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

David Kraepel, Ron Fadoir, & Karen Kraepel at Silver Creek

Supported by:

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

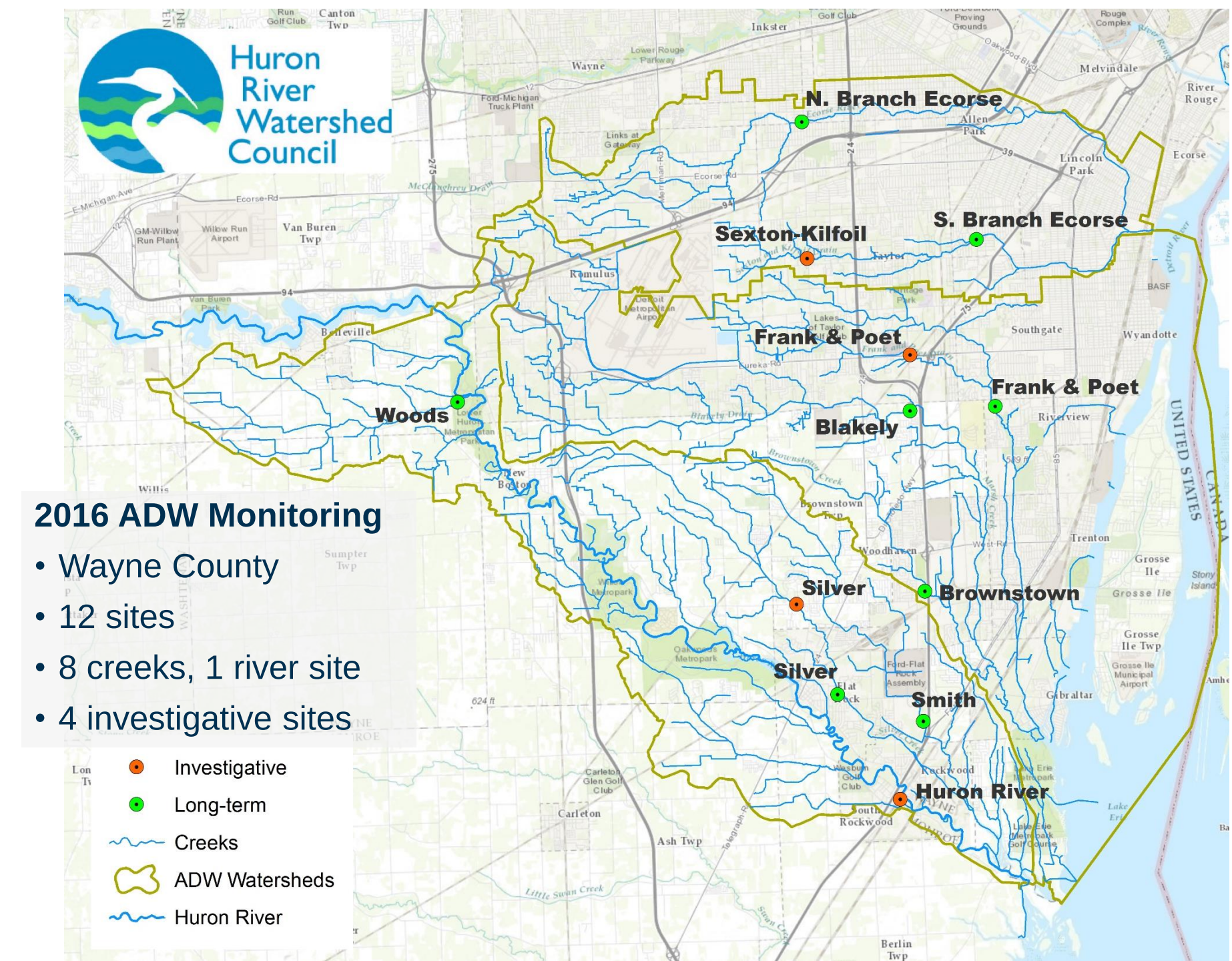
Outline

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

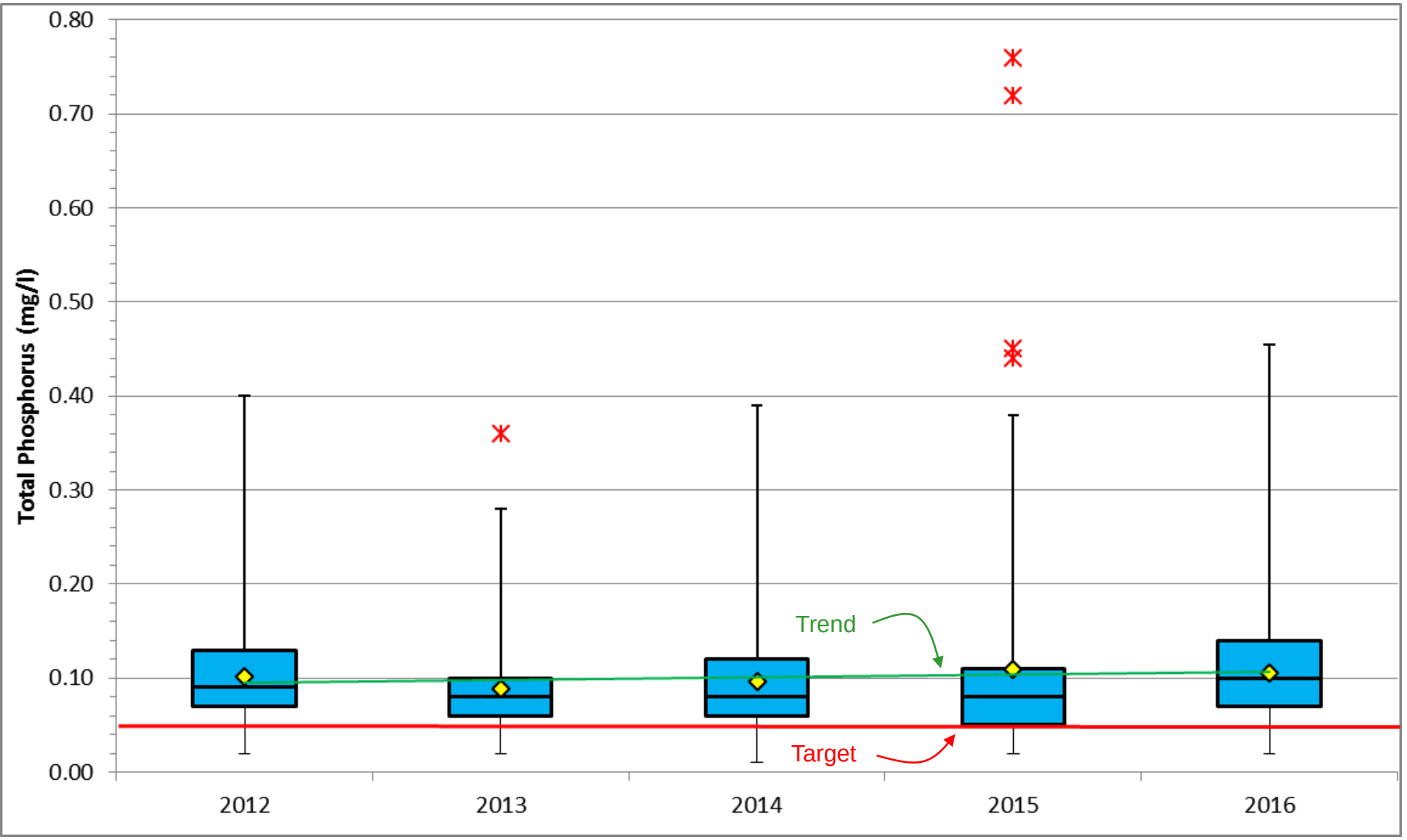
David Kraepel & Ron Fadoir at Silver Creek

