

Water Quality Monitoring Program

Collect water quality information from tributaries to the Huron River to evaluate sources of problems and measure the degree of management success



Cara Spindler, Dannielle Foreman, & Bill Lee at South Ore Creek

Supported by:

- Middle Huron Partners and Stormwater Advisory Group
- Alliance of Downriver Watersheds – Lower Huron, Ecorse Creek, Combined Downriver
- Livingston Watershed Advisory Group
- Michigan Department of Environmental Quality

Outline

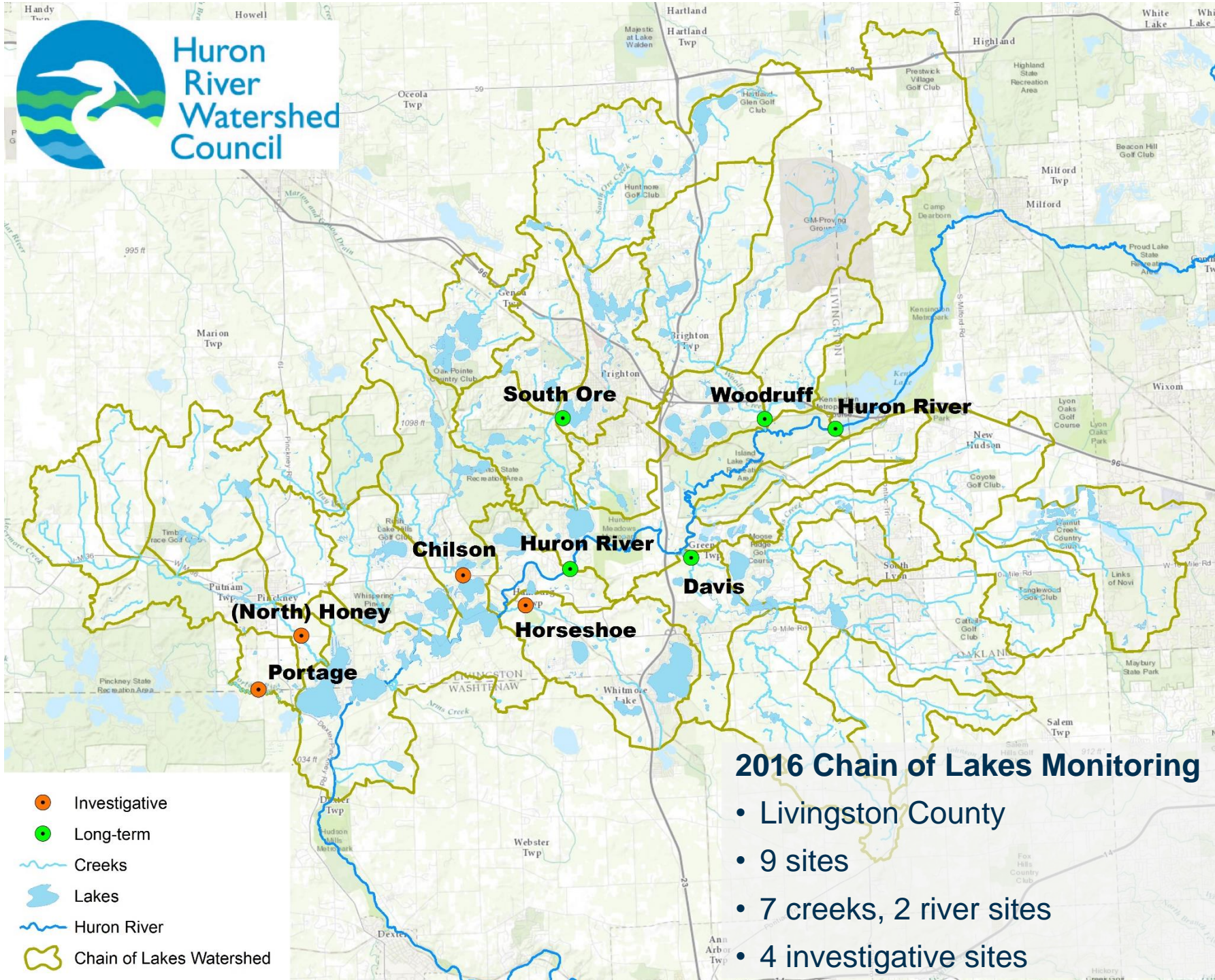
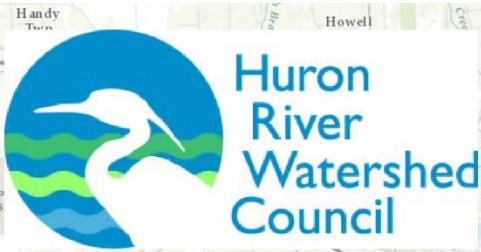
- What was measured
- Where
- Important results
- How are the results being used
- What's next



Bill Lee and Cara Spindler at South Ore Creek

What was measured in 2016?

