

Title: Community Sewer System Installation Lowers Bacteria Counts in a Tributary of the Pilgrim River

Waterbody Improved: An unnamed tributary to the Pilgrim River (AUID 040201030302-02), in Adams Township in Houghton County, Michigan.

GRTS Numbers: Monitoring in 2006 = 98502306, Project 04; 2013 = 98502313, Project 01.

Problem: A 4.47 mile reach of an unnamed tributary to the Pilgrim River, known locally as “the Baltic Sewer,” was contaminated with *E. coli* bacteria by illicit connections to the surface water and failing/inadequate septic systems from a population of about 1,000 people.

Project Highlights: In 1990, DEQ entered into a compliance agreement with Adams Township to fund construction of a sewer collection system in four small communities; Atlantic Mine, Trimountain, Painsdale, and Baltic. Sewer systems and lagoons were constructed for each community over 23 years until all sewage discharges had been eliminated in 2013.

Results: The Michigan water quality standard for partial body contact is a daily geometric mean of 1,000 *E. coli*/100 mL, and the standard for total body contact is a daily geometric mean of 300 *E. coli*/100 mL and a 30-day geometric mean of 130 colonies/100 mL. Construction of the sewage collection system resulted in a 96 percent decline in the daily geometric mean bacteria concentration between 2006 and 2013 (Table 1). The tributary now meets both total body and partial body contact water quality standards. Consequently, this tributary was removed from Michigan’s 303(d) list in 2014. Since this tributary was the only listed waterbody in the Pilgrim River watershed, this is a Type 1 success story.

Partners, Funding, and Congressional District: Adams Township received a Rural Development grant and loan from the U.S Department of Agriculture to pay for construction of the sewage collection system. The pre and post construction monitoring was performed by DEQ and partially funded with Section 319 base funds. This project is located in Michigan’s 1st Congressional District.

Photographs:

None.

Data table/graph/chart:

Table 1. *E. coli* Concentrations in the Unnamed Tributary to the Pilgrim River.

Location	2006 Daily Geometric Mean (n = 1 day)	2013 Average Daily Geometric Mean (n = 5 weekly events)	2013 30-Day Geometric Mean
Effluent pipe discharge	> 10,000	--	--
Laitila Road, downstream of the discharge pipe	2,160	89	60

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