

# 2014 Middle Huron Monitoring Preliminary Results



Huron  
River  
Watershed  
Council

# 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



Paid for with stormwater funds from:

- Middle Huron Partners and Stormwater Advisory Group
- Alliance of Downriver Watersheds

# Outline

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



# What was measured in 2014?

- 62 volunteers – THANKS!
- 281 sample sets collected
  - Nutrients (Phosphorus, Nitrogen)
  - Sediments (Total Suspended Solids)
  - Bacteria (*E. coli*)
  - Other (Dissolved Oxygen, pH, Temperature, Conductivity)
- 128 flow measures
- 104 investigative samples
- 10 storm samples

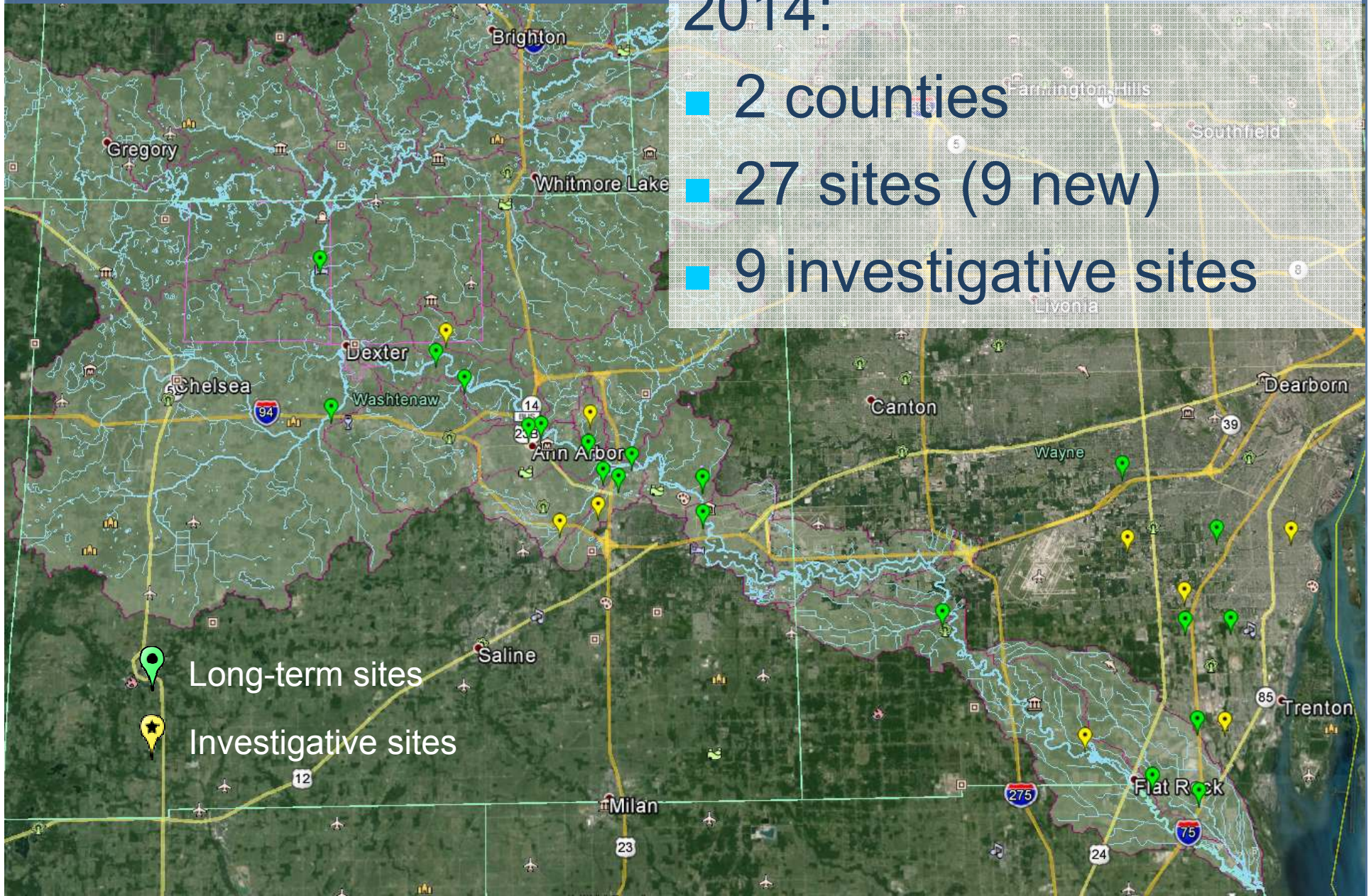
# WQ Program:

- 3 counties
- 71 sites
- 28 creeks, 5 river sites

- 
- Long-term sites
  - Investigative sites
  - Bacteria study sites

2014:

