

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 North Watershed. The goal is to complete a TMDL for each stream listed in the Middle Ohio North 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.

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:

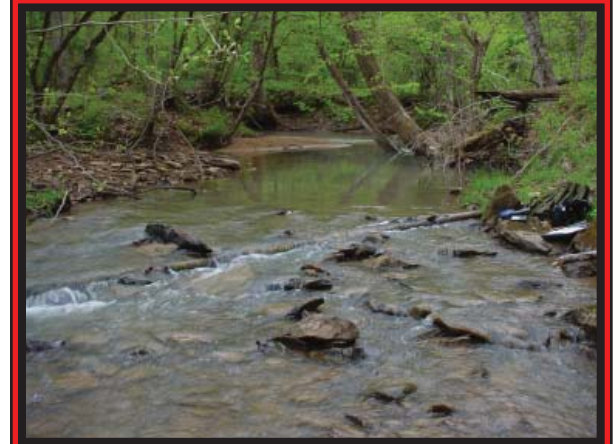
- Building trust and support for the project
- Sharing responsibility for decisions and actions
- Developing cost effective solutions
- Enhancing communication and coordination

To become involved in your Middle Ohio North 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.

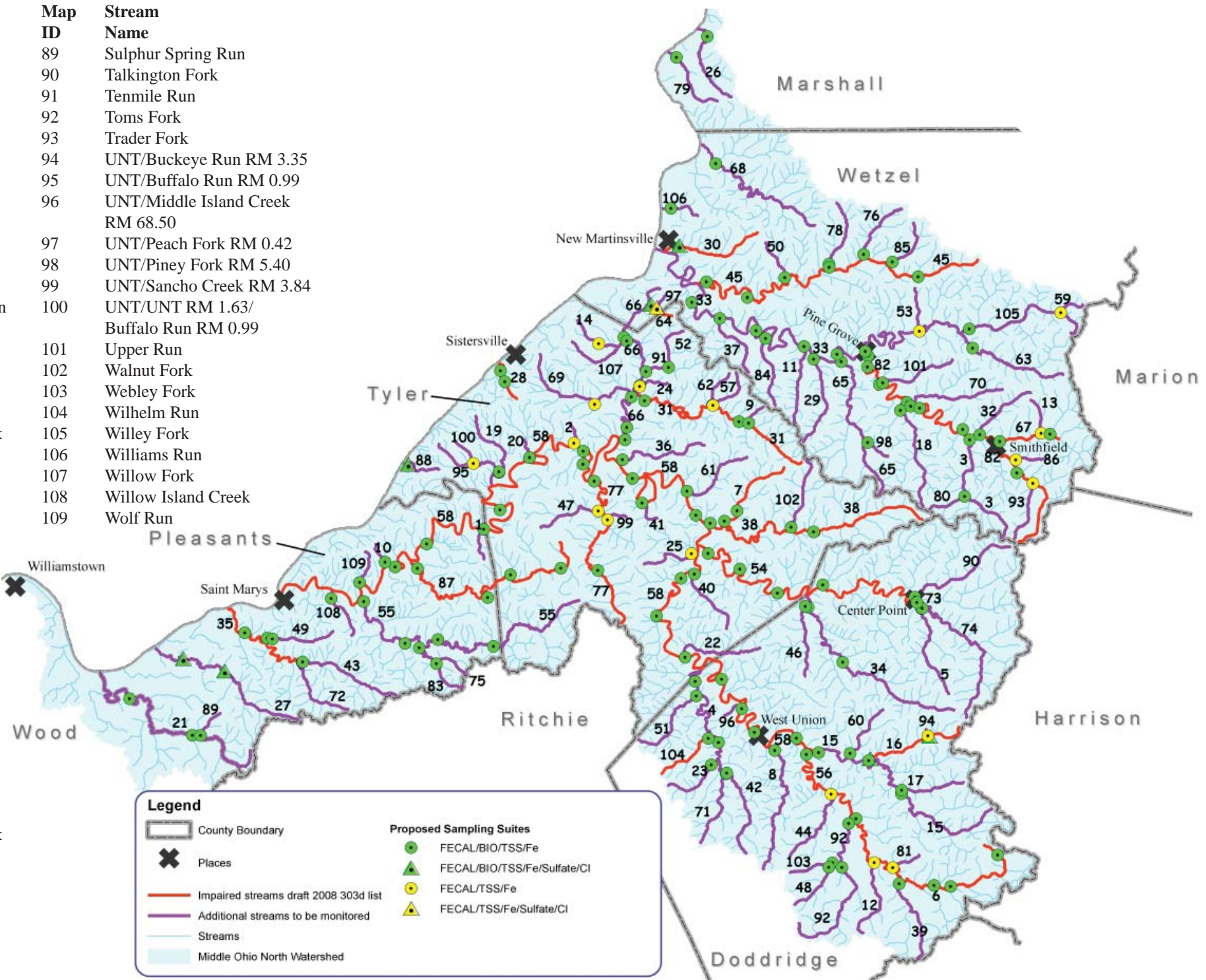
Total Maximum Daily Load



Middle Ohio North Watershed

Map ID	Stream Name	Map ID	Stream Name
1	Allen Run	45	Little Fishing Creek
2	Allen Run	46	Little Flint Run
3	Arches Fork	47	Little Sancho Creek
4	Arnold Creek	48	Little Toms Fork
5	Big Battle Run	49	Long Run
6	Big Isaac Creek	50	Long Run
7	Big Run	51	Long Run
8	Bluestone Creek	52	Lynncamp Run
9	Boardtree Run	53	Maud Run
10	Bogart Run	54	McElroy Creek
11	Brush Run	55	McKim Creek
12	Brushy Fork	56	Meathouse Fork
13	Buck Run	57	Middle Fork/Mudlick Run
14	Buck Run	58	Middle Island Creek
15	Buckeye Creek	59	Morgan Run
16	Buckeye Run	60	Morgans Run
17	Buffalo Calf Fork	61	Muddy Creek
18	Buffalo Run	62	Mudlick Run
19	Buffalo Run	63	North Fork/Fishing Creek
20	Buffalo Run	64	Peach Fork
