Fecal Coliform Assessment Tools and Strategies

Partners Include

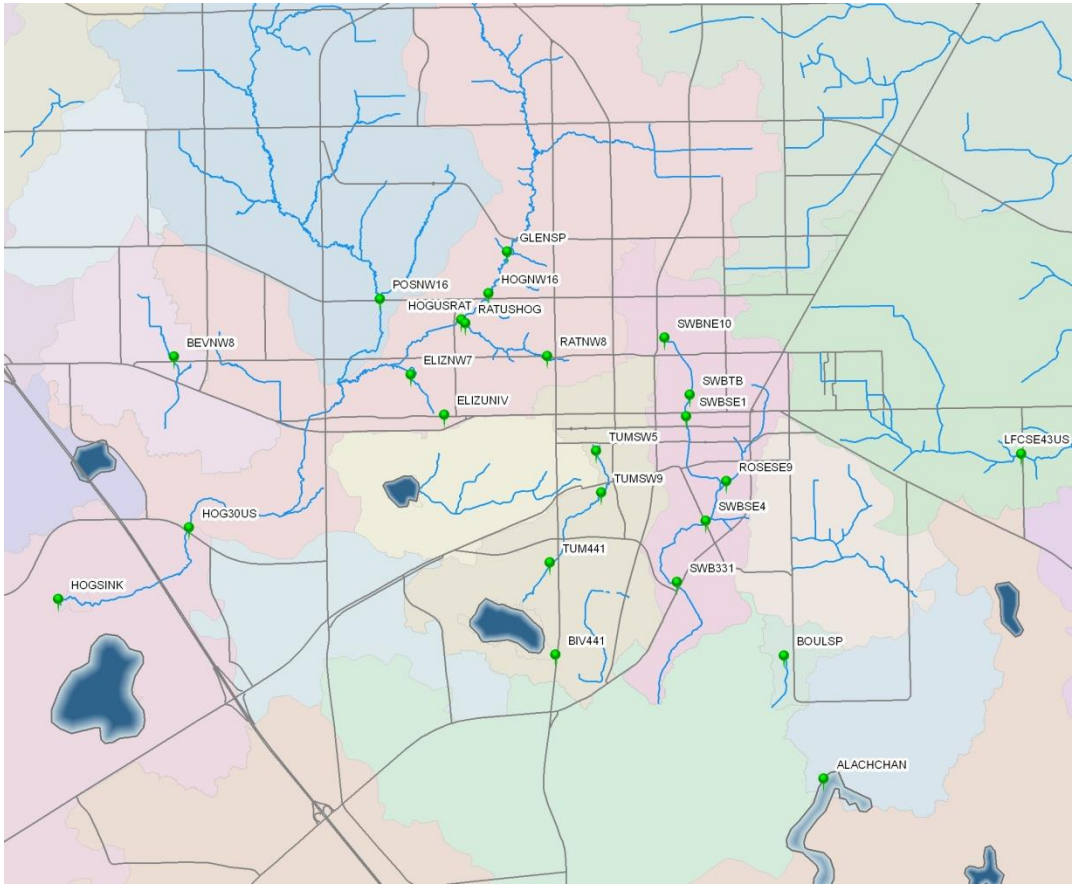
Florida Department of Health in Alachua County
Gainesville Clean Water Partnership (Alachua County, City of Gainesville, DOT)
Gainesville Regional Utilities
Florida Department of Environmental Protection

Tools and Strategies

- Water Quality Monitoring
- Codes and Enforcement
- Illicit Discharge Detection and Elimination Program (IDDEP)
- Special Studies and Reports
- Public Outreach

Monitoring Programs

- 13 Ambient and 17 Hotspot monitoring locations which are sampled quarterly
- Primary source of data for TMDLs and BMAPs

