Cleaning Up the Chesapeake Bay: The Current Policy Framework

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 new regional restoration initiative, prompted by federal requirements and characterized by accountability measures and shorter term program evaluation, is underway.

This paper provides an overview of the current policy framework, a timeline of major bay policy developments, and a discussion of potential implementation costs.

The Overarching Goal: Chesapeake Bay Total Maximum Daily Load

In December 2010, the U.S. Environmental Protection Agency (EPA) established a Chesapeake Bay Total Maximum Daily Load (TMDL), as required under the federal Clean Water Act and in response to consent decrees in Virginia and the District of Columbia. This TMDL sets the maximum amount of pollution the bay can receive and still attain water quality standards and identifies specific pollution reduction requirements. The TMDL requires all reduction measures to be in place by 2025, with at least 60% of the actions completed by 2017. Maryland has committed to an accelerated schedule, having all measures in place by 2020 and 70% of the actions completed by 2017.

Achieving the Goal: An Accountability Framework for Jurisdictions in the Bay Watershed

Watershed Implementation Plans (WIP)

In 2010, each bay jurisdiction drafted a Phase I WIP, which details how and when it will achieve its reduction goals. The jurisdictions are now implementing the Phase I WIPs and developing Phase II WIPs that allocate strategies and pollution reduction goals among local jurisdictions and include detailed implementation assurances such as funding plans.

Two-year Milestones

President Barack 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 developing two-year milestones to reduce pollution to the bay. As part of this effort, 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 bay TMDL, the milestones have been incorporated into the TMDL process as a series of checkpoints for assessing progress toward achieving the pollution reduction goals in the TMDL.

Federal Review and Contingency Actions

EPA will review each jurisdiction's progress towards 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.

Significant Policy Gaps

Currently, the bay restoration effort lacks a clear strategy for (1) accounting for new pollution associated with future growth in the watershed; and (2) paying for restoration actions. Until these issues are resolved, significant and lasting improvements to the bay's health are unlikely.

A Timeline of Major Bay Policy Developments

Date	Action
1983	The first Chesapeake Bay Agreement is signed, setting forth broad restoration objectives and establishing an executive council to establish policy.
1987	The second Chesapeake Bay Agreement is signed, setting forth more far reaching objectives, including reducing nitrogen and phosphorus loads to the bay by 40% by the year 2000.
1992	The 1987 agreement is amended to establish nutrient reduction targets for the bay's major tributaries.
1999	As a result of lawsuits, EPA is required by consent decree to develop TMDLs for certain segments of the bay by 2011.
2000	The Chesapeake 2000 Agreement is signed, seeking to remove the bay from EPA's impaired waters list by 2010.
January 2009	A lawsuit is filed against EPA to compel a stronger federal role in the cleanup of the bay (*Fowler v. EPA).*
May 2009	President Barack Obama signs Executive Order 13508 that directs the federal government to lead a renewed effort to restore and protect the bay and its watershed. The Chesapeake Executive Council sets first two-year milestones for reducing pollution.
May 2010	The Plaintiffs in *Fowler* enter into a settlement agreement with EPA creating a legally binding commitment that EPA take specific actions under its current authority to restore the bay, including creating a baywide TMDL.
November 2010	The bay states and the District of Columbia submit Phase I WIPs to EPA.
December 2010	EPA releases a final bay TMDL.
2011	In January, the American Farm Bureau Federation and the Pennsylvania Farm Bureau file a lawsuit against EPA challenging the bay TMDL. The National Association of Home Builders files a similar lawsuit in June.
December 2011	Draft Phase II WIPs are due to EPA.
March 2012	Final Phase II WIPs are due to EPA.
2017	States must submit final Phase III WIPs detailing actions beyond 2017. Interim target loads must be achieved.
2025	All practices needed to fully restore the bay and its tidal waters must be in place. Maryland has committed to implementation by 2020.

