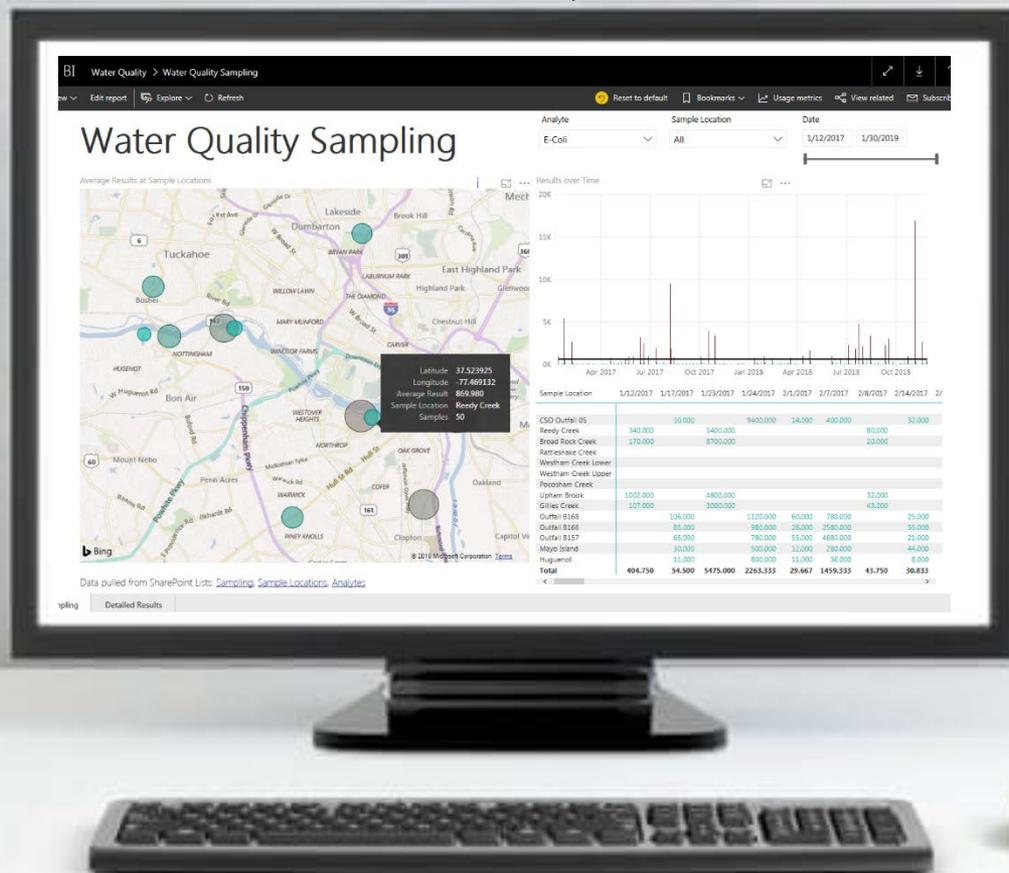


# VA WATER MONITORING COUNCIL CONFERENCE

## APRIL 10, 2019



# Today's Discussion

- **Our current plan**

- James River (6)
- Tributaries (5)