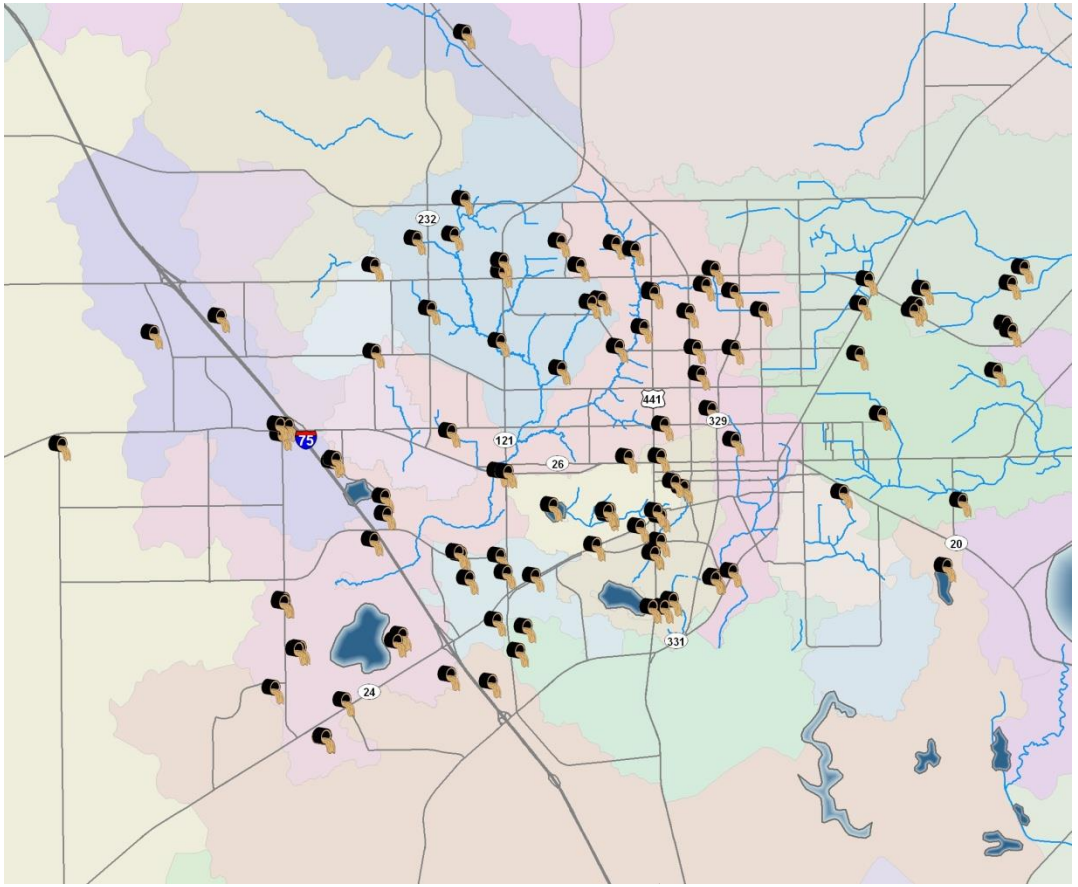


Wastewater and Water Quality Code

- All untreated wastewater discharges must be reported to the county immediately upon discovery.
- ACEPD responds to all sanitary sewer overflows to document impacts and ensure the best remedial action is taken
- Enforcement actions for wastewater discharges to stormwater collection systems and surface waters

Sanitary Sewer Overflows

- ACEPD has responded to 122 total wastewater since 2008, includes private collection systems and municipal utilities



Illicit Discharge Detection and Elimination Program (IDDEP)

- Through the Gainesville Clean Water Partnership
  - Alachua County
  - City of Gainesville
  - Florida Department of Transportation