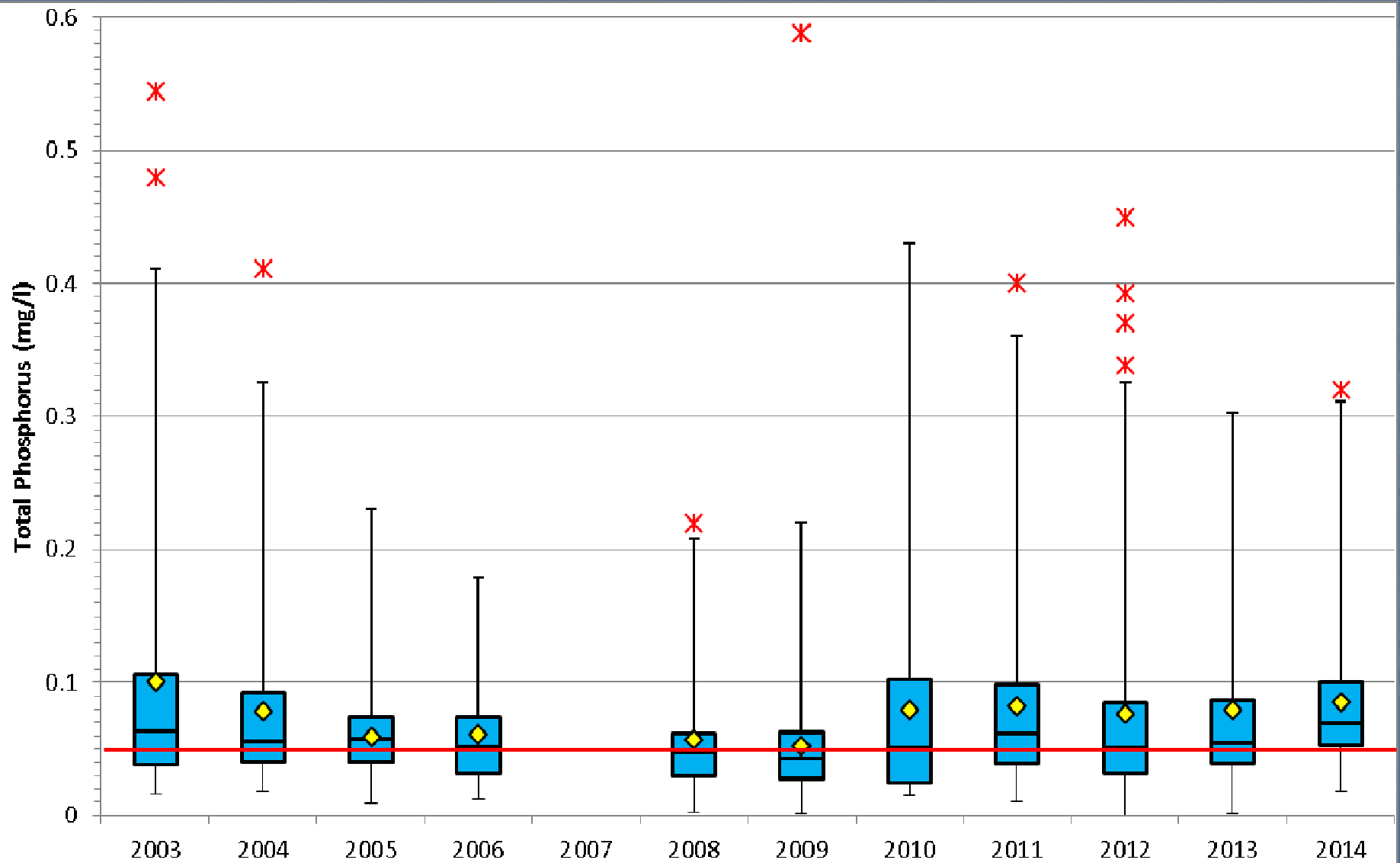
- 2 counties
- 27 sites (9 new)
- 9 investigative sites



