

Lower Little Miami River Watershed TMDL Report

The Clean Water Act requires cleanup plans for watersheds that do not meet water quality goals. The cleanup plan, known as a total maximum daily load (TMDL) report, specifies how much pollution must be reduced from various sources and recommends specific actions to achieve these reductions.

What are the essential facts?

- Ohio EPA studied the lower Little Miami River watershed and found water quality problems.
- Water quality improvements can be made with practical, economical actions.
- Making water quality improvement depends on the participation of the watershed's residents.

Where is the lower Little Miami River watershed?

The Little Miami River watershed drains 1,756 square miles in southwest Ohio. The 110-mile-long river joins the Ohio River in Hamilton County.

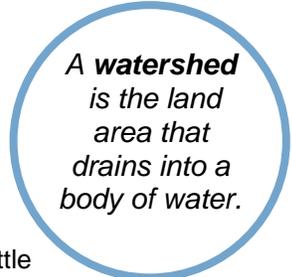
In 1969, the Little Miami River was the first to be designated as a State Scenic river. The river is popular for

recreation, including boating and fishing.

The TMDL study covers the lower portion of the watershed (parts of Butler, Clermont, Clinton, Hamilton, and Warren counties); a TMDL for the upper Little Miami River was completed in 2002.

Most of the land in the lower Little Miami River watershed is used for agriculture, with cultivated crops and pasture/hay accounting for 40% and 11%, respectively. Much of the area is forested (30%) and developed (17%). The watershed is among the most rapidly developing in Ohio.

Municipal wastewater treatment plants can treat up to 44 million gallons of sewage per day. The larger facilities serve the towns of Indian Hill, Mason, Lebanon, Loveland, and Wilmington. Storm water is treated from the former ABX airpark where deicing activities created large seasonal pollutant loads.

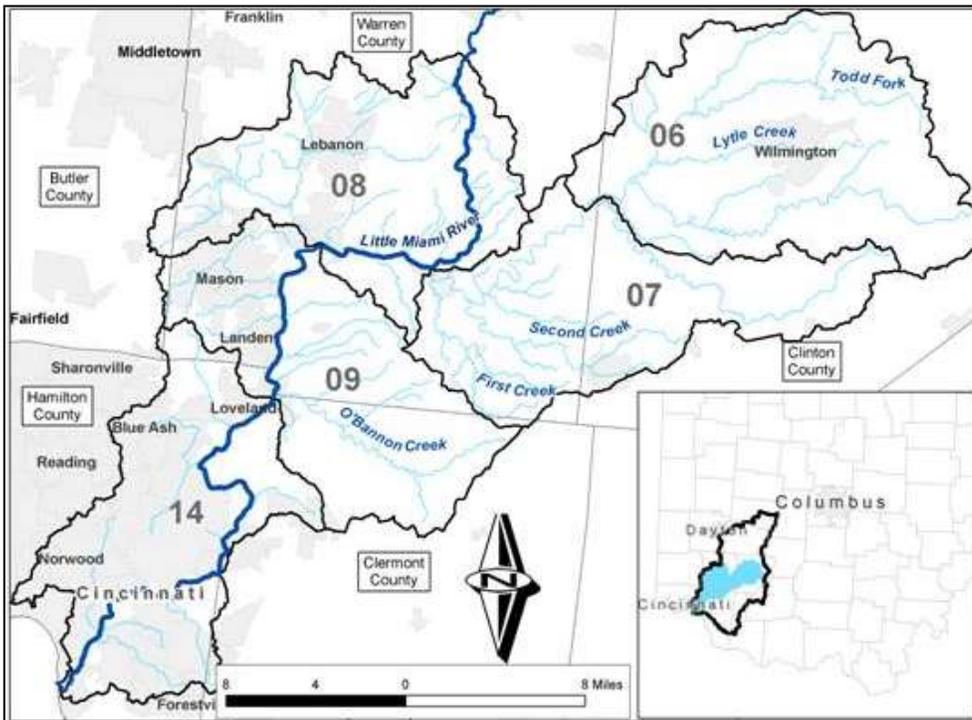


How does Ohio EPA measure water quality?