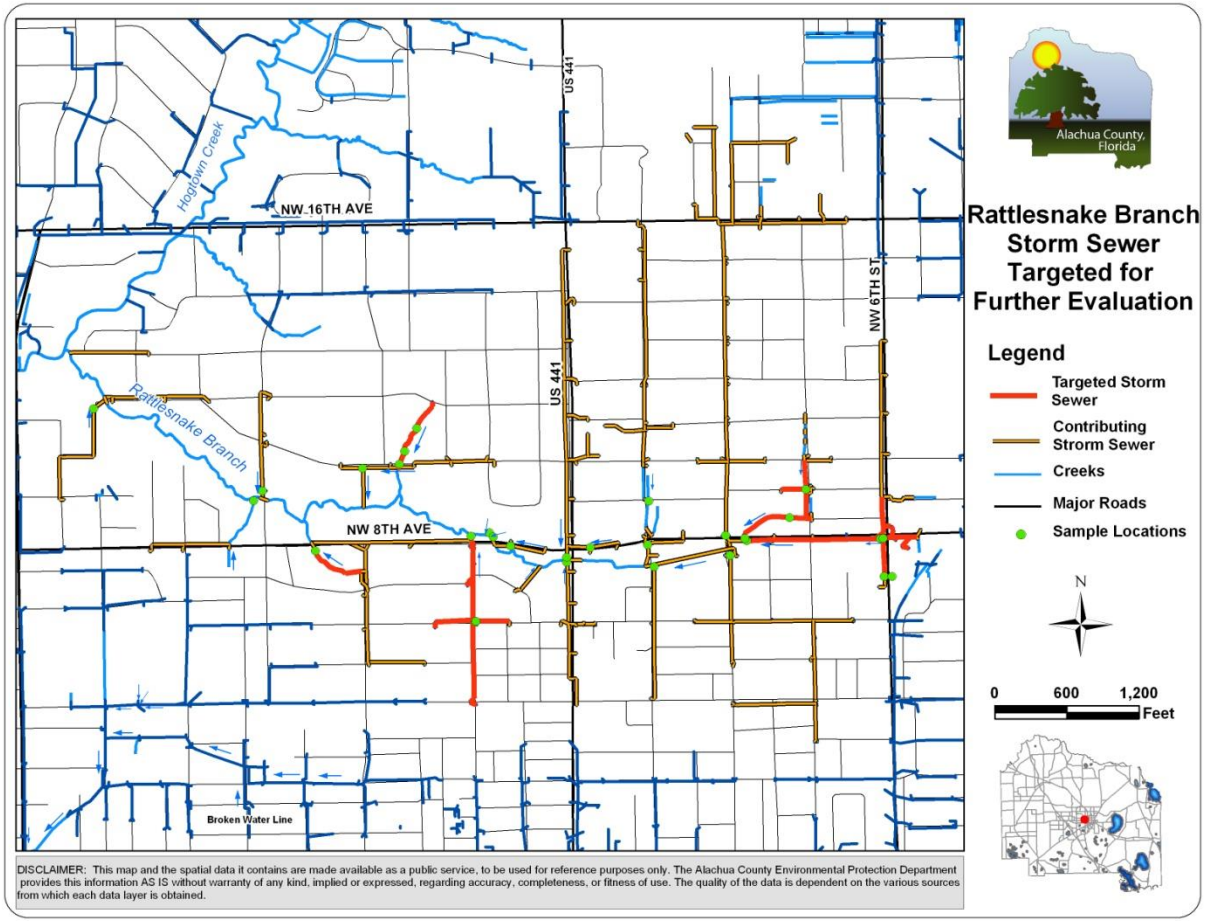
IDDEP – Outfall Reconnaissance Inventory Project

- Outfall Reconnaissance Inventory (ORI)
- Cross connection and conflict box identification and investigation
- Documenting wildlife use of the stormwater collection system and stream corridors

