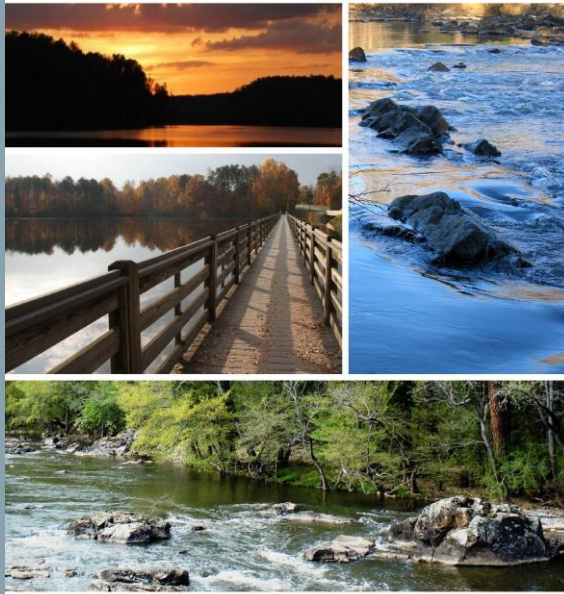


# Guilford County Watershed Prioritization



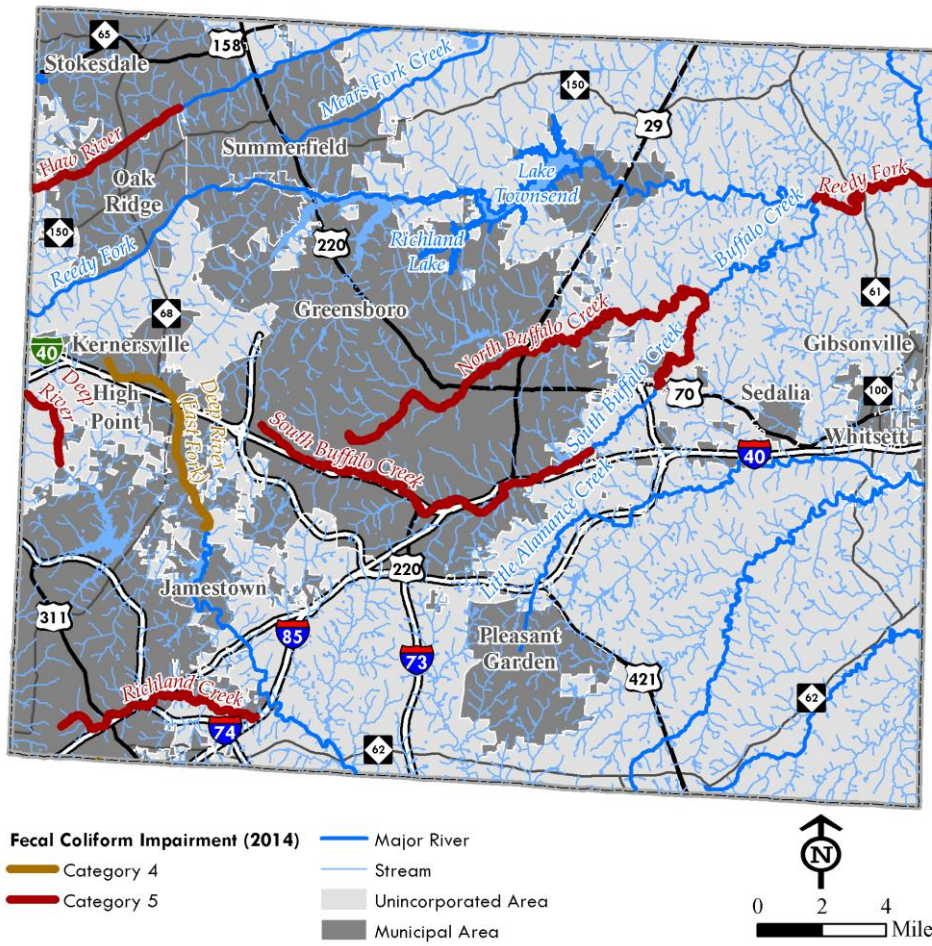
## Guilford County Watershed Prioritization



2017



# Current Impairments



- There are 7 streams within Guilford County that have been placed on the 303(d) impaired waters list
  - North Buffalo Creek
  - South Buffalo Creek
  - Reedy Fork
  - Mears Fork-Haw River
  - Oak Hollow Lake-Deep River
  - High Point Lake-Deep River
  - Richland Creek
- Total Maximum Daily Loads (TMDLs) required for 6 out of 7
  - 75%-96% reductions required

