the U.S. Congress passed America's Conservation Enhancement Act, which reauthorized the program for another five years and provides up to $92.0 million annually by federal fiscal 2025 to fully fund bay water quality monitoring and coordination activities between the bay jurisdictions. Under recent continuing resolutions passed by the U.S. Congress, Chesapeake Bay Program funding remains at $92.0 million.

The U.S. Congress passed the IIJA on November 5, 2021. In addition to providing funding for an array of infrastructure investments, the Act increases funding for the program by $238 million for grants and technical assistance over five years (an additional $47.6 million a year) spread across the Chesapeake Bay watershed.

On August 16, 2022, the federal Inflation Reduction Act was signed into law. Among other things, the Act allocates almost $20 billion to the U.S. Department of Agriculture (USDA) for agricultural conservation practices that have co-benefits for climate resiliency, water quality, greenhouse gas emissions, and nutrient and sediment pollution. On September 14, 2022, USDA announced that it is investing up to $2.8 billion in 70 selected projects intended to create market opportunities for commodities produced using agricultural practices that reduce greenhouse gas emissions or sequester carbon. Of the selected projects, 18 are expected to be implemented partially or fully in Maryland. MDA reports that, as of October 2023, it has applied for the following Inflation Reduction Act competitive funding that it would spend through September 2026: $13.4 million from the Agricultural Conservation Easement Program; $12.6 million for the Conservation Stewardship Program; $1.0 million for Conservation Technical Assistance; and $43.8 million for the Environmental Quality Incentives Program.

# 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. 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.

For illustrative purposes, **Exhibit 2** reflects (1) the predominant nitrogen loading source in calendar 2019 for each land river segment – the smallest available geographic area for which data

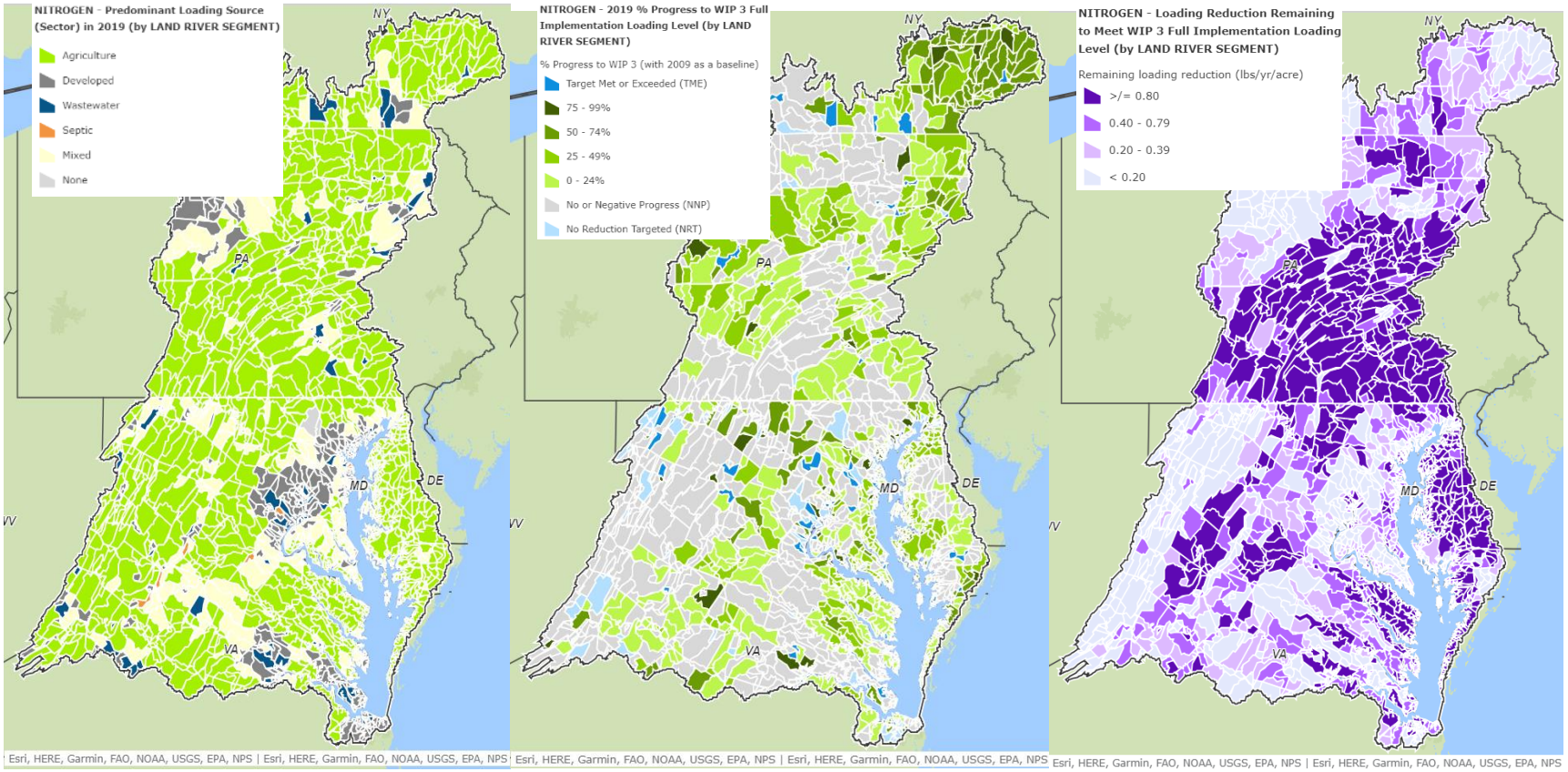
is available; (2) the calendar 2019 percent progress toward the Phase III WIP implementation loading level for each land river segment; and (3) the loading reduction remaining to meet Phase III WIP full implementation. The progress toward the TMDL shown in the maps is based on the Phase III WIP planning 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 WWTPs.

## 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; U.S. Census Bureau; 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 calendar 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 has not updated its oversight status information since calendar 2018.

**Exhibit 3**
**EPA Oversight Status for Bay Jurisdictions**
**Calendar 2018**

| 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

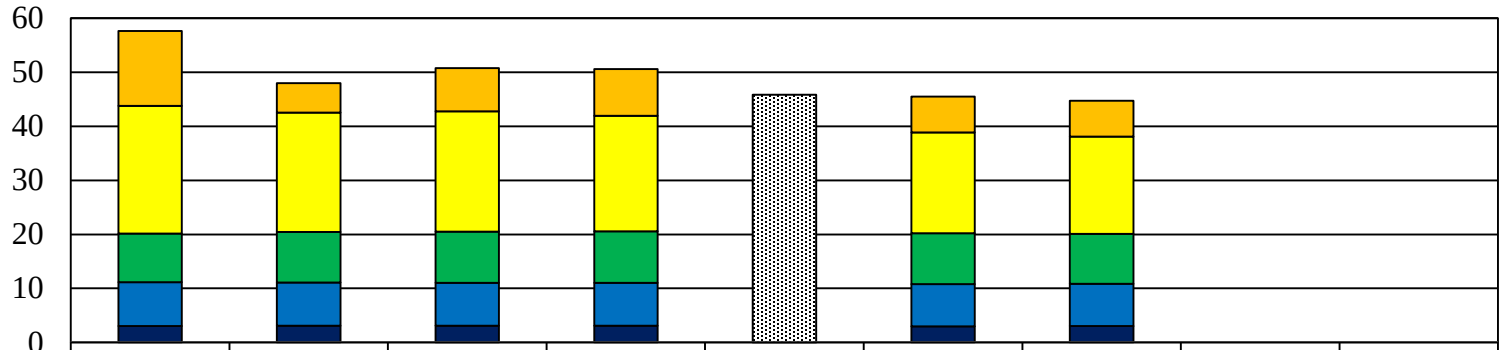
In its July 2018 midpoint assessment, EPA concluded that the bay jurisdictions exceeded the 60% goal for reducing phosphorus and sediment but did not achieve the goal for reducing nitrogen. To achieve the necessary reductions by calendar 2025, the bay jurisdictions must reduce an additional 48.4 million 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 originally anticipated that the State would achieve and possibly exceed statewide nutrient and sediment pollution reduction goals by calendar 2025, although more recent modeling suggests these goals may be more difficult to meet than first anticipated. 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, there are concerns that Maryland is not fully on track to meet its goals. Among those concerns raised by EPA are (1) whether Maryland's Phase III WIP includes sufficient detail regarding the actions that must be taken 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 are available to implement necessary agricultural practices. 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 October 2022 evaluation of Maryland's 2020-2021 completed and 2022-2023 projected milestones, EPA noted that Maryland did not achieve its 2021 targets for nitrogen and phosphorus but did achieve its target for sediment. The evaluation specifically flagged the State's handling of expired municipal storm sewer system permits and implementation of agricultural BMPs as areas for improvement. Delaware, New York, Pennsylvania, and Virginia also fell short on their projected milestones, prompting the EPA Administrator to acknowledge that the plan and timeline for meeting remaining pollution reductions will likely need to be revised.

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 4.8 million pounds per year relative to the calendar 2022 level 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, 2020, 2021, and 2022; the target load for 2025 using the Phase 6 model; the official Maryland Phase III WIP using the 2019 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:

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




| | 2009 Actual | 2020 Actual | 2021 Actual | 2022 Actual | 2025 Target | 2025 WIP Goal (2019) | 2025 WIP Goal (Official) | 2009-2022 Percent Change | 2022-2025 Official Percent Change |
|---|---|---|---|---|---|---|---|---|---|
| Total | 57.6 | 48.0 | 50.7 | 50.6 | 45.8 | 45.5 | 44.7 | -12.2% | -11.6% |
| Wastewater | 13.8 | 5.5 | 8.0 | 8.6 | | 6.6 | 6.6 | -37.6% | -23.1% |
| Agriculture | 23.6 | 22.1 | 22.2 | 21.4 | | 18.6 | 18.0 | -9.4% | -16.0% |
| Developed | 9.0 | 9.3 | 9.5 | 9.5 | | 9.4 | 9.3 | 5.8% | -2.9% |
| Natural | 8.1 | 8.0 | 8.0 | 8.0 | | 7.8 | 7.8 | -1.9% | -2.1% |
| Septic | 3.0 | 3.1 | 3.1 | 3.1 | | 3.0 | 3.1 | 1.3% | -1.1% |

WIP: Watershed Implementation Plan

Note: The 2025 Target is not broken down by sector in order to give the states flexibility in how they meet their load reductions.