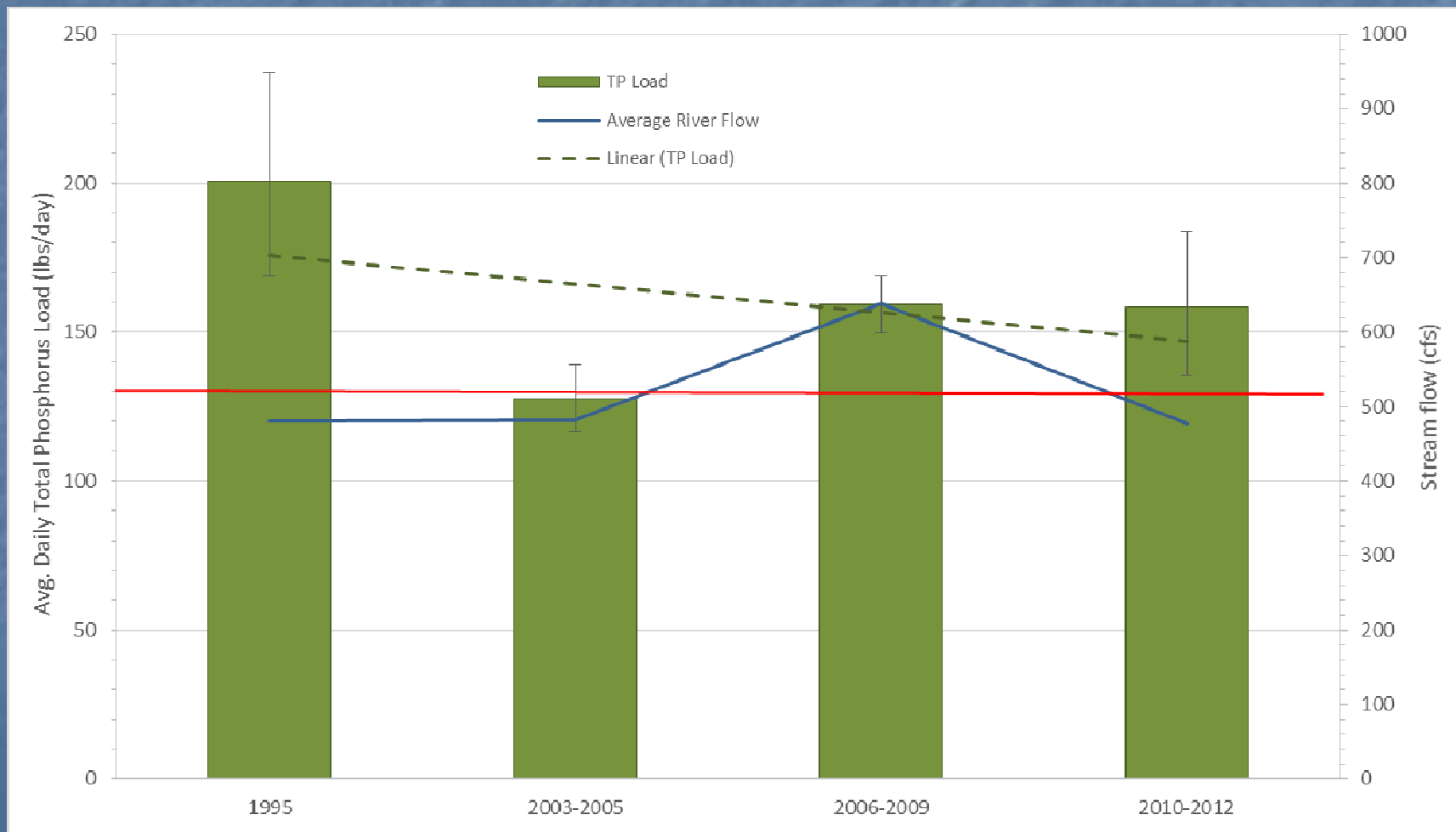
Long-term sites

Investigative sites

# Phosphorus (TP) in Middle Huron



# P Load to Ford Lake

