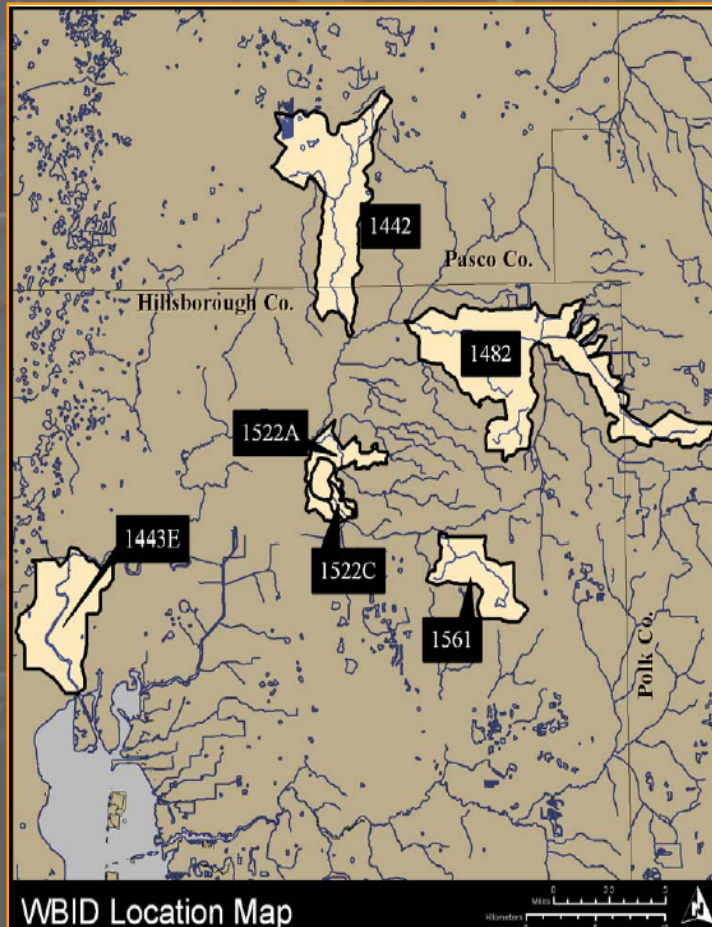


Fecal Coliform TMDLs in the real world

City of Tampa:
Experiences from the Lower
Hillsborough River BMAP

Area TMDLs for Fecal Coliform



- Lower Hillsborough River
- Spartman Branch
Entirely within the City Limits
- Blackwater Creek
- New River
- Flint Creek
- Baker Creek

