



Michigan's
Nonpoint Source
Program

Clean Michigan Initiative
Clean Water Fund
Tracking code: 2009-0104



City of New Buffalo

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City of New Buffalo IDEP

June 2009 through December 2010

The *Galien River Watershed Management Plan* assigns the highest priority to the finding, control and/or elimination of sources of *Escherichia coli* (*E-coli*) bacteria. The Plan establishes a Total Maximum Daily Loads (TMDL) for *E-coli* bacteria of 130 CFU/100mL, which reflects the upper limit concentration deemed suitable for recreational total body contact. The City of New Buffalo is the largest urban area within the watershed, and received a grant to perform an investigation of its storm water drainage system. The primary focus of the investigation was the characterization of flows and the finding of sources for *E-coli* bacteria in storm water runoff. Several potential sources of water pollution were identified and efforts were initiated by the City to mitigate and/or control these sources.



Grant Amount: \$47,738

Match Funds: \$14,225

Total Amount: \$61,963

Best Management Practices:

- Evaluate historic records and existing data
- Update drainage system maps
- Inspect outfalls and drains
- Sampling and analysis to characterize flows
- Identify NPS sources and illicit connections
- Develop and implement corrective measures

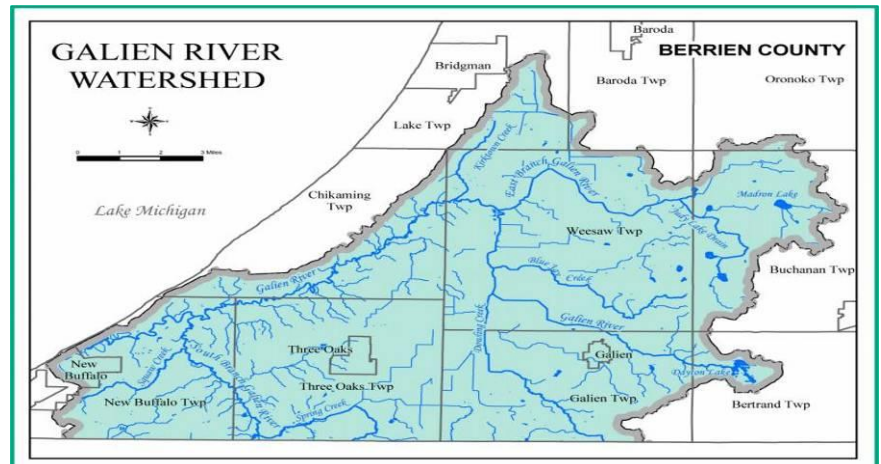


Illicit Connections/Discharges:

- No direct sanitary sewer to storm drain connections were found
- Failing septic systems were identified in multiple areas

I&E Activities (concurrent with but outside of grant scope):

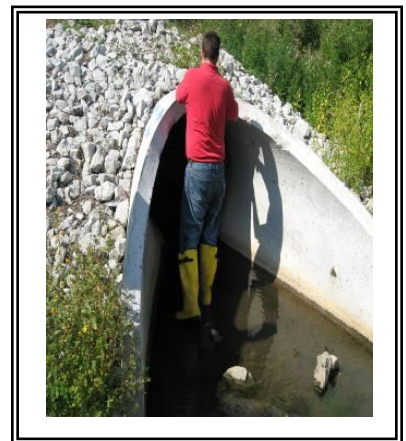
- Public education, outreach and awareness activities included updating an ordinance prohibitions against dumping of yard waste into drains, and use of EPA generated brochures and other materials on nonpoint pollution and septic tank management.



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Partners involved:

- Merritt Engineering Inc.
- Galien River Steering Committee
- Chickaming Open Lands
- The Conservation Fund



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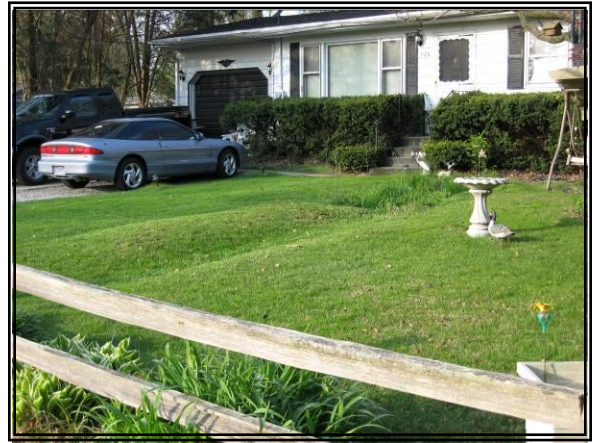
Open channel drains showed evidence of uncontrolled disposal of trash, debris and yard waste, as well as undocumented piped discharges from adjacent properties. Improved public awareness through education efforts and cleanup will reduce these impacts.



Control of run-off from yard waste piles into drainage ditches is important. Decomposing yard waste, such as the leaf pile shown above, is a source of nitrate and ammonia. Adjustments to pile location and controlling run-off will reduce these impacts.



Storm sewer outfalls to the river showed evidence of a lack of maintenance based on the accumulated trash. Inspection and maintenance of outfalls and catch basins is important in reducing potential impacts.



Failed septic systems were discovered in some residential areas. Storm water run-off and groundwater infiltration into storm sewers from such sources may result in elevated *E-coli* bacteria concentrations.