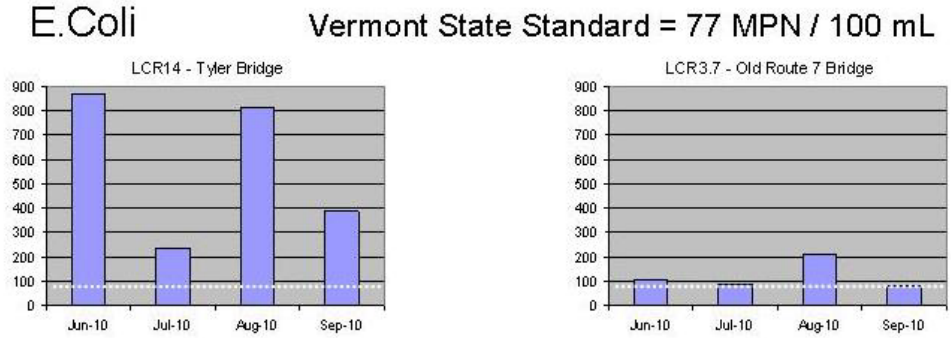
Addison County Riverwatch Collaborative
Lewis Creek - 2010 Water Quality Summary

The Addison County Riverwatch Collaborative has been monitoring water quality in the Lewis Creek since 1992. For years 2010 and 2011, the number of sampling locations in this watershed has been reduced to two sentinel stations, LCR3.7 and LCR14. During 2010, these sites were tested for phosphorus and turbidity on the first Wednesday in April and May (Spring sampling dates) and in June, July, August and September (Summer sampling dates). E.coli was tested only on the Summer dates. Flow in the river during Summer sampling was relatively low, representing baseflow to small storm conditions (based on records for the USGS gage which operates just upstream of LCR3.7). Flows on the April and May dates were moderate, due to snow melt and spring rains. Daily mean flows ranged from 16 to 204 cubic feet per second.

Site	Location	Town
LCR3.7	Old Route 7 Bridge	Ferrisburgh
LCR14	Tyler Bridge	Monkton

E.coli concentrations in the Lewis Creek at both sampling sites exceeded the state standard of 77 MPN / 100 mL on all four Summer sampling dates: June 2, July 7, August 4, and September 1. E.coli levels at the upstream site, Tyler Bridge (LCR14), were significantly higher than the downstream site, Old Route 7 Bridge (LCR3.7). Detected E.coli concentrations at these sentinel sites in the 2010 season were largely consistent with historic monitoring results.



Turbidity levels in the Lewis Creek at the sampled stations ranged from 1.5 to 17 NTUs, with a mean level of 5 NTUs for the six sample dates, including two spring sampling dates, April 7 and May 5. Except for the 17 NTU detection at LCR3.7 on August 4, turbidity levels were below the Vermont state standard of 10 NTUs (for Class B cold-water fisheries). Turbidity results for stations LCR14 and LCR3.7 were generally consistent with historic data. Median turbidity levels are generally less than 10 NTUs, except during rain events and/or moderate to high flow conditions, such as a Summer storm or during Spring runoff. Approximately 1.12 inches of rainfall were recorded at the Burlington Airport on August 2 through August 4. However, daily mean flows recorded at the USGS gaging station on Lewis Creek just upstream from LCR3.7 increased by a modest amount from 30 cfs on August 2, to 57 cfs on August 3, declining again to 30 cfs by August 6.