What was measured in 2016?

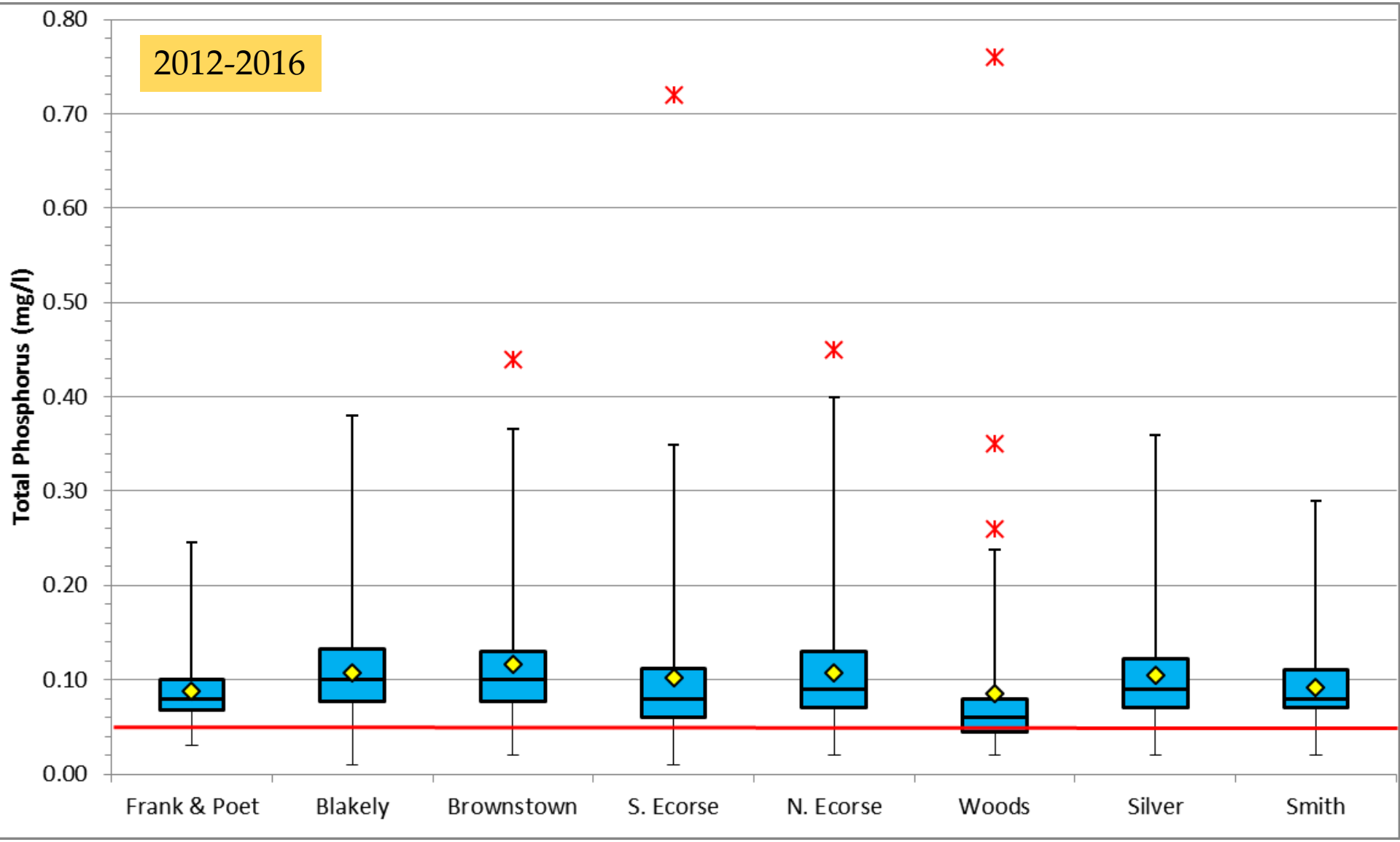
- 29 volunteers; 319 hours – THANKS!
- 155 sample sets collected
  - Nutrients (Phosphorus)
  - Sediments (Total Suspended Solids)
  - Bacteria (*E. coli*)
  - Other (Dissolved Oxygen, pH, Temperature, Conductivity)
- 40 flow measures
- 48 investigative samples
- 1 storm sample


Huron River Watershed Council
N. Branch Ecorse
S. Branch Ecorse
Sexton-Kilfoil
Frank & Poet
Frank & Poet
Woods
Blakely
Silver
Brownstown
Silver
Smith
Huron River
2016 ADW Monitoring
• Wayne County
• 12 sites
• 8 creeks, 1 river site
• 4 investigative sites
Investigative
Long-term
Creeks
ADW Watersheds
Huron River