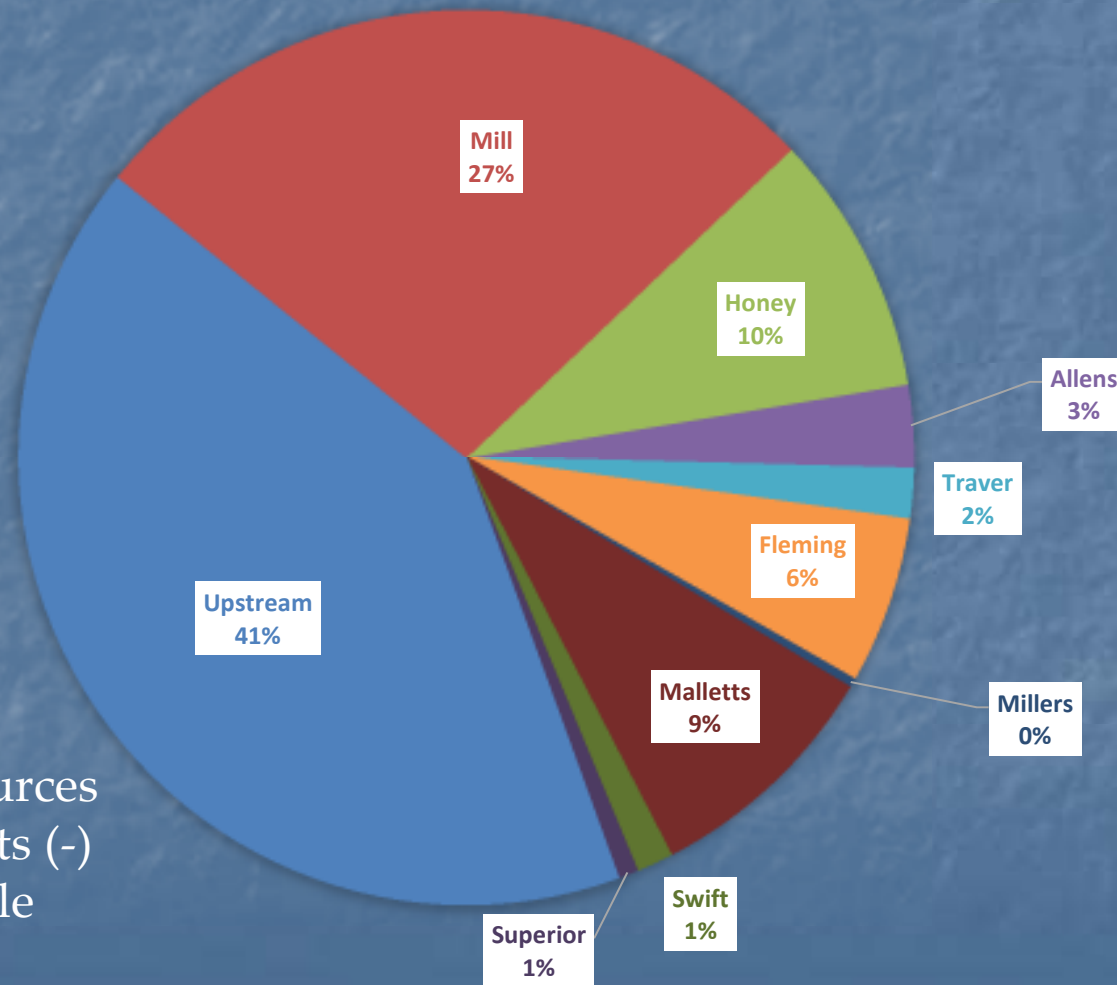




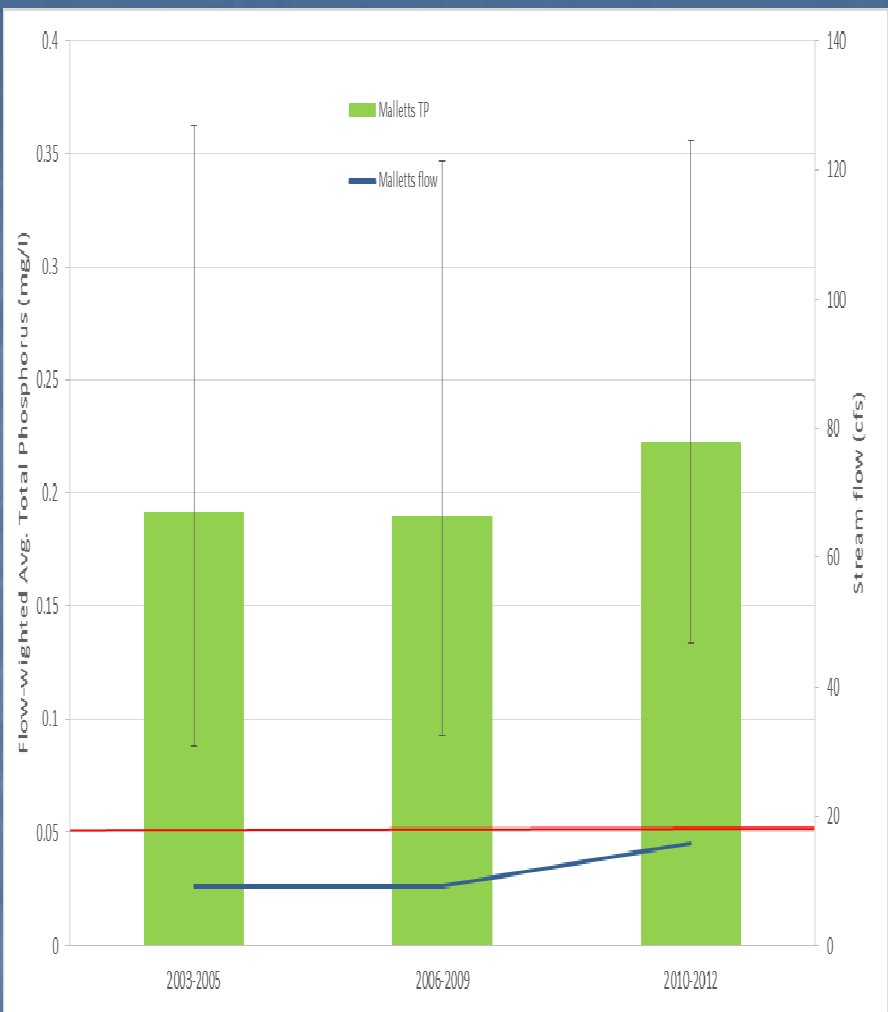
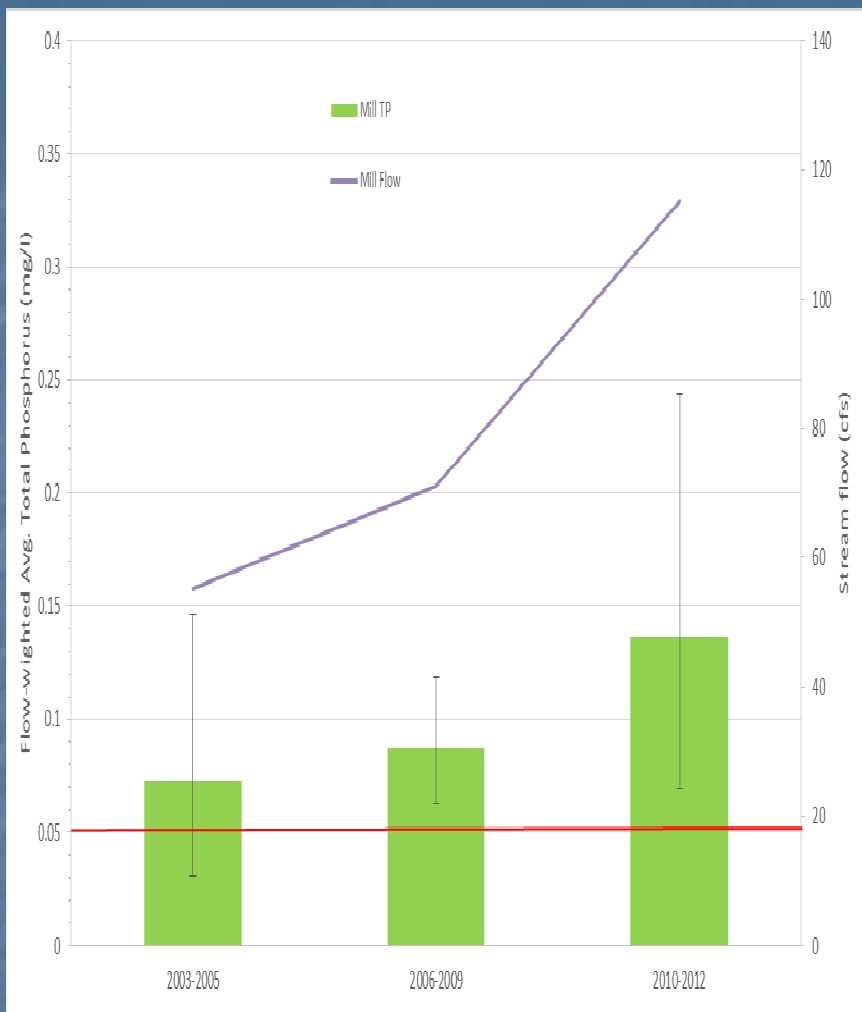
# Flow-adjusted P Concentration



