

# **Chesapeake Bay Total Maximum Daily Load: Local Government Implementation and Participation**

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Mary-Carson B. Saunders  
Virginia Sea Grant Legal Intern  
William & Mary School of Law, J.D. Candidate 2013

## I. TMDL Background

On December 29, 2010, the Environmental Protection Agency passed the Chesapeake Bay Total Maximum Daily Load (TMDL) to buttress the water quality improvement efforts spanning the 64,000 square miles of the Bay watershed.<sup>1</sup> This regulation is authorized by the Clean Water Act<sup>2</sup> and President Obama's 2009 Executive Order 13508 for "Chesapeake Bay Protection and Restoration."<sup>3</sup> Across the entire watershed, the TMDL reduces nitrogen by 25%, phosphorus by 24%, and sediment by 20%.<sup>4</sup> The federal regulatory measure mandates compliance from the six Bay states and Washington, D.C., with a projected Bay-wide water quality restoration date of 2025. Despite this distant goal, at least 60% of the water quality improvement measures must be completed by 2017.<sup>5</sup>

The EPA partnered with state agencies and, through complex modeling tools and data collection, established pollution limits for individual jurisdictions and river basins. Virginia received its loading allocations and responded in September by drafting a Phase I Watershed Implementation Plan, which contained strategies for Virginia to best meet its allocated nutrient and sediment load reductions. DCR submitted the Phase I WIP draft to the EPA for feedback and circulated the draft for public review.<sup>6</sup> After incorporating the public and EPA feedback into the Phase I WIP, DCR submitted the final Phase I WIP on November 29, 2010 to the EPA.<sup>7</sup>

Local Governments, Regional and State Agencies, and Planning District Commissions

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<sup>1</sup> Where We Work, Chesapeake Bay Foundation, <http://www.cbf.org/page.aspx?pid=428>.

<sup>2</sup> 40 C.R.F. §130.7. <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=92d8fc385722b8eeb85336038d69c555&rgn=div8&view=text&node=40:22.0.1.1.17.0.16.8&idno=40>.

<sup>3</sup> Exec. Order No. 13,508, (May. 12, 2009). <http://www.gpoaccess.gov/presdocs/2009/DCPD-200900352.pdf>.

<sup>4</sup> Chesapeake Bay TMDL Executive Summary, Environmental Protection Agency, (Dec. 29, 2010) at ES-1. [http://www.epa.gov/reg3wapd/pdf/pdf\\_chesbay/FinalBayTMDL/BayTMDLExecutiveSummaryFINAL122910\\_final.pdf](http://www.epa.gov/reg3wapd/pdf/pdf_chesbay/FinalBayTMDL/BayTMDLExecutiveSummaryFINAL122910_final.pdf).

<sup>5</sup> *Id.*

<sup>6</sup> Commonwealth of Virginia Chesapeake Bay TMDL Watershed Implementation Plan Public Review Draft, (September 2010), <http://www.dcr.virginia.gov/vabaytmdl/documents/vatmdlwipdrft.pdf>.

<sup>7</sup> *Id.*

collaborated with DCR to write the Phase II WIP; the draft is scheduled for release on December 15, 2011. Both the EPA and the public will review the Phase II WIP before the EPA must receive the completed WIP on March 30, 2012. Virginia will write a final Phase III WIP in 2017, the purpose of which is to identify additional needs to meet the 2025 full restoration goal.

## II. TMDL Implementation

The objective of the TMDL is to improve the water quality of the Chesapeake Bay. Virginia's objective is to improve the quality of the water within its jurisdiction. The Watershed Implementation Plan designates Virginia localities the task of reducing levels of nitrogen, phosphorous, and sediment in their municipal jurisdiction. The manner in which localities lower their nutrient and sediment levels is through the utilization and creation of Best Management Practices (BMPs). DCR distributed targets of nutrient reduction, denoted by percentage reduction, to localities. Local governments are expected to meet their prescribed targets through the use of BMPs. Commonly used BMPs include retention ponds, as often seen in subdivisions or commercial retail developments, storm drain catch basins, and porous pavement. Descriptions and reduction rates of accepted BMPs are located in the Virginia Assessment Scenario Tool (VAST). Each local government maintains their VAST account online and inputs their BMPs into VAST to monitor nutrient and sediment reduction targets.

