

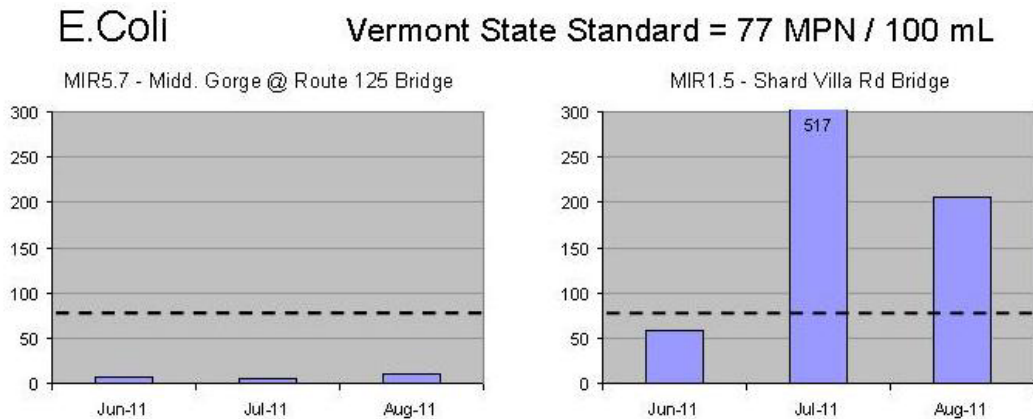
## Addison County Riverwatch Collaborative Middlebury River - 2011 Water Quality Summary

The Addison County Riverwatch Collaborative has been monitoring water quality in the Middlebury River since 1993. For years 2010 through 2013, this watershed has been identified for a reduced frequency of monitoring at two sentinel stations, MIR1.5 and MIR5.7. During 2011, these sites were tested for phosphorus and turbidity on the first Wednesday in April and May (Spring sampling dates) and in June, July, and August (Summer sampling dates). E.coli was tested only on the Summer dates. A scheduled September event was cancelled due to

| Site   | Location                     | Town       |
|--------|------------------------------|------------|
| MIR1.5 | Shard Villa Rd. Bridge       | Middlebury |
| MIR5.7 | Midd. Gorge @ Rte 125 Bridge | Middlebury |

damages sustained at the LaRosa Analytical Laboratory during Tropical Storm Irene. Flow in the river during the July and August sample dates represented low to baseflow conditions (based on streamflow gages in area rivers). Flows on the April, May and June dates were moderate to high, due to snow melt and spring rains.

**E.coli** counts at the Middlebury Gorge near the Route 125 bridge (MIR5.7) were well below the state standard of 77 organisms / 100 mL on three sample dates: June 1, July 6, and August 3. E.coli counts at the downstream station at Shard Villa Road bridge (MIR1.5) were well above the state standard on two of the three summer sampling dates. These results are generally consistent with historic Summer sampling results, which have shown an increase in E.coli levels in the Middlebury River downstream of the Route 7 bridge.



**Turbidity** levels in the Middlebury River were generally low and below the Vermont state standard of 10 NTUs (for Class B cold-water fisheries). Values ranged from 0.36 to 22 NTUs, with an average level of 7 NTUs for all five sample dates, including moderate- to high-flow dates, April 6, May 4 and June 1. Based on past years' sampling results, Turbidity can increase well above the state standard at times of high flow – during a Summer thunderstorm, or during Spring runoff conditions – particularly in the lower section of the river below the Route 7 bridge. During high-flow conditions on April 6 and May 4 of 2011, Turbidity concentrations exceeded the water quality standard at MIR1.5 (located at the Shard Villa Rd crossing).

