2019 CHEMISTRY & FLOW MONITORING DATA PRESENTATION

MARCH 8, 2020

Huron River Watershed Council

Alliance of Downriver Watersheds

OURS TO PROTECT

PROGRAM GOALS

- Collect high-quality, scientific data on the local waterways.
- Educate decision-makers and the public.
- Provide necessary data for state stormwater permit reporting.
- Engage members of the public in water resources & cultivate local water stewards.
- Identify impaired areas, provide evidence for funding improvement projects.

VOLUNTEER ROLES

- Meet up in teams of 2-4 individuals.
- Navigate to sites.
- Collect water samples.
- Measure in-stream water chemistry.
- Record flow measurements.
- Track water level changes.
- Identify any areas of concern or illicit discharges.
- Deliver samples to lab.

PARAMETERS MEASURED

- Nutrients: Phosphorus, Nitrogen
- Sediments: Total Suspended Solids
- Bacteria: E. coli
- Dissolved Oxygen
- pH (Washtenaw)
- Temperature
- Conductivity
- Total Dissolved Solids (Washtenaw)
- Flow: Discharge
- Water Level

2019 PROGRAM OVERVIEW

102
VOLUNTEERS

30
SITES

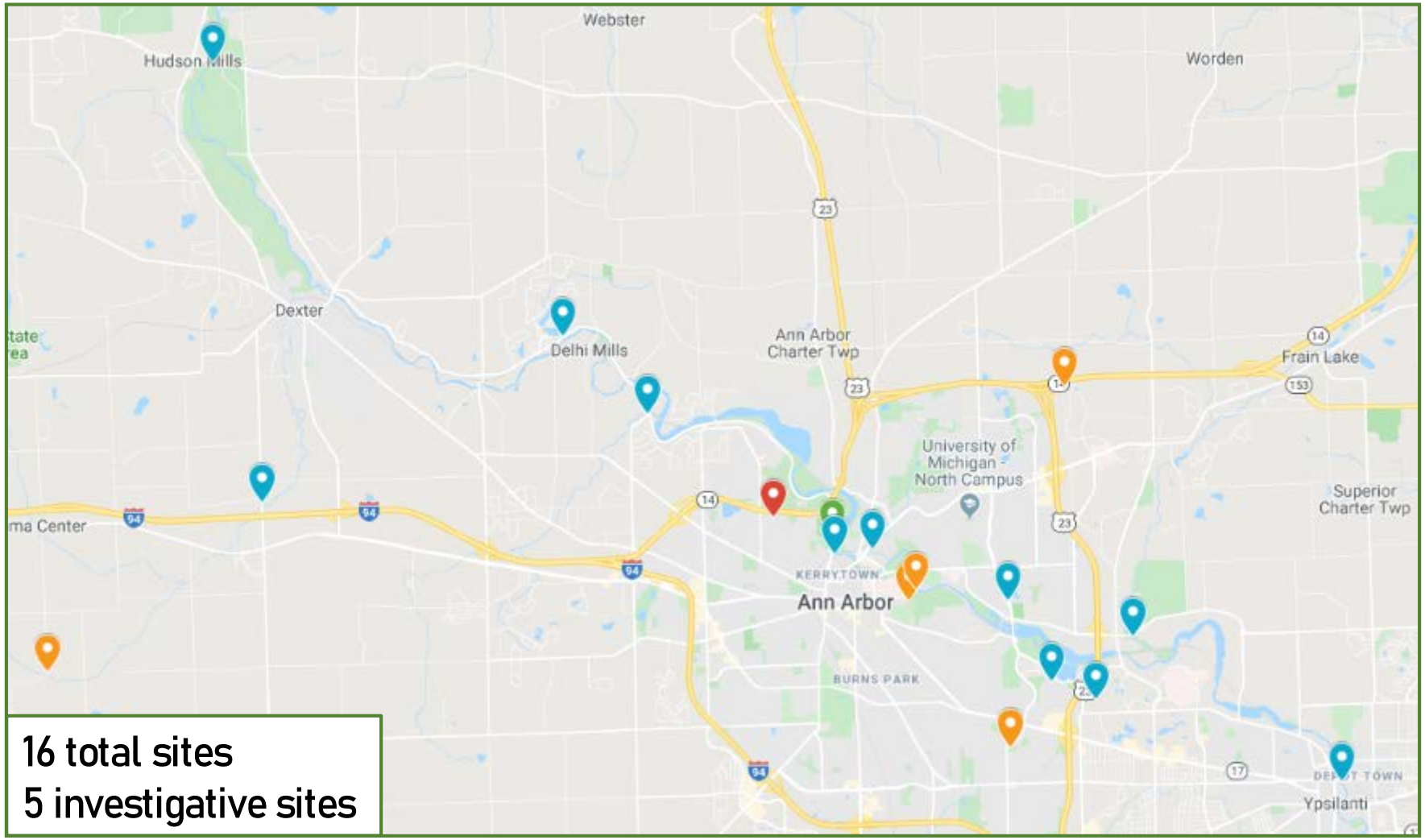
376
SAMPLES COLLECTED

3101
DATA RECORDS

1060
VOLUNTEER HOURS

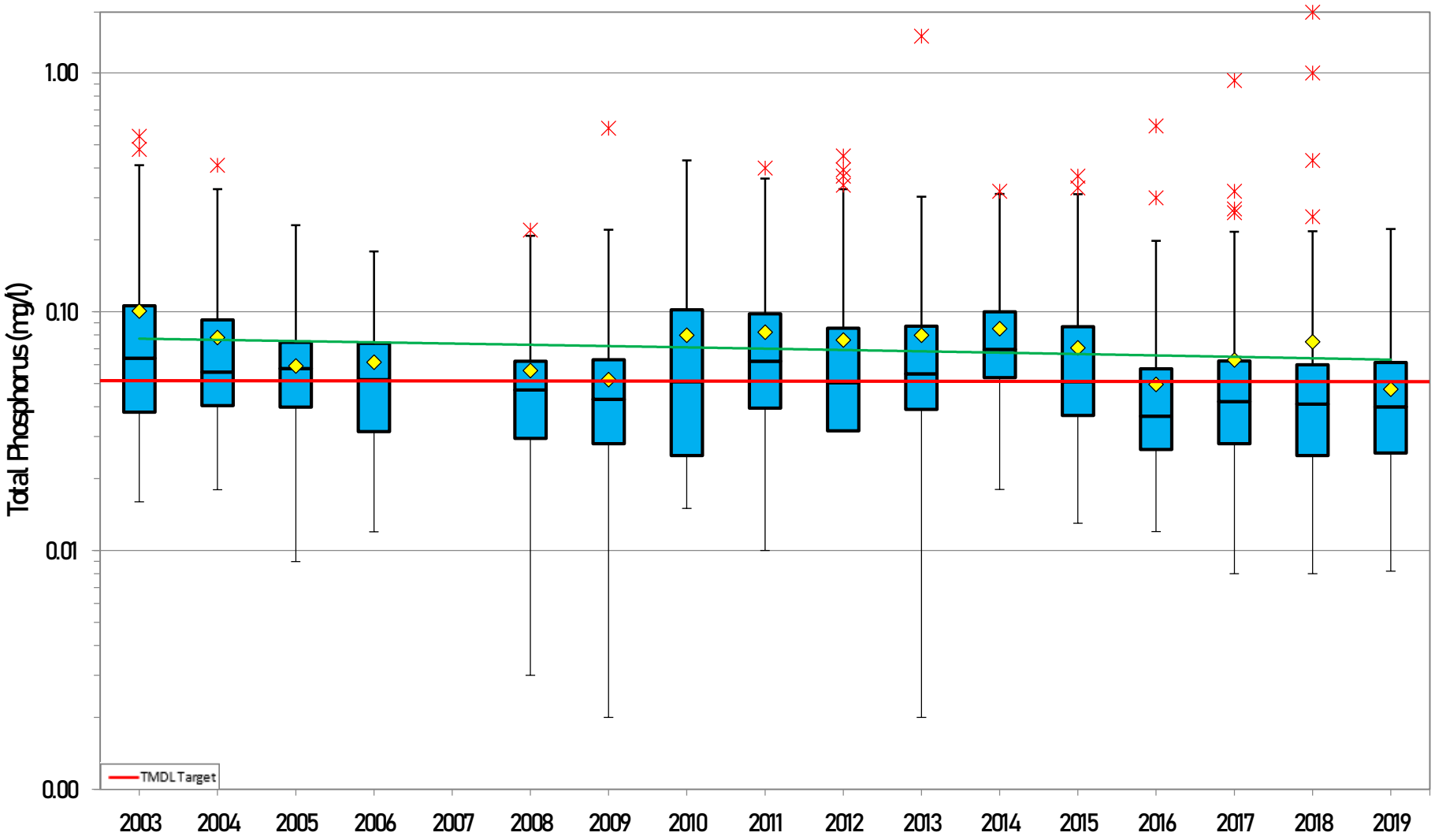
72
FLOW MEASUREMENTS

2019 WASHTENAW CO. MONITORING SITES

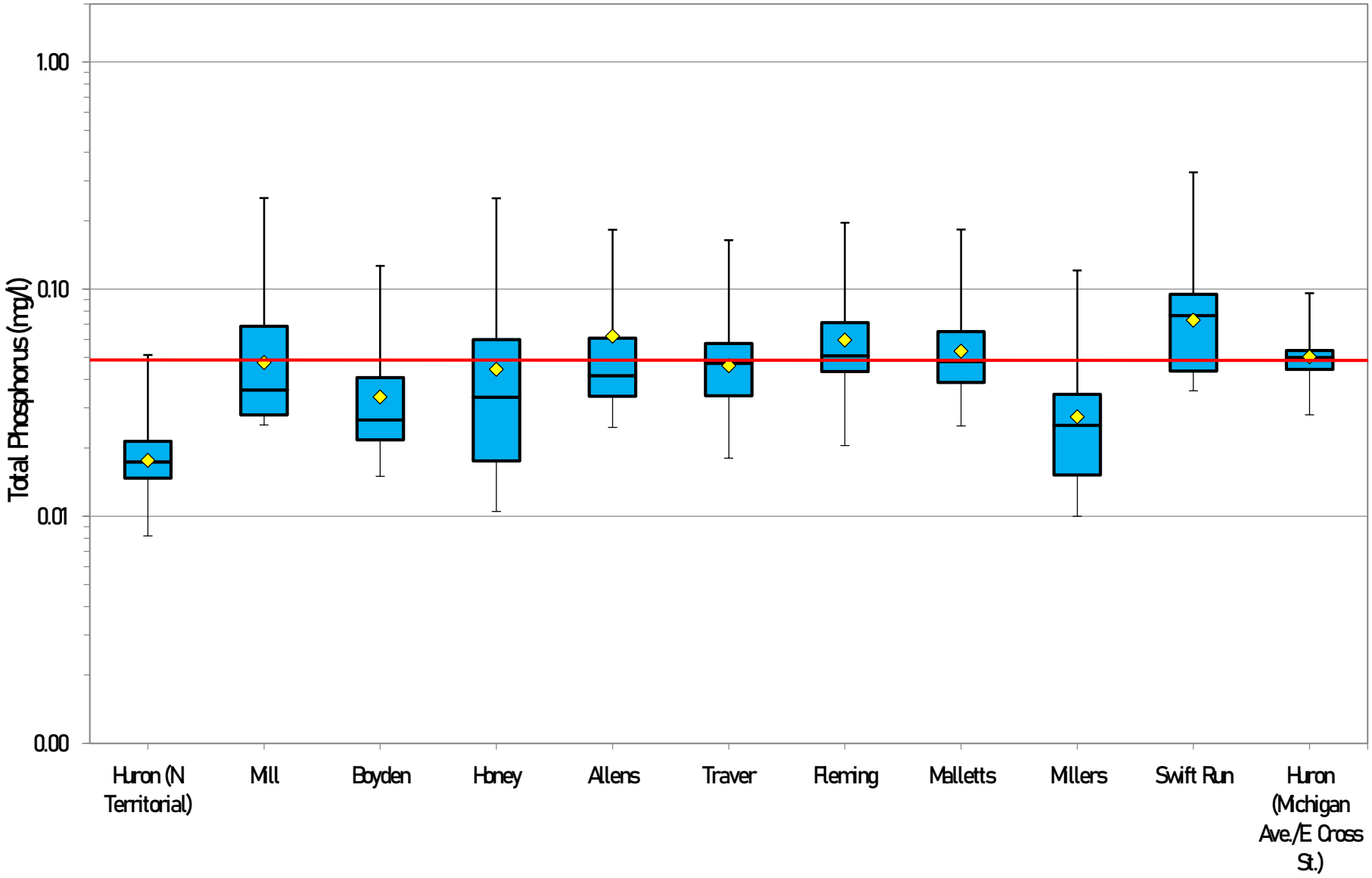


16 total sites
5 investigative sites

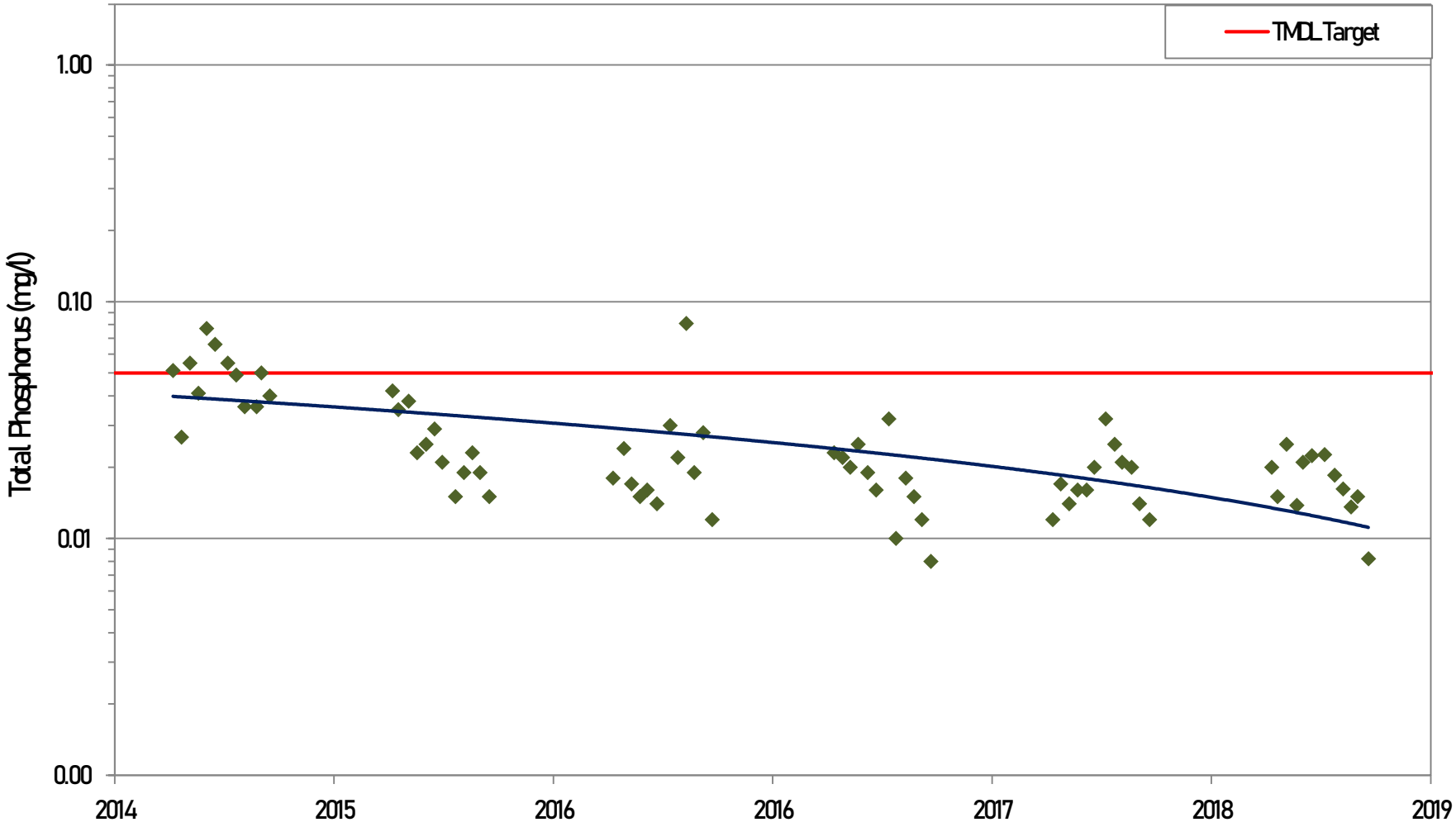
PHOSPHORUS IN THE MIDDLE HURON OVER TIME