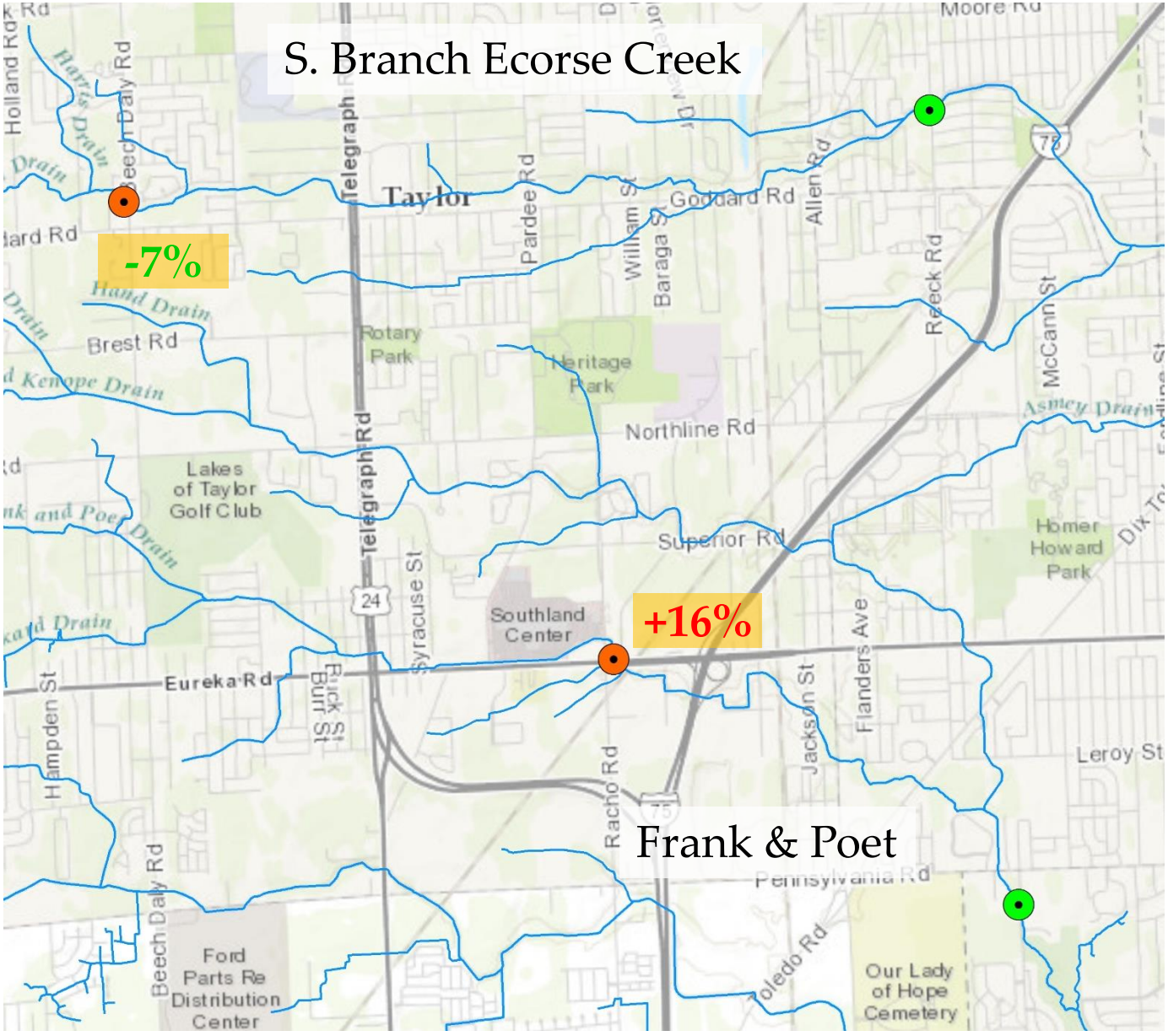
Phosphorus (TP) in Wayne County
(by Year)



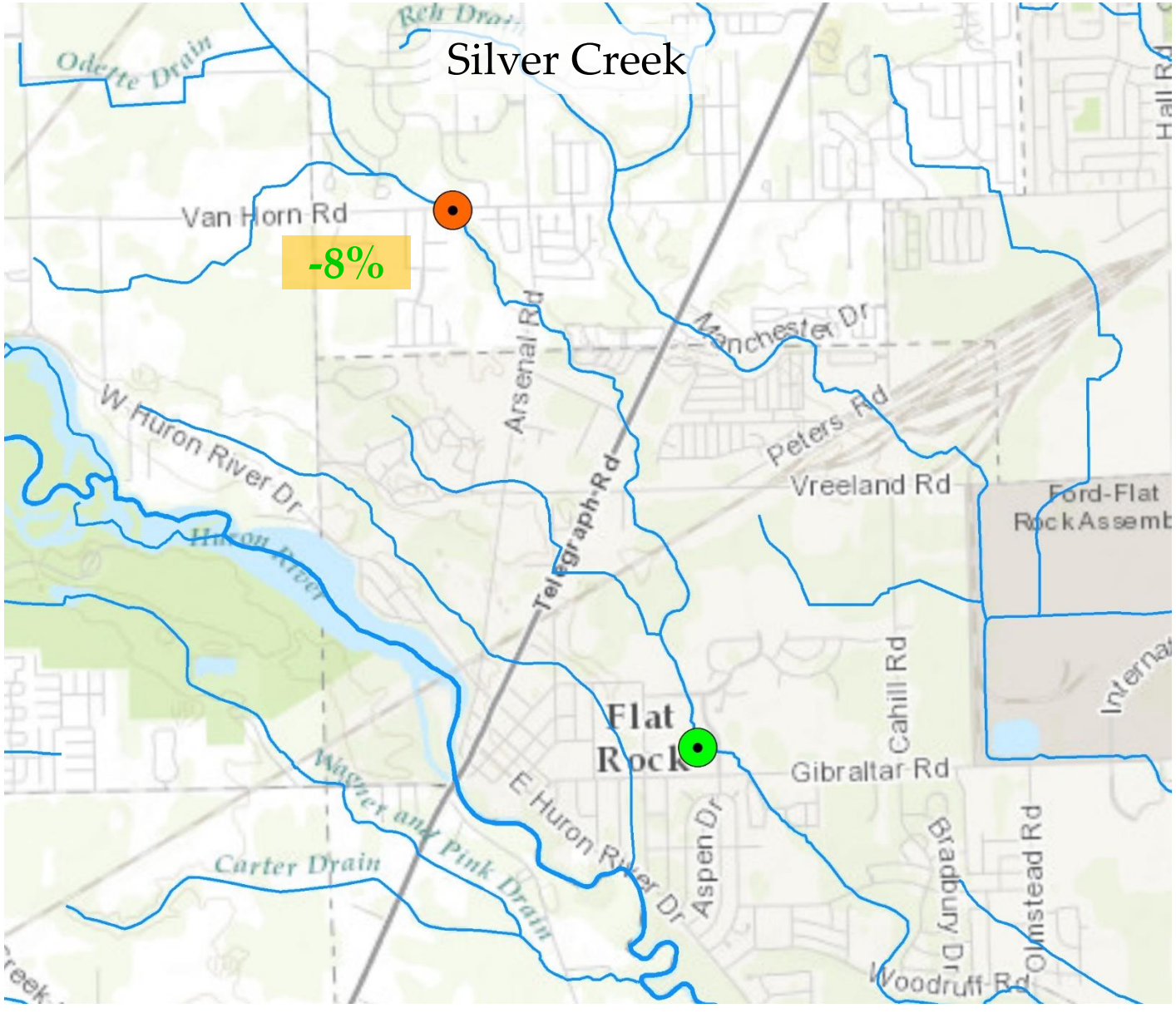
Phosphorus (TP) in Wayne County
(by Site)