- 12 volunteers; 108 hours – THANKS!
- 63 sample sets collected
 - Nutrients (Phosphorus)
 - Sediments (Total Suspended Solids)
 - Other (Dissolved Oxygen, pH, Temperature, Conductivity)
- 20 flow measures
- 28 investigative samples
- 7 sample weeks

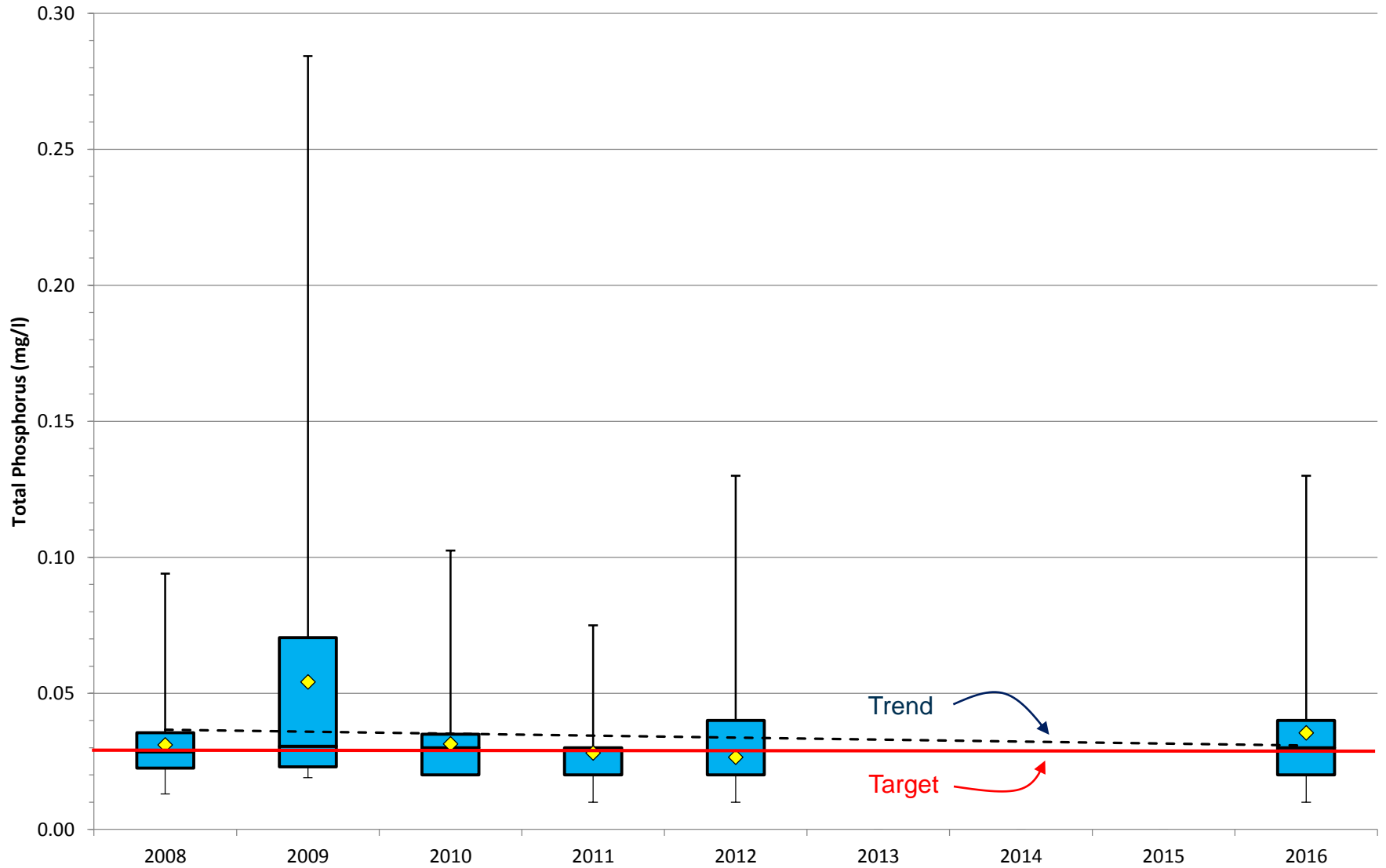


- Investigative
- Long-term
- Creeks
- Lakes
- Huron River
- Chain of Lakes Watershed

2016 Chain of Lakes Monitoring

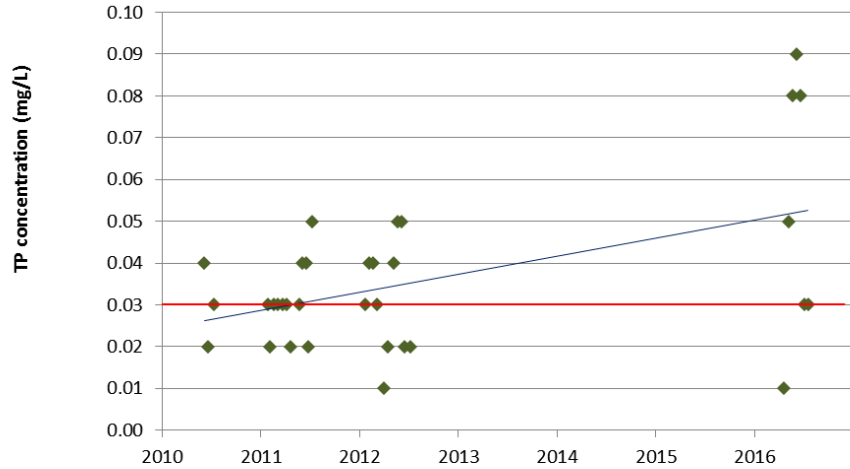
- Livingston County
- 9 sites
- 7 creeks, 2 river sites
- 4 investigative sites