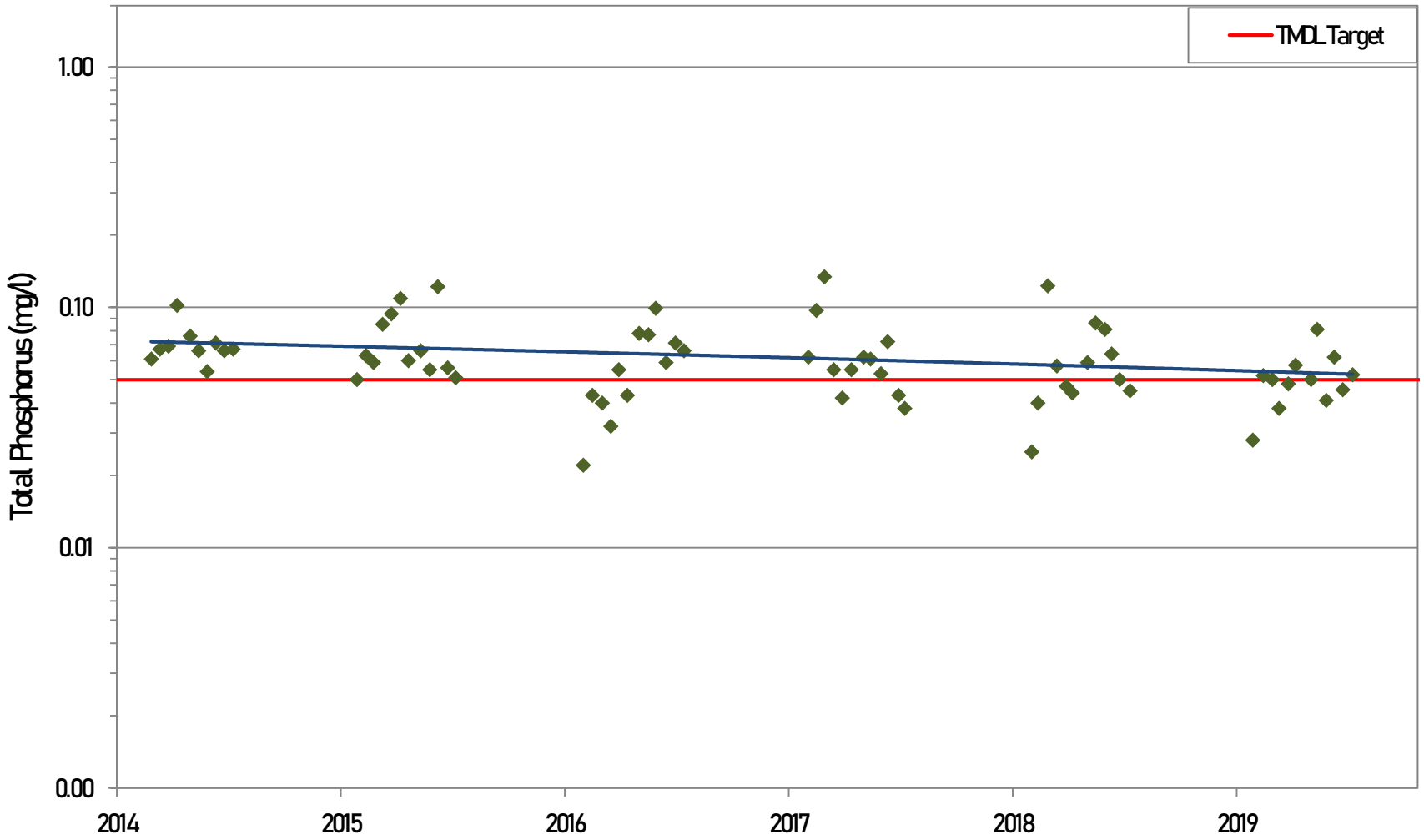
PHOSPHORUS IN MIDDLE HURON BY SITE (2019)



PHOSPHORUS AT HUDSON MILLS NEAR DEXTER



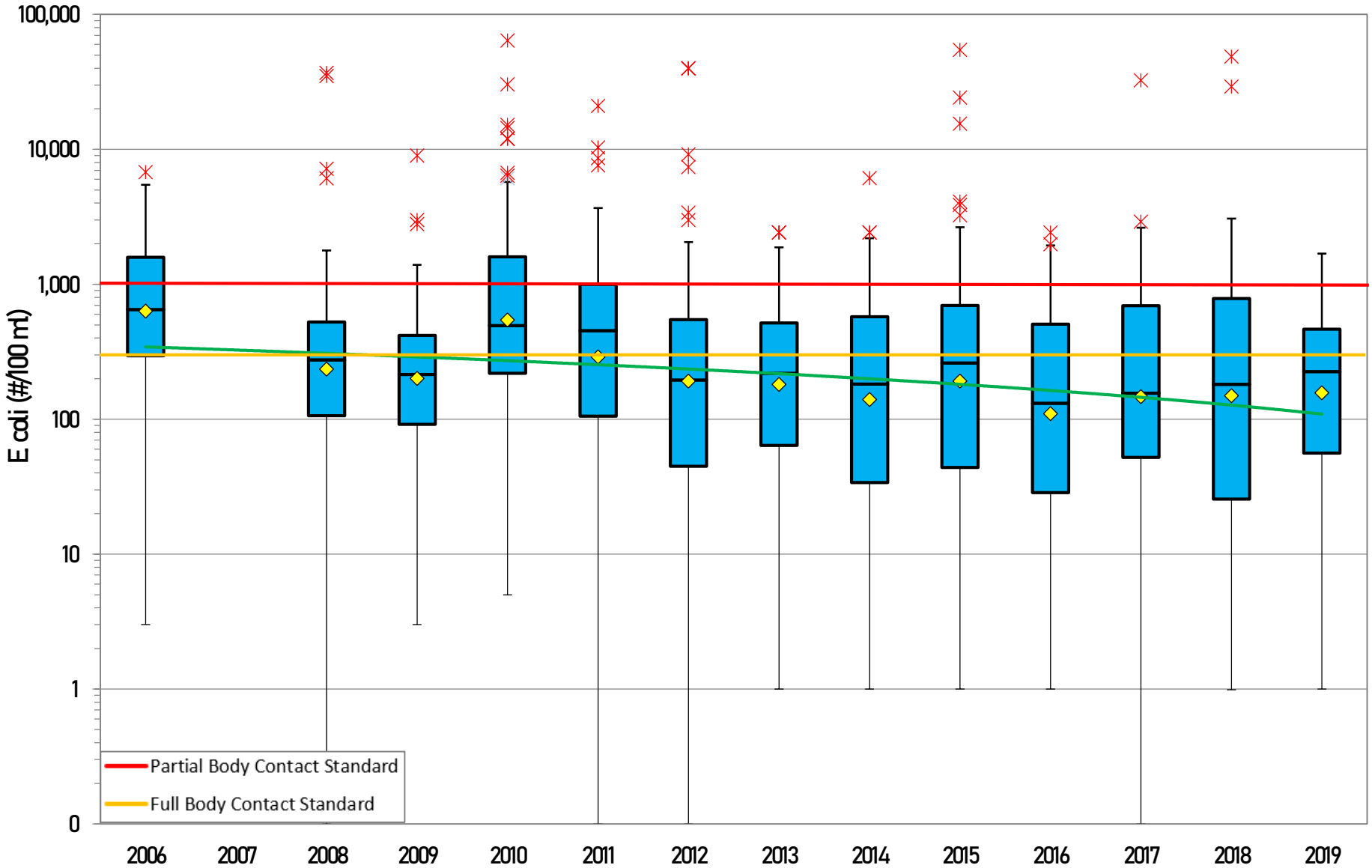
PHOSPHORUS AT RIVERSIDE PARK IN YPSILANTI



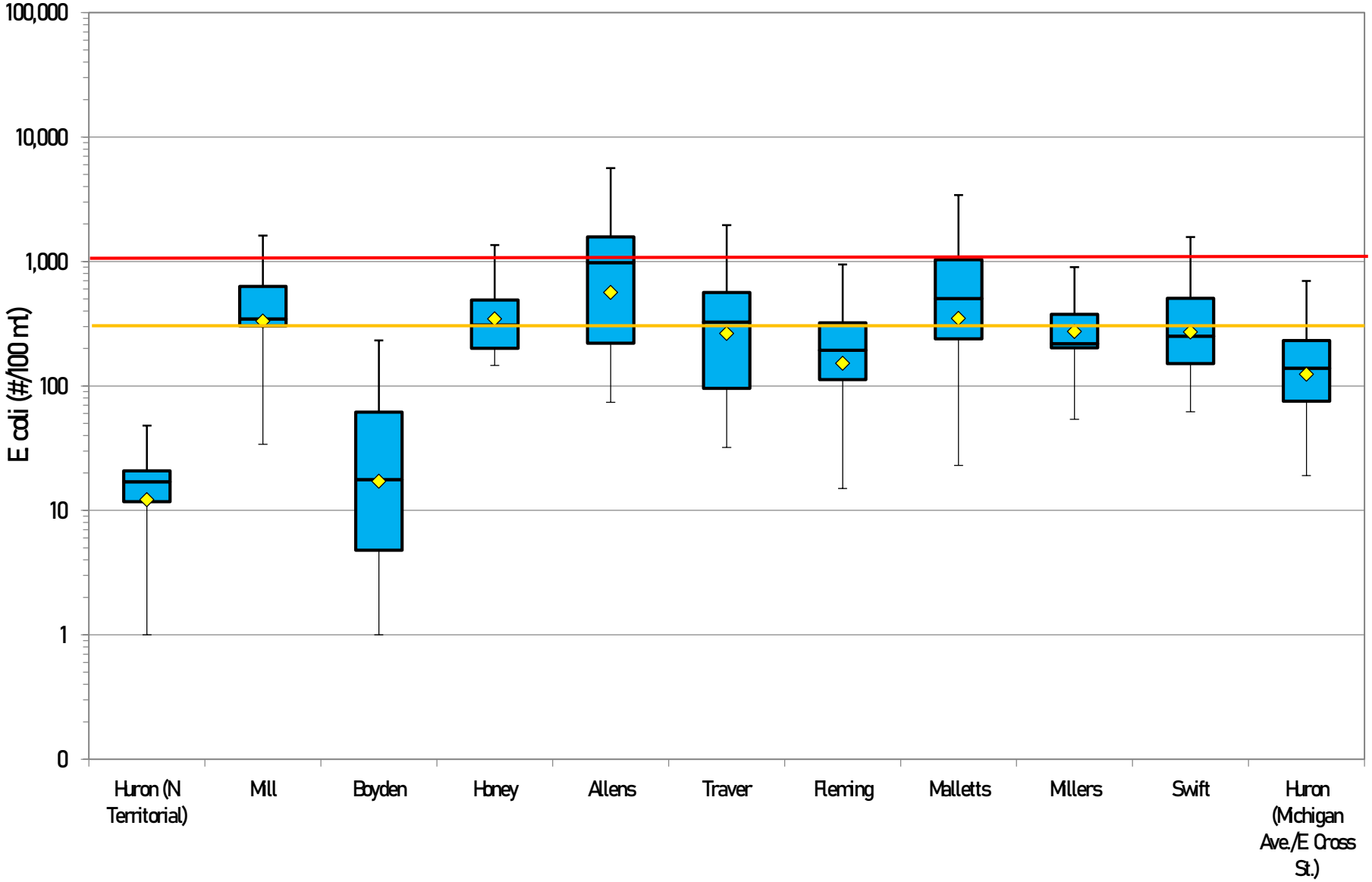
PHOSPHORUS TRENDS AT HURON RIVER TRIBUTARIES

- Statistically significant declines in TP at Mill Creek, Honey Creek, Allens Creek, Traver Creek, and Boyden Creek.
- No trends at Fleming Creek, Malletts Creek, Millers Creek, and Swift Run.
- Storm spikes in urban tribs counteracting apparent decline in base flow concentrations

