



Florida Department of Environmental Protection

WRLS Demystified

May 16, 2017
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WRLS Pilot Study 2017

- Systematic approach to Source Identification of Raw Human Waste
 - Source Specific Indicators
 - Rapid turnaround (results to next round monitoring)
 - Collaborative effort
 - First time most of the DEAR monitoring staff are monitoring in stormwater systems
- *DEAR sections involved:*
 - Watershed Planning and Coordination Section (BMAPs)*
 - Regional Operations Centers (Field staff)*
 - Bureau of Labs*
 - Watershed Services (GIS analysts)*

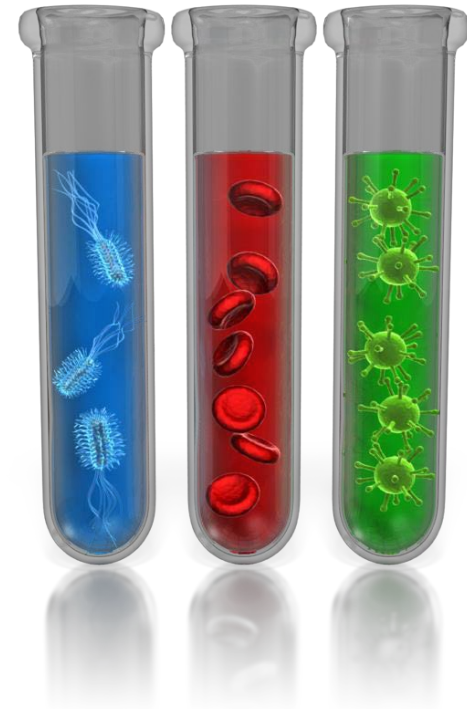


WRLS Pilot Study 2017

Parameters

Focused on finding sources of raw sewage.

- Chemical Tracers
 - Acetaminophen
 - Sucralose
- Microbial Source Tracking
 - Human Marker: HF-183
- Fecal Indicator Bacteria
 - Enterococci – Marine
 - E-coli – Fresh



