Ohio Environmental Protection Agency

July 2013

Moxahala Creek Watershed TMDL Report

The Clean Water Act requires Ohio EPA to prepare a cleanup plan 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 Moxahala Creek watershed and found water quality problems at several locations.
- 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 Moxahala Creek watershed?

The Moxahala Creek watershed is located in southeastern Ohio extending from Thornville and near New Lexington to South Zanesville. This 302 square mile watershed area is home to more than 48,000 people and encompasses all or part of Gratiot, Crooksville, Roseville, Somerset, Thornville, Glenford, Fultonham and South Zanesville municipalities in Licking, Perry, Morgan and Muskingum counties. The watershed is primarily forested and agricultural with 1.6 percent being developed.

Jonathan Creek at Workman Road

Kent Run and Frazier's Lake provide public drinking water to Maysville.

*A **watershed** is the land area that drains into a body of water.*

How does Ohio EPA measure water quality?

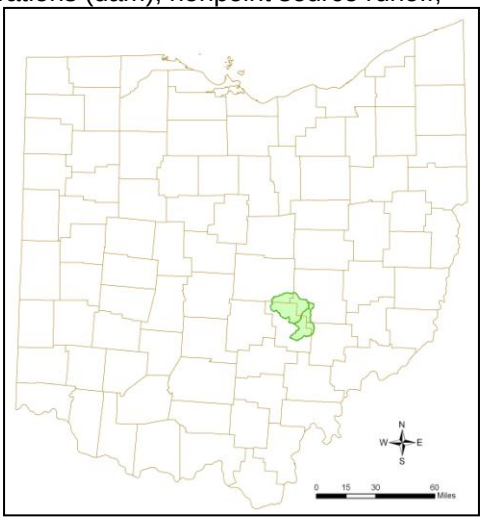
Ohio is one of the few states to measure the health of its streams by examining the number and types of fish and aquatic insects in the water. An abundance of fish and insects that tolerate pollution is an indicator of an unhealthy stream. A large number of insects and fish that are sensitive to pollution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

In 2008, comprehensive biological, chemical, and physical data were collected in the watershed by Ohio EPA scientists. The watershed's conditions were compared with state water quality goals to determine which streams are impaired, and how much needs to be done to restore good stream habitat and water quality.

What is the condition of the Moxahala Creek watershed?

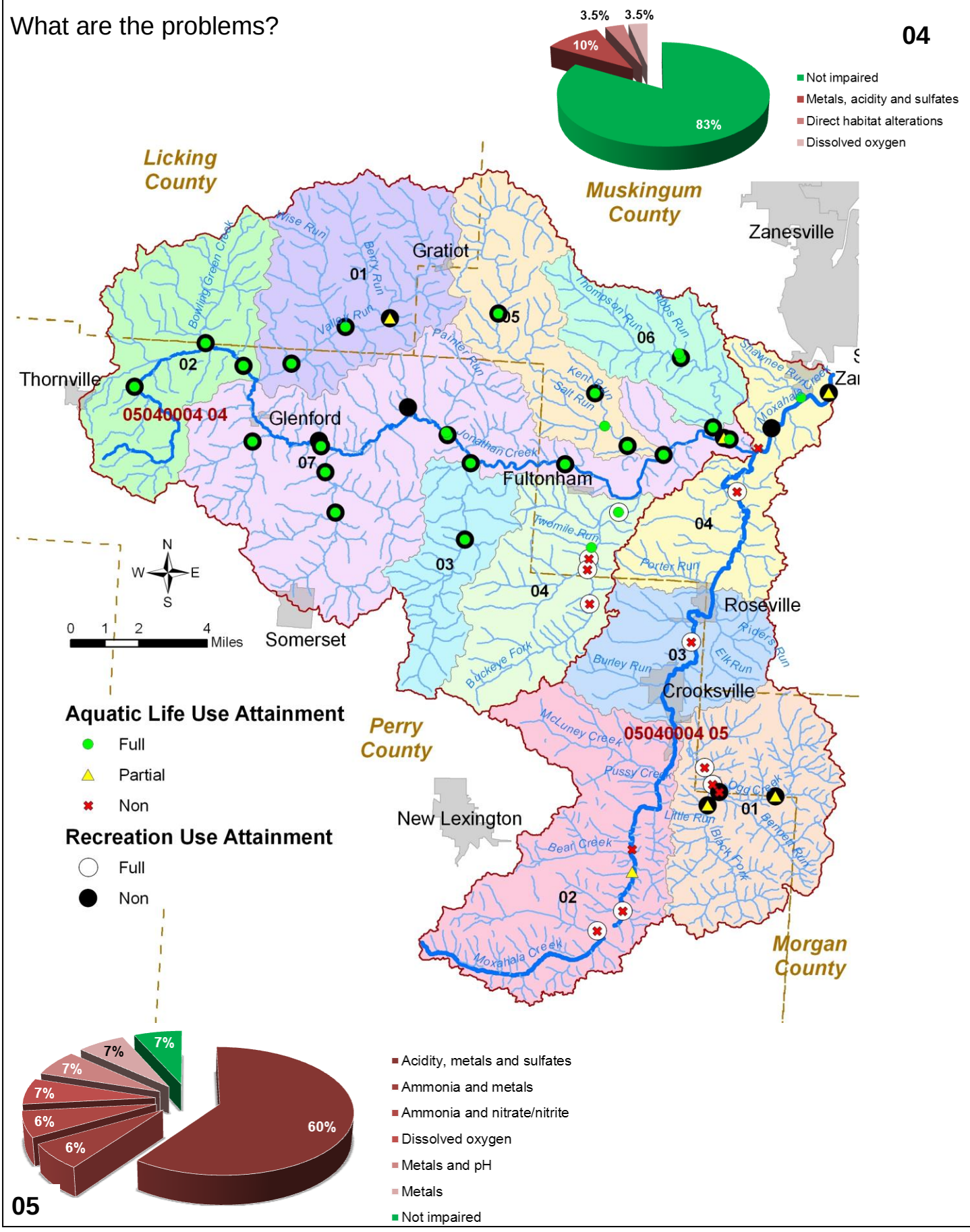
Overall the watershed met criteria for the recreation use at 27.5% of sites, 58% for aquatic life uses and all analyzed sites for the public drinking water supply use.