Walked the Creeks and Identified Dry Weather Flows

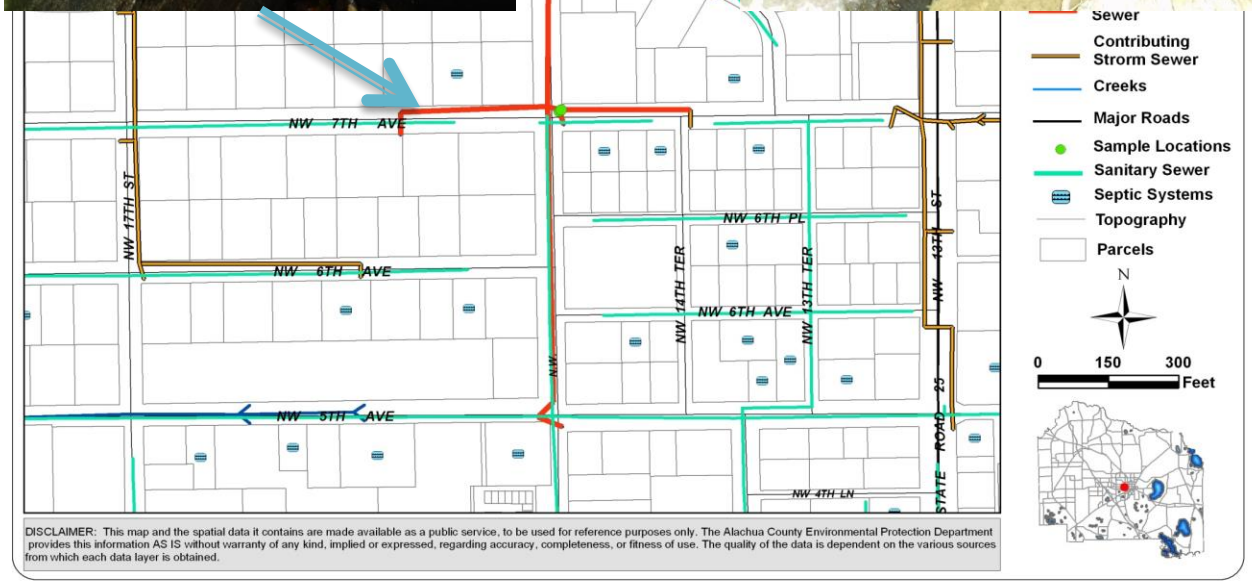
Rattlesnake Branch

- Sampling of outfalls identified several areas of concern
- Additional map layers provided by GRU and COG



Rattlesnake Branch

- Suspect outfall R22A
- Found leaking lateral sanitary sewer line
- GRU repaired it promptly



Rattlesnake Branch

- During recent investigations a failing septic system was discovered and has since been repaired

Rattlesnake Branch Findings

- Found and repaired two sanitary sewer leaks and a failing septic system that were influencing the creek
- Removed sediment and debris to reduce chances of re-growth of coliform bacteria
- Documented that wildlife utilizes the stormwater collection system and contribute to fecal coliform contamination in the creeks

Rosewood Branch

- After sampling and closed circuit television investigations no illicit discharges were found
- Elevated coliforms are believed to be from wildlife

