Ohio Environmental Protection Agency

June 2011

Salt Creek Watershed (Muskingum Basin) 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 Salt 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 Salt Creek watershed?

The Salt Creek watershed is located in southeast Ohio extending from northeastern Muskingum County to southwest of Zanesville. This 145 square mile watershed is home to more than 12,000 people and encompasses all or part of three municipalities in Muskingum County. The watershed is primarily forest and pasture with nearly eight percent being developed.

There are few point sources in the watershed. The two largest include an Ohio Department of Transportation rest area along Interstate 70 and the Blue Rock State Park wastewater treatment plant.

Blue Rock State Park, including Cutler Lake, is located in the southern portion of the watershed. The lake and park are used for recreation, including boating. The lake is also the drinking water source for the state park.

How does Ohio EPA measure water quality?

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

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 Salt Creek watershed?

Overall the watershed met criteria for the recreation use at 13% of sites, at 100% for aquatic life uses and at 100% for the public drinking water supply use. The cause of impairment is bacteria. Probable sources of bacteria include agricultural practices such as improper manure management, unrestricted cattle access to streams, and failing home sewage treatment systems.

What actions are needed to improve water quality?

There are a variety of reasons why streams in the Salt 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:

- Improve manure management. Where manure storage facilities do not exist, it may be appropriate to build them. Where they do exist, proper maintenance and the building of roofs over storage facilities are important.
- In areas where manure is spread on farm fields, increasing the vegetation next to streams can help to

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slow down water, filtering it before it enters streams. Woody vegetation (e.g., trees and bushes) is particularly effective in this way.

- Home sewage treatment systems in the watershed should be inspected periodically and, if found to be failing, they should be repaired or replaced as necessary.
- Livestock that currently have access to streams should be provided with alternative water supplies and their access to streams prohibited by fencing.

Who can improve the situation?

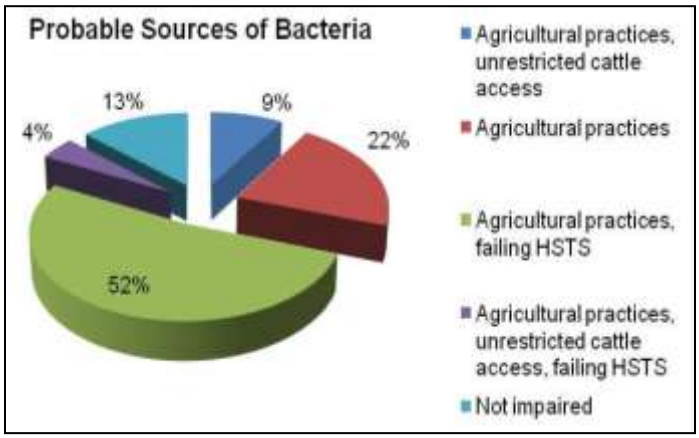
Implementation of the report's recommendations will be accomplished by federal, state and local partners, including the voluntary efforts of landowners.

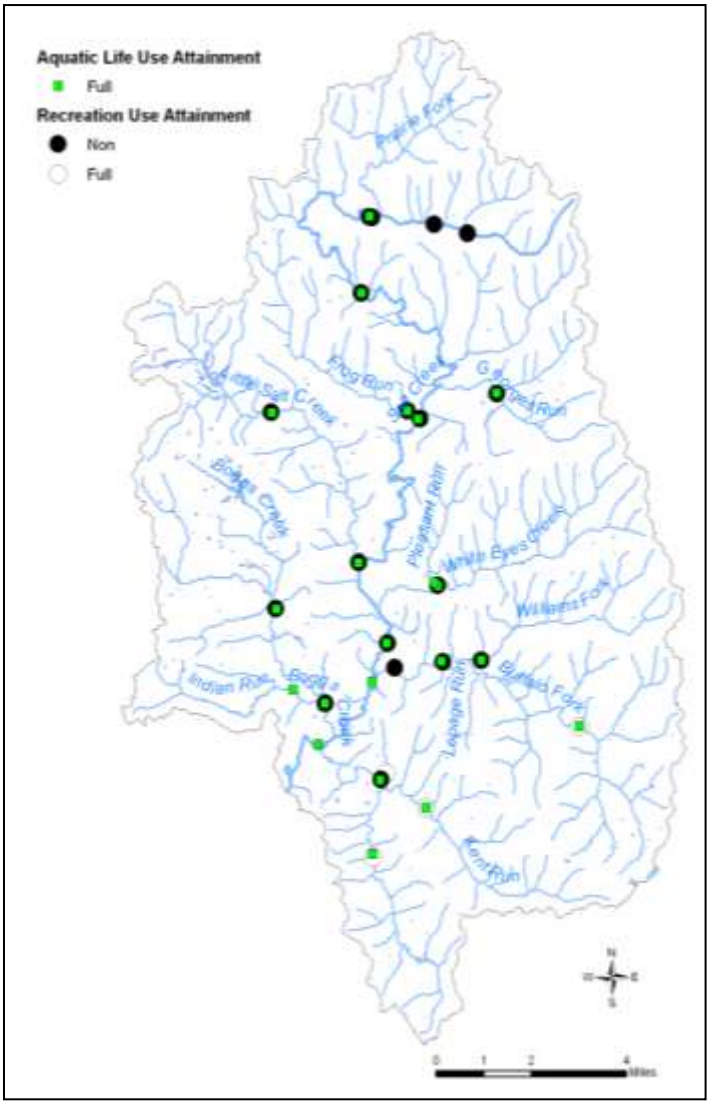
Ohio EPA will issue permits to point source dischargers that are consistent with the findings of this TMDL report. Zanesville is on track with implementing its storm water management plan.

The Ohio Department of Natural Resources 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.

A watershed group was organized out of the Muskingum County Soil and Water Conservation District (SWCD) office in 2002 when the SWCD hired a water quality technician. The initial goal of the group was to determine base line water quality data for the watershed. In order to determine bacteria levels, the coordinator sampled 26 sites for fecal coliform in 2003 and 31 sites for fecal coliform and *E. coli* in 2004. The group wrote a watershed management plan, endorsed by Ohio in 2005.

Additional funding may become 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 Salt Creek watershed draft TMDL report was available for public review from March 11, 2011 through April 11, 2011. The final report was approved by U.S. EPA on June 6, 2011. The report is available at: http://www.epa.state.oh.us/dsw/tmdl/SaltCreekMuskingumTMDL.aspx.

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