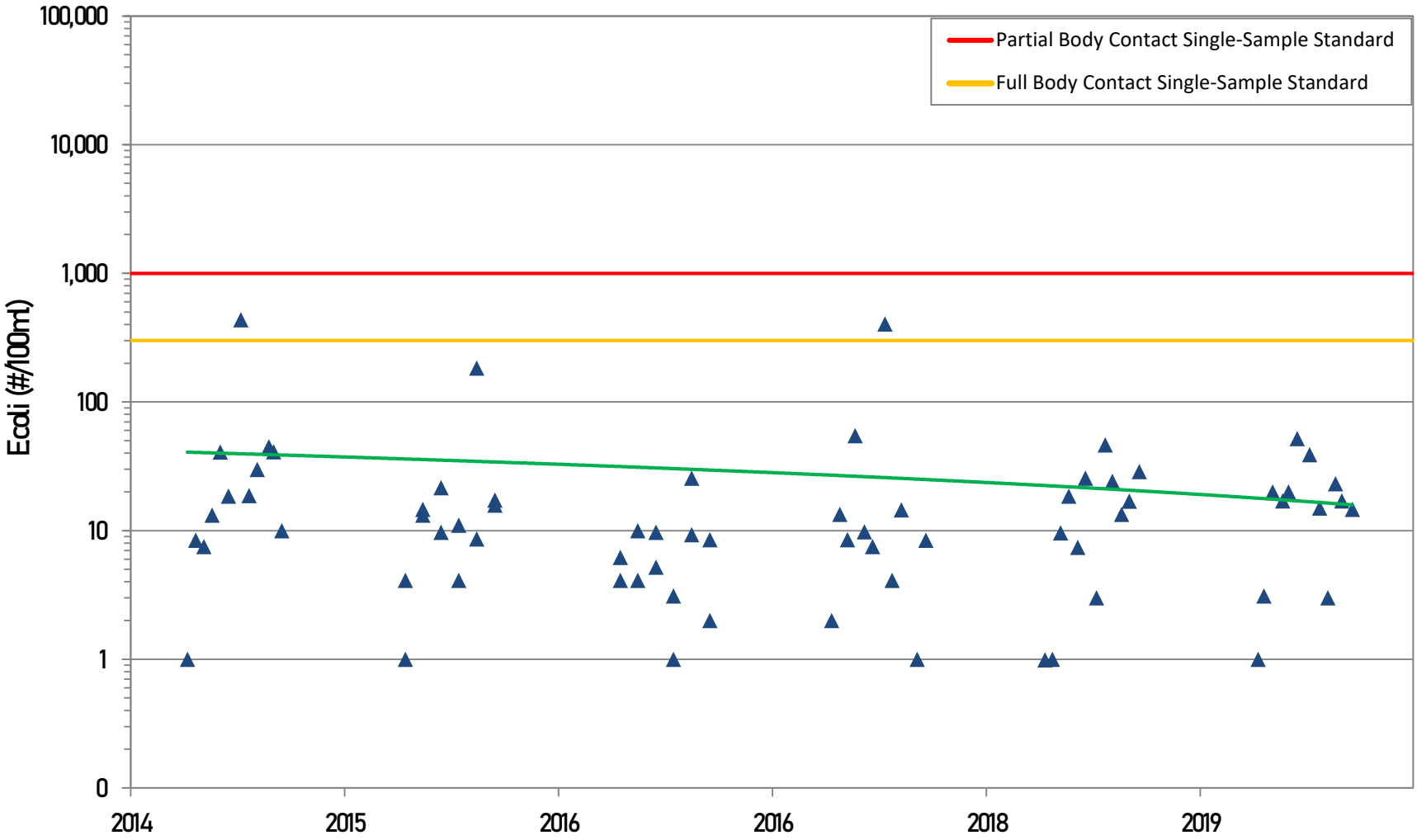
E. COLI IN MIDDLE HURON OVER TIME



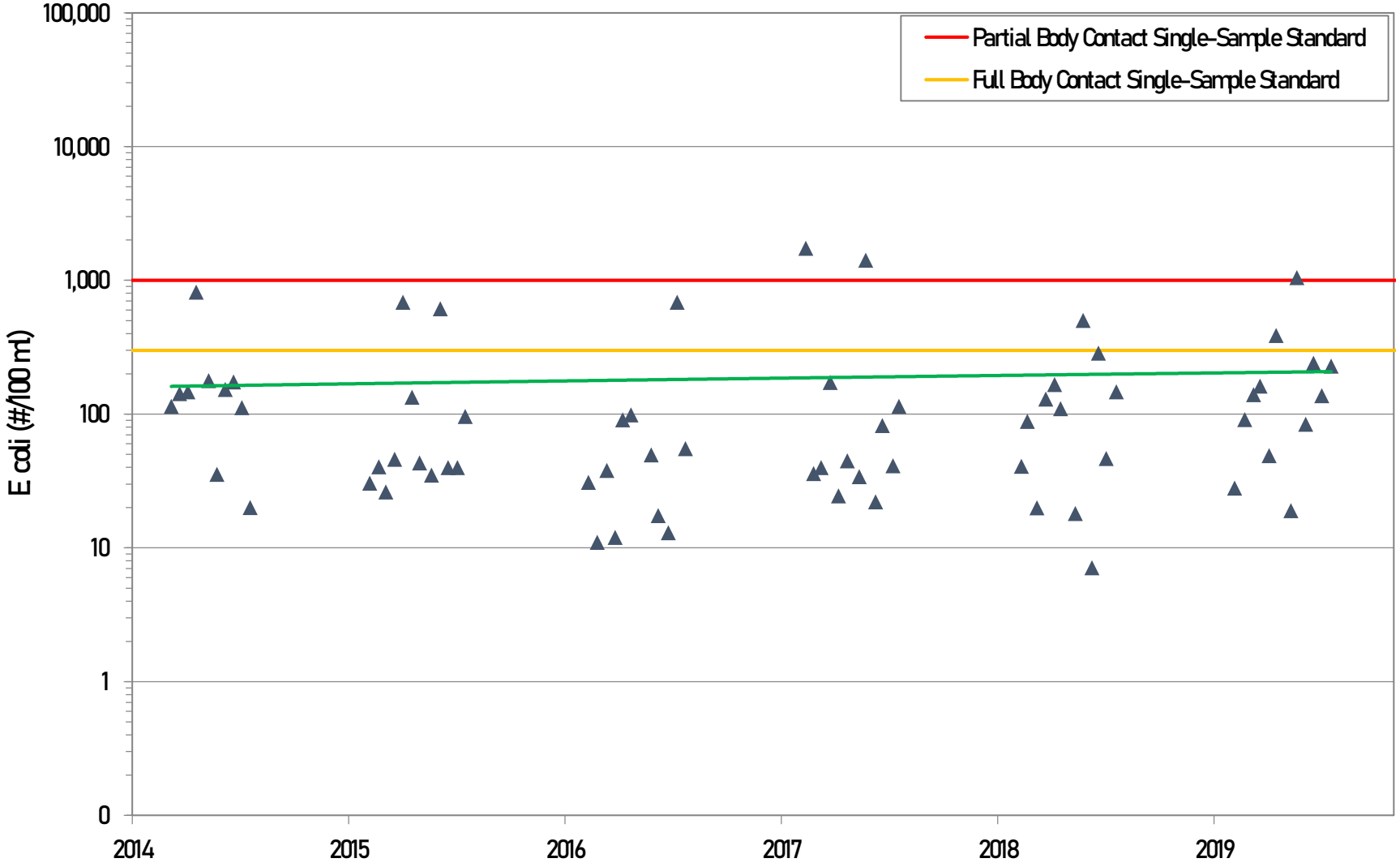
E. COLI IN MIDDLE HURON BY SITE (2019)



