

Little Otter Creek - 2014 Water Quality Summary Addison County Riverwatch Collaborative

Site	Location	Town
LOC4.3	Route 7 Bridge	Ferrisburgh
MDC1.2	Wing Rd./Middlebrook Rd. (South)	Ferrisburgh

The Addison County Riverwatch Collaborative has been monitoring water quality in the Little Otter Creek since 1997. For years 2012 through 2015, the number of sampling locations in this watershed has been reduced to two sentinel stations, LOC4.3 and MDC1.2.

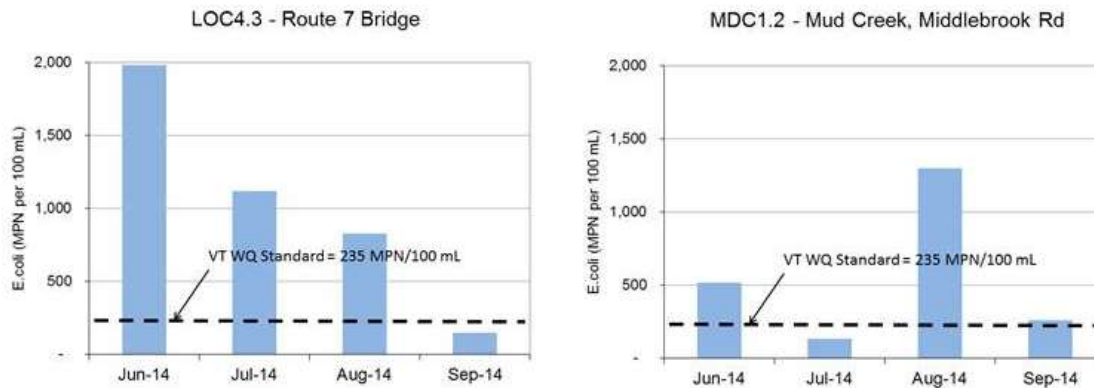
During 2014, sampling occurred on two spring dates (April 9 and May 7) and four summer dates (June 4, July 2, August 6, and September 3). The April event occurred just after ice out during a time of snow melt and represented high flow conditions on the river, based on records from the USGS streamflow gage located at the Route 7 crossing. May, June and August events occurred during moderate flow conditions on the river, while the July and September events captured low to baseflow conditions. On an average annual basis, flows in 2014 were near normal in the Addison County watersheds monitored by the Collaborative.

Samples were tested for E.coli, phosphorus (total and dissolved), total suspended solids, and turbidity; E.coli was tested only on the summer dates.

E.coli counts at the two sentinel stations exceeded the recently modified state standard of 235 organisms/100 mL on a majority of the sample dates. Detected E.coli counts at these sites in the 2014 season were largely consistent with historic results.

E.Coli

Vermont State Standard = 235 MPN / 100 mL



Turbidity levels in the Little Otter Creek at the two sentinel stations ranged from 2.5 to 280 NTUs, with a mean level of 79 NTUs for the six sample dates. Highest turbidity concentrations were observed during moderate flow events on June 4 (166 NTUs) at LOC4.3 and on August 6 (280 and 264 NTUs) at both sentinel stations. Turbidity results for 2014 at these two stations were largely consistent with historic trends. Based on past years' sampling results, turbidity can become elevated at times of increased flow

– during a Summer thunderstorm, or during Spring runoff conditions. The Vermont state standard of 10 NTUs (for Class B cold-water fisheries) is applicable during low-flow conditions. The turbidity standard was exceeded on both low-flow sampling dates (July 2 and September 3) at station LOC4.3 (69.7 and 41.7 NTUs).

Phosphorus levels were detected at low to moderate concentrations during the six spring and summer sampling dates, ranging from 43.2 to 367 ug/L, with an average of 190 ug/L. Total Phosphorus concentrations detected in 2014 were generally consistent with historic data. The mean concentration of Total Phosphorus for the two available low-flow summer sample dates (July and September) at LOC4.3 (175 ug/L) and MDC1.2 (268 ug/L) each exceeded the approved instream nutrient standard of 27 ug/L for the warm-water medium gradient (WWMG) wadeable stream ecotype in Class B waters.

2015: The Addison County Riverwatch Collaborative will continue to monitor for E.coli, phosphorus (total and dissolved), total suspended sediments, and turbidity at these two sentinel sites in 2015. An increased number of parameters and additional monitoring sites will be evaluated when a more intensive monitoring focus rotates back to the Little Otter Creek for a two-year period beginning in the year 2016.