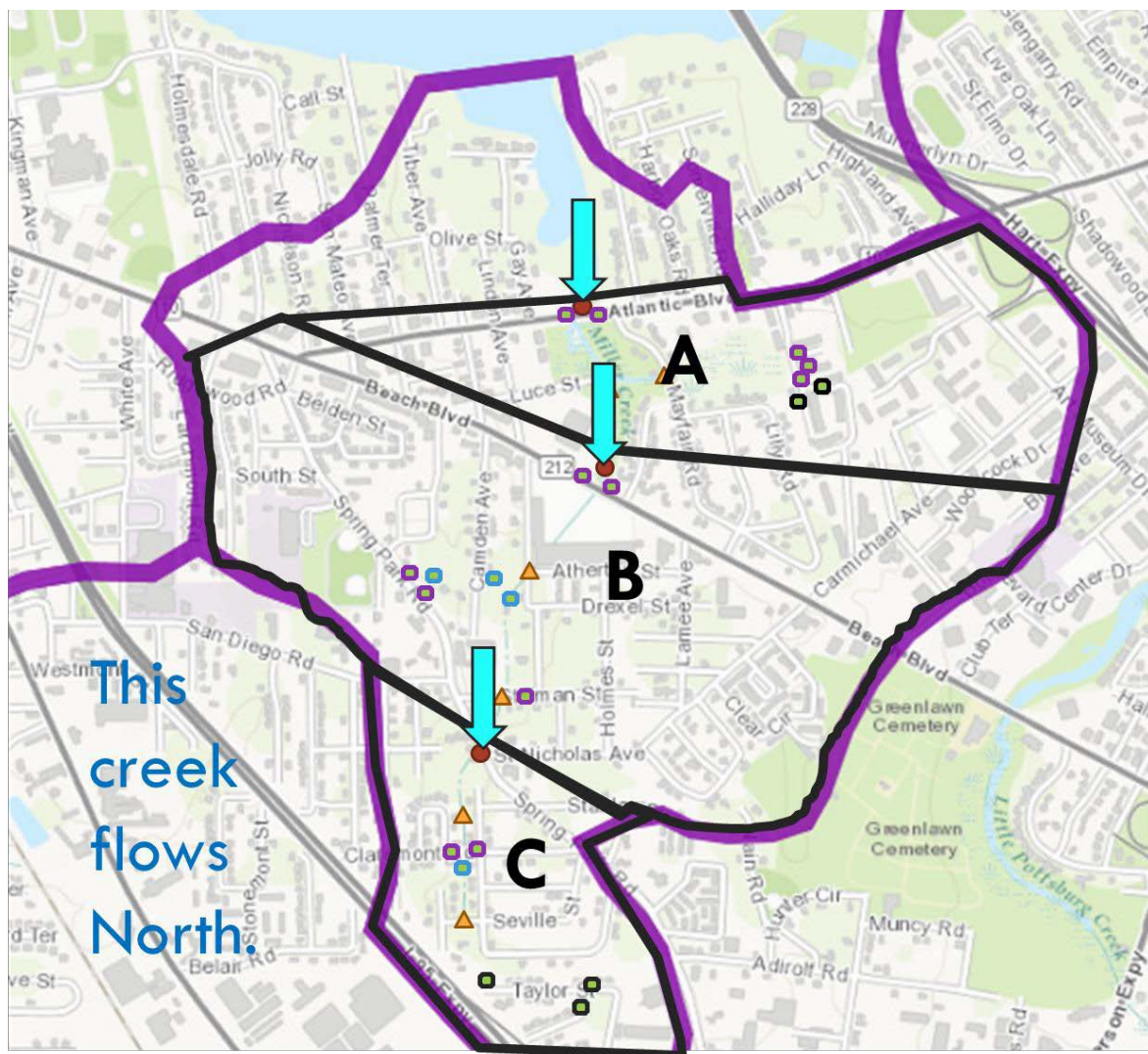


Resource Intensive

Before FDEP begins an intense WRLS monitoring effort these criteria should be met:

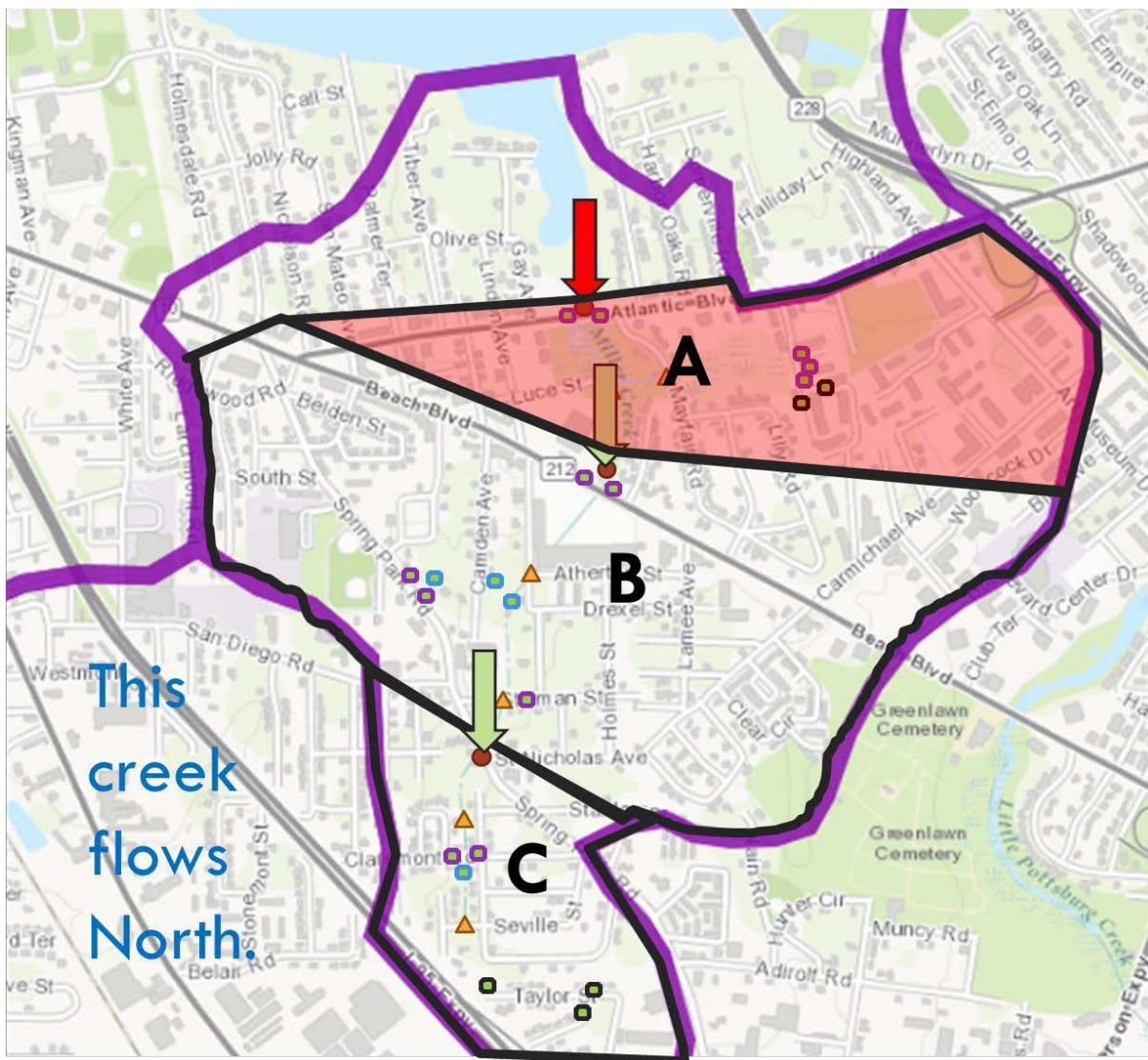
- FDEP
 - The waterbody is impaired for FIB
 - A TMDL is adopted
 - High risk
- Local municipality efforts
 - Hot spot monitoring
 - Follow-up on high trend results
 - Field recon
 - Full Walk the WBID collaborative effort
 - Request for assistance from FDEP