# General Sources of Fecal Coliform

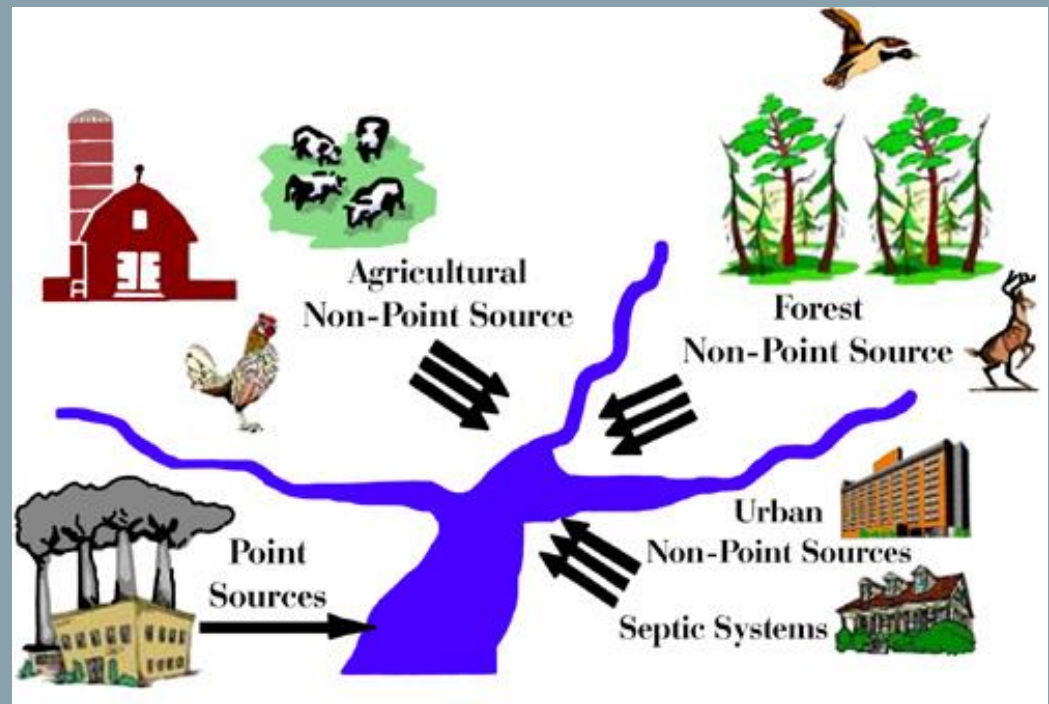


- Point Sources

- WWTPs
- Sewer Overflows
- Failing sewer/septic systems
- Permitted Industries

- Non-point Sources

- Agricultural operations
  - ✧ Animal operations & manure application
- Illicit Discharges
- Septic Systems
- Pet waste
- Wild animals/waterfowl



# Strategies for Reducing Fecal Coliform



- Septic and Sewer Systems

- Ordinances, Permit Reviews, & Enforcement
- Evaluate For Failures
- Septic Tank Inspection, Upgrades, & Phase-Outs
- Sewer System Inspection & Maintenance
  - ✦ Including Manholes, Pump Stations, ARVs, & Private Lift Stations
- Sewer Line Upgrades
- SSO Investigations

- Agricultural Operations

- Waste Storage and Management
- Manure/Fertilizer Application Management
- Lagoon Inspection & Maintenance
- Cattle Exclusion Fencing, Buffers, & Other BMPs
- Public Education



© National Engineering Council

# Strategies for Reducing Fecal Coliform



- Stormwater
  - Flood Control Capital Projects
  - Private Lift Station Inspection
  - Capital Projects/Stormwater Water Quality BMPs
    - ✦ Those that slow water and expose water to sunlight
  - Stormwater System Ditch and Canal Maintenance
  - Stormwater Pond Maintenance
  - Stormwater Pipe Cleaning and Maintenance
  - Illicit Connection Detection and Removal
  - Public Education
- Pet Waste
  - Ordinances and Enforcement
  - Public Education
- Special Assessments/Water Quality Monitoring
  - Water Quality Sampling
  - Microbial Source Tracking