Ohio measures the health of its streams by examining the number and types of fish and aquatic insects in the water. An abundance of fish and insects that tolerate pollution is an indicator of an unhealthy stream. A large number of insects and fish that are sensitive to pollution indicate a healthy stream.

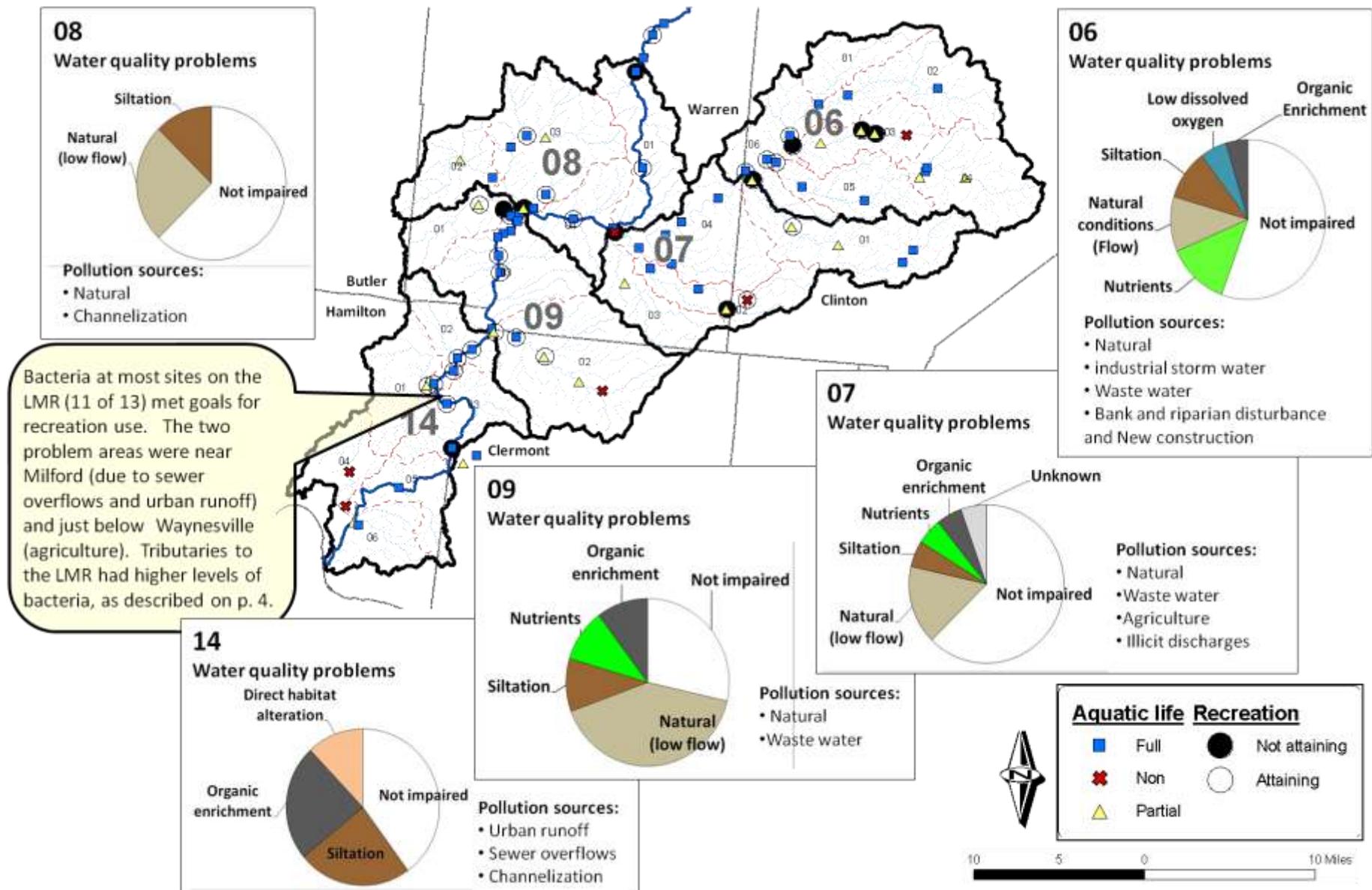
Ohio also measures the level of chemicals and bacteria to determine the suitability of streams for use as a water supply and for recreation.

