

# Review of Draft Chesapeake Bay TMDLs and Associated State Watershed Implementation Plans

COG staff summary of highlights  
September 28, 2010

## Schedule

- EPA's draft Chesapeake Bay TMDL document was released on Sept. 24, 2010. EPA is holding a round of public meetings and accepting comments on it through Nov. 8, 2010. The same comment period generally applies to the draft state "watershed implementation plans" (WIPs) that accompany the TMDL. These were issued by the Bay states in early September.
- Revised state implementation plans are due to be submitted to EPA by Nov. 29, 2010, and EPA will release the final TMDL by Dec. 31, 2010. The states will develop a second, more detailed Phase II WIP, which is likely to set reduction goals and propose practices at the local government level, and submit them to EPA by June 1, 2011. Those plans are due to be finalized by November 2011.

## Overall highlights

- EPA's TMDL document establishes pollution budgets for nitrogen, phosphorus and sediment for each of the 94 segments into which EPA has divided the 64,000-square-mile Bay watershed and, based on input provided by states, has allocated the allowable loads among the major sources of those pollutants, including municipal wastewater plants, urban stormwater and agriculture.
- The state WIPs describe, in various levels of detail, how the states plan to achieve the reductions in nutrients and sediment called for in the TMDL. The reductions are determined as the difference between loads for 2009 and the target loads established for each major source sector at the major basin and segment-shed level, as determined through the Bay Program's computer modeling efforts. (For example, the TMDL establishes target loads in the form of wasteload allocations for Maryland's wastewater treatment plants and permitted urban stormwater discharges and in the form of load allocations for agriculture and unregulated urban stormwater in each of its major basins, including its portion of the Potomac River.)
- Both the EPA's TMDL document and the state WIPs make a distinction between 60 percent of the needed reductions, which the states have committed to achieve by 2017, and the full 100-percent reduction, which must be accomplished by 2025.<sup>1</sup>

## EPA draft TMDL highlights

- EPA analyzed what states submitted in their WIPs, focusing on two major aspects: (1) did the reductions promised by the plans add up to the reductions EPA has calculated are needed and (2)

---

<sup>1</sup> In its WIP, Maryland has committed to achieve 70 percent of the overall reductions by 2017 and the full 100 percent by 2020.

are the programs and policies the state cites to achieve the reductions credible, what the TMDL section of the Clean Water Act calls “reasonable assurance.”

- EPA found that the numbers in just one state plan – Maryland’s – add up to the required level of reductions, although minor adjustments are needed among the different basins in the state. EPA found that none of the WIPs met the reasonable assurance standard, although some plans were a lot better in this regard than others. In this area, EPA pointed to lack of regulations, lack of enforcement and other binding commitments, lack of dates by which actions will occur and, in some plans, what it called an over-reliance on using pollution trading programs.
- As a result, EPA calls its current TMDL document a “hybrid TMDL” that includes both the actions proposed by the state WIPs and actions proposed by EPA to close what it sees as gaps in the plans. These federal “backstop allocations” are presented in the form of proposed actions that EPA could take under its existing regulatory authority, for example, requiring stormwater retrofits among MS4 permittees, and new requirements for livestock farmers subject to CAFO (confined animal feeding operations) permits. EPA has said it will remove or alter the backstops if states revise their WIPs to address the gaps before their re-submission at the end of November.

### **Maryland draft Phase I WIP highlights**

- Maryland’s draft plan comes closest to meeting EPA’s expectations with only minor adjustments needed to conform to EPA’s allocation by basin.
- The largest section of the more than 170-page plan addresses how to meet the gap between current levels of progress in reducing nutrients and what will be needed to meet the interim 70-percent reduction target by 2017 and the full target by 2020. The state has proposed 75 new or expanded actions among all major pollution sources to close this gap. It will determine a final set of gap closing actions after receiving public comment.
- In regard to urban stormwater, Maryland has proposed a series of options, including requirements that by 2017 Phase I MS4 permittees achieve either 30-, 40-, or 50-percent retrofit of older developed areas, Phase II permittees achieve 20-percent retrofit and urbanized areas outside currently permitted areas achieve 20-percent retrofit.