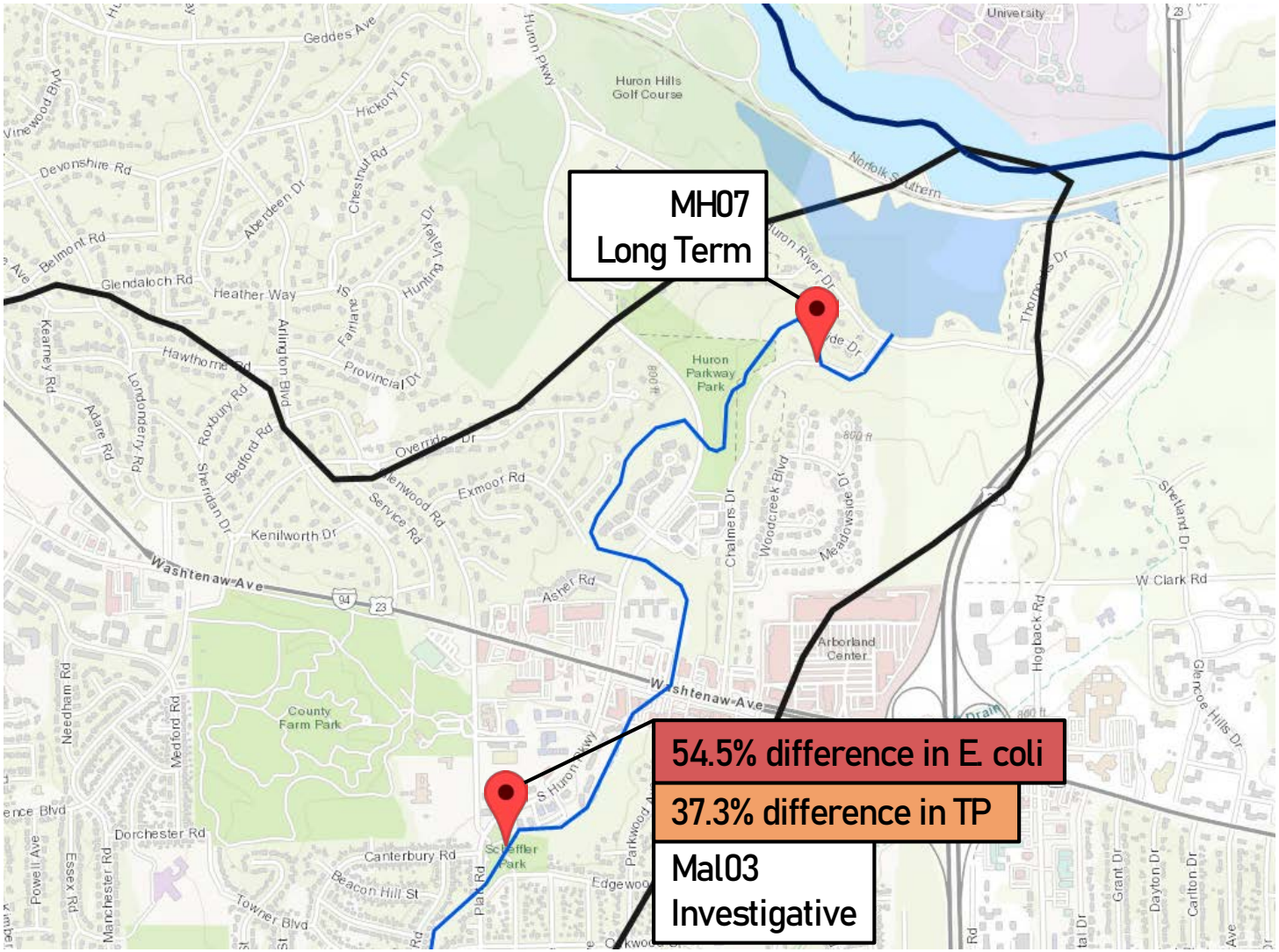
E. COLI AT HUDSON MILLS NEAR DEXTER



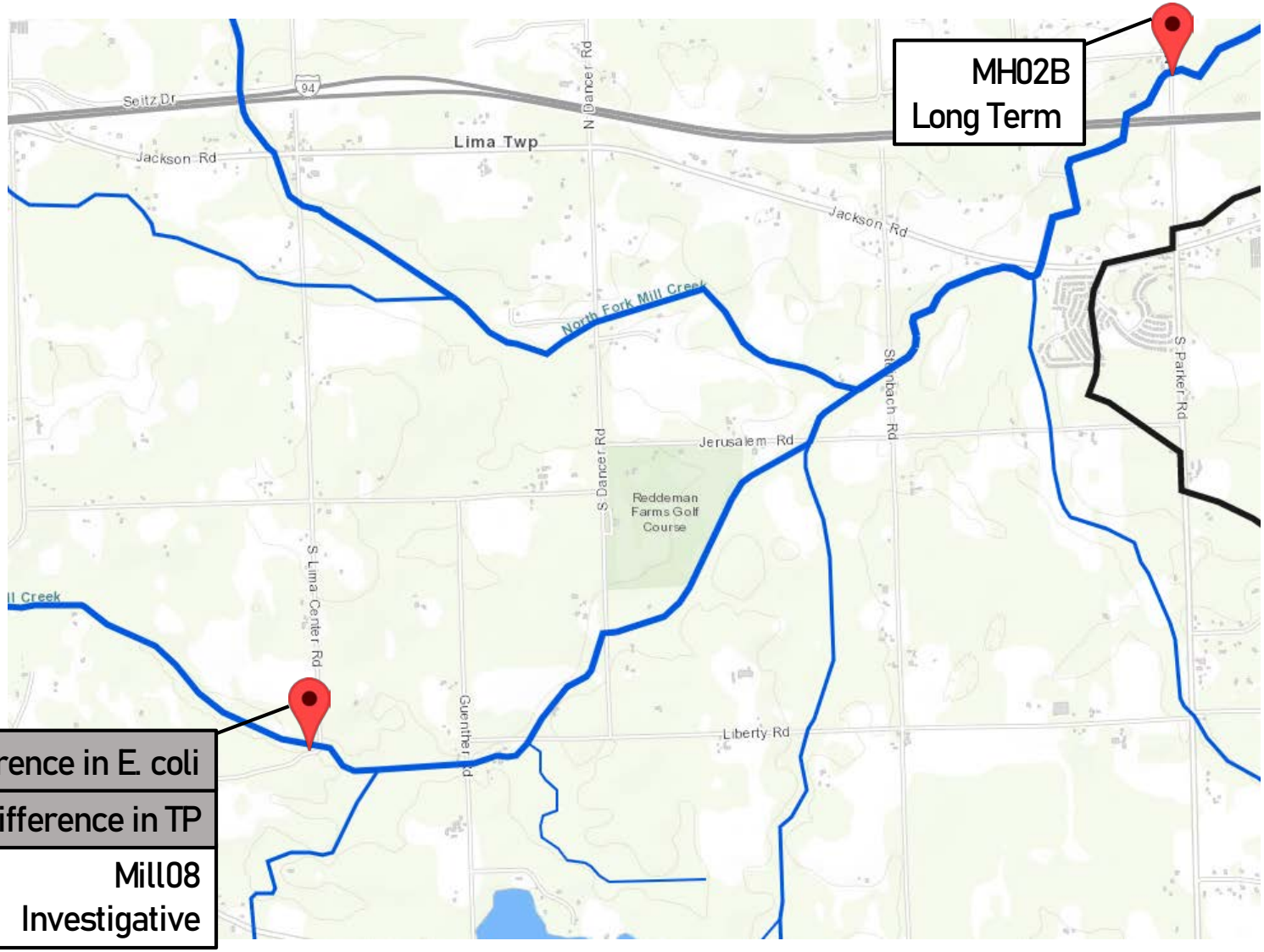
E. COLI AT RIVERSIDE PARK IN YPSILANTI



INVESTIGATIVE DIFFERENCES AT MALLETS CREEK



INVESTIGATIVE DIFFERENCES AT MILL CREEK

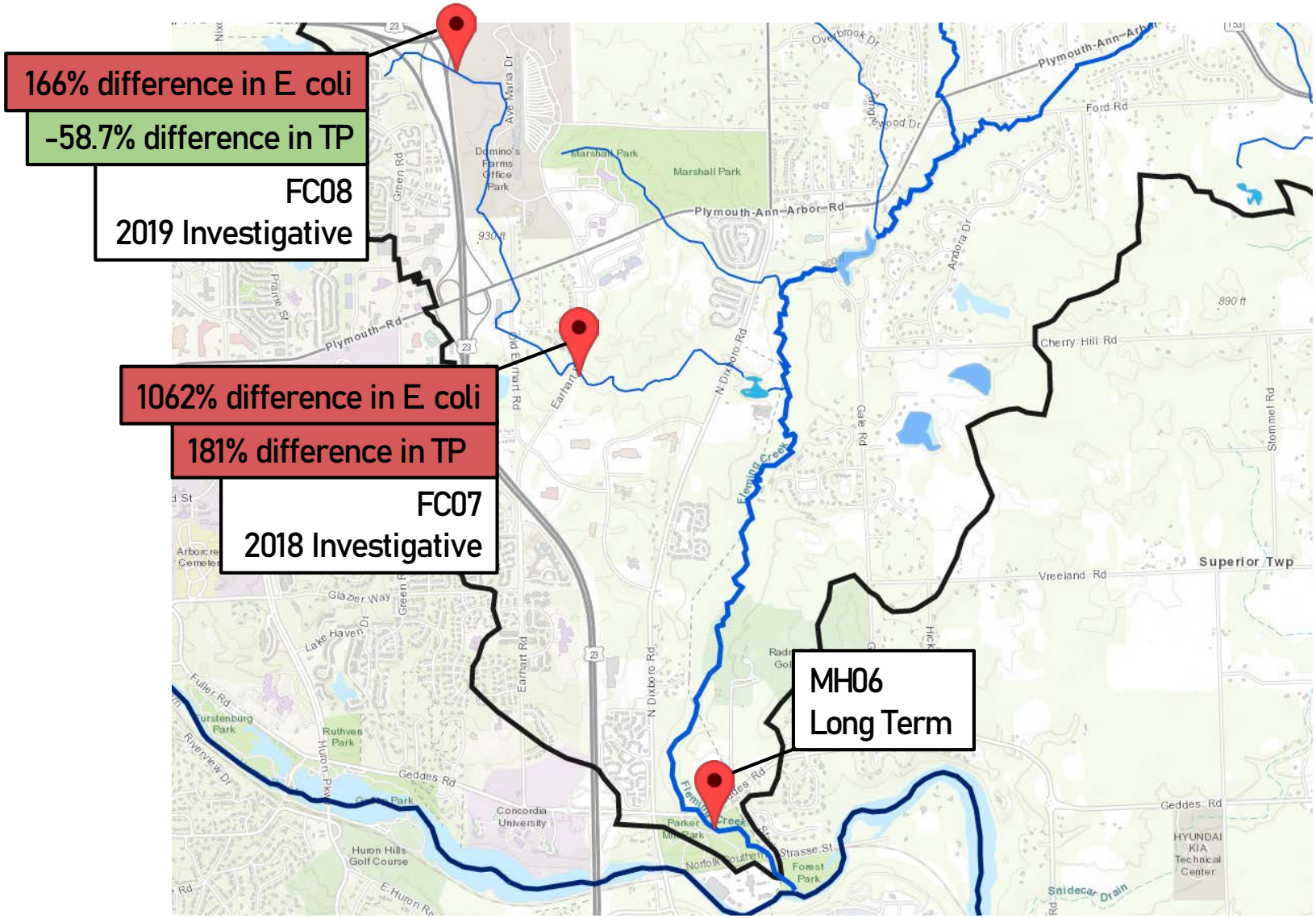


4% difference in E. coli

-6.5% difference in TP

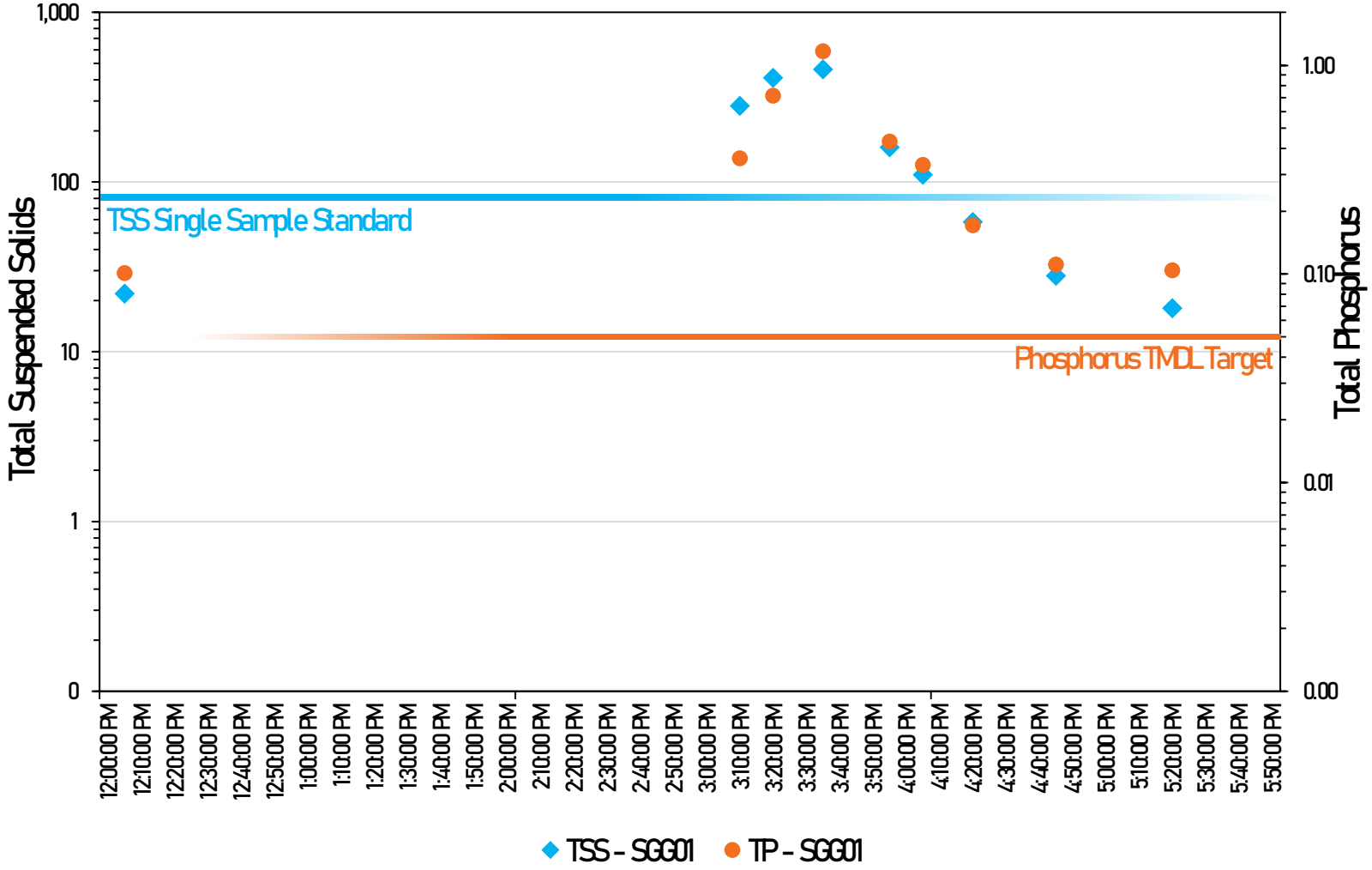
Mill08
Investigative

INVESTIGATIVE DIFFERENCES AT FLEMING CREEK



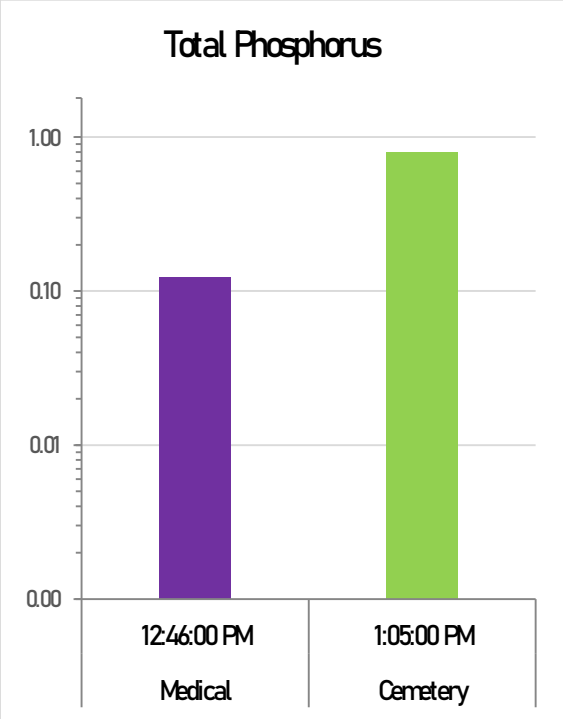
WATER QUALITY AT SCHOOLS GIRLS GLEN

