

Little Kanawha River Impairments

	Fe	Al	Mn	BIO
1. Duck Creek	X	X	X	X
2. Dustcamp Run	X	X	X	X
3. Lynch Run	X	X	X	X
4. <i>Copen Run*</i>	X	X	X	

* Stream currently being investigated for TMDL development

Abbreviations Key

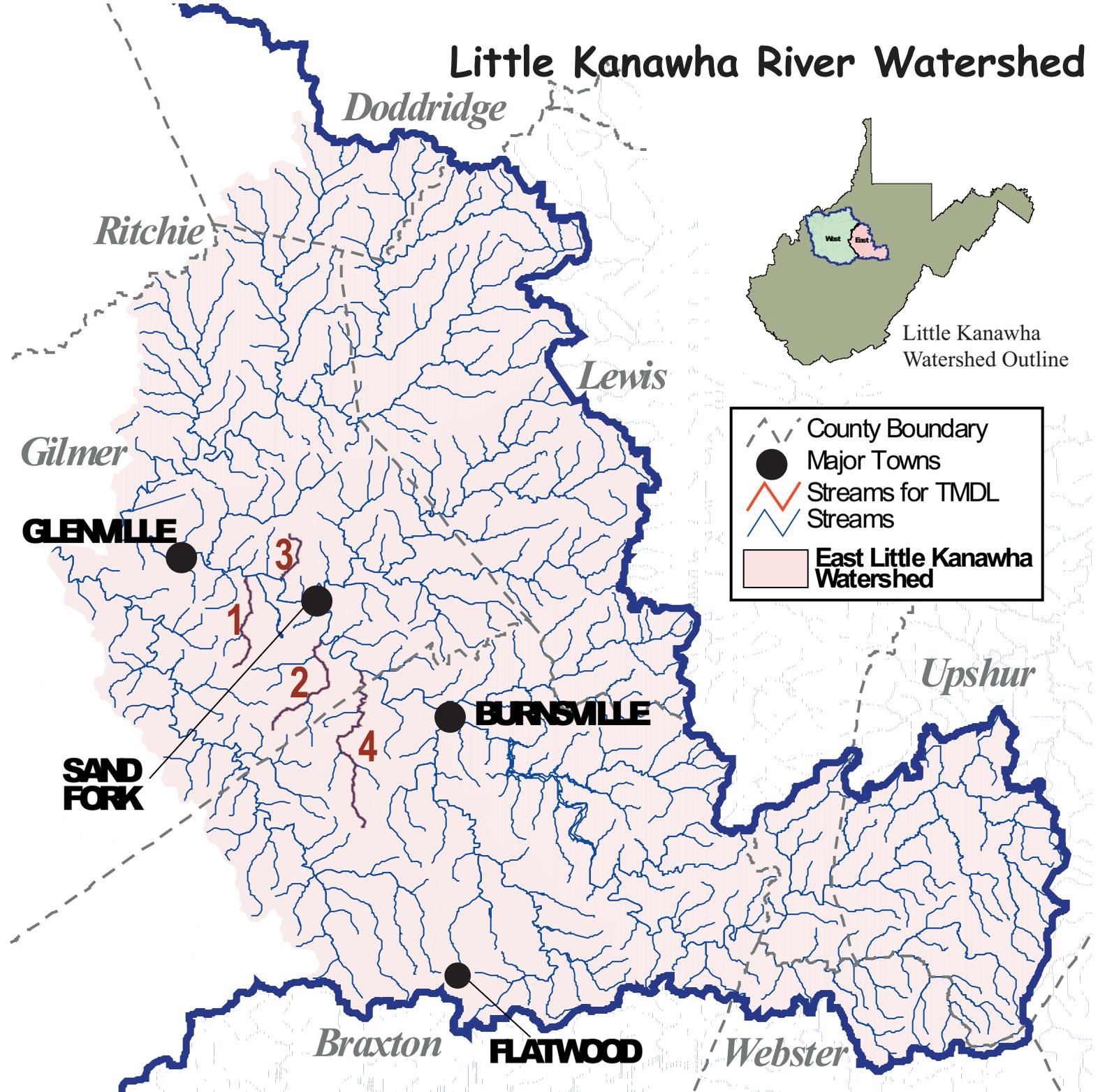
Fe - Iron

Al - Aluminum

Mn - Manganese

BIO - Biological

Little Kanawha River Watershed



What is Total Maximum Daily Load?