Virginia must submit target plans for each locality to the EPA by the March 30, 2012 WIP Phase II deadline. Therefore, each locality must submit their target plan to the DCR by February 1, 2012. Local governments are asked to submit two documents to the DCR. The first document is a list of potential options to explore in more specific detail. This document is a narrative of the concerns a locality may have, questions about whether a BMP may be

worthwhile, or simply action plans the locality thinks would help improve water quality. For example, if a county thought the creation of a wetland on a local park could reduce their nitrogen, phosphorous, or sediment loads, the narrative document would describe the plan in detail, even though the implementation of the BMP has yet to occur. The second document is a spreadsheet of all the preexisting BMPs in the locality, from 2006 to the present. This information, assuming it has been entered previously, is simply uploaded from the Virginia Assessment Scenario Tool (VAST).

### III. Local Government Action or Inaction

Local governments have three choices. First, they can do nothing, allow the state to provide whatever nutrient and sediment reduction targets it chooses, and then do nothing with the received targets. Second, they can identify all existing BMPs implemented from 2006 to the present in the locality, input them into VAST, and see if the BMPs meet the nitrogen, phosphorous, and sediment reductions required. Third, they can input the existing BMPs, create new BMPs to further reduce nitrogen, phosphorous, and sediment and thereby improve the locality's water quality above the baseline set by the existing BMPs.

### IV. BMP Problems & Inconsistencies

Many local governments already employ BMPs. DCR attempted to include those BMPs already in use into their nitrogen, phosphorous, and sediment reduction-planning model; however, current targets perhaps indicate that the BMPs located in the MPPDC were not fully reported. For example, according to a recent study by Virginia Tech researchers, approximately

90% of agriculture in Eastern Virginia is no-till.<sup>8</sup> No-till agriculture reduces nitrogen, phosphorous, and sediment loads tremendously. The DCR data model only identifies 15% of Virginia agricultural practices as no-till.<sup>9</sup> Once the no-till practices are accounted for as existing BMPs, the targets for localities will potentially shift.

In addition, the MPPDC is working with DCR and the EPA to adopt non-approved, but successful BMPs into the list of approved BMPs, so that Virginia state and local governments will obtain credit for their existing practices. For example, at a TMDL meeting on November 30, 2011, a VDH representative stated that he could identify many onsite septic systems in the ground, within the MPPDC, that already reduce nitrogen loads in the effluent at an impressive rate. These nitrogen reducing technology systems are not currently in the BMP inventory, although they certainly could help reduce a county's nitrogen loading target. There are over 3,000 installed and permitted septic systems in the MDDPC; localities should hypothetically receive credit for this BMP.

There is a great deal of uncertainty associated with DCR's current BMP data. Localities may want to take ownership of their reduction targets because the potential errors within the model can gravely misguide action. For example, according to the current DCR model data, VDOT controlled roads are included in localities' nutrient and sediment reduction targets. The DCR model classifies state owned and managed roads as impervious surface area, for which the locality is presumed responsible. VDOT roads are considered "urban land" in localities' models, implying that the establishment of urban BMPs would be an appropriate method of reducing the nitrogen, phosphorous, and sediment levels produced by the impervious surface roads. However, VDOT's lack of accountability frustrates localities data and could make cities, counties, and

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<sup>8</sup> Roy Roberson, Virginia Growers Not Getting Proper Credit for Bay Cleanup, Southeast Farm Press, Oct. 4, 2010, <http://southeastfarmpress.com/government/virginia-growers-not-getting-proper-credit-bay-cleanup?page=1>.

<sup>9</sup> *Id.*

towns budget their BMPs incorrectly. VDOT remains silent on this issue. Localities that recognize this problem and report it as such to the DCR may save time and energy upfront. Localities that do not participate, by leaving the nutrient and sediment target allocation to the state, may end up doing more work to backtrack through the data dysfunction.

A problem also exists in the notion that local governments could scour their locality's land and identify BMPs that are currently unrecognized by the DCR or EPA. If the purpose of the TMDL regulation is to improve water quality, how does a local government's effort to justify their current nutrient and sediment loading values help improve water quality within that locality? If compliance with the purpose of the regulation were a local government's goal, creating new, unidentified BMPs would do more to clean up water quality within the locality. If compliance with the state for sheer participation's sake is the local government's goal, the identify-all-current-BMPs, approved or otherwise, approach may be sufficient. The distinction between the two approaches is significant for local governments to consider.