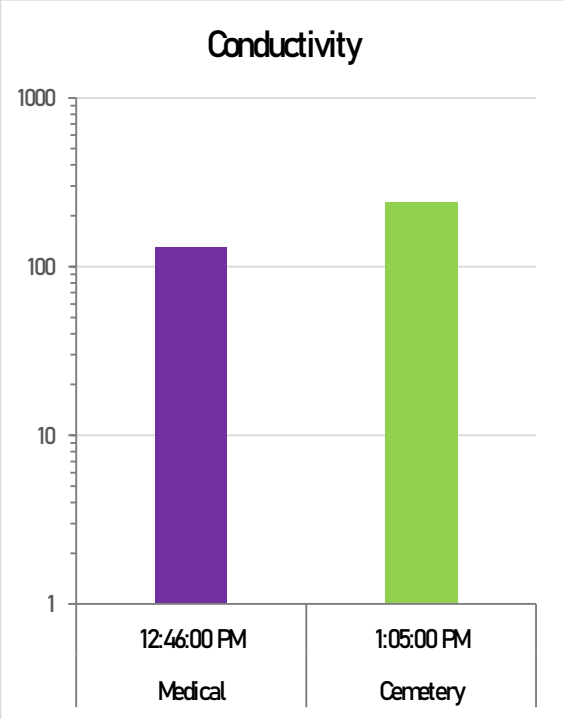
0.4 inch storm on September 13, 2019

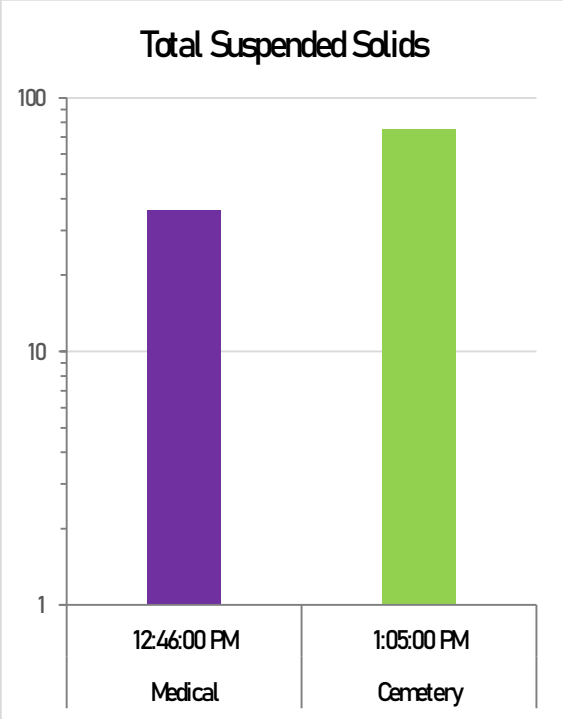


WATER QUALITY AT SCHOOLS GIRLS GLEN

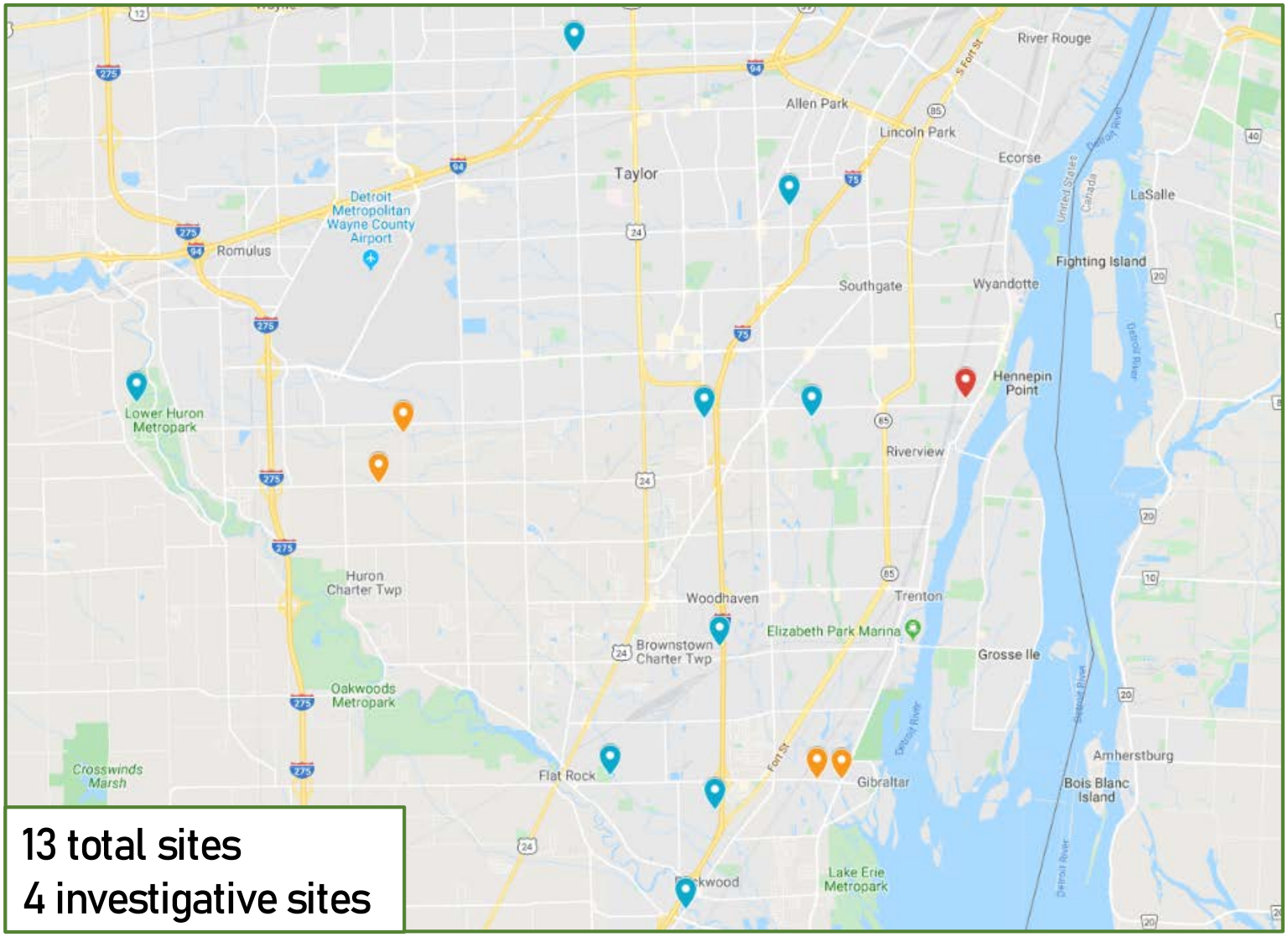
0.2 inch storm on October 11, 2019





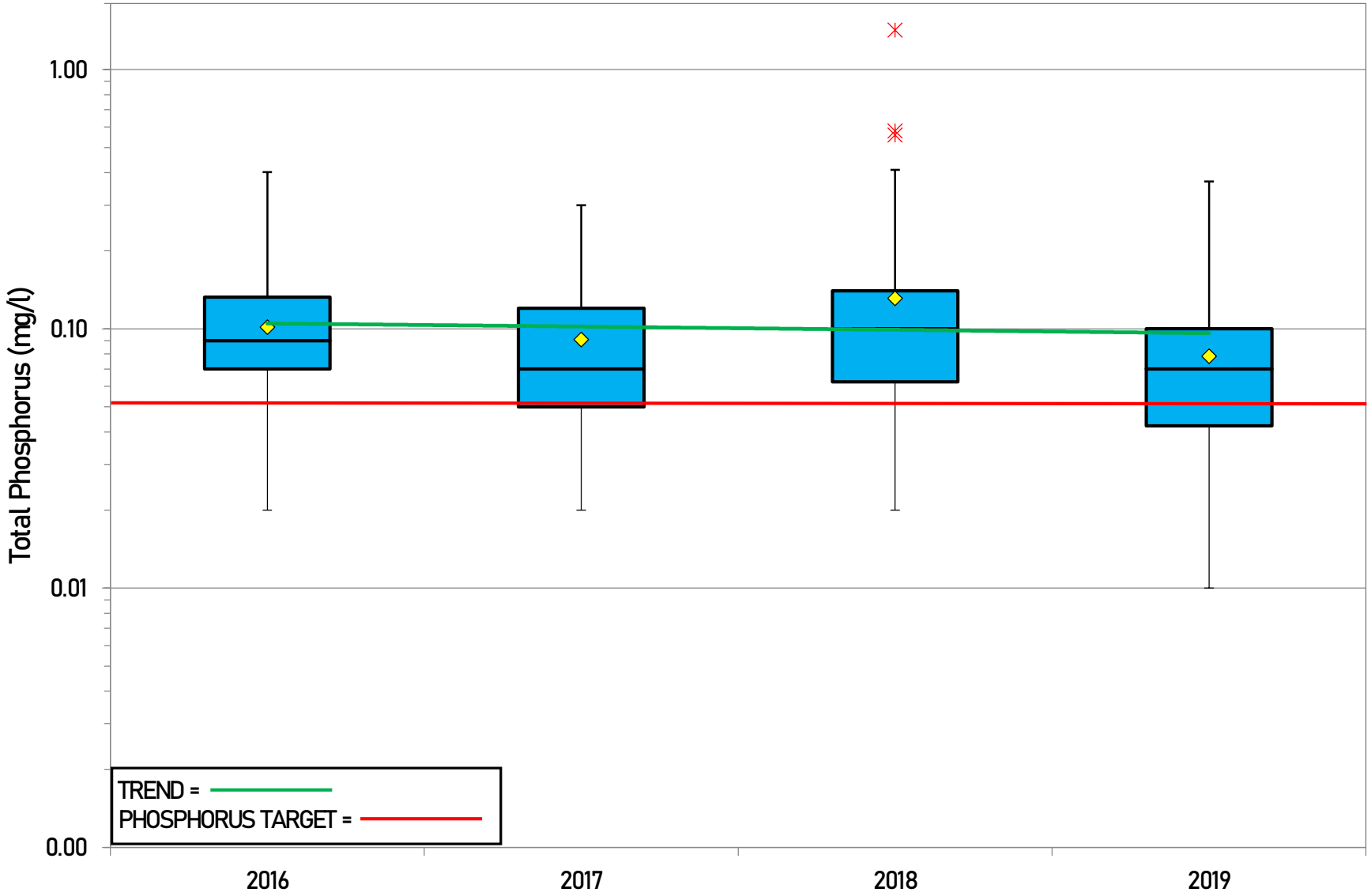


2019 WAYNE CO. MONITORING SITES

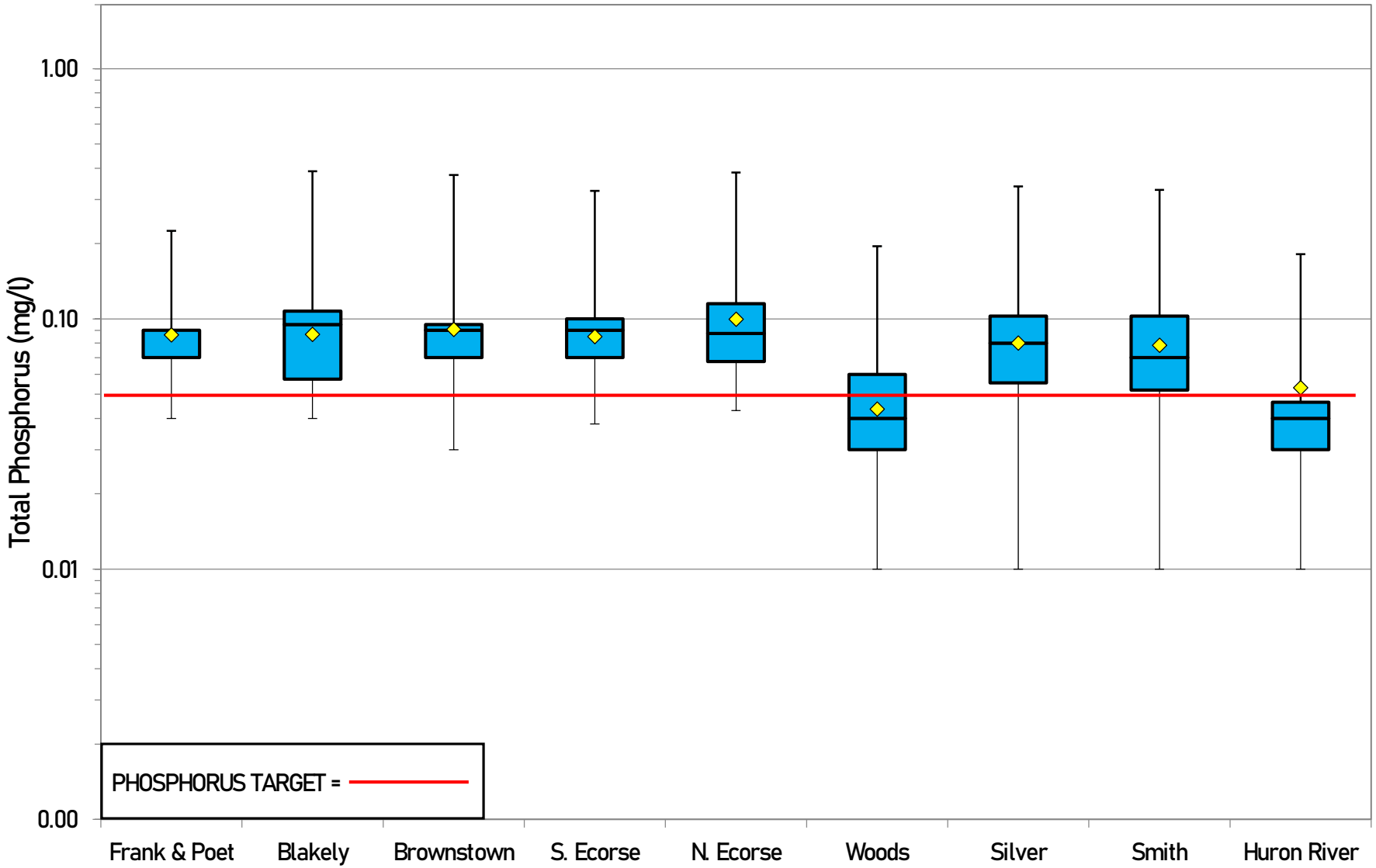


13 total sites
4 investigative sites

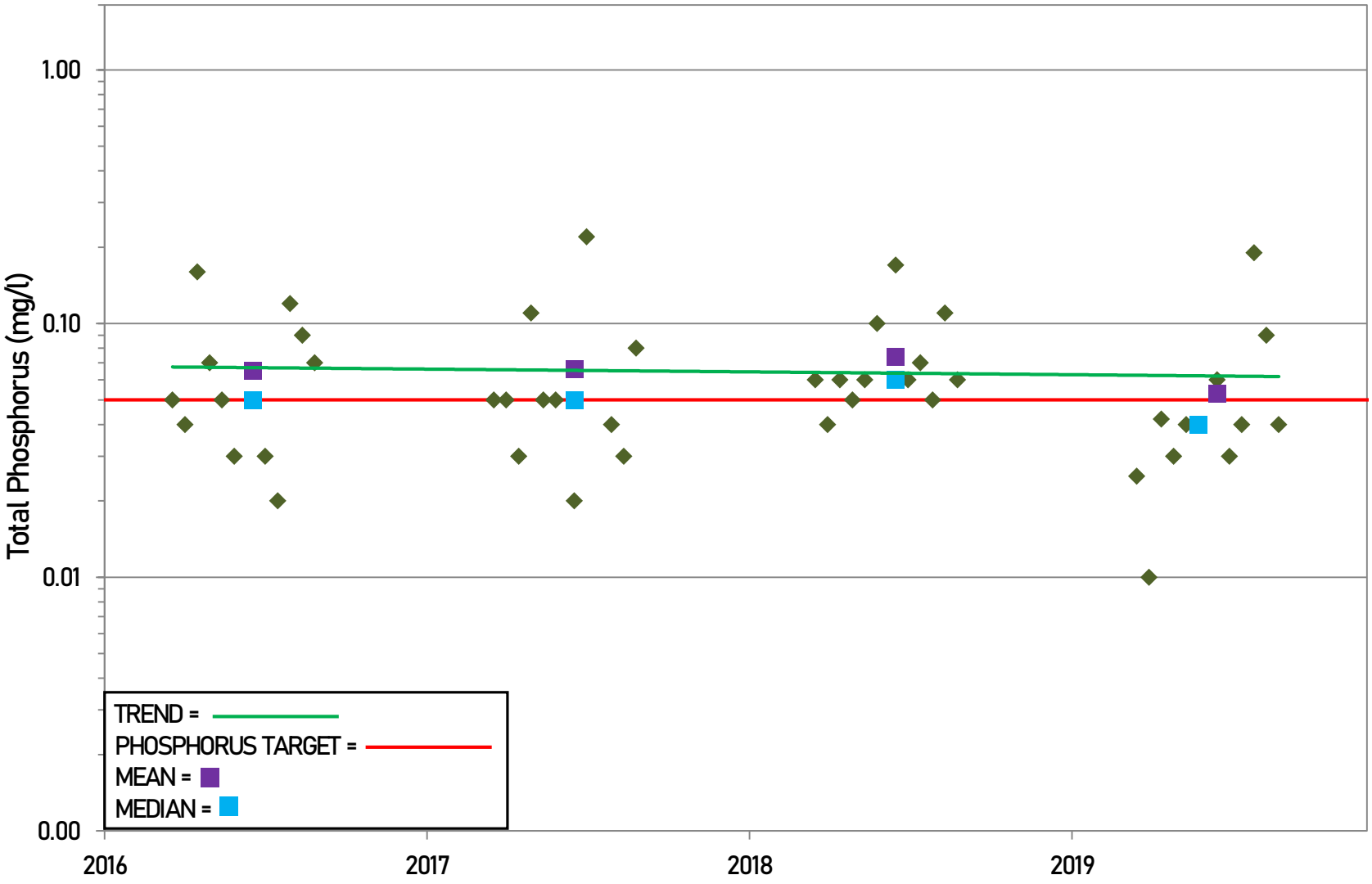
PHOSPHORUS IN THE ADW OVER TIME



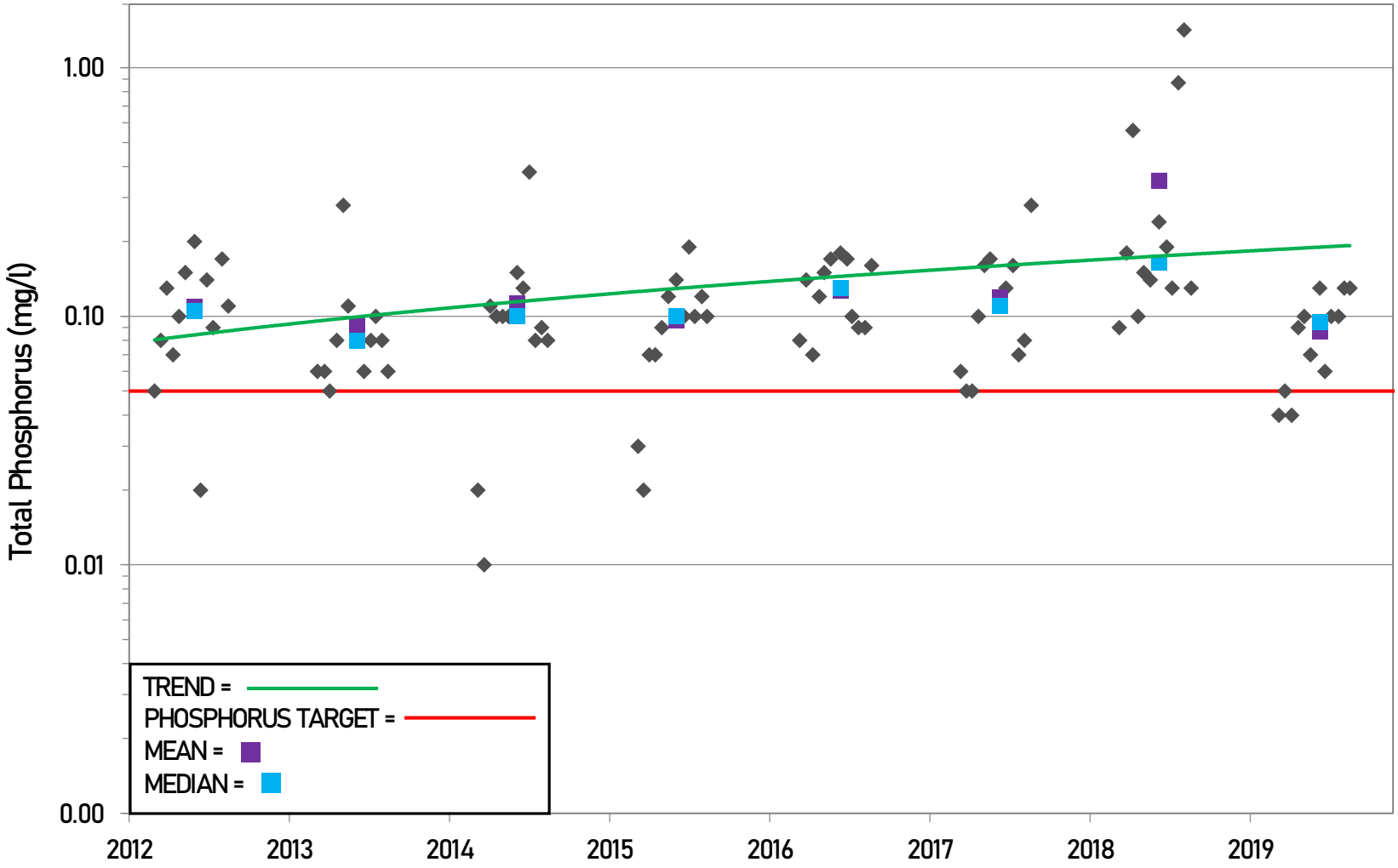