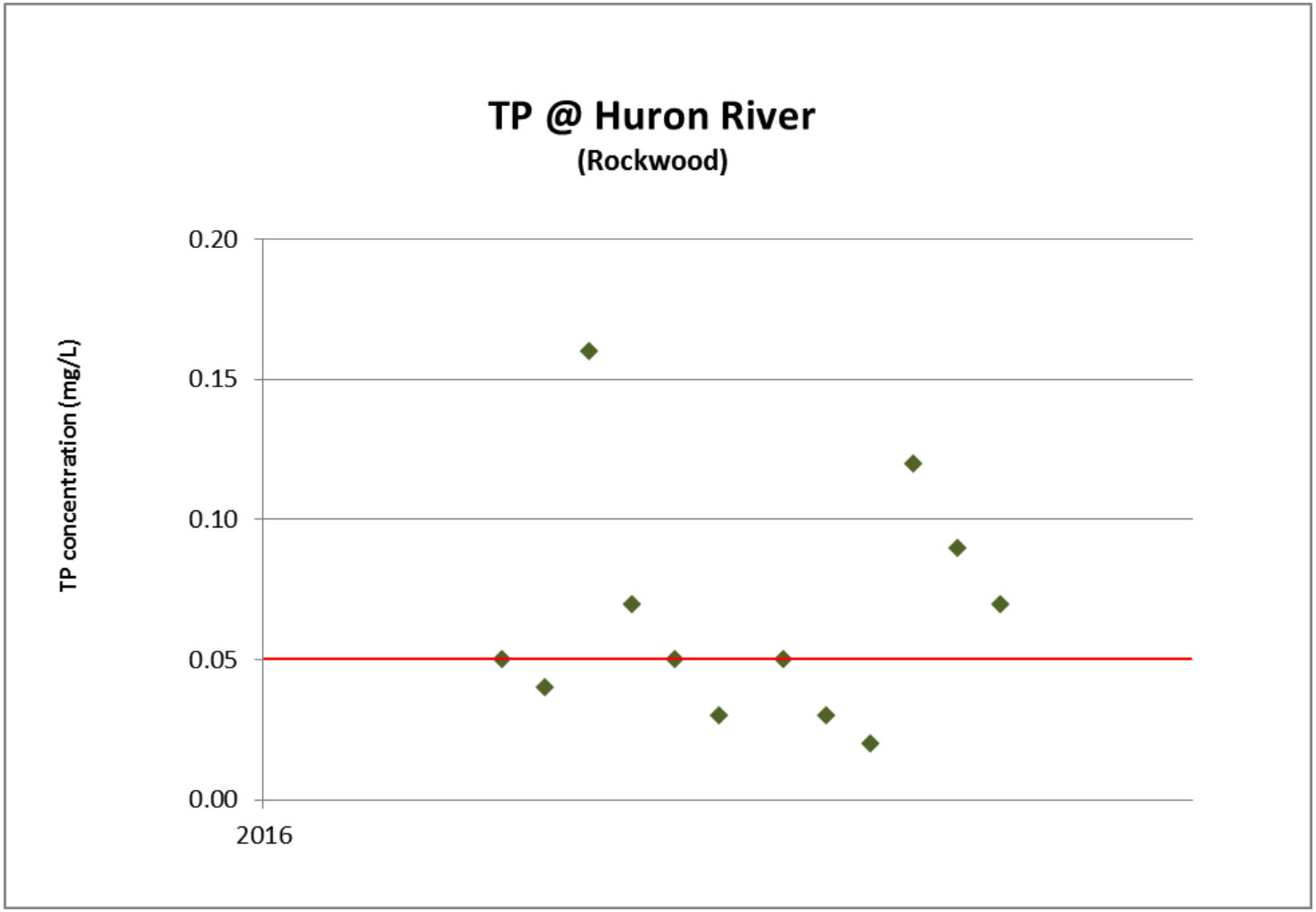
2016 Investigative Differences – TP



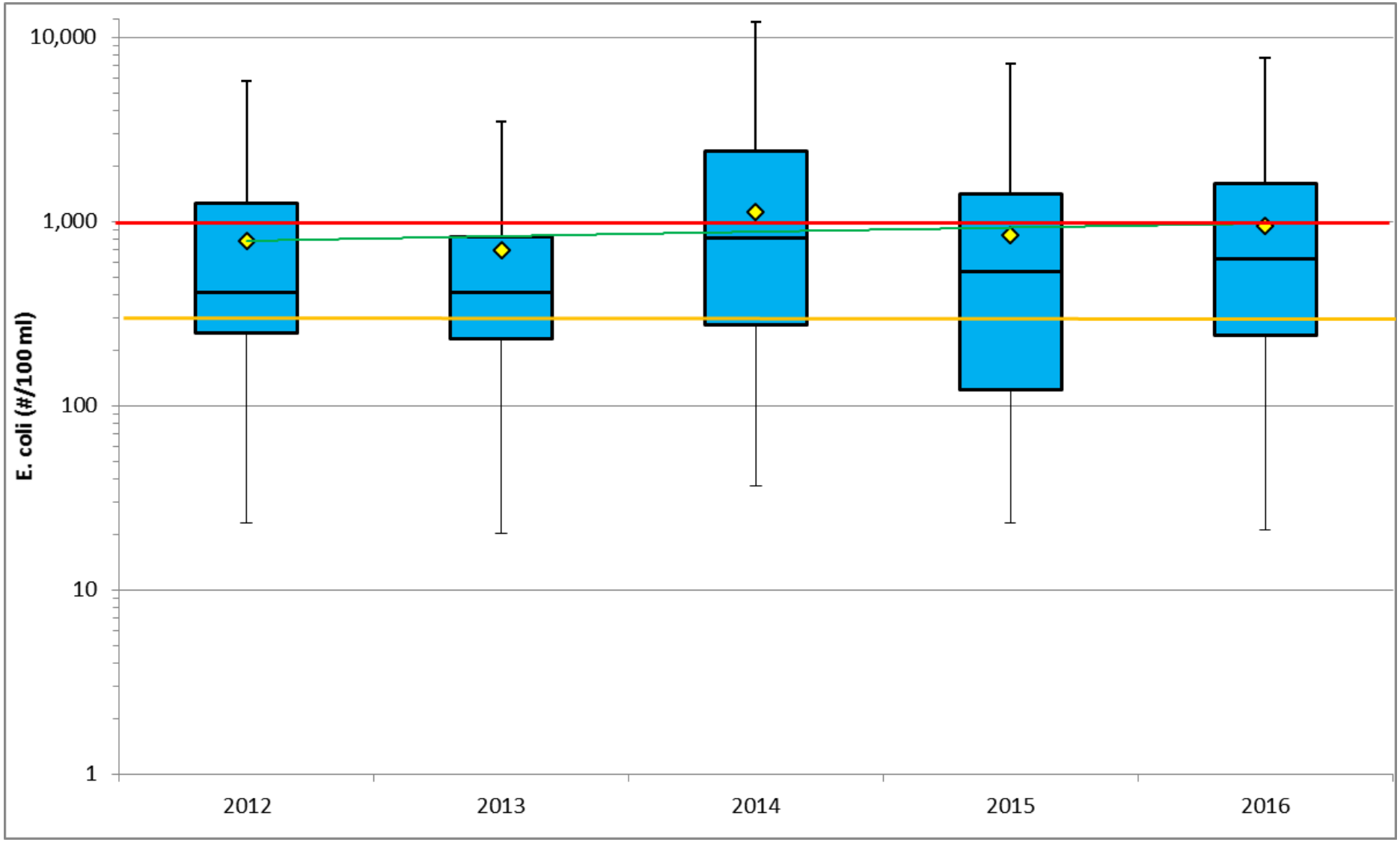