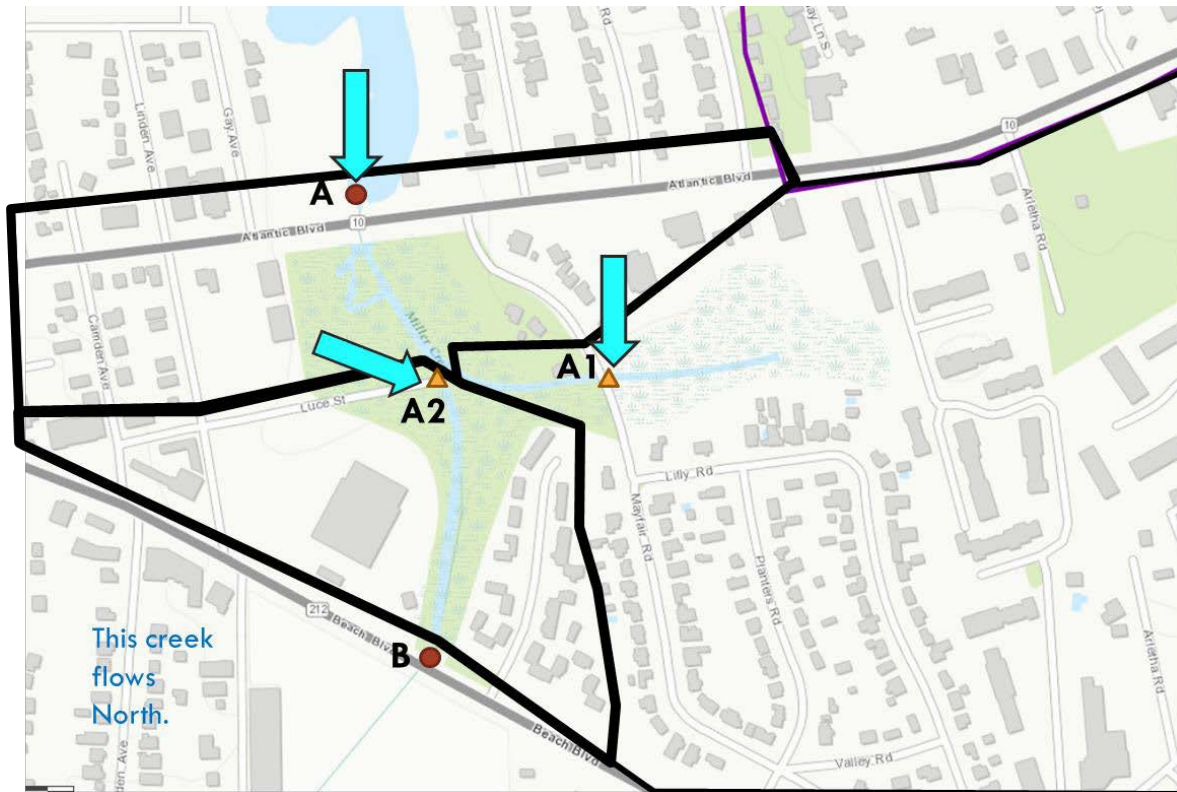


HYPOTHETICAL EXAMPLE ROUND 1

- Stations positioned to represent sub-basins of a WBID.
- Typically easy access like bridges and typically on the natural creek.