In 2007, Ohio EPA scientists collected biological, chemical, and physical data in the watershed. The watershed's conditions were compared with state water quality goals to determine which stream segments are impaired and how much needs to be done to restore good stream habitat and water quality.



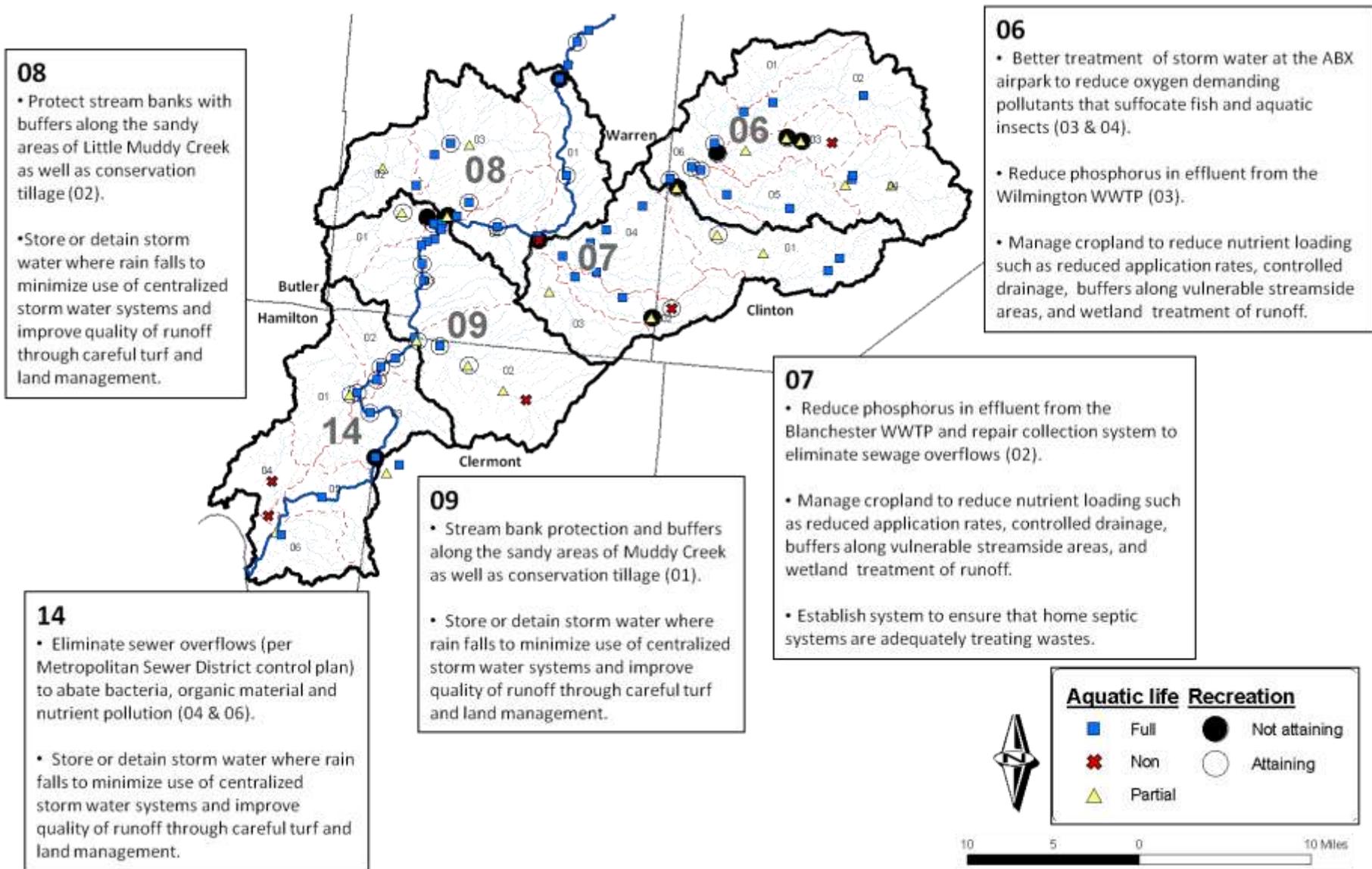
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What are the problems?



