

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 TMDL program is beginning to work on impaired (polluted) streams in the Middle Ohio South Watershed. The goal is to complete a TMDL for each stream listed in the Middle Ohio South Watershed by December of 2011. 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 above, 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.

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:

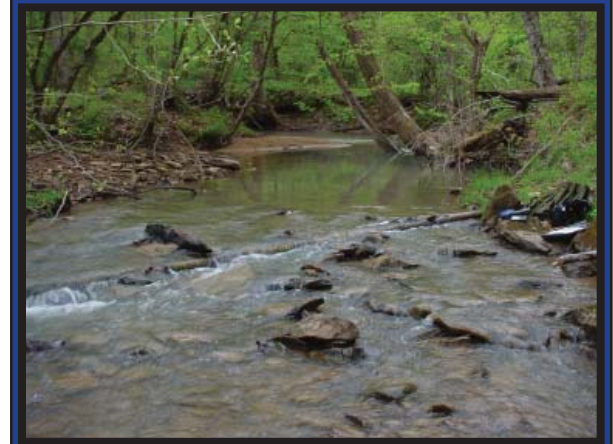
- Building trust and support for the project
- Sharing responsibility for decisions and actions
- Developing cost effective solutions
- Enhancing communication and coordination

To become involved in your Middle Ohio South Watershed, please call 1-800-556-8181 and see what difference you can make.

For More Information

Contact DEP's TMDL program at (304) 926-0495 or visit the Web site at www.wvdep.org/wvtmdl.