Source: Chesapeake Bay Program – Chesapeake Assessment and Scenario Tool

- ***Progress:*** Maryland decreased loading by 0.1 million pounds of nitrogen between calendar 2021 and 2022, which appears to be a minimal change over the time period shown, but still reflects an improvement upon the increase of 2.8 million pounds of nitrogen between calendar 2020 and 2021 that resulted from failures at the Back River and Patapsco WWTPs and less credit for reductions in the agriculture sector as a result of new Chesapeake Bay model assumptions.

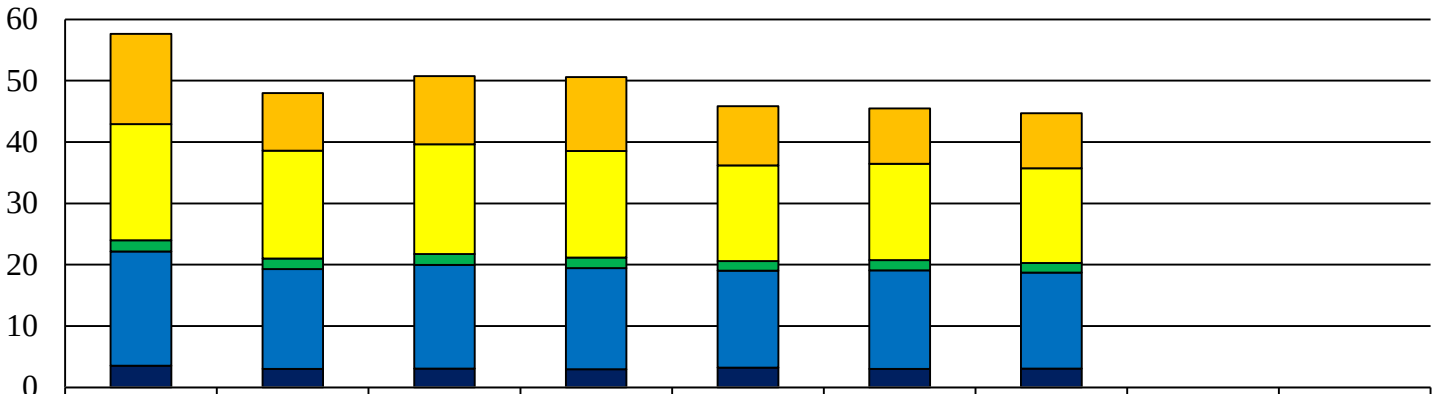
- ***Target Exceeded:*** Maryland intends to reduce nitrogen loads to 44.7 million in calendar 2025 and thus exceed the 45.8 million pounds per year target in order to account for increased pollution reductions needed to address climate change;

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

- ***Percent Changes:*** Maryland needs to maintain the pace of progress relative to the overall 2009 through 2022 period as long as the challenges in the wastewater sector are addressed to meet the 2025 target, but the pace of progress in the agriculture sector will need to increase.

Another way to evaluate Maryland's progress is to look at nitrogen loads by major basin. **Exhibit 5** reflects that Maryland's Western Shore basin – predominated by the wastewater and developed sectors – will have to reduce 25.6% of its load compared to the 17.8% reduced in the 2009 through 2022 period, once again mostly due to failures at the Back River and Patapsco WWTPs. This is in contrast to the progress realized in the analysis two years ago, when the Western Shore saw substantial nutrient load reductions due to the upgrade of WWTPs and thus only had to reduce 4.2% of its load compared to the 36.2% reduced in the 2009 through 2020 period. The Eastern Shore basin – predominated by the agricultural sector – will have to reduce 11.2% of its load compared to the 8.3% reduced in the 2009 through 2022 period.

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



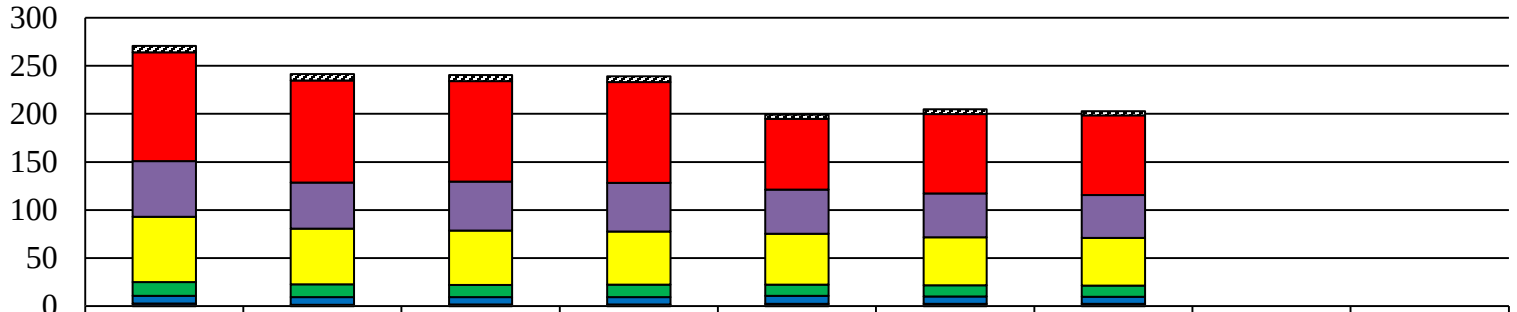

| | 2009 Actual | 2020 Actual | 2021 Actual | 2022 Actual | 2025 Target | 2025 WIP Goal (2019) | 2025 WIP Goal (Official) | 2009-2022 Percent Change | 2022-2025 Official Percent Change |
|---|---|---|---|---|---|---|---|---|---|
| Total | 57.6 | 48.0 | 50.7 | 50.6 | 45.8 | 45.5 | 44.7 | -12.2% | -11.6% |
| Western Shore | 14.7 | 9.4 | 11.1 | 12.1 | 9.6 | 9.0 | 9.0 | -17.8% | -25.6% |
| Eastern Shore | 19.0 | 17.6 | 17.9 | 17.4 | 15.6 | 15.7 | 15.4 | -8.3% | -11.2% |
| Susquehanna River | 1.8 | 1.8 | 1.8 | 1.7 | 1.6 | 1.6 | 1.6 | -4.2% | -8.9% |
| Potomac River | 18.7 | 16.3 | 16.9 | 16.5 | 15.8 | 16.1 | 15.6 | -11.7% | -5.1% |
| Patuxent River | 3.5 | 3.0 | 3.1 | 2.9 | 3.2 | 3.0 | 3.1 | -16.3% | 5.1% |

WIP: Watershed Implementation Plan

Source: Chesapeake Bay Program – Chesapeake Assessment and Scenario Tool

Lastly, there is the Chesapeake Bay watershed nitrogen pollution loading as a whole, which is reflected in **Exhibit 6**. As shown, although Delaware has the greatest percentage reduction needed between calendar 2022 and 2025, Pennsylvania, which contributes the largest amount of nitrogen pollution loading, has the largest magnitude of reductions, and has to substantially increase its load reductions by 2025, from the 7.5% between 2009 and 2022 to 21.0% between 2022 and 2025. Overall, the Chesapeake Bay watershed states will need to increase reductions from the 11.7% between calendar 2009 and 2022 to 15.2% between calendar 2022 and 2025. This is a significant factor for the pessimism of meeting of the 2025 TMDL.

**Exhibit 6**
**Chesapeake Bay Watershed Nitrogen Pollution Loads by State**
**Trends and Targets**
**(Millions Pounds Per Year)**




| | 2009 Actual | 2020 Actual | 2021 Actual | 2022 Actual | 2025 Target | 2025 WIP Goal (2019) | 2025 WIP Goal (Official) | 2009-2022 Percent Change | 2022-2025 Official Percent Change |
|---|---|---|---|---|---|---|---|---|---|
| Total | 270.8 | 241.5 | 240.5 | 239.2 | 199.3 | 204.8 | 202.9 | -11.7% | -15.2% |
| Delaware | 6.9 | 6.9 | 6.4 | 6.2 | 4.6 | 4.9 | 4.5 | -9.8% | -27.8% |
| Pennsylvania | 113.2 | 106.0 | 104.5 | 104.7 | 73.5 | 82.7 | 82.7 | -7.5% | -21.0% |
| Maryland | 57.6 | 48.0 | 50.7 | 50.6 | 45.8 | 45.5 | 44.7 | -12.2% | -11.6% |
| Virginia | 67.9 | 58.0 | 56.6 | 55.4 | 53.0 | 49.9 | 49.6 | -18.5% | -10.5% |
| New York | 14.4 | 13.2 | 12.6 | 12.8 | 11.8 | 11.6 | 11.6 | -11.0% | -9.3% |
| West Virginia | 8.0 | 8.0 | 7.9 | 7.9 | 8.2 | 7.8 | 7.5 | -1.8% | -5.0% |
| District of Columbia | 2.8 | 1.4 | 1.7 | 1.6 | 2.4 | 2.3 | 2.3 | -40.7% | |

WIP: Watershed Implementation Plan

Note: The District of Columbia has exceeded its 2025 goal.