2016 Investigative Differences – TP



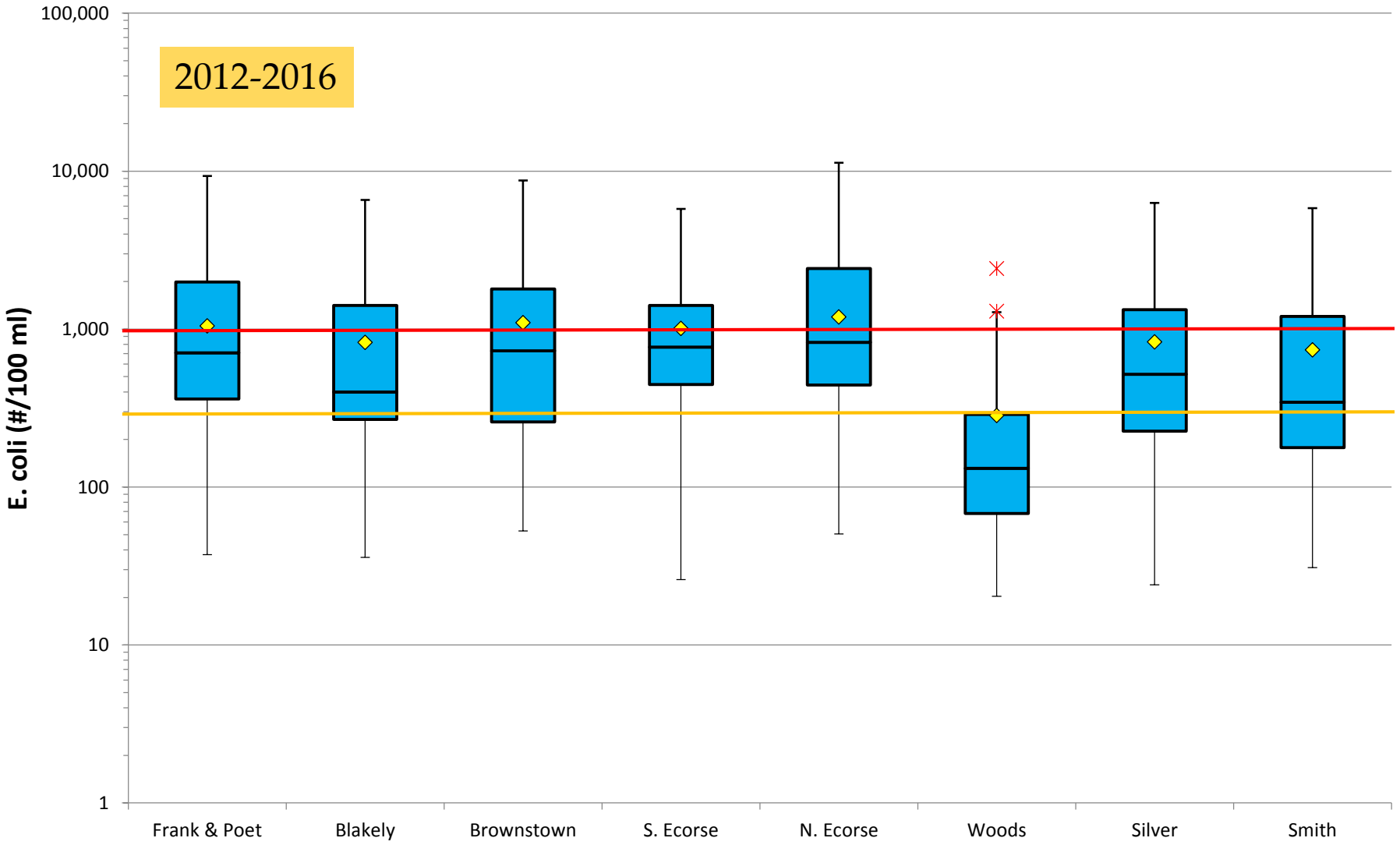
Huron River in Rockwood – TP



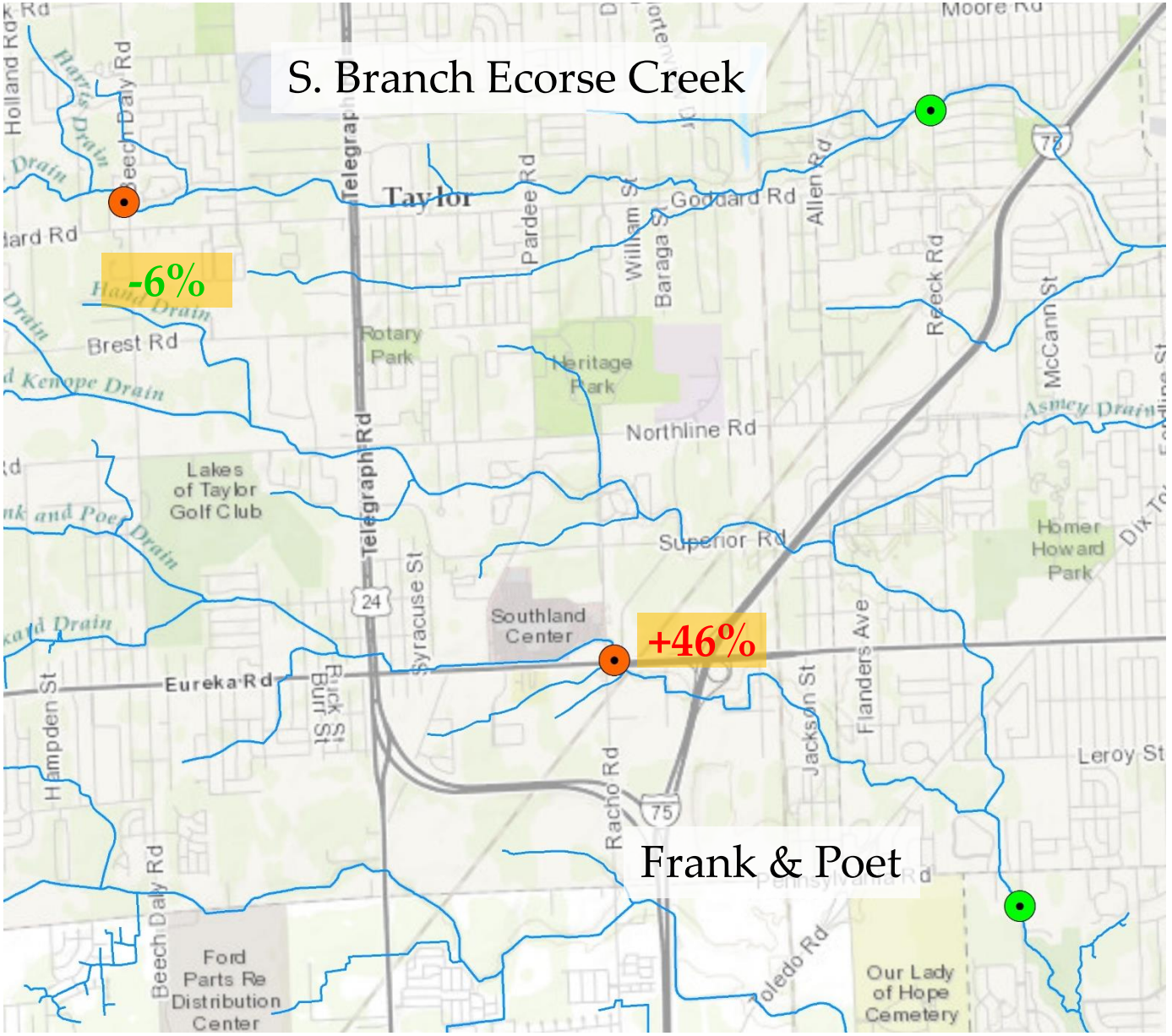
