

**Guidance  
for Developing a Stormwater Wasteload Allocation  
Implementation Plan for Mercury Total Maximum Daily Loads**



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**FINAL**

## **Introduction**

This document provides Maryland's local jurisdictions with recommendations on specific management strategies and actions to include in Stormwater Wasteload Allocation (SW-WLA) implementation plans for Mercury Total Maximum Daily Loads (TMDLs). For permitted Phase I municipal separate storm sewer system (MS4) jurisdictions, SW-WLA implementation must be addressed as part of their permit required restoration plans. Although the intent of this document focuses on providing guidance for developing SW-WLA implementation plans to Phase I MS4s, most of the recommendations and strategies outlined here could also be applied in creating implementation plans for SW-WLAs and urban LAs assigned to other regulated stormwater dischargers and non-MS4 jurisdictions.

It is important to emphasize that the methods and strategies described in this document are merely recommendations. Local jurisdictions may apply different actions and strategies in their plans, as long as 1) their plan provides for physical action to achieve the required SW-WLA reductions, and 2) the actions and strategies are scientifically defensible and technically sound. The guidance does not include the full suite of actions and strategies available, but rather, it is intended to provide a general starting point when developing a SW-WLA implementation plan for mercury TMDLs.

## **Source Identification**

Atmospheric deposition has been identified as the major loading source to mercury impaired waterbodies in Maryland (MDE 2011). A portion of the total mercury deposition is delivered to the impaired waterbodies through urban stormwater conveyance systems. However, the conveyance systems themselves and the impervious surfaces and developed pervious surfaces they drain generally do not serve as a source of mercury to receiving waterbodies. They are merely a conduit for transporting atmospherically deposited mercury downstream (e.g., not a terrestrial source). Most of the atmospheric mercury originates from stationary combustion sources, such as power plants (EPA 2013).

Regulations set for power plants at the State and federal level should reduce the levels of mercury deposition throughout Maryland. In 2007, Maryland passed the Healthy Air Act (HAA), which places stricter mercury air emissions on the State's largest coal-burning power plants (MDE 2014). In the Cash Lake watershed of Prince George's County, this law alone is estimated to decrease the total deposition of mercury by 31% from its 2007 baseline (MDE 2011). At the federal level, the Mercury and Air Toxics Standards (MATS) will place pollution limits on coal and oil-fired power plants and are expected to further reduce the total air deposition of mercury in Maryland.

## **Load Reduction**

For potential local sources of mercury to Maryland's waterways, there are steps that can be taken to reduce mercury to the waste stream and to the environment, such as ensuring the proper management of mercury-containing products and source reduction.

The promotion of household hazardous waste programs can ensure that mercury from household products is managed correctly. MDE has published extensive information for local jurisdictions concerning the reduction of mercury levels in Maryland's environment at [http://www.mde.state.md.us/programs/Land/RecyclingandOperationsprogram/SourceReduction/Pages/Programs/LandPrograms/Recycling/source\\_reduction/index.aspx](http://www.mde.state.md.us/programs/Land/RecyclingandOperationsprogram/SourceReduction/Pages/Programs/LandPrograms/Recycling/source_reduction/index.aspx). Local jurisdictions should document and report any of these local measures in their implementation plan.

Due to the source of anthropogenic mercury, the majority of TMDL and WLA required mercury load reductions is expected to occur at the State and federal level (e.g., via reductions in power plant emissions). As part of the plan, localities should still document and account for the reductions anticipated from these State and federal programs in order to:

- a) Ensure that there is an accounting system in place to track the applicable WLAs
- b) Help identify any local sources of mercury to the impaired waterbody.

Estimated reductions in mercury loadings from State and federal programs are documented in Maryland's mercury TMDLs. These estimates are derived from Maryland Department of Natural Resources' (DNR) Power Plant Research Program.

### **Evaluation**

Carefully documented inventories of BMPs/management strategies and well developed monitoring plans of performance will be needed to demonstrate progress toward meeting SW-WLA loads established by MDE.

### **General Plan Guidance**

Please refer to the general SW-WLA implementation plan guidance, which can be found on the MDE website at:

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

**References**

U.S. Environmental Protection Agency (EPA). 2013 *Cleaner Power Plants*.  
<http://www.epa.gov/mats/powerplants.html> (Accessed December, 2013).

Maryland Department of the Environment (MDE). 2011. *Total Maximum Daily Load of Mercury for Cash lake Watershed, Prince George's County, Maryland*. Baltimore, MD: Maryland Department of the Environment.

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[http://www.mde.md.gov/programs/Air/ProgramsHome/Pages/air/md\\_haa.aspx](http://www.mde.md.gov/programs/Air/ProgramsHome/Pages/air/md_haa.aspx) (Accessed February, 2014).