Source: Chesapeake Bay Program – Chesapeake Assessment and Scenario Tool

## Health

The results of implementing BMPs are reflected in UMCES' Chesapeake Bay and Watershed Report Card, which is comprised of separate scores for the Chesapeake Bay itself and the surrounding watershed – the fourth year of reporting for the watershed, although the inclusion of new economic indicators in calendar 2021 and a fish community indicator in calendar 2022 mean that the 2022 score is not directly comparable to prior years. In addition, the 2022 version of UMCES' Chesapeake and Bay and Watershed Report Card includes a new environmental justice index.

- ***Chesapeake Bay Health Score:*** The Chesapeake Bay health score compares seven indicators – dissolved oxygen, nitrogen, phosphorus, chlorophyll a, water clarity, aquatic grasses, and benthic community – to scientific goals. Striped bass, bay anchovy, and blue crab are part of a separate fisheries index, which is not included in the bay health score. The health of the Chesapeake Bay itself, as measured by the report card, has generally remained the same since calendar 2003. The overall health of the bay improved slightly in calendar 2022, receiving an overall score of C (51%), indicating that the bay is in moderate ecosystem health. The highest-scoring region was the Lower Bay again (increased from 65% to 69% but remains a B), which is the part of the bay closest to the Atlantic Ocean. The lowest-scoring region was the Patapsco and Back Rivers (D-, or 24%). The region with the greatest improvement is the Upper Bay, which increased from C, or 49%, to C+, or 58%. The region with the greatest decline is the Choptank River, which decreased from C, or 50%, to D+, or 36%.

- ***Chesapeake Bay Watershed Health Score:*** The Chesapeake Bay watershed health score has changed, as noted previously. The current version of the watershed health score includes three categories comprised of 12 indicators, as follows: ecological – water quality (previously separate indicators for nitrogen, phosphorus, and turbidity), stream benthic community, protected lands, and fish community (a new addition); societal – stewardship, walkability, heat vulnerability index, and social index; and economic – housing affordability, income inequality, jobs growth, and median income. These indicators are compared to scientific and administrative goals. The health of the Chesapeake Bay watershed has only been scored for four years, and the changes to the 2021 and 2022 reports mean there is no long-term trend. The Chesapeake Bay watershed scored 52% (C) in 2022. The highest-scoring region was the Upper James (B-, or 62%). The lowest-scoring region was the Choptank River in Maryland (D+, or 37%). The Choptank River region's score was largely due to the following: ecological indicators – overall D+, with a high score for protected lands (A-) and low score for fish community (F); societal indicators – overall D+, with a high score for social index (C) and a low score for stewardship index (F); and economic indicators – overall C-, with a high score for median income (C) and a low score for housing affordability (D).

- ***Environmental Justice Index:*** The new environmental justice index reflects data from the Centers for Disease Control and Prevention's Environmental Justice Index. The index is

comprised of three modules and submetrics as follows: social vulnerability – racial/ethnic minority status, socioeconomic status, household characteristics, and housing type; environmental burden – air pollution, potentially hazardous and toxic sites, built environment, transportation infrastructure, and water pollution; and health vulnerability – pre-existing chronic disease burden. Overall, UMCES notes that the map shows cities and rural areas have higher relative environmental justice impacts compared to suburban areas.

## 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 $0.7 billion, which is down from the original expectation of $1.5 billion. The State Highway Administration (SHA) owns more than 2,500 stormwater management facilities and nearly 17,000 lane miles of roadway throughout the State. The Transportation Trust Fund (TTF) is authorized as the fund source for the mandated cost of complying with the WIP.

**Exhibit 7** reflects the most recent SHA WIP funding estimate of $670.0 million, which includes $513.3 million expended prior to fiscal 2024 and $29.0 million added in fiscal 2029. The $11.5 million increase in total estimated costs from last year's estimate of $658.5 million is due to the addition of fiscal 2029 funding, partially offset by reductions of estimated funding needed between fiscal 2025 and 2028.

**Exhibit 7**
**SHA Watershed Implementation Plan Funding**
**Fiscal 2024-2029**
**($ in Thousands)**

| Source | Prior Auth. | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | Total |
|---|---|---|---|---|---|---|---|---|
| Special Funds | $335,724 | $7,530 | $7,242 | $6,408 | $6,247 | $6,998 | $6,587 | $376,736 |
| Federal Funds | 132,611 | 8,773 | 12,707 | 24,304 | 21,267 | 26,159 | 22,457 | 248,278 |
| GO Bonds | 45,000 | 0 | 0 | 0 | 0 | 0 | 0 | 45,000 |
| **Total** | **$513,335** | **$16,303** | **$19,949** | **$30,712** | **$27,514** | **$33,157** | **$29,044** | **$670,014** |

GO: general obligation SHA: State Highway Administration

Note: The GO bond funding was set up through the Secretary's Office; SHA spent its own funds and then was reimbursed by the Secretary's Office. However, the GO bond funding is reflected here in order to account for the funding for the Maryland Department of Transportation as a whole. For the prior authorization, $6.5 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 2024-2029 *Consolidated Transportation Program*

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. This is reflected as $6.5 million in the prior authorization. Overall, as noted previously, 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.

Special funds comprise the largest share of the projected fund sources, accounting for 56% of the planned funding, followed by federal funds (37%) and general obligation (GO) bonds (7%). SHA notes that federal funds are difficult to use because stormwater work related to the TMDL program does not have a dedicated funding source under the U.S. Department of Transportation and would be drawing from the same funding sources needed to support the safe and efficient movement of people and goods in Maryland.

# *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 in the following):

- ***Overall Chesapeake Bay Restoration:*** environmental education, land preservation, transit projects, and nutrient and sediment reduction, among others;

- ***Two-year Milestones:*** nutrient and sediment reduction only; and

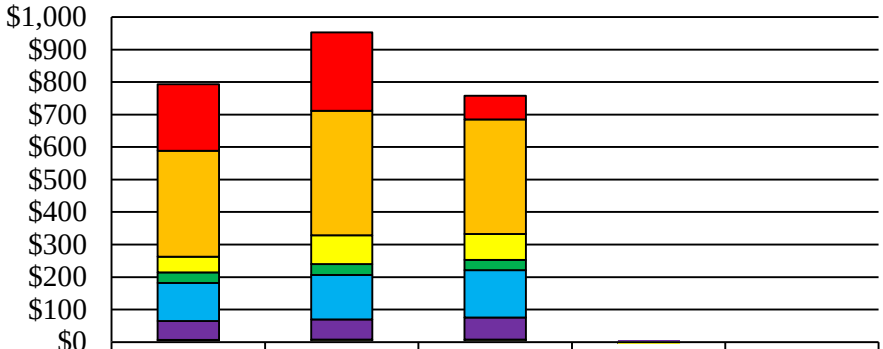
- ***Chesapeake and Atlantic Coastal Bays 2010 Trust Fund:*** nutrient and sediment reduction from nonpoint sources only using certain revenues.

### Overall Chesapeake Bay Restoration

The 2023 *Joint Chairmen's Report* (JCR) expressed the General Assembly's intent that the Department of Natural Resources (DNR), the Department of Budget and Management (DBM), 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 2023 actual, the fiscal 2024 working appropriation, and the fiscal 2025 allowance.

The purpose of the Chesapeake Bay restoration expenditures exhibit is to understand the overall scope of restoration funding. **Exhibit 8** 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 8**
## Overview of Maryland's Funding for Chesapeake Bay Restoration
**Fiscal 2023-2025 Allowance**




| | Actual 2023 | Approp. 2024 | Allowance 2025 | $ Change 2024-2025 | % Change 2024-2025 |
|---|---|---|---|---|---|
| Total | $793.2 | $953.5 | $758.0 | -$195.5 | -20.5% |
| POS, Rural Legacy, MALPF** | 205.0 | 241.7 | 72.5 | -169.2 | -70.0% |
| MDE | 325.3 | 383.4 | 352.7 | -30.6 | -8.0% |
| MDOT | 48.8 | 89.0 | 80.2 | -08.7 | -9.8% |
| Higher Education | 32.3 | 33.3 | 31.3 | -02.0 | -5.9% |
| DNR* | 116.9 | 137.1 | 146.2 | 09.1 | 6.6% |
| MDA | 58.3 | 62.0 | 67.5 | 05.5 | 8.9% |
| MDP | 6.0 | 6.5 | 6.9 | 0.4 | 5.9% |
| MSDE | 0.5 | 0.6 | 0.6 | 0.0 | 0.0% |

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

* The exhibit reflects an additional $2.0 million in general obligation bonds in fiscal 2023 for the Resiliency through Restoration Initiative Program (formerly the Coastal Resiliency Program); and $13.3 million in special funds in fiscal 2023 for the Oyster Restoration Program that were inadvertently left out of the Appendix L of the Governor's Budget Highlights.
** The exhibit reflects an adjustment to correct the Rural Legacy Program funding from $20.2 million to $15.3 million in fiscal 2025.

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. The presentation does not reflect fiscal 2023 funding of $25.0 million in general funds for the Conowingo Dam Dredging and Watershed Implementation Plan project that remains in the Dedicated Purpose Account. It also does not include the $6.0 million for the Conowingo Dam Capacity Recovery and Dredge Material Reuse Project, which is being transferred to the General Fund by a provision in the Budget Reconciliation and Financing Act of 2024.

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

Overall Chesapeake Bay restoration spending decreases by $195.5 million, or 20.5%, between the fiscal 2024 working appropriation and the fiscal 2025 allowance. The major changes are as follows.

- ***POS, Rural Legacy, and MALPF:*** Decreases by $169.2 million primarily as a result of a reduction in transfer tax special funds of $89.6 million for POS State, $43.1 million for MALPF, and $18.1 million for the Rural Legacy Program due to a reduced transfer tax revenue estimate in fiscal 2025 relative to fiscal 2024 and an underattainment of revenue from fiscal 2023 that is applied to fiscal 2025. There is also the elimination of general funds mandated by Chapter 39 of $16.6 million for MALPF and $5.4 million for the Rural Legacy Program. These decreases are offset partially by an increase of $2.0 million in federal funds for National Park Service Outdoor Recreation Acquisition, Development and Planning funding (also known as the Land and Water Conservation Fund) and a $1.5 million increase in special funds from county participation in agricultural land preservation.