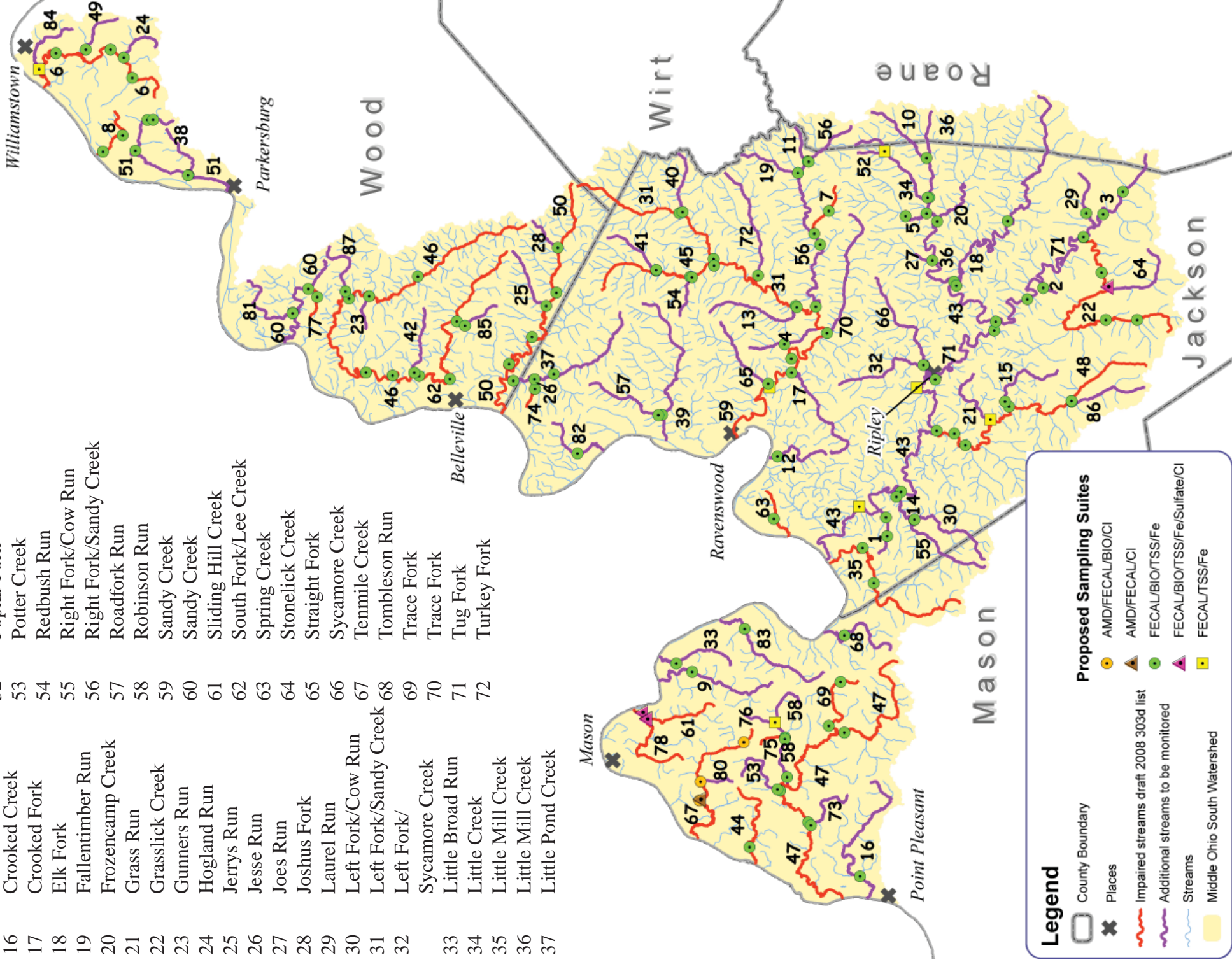
Total Maximum Daily Load



Middle Ohio South Watershed

Promoting a healthy environment

Map ID	Stream Name	Map ID	Stream Name	Map ID	Stream Name
1	Bar Run	38	Little Pond Run	73	Turkey Run
2	Bear Fork	39	Little Sandy Creek	74	UNT/Jesse Run RM 0.44
3	Bear Fork	40	Lockhart Fork	75	UNT/Robinson Run RM 2.42
4	Beatty Run	41	Maulecamp Run	76	UNT/Robinson Run RM 3.33
5	Big Run	42	Middle Fork/South Fork/Lee Creek	77	UNT/Sandy Creek RM 4.97
6	Big Run	43	Mill Creek	78	UNT/Sliding Hill Creek RM 1.25
7	Biglick Run	44	Mill Run	79	UNT/Tenmile Creek RM 4.13
8	Briscoe Run	45	Nesselroad Run	80	UNT/Tenmile Creek RM 5.33
9	Broad Run	46	North Fork/Lee Creek	81	Vaughts Run
10	Buffalo Creek	47	Oldtown Creek	82	Washington Run
11	Cabin Run	48	Parchment Creek	83	West Creek
12	Cedar Run	49	Plum Run	84	Williams Creek
13	Copper Fork	50	Pond Creek	85	Willow Run
14	Cow Run	51	Pond Run	86	Wolfe Creek
15	Cox Fork	52	Poplar Fork	87	Woodyards Run
16	Crooked Creek	53	Potter Creek		
17	Crooked Fork	54	Redbush Run		
18	Elk Fork	55	Right Fork/Cow Run		
19	Fallentimber Run	56	Right Fork/Sandy Creek		
20	Frozencamp Creek	57	Roadfork Run		
21	Grass Run	58	Robinson Run		
22	Grasslick Creek	59	Sandy Creek		
23	Gunners Run	60	Sandy Creek		
24	Hogland Run	61	Sandy Creek		
25	Jerrys Run	62	Sliding Hill Creek		
26	Jesse Run	62	South Fork/Lee Creek		
27	Joes Run	63	Spring Creek		
28	Joshus Fork	64	Stonelick Creek		
29	Laurel Run	65	Straight Fork		
30	Left Fork/Cow Run	66	Sycamore Creek		
31	Left Fork/Sandy Creek	67	Tenmile Creek		
32	Left Fork/	68	Tombleson Run		
	Sycamore Creek	69	Trace Fork		
33	Little Broad Run	70	Trace Fork		
34	Little Creek	71	Tug Fork		
35	Little Mill Creek	72	Turkey Fork		
36	Little Mill Creek				
37	Little Pond Creek				



Legend

- County Boundary
- Places
- Impaired streams draft 2008 303d list
- Additional streams to be monitored
- Streams
- Middle Ohio South Watershed

Proposed Sampling Suites

- AMD/FECAL/BIO/CI
- AMD/FECAL/CI
- FECAL/BIO/TSS/Fe
- FECAL/BIO/TSS/Fe/Sulfate/Cl
- FECAL/TSS/Fe