E. coli in Wayne County
(by Year)



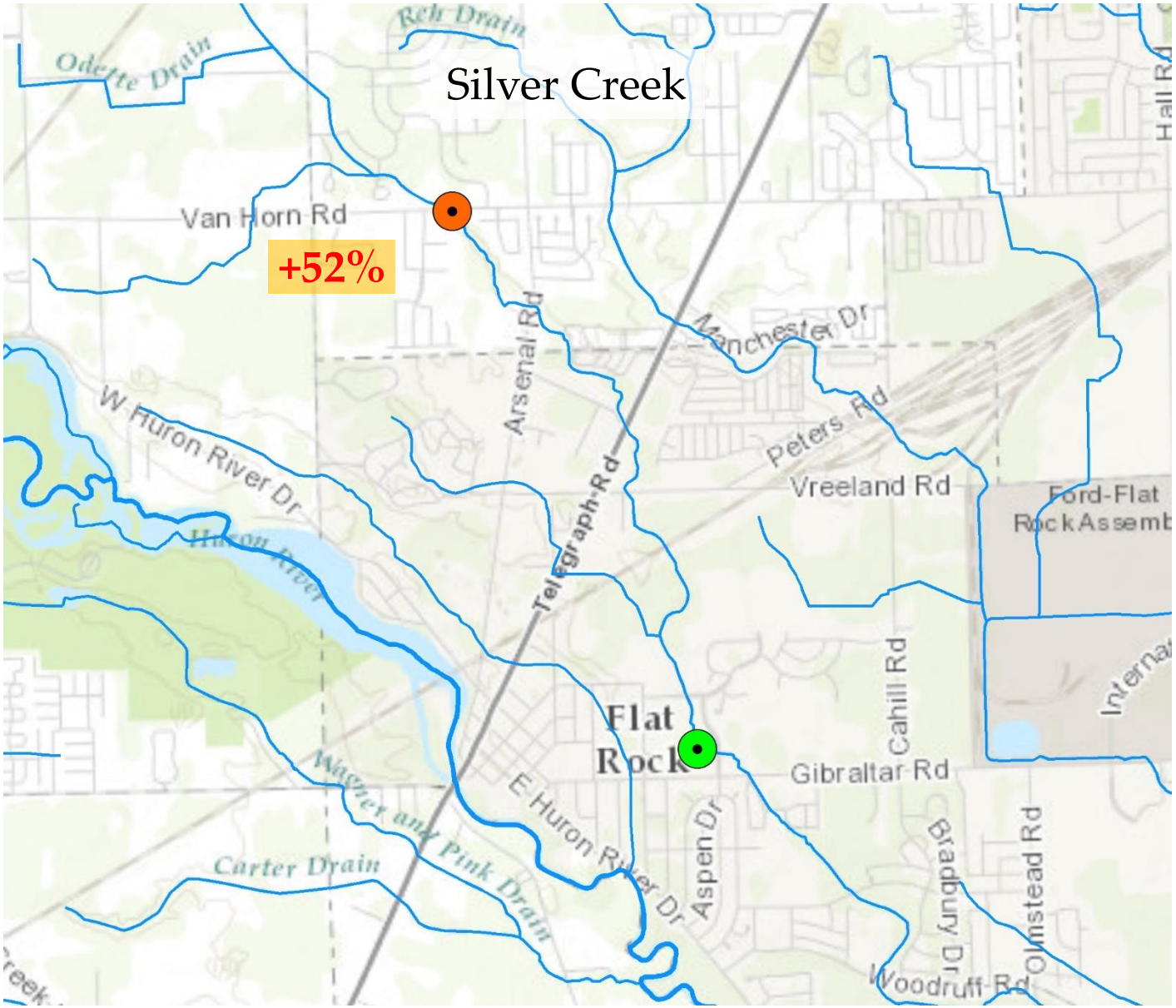
E. coli in Wayne County
(by Site)