Sweetwater Branch

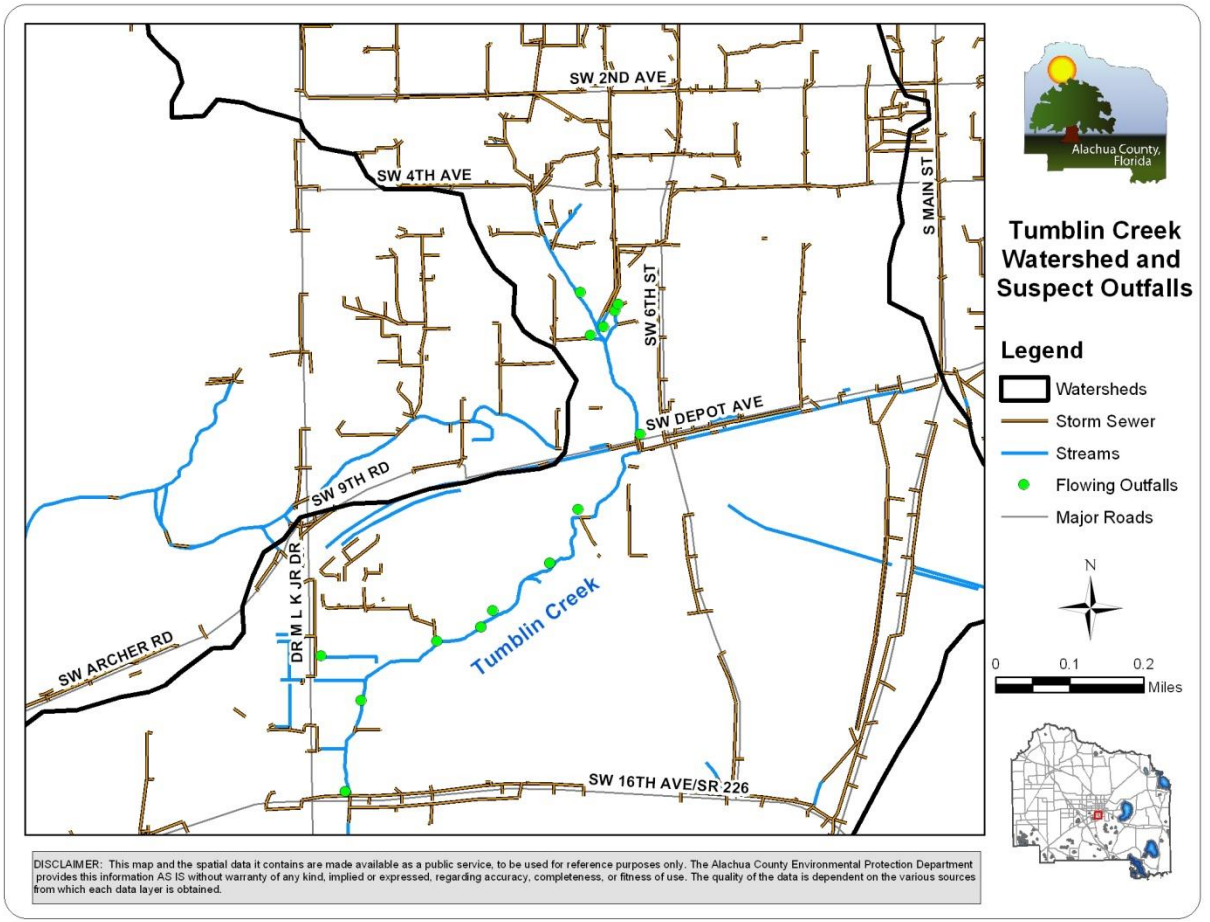
- Several suspect outfalls were identified in the Duck Pond area

Sweetwater Branch

- Sample results and observations led to CCTV investigation and dye tracing that confirmed a service lateral was leaking into the storm sewer
- GRU has repaired it

Tumblin Creek

- 17 of the 49 outfalls identified were flowing
- 3 were suspect for illicit discharges



