

**HOOSIC RIVER WATERSHED 2011-2012
BACTERIAL SOURCE TRACKING PROJECT
(ADDENDUM 12/5/2012)**

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Results and Discussion

Site Name (Figure #, located in Appendix B) Hoosic River Watershed Area- Town

Alternative Motors 10-11 (Figure 1.) Hoosic River South Branch- Adams, MA

Since completion of remediation work on Greylock Avenue, two rounds of sampling have been conducted. The first, which was carried out on 10/10/2012 at the Alternative Motors 10 site exhibited *E. coli* levels of 816.4 MPN per 100 mL sample (Table 1). The second sampling was conducted on 10/23/2012 at Alternative Motors 10 and Alternative Motors 11, and exhibited levels of 325.5 MPN and 307.6 MPN per 100 mL sample (Table 1) respectively. The sample taken on 10/10 was above the source tracking trigger and the Primary Contact Recreation standard. One sample taken on 10/23 was above the Primary Contact Recreation standard, while the second was below both the source tracking trigger and the Primary Contact Recreation standard. No further sampling was conducted.

Prior to remediation, sampling conducted at Alternative Motor 10 exhibited consistent *E. coli* counts of >241960 MPN. This site has shown dramatically lower *E. coli* counts as compared with previous testing, thanks to remediation work completed by the Adams DPW.

Summer Street 3-3.9 (Figure 4.) Hoosic River South Branch- Adams, MA

Through continued investigatory work with the Adams and Williamstown DPW, we have identified the course of water flowing to the Summer Street 3 site. We sampled three additional sites in the upstream storm water system. All of the following sites were sampled on 10/23/2012. Summer Street 3 exhibited an *E. coli* level of >24196 MPN per 100 mL (Table 1). The Summer Street 3.3 sample, which was taken from a catch basin in the storm water system upstream of Summer Street 3, exhibited an *E. coli* level of 1299.7 MPN per 100 mL sample (Table 1). The Summer Street 3.6 sample, which was taken from a small pipe with consistent flow into the storm water system upstream of Summer Street 3.3, showed an *E. coli* level of <1MPN per 100 mL sample (Table 1). Finally, the Summer Street 3.9 sample, which was taken from an access point in the storm water system upstream of Summer Street 3.6, showed an *E. coli* level of 36.4MPN per 100 mL sample (Table 1). The samples taken from Summer Street 3 and 3.3 were both above the source tracking trigger and the Primary Contact Recreation standard, while the samples taken from Summer Street 3.6 and 3.9 were both below the source tracking trigger and the Primary Contact Recreation standard. No further sampling was conducted.

To date, the point source of pollution along the Summer Street storm water system has not been identified. Field investigation using the Williamstown remote controlled sewer camera resulted in the identification of two possible illicit connections to the storm water system. Further investigation is required to precisely determine the source of pollution.

Reed Brook 3.3, 3.6 and Walling Road 1 (Figure 3.) Hoosic River South Branch- Adams, MA

Further investigation into the source of bacterial pollution in Reed Brook resulted in the identification of a small stream, which acts as a tributary to Reed Brook. Given the proximity of this stream to the suspected source of pollution, three screening sites were established. Reed Brook 3.3, which is located downstream of the confluence of the unnamed stream with Reed Brook exhibited *E. coli* levels of 92080 MPN per 100 mL sample (Table 1). Reed Brook 3.6, which is located upstream of the confluence of the unnamed stream with Reed Brook exhibited *E. coli* levels of 73 MPN per 100 mL sample (Table 1). The third site, which is named Walling Road 1 is located in the unnamed stream, and exhibited *E. coli* levels >241960 MPN per 100mL sample (Table 1). The samples taken from Reed Brook 3.3 and Walling Road 1 were both well above the source tracking trigger and the Primary Contact Recreation standard, while the sample taken from Reed Brook 3.6 was below the source tracking trigger and the Primary Contact Recreation standard. No further sampling was conducted.

Given the above data, this unnamed stream has been recognized as the source of pollution to Reed Brook, and when tracked upstream from the Walling Road 1 site, this unnamed stream crosses through a large-scale dairy operation. Improper handling of cattle waste has been identified as the primary source of *E. coli* into the stream. As of the writing of this addendum, state and federal agencies including MDAR, NRCS, and MassDEP have worked with the farmer and succeeded in having an interim solution installed to improve water quality downstream of the farm. Funding is available from NRCS and discussions are continuing regarding designing and constructing a long-term solution.