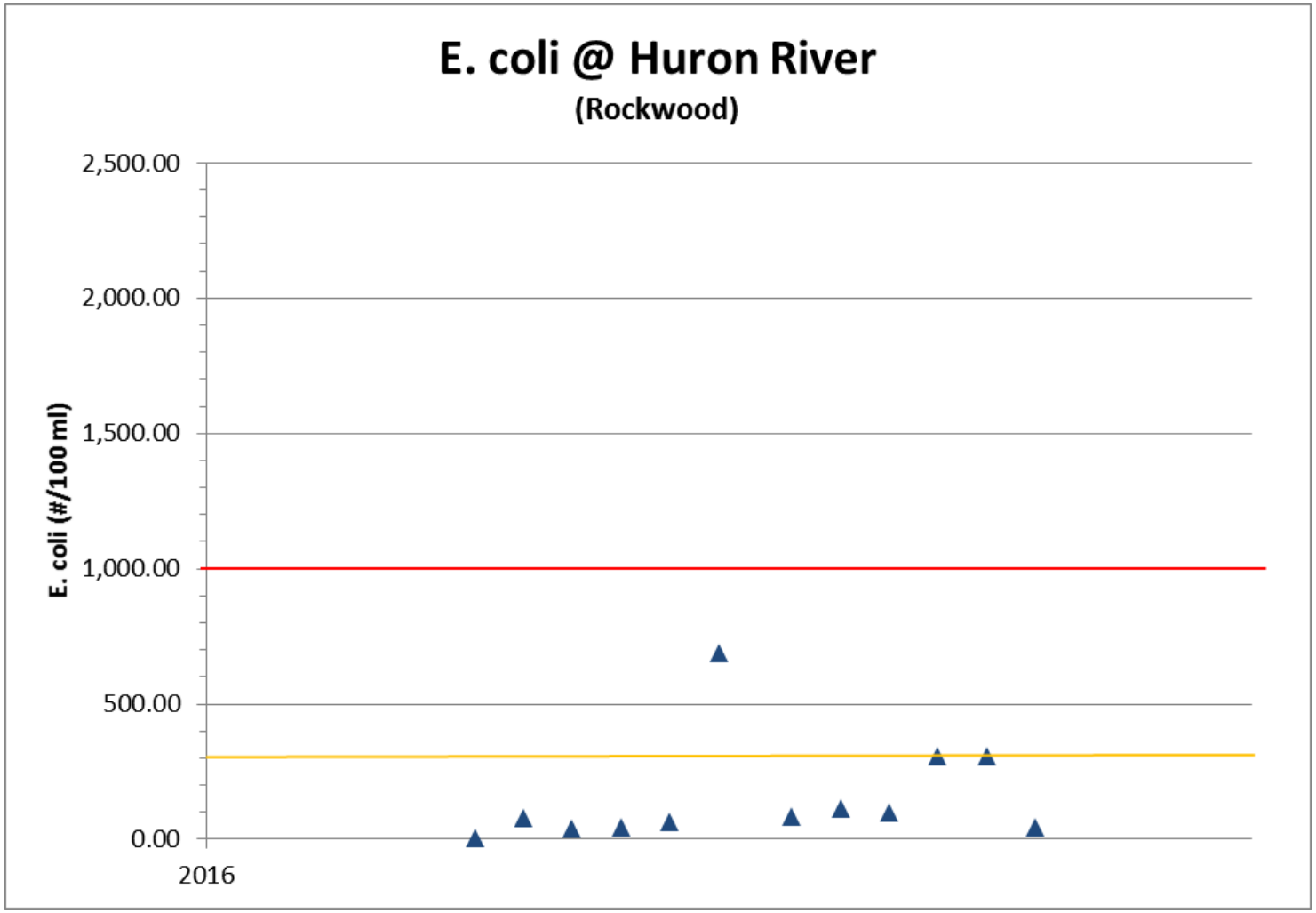
2016 Investigative Differences – E. coli



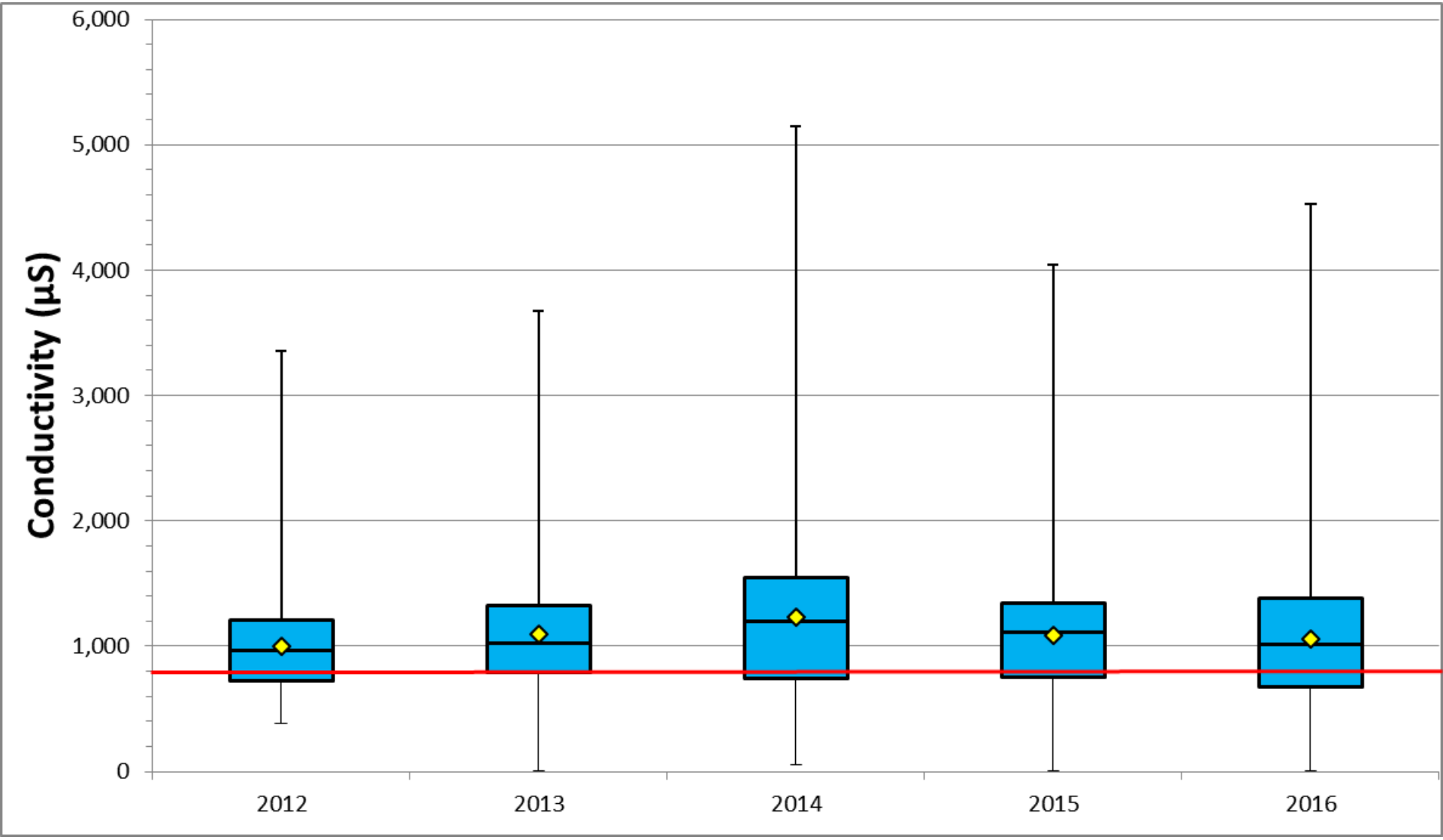
2016 Investigative Differences – E. coli