Tumblin Creek

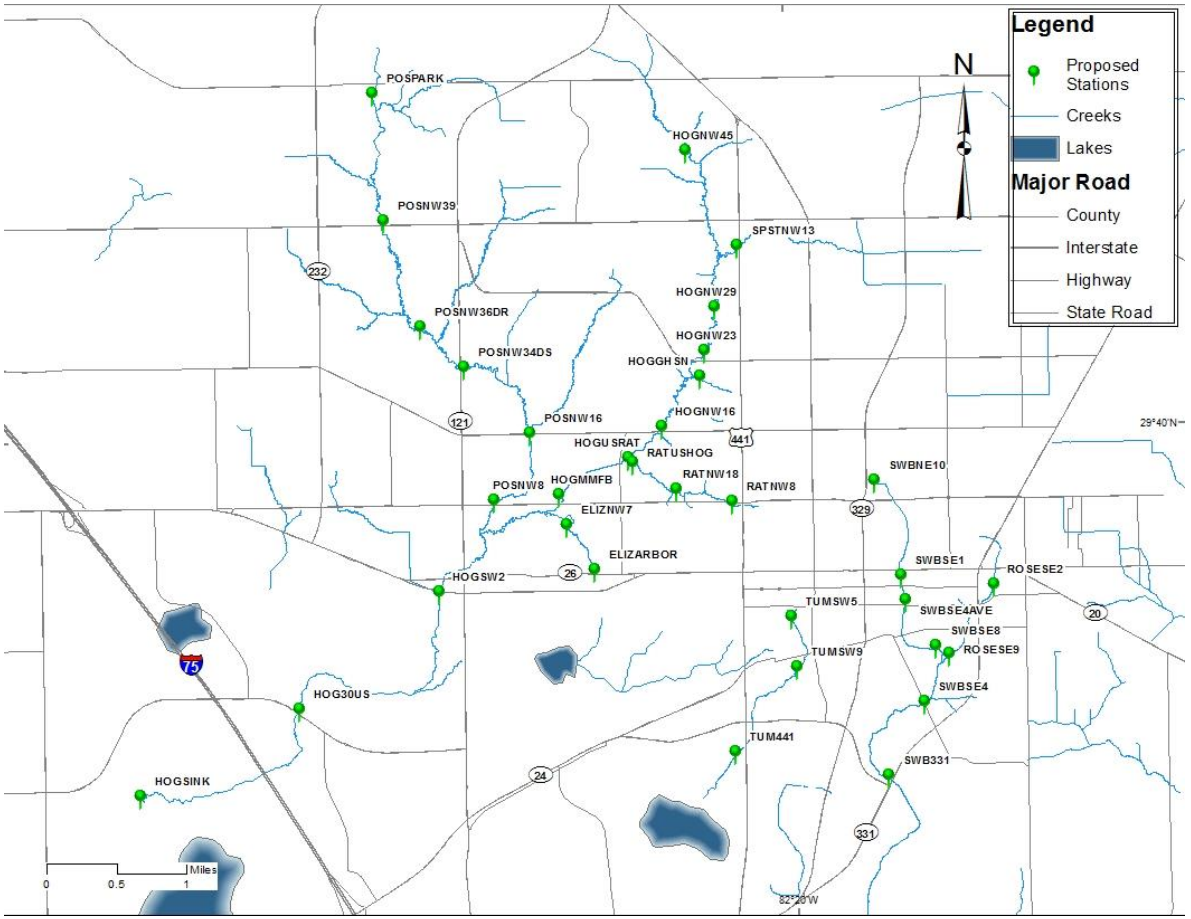
- One sink and a pool was found to be discharging to the storm sewer
- Turbidity from construction during investigations

Conflict Boxes

- Manhole access junction boxes which have a sewer or water line running through it
- These are being documented and added to the storm sewer geodatabase

Microbial Source Tracking 2014 Gainesville Pilot Study

- Cooperative project FDEP and ACEPD
- August 2014 of 33 sites
- Analyzed for Acetaminophen, Sucralose, E-Coli, Fecal Coliform, and Human DNA marker (HF183)



Fecal Coliform and E. Coli Results

Summary of fecal coliform and *E. coli* bacteria results MST sampling, August 2014

Watershed	Number of Sample Sites	Fecal Coliform Range (Col/100 mL)*	E. coli Range (Col/100 mL)*
Tumblin Creek	2	570 - 910	700 – 1,250
Sweetwater Branch (main stem)	5	72 – 2,000	108 – 960
Rosewood Branch	2	270 - 340	234 – 460
Rattlesnake Branch	3	2,000 – 3,000	660 – 1,520
Elizabeth Creek	2	996 – 1,330	800 – 1,000
Hogtown Creek**	7	250 – 3,000	312 – 1,020
Possum Creek	5	546 – 3,400	520 – 1,920