PHOSPHORUS IN THE ADW BY SITE (2019)



PHOSPHORUS AT THE HURON RIVER IN ROCKWOOD



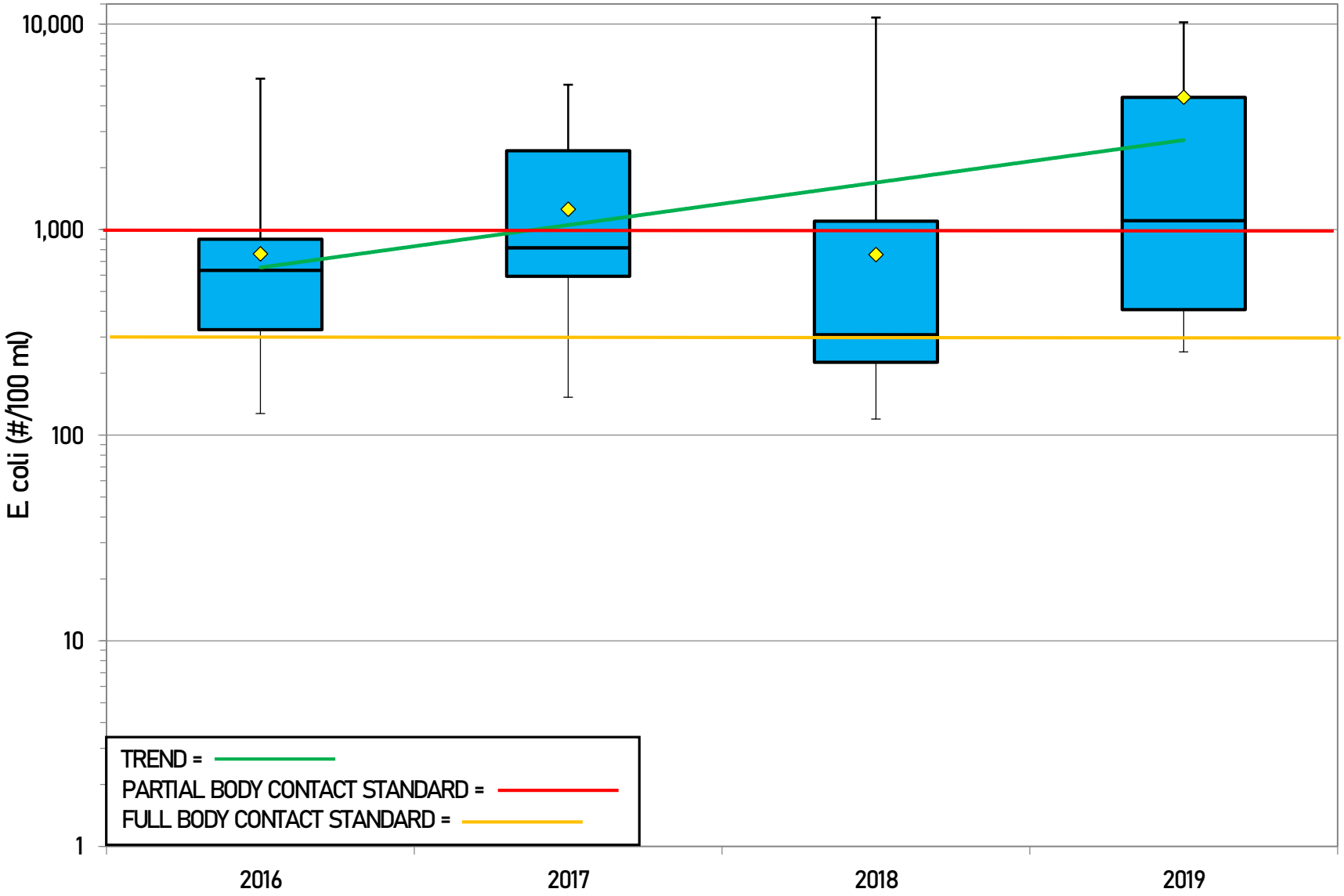
PHOSPHORUS AT BLAKELY CREEK



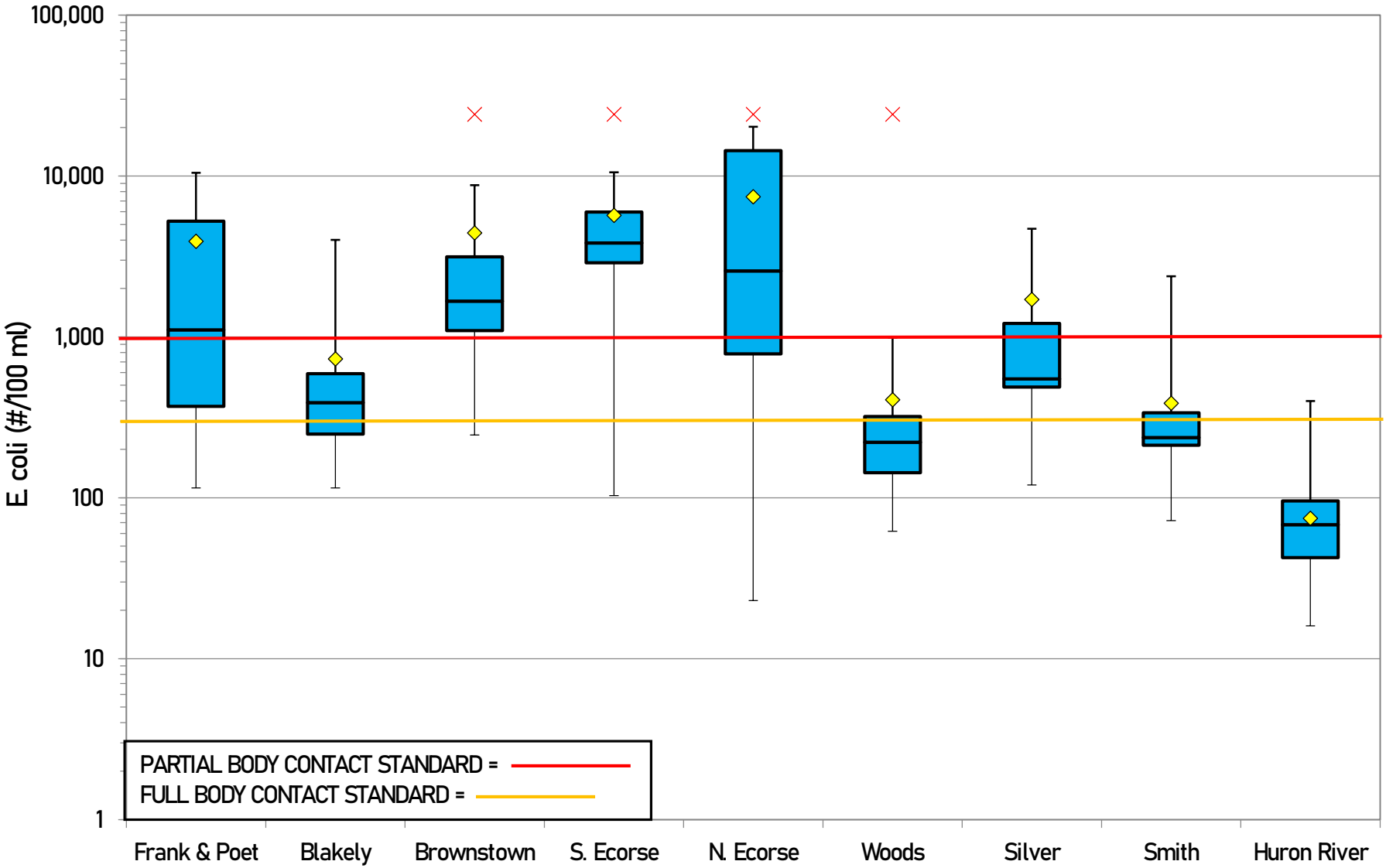
PHOSPHORUS TRENDS IN THE ADW

- Statistically significant increase at Blakely Creek.
- No statistically significant change in concentrations at Frank & Poet, Brownstown, S. Ecorse, N. Ecorse, Woods, Silver, and Smith Creeks, nor at the Huron River site.
- Phosphorus high in base flow and storm flow