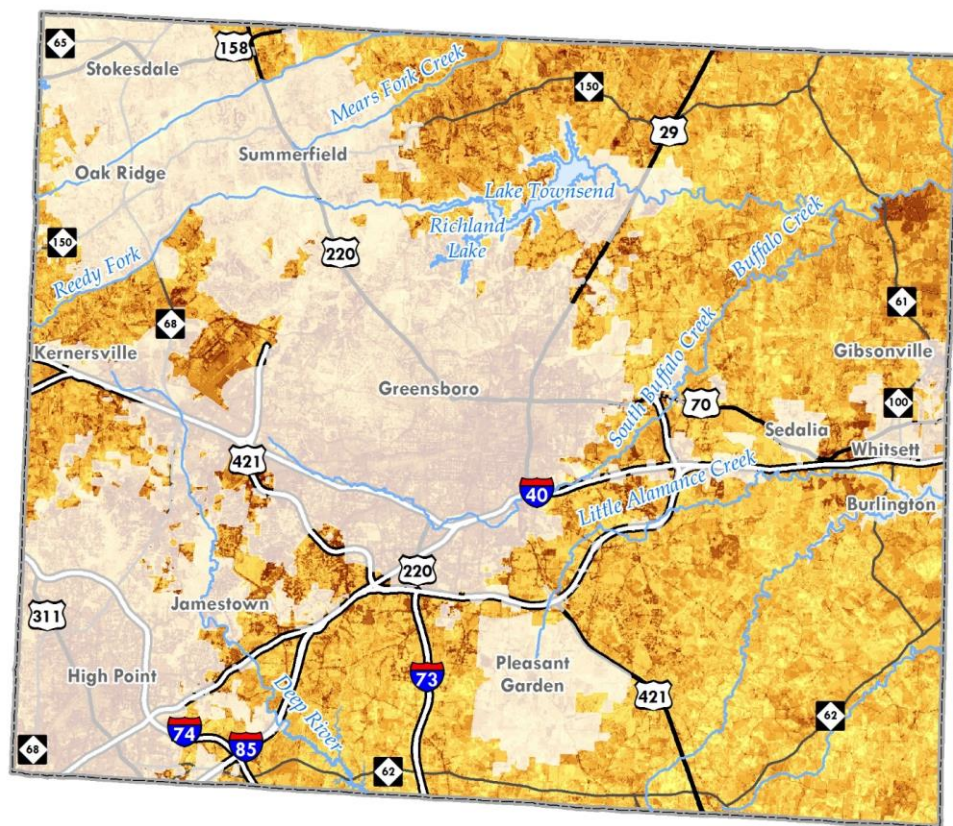
# Field Data



Site Number	Project Name	Sample Location	Fecal Coliform (col/100ml)
US S1-1	Sedgefield Subdivision	3301 Donnington Ct	1070*
DS S1-1	Sedgefield Subdivision	4709 Postbridge Dr	327*
US S3-1	Mobile Home Park	3529 McConnell Rd	580*
US S4-1	Stoney Creek Residential	911 Golf House Rd West	400*
DS S4-1	Stoney Creek Residential	940 Rear Golf House Ct	940*
US S5-1	A&T Farm	4220 Holts Chapel Rd	76
DS S5-1	A&T Farm	717 JFH Dairy Rd	84
US S6-1	Former County Prison Farm	7315 Howerton Rd	26
DS S6-1	Former County Prison Farm	7315 Howerton Rd	4000*

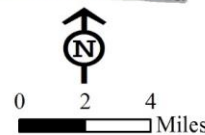
- Top 6 sites were tested for fecal coliform
- 5 out of the 6 sites resulted in samples above NCDEQ water quality standards
- All but 1 had higher downstream concentrations than upstream
- NCDEQ ambient monitoring data may help illuminate additional trends and sources of impacts

# GIS Methodology



Stress Analysis (Version 3)

High : 801  
Low : 0



- Created a weighted model which compared:
  - High Impervious Surface Cover
  - Highly Erodible Soils
  - Septic Repair Fields
  - Forest Cover
  - Steep Slopes
  - Animal Operation Permits
  - Farmland
  - Density
  - Parcel Size
  - Zoning
  - Floodplain
- Calculated mean stress value for each catchment and ranked in descending order

# Top Priority Projects



Final Project ID	Draft Project ID	Project Name
1	6	Sedgefield Subdivision
2	1	Farms on Reedy Fork
3	3	Mobile Home Park
4	2	Stoney Creek
5	8	A&T Farm
6	13	Former County Prison Farm
7	4	Trinity Lake Subdivision
8	7	Rural Residential (Sandy Ridge Area)
9	9	Sedalia Farm
10	10	Mixed Industrial/Residential
11	11	Northern Residential
12	12	Farms on Buffalo Creek
13	14	Southeast Farms
14	15	Farms along Sandy Ridge
15	16	Browns Summit Farms

- Interactive Map:

- <http://ptrc.maps.arcgis.com/apps/MapTools/index.html?appid=f003e9a749504156b71aad5fe3172a02>