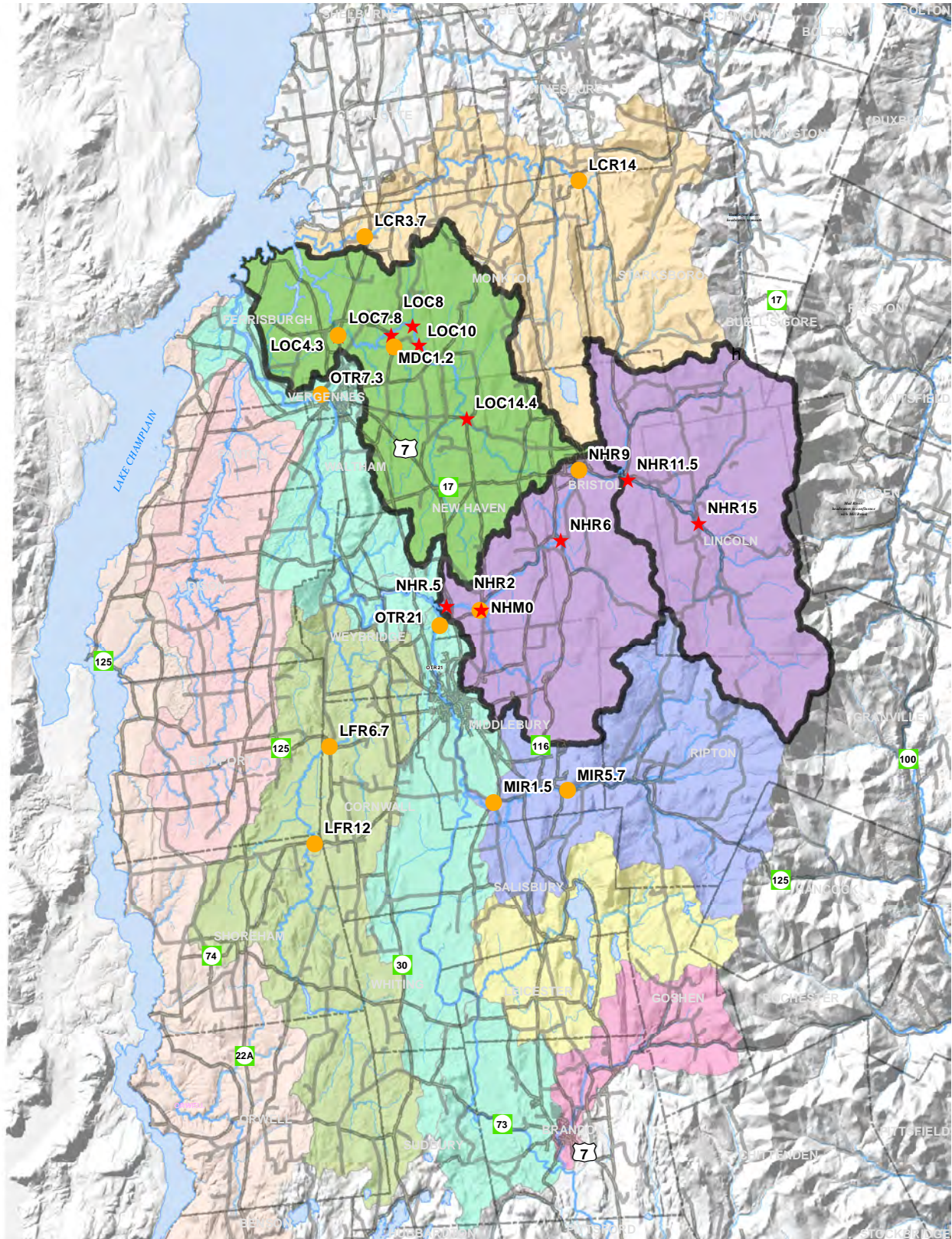
**Phosphorus** levels were detected at relatively low concentrations during the five Spring and Summer sampling dates. Concentrations ranged from 8 to 84 ug/L, with an average of 33 ug/L. Moderately high concentrations of Total Phosphorus have been recorded in past years at times of high flow and runoff in the lower reaches of the Middlebury River. In 2011, the mean concentration of Total Phosphorus for the two available low-flow Summer sample dates (July 6, August 3) at either site did not exceed the proposed criterion of 44 ug/L for the warm-water medium gradient (WWMG) wadeable stream ecotype in Class B waters.

**2012:** The Addison County Riverwatch Collaborative will continue to monitor for E.coli, phosphorus and turbidity at these two sentinel sites in 2012. An increased number of parameters and additional monitoring sites will be evaluated when a more intensive monitoring focus rotates back to the Middlebury River for a two-year period beginning in the year 2014.

For more information, contact the Middlebury River sampling coordinator:  
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# Addison County Riverwatch Collaborative

## Water Quality Monitoring Sites by Watershed, 2011



- ★ Rotation Basin Site 2011
- Sentinel Site
- Little Otter Creek
- New Haven 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
- Roads**
- Pavement
- Gravel

The Addison County Riverwatch 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.

