

Harford County, Maryland
Northern Chesapeake Bay (CB2OH) Total Maximum Daily Load (TMDL)
for Nutrients, and Sediment

The Northern Chesapeake Bay (Mainstem 2 Oligohaline or CB2OH) Watershed, Total Maximum Daily Loads (TMDL) for nutrients and sediment were established by Maryland Department of Environment (MDE) and approved by the U.S. Environmental Protection Agency (EPA) in December 2010.

On December 30, 2014, MDE reissued the Phase I National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) permit to Harford County (County). The permit has several new requirements, including stringent stormwater management criteria, implementation of strategies to reduce litter and floatables, and development of restoration plans. Part IV.E.2.b of the NPDES MS4 permit requires the County to develop restoration plans to address stormwater wasteload allocations (SW-WLAs) for the waterbodies in the County that have EPA-approved TMDLs. Attachment B of the County's NPDES MS4 permit lists eight waterbodies in the County that have TMDLs for various impairments. Table 1 lists the waterbodies, type of TMDL, and the impairment.

Table 1: EPA-Approved TMDLs in Harford County

Type of TMDL	Watershed	Impairment
Local	Bynum Run	Sediment
	Swan Creek	Nutrients
	Loch Raven Reservoir (Non-Tidal)	Bacteria
	Loch Raven Reservoir	Mercury
	Loch Raven Reservoir	Nutrients and Sediment
Chesapeake Bay	Bush River Oligohaline	Nutrients and Sediment
	Gunpowder River Oligohaline	Nutrients and Sediment
	Chesapeake Bay Mainstem 1 Tidal Fresh	Nutrients and Sediment
	Chesapeake Bay Mainstem 2 Oligohaline	Nutrients and Sediment

The Northern Chesapeake Bay (CB2OH) Watershed is located mostly on Aberdeen Proving Grounds (APG) in Harford County. Only 118 acres drains from Harford County into the 18,000 acre Northern Chesapeake Bay (CB2OH) Watershed. A review of the 2015 aerial photography and parcel data shows a 64-acre parcel that belongs to Aberdeen Town Commissioners, a 6-acre parcel that belongs to Consolidated Gas & Electric and 48-acre parcel that is privately owned and used for row crops.

According to MDE's TMDL Data Center, WLA search (referenced below) there is 37.6% reduction for nitrogen, and a 51.9% reduction for phosphorus.

<http://www.mde.state.md.us/programs/Water/TMDL/DataCenter>

These percent target load reductions equal load reductions of approximately 120 lbs/yr of nitrogen and 12 lbs/yr of phosphorus. According to the *Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated* (MDE, 2014), a load reduction of 6.22 lbs/yr nitrogen and 0.44 lbs/yr phosphorus can be achieved by planting 1 acre of trees following the minimum tree size and planting density. Therefore, a 27-acre tree planting could be implemented to achieve a 120 lbs/yr nitrogen and 12 lbs/yr phosphorus reduction at an estimated cost of \$513,000. The 64-acre property owned by the Aberdeen Town Commissioners is nearly entirely forested. The 6-acre parcel owned by Consolidated Gas & Electric is fully developed. The remaining 43 acres currently farmed with row crops could be available for the 27-acre tree planting.

This cost far outweighs the benefit to the Chesapeake Bay (CB2OH) TMDL considering the minor contribution from Harford County. The County will coordinate with Aberdeen Proving Grounds to identify potentially more cost effective restoration opportunities within the Chesapeake Bay (CB2OH) Watershed.

Harford County is concurrently developing a restoration plan for the County's portion of the Chesapeake Bay (CB1TF) Watershed TMDLs for nutrients and sediment. Implementation of that plan is a priority for Harford County.

Harford County's portion of the Chesapeake Bay (CB2OH) Watershed is mainly agriculture and forest and should not include an allocation for the County's MS4. Part 1.B of the County's MS4 permit correctly defines the MS4 permit area. Outside of this permit, MDE has expressed a more expansive interpretation of the regulated permit area. The County expressly reserves its right to reduce the load reduction goals to the minimum required by law. In addition, the County expressly reserves the right to make future refinements upon new and additional information consistent with an adaptive management approach or based upon financial, operational or legal consideration that impact the implement.