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 goals.

What are the essential facts?

- Ohio EPA studied the Paint Creek 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.
- Despite some water quality problems, parts of the Paint Creek watershed are in excellent condition.

Where is the Paint Creek watershed?

The Paint Creek watershed drains 1,142 square miles in south central Ohio. The 117-mile-long river joins the Scioto River in Ross County.

The TMDL study covers the entire watershed (parts of Fayette, Highland, Ross, Clark, Clinton, Madison, Pike, Pickaway, and Greene counties).

Most of the land in the Paint Creek watershed is used for agriculture, with cultivated crops and pasture/hay accounting for 60 percent and 10 percent, respectively. A significant amount of the watershed is forested (20 percent) and developed land accounts for about 4 percent of the overall area.

Municipal wastewater treatment plants can treat up to nearly 50 million gallons of sewage per day. The larger facilities serve the towns of Washington Courthouse, Greenfield, Hillsboro, Jeffersonville, Leesburg and Sabina.

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.
What are the problems?
How can the problems be fixed?

**Watersheds 01, 02, 03, 04 and 07**  
*Cropland is primary source of impairment*  
- Nutrient management  
- Covers, residues, and reduced tillage on crop fields  
- Buffers and strategically placed land set-asides including wetlands and filter strips

**Wastewater Issues**  
Reducing the concentration of total phosphorus can control the amount of algae produced and improve water quality  
- Lower effluent limits and better treatment of waste water for nutrients  
- Reduce overflows and bypasses of raw or poorly treated sewage

**Home Septic Systems throughout the entire watershed**  
Home septic systems contribute bacteria, nutrients and materials that deplete dissolved oxygen.  
- Inspections of systems and technical assistance to ensure that home septic systems are properly treating wastes
What is the condition of the Paint Creek watershed?

The mainstem of Paint Creek showed below average quality in the upper portion of the river that is substantially impacted by agriculture land uses; however, other than the degraded water quality in relatively close proximity to the spillway of the Paint Creek Lake dam, the lower portion of Paint Creek is of exceptional quality. Considering the entire river, 53 percent fully met aquatic life use goals while the remaining 47 percent only partially met those goals. The tributaries to Paint Creek have more than 70 percent of sites fully meeting aquatic life use goals while 20 percent only partially meet and 8.6 percent meet none of the criteria used to evaluate aquatic life uses. Bacteria concentrations exceeded the recreation use criteria at 60 percent of the sites sampled in all streams.

Aside from high bacteria concentrations, the most wide-spread water quality stressors are excessive fine sediment and elevated nutrients in the stream system. Organic substances, emanating from human and animal wastes, and poor habitat are other significant problems in the watershed. The dominant way that sediment and nutrients enter the streams is from being washed off of cropland, while changes to stream channels and hydrologic patterns are associated with man-made drainage improvements. About ten percent of the aquatic life use problems can be attributed to poor water quality from wastewater treatment and collection systems as well as runoff from storm sewer systems. Home septic systems pose the most substantial source for bacteria and also contribute to aquatic life use impairments.

How can water quality improve?

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

- Better treatment of wastewater for certain pollutants;
- Repaired or improved wastewater 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. 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 Paint Creek watershed, several local government agencies and private groups as well as interested citizens participated in a watershed group that developed a plan to improve and protect water quality throughout the watershed. This plan can be viewed at: [ftp://ftp.dnr.state.oh.us/Soil_&_Water_Conservation/WatershedActionPlans/EndorsedPlans/Paint%20Creek](ftp://ftp.dnr.state.oh.us/Soil_&_Water_Conservation/WatershedActionPlans/EndorsedPlans/Paint%20Creek).

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, water quality management (208) planning planning, permitting and other Ohio EPA programs, is available at [http://www.epa.ohio.gov/dsw/tmdl/index.aspx](http://www.epa.ohio.gov/dsw/tmdl/index.aspx).

The draft Paint Creek TMDL report was available for review from January 10 through February 10, 2012. The final report was approved by U.S. EPA on September 18, 2012. The report is available at: [http://www.epa.ohio.gov/dsw/tmdl/SciotoRiver.aspx](http://www.epa.ohio.gov/dsw/tmdl/SciotoRiver.aspx).

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