

The Clean Water Act and Designated Uses

By the late 1960s and early '70s, citizens and government officials in the United States had recognized that there was a crisis with our streams and lakes. To address the water pollution problems, Congress made laws in 1972 to protect surface water that have come to be known as the **Clean Water Act (CWA)**. The U.S. Environmental Protection Agency (EPA) is responsible for overseeing the requirements of the CWA.

The CWA is made up of many sections that address different issues related to protecting the water. In general, it requires that the waters of the nation be **fishable, swimmable and drinkable (called designated uses)**. Healthy watersheds produce water that is fishable, swimmable and drinkable. Such watersheds support a wide variety of aquatic life and are a valuable resource. The area of land where the runoff flows to a common stream is called a **watershed**. Each of us lives in a watershed.

To support the fishable, swimmable and drinkable goals, the CWA requires states to set water quality standards to protect and manage their streams, lakes and rivers to minimize or eliminate pollution. In Kentucky, the standards include criteria for various water quality measurements like dissolved oxygen, temperature, pH and other measurable qualities and are part of our state regulations.

As part of the development of the water quality standards, states must identify uses for each body of water in their state. For the state of Kentucky, the Division of Water (KDOW) has identified the possible **designated uses** of streams, rivers and lakes and they are listed here:

- drinking water for humans
- **primary contact recreation (PCR)**, or swimming, for humans
- **secondary contact recreation (SCR)**, or boating, fishing and wading, for humans
- aquatic habitat for plants and animals that live in water
- outstanding state resource water

What is a Total Maximum Daily Load (TMDL)?

The CWA requires that states regularly monitor water quality in streams and rivers and determine if they are or are not supporting their designated uses. The status of designated use support is described in a report that is required by Section **303(d)** of the Clean Water Act. This report is a subset of the list of the impaired (not supporting or partially supporting designated uses) streams from the Section 305(b) list of assessed streams. These 303(d) listed streams will require a study that identifies the types and amounts of pollutants in the water and the needed pollutant reductions. These studies are called **Total Maximum Daily Loads (TMDLs)** and they determine the amount of pollutants a waterbody can receive and still meet its designated use(s).

The TMDL is described in a written report that documents the current water quality status of the waterbody and calculates the amounts of pollutants that must be removed so the stream can meet its designated use(s). It is intended to assist anyone involved with, or responsible for, managing or

improving water quality in the watershed. TMDLs distribute, or **allocate**, the amounts of pollutants that are allowable in the watershed among the users of the land in that watershed.

For the purposes of a TMDL, land users in the watershed are split into two main groups that will be responsible for the management and improvement of water quality in the watershed. The pollutant allocations are assigned to the two groups in the form of Wasteload and Load allocations. The group responsible for the Wasteload allocation includes any holders of a **Kentucky Permit Discharge Elimination System (KPDES) permit**. A KPDES permit is written by the KDOW and allows a land user to discharge some type of wastewater into a Kentucky waterbody. The other group, which includes any land users in the watershed that do not have a KPDES permit, is responsible for the Load allocation. To make sure that any uncertainty is accounted for in the distribution of these pollutant allocations, a Margin of Safety (MOS) is built into the TMDL calculations. This MOS is an attempt to ensure the stream will meet its designated uses once the TMDL is fully implemented.

To summarize, the TMDL is made up of the Wasteload allocation, the Load allocation, and a Margin of Safety. These pieces of a TMDL can be explained by the chart below.

