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The Status of Chesapeake Bay Restoration

Maryland is working on its Phase III Watershed Implementation Plan in the midst of federal budget deliberations that raise questions about the U.S. Environmental Protection Agency – Chesapeake Bay Program’s enforcement authority and overall viability. At the same time, a request for proposals has been issued for sediment removal behind the Conowingo Dam as implementation of the Phosphorus Management Tool on agricultural lands begins to ramp up. Finally, nutrient trading regulations have been submitted for publication and Aligning for Growth discussions continue about the role of development in maintaining the Total Maximum Daily Load beyond calendar 2025.

Chesapeake Bay Total Maximum Daily Load

In December 2010, the U.S. Environmental Protection Agency (EPA) established a Chesapeake Bay Total Maximum Daily Load (TMDL), as required under the federal Clean Water Act 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.

Phase III Watershed Implementation Plan

As part of the Chesapeake Bay TMDL, bay jurisdictions (Delaware, District of Columbia, Maryland, New York, Pennsylvania, Virginia, and West Virginia) must develop watershed implementation plans (WIP) that identify the measures being put in place to reduce pollution and restore the bay. WIPs are submitted to EPA for review and evaluation and (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 TMDL on a geographically smaller scale. A Phase III WIP, which must be submitted to EPA in calendar 2018, will ensure that all practices are in place by calendar 2025 so that restoration goals can be met.

Chesapeake Bay Program Funding and Enforcement Authority

President Donald J. Trump’s federal fiscal 2018 budget request deleted the \$73 million in funding for the Chesapeake Bay Program, which would have resulted in a critical reduction of bay water quality monitoring funding for Maryland and the elimination of the program’s coordination

activities between the bay jurisdictions. Congress passed the federal fiscal 2018 budget continuing resolution on September 7, 2017, which maintained funding for the program at the federal fiscal 2017 level through December 8, 2017. On September 14, 2017, the House of Representatives passed an appropriations bill that reduced federal fiscal 2018 funding for the program by \$13 million to \$60 million, but it still needs to be considered by the Senate.

Currently, EPA reviews each bay jurisdiction's progress toward its two-year milestones. If a jurisdiction's plans are inadequate, or if its progress is insufficient, EPA may take action to ensure pollution reductions, including increasing oversight of State-issued pollution permits, requiring additional pollution reductions, prohibiting new or expanded pollution discharges, redirecting federal grants, and revising water quality standards to better protect local and downstream waters. However, in addition to the fiscal 2018 program funding reduction legislation, the House of Representatives adopted an amendment prohibiting EPA from using any funds to take enforcement actions against any bay jurisdictions in the event that a state does not meet the goals mandated by EPA's Chesapeake Bay TMDL.

Conowingo Dam

Relicensing

The Conowingo Dam – a peaking hydroelectric facility that uses reservoir storage to generate electricity during peak electricity demand periods – has been described as the biggest best management practice on the Susquehanna River because it collects sediment and phosphorus that would otherwise flow into the bay. However, the dam, owned by Exelon Corporation, has reached capacity in terms of sediment storage. In addition, the dam is in the midst of relicensing by the Federal Energy Regulatory Commission (FERC); its license expired on September 1, 2014, and it will receive automatic one-year renewals until it is relicensed. Additionally, relicensing is on hold until the Maryland Department of the Environment (MDE) determines whether it will grant a Clean Water Act – Section 401 water quality certification, which is required before FERC can act on an application for licensing. The water quality certification, in turn, is on hold until enhanced monitoring and modeling data has been incorporated into the approved Chesapeake Bay model as part of the midpoint assessment.

The modeling data has been incorporated into the Phase 6 watershed model, but the final Phase 6 watershed model has not been adopted. In the meantime, Exelon Corporation applied for the current water quality certification for the dam's relicensing on May 17, 2017. As a result, MDE has until mid-May 2018 to complete its review.

Sediment Removal

The Maryland Environmental Service (MES) released a request for proposals in September 2017 for a pilot dredging and innovative reuse and beneficial use project on approximately 25,000 cubic yards of sediment in the Maryland portion of the Susquehanna River upstream of the Conowingo Dam. The due date for bids was November 2017. This request follows a request for information released in August 2016 to identify cost-effective dredging solutions,

including beneficial and/or innovative uses. MES received 13 responses to the request for information: all 13 responses included dredging proposals and 2 responses included beneficial reuse proposals for the dredged material – a lightweight aggregate for road material or an additive to be put on farmland and road fill.

