

Otter Creek – 2018 Water Quality Summary
Addison County River Watch Collaborative

Site	Location	Town
OTR7.3	Vergennes Falls/below outfall	Vergennes
OTR18	Twin Bridges Picnic Area	Weybridge

The Addison County River Watch Collaborative has been monitoring water quality in the lower Otter Creek since 1992. For years 2016 through 2019, the number of sampling locations in this watershed has been reduced to two sentinel stations monitored for long-term trends: OTR18 and OTR7.3. During 2018, sampling occurred on two spring dates (April 4 and May 2) and four summer dates (June 6, July 11, August 1, and September 5). The year was characterized by near-normal precipitation, overall. Flows in the Otter Creek were near normal for much of the year, but trended below normal for the months of June and July, given the warm summer temperatures and drier-than-average conditions encountered during these months. Discharge was at or below the 7-day, 10-year, low flow statistic for a few days in the Otter Creek in late July, but then rebounded to above-normal conditions in October and November in response to fall rains. April and May sampling events took place during high flow conditions resulting from snowmelt and spring rains. The June event occurred during moderate-flow, baseflow conditions where river stage was not changing appreciably, and groundwater levels were relatively high following spring rains. The July, August, and September events coincided with low-flow, baseflow conditions, at or below the Low Median Monthly (LMM) flow.

Samples were originally scheduled for testing of *E.coli*, total phosphorus and turbidity, with *E.coli* to be tested only in the summer months. Due to a mid-season request from the LaRosa Volunteer Monitoring program to reduce analytical costs, turbidity testing was suspended after the May event and *E.coli* was not tested in 2018.

Turbidity levels reported for the Otter Creek sentinel stations ranged from 6.9 to 17 NTUs during the two spring events. The Vermont water quality standard for warm-water fisheries is 25 NTUs. However, this standard is applicable only during dry-weather, baseflow conditions which were not relevant to these two sample dates. Based on past years' sampling results, turbidity can become elevated at times of increased flow – during a summer thunderstorm, or during spring runoff conditions.

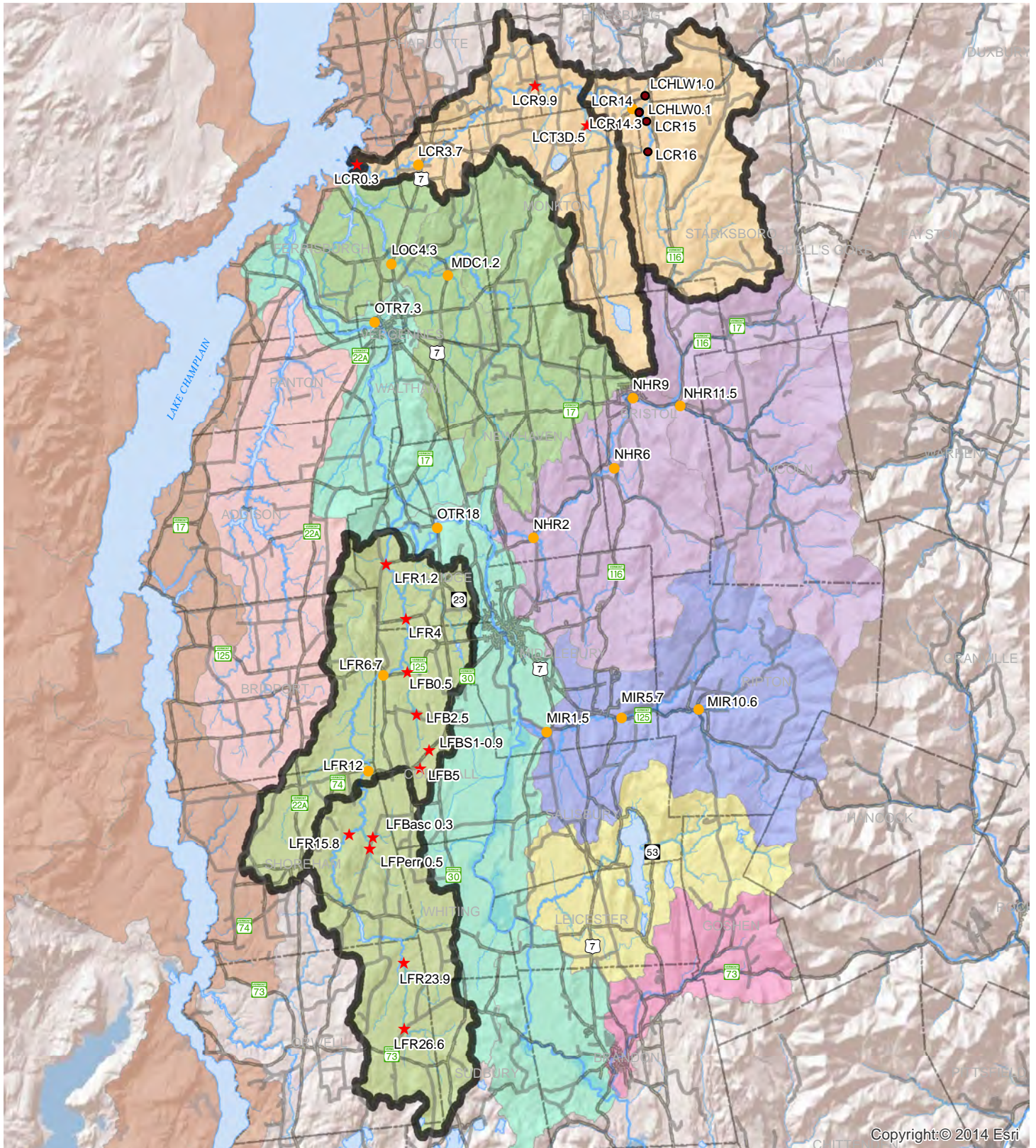
Phosphorus levels at Otter Creek stations ranged from 16 to 44 µg/L. The instream phosphorus criterion of 27 µg/L for warm-water medium gradient wadeable stream ecotypes in Class B waters is applicable at LMM flow during the months of June through October. Our July, August and September events took place when flows in the river were below the LMM. The mean phosphorus concentrations for these three summer sampling dates (36 and 31 µg/L) exceeded the instream nutrient standard of 27 µg/L at both sentinel stations (OTR7.3 and OTR18, respectively).

2019: The Addison County River Watch Collaborative will continue to monitor for *E.coli*, total phosphorus and turbidity at these two sentinel sites on the Otter Creek in 2019. An increased number of parameters and additional monitoring sites will be evaluated when a more intensive monitoring focus rotates back to the Otter Creek for a two-year period beginning in the year 2020.

For more information, the Otter Creek sampling coordinator:
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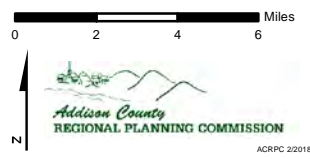
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Water Quality Monitoring Sites by Watershed, 2018



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| ● Sentinel Site | Rotational Basins 2018 | ■ Lake Champlain Direct | ■ Dead Creek |
| ★ Rotational Site | ■ Lewis Creek | ■ Lewis Creek | ■ Lemon Fair River |
| ● Special Project Site (E.coli monitoring) | ■ Lemon Fair | ■ Little Otter Creek | ■ Leicester River |
| | | ■ Otter Creek | ■ Middlebury River |
| | | ■ New Haven River | ■ Neshobe River |



The Addison County River Watch Collaborative is a citizen organization that monitors and assesses the condition and use of our local rivers over the long term, raises public awareness of the values and functions of our watersheds, and cultivates partnerships that support water quality stewardship.