### **Virginia draft Phase I WIP highlights**

- EPA’s analysis indicated that Virginia’s WIP needed a “moderate” level of federal backstops to address its shortfalls. As a result, the draft TMDL document proposes that by 2017 Virginia’s MS 4 permittees be required to retrofit 50 percent of older developed areas and that up to 50 percent of currently unregulated urban areas be made subject to this requirement as well. It also proposes new practices be required for regulated CAFOs in the state.
- The plan’s preamble discusses TMDL development schedule, modeling concerns and cost considerations. It includes the following statement: “It is our position that the success of the draft WIP may be largely subject to the provision of sufficient federal funding to assist in covering these massive costs.”

- Virginia's WIP proposes extensive use of offsets and trading to reach nutrient targets. In particular, it proposes to greatly expand use of the Chesapeake Bay Watershed Nutrient Credit Exchange Program so that it could be used to facilitate trades from the urban stormwater and septic system sector to other sectors such as agriculture and wastewater.
- The Virginia WIP does not directly discuss the need for stormwater retrofits, focusing instead on trading and other policies. However, the level of reductions implied by the numbers that appear in the plan indicate that urban areas would have to meet limit of technology targets unless offsets become a feasible alternative.

### **Issues for local governments**

- Source Allocation – the state WIPs provide an allocation of allowable loads among the various pollution source sectors. Generally speaking, wastewater plant loads in the Washington region conform to the expectations that already exist for meeting ENR (enhanced nutrient removal) levels of reduction. However, the allowable loads for urban stormwater and agriculture are subject to what the state chooses to emphasize: in the case of Maryland, the allocations are based on the application of an equity principle; in the case of Virginia, they appear to be based on what state officials thought was do-able by each of those sectors. The allocation of these loads in the final TMDL document could have major impacts for local government as a determinant of stormwater permit conditions and a driver of trading programs.
- Stormwater Permitting - as noted previously, either the state WIP itself, in the case of Maryland, or the federal backstops in the EPA TMDL document, in the case of Virginia, propose dramatic increases in retrofit requirements for older urban areas developed without stormwater controls or with older technology that captures less nutrients and runoff than current technology. In the region, Montgomery County currently has the highest retrofit requirement in its recently reissued MS4 permit – at 30 percent by the close of its permit cycle in 2014. The various WIP/TMDL proposals range from 30 – 50 percent by 2017 for Phase I communities and up to 20 percent for some Phase II communities, which currently do not have such requirements.
- Impact on Growth – Maryland's plan includes an analysis indicating that expected population growth in areas served by existing sewer service can be accommodated under existing wastewater allocations (at design flow and ENR-level nutrient removal). And increases in stormwater loads can be met through existing regulations requiring use of environmental site design or potential offsets. The state also has outlined a potential system for offsetting new loads caused by development outside these areas, for instance from septic systems<sup>2</sup>, in a way that would provide incentives for redevelopment. Virginia's plan acknowledges this issue, but does not provide much detail in terms of specific policies.

---

<sup>2</sup> Although they account for a small part of the overall load for nitrogen, septic systems present a challenge in that the technology to reduce existing loads is very expensive and the potential to add new systems raises equity issues in comparison to areas where load caps exist for wastewater plant loads.

## General Background Information (provided by EPA)

### **Q. What is a TMDL?**

**A.** TMDL stands for [Total Maximum Daily Load](#). The TMDL represents the maximum amount of a [pollutant](#) that a body of water may receive and still meet its water quality standards, with a margin of safety. Pollutants are anything that prevents a waterbody from attaining the national goal of being “fishable and swimmable.” The “loadings” are allocated to sources contributing to the problem. A TMDL is comprised of wasteload allocations for “point sources” like sewage treatment plants, urban stormwater systems and large animal feeding operations, load allocations for non-point sources such as polluted rainfall runoff from agricultural lands and impervious surfaces, and a margin of safety.