# P Load by Tributary

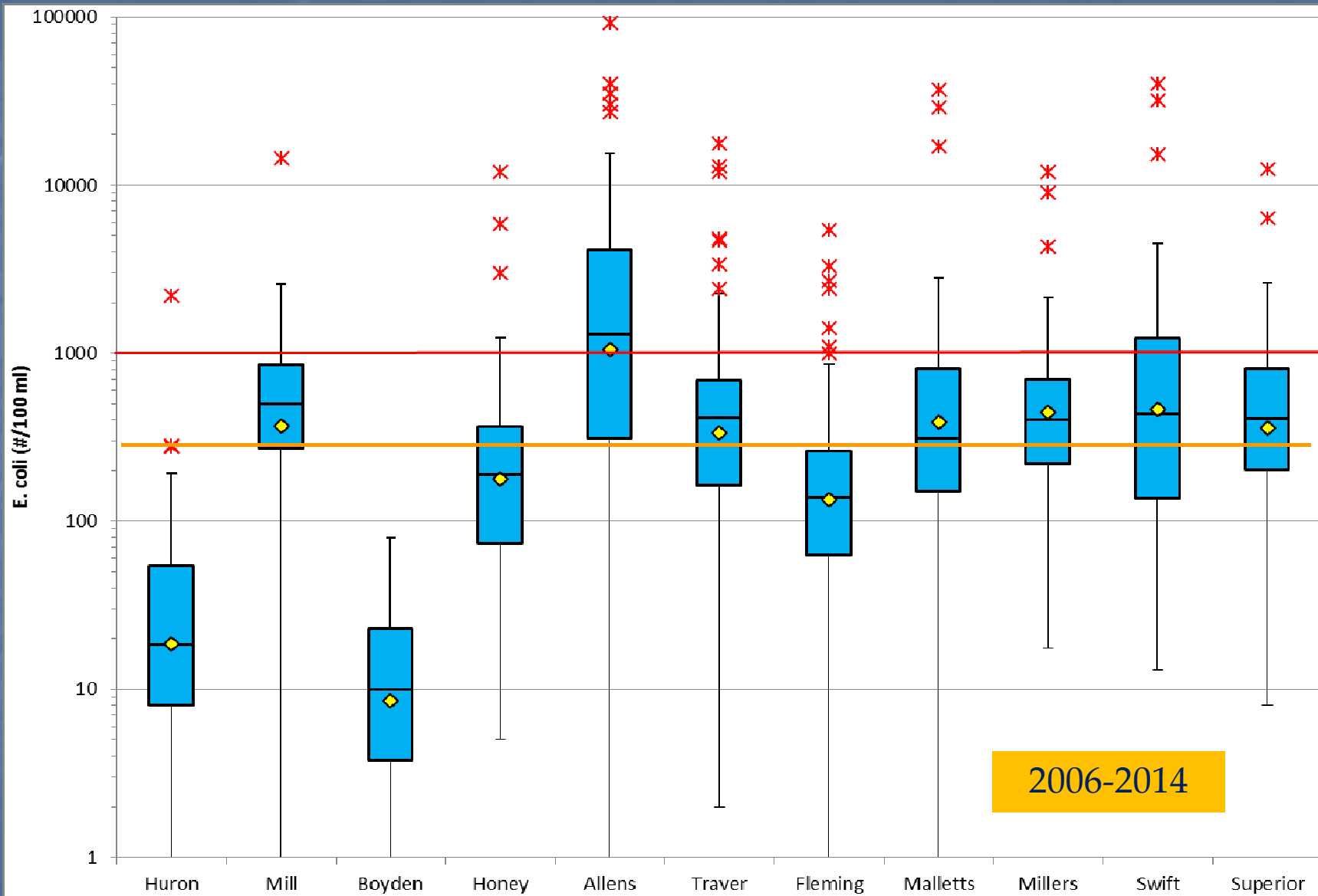


Collectively, point sources (+) and impoundments (-) **remove** P on the whole