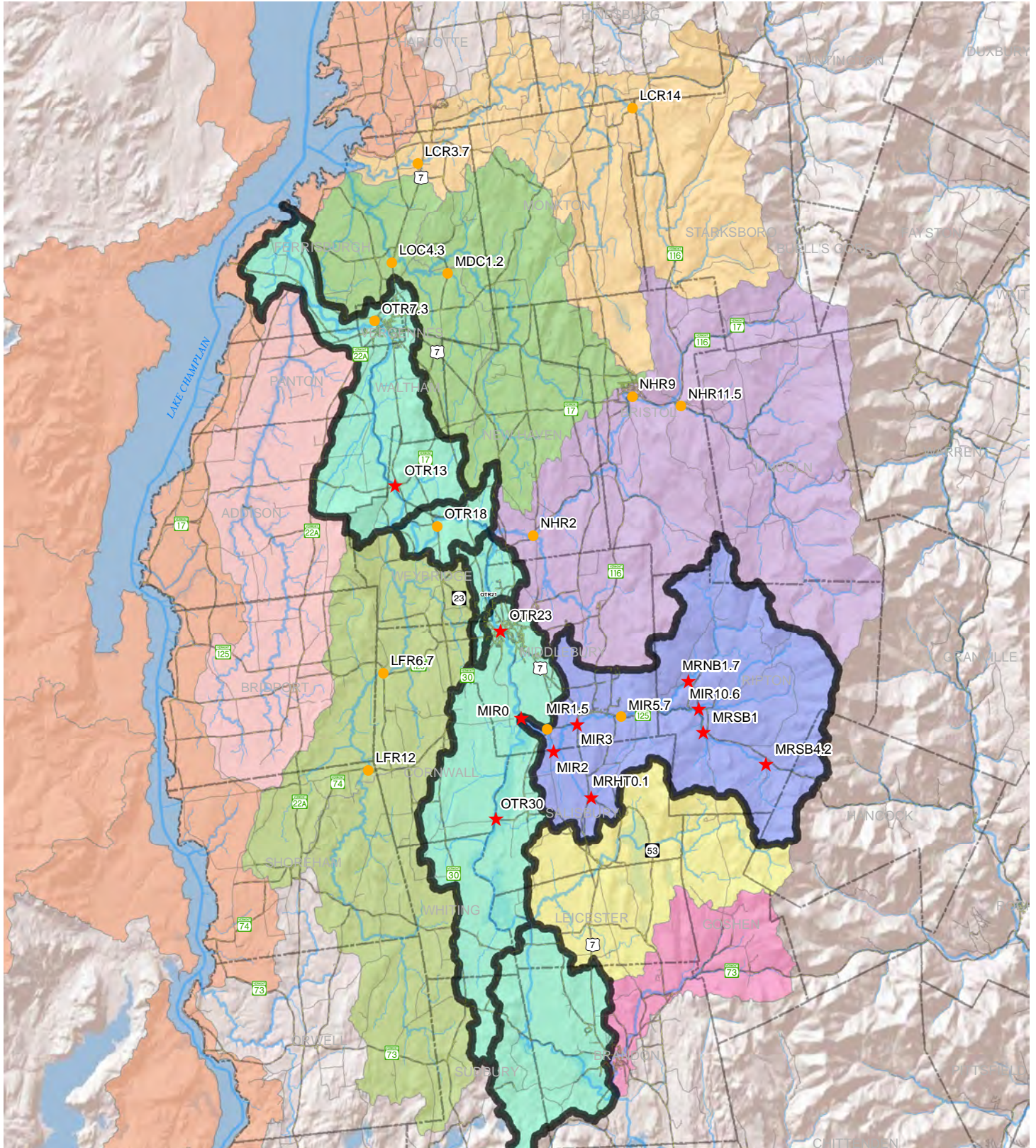
For more information, contact the Little Otter Creek sampling coordinator:

Deb Healey, 475-2944, lumiere@gmavt.net

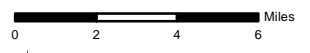
Addison County Riverwatch Collaborative coordinator: Matt Witten, 434-3236, mwitten@gmavt.net
or visit our web page at: www.acrpc.org/acrwc

Addison County River Watch Collaborative

Water Quality Monitoring Sites by Watershed, 2014



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|-------------------|--------------|-------------------------------|------------------------------|------------------------------|
| ★ Rotational Site | Roads | Rotational Basins 2014 | Orange Lake Champlain Direct | Pink Dead Creek |
| ● Sentinel Site | — Pavement | Black Otter Creek | Yellow Lewis Creek | Light Blue Lemon Fair River |
| | — Gravel | Black Middlebury River | Green Little Otter Creek | Yellow-Green Leicester River |
| | | | Light Green Otter Creek | Blue Middlebury River |
| | | | Purple New Haven River | Magenta Neshobe River |



The Addison County River Watch Collaborative is a citizen organization whose mission is to collect and assess the water quality of Vermont surface waters, and to facilitate water quality and stream corridor improvement measures on a watershed scale.