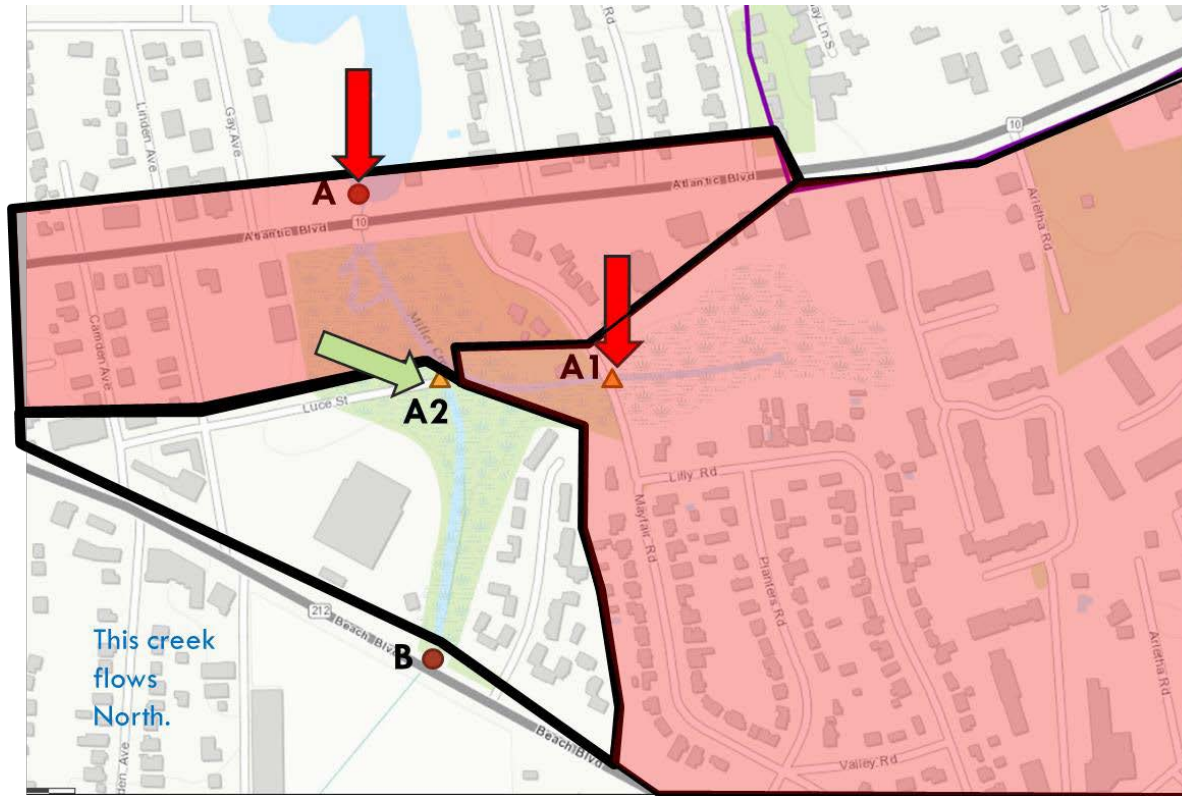


- If A is hot for raw sewage
- And B is not
- By process of elimination, we expect the source is in the contributing watershed of station A.

