

# TOTAL MAXIMUM DAILY LOAD

## Kentucky Division of Water

The federal Clean Water Act (Act) requires states to designate how their surface waters (such as rivers, streams, lakes, reservoirs, and springs) should be used as a resource. Water bodies might be used for drinking water supply, fish consumption, recreation (swimming, wading, boating), and/or as habitat for aquatic life. States must develop water quality standards that protect these uses. The Act also requires states to assess whether their waters meet the applicable water quality standards. Surface waters that do not meet the standards are considered impaired.

Under Section 303(d) of the Act, states must submit to the U.S. Environmental Protection Agency (EPA) a list of waters that are impaired due to one or more specific pollutants. For each listed waterbody, the state must establish the Total Maximum Daily Load (TMDL) of the impairing pollutant that will not cause the waterbody to exceed water quality standards.

### **How can I find out which surface waters are impaired?**

You can go to the [Water Health Portal](#) to see which surface waters are listed as impaired. If there is an established TMDL on a waterbody, this website includes a link to the TMDL report. You can also view the most recent 303(d) list of impaired waters for Kentucky at the following link [2022 Integrated-Report.pdf \(ky.gov\)](#).

### **What is a TMDL?**

A TMDL is a tool for reducing water pollution in impaired waters. It is the maximum amount of a specific pollutant that a waterbody can take in over a day and still meet water quality standards. A TMDL can be thought of as a "pollution diet." An impaired waterbody has too much of a given pollutant.

To get back to a healthy status, the amount of the pollutant entering the water needs to be reduced, just as a person on a diet reduces their daily calories to get back to a healthy weight. The TMDL sets the target load that the waterbody should not exceed.

### **What does a TMDL include?**

Beyond calculating the maximum allowable amount of a pollutant, a TMDL report identifies sources of the pollutant within the watershed of the impaired waterbody. Pollutant sources fall into two categories: point and nonpoint.

Point sources must have a permit from the state to discharge the pollutant into the waterbody, typically from a pipe. Examples of point sources include wastewater treatment plants and industrial discharges.

Nonpoint sources do not require a discharge permit and are often related to human practices or land use. Examples include fertilizer and pesticide applications and failing to pick up pet waste. Pollutants from these materials can be picked up and carried by rainfall or snow melt to nearby surface water.

Each point source that discharges the impairing pollutant into the waterbody receives a waste load allocation. Nonpoint sources of the pollutant in the watershed receive a load allocation. These allocations set the maximum portion that each source can contribute to the total load.

Also, a TMDL will account for background (naturally occurring) levels of the pollutant and consider the impact of seasonal variation on pollutant loading to a waterbody. Load calculations also incorporate a margin of safety to account for uncertainty. This can be done by setting aside a portion of the load instead of allocating it among the sources, or by using conservative assumptions when calculating the TMDL. Lastly, a TMDL may factor in future growth. This holds back part of the load for future construction or expansion of permitted facilities and an expected increase in discharges.

To summarize:

$$TMDL = \text{wasteload allocations} + \text{load allocations} + \text{margin of safety}$$

### **Can the public become involved?**

Yes! The public may participate in the TMDL development and implementation process through watershed organizations. A 30-day public comment period follows the publication of each proposed TMDL. All comments received during the public notice period will become a part of the TMDL administrative record and will be considered by the Kentucky Division of Water prior to finalizing the TMDL report

### **What is the TMDL approval process?**

Following the public review and comment period and any necessary revisions, states submit their TMDLs to EPA for approval. Once EPA approves a TMDL, Kentucky must incorporate it into its permitting and watershed management programs. EPA must approve or disapprove state TMDLs within 30 days of final submission. If EPA disapproves a Kentucky TMDL, EPA must establish the TMDL.

## How are TMDLs implemented?

Implementation involves actions to reduce pollutant loading to levels that meet water quality standards. For example, the Kentucky Division of Water may revise Point source wastewater or storm water permits so they are consistent with the TMDL. These permit conditions maybe numeric effluent limits or narrative requirements based on best management practices (BMPs) needed to achieve the necessary pollutant load reduction.

Nonpoint sources are not regulated by the Division of Water; their compliance with the load allocation is voluntary. Reducing pollutant load from nonpoint sources will depend on voluntary actions by citizens, property owners, and other stakeholders who use the land resources in the watershed of an impaired water. Actions to reduce nonpoint source loadings may include pollution prevention activities, habitat preservation or restoration, and identifying BMPs and putting them in place. Technical assistance is available so that stakeholders can work together to identify and implement the actions most likely to improve water quality in the impaired watershed.