Data Validation

All bacteria quality control samples met data quality objectives.

Appendix A

Bacteria Source Tracking Data

Table 1. Amount of *E. coli* present in samples collected during October 2012 sampling of the Hoosic River Watershed

(*E. coli* counts represented in **BOLD** exceeded BST Source Tracking Trigger)

Town	Site Name	Sample Number	Sample Date	Sample Time	<i>E. coli</i> Count (MPN per 100 mL Sample)
ADAMS	ALTERNATIVE MOTORS 10	517	10/10/2012	09:05	816.4
ADAMS	REED BROOK 3.3	520	10/10/2012	09:39	92080
ADAMS	REED BROOK 3.6	521	10/10/2012	09:34	73
ADAMS	WALLING 1	522	10/10/2012	09:48	>241960
ADAMS	SUMMER 3	525	10/23/2012	07:50	>24196
ADAMS	SUMMER 3.3	528	10/23/2012	07:55	1299.7
ADAMS	SUMMER 3.6	529	10/23/2012	08:30	<1
ADAMS	SUMMER 3.9	530	10/23/2012	08:35	36.4
ADAMS	ALTERNATIVE MOTORS 10	531	10/23/2012	09:05	325.5
ADAMS	ALTERNATIVE MOTORS 11	532	10/23/2012	09:10	307.6