- ***MDE:*** Decreases by $30.6 million, primarily due to a decrease of $32.5 million for wastewater treatment, which is offset partially by an increase of $1.2 million for urban stormwater work. The wastewater treatment decrease primarily reflects a net $27.7 million decrease in Water Quality Revolving Loan Fund funding and a $6.2 million decrease in Bay Restoration Fund funding.

- ***MDOT:*** Decreases by $8.7 million primarily due to a decrease of $7.5 million for transit and sustainable transportation alternatives and a decrease of $0.9 million for urban stormwater. The transit and sustainable transportation alternatives decrease reflects a decrease of $4.6 million for the Bikeways Program, $3.3 million for the Eastern Bus Redevelopment (EV Bus Conversion) project, and $2.7 million for the Washington, Baltimore and Annapolis Railroad Trail-Bridge at Patuxent. These decreases are offset partially by increases of $2.1 million for the MTR Wabash Train Wash project and $2.0 million for the North Branch Hiker-Biker Trail.

- ***DNR:*** Increases by $9.1 million, which primarily reflects an increase of $10.9 million in Chesapeake and Atlantic Coastal Bays 2010 Trust Fund special funds and $2.0 million in U.S. Department of Agriculture – Forest Service's State and Private Forestry Cooperative Fire Assistance funding. These increases are offset partially by decreases of $2.9 million in federal funds for U.S. Department of the Interior – U.S. Fish and Wildlife Service's Coastal Wetlands Planning, Protection and Restoration funding and $2.5 million in general funds for the research vessel Kerhin.

- ***MDA:*** Increases by $5.5 million primarily due to an increase of $4.0 million in GO bond funds for the Maryland Agricultural Cost-Share program.

While not reflected in Exhibit 8, $25.0 million in general funds for the Conowingo Dam Dredging and WIP project remains in the Dedicated Purpose Account (DPA) and $6.0 million for the Conowingo Dam Capacity Recovery and Dredge Material Reuse Project is proposed for transfer to the General Fund by a provision in the BRFA of 2024. The January 4, 2023 BPW

agenda included an item approving the Susquehanna River Basin Commission as the recipient of funding from the Conowingo WIP nutrient reduction project and the solicitation deadline for pay-for-success proposals for verified nutrient reductions is January 22, 2024.

## Chesapeake and Atlantic Coastal Bays 2010 Trust Fund

The Chesapeake and Atlantic Coastal Bays 2010 Trust Fund was established 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.

The COVID-19 pandemic reduced revenues for the fund, particularly from the sales and use tax on short-term vehicle rentals. As a result of the revenue shortfalls, the fiscal 2023 budget included a $10.7 million fiscal 2022 deficiency, which supported a number of projects that otherwise would have been canceled or delayed until fiscal 2023. This funding has not been completely expended. Since the end of the pandemic, revenues have rebounded. As a result, the fund is estimated to have closing balances on the order of $33.1 million for fiscal 2024 and 2025, although this appears to reflect a $74.5 million revenue estimate for fiscal 2025 that is higher than the projected revenues of $64.7 million from the two revenue sources.

The fund allocations for the fiscal 2024 working appropriation and the fiscal 2025 allowance are shown in **Exhibit 9**, although final decisions on allocations typically are made by the BayStat agencies after the final funding levels have been determined. Exhibit 9 reflects the following:

- ***Funding:*** There is an approximately $13.8 million increase in the funding between the two years. As noted previously, this reflects the availability of a substantial balance, the $2.5 million in general funds mandated by Chapter 645 of 2021, and a return to an approximately $50.0 million estimated revenue base for the sales and use tax on short-term vehicle rentals.

- ***Allocation:*** The highlighted increases in the Chesapeake and Atlantic Coastal Bays 2010 Trust Fund allocation for fiscal 2025 include the following: $12.9 million for the competitive grant program for targeted nutrient and sediment pollution reductions; $0.5 million for agricultural technical assistance to support State and local soil conservation district agricultural technical assistance positions; $0.3 million for the 2% allocation for adaptive management, maintenance, and outcome procurement per Chapters 237 and 238 of 2022; and $0.2 million for the 1.5% allocation for administration and management.

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**Exhibit 9**

## Chesapeake and Atlantic Coastal Bays 2010 Trust Fund Planned Expenditures

**Fiscal 2024-2025**

**($ in Millions)**

| Category/Activity | 2024 | 2025 | Difference 2024-2025 |
|---|---|---|---|
| **Accountability, Verification, and Management** | | | |
| Strategic Monitoring and Assessment | $0.4 | $0.4 | $0.0 |
| Implementation Tracking | 0.2 | 0.2 | 0.0 |
| Administration and Management (1.5%) | 0.9 | 1.1 | 0.2 |
| ***Subtotal*** | ***$1.5*** | ***$1.7*** | ***$0.2*** |
| **Accelerating Restoration through Research and Development** | | | |
| Innovative Technology Fund | $1.0 | $1.0 | $0.0 |
| Targeted Pooled Monitoring (formerly Restoration Research Grant Program) | 0.3 | 0.3 | 0.0 |
| ***Subtotal*** | ***$1.3*** | ***$1.3*** | ***$0.0*** |
| **Implementation Technical Assistance** | | | |
| Agricultural Technical Assistance | $5.8 | $6.3 | $0.5 |
| Water Management Permit Expediters | 0.9 | 0.9 | 0.0 |
| Field Restoration Specialists | 0.9 | 0.9 | 0.0 |
| Tree Solutions Now Coordinator and Regional Foresters | 0.2 | 0.2 | 0.0 |
| ***Subtotal*** | ***$7.7*** | ***$8.2*** | ***$0.5*** |
| **Nonpoint Source Pollution Control Projects** | | | |
| Cover Crop Program | $11.3 | $11.3 | $0.0 |
| Conservation Reserve Enhancement Program Bonus Payments | 0.5 | 0.5 | 0.0 |
| Grants to Farmers | 3.0 | 3.0 | 0.0 |
| Manure Transport Program | 1.8 | 1.8 | 0.0 |
| Competitive Grant Program | 23.0 | 35.9 | 12.9 |
| Natural Filters on Public Lands | 6.0 | 6.0 | 0.0 |
| Tree Solutions Now Act | 2.5 | 2.5 | 0.0 |
| Tree Solutions Now Forest Service Staffing | 1.0 | 1.0 | 0.0 |
| Adaptive Management and Maintenance | 1.2 | 1.4 | 0.3 |
| ***Subtotal*** | ***$50.2*** | ***$63.3*** | ***$13.1*** |
| **Total** | **$60.7** | **$74.5** | **$13.8** |

Note: The $2.5 million for the Tree Solutions Now Act funding reflects the mandated general fund appropriation for this purpose established by Chapter 645 of 2021. Budget bill language contingent upon a provision in the Governor's proposed Budget Reconciliation and Financing Act would reduce this appropriation and instead require the inclusion of an equivalent special fund appropriation from the Chesapeake and Atlantic Coastal Bays 2010 Trust to meet the mandate.

Source: Department of Budget and Management

**The Department of Legislative Services (DLS) recommends the adoption of committee narrative requesting 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 operating budget analysis K00A – DNR. In addition, DLS recommends the adoption of committee narrative requesting that DNR comply with statute and provide the Chesapeake and Atlantic Coastal Bays 2010 Trust Fund annual report at the time of the fiscal 2026 budget submission.**

## 2. Historical and Projected Chesapeake Bay Restoration Spending

The committees remain interested in the status of Chesapeake Bay restoration. Therefore, the committees requested that the Maryland Department of Planning, DNR, MDA, MDE, and DBM provide a report by December 1, 2023, on recent 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 notes the following.

- ***Timing:*** The decision was made to make reductions after calendar 2025 for any reductions required to address nutrient loads identified with recent model updates. These additional loads will be determined after the newest version of the Chesapeake Bay Water Quality Model is completed, which was expected after the submission of the report.

- ***Consent Decree:*** Operational issues at two major WWTPs in Baltimore City – Back River and Patapsco – raised the nitrogen nutrient loading by approximately 2.0 million pounds, which will be addressed by a consent decree in calendar 2023. If the plants had been compliant, then Maryland would have been close to its desired nitrogen reduction plan.

- ***Load Reduction Plans:*** The State's Phase III WIP was developed with a margin of safety of 1 million pounds for nitrogen. This margin of safety has now been reduced due to model updates, WWTP failures, the need for more agricultural BMP technical assistance, and shortfalls in the private sector's capacity to design, install, and maintain pollution BMPs.

- ***Federal Funding:*** The federal IIJA funding will help with Chesapeake Bay restoration, but additional capacity is needed to compete for the funding and to implement projects supported by the funding.

- ***Ongoing Challenges***: Climate change and population growth will be ongoing challenges for Chesapeake Bay restoration. The Administration plans to leverage existing Phase III WIP wastewater strategies – enhanced nutrient removal and operation and maintenance grants – to bring down WWTP nitrogen concentrations to 2.85 milligrams per liter to meet the increased climate load reductions. In addition, the 5 million trees goal in Chapter 645 of 2021 and emissions reductions from Chapter 38 of 2022 are anticipated to help address nutrient and sediment pollution to the Chesapeake Bay.

- ***Executive Order:*** An executive order signed July 20, 2023, is intended to accelerate restoration by revamping the Governor's Council on the Chesapeake Bay.

- ***Conowingo Dam:*** The phased approach beyond 2025 for the Conowingo Dam and the $25.0 million investment in the pay-for-success financing model using the Susquehanna River Basin Commission as the fiscal agent will ensure success of the Conowingo WIP.