- **Objectives**

- Prioritize Actions
- Protect least impaired sites
- Assess Efforts

- **Data**



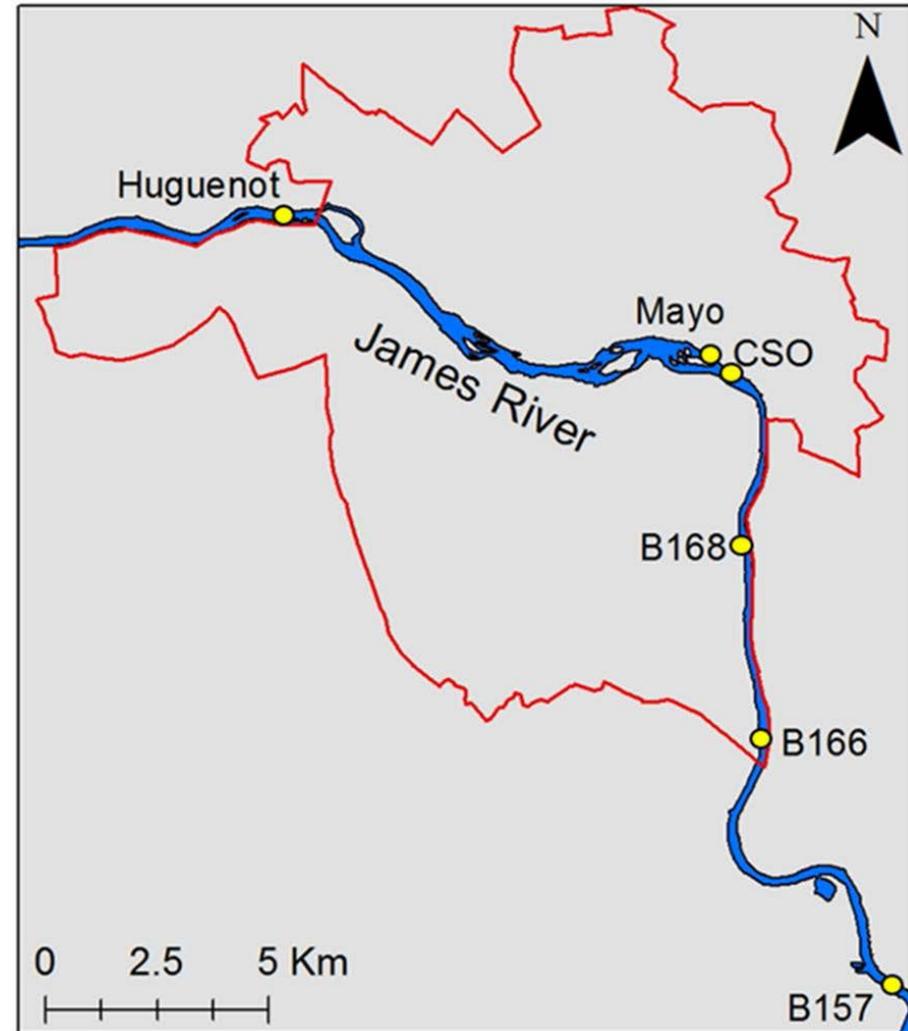
# James River Monitoring

Weekly monitoring to assess:

- Water quality entering urban area
- Localized and downstream CSO effects
- Downstream effects on algal blooms

Parameters:

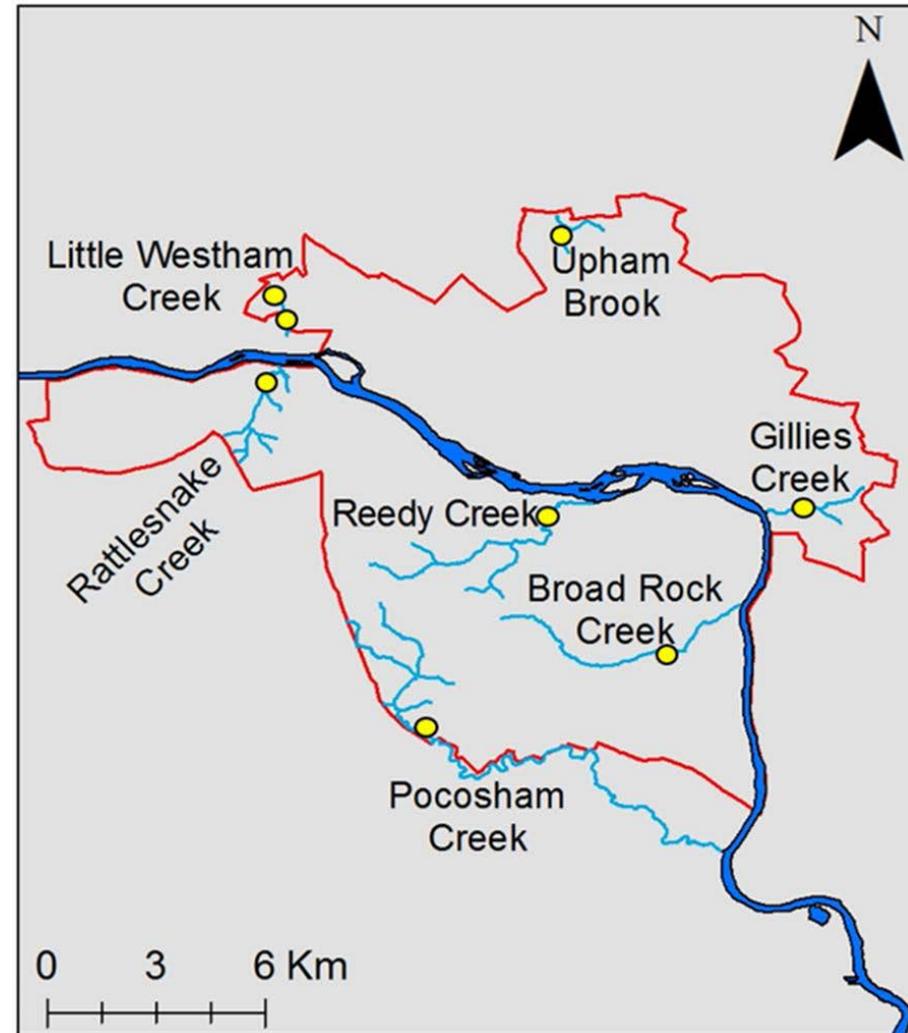
- Water quality (Temp, pH, DO, Cond)
- Nutrients (TN, TP, NO<sub>3</sub>, NH<sub>4</sub>, PO<sub>4</sub>)
- Sediment (TSS, Turbidity)
- Bacteria (E coli)