Phosphorus Management Tool

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

Collecting the PMT data has been a challenge for MDA; first, because of the reluctance of some nutrient management planners to release the data for their client farmers and second, because of the need to do field level evaluations to collect data to fill information gaps. In general, fields with a phosphorus Fertility Index Value (FIV) of less than 150 are not subject to additional phosphorus management restrictions while fields with FIVs greater than 150 are subject to increasing restrictions on the management of phosphorus. PMT data available as of August 2017 indicates that 86.5% of acres have reported their FIV data. The acres fall into the following phosphorus FIV categories: FIV less than 150 – 877,336 acres (79.4%); FIV of 150 to 499 – 210,023 acres (19.0%); and FIV greater than 500 – 17,771 acres (1.6%). Fields with a FIV greater than 500 are not allowed to apply phosphorus. The PMT also divides farms into tier groups for management purposes. The exact phosphorus management practices needed will depend on whether the particular fields fall into low, medium, or high PMT risk categories, but, in general, there will be a significant number of acres transitioning to the revised management regimen in the next few years.

Nutrient Trading and Aligning for Growth

The Maryland Water Quality Trading Advisory Committee has been meeting regularly since January 2016 on the State's nutrient trading policy, which informs what is now called Aligning for Growth. The January 2016 *Draft Maryland Trading and Offset Policy and Guidance Manual – Chesapeake Bay Watershed* has been updated with a draft April 17, 2017 document, which reflects a greater focus on trading to meet stormwater permits.

Nutrient trading has shifted from a way to *maintain* the TMDL cap to a way to *meet* the TMDL cap. In particular, it has become a way to meet inexpensively, and perhaps temporarily, the load reductions necessary from the stormwater sector. For instance, Anne Arundel, Baltimore, Charles, Frederick, and Harford counties proposed, in their July 2016 stormwater financial

assurance plans, to trade with wastewater treatment plants for up to half of the needed reductions in their five-year stormwater permits, as required by Chapter 124 of 2015.

MDE anticipates publishing proposed nutrient trading regulations in the December 8, 2017 issue of the Maryland Register. As of November 15, 2017, the regulations provide for a voluntary cross-sector market-based approach to reducing the cost of meeting the TMDL that complements the regulatory structure currently in place. Trading of credits, or units of pollution reduction, is proposed within three trading geographies: the Potomac River Basin; Patuxent River Basin; and Eastern Shore and Western Shore River basins, including the Maryland portion of the Susquehanna Basin. Various measures are in place to mitigate concerns that credits do not materialize or water quality may be degraded, including a credit reserve, uncertainty ratios, and an anti-degradation policy specifying that trading may neither cause nor contribute to local water quality impairments or prevent the attainment of local water quality standards. The success of nutrient trading will be determined by the transparency and accountability of the trades.

In terms of meeting the TMDL cap, the Administration is still working on an Aligning for Growth policy. One of the major challenges has been addressing stormwater and septic loads from new development. This arises from the fact that agricultural land converted to urban land and land using septic systems results in less nutrient and sediment loading despite the fact that the State does not want to incentivize development on agricultural land. As of September 2017, two Aligning for Growth policy options addressing new development have been presented: (1) a septic/forest conversion option in which loads from new septic systems are offset by some amount and stormwater loads from converting forestland is offset; and (2) a per capita loading option that creates both a county and State individual loading benchmark – generally lower in urban areas with infrastructure in place – to which all new development would be compared with a requirement to offset any loading greater than the benchmark. Any final Aligning for Growth option will require stakeholder buy-in to be effective.

Policy Implications

Maryland is nearing the deadline for the Phase III WIP, due in calendar 2018. The Phase III WIP will guide the actions that need to be taken to reduce nutrient and sediment reductions sufficiently to meet the 2025 TMDL. Maryland and the other bay jurisdictions will need EPA – Chesapeake Bay Program coordination and enforcement in order to reach the 2025 TMDL, but the program’s funding and enforcement authority are far from assured. In addition, Maryland may be called upon to reduce a greater level of sediment and phosphorus, depending on the deliberations surrounding the allocation of the loading from the Conowingo Dam. On the Eastern Shore, PMT implementation will result in a significant number of acres of agricultural lands transitioning to new management regimes. In addition, nutrient trading could provide cost reductions for nutrient load reductions, but only if the program is run in a transparent fashion with accountability. Finally, whether Maryland is able to maintain the TMDL cap may be determined by the effectiveness of a final Aligning for Growth policy.