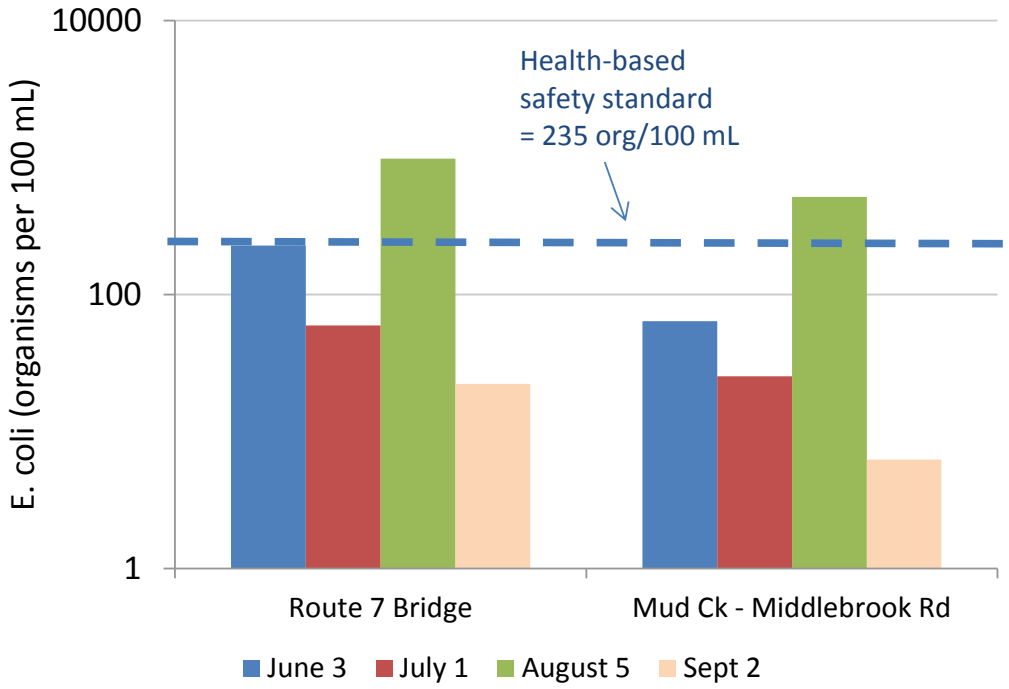
Little Otter Creek - 2015 Water Quality Summary
Addison County River Watch Collaborative

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

The Addison County River Watch 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 2015, sampling occurred on two spring dates (April 8 and May 6) and four summer dates (June 3, July 1, August 5, and September 2). The April event occurred during a time of snow melt and represented high flow conditions on the river, based on streamflow gaging records from the USGS streamflow gage located at the Route 7 crossing. High flow conditions were also captured in June and July associated with summer rain fall events falling on saturated ground. May and August events occurred during moderate flow conditions on the river, while the September event captured a low, baseflow condition. On an average annual basis, flows in 2015 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 August 5, which was characterized by moderate flows in response to summer thunderstorms. The geomean value at each site exceeded the state's geomean standard of 126

organisms/ 100 mL. Detected E.coli counts at these sites in the 2014 season were largely consistent with historic results.

Turbidity levels in the Little Otter Creek at the two sentinel stations ranged from 2.3 to 75 NTUs, with a mean level of 29 NTUs for the six sample dates. Highest turbidity concentrations were observed during moderate- to high-flow summer events, and during low, base-flow conditions on September 2 at both sentinel stations. Turbidity results for 2015 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. Turbidity can also be elevated during low-flow conditions, possibly due to instream algae blooms. The Vermont state standard of 10 NTUs (for Class B cold-water fisheries) is applicable during low-flow conditions. The turbidity standard was exceeded at both sentinel stations on the one available low-flow sampling date (September 2).

Phosphorus levels were detected at low to moderate concentrations during the six spring and summer sampling dates, ranging from 49 to 228 ug/L, with an average of 133 ug/L. Total Phosphorus concentrations detected in 2015 were generally consistent with historic data. The concentration of Total Phosphorus for the one available low-flow summer sample date (September) at each sentinel station exceeded the approved instream nutrient standard of 27 ug/L for the warm-water medium gradient (WWMG) wadeable stream ecotype in Class B waters.

2016: Beginning in 2016, the Little Otter Creek will become the focus of more detailed evaluation for a two-year period. An increased number of parameters and additional monitoring sites will be evaluated.