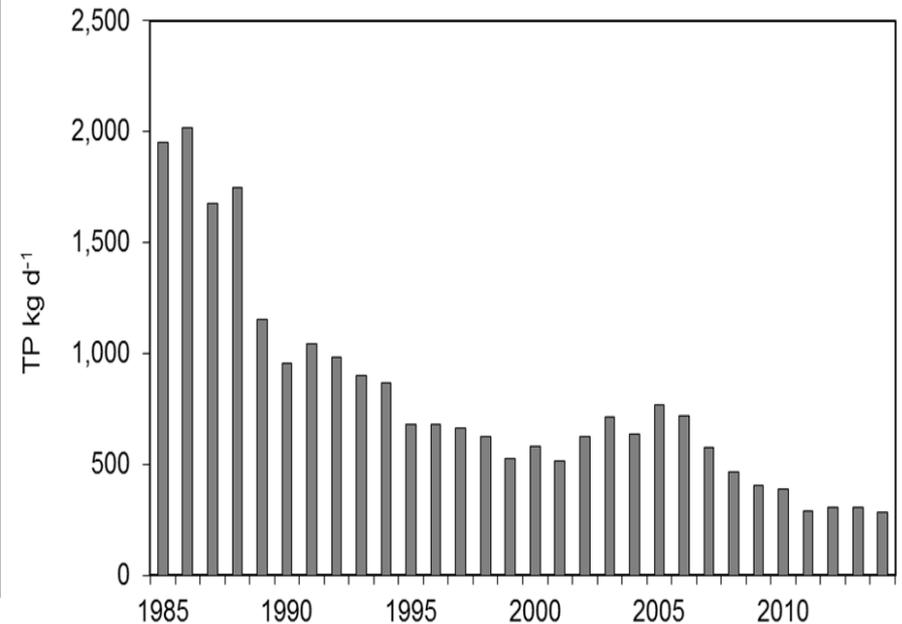
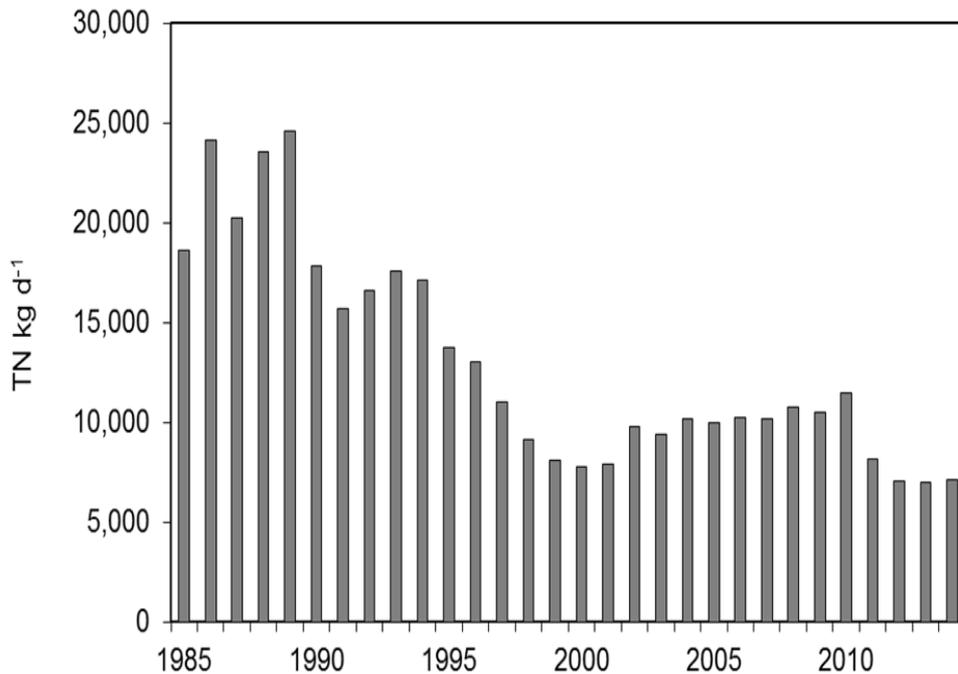
# Urban Stream Monitoring

