

# TOTAL MAXIMUM DAILY LOAD (TMDL)



**Toolkit**

**PRESENTED BY: KENTUCKY DIVISION OF WATER AND  
KENTUCKY DIVISION OF COMPLIANCE ASSISTANCE**

# INTENT OF THE **TOOLKIT**

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- The purpose of the toolkit is to provide a basic understanding of Total Maximum Daily Load (TMDL) supplemented with useful resources.
- The toolkit is not intended to serve as a comprehensive resource or substitute for reading and understanding DEP regulations.
- Hyperlinks appear throughout this document as underlined blue text.

# OVERVIEW



- The following toolkit will identify...
  - ...the definitions of
    - the Clean Water Act (CWA),
    - designated uses,
    - water quality standards, and
    - the Integrated 305(b) and 303(d) reports;
  - ...why TMDLs exist;
  - ...what a TMDL is;
  - ...how TMDLs are calculated; and
  - ...the effect of a TMDL on NPDES permit holders and non-regulated sources.

# CLEAN WATER ACT

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- The goal of the Clean Water Act is to eliminate the discharge of pollutants to waters so that waters are fishable, swimmable and drinkable.
- The Clean Water Act identifies two types of discharges, those causing point source pollution and nonpoint source pollution.
  - Point sources have discharge pipes and must have a National Pollutant Discharge Elimination System (NPDES) permit that allows the pollutant discharge to a water body.
  - Nonpoint sources are those not defined as a point source.

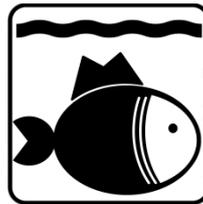
# DESIGNATED USE

**Designated uses** are essentially how the water is used.

## – Designated Use Examples



Drinking Water



Aquatic Life



Primary Contact  
Recreation (e.g.  
swimming)

# WATER QUALITY STANDARD

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- Water quality standards are set to determine if the designated use is supported.
- These standards identify water quality criteria to protect a designated use.
- States use the standards to assess data collected from a water body and determine whether a designated use is met.



# REPORTING FOR THE STATE

- The Kentucky Division of Water (KDOW) submits a report every two (2) years to the US Environmental Protection Agency (EPA) providing the assessments of Kentucky's water bodies.
  - The report is called the “Integrated Report to Congress on Water Quality in Kentucky” or the 305(b) and 303(d) Reports.
  - The [305\(b\) Integrated Report](#) indicates results from all assessments and tells what designated uses were assessed, the results of that assessment, and the pollutant(s) causing an impairment.
  - The [303\(d\) Integrated Report](#) is a subset of the 305(b) Report and only indicates information for water bodies found to be “impaired” or not meeting a designated use for which a Total Maximum Daily Load (TMDL) is required.

# WHY TMDLS EXIST

- TMDLs are part of Section 303(d) of the Clean Water Act.
  - For impaired waters in the 303(d) Report, a TMDL is developed so the waterbody may *attain* appropriate water quality standards.



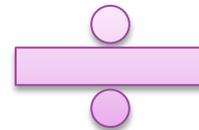
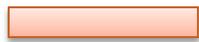
# WHAT IS A TMDL?



- A Total Maximum Daily Load (TMDL) is a calculation of the amount of a pollutant that can enter a water body and still meet the *water quality standard* for a *designated use*.
- TMDLs identify the current amount of pollutant entering a water body, the allowable amount entering it and divides the allowable pollutant discharge to sources.

# CALCULATING TMDLS

- TMDLs are calculated based on specific factors and divides the allowable discharge to sources.
- $TMDL = WLA + LA + MOS$  where:
  - WLA is wasteload allocation
    - The allowable discharge load for point sources or Kentucky Pollutant Discharge Elimination System (KPDES) -permitted sources
  - LA is the load allocation
    - The allowable discharge load for nonpoint sources that do not have a KPDES permit.
  - MOS is the margin of safety to account for uncertainty.



# IMPLEMENTATION...

Once a TMDL is approved by the EPA, the different discharge sources must implement pollutant reductions to meet the pollutant load limits.

## – Point Sources

- The Division of Water can modify KPDES permits such that the Wasteload Allocations will be met.
- Any existing planning documents which limit pollutant discharges may need to be modified to reflect additional discharge reductions.

## – Nonpoint sources

- Implementation of Load Allocations is a cooperative and voluntary effort, which may be facilitated by a local stakeholder-based planning process funded by a KDOW [319\(h\) grant](#).

# ADDITIONAL RESOURCES

- Additional information can be found on Kentucky's [TMDL Program website](#).
- To receive information, you can like "[Kentucky TMDL Program](#)" on Facebook.
- or
- You can be added to an e-mail List Serve by sending your e-mail contact information to [TMDL@KY.gov](mailto:TMDL@KY.gov).



# QUESTIONS?

- **Contact:**
  - Division of Water
    - 502-564-3410
  - Division of Compliance Assistance
    - 800-826-8111
    - [envhelp@ky.gov](mailto:envhelp@ky.gov)