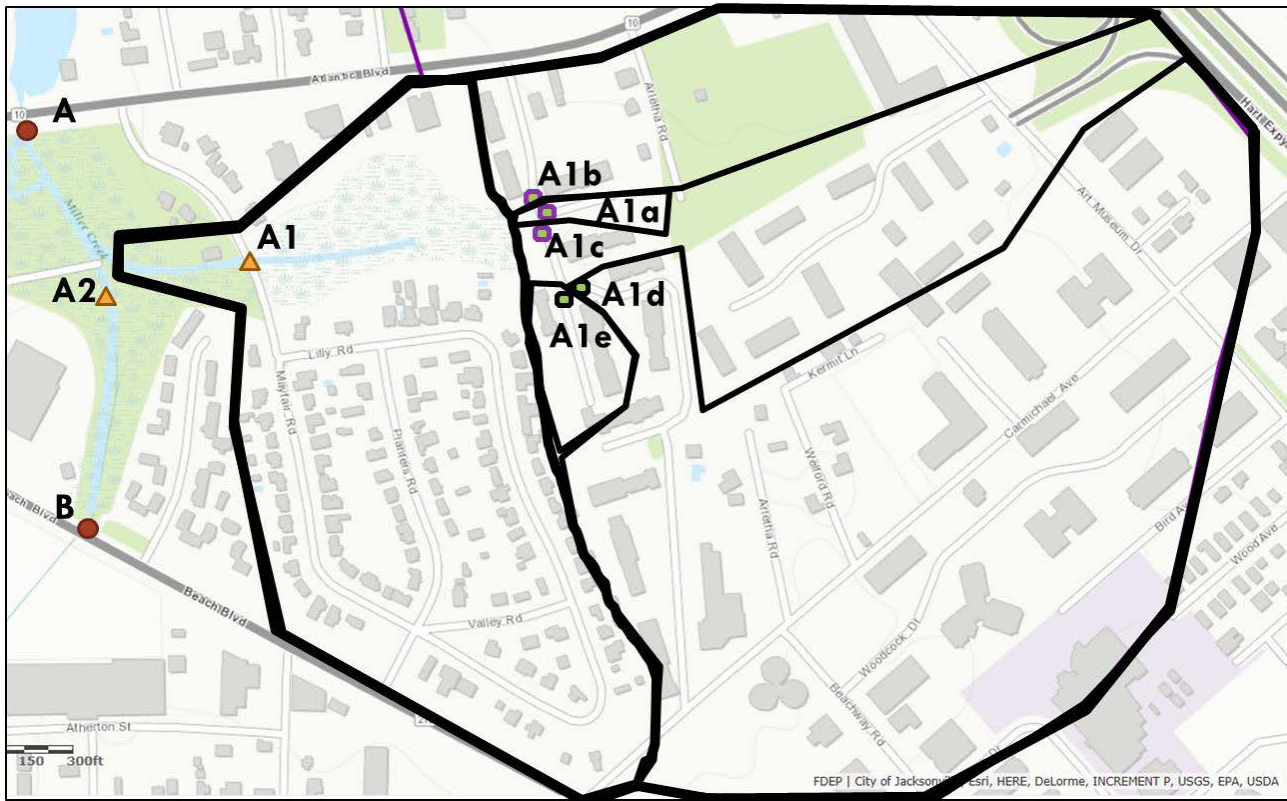


ROUND 2

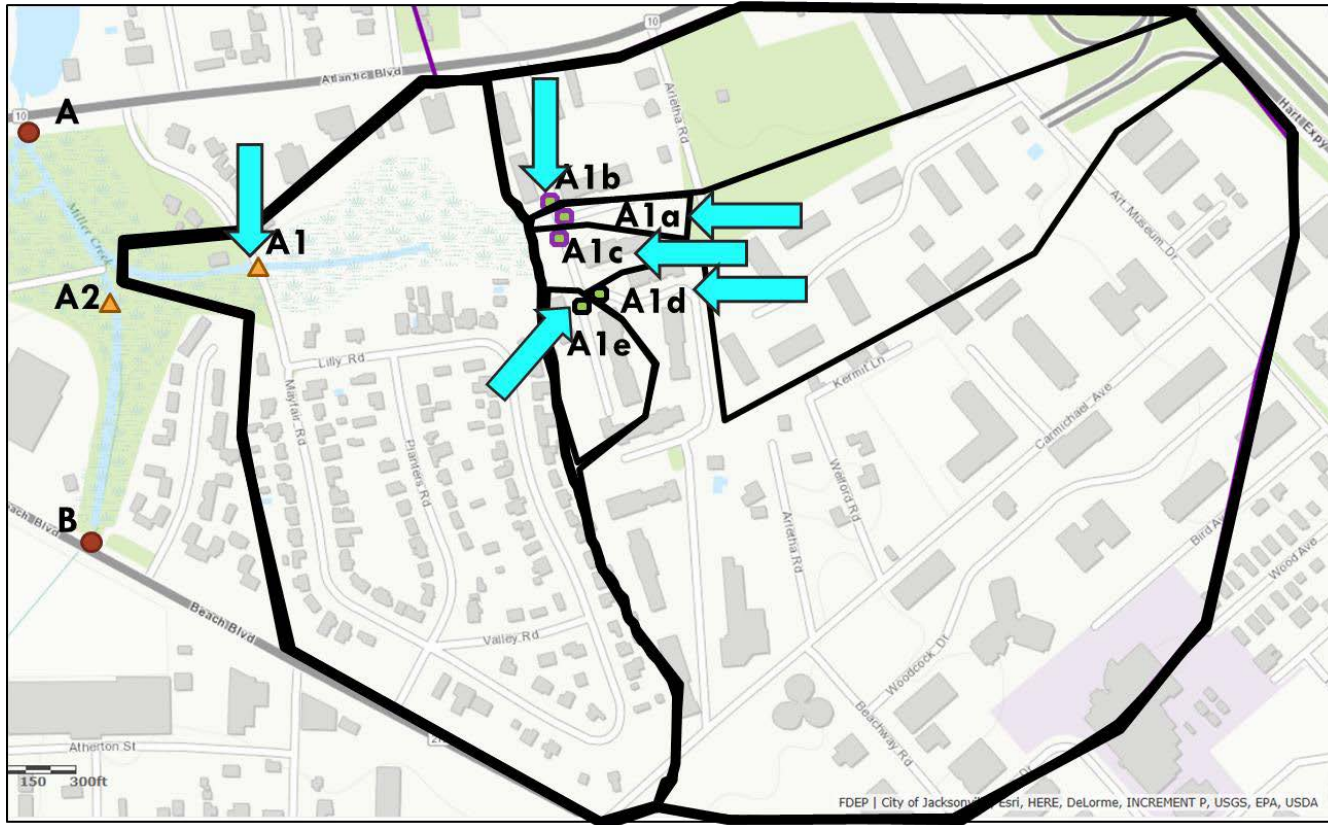
- Repeat A
- Add stations where they break the contribution area into smaller sub-basins.



- If A and A1 are hot for raw sewage, sample in the contributing area of A1 to zero in on the source.