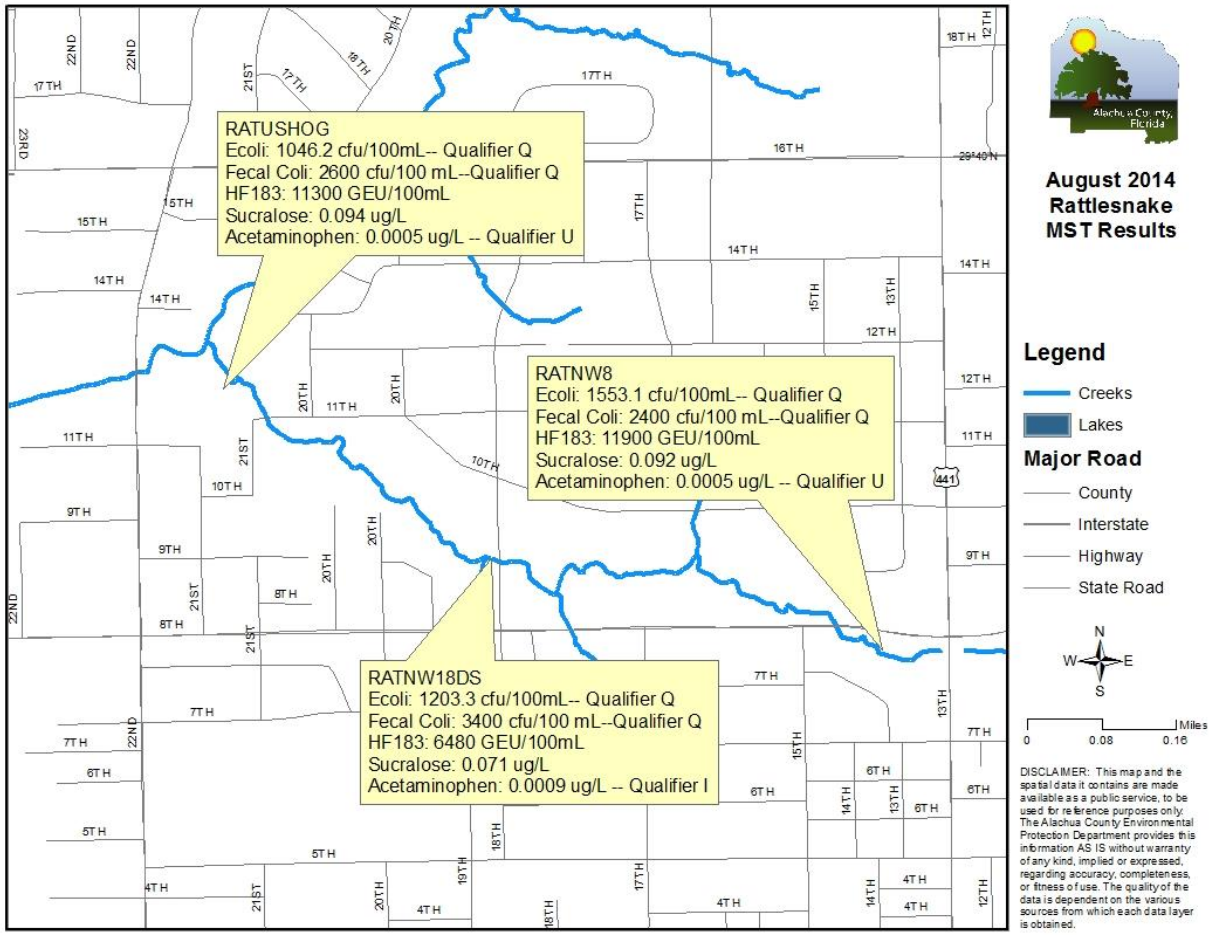
*Colonies per 100 milliliters.
**Includes one station on Springstead Creek

Preliminary Sample Findings

- Sucralose, Acetaminophen, and HF183 data indicators were low at most sample sites, with some reportable data along Rattlesnake Branch, Tumblin Creek, and one site on Sweetwater Branch
- Sample results corroborate previous findings during ORI work

Rattlesnake Branch

- Elevated E-Coli and Fecal Coliform
- Detectable Human Marker HF183
- Detectable Sucralose