Phosphorus (TP) in Livingston County

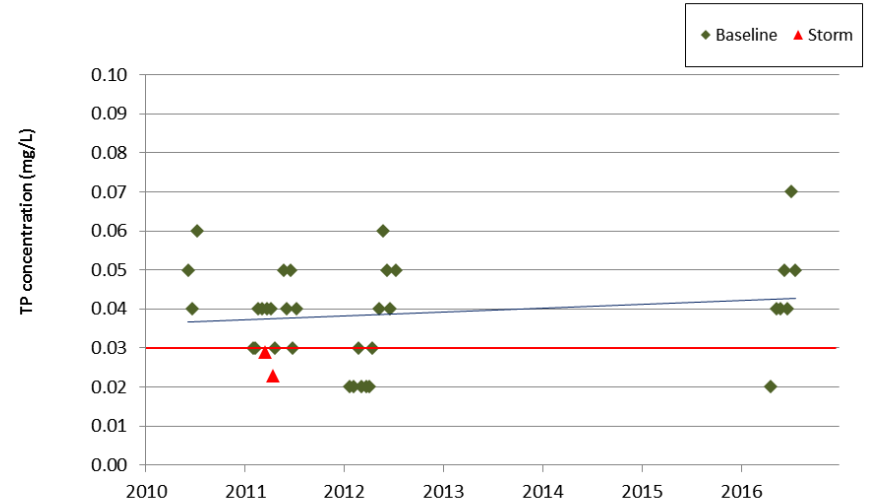


Phosphorus (TP) in Livingston County

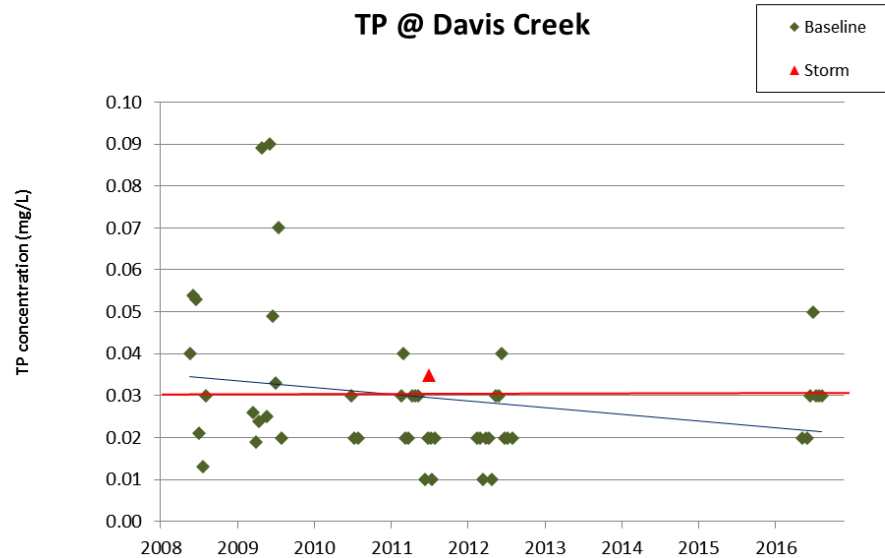
TP @ Woodruff Creek



TP @ S. Ore Creek - Hartford Way (below Brighton Lk dam)