- ***Load Reductions vs. Health Indicators:*** While monitoring indicates reductions in nitrogen, phosphorus, and sediment, there has been less success in improving bottom dissolved oxygen, water clarity, submerged aquatic vegetation, and chlorophyll a levels. In addition, climate change is increasing water temperature, which can cause negative changes in water and habitat quality as a result of warmer water holding less dissolved oxygen.

**DLS recommends that committee narrative be adopted requesting a similar report from the agencies for the fiscal 2026 budget submission on updated historical and projected Chesapeake Bay 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 how the loads associated with the Conowingo Dam infill, population growth for both people and animals, and climate change will be addressed; the status of staffing and preventive maintenance at the 67 major WWTPs; the status of the Soil Conservation District field positions in terms of Soil and Water Quality Conservation Plan development and BMP implementation; and the long-term plans for reducing loading from the stormwater sector. For administrative purposes, this committee narrative will appear in the operating budget analysis K00A – DNR.**

## 3. Comprehensive Evaluation of System Response Provides a Guide

In May 2023, the Chesapeake Bay Program's Science and Technical Advisory Committee released a report titled *Achieving Water Quality Goals in the Chesapeake Bay: A Comprehensive Evaluation of System Response*, which assesses why progress toward meeting the TMDL has been slower than anticipated. The report is intended to be an assessment of how Chesapeake Bay Program policy actions have reduced pollutants, improved water quality, and enhanced living resources. The primary question is whether TMDL implementation programs are producing the expected pollutant reductions, water quality, and living resources responses in the Chesapeake Bay.

As shown in **Exhibit 10**, the model underlying Chesapeake Bay restoration can be described as follows: reduce pollutant stressors (nitrogen, phosphorus, and sediment) to meet water quality criteria (dissolved oxygen, water clarity/submerged aquatic vegetation, and chlorophyll a) to support the water quality standard's designated use for the Chesapeake Bay, which is living resources. The objective is that pollutant load reductions will improve estuary conditions.

## Exhibit 10
## Conceptual Representation of Uncertainty and Gaps in System Response to Chesapeake Bay Water Quality Policy

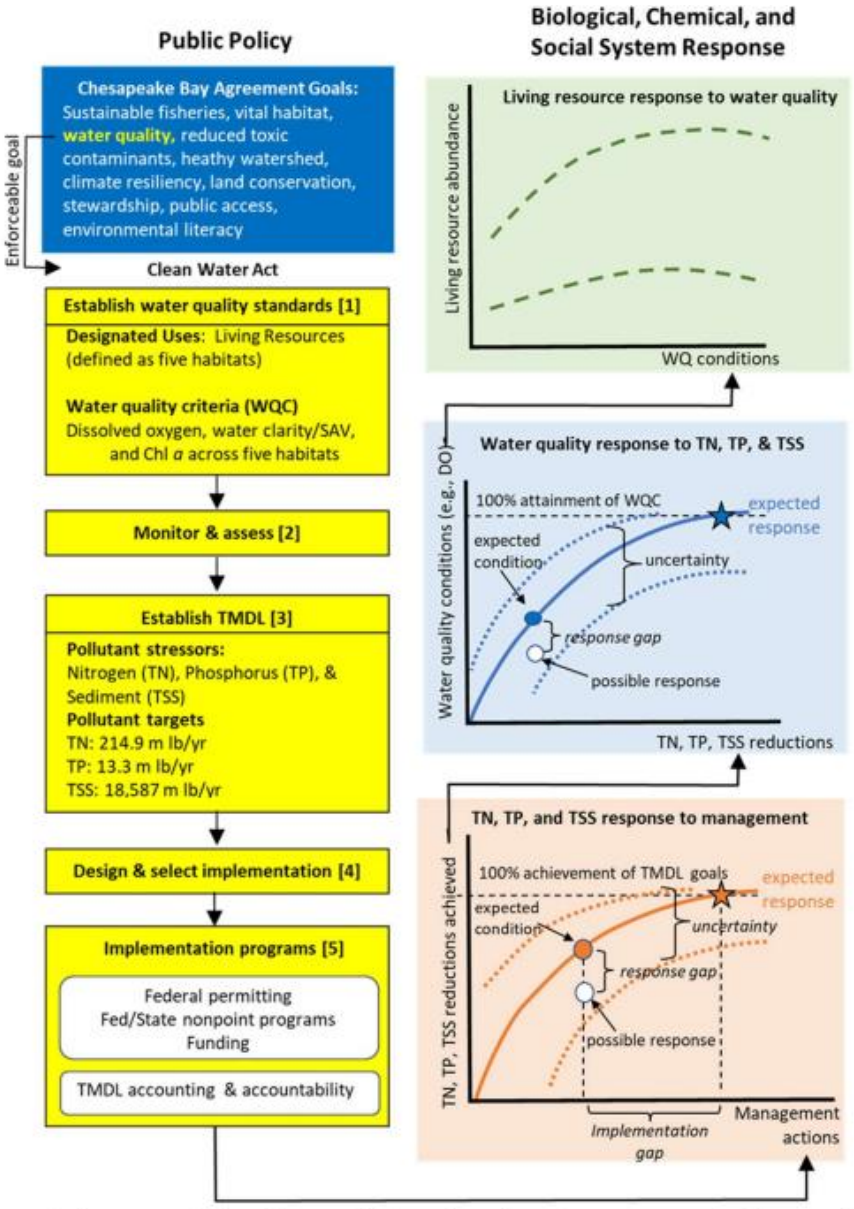


**FIGURE 2.5.—Conceptual representation of uncertainty and gaps in system response to Chesapeake Bay water quality policy.**

Source: Chesapeake Bay Program, Scientific and Technical Advisory Committee

The simplified model noted previously for Chesapeake Bay restoration is complicated by the nonpoint source side of Chesapeake Bay restoration (primarily the agricultural and urban stormwater sectors) as follows:

- ***Implementation Gaps:*** there are implementation gaps, or differences between water quality practice implementation and the amount needed;

- ***Response Gaps:*** there are response gaps, or differences between water quality practice modeled and actual effectiveness;

- ***Uncertainty/Complexity:*** there is underlying uncertainty/complexity surrounding the implementation and response gaps; and

- ***Living Resource Model Assumption:*** there is a gap in understanding about the scientific relationship between the water quality criteria and the designated use (living resources), which is due to the complex nature of the Chesapeake Bay ecosystem and the additional factors – beyond nitrogen, phosphorus, and sediment – affecting living resources, including water temperature, pH, salinity, toxic chemicals, and fine sediment on submerged aquatic vegetation.

In summary, the findings and recommendations of the report focus on the need to shift from meeting water quality goals to enhancing living resources, the use of pay-for-success funding (outcome) as opposed to practice-based (output) funding, and targeting resources to areas identified with the greatest possible reductions (high-loss nonpoint agricultural areas) and greatest possible benefits (shallow water habitats).

In response to the report, in July 2023, Governor Wes Moore announced a major policy shift in how Maryland will deploy State resources to improve the water quality of the bay and other State waters. It is anticipated that the State will take a more deliberate approach in focusing water quality improvement measures in areas with the most potential to show improvement, such as shallow water habitats in specific regions of the bay. In addition, as noted above, to strengthen coordination and accelerate restoration of State waters, Executive Order 01.01.2023.11 restructures a former bay-related council to create the Governor's Council on the Chesapeake and Coastal Bays Watershed.

**DLS recommends that the Administration comment how the fiscal 2025 budget reflects the new policy direction being taken to address the shortcomings noted in the *Achieving Water Quality Goals in the Chesapeake Bay: A Comprehensive Evaluation of System Response*, in particular the need for a pay-for-success outcomes-based model of funding and the need to target funding to the areas with the greatest possible nutrient and sediment reductions and living resource improvements.**

## 4. Choptank River Watershed Challenges and Opportunities

The Choptank River watershed is a barometer for success of Maryland's agricultural strategies for Chesapeake Bay restoration. The Choptank River is the longest river on the Delmarva Peninsula, connecting both Delaware and Maryland to the Chesapeake Bay. In addition to Chesapeake Bay restoration efforts, the watershed is affected by climate change and both socioeconomic and environmental justice challenges. As noted previously, the Choptank River had low scores for both UMCES Chesapeake Bay scorecards: the Chesapeake Bay health score, which decreased from C, or 50%, to D+, or 36%; and the Chesapeake Bay watershed health score, which had a D+ score at least partially due to the low score for stewardship index (F). Despite these challenges, or perhaps because of them, NEIWPCC – a nonprofit regional commission helping Northeast states manage water quality – has selected the Envision the Choptank partnership as one of its two Maryland CWA 303(d) nutrient success stories; the other Maryland success story is the Bay Restoration Fund.

The Envision the Choptank partnership was formed in 2016 with the mission of providing swimmable, fishable waters and enhancing the health and productivity of native oysters in a way that best meets the needs of the surrounding communities. The Envision the Choptank partnership is guided by the overall principle of a collective impact framework and has developed a five-year common agenda based on four goals: conserving natural resources; restoring habitat and clean water; engaging communities; and strengthening and expanding the partnership.

**DLS recommends that the Administration comment on the capacity of the Envision the Choptank partnership to reverse the lack of Chesapeake Bay restoration progress in the Choptank River watershed. In addition, DLS recommends that the Administration comment on how targeting technical assistance and funding could help in the Choptank River watershed.**

## 5. New Model Highlights Importance of Growth Management and Land Preservation for Chesapeake Bay Restoration

Growth is a key long-term challenge for Chesapeake Bay restoration. There are no regulations currently in place to offset increased loads from new sector growth in Maryland. Instead, Maryland's Phase III WIP relies on accelerated pollution reductions in the wastewater and agricultural sectors. The Chesapeake Bay Land Change Model highlights the importance of both growth management and targeted land preservation for reducing nutrient loads to the Chesapeake Bay and preserving ecosystems.