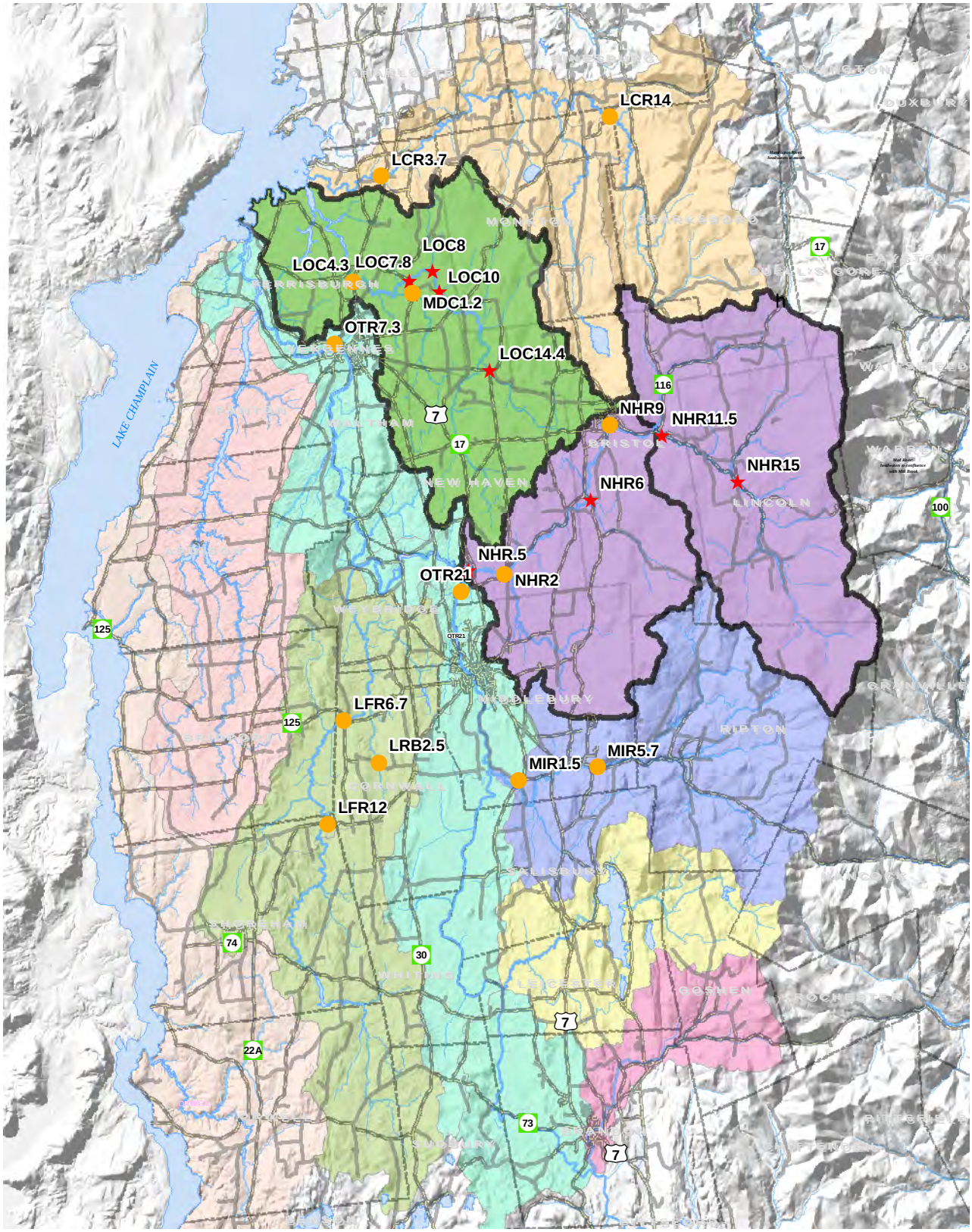
Phosphorus was detected at moderate concentrations during the six Spring and Summer sampling dates, ranging from 13 to 115 ug/L, with an average of 39 ug/L. The mean concentration of Total Phosphorus for four Summer sample dates at either site did not exceed the proposed criteria of 44 ug-P/L for the warm-water medium gradient (WWMG) wadeable stream ecotype in Class B waters.

2011: The Addison County Riverwatch Collaborative will continue to monitor for E.coli, phosphorus and turbidity at these two sentinel sites in 2011. An increased number of parameters and additional monitoring sites will be evaluated when a more intensive monitoring focus rotates back to the Lewis Creek for a two-year period beginning in the year 2012.

For more information, contact the Lewis Creek sampling coordinator:
Louis DuPont, 453-5538, ldupont@gmavt.net

Addison County Riverwatch Collaborative

Water Quality Monitoring Sites by Watershed, 2010



★ Rotation Basin Site 2010 **Rotational Basins 2010**

● 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

0 0.5 1 2 3 4 5 Miles

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.

ACRPC 5/2010

GIS

This map intended for planning purposes

Addison County

REGIONAL PLANNING COMMISSION