Coordinated Effort

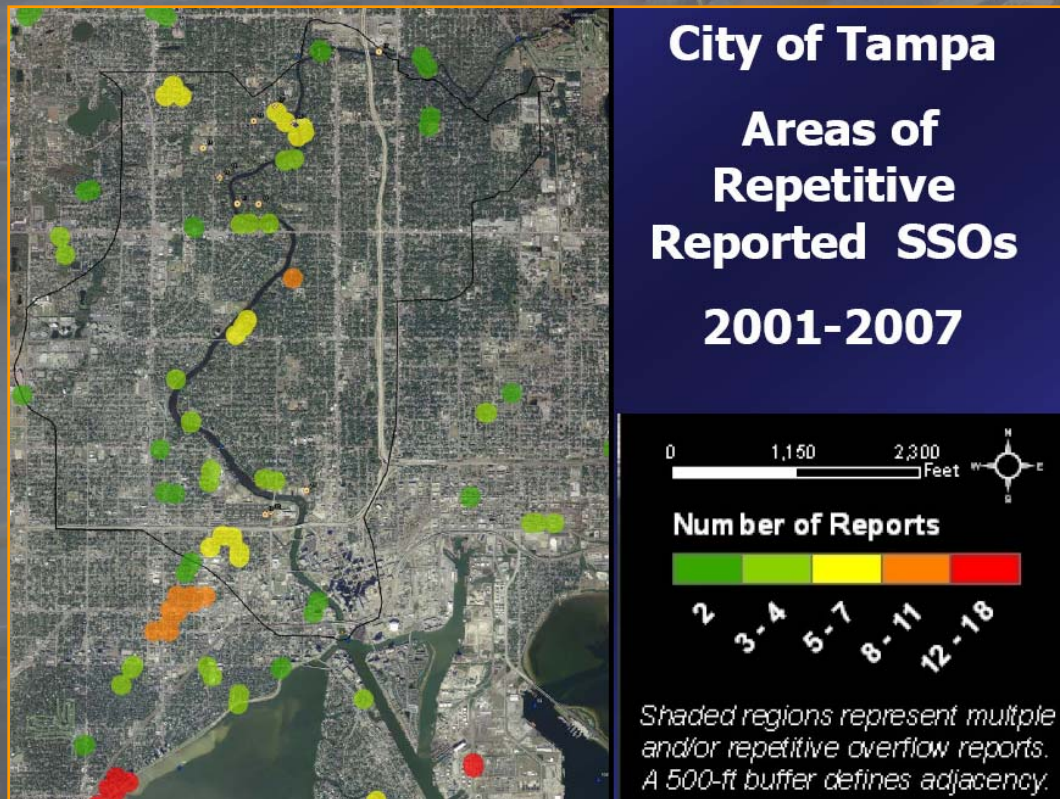


Lower Hillsborough River WBID

- Highly urbanized; enclosed by Tampa City limits
- Upper and Lower River segment separated by dam
- Area serviced by City sewer
- Tidal influence throughout
- Minimal agricultural land
- WQ data going back to 1970's
- "Urban" sources ??
 - Homeless camp
 - Sewer overflows
 - Urban wildlife



Sanitary sewer overflows (SSOs)



- GIS layout of reported overflows 2001-07
- Plotted by frequency (*not volume*)
- Used to locate sampling stations

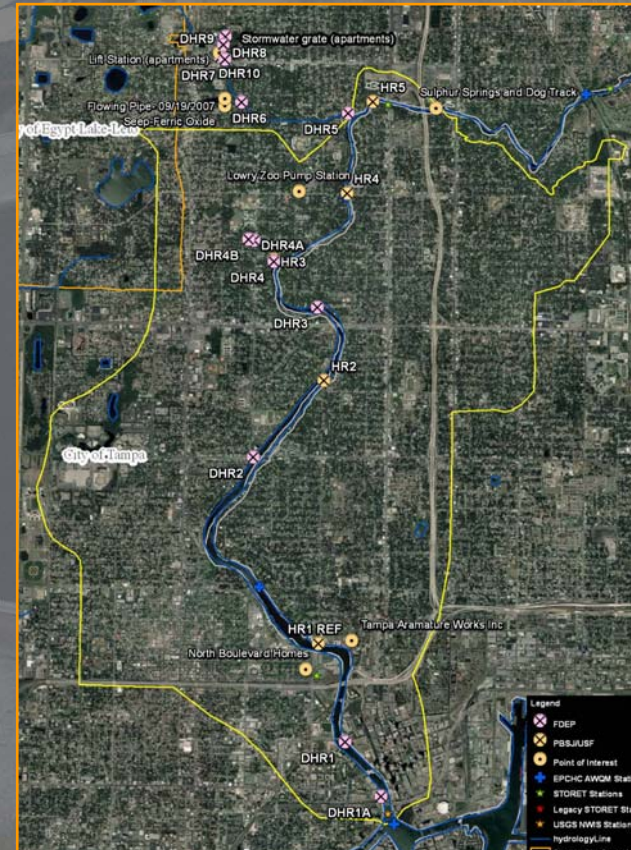
Fecal Field Day!!

- **Boat Tour**
 - Identify outfalls
 - Locate SSO hotspots
- **Walk the WBID**
 - Highlight major drainage inputs
 - Share local knowledge