For more information, contact the Little Otter Creek sampling coordinator:
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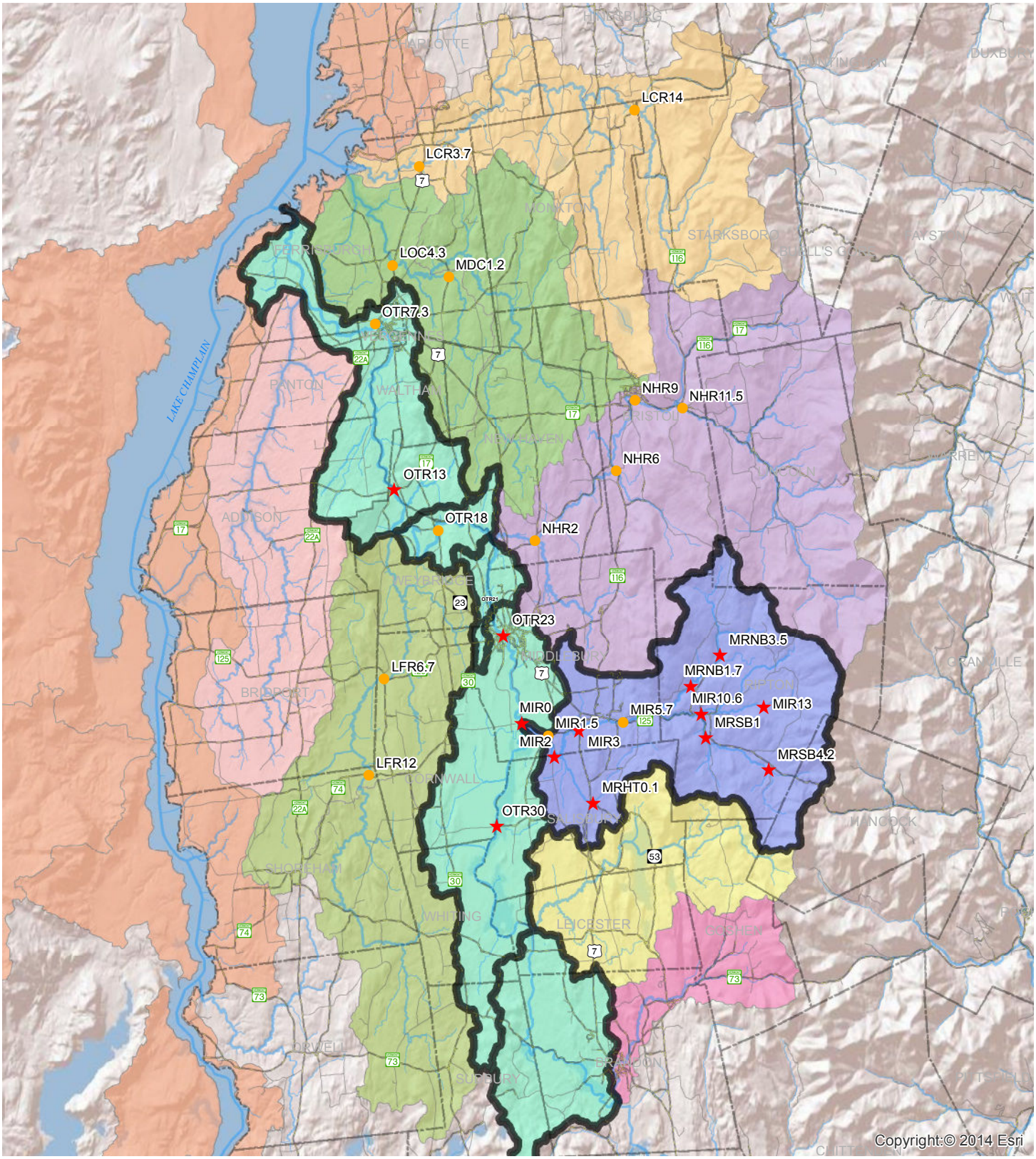
Addison County River Watch Collaborative coordinator: Matt Witten, 434-3236, mwitten@gmavt.net
or visit our web page at: www.acrpc.org/acrwc

Addison County River Watch Collaborative

Water Quality Monitoring Sites by Watershed, 2015



★ Rotational Site
● Sentinel Site

Roads
Pavement
Gravel

Rotational Basins 2015
Otter Creek
Middlebury River

Lake Champlain Direct
Lewis Creek
Little Otter Creek
Otter Creek
New Haven River
Dead Creek
Lemon Fair River
Leicester River
Middlebury River
Neshobe River

Miles
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Addison County Regional Planning Commission

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.

ACRPC 3/2015