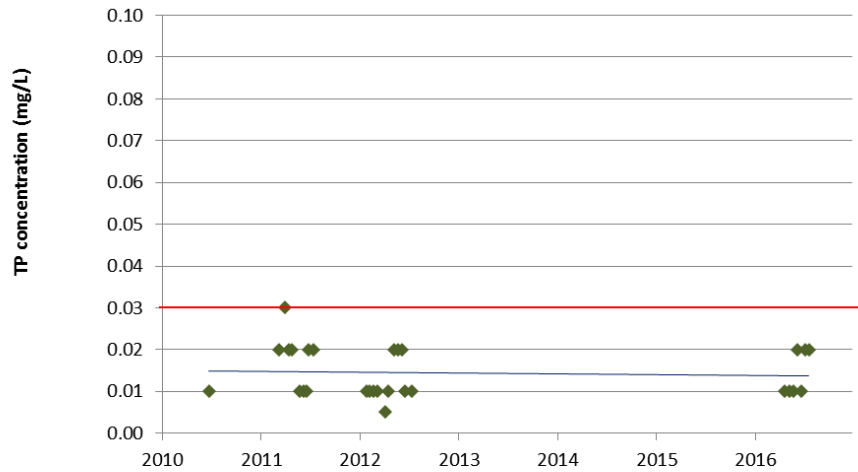


TP @ Davis Creek

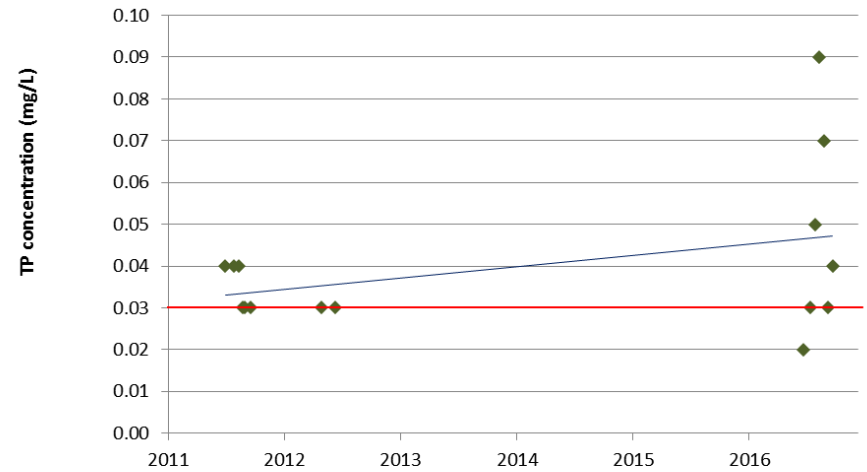


Phosphorus (TP) in Livingston County Investigative Sites

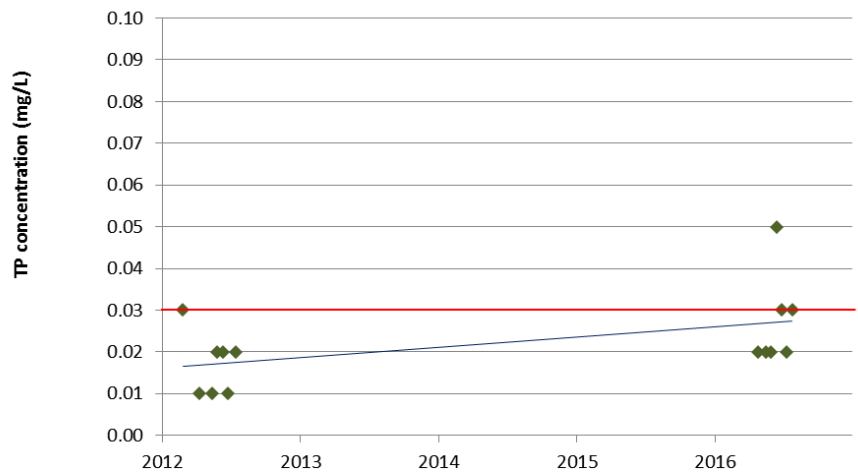
TP @ Chilson Creek-M36