EPA: U.S. Environmental Protection Agency
TMDL: Total Maximum Daily Load
WIP: Watershed Implementation Plan

Watershed Implementation Plan Costs

Implementation Costs: A Significant Shortfall Projected

The total cost reflected in Maryland's Final Phase I Watershed Implementation Plan (WIP) submitted to the U.S. Environmental Protection Agency (EPA) on December 3, 2010, covering calendar 2010 to 2017, is on the order of $11.1 billion. The fiscal 2012 costs to the State, local governments, and other entities are not separately identified in the plan and are not known at this time. However, there are a number of current State programs that provide funding for actions identified in the plan. Existing State funding sources are projected by the Department of Legislative Services to provide approximately $2.8 billion between fiscal 2010 and 2017, leaving a projected funding shortfall of about $8.3 billion over this time period.

Estimated Cost of Maryland's Final Phase I Watershed Implementation Plan
Calendar 2010-2017
($ in Billions)

Sector	Best Management Practices	Implementation Cost[1]	Available Funding[2]	Shortfall
Urban Stormwater	Stormwater upgrades; lawn fertilizer regulation; stream restoration; and tree planting	$4.283	$0.107	-$4.176
Air	Maryland Healthy Air Act; diesel engine retrofit; and low emission vehicle requirement	2.701	0.000	-2.701
Point Sources	Upgrades for wastewater treatment plants and sewer overflows	3.381	2.294	-1.087
Septics	Septic system upgrades and hookups	0.474	0.071	-0.403
Natural Filters on Public Land	Tree and grass buffers; and wetland restoration	0.025	0.023	-0.002
Agriculture	Land management; animal wastes and phosphorus; and managing fertilizer	0.203	0.267	+0.064
Total		**$11.067**	**$2.762**	**$8.305**

[1] Implementation cost from calendar 2010 through 2017 based on information provided in the WIP.
[2] Available funding from fiscal 2010 through 2017. This includes special, federal, and general obligation bond funding included in the 2011 *Capital Improvement Program* for most capital projects, projected funding for the Chesapeake and Atlantic Coastal Bays 2010 Trust Fund, projected funding for the Bay Restoration Fund, and projected funding from the Transportation Trust Fund for the State Highway Administration's stormwater costs.

Source: Maryland's Final Phase I Watershed Implementation Plan, Department of Legislative Services

Major Funding Challenges for the State and Local Governments

Overall implementation costs will likely change as EPA's watershed model is updated, load reductions and costs are more fully allocated to local jurisdictions as part of the Phase II WIP process, and experience is gained with the implementation of best management practices. Currently, it appears as if there are two major sectors that will involve significant costs to the State and local governments: wastewater treatment plant upgrades and stormwater retrofits. (Although there is also a significant funding shortfall in the air sector, these costs will be borne by the power plant and automobile industries.)

- ***Wastewater Treatment Plant Upgrades*** – Major wastewater treatment plant upgrades currently are expected to cost $1.38 billion, and available funding from the Bay Restoration Fund totals $1.002 billion, leaving a projected funding shortfall of about $382.6 million. The Bay Restoration Fund Advisory Committee has been charged with recommending a fee structure by December 2011 to be implemented by July 1, 2013, in order to address this shortfall.

- ***Stormwater Retrofits*** – At the State level, State Highway Administration (SHA) stormwater retrofit costs are estimated to be approximately $1.3 billion from calendar 2012 to 2017; however, SHA may adopt alternative practices to avoid costly structural solutions for stormwater retrofits, and a Blue Ribbon Commission on Maryland Transportation Funding has been appointed to look at these and other costs.

  Local governments will also incur significant costs to address stormwater retrofits identified in the WIP, and discussions have been held in recent legislative sessions regarding expanding the use of local stormwater utility fees to help offset such costs.

When Will We Know More?

The State and local jurisdictions are in the process of developing the Phase II WIP, which will allocate pollution reductions to local governments. Once the Phase II WIP is complete and more specific actions are identified for each jurisdiction, a better sense of the overall costs of implementing the WIP will be known. In addition, costs have only been estimated through 2017; additional implementation costs will be borne through 2020 – the date by which Maryland has committed to implementing the reductions. Furthermore, there will be ongoing costs for maintenance efforts.