Appendix B

Bacteria Source Tracking Maps

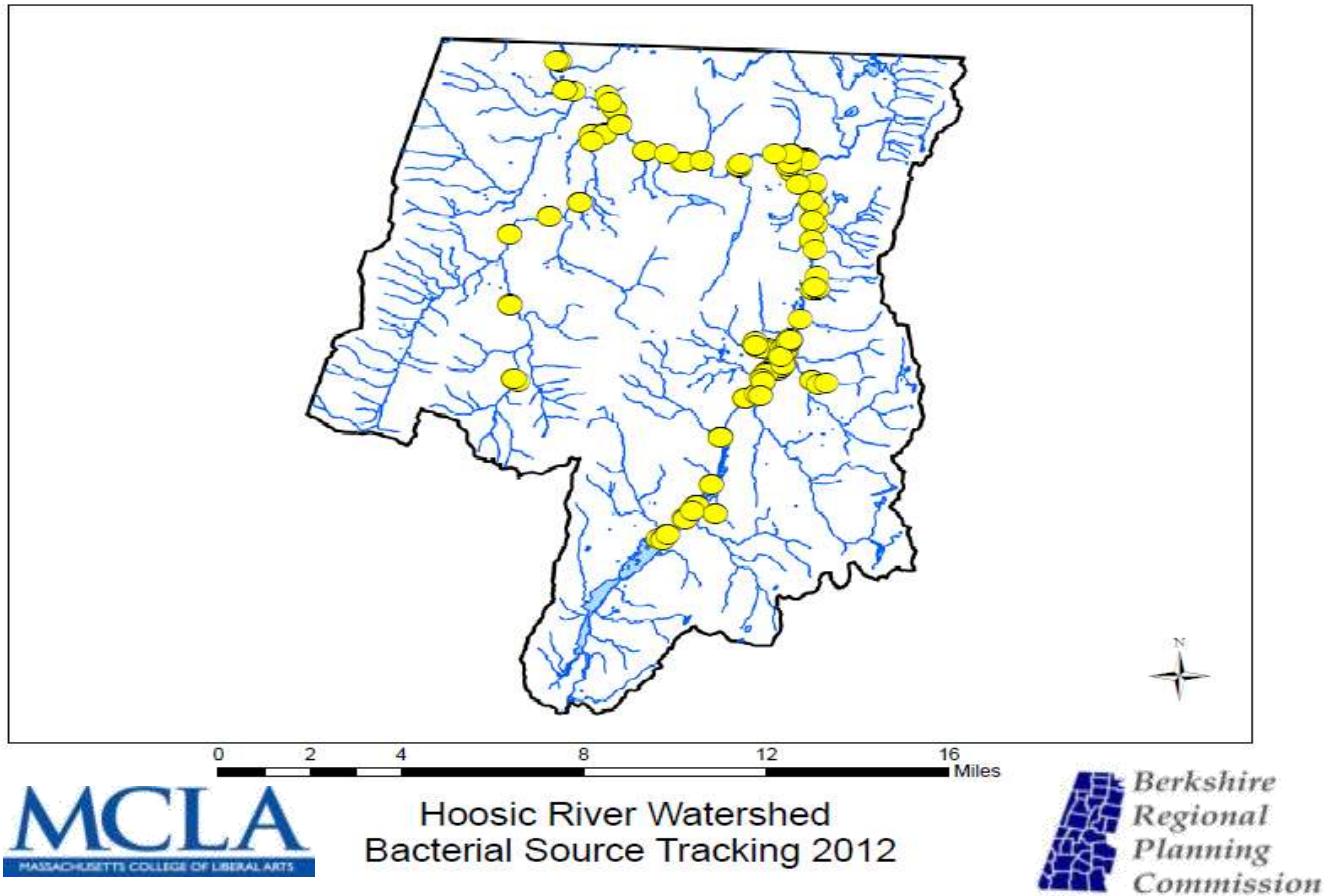


Figure 1. Hoosic Bacterial Source Tracking sites – Northern Berkshire County, MA

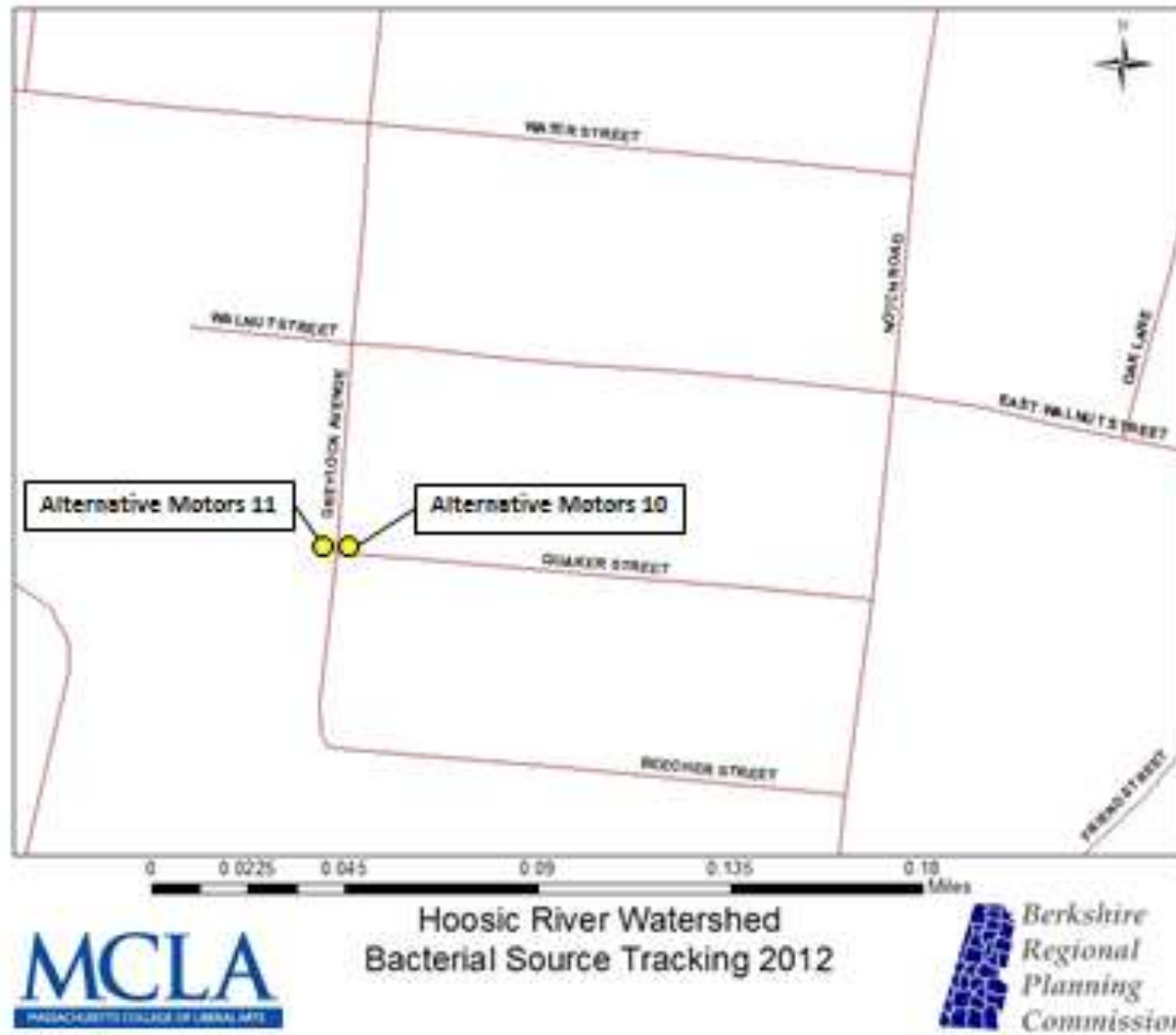


Figure 2. Alternative Motors - Adams, MA