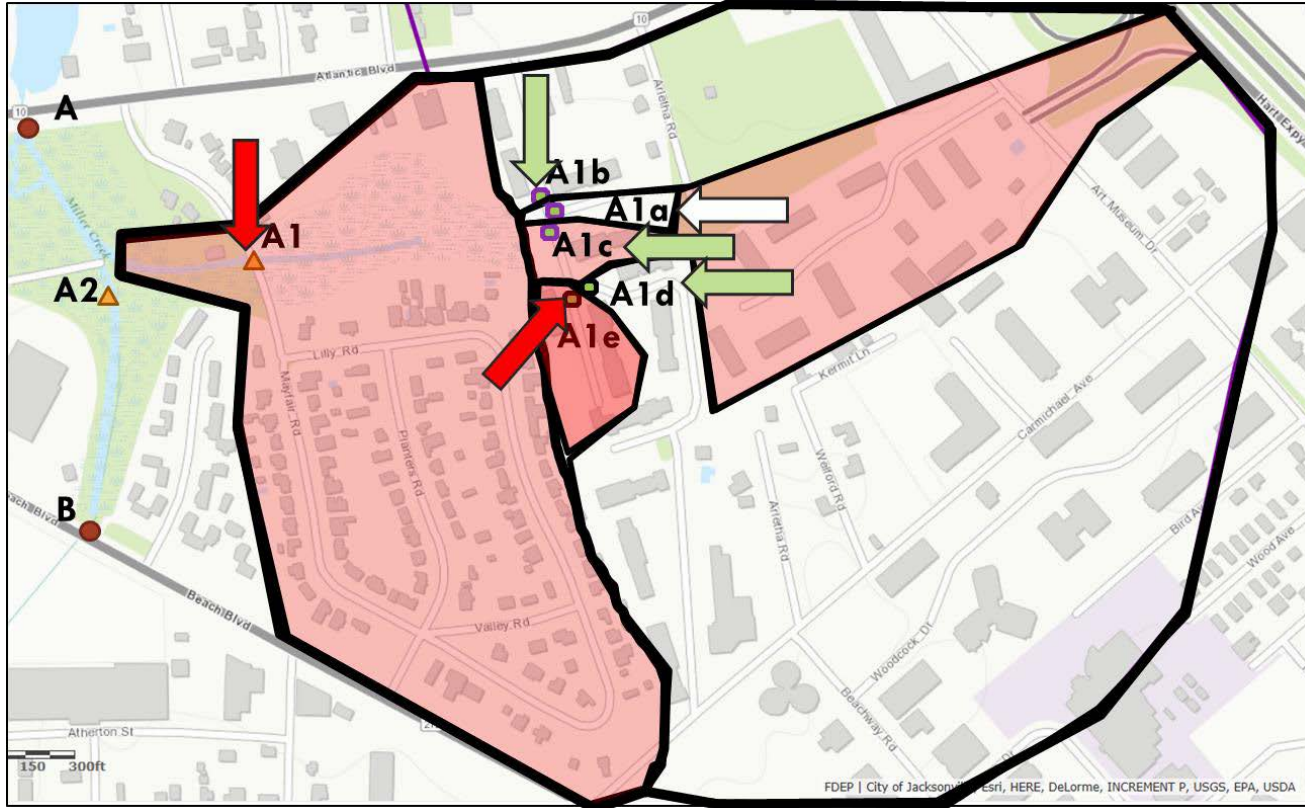


- Sampling in stormwater conveyances gets complicated very fast.
- Assistance from local municipalities is vital.
 - Confirm contributing watershed and connectivity
 - Field recon
 - Help FDEP locate stormwater components
 - Open manholes and block traffic
 - Check flow



ROUND 3

- Repeat A1
- Add stations where they break the contribution area into smaller sub-basins.



- If station A1e is the most upstream hit for raw sewage, municipalities and FDEP work to find the source in A1e's contributing area.



WRLS pilot 2017 Waterbodies

- **Jacksonville vicinity**
 - Butcher Pen
 - Miller Creek
 - Hopkins Creek
- **Penascola vicinity**
 - Jackson Creek
- **Plant City vicinity**
 - Spartman Branch
- **Miami**
 - Wagner Creek/Seybold Canal





Questions?