The Chesapeake Bay Land Change Model simulates five different future development scenarios in Maryland. Population and employment projections are used to predict housing and job demands allowing for an estimate of the future residential and commercial footprints. Of note, Maryland's population is expected to grow by 20% between 2022 and 2050, with population growth in all counties. The model predicts factors such as how much land will be impervious, how much will be turf grass, how much forest and farmland will be lost to development, and the impact

of the future population on sewer and septic systems. For each scenario, the model shows land use area for impervious surfaces, pervious surfaces, natural land, agricultural land, open space, and septic land use.

The five future scenarios are as follows:

- ***Historic Trends:*** a historic trends scenario that assumes that the forces, policies, and regulations that influenced development patterns over the 2000s will continue unabated into the future;

- ***Current Zoning:*** a current zoning scenario that builds on the historic trends scenario by restricting residential and commercial growth to areas explicitly zoned for these uses or mixed-use development where such zoning exists;

- ***Growth Management:*** a growth management scenario that builds on the current zoning scenario and represents a move toward the implementation of smart growth policies that serve to densify and concentrate growth in areas with sufficient infrastructure and services to support it;

- ***Forest Conservation:*** a forest conservation scenario that builds on the current zoning scenario and represents immediate implementation of aggressive natural land conservation zoning, ordinances, easements, and acquisition; and

- ***Agricultural Conservation:*** an agricultural conservation scenario that builds on the current zoning scenario and represents immediate implementation of aggressive agricultural land conservation zoning, ordinances, easements, and acquisition.

The growth management scenario limited the growth of impervious and pervious surfaces as well as septic land use, while minimizing the loss of both natural and agricultural land, and saw the lowest level of nutrient and sediment pollution. However, growth management did not ensure that forest and farmlands were protected from development without the aid of strategic land conservation. The U.S. Geological Survey plans to run these models in calendar 2024 to predict as far as calendar 2070.

**DLS recommends that the Administration comment on the value of growth management and strategic land conservation for Chesapeake Bay restoration and the role that each of these strategies plays in its future plans for Chesapeake Bay restoration.**

## 6. CWIP, Relicensing, 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 largest BMP on the Susquehanna River because it collects sediment and associated nutrients that would otherwise flow into the bay. However, the dam, owned by Constellation Energy (formerly Exelon Corporation), has reached an end state in terms of sediment storage capacity. As a result of the dam reaching capacity, the jurisdictions have a 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 ultimate implementation of the WIP is the responsibility of the jurisdictions.

### CWIP

The final CWIP submitted to EPA for review in September 2021 reflects an over-the-target reduction of 6.75 million pounds of nitrogen per year. The total annualized cost of nitrogen reduction is still to be determined but ranges from $53.3 million to $253.0 million per year. In its January 2022 evaluation of the final CWIP, EPA raised concerns over the need to distinguish restoration activities under the CWIP from activities that are already pledged under the bay jurisdictions' Phase III WIPs, as well as the need to identify dedicated funding mechanisms. On July 19, 2022, based on EPA guidance, the Principals' Staff Committee (the policy advisors to the Chesapeake Executive Council) reached consensus that Maryland, New York, and Pennsylvania can use a phased approach that extends beyond calendar 2025 to address nutrient loads from the Conowingo Dam, indicating that this approach will allow time to build the organizational infrastructure necessary to implement the final CWIP.

Maryland's fiscal 2023 budget included $25.0 million for a CWIP project in MDE to implement nutrient control actions under the CWIP. The 2022 JCR included committee narrative requesting two reports about the CWIP project. The first report on a non-State funding match was due 30 days after the non-State match has been secured, and a second report on how funds would be spent was due 30 days before the spending of the fiscal 2023 funding. In addition, the budget committees expressed the intent that the appropriation be used only for the purchase or implementation of cost-effective pollution load reduction BMPs with at least a 15-year beneficial life that support the Chesapeake Bay Program partnership's efforts to achieve the Chesapeake Bay TMDL with a priority placed on the purchase or implementation of fixed natural filter practices as defined in § 8-701 of the Agriculture Article. The reports were requested in light of the lack of an agreed upon funding strategy for the CWIP and the uncertainty about how the funding was to be used. To date, the triggering events have not occurred, and the reports have not been submitted.

The CWIP is the first of three activities to be addressed by the third-party contractors and reflects the recommended BMP implementation strategy. The two remaining activities to be addressed by the third-party contractors include the development and implementation of (1) a financing strategy (Phase I of the financing strategy was completed on July 1, 2021, by the University of Maryland Center for Global Sustainability and will cover the 2022 to 2025 time period) and (2) a system for tracking, verifying, and reporting BMP implementation to be

completed by the Chesapeake Conservancy. A letter of agreement template was completed in September 2021 and has been approved by the Chesapeake Bay partnership. The letter of agreement template provides jurisdictions a legal/contractual mechanism to contribute funding toward CWIP implementation, but it does not commit any jurisdiction to provide funding. Instead, it appears that the financing strategy relies on the $25.0 million provided in MDE's fiscal 2023 budget, although the Administration did note in its 2023 session agency testimony that New York committed $500,000 to Conowingo practices, the Susquehanna River Basin Commission identified a $6 million grant program that can fund Conowingo BMPs, and Maryland is working with Pennsylvania on a Conowingo set-aside in Pennsylvania's $22 million clean water procurement program run by PennVest. It is not clear whether further actions have been taken on the system for tracking, verifying, and reporting BMP implementation.

A January 4, 2023 BPW agenda item for MDE approved the use of the $25.0 million in pay-as-you-go general funds for the CWIP – Nutrient Reduction project. The funding will be used according to the pay-for-performance financing model. The Susquehanna River Basin Commission – the fiscal agent selected for the project – released a press release on October 16, 2023, noting that an RFP would become available on October 24, 2023, with a submission deadline of December 20, 2023. The submission deadline was subsequently extended to January 22, 2024.

## Conowingo Dam Relicensing and Settlement Agreement

Constellation Energy initiated the relicensing proceedings in calendar 2009 before the 2014 expiration of the prior license. The dam received automatic one-year renewals until relicensing was approved; the Federal Energy Regulatory Commission (FERC) could not act on the relicensing application until MDE issued a CWA Section 401 water quality certification. On April 27, 2018, MDE issued the water quality certification with special conditions, which led Constellation Energy to file an administrative appeal with MDE and lawsuits in federal and State court. Ultimately, on October 29, 2019, the State announced a settlement agreement between MDE and Constellation Energy that requires Constellation Energy to invest more than $200 million in environmental projects and operational enhancements to improve water quality over the 50-year license term. FERC approved the settlement and issued a new license to Constellation Energy for the Conowingo Dam on March 18, 2021. Although the settlement and FERC's issuance of the new license resolved the litigation against MDE, there were ongoing challenges regarding the water quality certification and relicensing of the dam. On June 17, 2021, environmental advocacy groups filed a petition for review in federal court to challenge FERC's issuance of the new license and, on July 19, 2021, the Maryland Attorney General filed a motion to intervene on the petition for review.

On December 20, 2022, the U.S. Court of Appeals for the District of Columbia Circuit ordered the Conowingo Dam license to be vacated. The ruling was based on the idea that FERC has the power to issue a license in two circumstances: (1) where a state has granted a water quality certification; or (2) where the state has waived its authority to certify by failing or refusing to act. FERC erred by taking a third route and issuing a license based on a private settlement arrangement entered into by Maryland, despite Maryland issuing the April 27, 2018 certification.

On June 1, 2023, MDE resumed its administrative review of the 2018 water quality certification by sending a letter to Constellation Energy and two environmental advocacy groups – Waterkeepers Chesapeake and Lower Susquehanna Riverkeepers – soliciting comments. In addition, MDE issued a limited public notice opportunity on June 30, 2023. Subsequently, the Lower Susquehanna Riverkeepers and Constellation Energy sent two rounds of supplemental replies outlining arguments for and against the 2018 certification, respectively. The future of the settlement agreement between MDE and Constellation Energy that requires Constellation Energy to invest more than $200 million in environmental projects and operational enhancements to improve water quality over the 50-year license term remains unclear.

## Sediment Study

Finally, Maryland is implementing 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. Constellation Energy 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 to begin the sediment characterization portion of the pilot project, which began in December 2020. Subsequently, the pilot dredging project was completed in October 2021 and included additional sediment characterization and reuse evaluation of dredge area sediments. It was anticipated that a report reflecting the findings of the demonstration projects – dredging and innovative reuse – would be published by summer 2022.

The fiscal 2023 budget included $6.0 million for MES's Conowingo Dam Capacity Recovery and Dredge Material Reuse Project. The 2022 JCR included committee narrative requesting information to be submitted by July 1, 2022 on the following:

- the results of the Conowingo Sediment Characterization and Innovative and Beneficial Reuse Pilot;

- the status of whether the removal of sediment and associated pollutants from the Conowingo Pool by dredging is approved as a BMP by EPA and the Chesapeake Bay partnership; and

- documentation on whether the dredging of sediment behind the Conowingo Dam provides a more cost-effective means of removing nitrogen, phosphorus, and sediment entering the mainstem of the Chesapeake Bay than implementation of other approved BMPs in the Susquehanna River watershed.

The submitted report and other background information raised additional questions about the readiness of the dredging project. For instance, the project was underdeveloped in that there

was no clear program plan, timeline, cost estimate, or confirmed buy-in from neighboring states to support the project. While a draft of the Sediment Characterization and Innovative and Beneficial Reuse Pilot report was provided, the report was incomplete, as MES has been unable to engage in a demonstration project using any Conowingo dredged material. This, combined with the lack of an approved Part I program plan for the project, means that the full scope and cost of the project remains indeterminable. While it is plausible, as the draft report discusses, that scenarios exist to utilize dredging as a cost-effective measure in combination with other best practices; certain variables, such as transportation method and required blending of the sediment, could lessen the desirability of this solution. Furthermore, the report submitted by MES noted that approval of dredging as a BMP is likely to require more than a year to achieve, as the necessary expert panel group has yet to be convened.