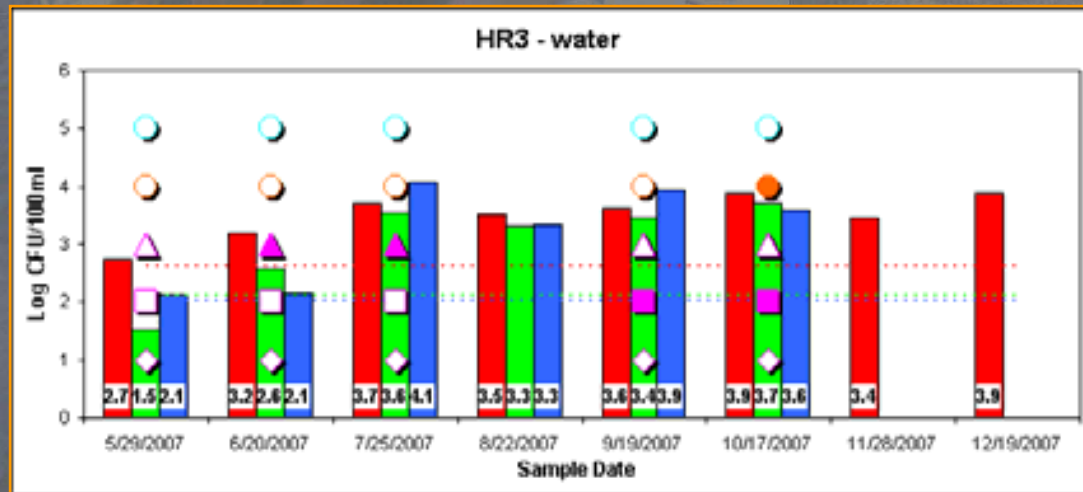


MST Station Locations

- 15 sample stations
 - New and “old” locations
 - Maintain historic data sites
 - Near SSO hot-spot where possible
 - USF and DEP perform sampling
 - Sample for “yes” or “no” only--not quantities



MST Source Sampling



- Human markers noted consistently at 3 locations
 - Sligh Ave: historic SSOs
 - Rome & Fern: residential neighborhood
 - Fountain Bridge Apartments swale

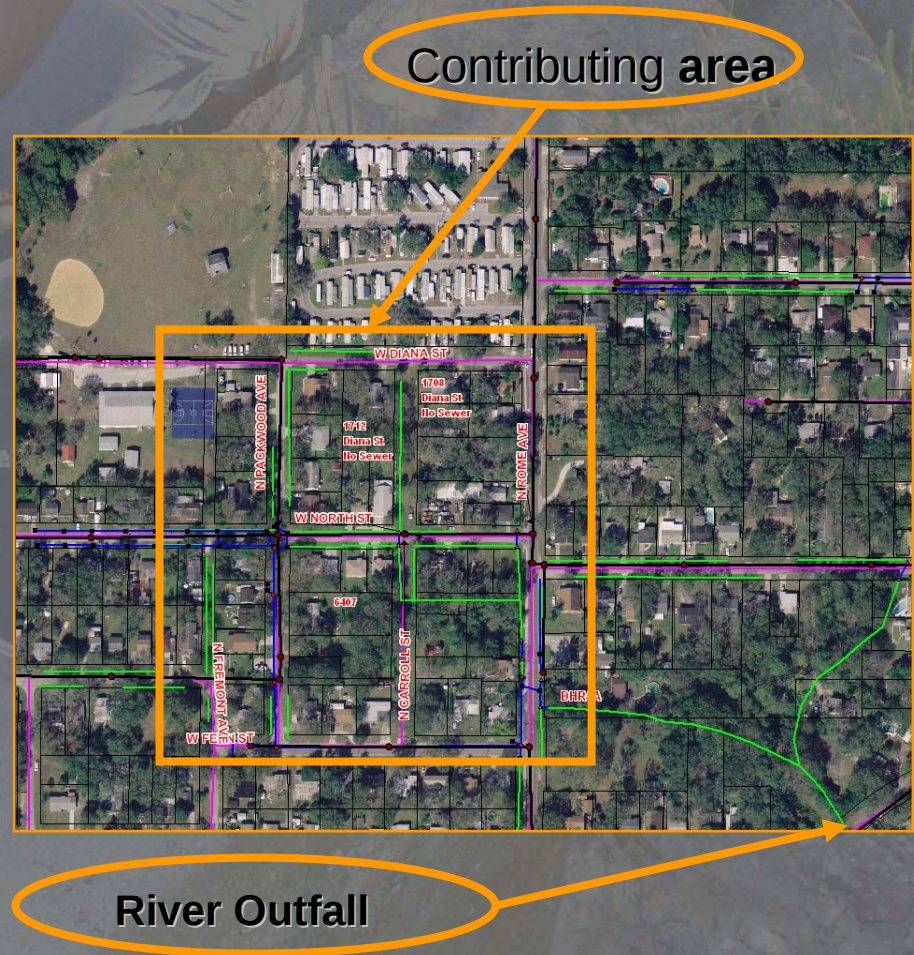
Sligh Avenue



- Historic, repetitive SSO location
- Sanitary sewer pump station was recently improved
- Continued environmental sampling will track improvements