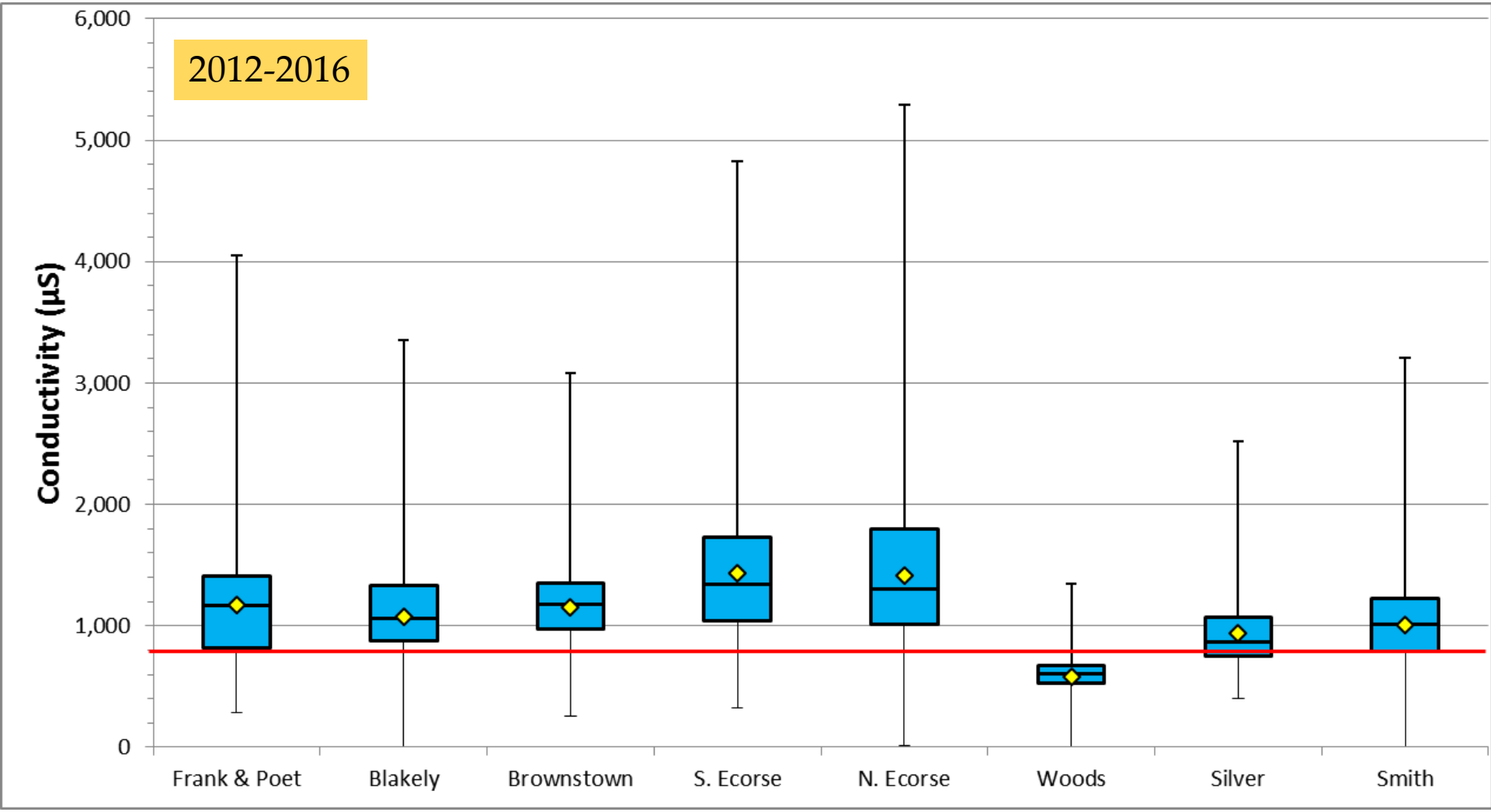
Huron River in Rockwood – E. coli



Conductivity in Wayne County
(by Year)



Conductivity in Wayne County
(by Site)



Other Parameters

- TSS: High (>80 mg/l) erosion events in Blakely, N. Ecorse, and Brownstown Creeks in 2016
- DO: Low (< 5 mg/l) events in Blakely (twice), N. Ecorse (5x), S. Ecorse (3x), Brownstown (5x), and Silver (5x) Creeks.
- Temperature: All sites within normal range for warm water streams (< 29°C / 84°F)

Summary of Results

- Nutrient runoff high (for P) and not improving. Some erosion issues.
- Bacteria high and not improving, except at Woods Creek
- Runoff from Southland Center and Silver Creek (upstream) in need of further investigation for source ID
- Conductivity also high, except for Woods Creek
- Low DO at 5 creek sites suggests the need for greater stormwater treatment and restoration. Consistent with insect results?

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

Kimberly Lapworth, Selvan Thamilselvan & Viji Thamilselvan