#### IV. Enforcement and Jurisdictional Issues

The TMDL's enforcement over local governments is highly contentious and a serious concern for localities. Virginia is undoubtedly responsible for maintaining compliance with the EPA, however, the practical reality of compliance lies with its localities. Implementation of nutrient and sediment reduction practices must exist at the local level for two reasons. First, supervisory departments of the state and region have offices in cities, counties, and towns where they operate daily. These local departments are familiar with the land, the businesses, and the individuals within the local governments they serve. Second, the reality of this governance model lies also in the lack of financial support from the federal government. Virginia received

no money to implement the TMDL. This lack of funding trickled down to the local government level and leaves localities with zero consistent funding sources for their already struggling budgets. Certain grant and waiver programs exist for individual landowners. The MPPDC applied for a DCR grant to help fund research, technical support, training sessions, and meetings between local governments, local state agencies, and other organizations during the most recent WIP Phase II draft process. There are additional funding opportunities for local governments and private landowners, but they need to be applied for independently.

Local governments in Virginia are only required to comply with the TMDL if they have a federal permit with the EPA, such as an MS4 stormwater permit, or another permit for a facility that produces point source pollution. Under the nitrogen, phosphorus, and sediment reduction regulation, point-source pollution must meet more stringent reduction limits. Small cities, counties, and towns in Virginia that have no centralized sewer system, nor other federal permitted services, are not required by law to comply with TMDL standards. Although no local government within the MPPDC is technically required to reduce nutrient loads from point source pollution sites, the TMDL system is structured in such a way that it could be in localities' best interest to comply.

## V. Septic Issues

Although 98% of the BMP inventory is agriculturally propelled, the treatment of sewage is a potential load reducer for MPPDC. Septic and onsite wastewater treatment is an integral part of MPPDC and has been at the forefront of the TMDL debate, as evidenced by Farmer's Septic "Protect Your Property Rights" campaign in Mathews.<sup>10</sup> Farmer's Septic is reacting to the VDH Emergency Regulation scheduled to pass through the General Assembly on December 8, 2011.

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<sup>10</sup> Farmer's Septic Service, Inc., <http://www.farmersseptic.com/>.

The “Regulations for Alternative Onsite Sewage Systems” raises the standard of nitrogen reducing technology and requires that all new alternative septic systems significantly reduce the nitrogen content in its effluent.<sup>11</sup> The Regulations also require existing alternative septic systems to comply with nitrogen reducing technology within a given period of time.

The Regulations contain a provision that has caused a great deal of confusion and frustration. In section 30(J) the regulation states that the “dispersal of treated or untreated sewage in a wetland [that] is subject to permitting by the Virginia Department of Environmental Quality pursuant to the requirement of Title 62.1 of the Code of Virginia is specifically excluded from this chapter.”<sup>12</sup> In light of this provision, there are in fact some issues around private development in coastal counties like Mathews.

To provide some background to this issue, the septic permitting process experienced a shift about a decade ago. The Freedom of Engineering Bill permits professional engineers to design septic systems that “deviate from the design criteria” established by VDH.<sup>13</sup> This performance requirement waiver caused a shift in the permitting system, and personal homes were built directly on the shore where development was previously prohibited. As the economy slowed at the end of the last decade, fewer homes were constructed, and development stopped. The Virginia Department of Water Quality realized there were far more homes built, and consequently more septic systems permitted, on the coastline.

DEQ has an interest in this increase because homes and septic systems were built in non-tidal wetlands, which are under DEQ’s permitting jurisdiction. The Virginia Department of Health, however, held all the permits for these new properties and on-site wastewater treatment systems. The DEQ permitting process that enables private residents to build on the coast is

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<sup>11</sup> 12 VAC 5-613. <http://www.townhall.virginia.gov/L/viewstage.cfm?stageid=5905>.

<sup>12</sup> 12 VAC 5-613-40(J). <http://www.townhall.virginia.gov/L/ViewXML.cfm?textid=6008>.

<sup>13</sup> 12VAC5-613-210, at 417. <http://legis.state.va.us/codecomm/register/vol28/iss05/v28i05.pdf>.

extremely costly and highly regulated. If the DEQ permitting process was presented to the majority of current landowners in the non-tidal wetland area, one can assume that most individuals would chose to build their homes elsewhere. Despite this fact, the homes already exist and potentially have insufficient systems, according to DEQ's permitting standards.