21	Bull Creek	65	Piney Fork
22	Camp Mistake Run	66	Point Pleasant Creek
23	Claylick Run	67	Price Run
24	Coallick Run	68	Proctor Creek
25	Conaway Run	69	Pursley Creek
26	Coon Run	70	Richwood Run
27	Cow Creek	71	Right Fork/Arnold Creek
28	Cow Hollow Run	72	Right Fork/French Creek
29	Crow Run	73	Pike Fork
30	Doolin Run	74	Robinson Fork
31	Elk Fork	75	Rock Run
32	Fallen Timber Run	76	Rush Run
33	Fishing Creek	77	Sancho Creek
34	Flint Run	78	Scheidler Run
35	French Creek	79	Sims Run
36	Gorrell Run	80	Slabcamp Run
37	Hupp Run	81	Snake Run
38	Indian Creek	82	South Fork/Fishing Creek
39	Indian Fork	83	South Fork/Rock Run
40	Jefferson Run	84	State Run
41	Jug Run	85	Steel Run
42	Left Fork/Arnold Creek	86	Stout Run
43	Left Fork/French Creek	87	Sugar Creek
44	Lick Run	88	Sugarcamp Run

Map ID	Stream Name
89	Sulphur Spring Run
90	Talkington Fork
91	Tenmile Run
92	Toms Fork
93	Trader Fork
94	UNT/Buckeye Run RM 3.35
95	UNT/Bufalo Run RM 0.99
96	UNT/Middle Island Creek RM 68.50
97	UNT/Peach Fork RM 0.42
98	UNT/Piney Fork RM 5.40
99	UNT/Sancho Creek RM 3.84
100	UNT/UNT RM 1.63/ Buffalo Run RM 0.99
101	Upper Run
102	Walnut Fork
103	Webley Fork
104	Wilhelm Run
105	Willey Fork
106	Williams Run
107	Willow Fork
108	Willow Island Creek
109	Wolf Run



Legend

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

Proposed Sampling Suites

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