Despite the budget committee's concerns, the Hogan Administration chose to transfer $3.3 million from the DPA to MDE for the Conowingo Dam Capacity Recovery and Dredge Material Reuse Project. The BRFA of 2024 proposes to transfer the full $6.0 million to the General Fund. The fate of a Conowingo dredging expert panel that was to be convened to evaluate potential nutrient reduction credits that could derived from such a project is unclear.

**DLS recommends that the Administration comment on, in general, the Conowingo Dam WIP RFP, why the deadline was extended twice, what is known about the responses received so far, and how the crediting of nutrient reductions will be handled. In addition, DLS recommends that the Administration comment on the next steps for Conowingo Dam water quality certification, relicensing, and the settlement agreement between MDE and Constellation Energy that requires Constellation Energy to invest more than $200 million in environmental projects and operational enhancements to improve water quality over the 50-year license term. Finally, DLS recommends that the Administration comment on the next steps for dredging the Conowingo Dam and the status of the Conowingo dredging expert panel.**

## 7. Back River and Patapsco WWTPs Receive Additional Scrutiny with a Consent Decree

The Back River and Patapsco WWTPs have garnered a substantial amount of scrutiny in recent years due to process failures – primarily in terms of the management of biosolids – permit limit violations, sewage discharges, obnoxious odors, and even a March 15, 2023 explosion and fire at Back River contractor Synagro's sludge handling building. The budget committees have requested two years in a row that monthly status reports be submitted by MDE, in consultation with MES, in response to the challenges experienced by the WWTPs. In addition, Chapters 178 and 179 established the Baltimore Regional Water Governance Task Force to study approaches to water and wastewater governance in the Baltimore region, but there does not appear to be an easy solution. Most recently, MDE announced a consent decree on November 2, 2023, covering the two WWTPs and requiring Baltimore City to pay up to $4.75 million for wastewater violations.

## Monthly Reports

The monthly reports were requested to include a comprehensive evaluation and assessment of the status of the Back River and Patapsco WWTPs' operation, maintenance, staffing, and equipment – including a comprehensive list of needed improvements, ranked by their impact on compliance with discharge permit effluent limitations, and the status of compliance with all applicable State permits.

The most recent monthly report was submitted December 28, 2023, and covered November and December 2023. The submitted report notes that Back River is currently meeting all of its permit limits and appears to have been doing so since a heavy rainfall of 1.73 inches on April 29, 2023, and is operating at better than enhanced nutrient removal performance levels for nitrogen, phosphorus, and total suspended solids. Despite this improvement, the monthly report still identifies the following challenges: only five primarily settling tanks are functioning as designed, although most are estimated to be operational by spring 2024 if not earlier; a new activated sludge plant is handling 50% to 60% of the plant's overall flow so that the original three plants can be treated one at a time in the near future for biosolids buildup and repairs; maintenance issues regarding algae/vegetation growth were observed on 4 of 36 secondary clarifiers; only 36 of 48 sand filters are in service; a centrifuge maintenance plan is still needed; additional gravity sludge thickeners need to be brought online for reliability and redundancy; and, in terms of staffing, a plan was required to be submitted by December 31, 2023, and Baltimore City's Department of Public Works needs to hire additional maintenance technicians.

## Baltimore Regional Water Governance Task Force

The Baltimore Regional Water Governance Task Force is required to review specified findings, assess alternative governance structures for the Baltimore region's water and wastewater utility, analyze the fiscal implications and efficiencies of each alternative governance structure, and make a recommendation regarding the governance model best suited for water and wastewater systems in the Baltimore region and the legislation and funding necessary to establish the recommended model. The task force is required to report by January 30, 2024.

The consultant for the task force, the engineering design firm WSP, submitted a draft report on December 15, 2023. The report notes that five models were studied: Model A: Memorandum of Understanding; Model B: Cooperatives; Model C: Intermunicipal Agreements; Model D: Wholesale Service Purchase Agreements; and Model E: Special District or Authority. Following the presentation of the consultant's report at the January 8, 2024 task force meeting, a draft task force recommendation was posted that included a short-term recommendation to pursue a variation of Option C: Intermunicipal Agreements and a long-term recommendation to commit a subsequent working group to do the due diligence for Model E: Special District or Authority with a fallback option of creating a Baltimore Regional Water Governance Board comprised of Baltimore City, Baltimore County, and State leaders.

## Consent Decree

MDE and Blue Water Baltimore, Inc. entered into a consent decree with Baltimore City that was announced on November 2, 2023. This consent decree followed the June 10, 2022 Back River Consent Order and Revised Directive under which MES was directed to provide additional staffing and assistance at Back River. The consent decree settles Back River and Patapsco discharge permit and State water pollution law violation civil lawsuits filed by Blue Water Baltimore, Inc. in the U.S. District Court for the District Court of Maryland on December 15, 2021, and by MDE in the Circuit Court for Baltimore City on January 21, 2022. As part of the consent decree, Baltimore City asserted that many of the violations at the WWTPs were due to a nationwide shortage of WWTP operators further exacerbated by the COVID-19 pandemic and a prior cyber-attack.

The provisions of the consent decree specify that Baltimore City denies that it has willfully or negligently violated any provision of water pollution control laws but requires Baltimore City to do the following:

- ***Work to Be Performed:*** comply with effluent limitations; repair or replace specified plant components and equipment; submit various plans specific to each plant – including a centrifuge maintenance plan; polychlorinated biphenyl minimization plan; fats, oils, and greases plan; staffing report and plan; standard operating procedures; automation feasibility study; and asset inventory – and maintain a computerized maintenance management system;

- ***Transparency and Public Notification:*** post online quarterly progress reports; hold one virtual and one in-person public meeting per year per plant; install signs at outfall pipes; and install a red light at the outfall pipe signs indicating any sewage discharges;

- ***Third-Party Engineering Assessment:*** contract with a third-party engineer both to update the comprehensive assessment of the plants prepared in June 2022 and provide quarterly written updates;

- ***Final Confirmation Report:*** submit a final confirmation report following completion of all but the routine maintenance components of the work to be performed;

- ***Access:*** provide reasonable access to the WWTPs;

- ***Stipulated Penalties:*** pay stipulated penalties for missing consent decree deadlines or schedules, violating permit limits, failing to conduct monitoring/testing/discharge monitoring reports, and neglecting to report instances of noncompliance;

- ***Civil Penalties:*** pay $4,750,000 ($3,750,000 for Back River and $1,000,000 for Patapsco violations) of which $1,425,000 is required to be paid to MDE as an initial penalty, $1,425,000 is held in abeyance for two years and is due only if Baltimore City fails to timely complete corrective actions, and $1,900,000 is required to be paid to the

Chesapeake Bay Trust for water quality improvement and restoration projects in the affected watersheds as part of the Patapsco and Back River Watershed Water Quality Improvement and Restoration Supplemental Environment Project; and

- ***Blue Water Baltimore's Fees and Costs:*** reimburse Blue Water Baltimore $400,000 for its attorneys' fees, costs, and expert fees and expenses.

**DLS recommends that the Administration comment, in general, on the status of implementation of the work to be performed as part of the Back River and Patapsco WWTP consent decree, and in particular on the prognosis for meeting future permit limits and the required staffing reports and plans.**

## 8. Targeting Cover Crop Program and Other Best Management Practice Funding

The committees requested that MDA submit a report on a strategy for improving the targeting of Cover Crop Program and other BMP funding. The report was requested to be submitted by September 29, 2023.

### Maryland Agricultural Cost-Share Program

The submitted report notes that the agency has worked to maintain existing voluntary programs and that ensuring the cost-effectiveness of the Maryland Agricultural Water Quality Cost-Share Program is essential. For instance, the report notes that there are 12 priority watersheds that have been used to target Maryland Agricultural Water Quality Cost-Share Program funding (Chester River, Choptank River, Lower Susquehanna River, Middle Potomac River, Nanticoke River, Patuxent River, Patapsco River, Pocomoke River, Reservoirs, Sassafras River, Upper Potomac River, and Seneca River). However, no information was provided about when the Maryland Agricultural Water Quality Cost-Share Program funding was last targeted to these watersheds or how the funding was targeted.

In contrast, the report notes that $750,000 in federal Most Effective Basin funding from EPA's Chesapeake Bay Program Office is targeted annually for high priority WIP Phase III BMPs in and around Carroll, Frederick, and Washington counties, which corresponds to the Middle Potomac River and Upper Potomac River watersheds targeted under regular Maryland Agricultural Water Quality Cost-Share Program funding.

## Cover Crop Program

As for the Cover Crop Program, the report notes that MDA incentivizes the most cost- effective cover crop options through its regular program and the Cover Crop Plus program. The report does not mention geographic targeting of either Cover Crop Program or Cover Crop Plus program funding. However, Envision the Choptank's common agenda notes that, by the end of 2016, cover crops were planted on 60% of eligible cropland. Therefore, information is available about the spatial coverage of the Cover Crop Program, even if funding is not targeted spatially.