Currently, VDH and DEQ have not come forward with any resolution for this problem. Private landowners will likely not be held liable for a jurisdictional issue about which they were unaware. The manner in which VDH and DEQ handle the permit swapping is yet to be determined. The situation, as it stands today, suggests that DEQ will become involved with single-family residents in respective localities.

#### VI. Recruiting Private Landowners' Participation

This VDH jurisdictional breach is one example of an unintended consequence of the TMDL regulation. It is one of many potential issues that could arise from the TMDL. Many of these issues are likely embedded in the suggestion that local governments need to recruit private landowners and businesses to develop their own BMPs. Technically, local governments have zero standing to enforce BMPs on private landowners. There are several ways the Commonwealth of Virginia or a single locality could incorporate private landowners and businesses to participate.

Legal Action: The General Assembly can either use its existing powers to enact action or they can create new powers. The Commonwealth of Virginia grants local governments the police power to protect the health, safety, and general welfare of the locality. Local governments can therefore pass ordinances related to septic regulation, BMP creation, or other creative nutrient and sediment reducing remedies. If the Commonwealth foresees a problem with this

approach, potentially in the limiting nature of the Dillon's Rule, it can pass its own law granting local governments the power to enact a specific regulation or ordinance. The Alternative Septic Regulations are an example of legislative action that will require landowners and businesses to employ their own BMPs.

Provide Economic Incentives: The WIP Phase I included a suggestion that the General Assembly expand the existing Virginia Nutrient Credit Trading Program.<sup>14</sup> Under the expanded program, localities, private landowners, and companies could participate in the trading market. If people can make money off of healthy nutrient levels, there will be a significant increase of private party support and participation. Local governments could get creative within their own governance framework. If local citizens or business decide to construct their own BMP on their own dollar, or through State funds, the local newspaper could report a story about their efforts; perhaps the public recognition could form positive peer pressure within the community and persuade others to participate.

Provide Economic Support: Specific programs designed to financially assist local landowners, farmers, or businesses to adopt BMPs already exist; informing the public of their existence is a task many local governments may need to adopt. Farmers, for example, can participate in the agricultural cost share program. This program shares the expense of BMP creation with other farmers operating land in Virginia. The U.S. Natural Resources Conservation Service (NRCS) also provides opportunities for financial support through their Wildlife Habitat Incentive Program (WHIP) and Environmental Quality Incentives Program (EQIP). The programs for financial aid exist; the issues local governments may face are who will investigate these programs and educate the public about them, who will apply for them, and with what time.

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<sup>14</sup> Nutrient Credit Exchange Study, Virginia Department of Environmental Quality, <http://www.deq.virginia.gov/vpdes/NutCrdExStudy.html>.

## VII. What Could Actually Happen If Local Governments Do Not Participate?

Technically, there are no founded or approved answers to this question. Section Seven of the TMDL touches on enforcement issues; however, the enforcement measures do not apply for a locality such as those within the MPPDC. The implications the measure, though, have an impact. After speaking with someone from the EPA, there are options the EPA is considering to address the issue, if and when it becomes a problem for the TMDL regulation. The following is a hypothetical, but possible, scenario.

Assume a locality does not want to participate in reducing their nutrient and sediment levels. The locality fails to submit the BMP narrative document and the VAST spreadsheet. The state then assigns the locality the reductions according to the DCR data released during the WIP Phase I process. Assume Virginia experiences problems meeting the nutrient and sediment reduction targets allocated by the EPA. Also assume that many local governments in Virginia also decided not to submit their own BMP plans.

The EPA can take federal action under the Clean Water Act to enforce the TMDL. Currently, the EPA can only bring actions at the State level, rather than bringing federal action to State communities. The federal actions imposed on the State could, however, influence localities. EPA could impose enhanced oversight of existing permits within the State, as well as reject any new applications within the State for new permits. The EPA could redirect federal dollars intended for State programs away from the ill performing States, such as Chesapeake Bay Regulatory grants. States can respond to the strain of the Federal government through the passage of their own laws. If a State reached this level of noncompliance they could easily and would likely pass statutes that would in fact mandate the participation of localities. Therefore,

given all the potential consequences of a State that fails to meet the reduction standards imposed by the EPA, it is in the local governments best interest to comply with the TMDL process.