The causes of impairments included acid mine drainage (including various metals, sulfates, pH and acidity), habitat alterations (dam), nonpoint source runoff, and failing home sewage treatment systems. Sources of these stressors include un-reclaimed coal mine land for acid mine drainage (AMD), an in-stream dam for habitat alterations, and agricultural practices for nonpoint source runoff.



Ohio EPA, Division of Surface Water
P.O. Box 1049
Columbus, Ohio 43216-1049
(614) 644-2001

What are the problems?



How can the problems be fixed?

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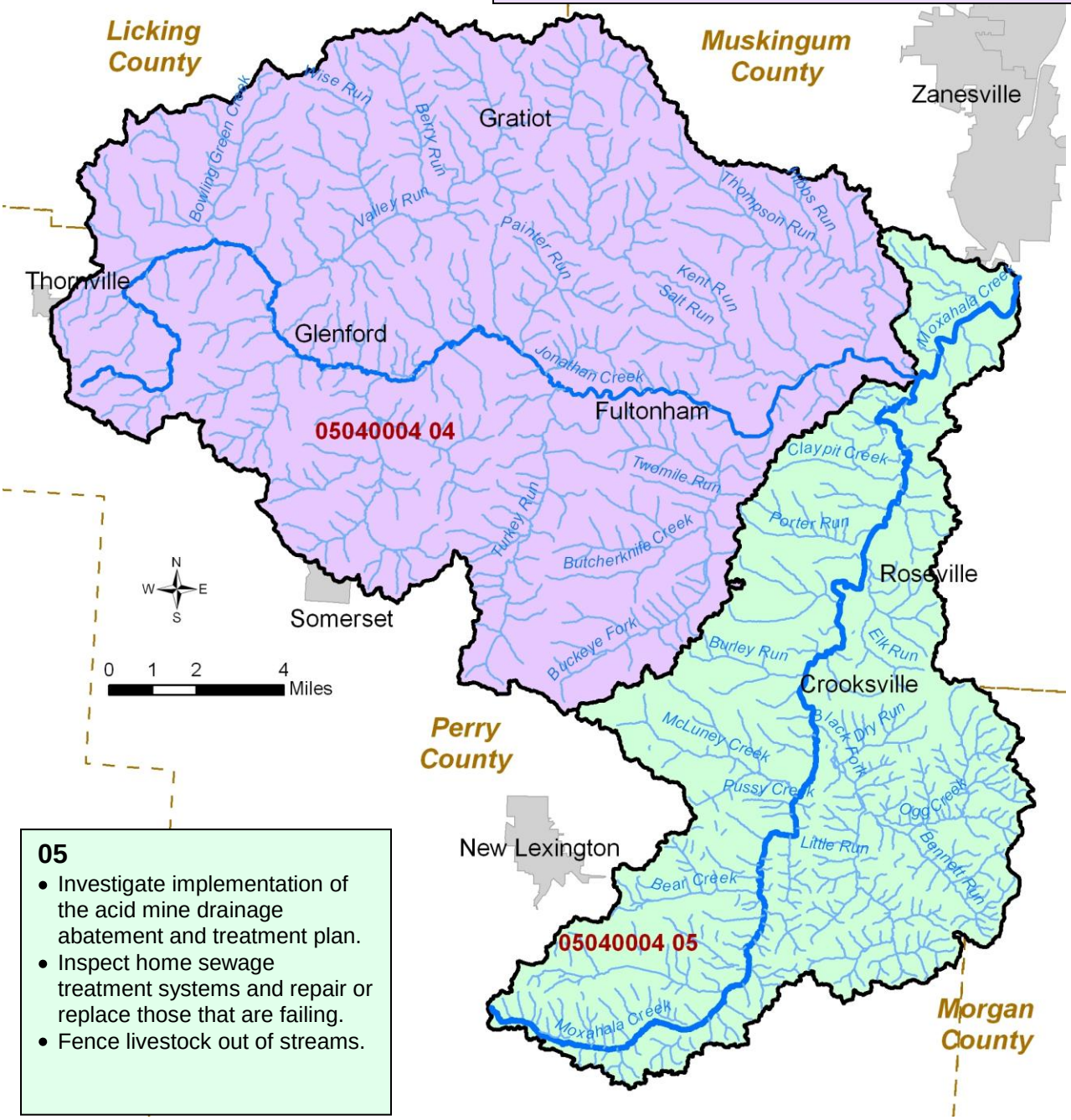
- Implement agricultural practices to reduce nutrient runoff, which can reduce dissolved oxygen, and manure runoff to streams.
- Investigate removing the State Route 93 and mill dams on Jonathan Creek.
- Inspect home sewage treatment systems and repair or replace those that are failing.
- Investigate completing an acid mine drainage abatement and treatment plan for Buckeye Fork and Butcherknife Creek.