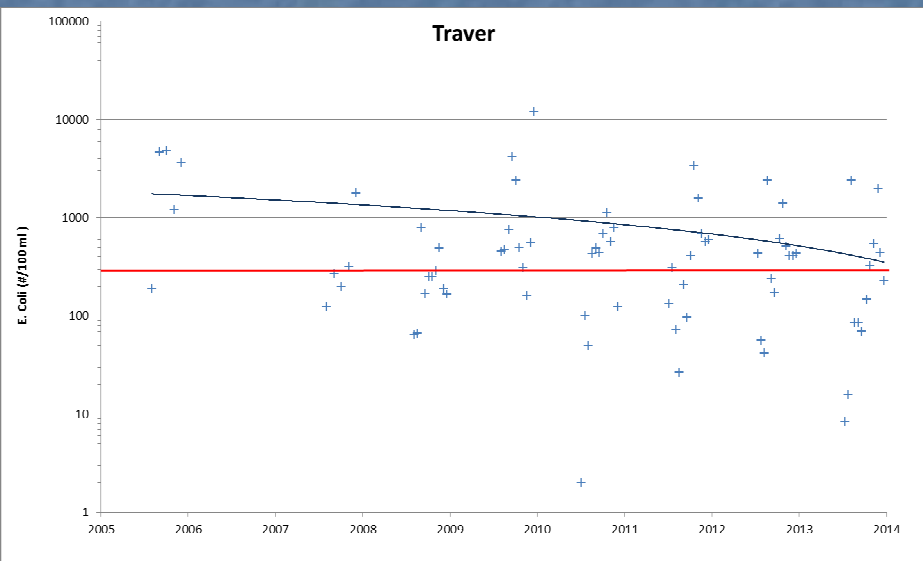
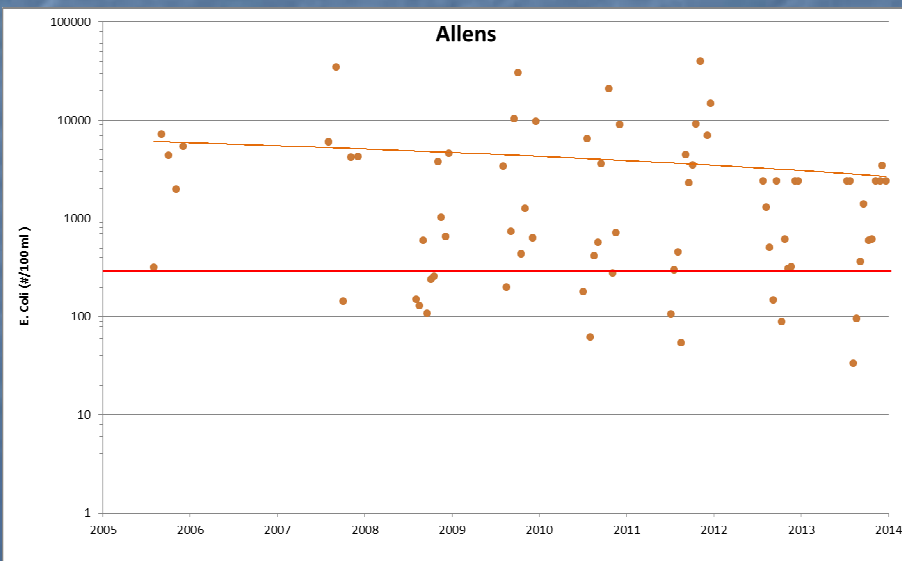
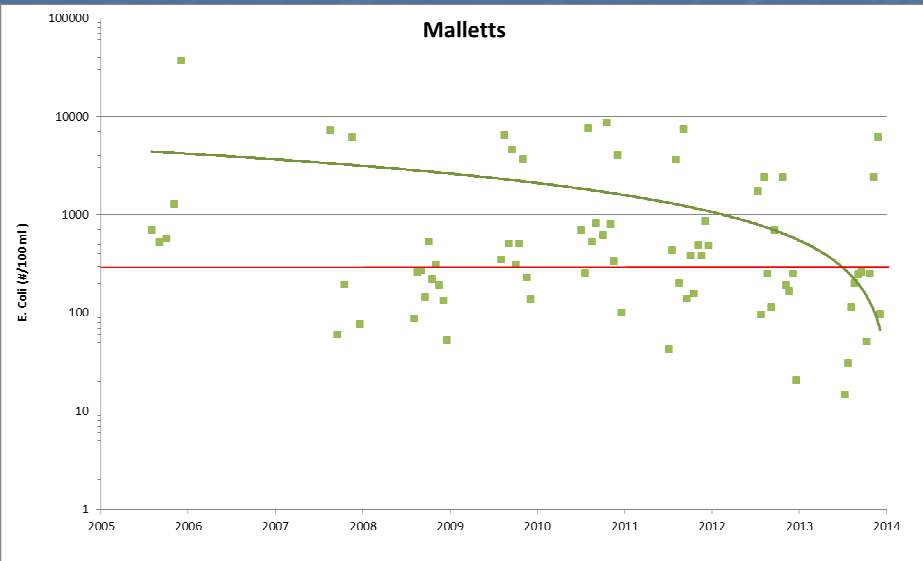
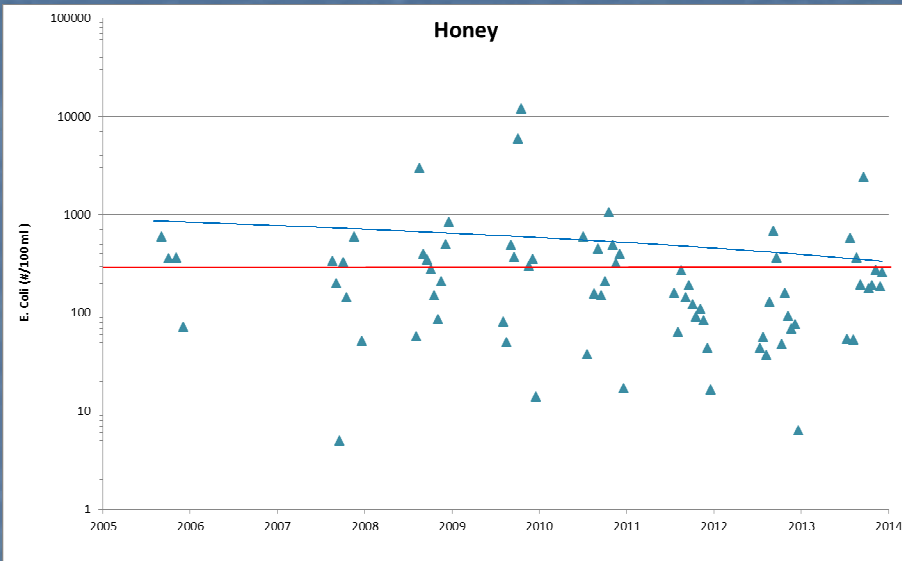