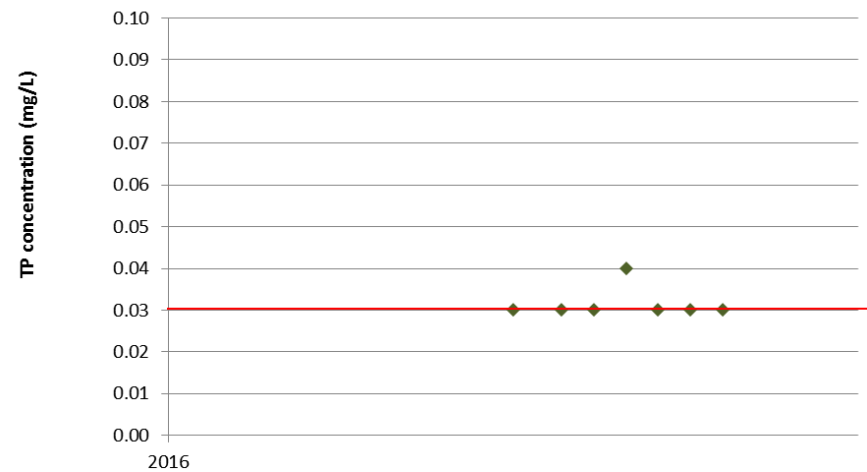
TP @ Horseshoe Creek



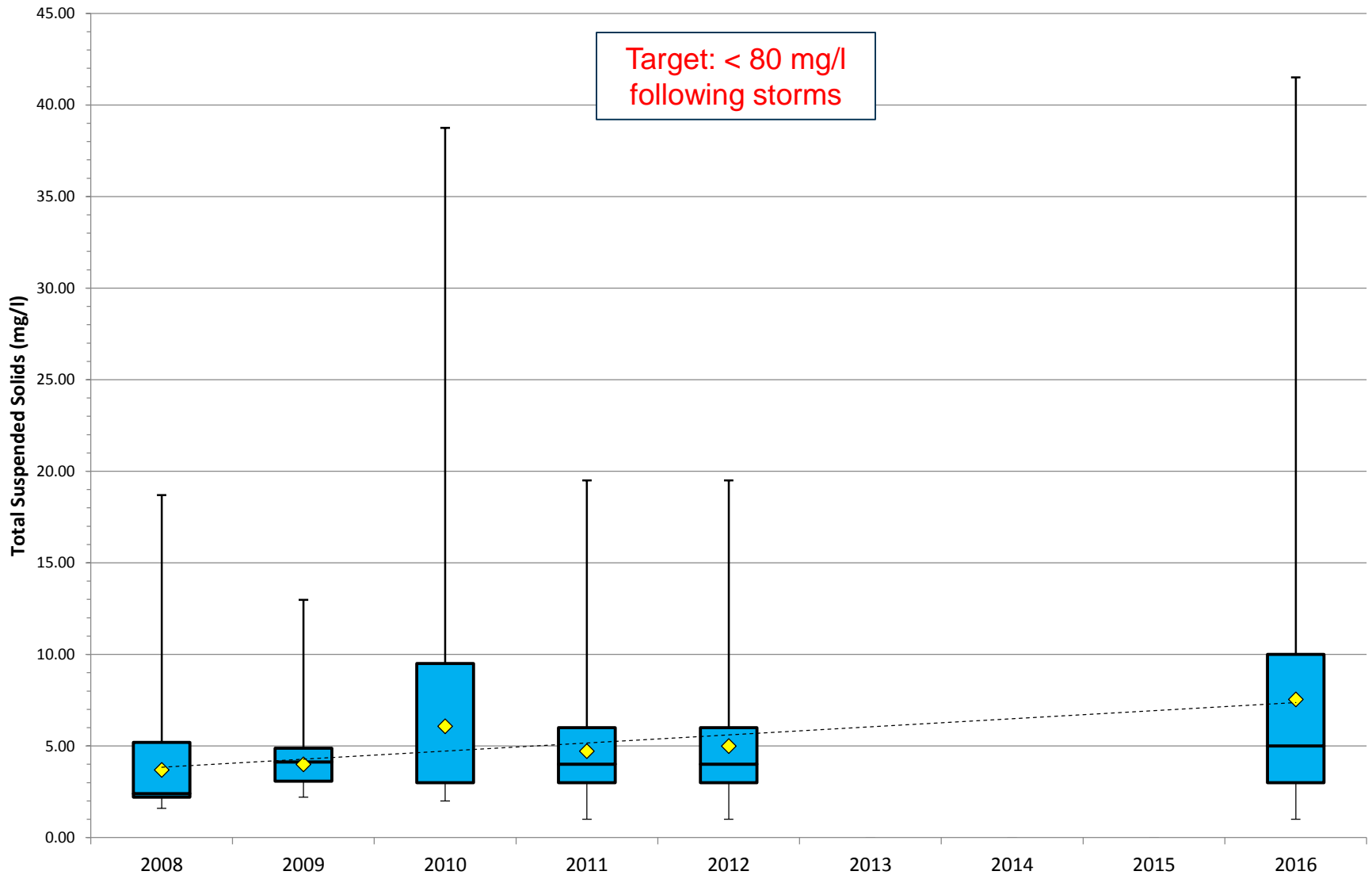
TP @ (North) Honey Creek



TP @ Portage Creek

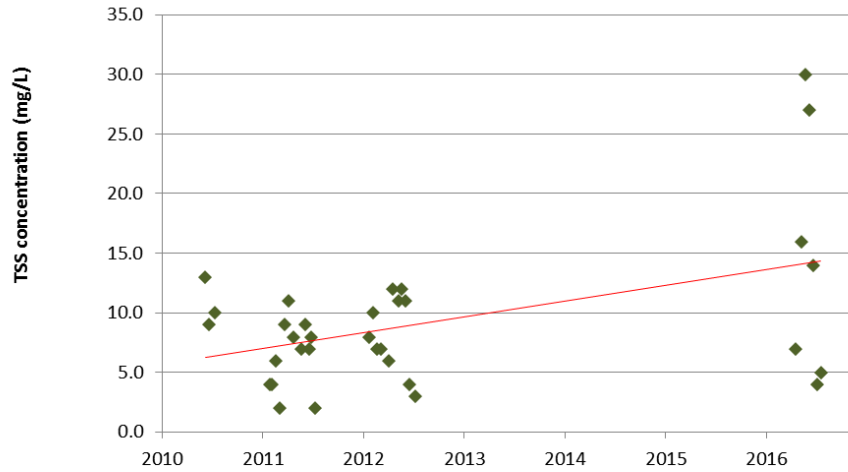