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- Investigate implementation of the acid mine drainage abatement and treatment plan.
- Inspect home sewage treatment systems and repair or replace those that are failing.
- Fence livestock out of streams.

Whitehouse Seep on Black Fork; note orange color of stream, characteristic of acid mine drainage.

What actions are needed to improve water quality?

There are a variety of reasons why streams in the Moxahala Creek watershed fail to meet water quality goals, so several types of actions are needed to improve and protect the watershed.

The recommendations focus on reducing pollutant loads and/or increasing the capacity of the streams to better handle the remaining pollutant loads. Sources of water quality problems that should be focused on making water quality improvements include:

- Investigate removing two dams on Jonathan Creek.
- Replace or repair failing HSTS.
- Implement acid mine drainage treatment options.

Who can improve the situation?

Implementation of this report's recommendations will be accomplished by federal, state and local partners, including the voluntary efforts of landowners.

Ohio EPA will issue permits to point source dischargers that are consistent with the findings of this TMDL report. The Zanesville municipal separate storm sewer system permit will be revised as needed.

The Ohio Department of Natural Resources (ODNR) has programs dedicated to abating pollution from certain agricultural practices; promoting soil, water, and wildlife conservation; and dealing with storm water and floodplain protection. County agencies often work with state and federal partners in administering federal and state assistance programs to people in their counties. Several such programs are available to address home septic system upgrades and agricultural and urban conservation practices.

There are no local watershed groups. However, the Patriot Coal Co. employs a watershed coordinator for the Moxahala Creek subwatershed to help the ODNR Division of Mineral Resources Management and the Clay Valley Foundation with water quality issues resulting from mining activities.

Several AMD-related projects are already in place in the Moxahala Creek subwatershed, including the Tropic Wetland project and the Whitehouse Seep project. Additional funding may come available for agricultural conservation practices through provisions in the Farm Bill for buffer strips, wetlands and other land conservation practices.

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 Moxahala Creek watershed draft TMDL report was available for public review from February 15 through March 15, 2012. The final report was approved by U.S. EPA on July 10, 2013. The report is available at http://www.epa.ohio.gov/dsw/tmdl/MuskingumRiver.aspx

For further information, please contact Beth Risley, Ohio EPA, Division of Surface Water, P.O. Box 1049, Columbus, OH 43216-1049, or by email at beth.risley@epa.ohio.gov.

Moxahala Creek at Pearl Park