## Targeting

One of the big questions about Chesapeake Bay restoration is the availability of data on where to target funding for agricultural nonpoint source nutrient and sediment reduction. The Comprehensive Evaluation of System Response notes that 5% to 20% of the land area may generate 50% to 90% of runoff and nonpoint source loads. However, data does not appear to have been collected on where these high-loss areas are located. Chesapeake Bay restoration may be reaching a point where research allows for high-loss areas, perhaps at the farm or even field level, to be identified and targeted for funding or outreach. **DLS recommends that the Administration comment on its ability to identify and target Cover Crop Program, the Maryland Agricultural Cost-Share Program, and other funding sources to farm or even field level high-loss nonpoint nutrient and sediment agricultural areas.**

# 9. Resolution of Lawsuits Filed Against the U.S. Environmental Protection Agency

On September 10, 2020, the Attorneys General from Delaware, Maryland, Virginia, and Washington, DC filed a lawsuit against EPA in the U.S. District Court for the District of Columbia. The lawsuit sought 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. Pennsylvania and New York were singled out for having inadequate Phase III WIPs, tacitly approved by EPA, that will achieve only 75.0% and 66.0% of the required nitrogen reductions, respectively (although New York has since submitted to EPA an amended WIP that, if fully implemented, meets its obligations). The lawsuit further stated that EPA's failure to ensure the development of adequate plans jeopardizes 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 the Chesapeake Bay Foundation, Inc.; the Maryland Watermen's Association, Inc.; Anne Arundel County; and two Virginia farmers. These cases were consolidated in 2021.

On July 10, 2023, EPA entered into a settlement agreement resolving the litigation. As part of the settlement agreement, it was noted that both parties continue to disagree about whether EPA's oversight is mandatory or discretionary. EPA asserted that it has taken backstop measures

to ensure progress in Pennsylvania, continues to provide technical assistance, and continues to work collaboratively with the agricultural community on actions and funding that will support reductions in nutrient and sediment loads. The mention of the agricultural community is important because nonpoint sources of nutrient and sediment pollution, particularly in the agricultural sector, comprise the bulk of the remaining work to be done for Chesapeake Bay restoration.

The settlement agreement required EPA to do the following:

- ***Pennsylvania's Progress:*** continue to annually evaluate Pennsylvania's progress toward Chesapeake Bay restoration and make the evaluation publicly available online;

- ***Enhanced Oversight:*** conduct enhanced oversight of Pennsylvania's National Pollutant Discharge Elimination System (NPDES) permits by publicly listing online all administratively extended NPDES permits and request that Pennsylvania develop a permit reissuance strategy designed to reduce the number of administratively extended permits;

- ***Updated Stormwater Guidance:*** update the MS4 permitting guide and include the consideration of climate resiliency ideas;

- ***Compliance-Assurance Activities:*** maintain or increase compliance-assurance activities within Pennsylvania's highest and second highest nutrient loading counties in order to assess the compliance with existing NPDES permit requirements and post updates online every six months;

- ***Discharge Permitting:*** identify animal feeding operations in Pennsylvania's highest nutrient loading counties that may meet requirements for discharge permitting, post evaluations online, and identify animal feeding operations in Pennsylvania's second highest nutrient loading counties if insufficient progress is made toward the 2025 TMDL;

- ***Assistance Targeting:*** target technical assistance to Pennsylvania's highest and second highest nutrient loading counties, encourage other federal agencies to target federal funding in the same manner, and propose a grant workplan that requires Pennsylvania to report on its Chesapeake Bay restoration progress every six months; and

- ***2025 Goal Progress Evaluation:*** evaluate each Bay state's progress toward meeting the 2025 TMDL and report the results online by December 31, 2026.

**DLS recommends that the Administration comment on the implications of the settlement agreement for Maryland's Chesapeake Bay restoration work and the ability to meet the overall 2025 TMDL deadline.**

## *Operating Budget Recommended Actions*

1. Nonbudgeted.

## Appendix 1
## Overview of Maryland's Funding for Chesapeake Bay Restoration
### Fiscal 2021-2025

| | Actual 2021 | Actual 2022 | Actual 2023 | Approp. 2024 | Allowance 2025 | $ Change 2024-2025 | % Change 2024-2025 |
|---|---|---|---|---|---|---|---|
| **Agency/Program Total Funds** | | | | | | | |
| Department of Natural Resources[1,2] | $106,211,467 | $105,208,586 | $4,116,930,555 | $137,089,345 | $146,185,015 | $9,095,670 | 6.6% |
| Program Open Space | 41,939,587 | 11,218,797 | 93,528,126 | 105,197,976 | 17,638,450 | -87,559,526 | -83.2% |
| Rural Legacy[3] | 17,999,092 | 20,037,061 | 26,387,542 | 38,868,291 | 15,329,028 | -23,539,263 | -60.6% |
| Department of Planning | 6,240,498 | 5,711,299 | 6,004,807 | 6,508,691 | 6,895,085 | 386,394 | 5.9% |
| Department of Agriculture | 53,768,935 | 54,244,914 | 58,302,885 | 61,967,429 | 67,498,281 | 5,530,852 | 8.9% |
| Maryland Agricultural Land Preservation Foundation | 42,105,177 | 56,126,642 | 85,052,216 | 97,613,076 | 39,514,639 | -58,098,437 | -59.5% |
| Maryland Department of the Environment | 300,974,292 | 304,218,715 | 325,331,261 | 383,373,958 | 352,743,167 | -30,630,791 | -8.0% |
| Maryland State Department of Education | 18,931 | 33,238 | 532,584 | 591,229 | 591,229 | 0 | 0.0% |
| Maryland Higher Education | 26,939,804 | 27,465,208 | 32,325,303 | 33,305,529 | 31,344,108 | -1,961,421 | -5.9% |
| Maryland Department of Transportation | 522,337,519 | 516,975,627 | 48,784,925 | 88,972,464 | 80,235,824 | -8,736,640 | -9.8% |
| **Total** | **$1,118,535,303** | **$1,101,240,087** | **$793,180,204** | **$953,487,988** | **$757,974,826** | **-$195,513,162** | **-20.5%** |
| **Fund Type** | | | | | | | |
| General Fund | $38,399,356 | $41,128,697 | $46,645,572 | $86,006,756 | $66,372,112 | -$19,634,644 | -22.8% |
| Special Fund[1,3] | 411,161,629 | 411,679,464 | 538,392,851 | 597,252,343 | 415,790,920 | -181,461,423 | -30.4% |
| Federal Fund | 56,383,313 | 58,222,249 | 81,664,521 | 101,337,383 | 110,004,351 | 8,666,968 | 8.6% |
| Reimbursable Funds | 28,757,882 | 28,913,264 | 31,495,431 | 30,750,513 | 31,009,511 | 258,998 | 0.8% |
| Current Unrestricted | 24,578,415 | 24,692,495 | 7,889,528 | 9,534,560 | 7,954,878 | -1,579,682 | -16.6% |
| Current Restricted | 2,361,389 | 2,772,713 | 24,435,775 | 23,770,968 | 23,389,230 | -381,739 | -1.6% |

| | Actual 2021 | Actual 2022 | Actual 2023 | Approp. 2024 | Allowance 2025 | $ Change 2024-2025 | % Change 2024-2025 |
|---|---|---|---|---|---|---|---|
| General Obligation and Revenue Bonds[2] | 34,555,800 | 16,855,578 | 13,871,600 | 15,863,000 | 23,218,000 | 7,355,000 | 46.4% |
| Maryland Department of Transportation Funds | 522,337,519 | 516,975,627 | 48,784,925 | 88,972,464 | 80,235,824 | -8,736,640 | -9.8% |
| **Total** | **$1,118,535,303** | **$1,101,240,087** | **$793,180,204** | **$953,487,988** | **$757,974,826** | **-$195,513,162** | **-20.5%** |
| **Spending Category** | | | | | | | |
| Land Preservation[3] | $105,023,122 | $88,397,392 | 206,145,804 | 242,992,883 | 73,933,426 | -169,059,457 | -69.6% |
| Septic Systems | 22,695,498 | 22,168,299 | 22,383,807 | 23,008,691 | 23,395,085 | 386,394 | 1.7% |
| Wastewater Treatment | 255,819,798 | 274,420,270 | 279,054,725 | 327,240,929 | 294,725,666 | -32,515,263 | -9.9% |
| Urban Stormwater | 119,826,093 | 42,623,168 | 46,808,253 | 53,343,594 | 53,181,320 | -162,274 | -0.3% |
| Agricultural BMPs | 73,151,525 | 75,704,072 | 78,062,971 | 82,883,317 | 88,748,281 | 5,864,964 | 7.1% |
| Oyster Restoration | 13,075,617 | 6,496,715 | 6,937,582 | 9,923,696 | 10,411,011 | 487,315 | 4.9% |
| Transit and Sustainable Transportation Alternatives | 409,356,274 | 481,814,325 | 15,920,629 | 44,643,421 | 37,157,821 | -7,485,599 | -16.8% |
| Living Resources[1,2] | 57,082,389 | 58,819,104 | 69,756,100 | 80,903,243 | 95,345,138 | 14,441,895 | 17.9% |
| Education and Research | 27,088,790 | 27,782,600 | 32,907,887 | 33,946,758 | 31,985,337 | -1,961,421 | -5.8% |
| Other | 35,416,196 | 23,014,141 | 35,202,446 | 54,601,456 | 49,091,741 | -5,509,715 | -10.1% |
| **Total** | **$1,118,535,303** | **$1,101,240,087** | **$793,180,204** | **$953,487,988** | **$757,974,826** | **-$195,513,162** | **-20.5%** |

[1] Reflects an additional $4,160,000 in general obligation bonds in fiscal 2021, $2,770,000 in general obligation bonds in fiscal 2022, and $1,970,000 in general obligation bonds in fiscal 2023 for the Resiliency through Restoration Initiative Program (formerly the Coastal Resiliency Program) that were inadvertently left out of the Appendix L of the Governor's Budget Highlights.

[2] Reflects $13,620,000 in special funds in fiscal 2023 for the Oyster Restoration Program that were inadvertently left out of the Appendix L of the Governor's Budget Highlights.

[3] Reflects an adjustment to correct the Rural Legacy Program funding from $20,204,058 to $15,329,028 in fiscal 2025.

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. The presentation does not reflect fiscal 2023 funding of $25.0 million in GO bonds for the Conowingo Dam Dredging and WIP project that remains in the DPA.

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