Total Suspended Solids (TSS) in Livingston County

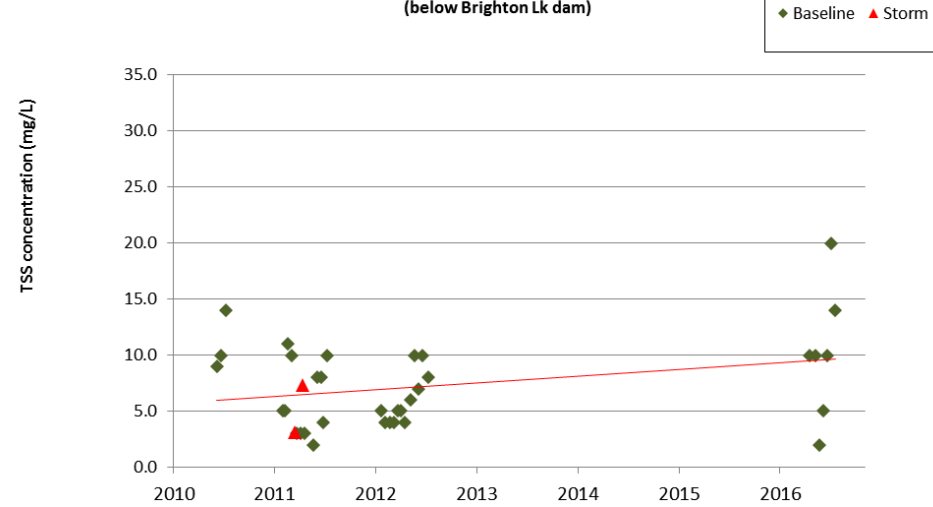


TSS in Livingston County

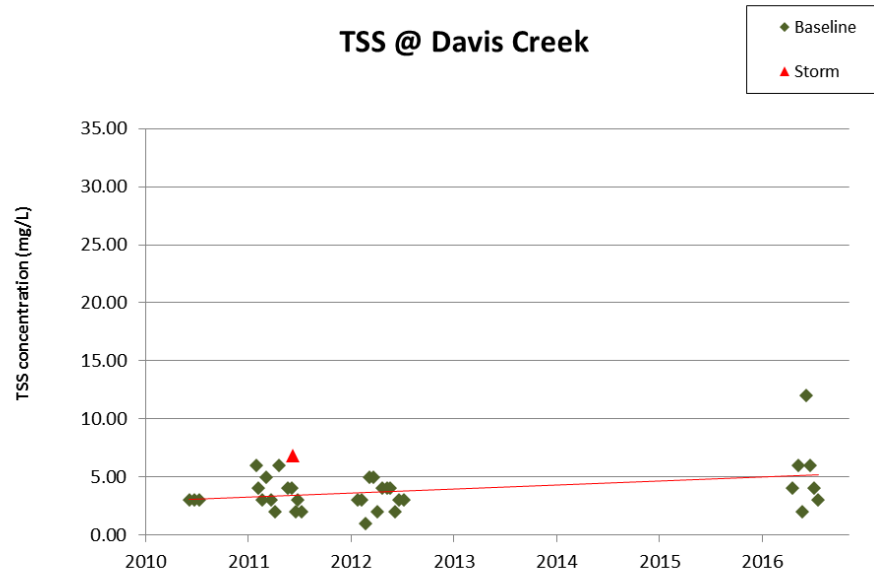
TSS @ Woodruff Creek



TSS @ S. Ore Creek - Hartford Way (below Brighton Lk dam)