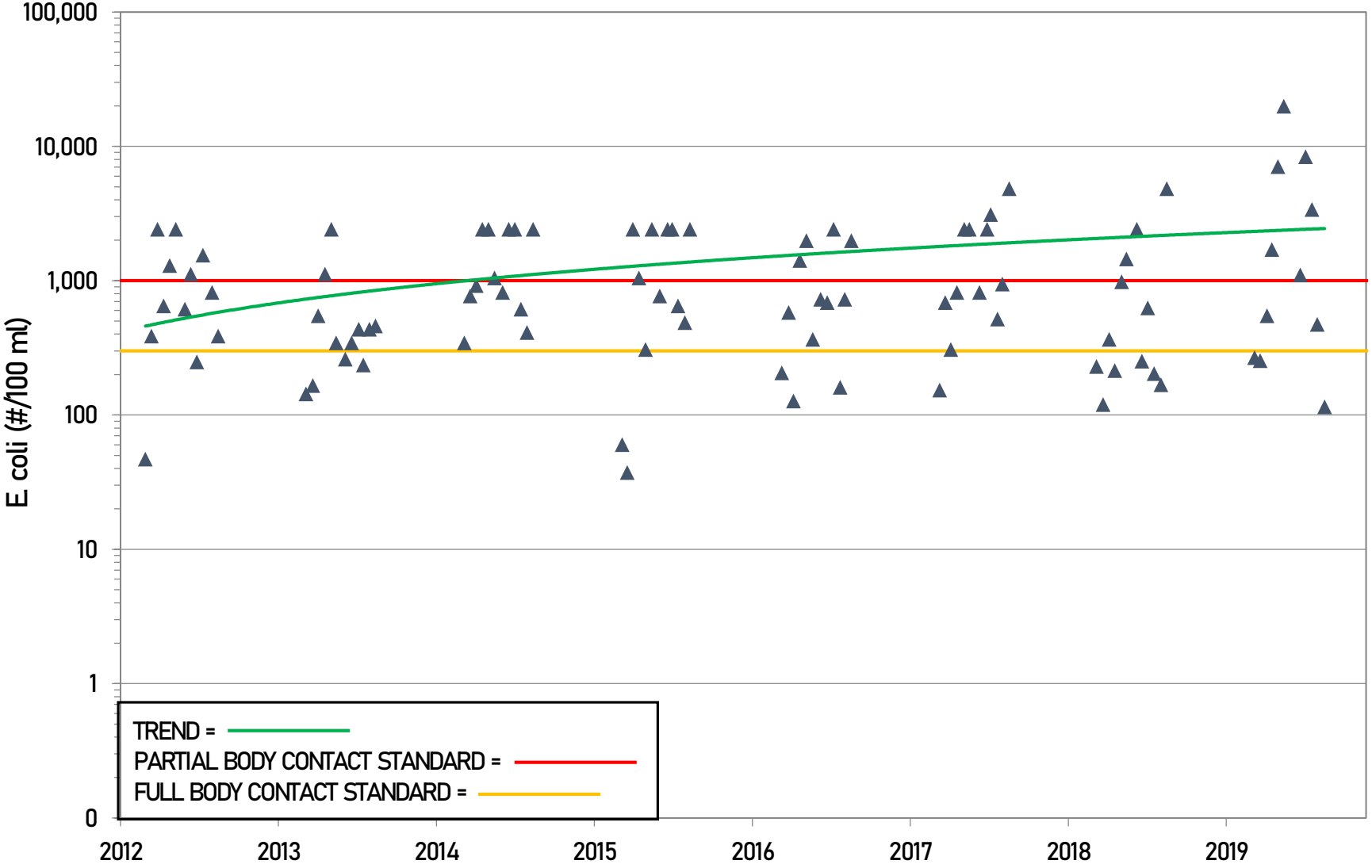
E. COLI IN THE ADW OVER TIME



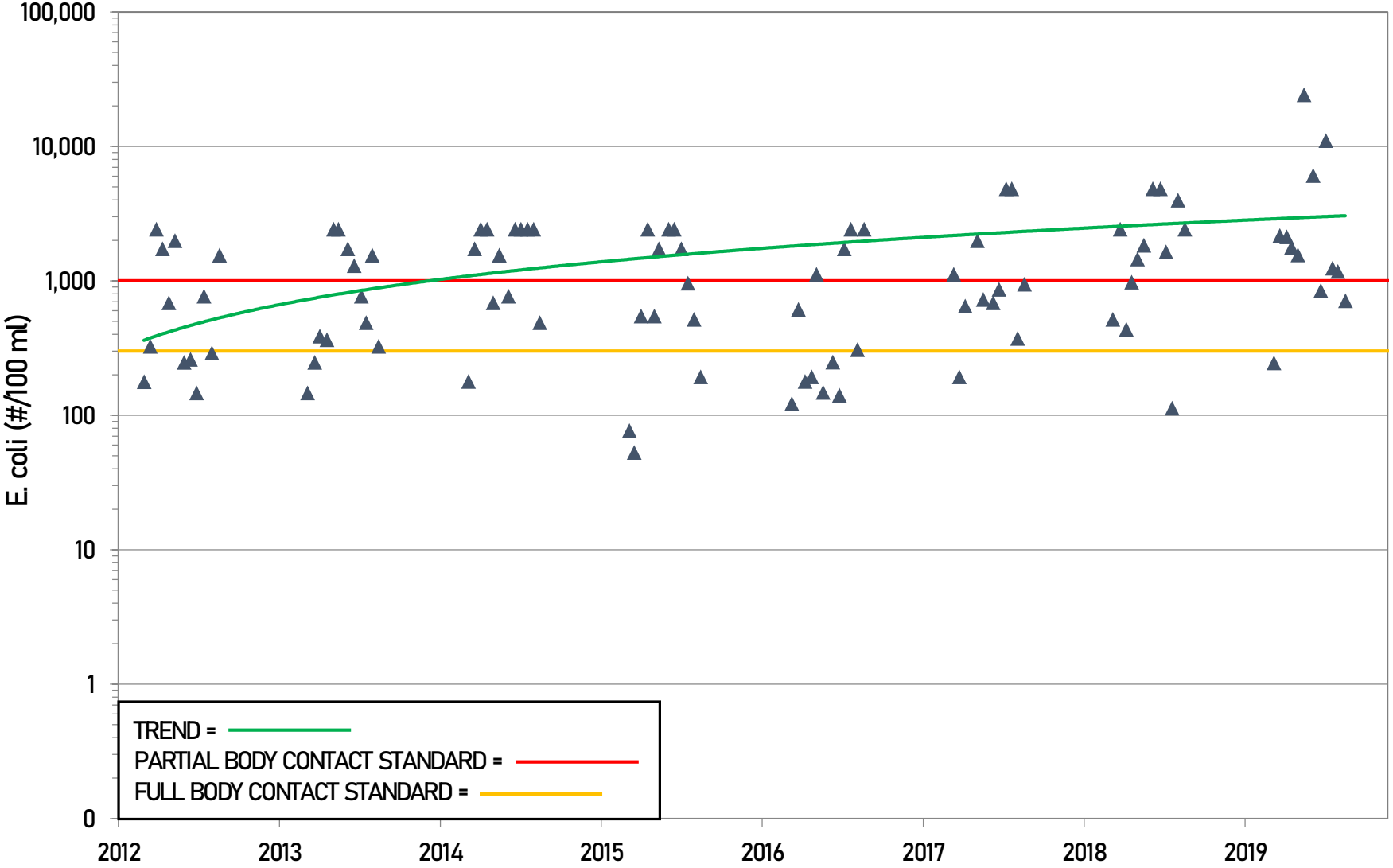
E. COLI IN MIDDLE HURON BY SITE (2019)