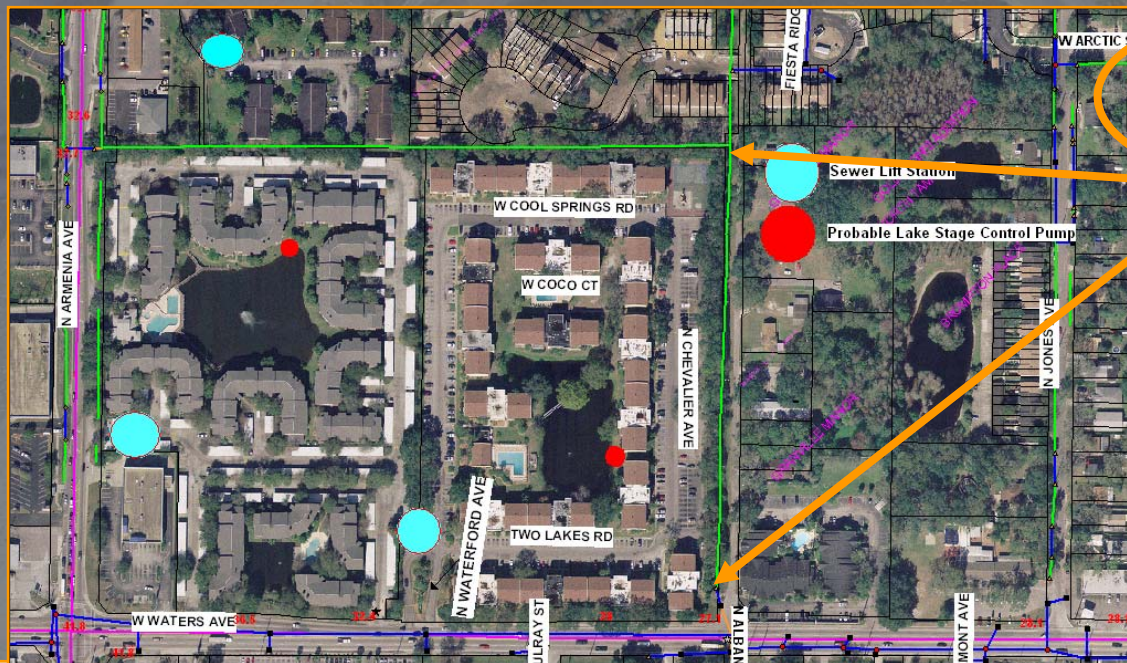
Rome & Fern

- Storm sewer lines televised
- Sanitary lines televised
- Minimal SSOs
- City investigated possible septic tanks
- Unidentified source
- Continued sampling and investigation with Hillsborough EPC



Fountain Bridge Apartments

- Private pump station possibly contributing
- Upstream contributions ruled out via sampling
- Sanitary lines were televised
- Ongoing sampling and investigation



Sampling
Stations

BMAP Lessons Learned

- The cooperative effort of BMAP members cannot be overlooked
- Local knowledge and information helped target sources
- GIS information was extremely useful
- MST sampling reduced areas of concern
 - Source investigation streamlined
 - Reduces “background” or wildlife sources
 - Regulatory processes uncertainty

Lingering Problems

- **Speciation**
 - Fecal coliform
 - Enterococci
- **Will this work translate into de-listing?**
 - TMDL sampling does not differentiate between human and wildlife
 - Upstream inflow not accounted for in WBID
 - Major drainage inputs not accounted for in WBID
 - Influence of tides on water quality
 - Is it realistic for SSOs to be eliminated?
 - How to meet DAILY limit?

How do you control a fluctuating contaminant level? When is the TMDL met?