- Concentration and load tell different stories

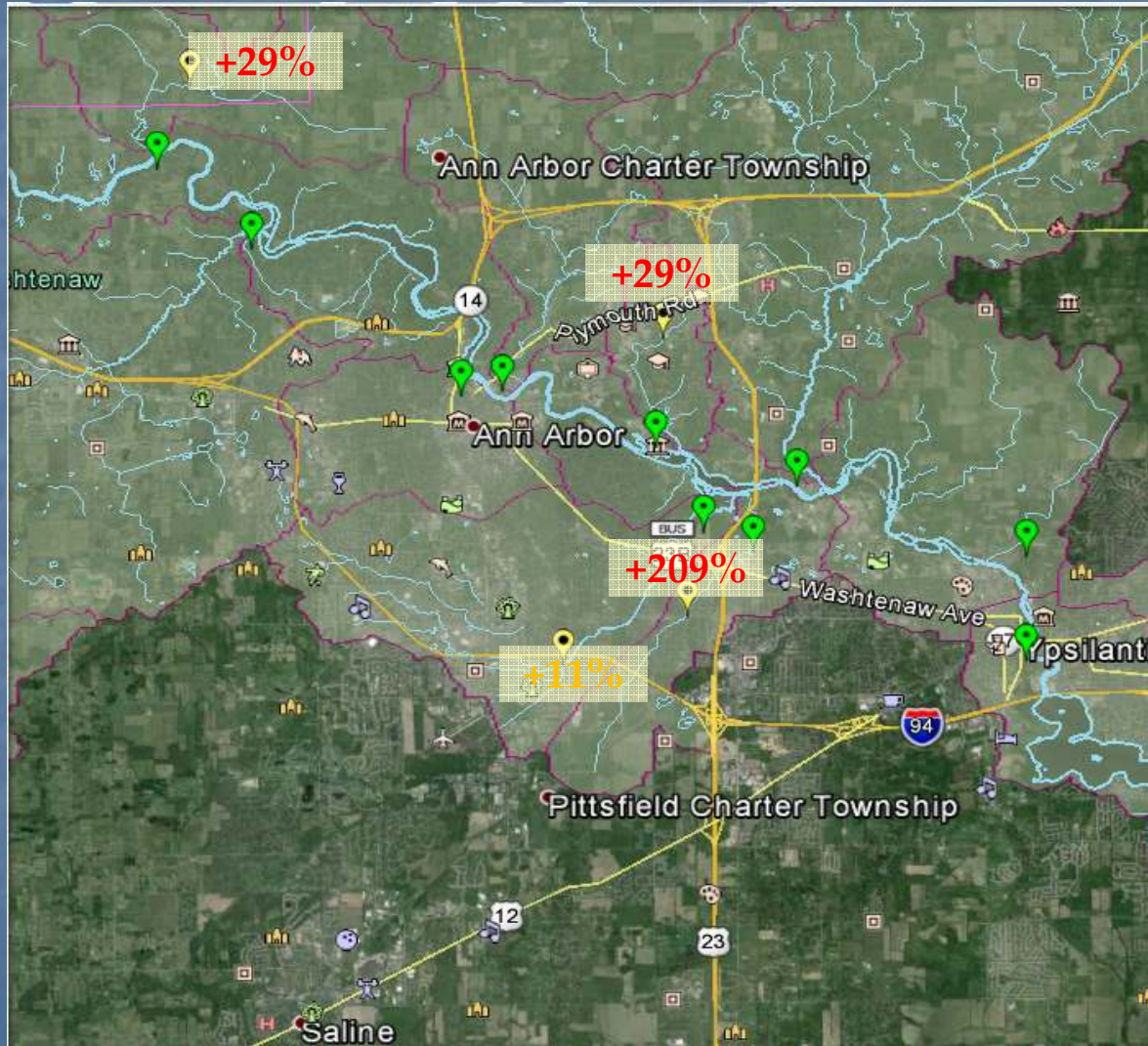
# *E. coli* in the Middle Huron



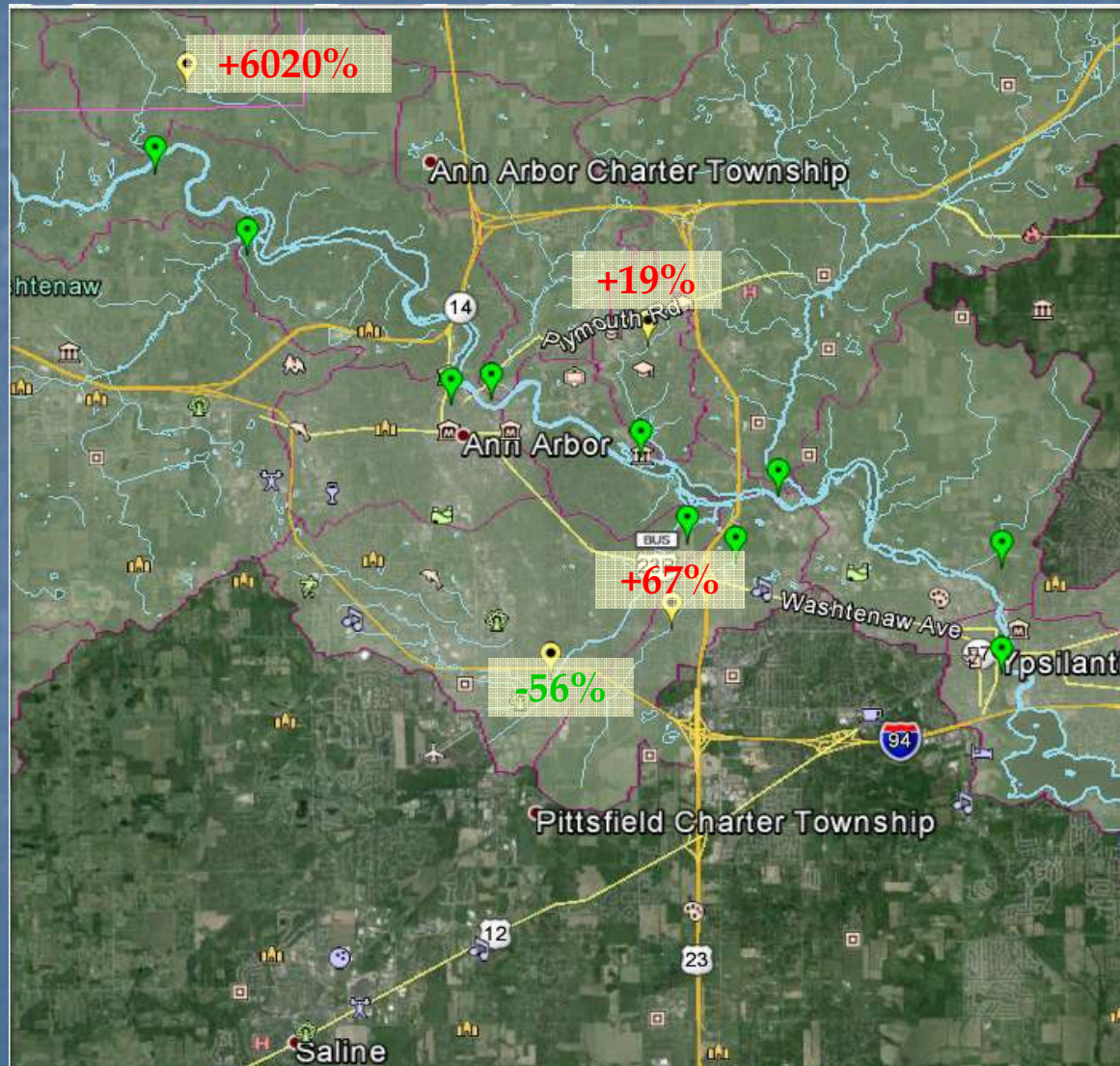
# Bacteria Trends



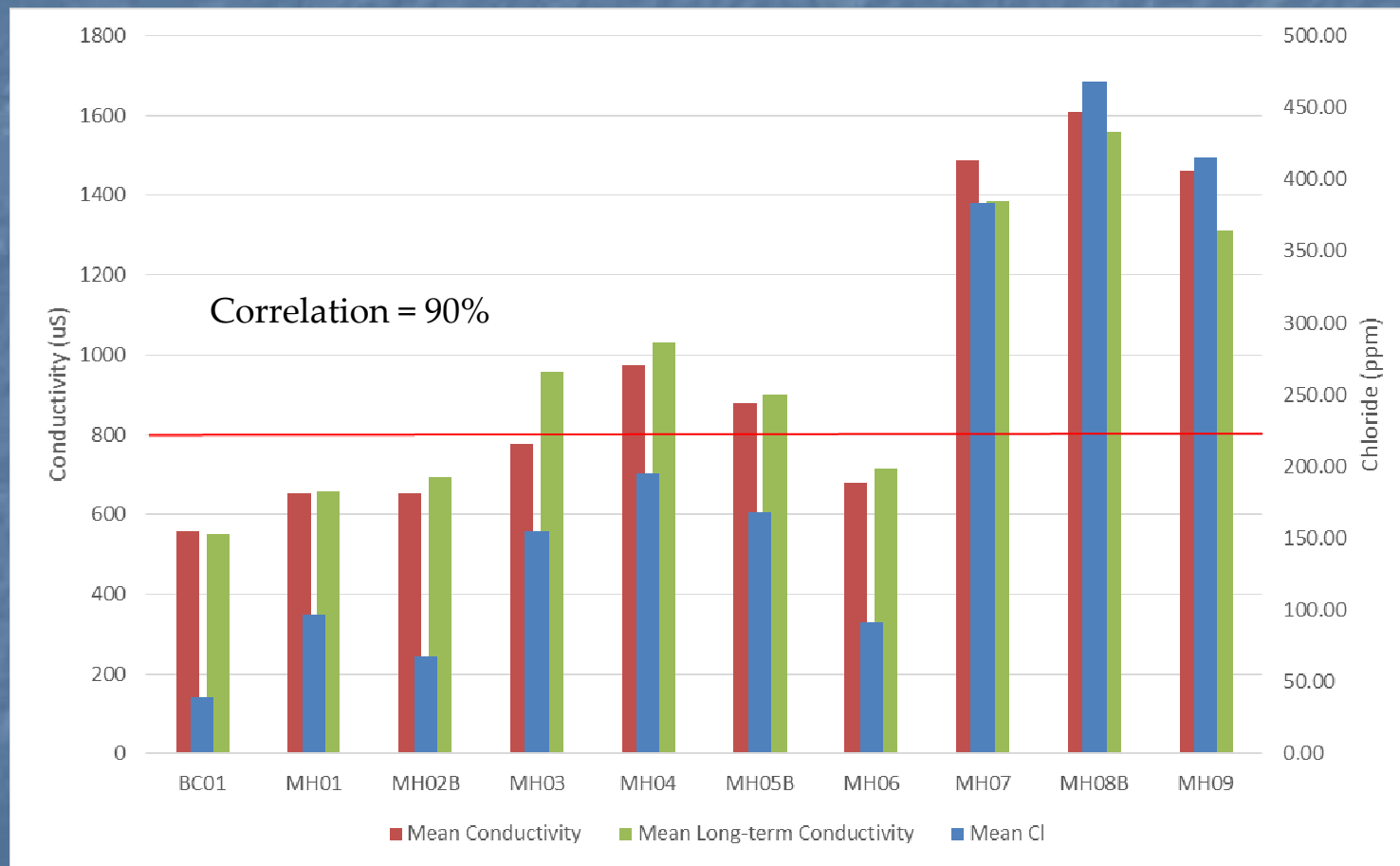
# Investigative Differences - TP



# Investigative Differences – *E. coli*

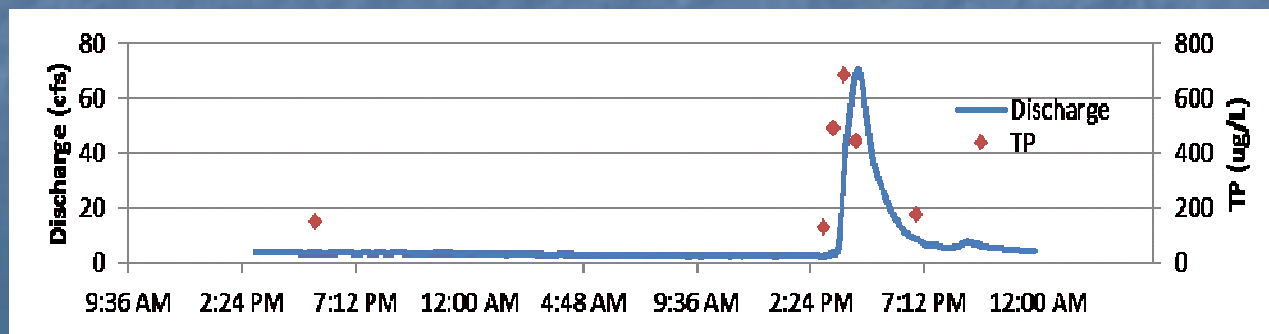


# Conductivity and Chloride





# New Auto-autosampler



# Other Parameters

- TSS: Below targets except occasionally during storms
- DO: new samples in MH, will be comparing to past results
- pH: no problems
- Temperature: warm urban streams; cool where groundwater and riparian cover

# Summary of Results

- High flows push P loads up
- Phosphorus story is complicated
- Bacteria trending down
- Chloride (salt) linked to high conductivity
- Some investigative issues for follow-up
- New storm data should be helpful

# How does our sampling get used?

- Samples were analyzed into raw results, then are used in several products:
  - Progress reports for municipalities
  - Watershed plans
  - Project proposals



# What's Next?

- Follow-up on key findings
- Complete reports
- Work with partners on strategies to address problems
- Plan for next year

Questions?