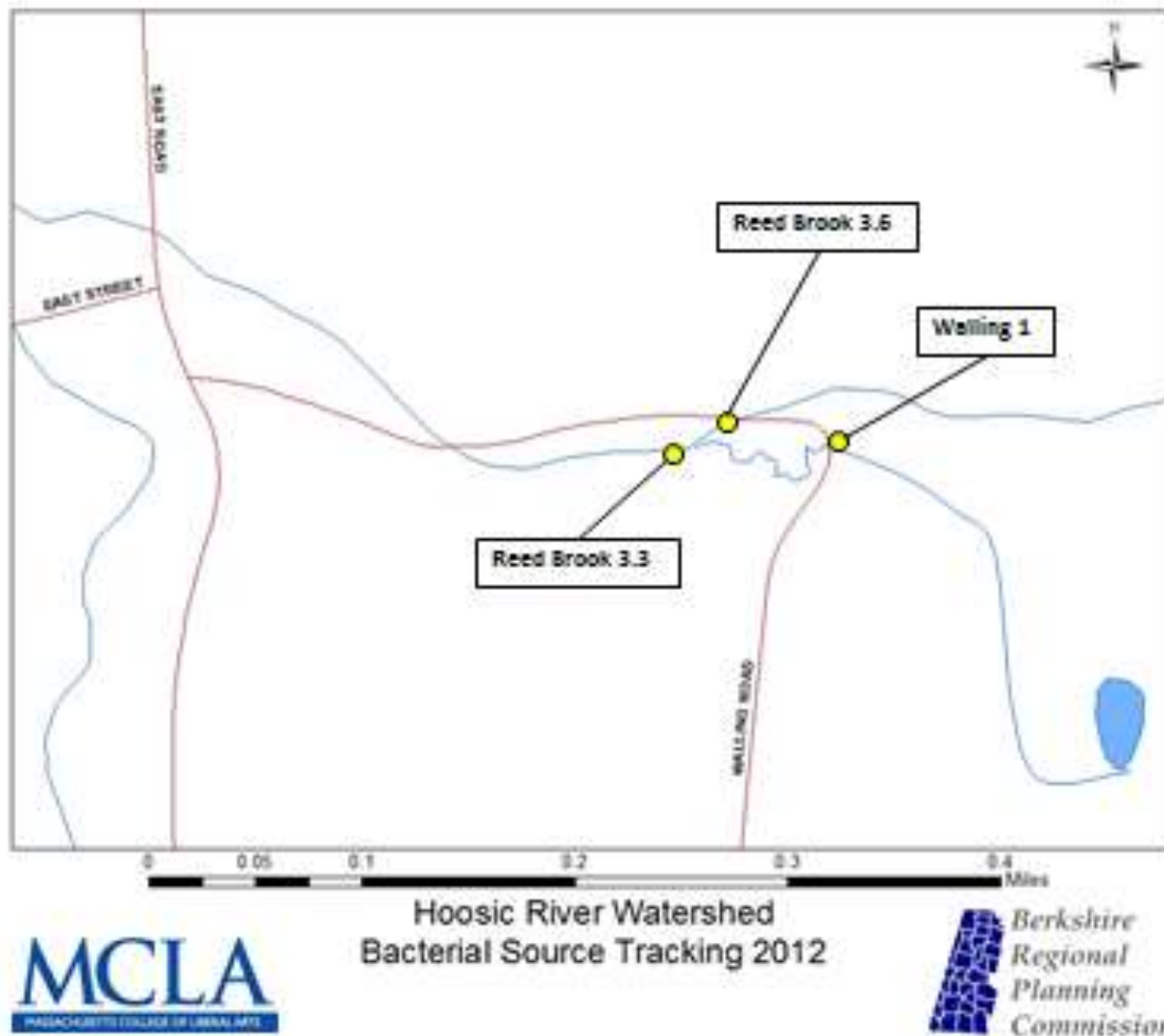


Figure 3. Reed Brook – Adams, MA

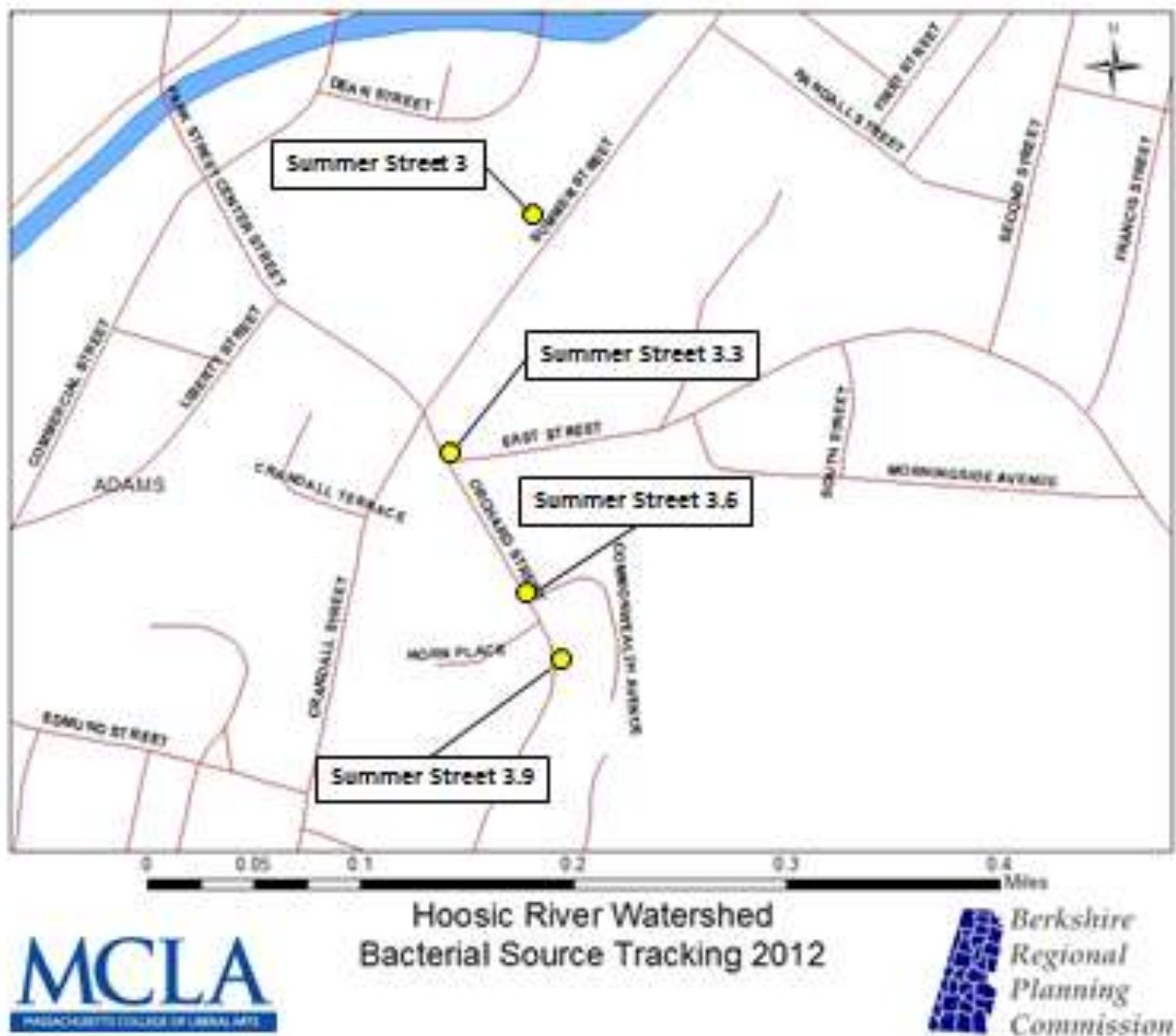


Figure 4. Summer Street – Adams, MA