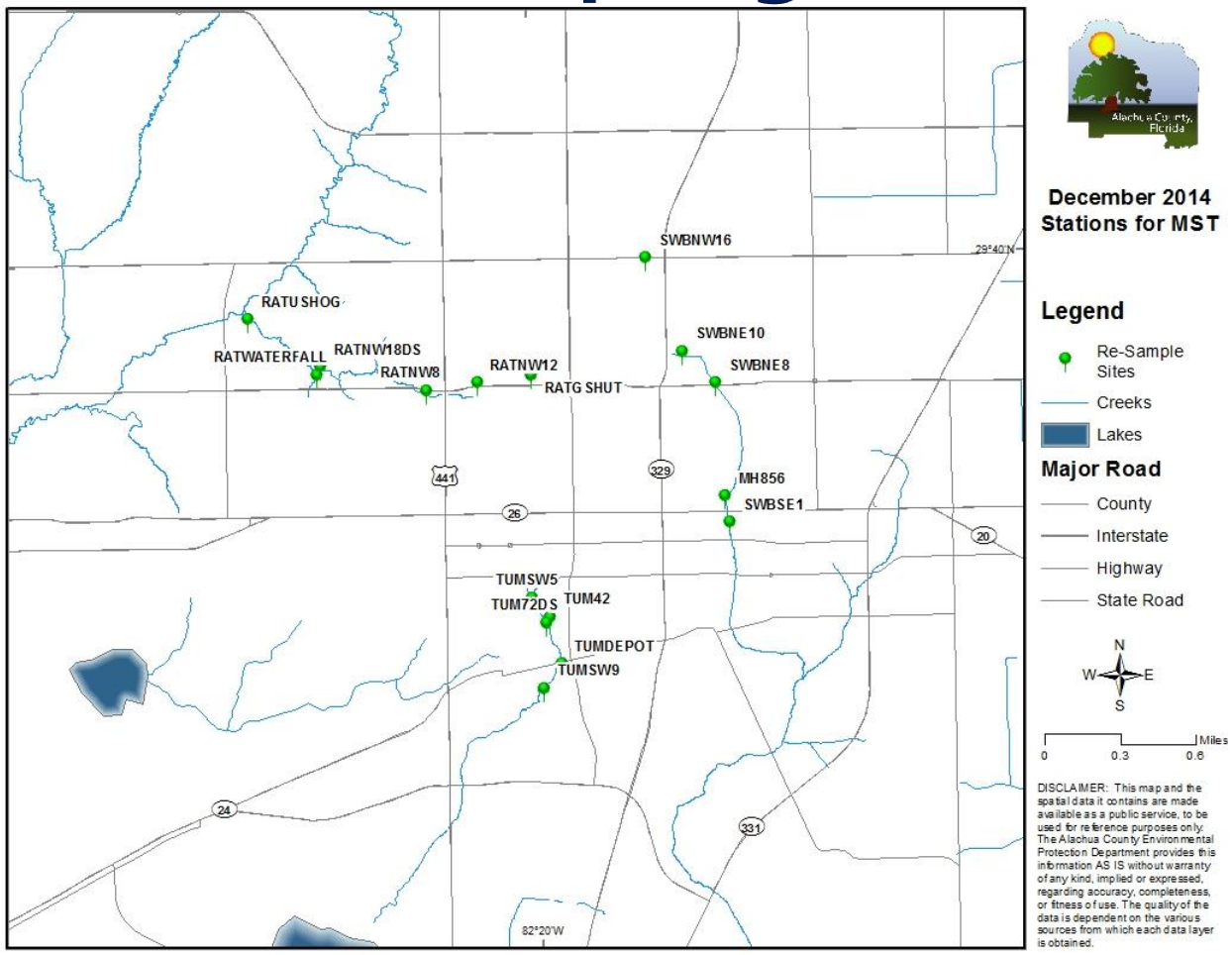


Preliminary Sample Limitations

- Sample results have only been reported from the one time event during a wet August 2014
- Two more sampling events are planned, one during the dry period of April or May 2015, and one during wetter periods of June or July 2015

December 2014 Resampling

- Resampling of Rattlesnake, Sweetwater Branch, and Tumblin Creek completed this week for confirmation of Acetaminophen and Sucralose August results



Alachua County, Florida

Environmental Protection Department