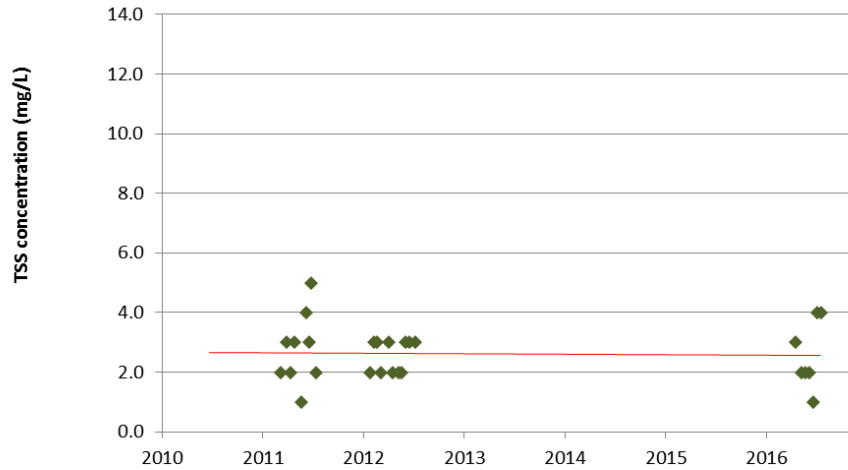


TSS @ Davis Creek

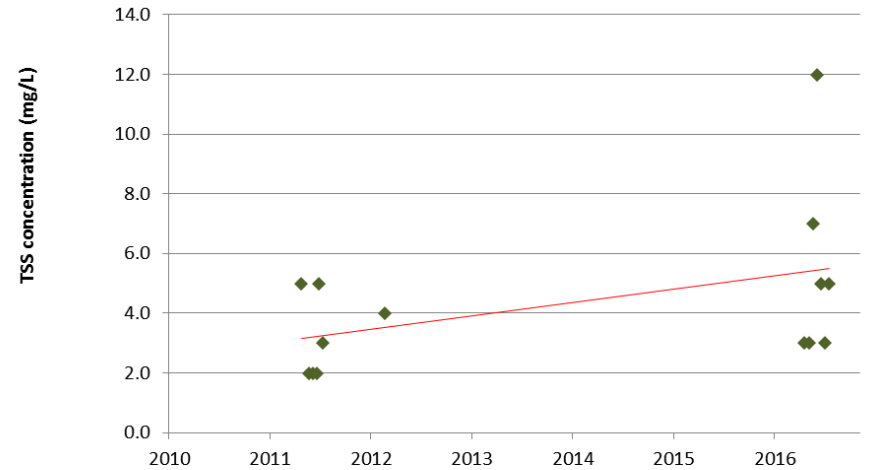


TSS in Livingston County Investigative Sites

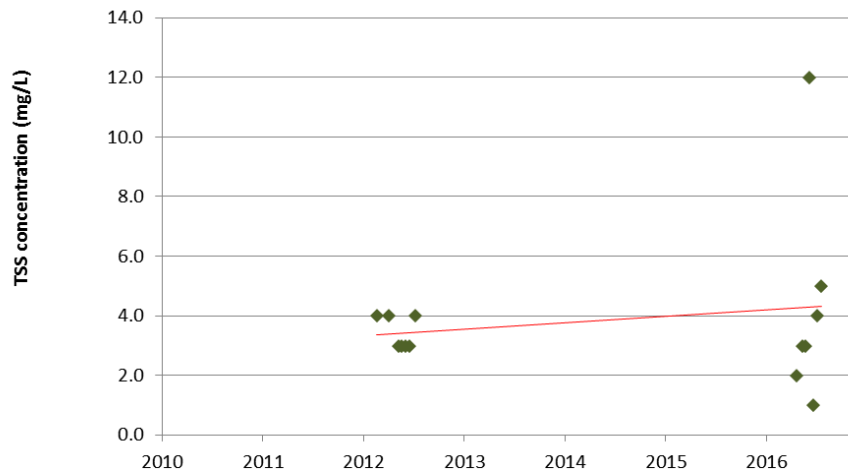
TSS @ Chilson-M36



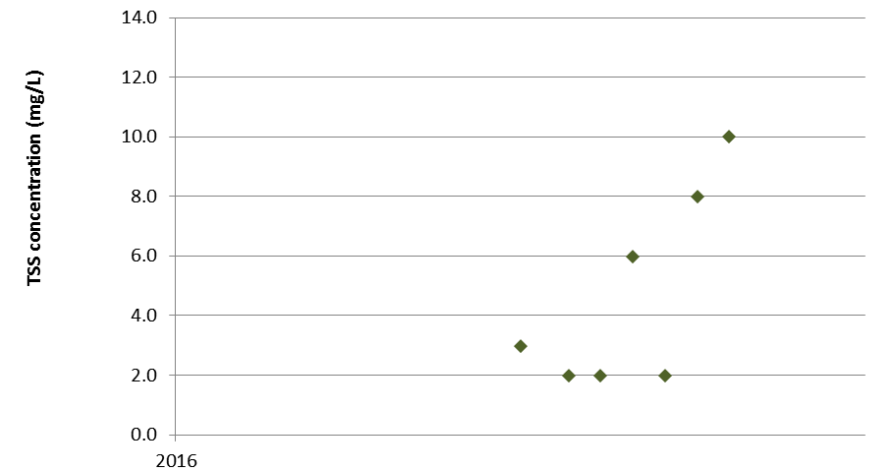
TSS @ Horseshoe Creek



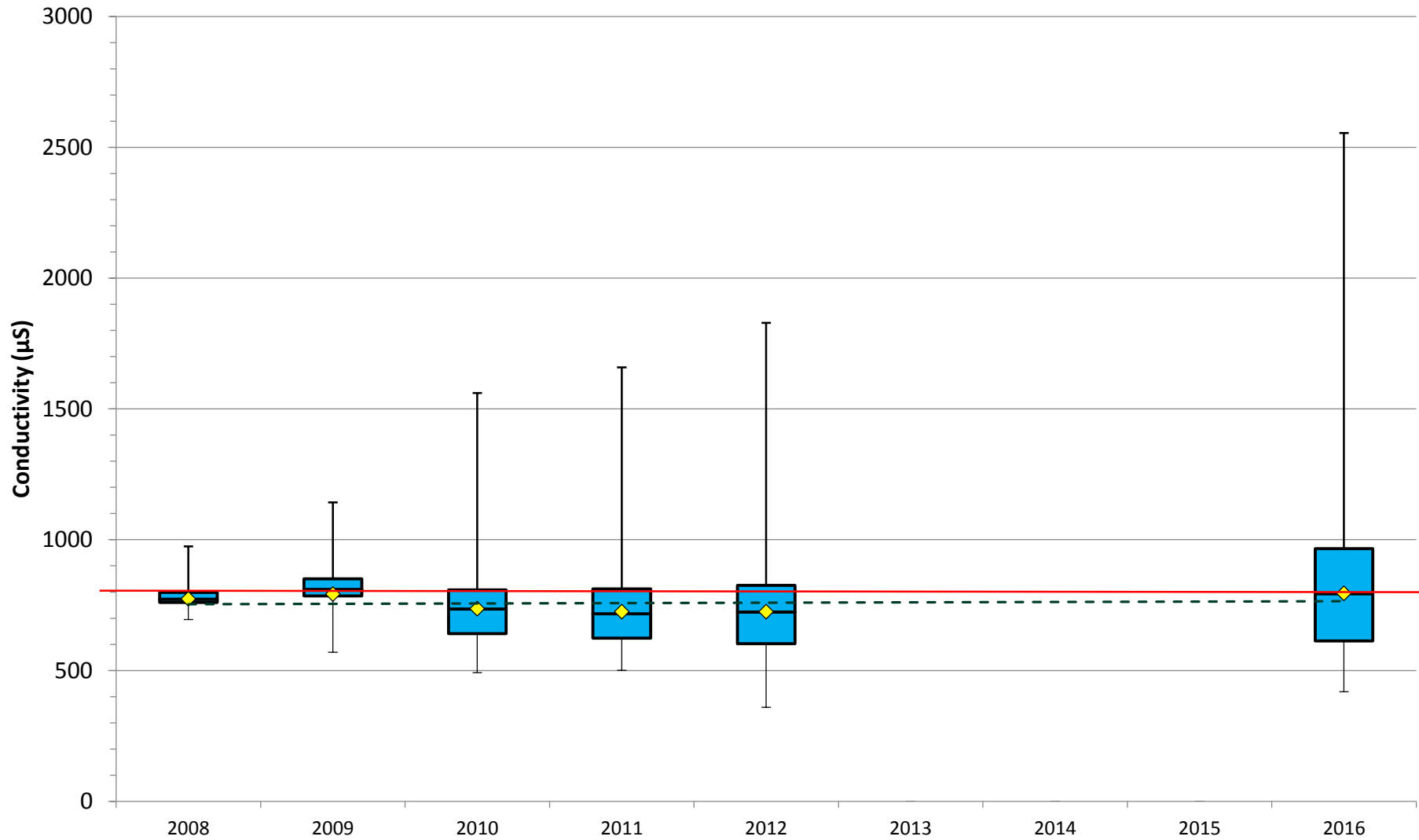
TSS @ (North) Honey Creek



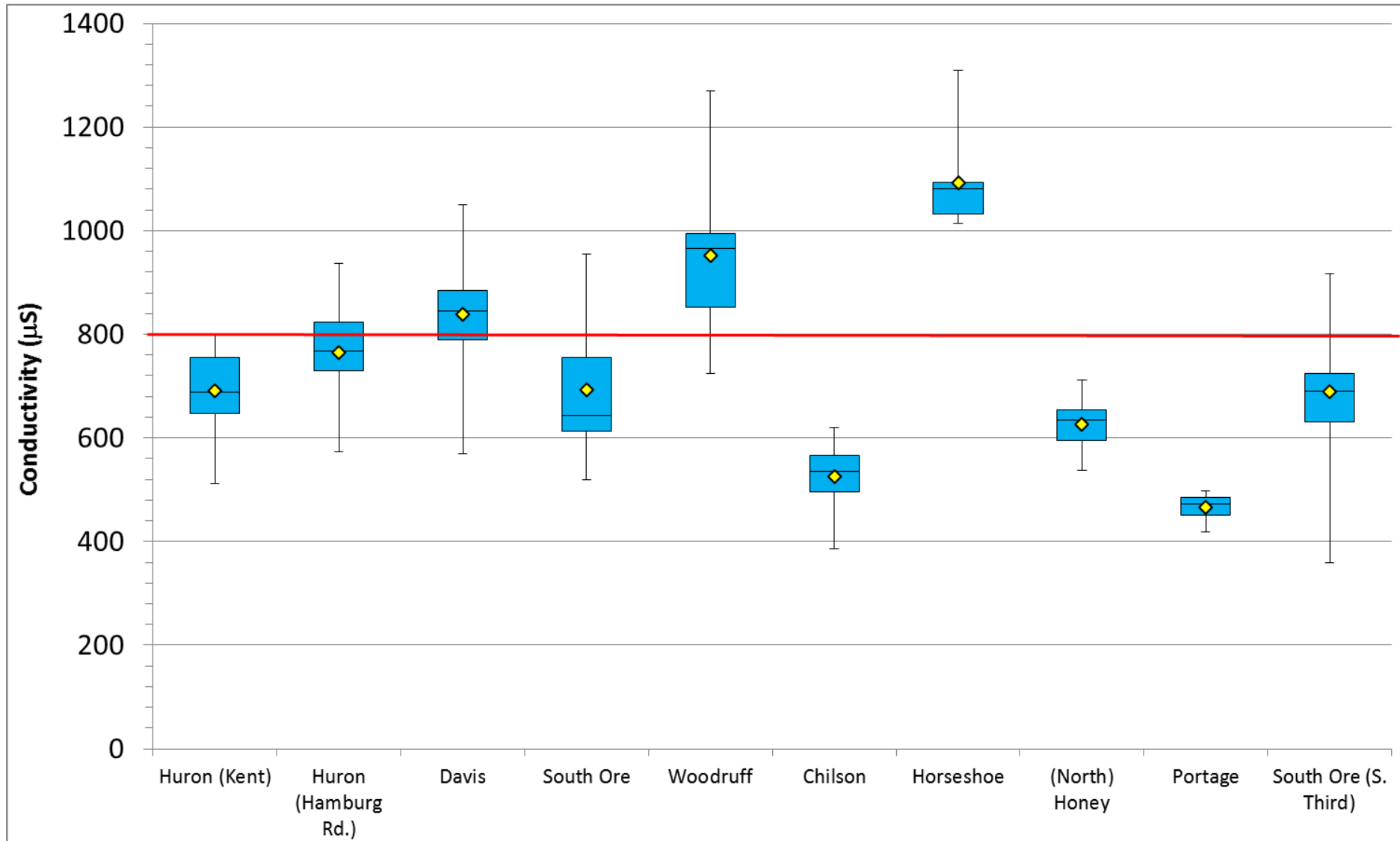
TSS @ Portage Creek



Conductivity in Livingston County (by year)



Conductivity in Livingston County (by site)



Other Parameters

- DO: All sites within normal, healthy range
- pH: no acid/base balance issues
- Temperature: within acceptable range for warm water streams (< 29°C / 84°F). Huron River @ Kent Lake pushes the limit in August sometimes, though.

Summary of Results

- Only 3.5 months monitored in 2016
- Livingston streams and river in the Huron watershed remain reasonably healthy
- Little evidence of erosion
- Woodruff, Horseshoe, and S. Ore Creeks showing issues with TP and conductivity – bears further study
- Brighton Lake may be releasing phosphorus
- Samples should be measured for bacteria at some point
- 2017 sites?

How does our sampling get used?

Raw sampling data analyzed and reported out

- Share results and analysis with municipalities
- Follow up on key findings, actions prioritized
- Implementation of ideas to address problems



Cara and Dannielle at Davis Creek