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How can the problems be fixed?



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Little Miami River near the Kelly Nature Preserve in Clermont County

What is the condition of the lower little Miami River watershed?

The mainstem of the Little Miami River showed exceptional quality, as twenty-four of twenty-five locations achieved the State's highest standards for aquatic life. The smaller tributary streams met goals for aquatic communities at 57% of the sites, but 35% met only some goals and 12% did not meet any. The map on page 2 shows the status of each survey site and the causes and sources of water quality problems.

The reason for not meeting aquatic life goals at over half of the impaired sites was low stream flow due to an unusually dry year. The other impaired sites were most impacted by wastewater discharges, where nutrients and organic substances are the pollutants of concern. An excessive amount of fine sediment on the streambed was a problem at some survey sites. This was likely the result of surface or stream bank erosion in cropland areas due to exposed soil, changes in hydrology, and ditch maintenance.

Over one third of the sites (38%) failed to meet water quality standards for the recreation use due to high levels of bacteria. Most of the impairment to the tributaries was in the Todd Fork watershed surrounding Wilmington, Blanchester, and Butlerville (areas 06 and 07 in the maps). Suspected sources of bacteria include sewer overflows, inadequately treated wastewater, and storm runoff. The Lytle and Second Creek watersheds as well as Muddy and Turtle Creeks show problems with inadequately treated sewage from home septic systems.

How can water quality improve?

Priority actions that will fix the water quality problems are shown on page 3. Actions include:

- Better treatment of waste water for certain pollutants
- Repaired or improved waste water collection systems
- Assurance that home septic systems are properly treating wastes
- Streamside buffer strips and bank protection in areas vulnerable to pollution from run off and stream bank erosion
- Measures to reduce losses of nutrients from crop fields.

Ohio EPA will use discharge permits to limit wastewater pollution and will work with the Metropolitan Sewer District on controls for its sewage collection system. However, many of the remaining actions rely on other agencies or on voluntary action by watershed residents.

Local health departments can inspect and identify failing septic systems and enforce action to remediate them. County soil and water conservation districts, Ohio Department of Agriculture and the Ohio Department of Natural Resources can enforce pollution abatement for agricultural sources.

Restoration projects to improve habitat, hydrology and water quality have been funded through federal and state funds and additional funding may become available for agricultural conservation practices.

In the Little Miami River watershed there are grassroots groups that provide leadership in outreach and education to watershed stakeholders. These groups include the Little Miami River Partnership, Little Miami Inc. and the Green Acres Foundation, which has a long standing volunteer monitoring program.

Where can I learn more?

The Ohio EPA report containing the findings of the watershed survey, as well as general information on TMDLs, water quality standards, 208 planning, permitting and other Ohio EPA programs, is available at <http://www.epa.ohio.gov/dsw/tmdl/index.aspx>.

The draft lower Little Miami River watershed TMDL report was available for public review from July 8 to August 16, 2010. The final report was approved by U.S. EPA on March 28, 2011. The report is available at <http://www.epa.ohio.gov/dsw/tmdl/LittleMiamiRiverLowerTMDL.aspx>.

For further information please contact Gregg Sablak, Ohio EPA, Division of Surface Water, P.O. Box 1049, Columbus, Ohio 43216-1049, or e-mail gregg.sablak@epa.state.oh.us.