Twice monthly at 7 locations:

- Discharge
- Water quality (T, pH, DO, Cond)
- Nutrients (TN, TP, NO<sub>3</sub>, NH<sub>4</sub>, PO<sub>4</sub>)
- Sediment (TSS, Turbidity)
- Bacteria (E coli)
- Benthic macroinvertebrates (2x/year)

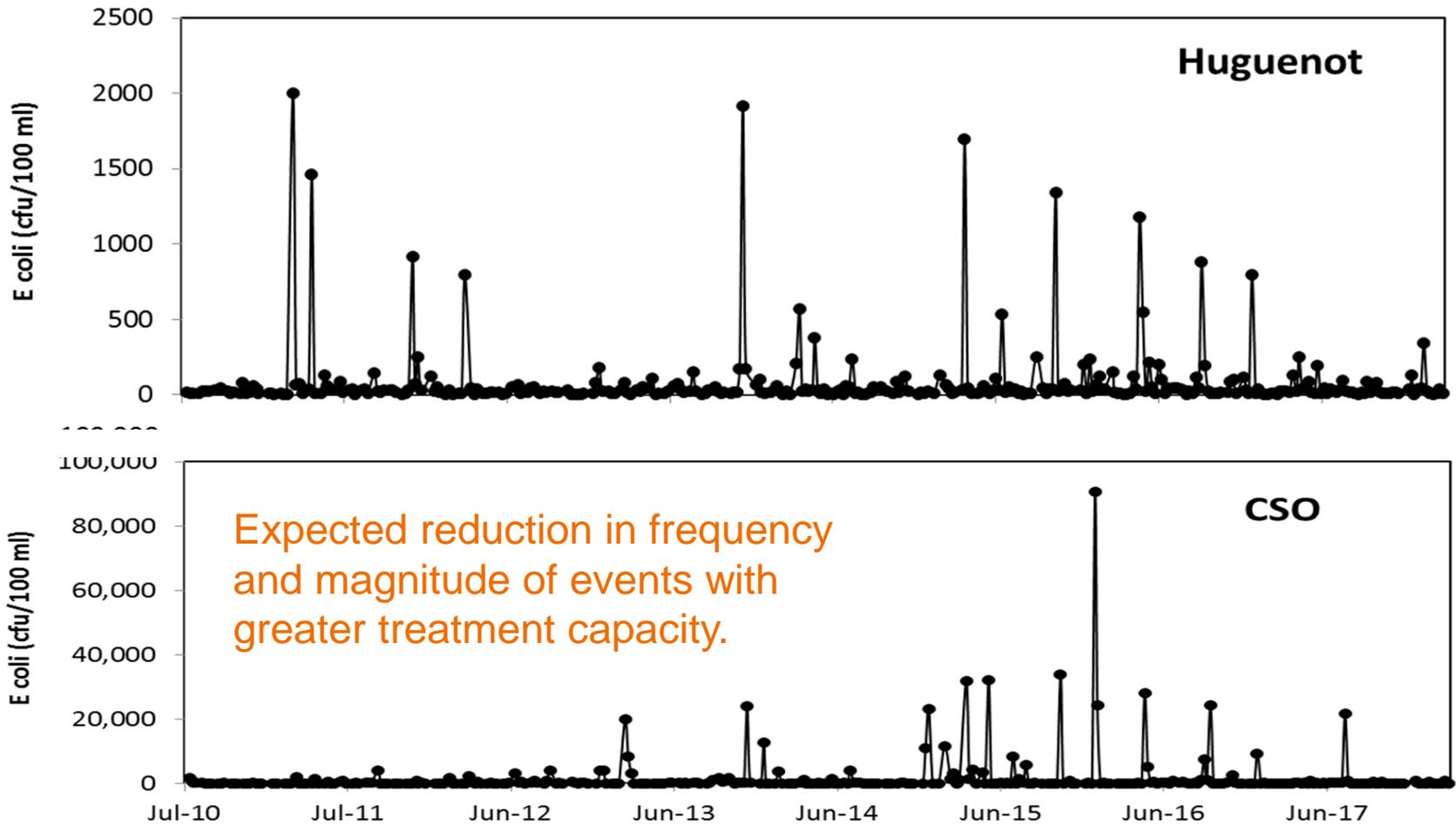


# James River: WWTP upgrades

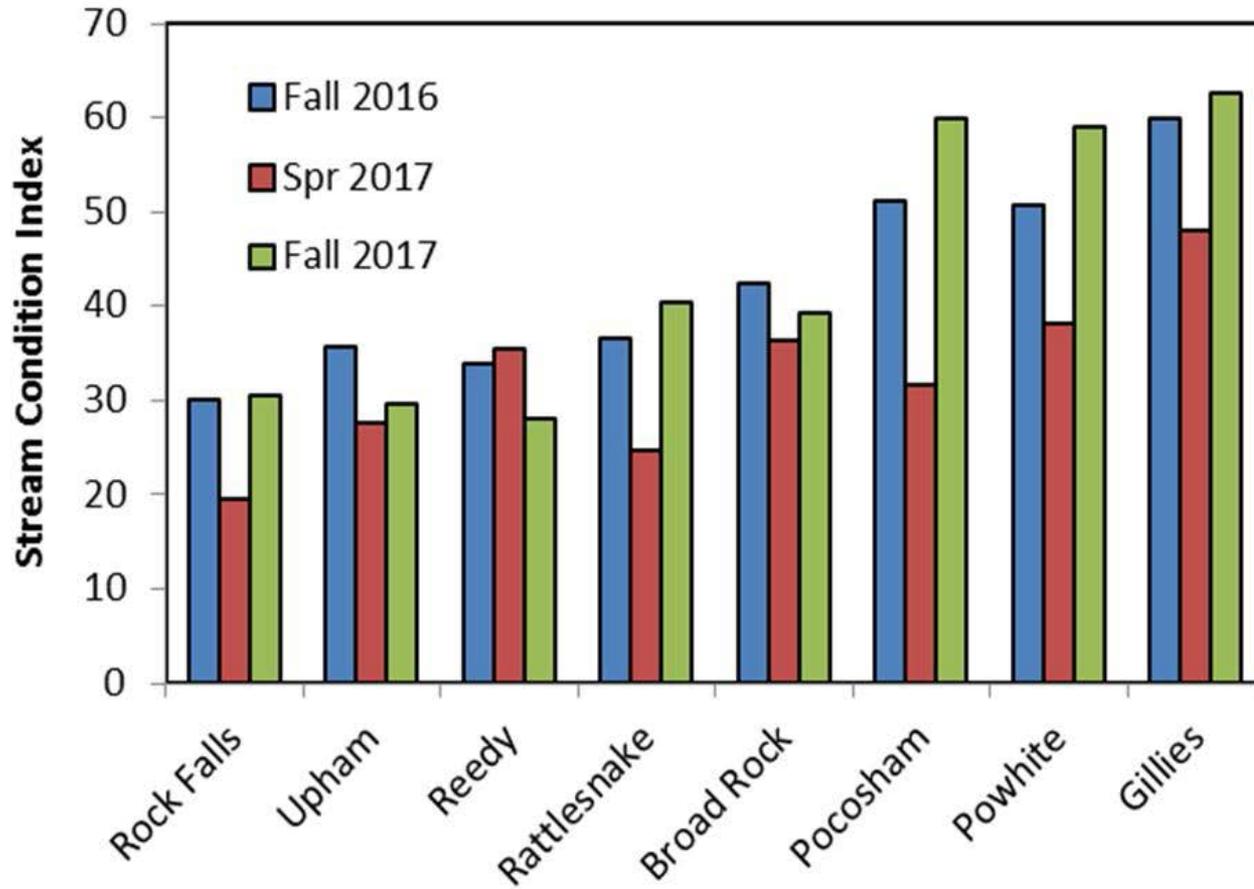


Combined point source inputs from municipal and industrial sources to the tidal freshwater segments of the James River 1985-2014 (from Bukaveckas et al. 2018 *ECSS*). Population 1980 = 760,000, 2010 = 1,260,000.

# James CSO: bacteria



# Benthic Macroinvertebrates



Assessment of stream condition based on benthic communities.

All sites fall below DEQ benchmark score (60).

# Questions?

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