### **Q. Why is a TMDL being developed for the Chesapeake Bay?**

**A.** Because the water quality goals set forth in the *Chesapeake 2000* Agreement will not be met by 2010, and because impaired segments of the Bay remain on the states' Clean Water Act section 303(d) lists, EPA is establishing a federal Total Maximum Daily Load for nutrients and sediment for the Chesapeake Bay and its tidal tributaries.

### **Q. When will the Chesapeake Bay TMDL be developed?**

**A.** Under a Virginia consent decree, the Chesapeake Bay TMDL must be established no later than May 1, 2011. The Chesapeake Bay Program's Principals' Staff Committee requested that the TMDL be completed by December 2010. EPA is working with the states to meet the accelerated schedule.

### **Q. Who will be developing the Bay TMDL?**

**A.** EPA Region 3's Water Protection Division has primary responsibility for completion of the Bay TMDL. The region is working closely with modeling and water quality experts at the Chesapeake Bay Program. EPA Region 2 is also providing guidance and technical support and is expected to co-sign the final TMDL. One of the six states in the watershed – New York – is located in Region 2. The others and the District of Columbia are located in Region 3. The Bay Program's committee structure is being used to engage the states in the development of the TMDL. That is, all Bay TMDL decisions are being vetted through the program's Water Quality Goal Implementation Team (formerly the Water Quality Steering Committee), and major policy decisions will be further reviewed by the Principals' Staff Committee. When consensus cannot be reached on key decision points, EPA will be the final decision-maker.

### **Q. What is the scope of the Bay TMDL?**

**A.** The Chesapeake Bay TMDL will address all segments of the Chesapeake Bay and its tidal tributaries that are impaired from the discharge of nitrogen, phosphorus

and sediment and listed on the states' 2008 Section 303(d) list of impaired waters. The TMDL will allocate loadings of nutrients (nitrogen and phosphorus) and sediment to all jurisdictions in the Bay watershed, including New York, Pennsylvania, West Virginia, Delaware, Maryland, Virginia and the District of Columbia.

**Q. What will be included in the Bay TMDL?**

**A.** The Bay TMDL will include reductions in nitrogen, phosphorus and sediment sufficient to achieve the state's Chesapeake Bay clean water standards for dissolved oxygen, water clarity and chlorophyll *a* – which is a measure of algae.

**Q. How will the Chesapeake Bay TMDL be different from other TMDLs?**

**A.** The Bay TMDL will be closely coordinated with implementation plans and actions. The TMDL will be backed by a series of two-year commitments and strong accountability provisions to assure progress. It will be the largest and most complex TMDL ever, involving interstate waters and the effects on water quality from the cumulative impact of more than 17 million people, 88,000 farms, 483 significant treatment plants, thousands of smaller facilities and many other sources in the 64,000-square-mile watershed. The TMDL will offer the scientific tools to determine sources of pollution at a local level, improving the ability to target pollution-reduction actions.

**Q. When does the TMDL anticipate the Bay will be restored?**

**A.** States in the watershed and the District of Columbia have committed to have pollution control measures in place no later than 2025 that will lead to the restoration of the Chesapeake Bay. (Maryland pledges to reach its responsibilities by 2020.)

**Q. What is the Chesapeake Bay Program?**

**A.** The Chesapeake Bay Program includes the signers of the original 1983 Chesapeake Bay Agreement – the states of Maryland, Virginia and Pennsylvania; the District of Columbia; EPA, representing the federal government; and the Chesapeake Bay Commission, representing Bay state legislators. It also includes the U.S. Department of Agriculture and the headwater states of Delaware, New York and West Virginia.