A Total Maximum Daily Load, commonly referred to as a TMDL, is a plan of action used to clean up streams that are not meeting water quality criteria.

The plan includes identifying pollution and developing a strategy for reducing or eliminating the pollution problem in that stream.

The West Virginia Department of Environmental Protection's (DEP's) TMDL program is beginning to work on impaired (polluted) streams in the Little Kanawha River Watershed. The goal is to complete a TMDL for each stream listed in the Little Kanawha River Watershed by December of 2007. During the next few years, DEP field personnel will be gathering samples from various points along the streams for analysis to support watershed modeling. Once the analyses are complete, TMDLs will be developed that specify the pollutant reductions necessary to correct the impairments.

The TMDL Process:

- ◆ Stream monitoring indicates an impairment
- ◆ **Stream is placed on 303(d) list**
- ◆ **Stream selection for TMDL development**
- ◆ **Pre-TMDL stream monitoring and pollution source identification and characterization**
- ◆ Contractual TMDL modeling. Including base condition, TMDL condition and **allocation scenarios**
- ◆ TMDL report development
- ◆ **Finalization of TMDL**. Including approval from the U.S. Environmental Protection Agency (EPA)
- ◆ TMDL implementation

During the events colored red, an opportunity for stakeholder involvement is provided.

Not All TMDLs Are Alike!

Each stream in West Virginia is unique. One plan of action will not work to clean every stream in the state. Therefore, an individual TMDL is completed for all impaired streams that are scheduled for clean-up. The map on the other side of this brochure shows each impaired stream that is scheduled to receive a TMDL. Beside the stream name is a chart that explains the problem(s) with the stream. Abbreviations also are located on the other side of this brochure that give a brief explanation of the symbols for the water quality criteria that are impaired in each stream.

Common Stream Impairments in West Virginia

Mine Drainage - Mine drainage streams are impaired by low pH and/or high concentrations of metals, which include iron, aluminum and manganese. Many of these streams also have biological problems.

Bacterial Contamination - Streams with bacterial contamination have high levels of fecal coliform bacteria. Common contributing factors include leaking or overflowing sewage collection systems, illegal homeowner sewage discharges by straight pipes or failing septic systems, and runoff from urban areas and agricultural lands.

Promoting a Healthy Environment

Atmospheric Deposition - The aquatic life communities in the headwater sections of many West Virginia streams continue to be impacted by low pH water quality. The impairment is most prevalent in watersheds with soils of low buffering capacity and most often caused by acid precipitation.

Biological Impairment - Biological impairment is based on narrative water quality criteria and determined through biological assessment of a wadeable stream's benthic macroinvertebrate community. Some examples include Mayflies, Crawfish and Stoneflies.

Stakeholders

A Stakeholder is a person or group responsible for making or implementing a management action or a person or group who will be affected by the action or can aid in its implementation. Stakeholder involvement is key on the local level for some of the following reasons:

- ◆ Building trust and support for the project
- ◆ Sharing responsibility for decisions and actions
- ◆ Developing cost effective solutions
- ◆ Enhancing communication and coordination

To become involved in your Little Kanawha River Watershed, please call 1-800-556-8181 and see what difference you can make.

For More Information

Contact the DEP's TMDL program at (304) 558-2837 or visit the website at www.wvdep.org. You also may email questions or comments to Environmental Resources Specialist Judith Lyons at jlyons@wvdep.org.

Little Kanawha River Watershed

TMDL
Total Maximum Daily Load



DEP

WEST VIRGINIA

Department of Environmental Protection
Division of Water and Waste Management
www.wvdep.org