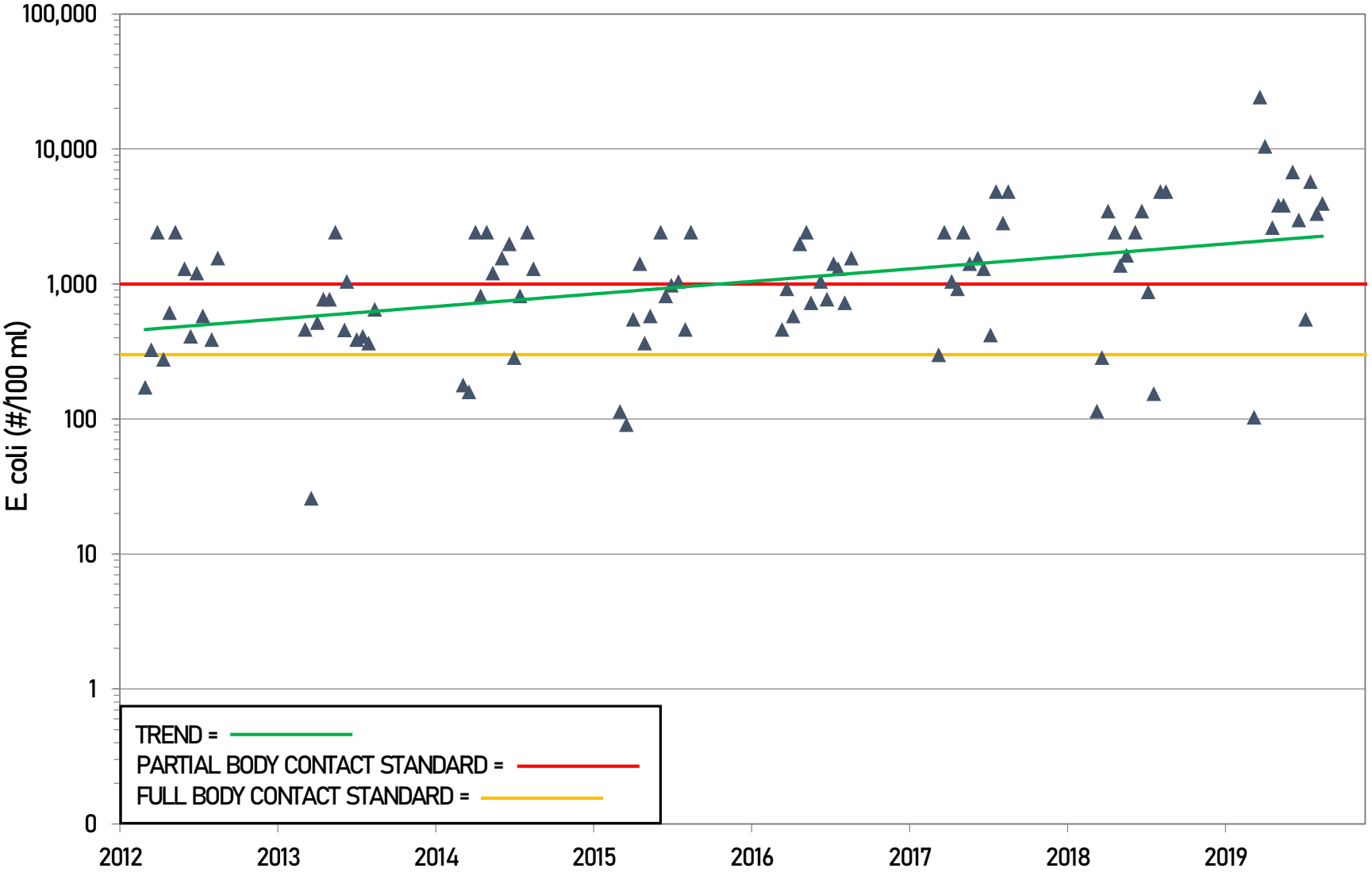
E. COLI AT FRANK & POET DRAIN



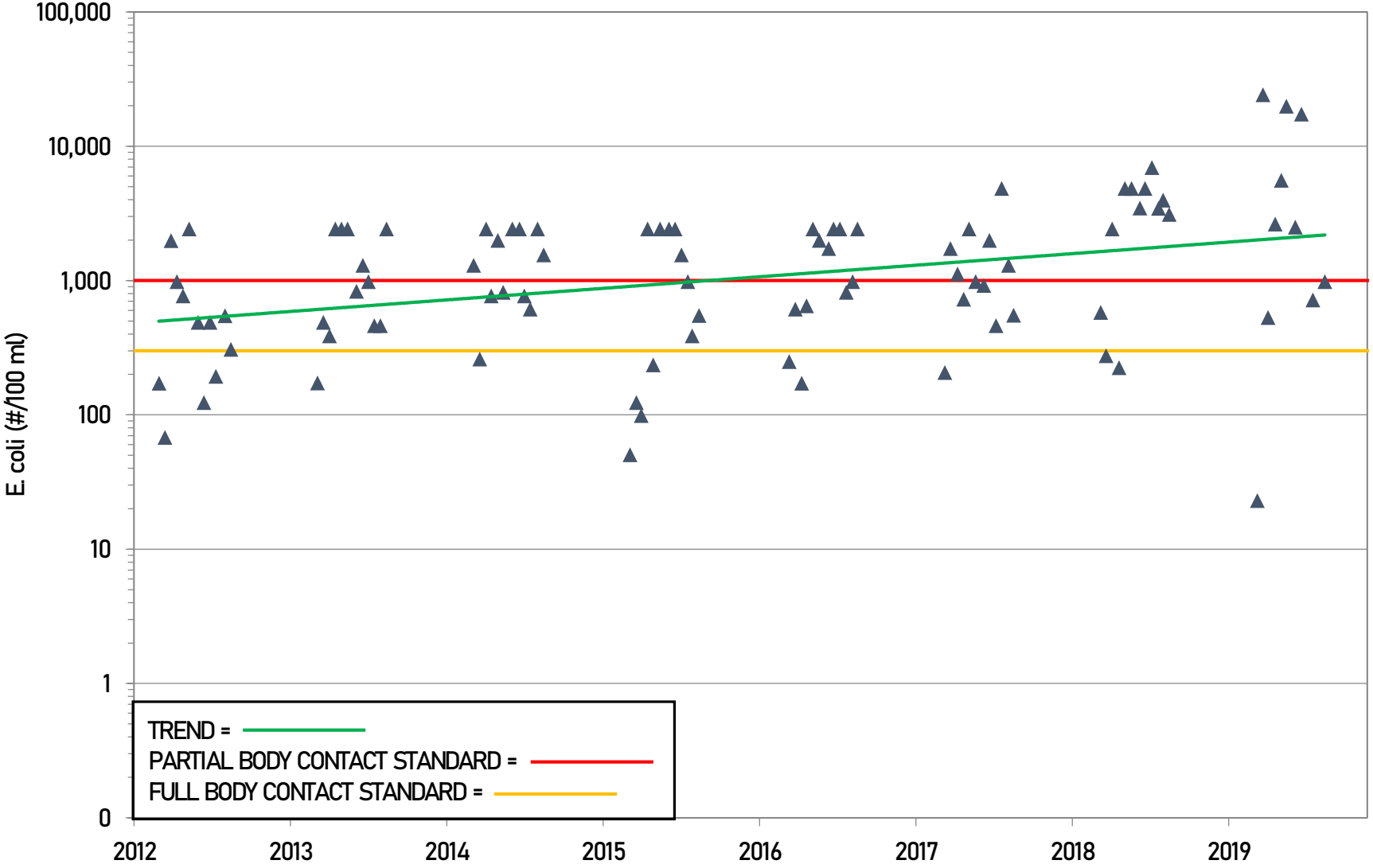
E. COLI AT BROWNSTOWN CREEK



E. COLI AT S. ECORSE CREEK



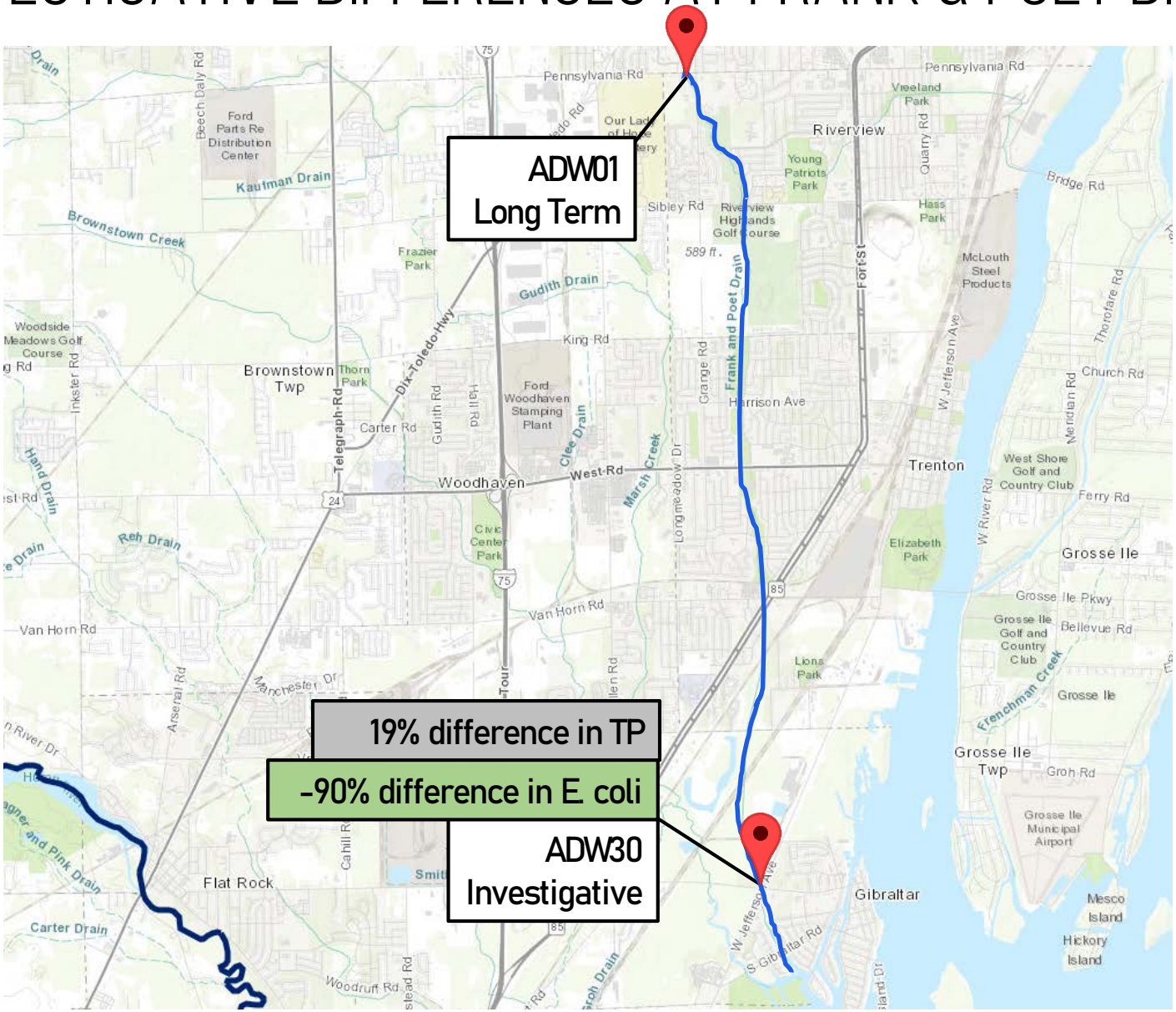
E. COLI AT N. ECORSE CREEK



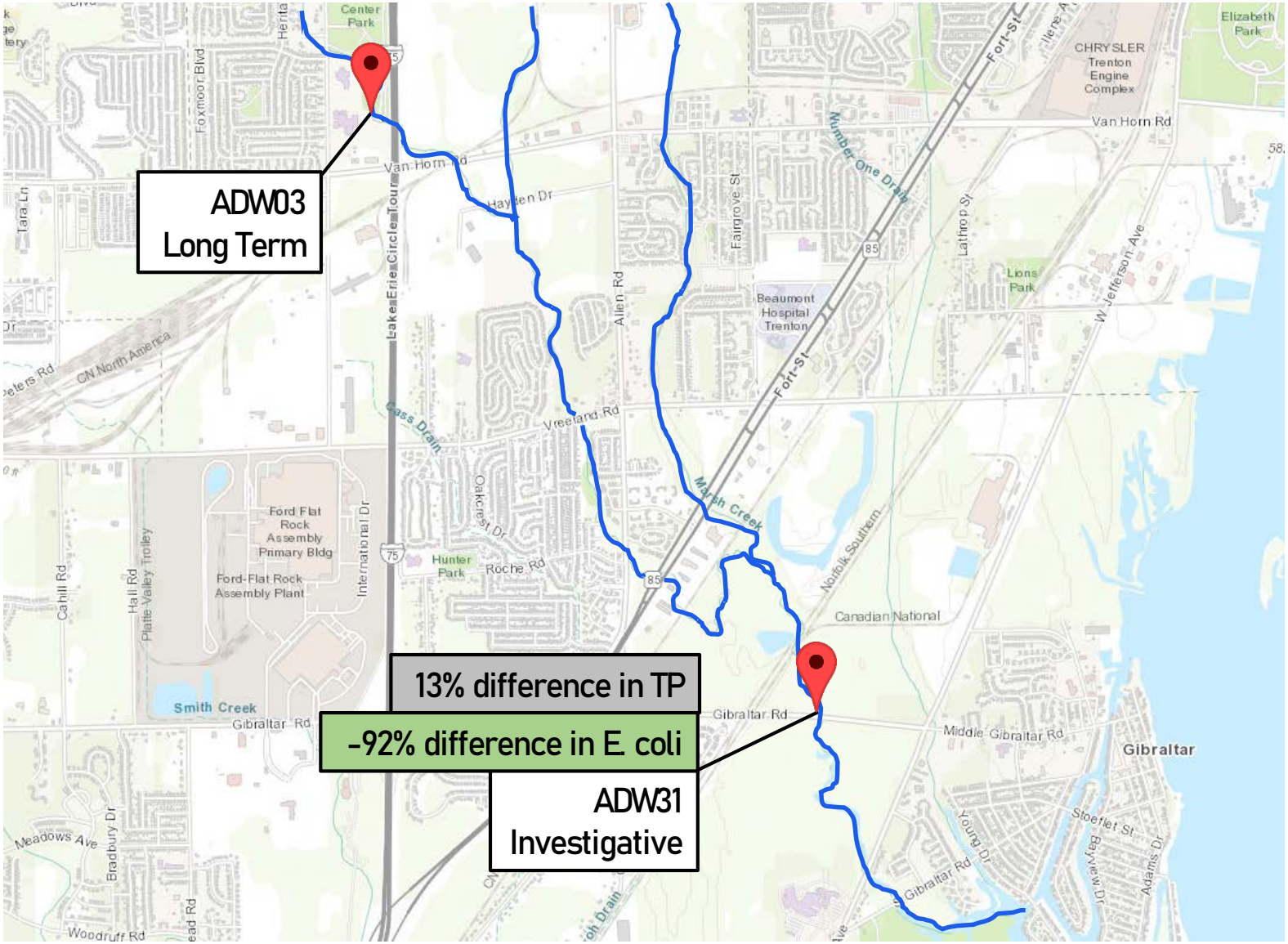
E. COLI TRENDS IN THE ADW

- Statistically significant increases in E. coli at Frank & Poet, Brownstown, S. Ecorse, and N. Ecorse Creeks.
- No statistically significant change in concentrations at Blakely, Woods, Silver, and Smith Creeks and the Huron River.
- No declining trends.

INVESTIGATIVE DIFFERENCES AT FRANK & POET DRAIN



INVESTIGATIVE DIFFERENCES AT BROWNSTOWN CREEK



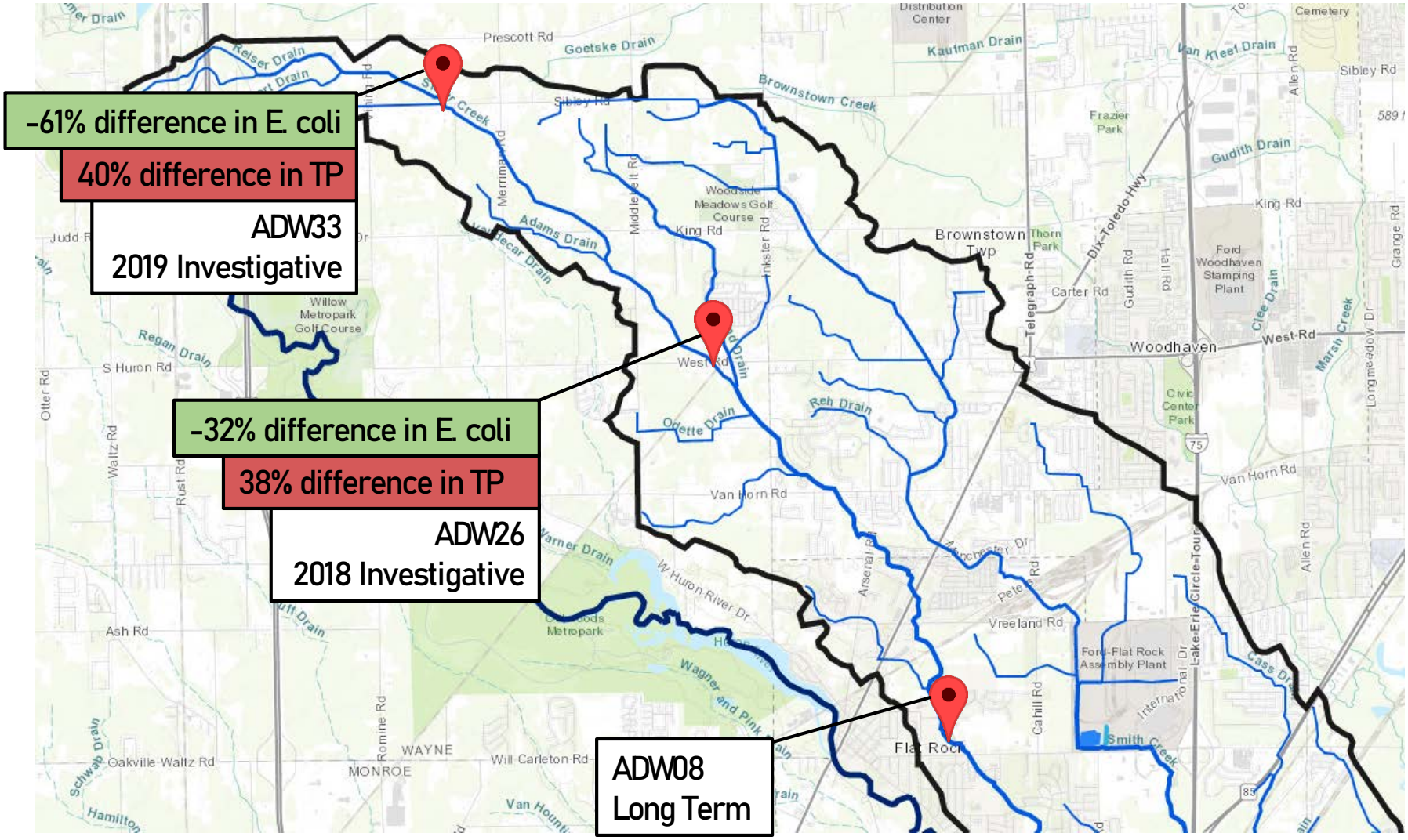
INVESTIGATIVE DIFFERENCES AT BLAKELY CREEK

-32% difference in E. coli

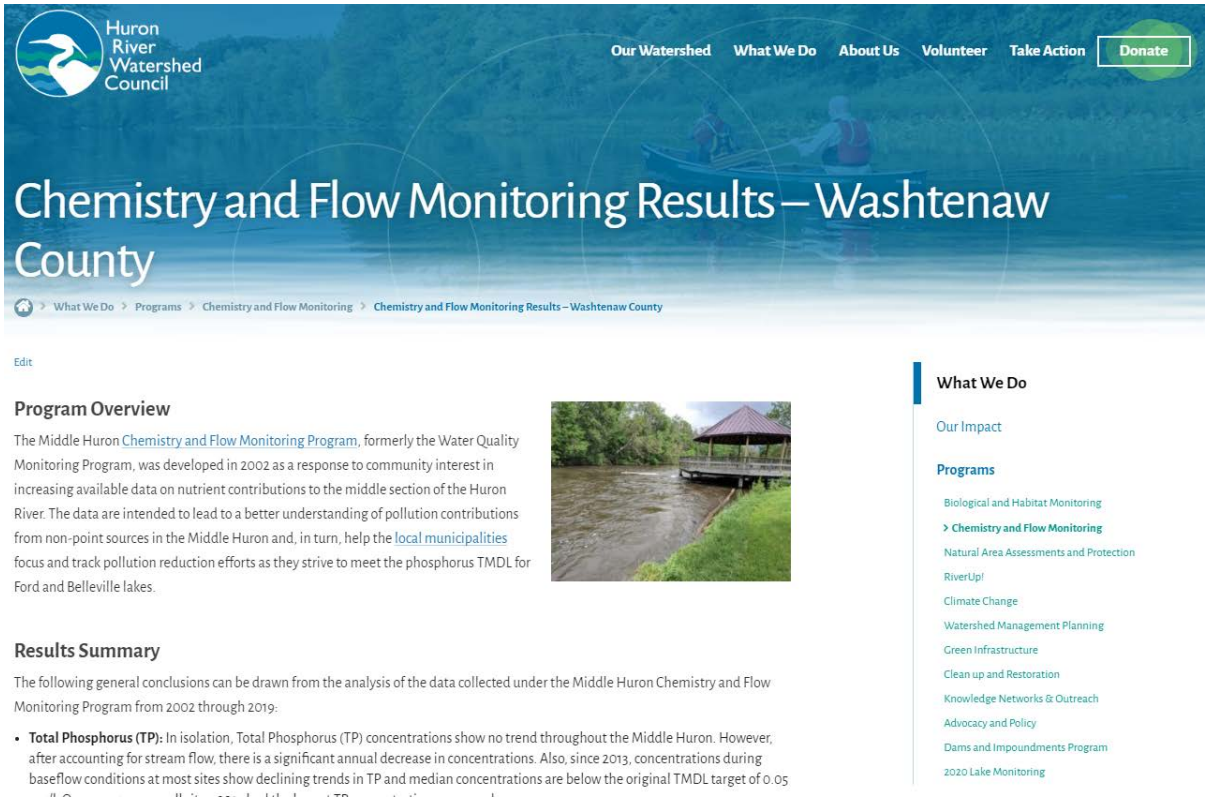
43% difference in TP

54% difference in TSS

INVESTIGATIVE DIFFERENCES AT SILVER CREEK



CHECK OUT THE ONLINE REPORTS



Huron River Watershed Council

Our Watershed | What We Do | About Us | Volunteer | Take Action | Donate

Chemistry and Flow Monitoring Results – Washtenaw County

What We Do > Programs > Chemistry and Flow Monitoring > Chemistry and Flow Monitoring Results – Washtenaw County

Edit

Program Overview

The Middle Huron Chemistry and Flow Monitoring Program, formerly the Water Quality Monitoring Program, was developed in 2002 as a response to community interest in increasing available data on nutrient contributions to the middle section of the Huron River. The data are intended to lead to a better understanding of pollution contributions from non-point sources in the Middle Huron and, in turn, help the local municipalities focus and track pollution reduction efforts as they strive to meet the phosphorus TMDL for Ford and Belleville lakes.

Results Summary

The following general conclusions can be drawn from the analysis of the data collected under the Middle Huron Chemistry and Flow Monitoring Program from 2002 through 2019:

- **Total Phosphorus (TP):** In isolation, Total Phosphorus (TP) concentrations show no trend throughout the Middle Huron. However, after accounting for stream flow, there is a significant annual decrease in concentrations. Also, since 2013, concentrations during baseflow conditions at most sites show declining trends in TP and median concentrations are below the original TMDL target of 0.05

What We Do

Our Impact

Programs

- Biological and Habitat Monitoring
- > Chemistry and Flow Monitoring
- Natural Area Assessments and Protection
- RiverUp!
- Climate Change
- Watershed Management Planning
- Green Infrastructure
- Clean up and Restoration
- Knowledge Networks & Outreach
- Advocacy and Policy
- Dams and Impoundments Program
- 2020 Lake Monitoring

- Complete descriptions of methods and findings
- Links to summary charts for parameters by watershed and detailed data charts by sampling site
- 2019 conclusions and much more!

NEXT STEPS

- Follow up on findings
- Complete online monitoring report.
- Prepare for upcoming season
- Identify new investigative sites.

2020 CHEMISTRY & FLOW MONITORING PROGRAM ORIENTATIONS

Saturday, March 21	Saturday, March 28
1:00 to 2:30 PM	2:00 to 3:30 PM
NEW Center Ann Arbor, MI	Riverview Library Riverview, MI

REGISTER AT HRWC.ORG/CHEMFLOW

QUESTIONS?