An Overview of Armand Bayou
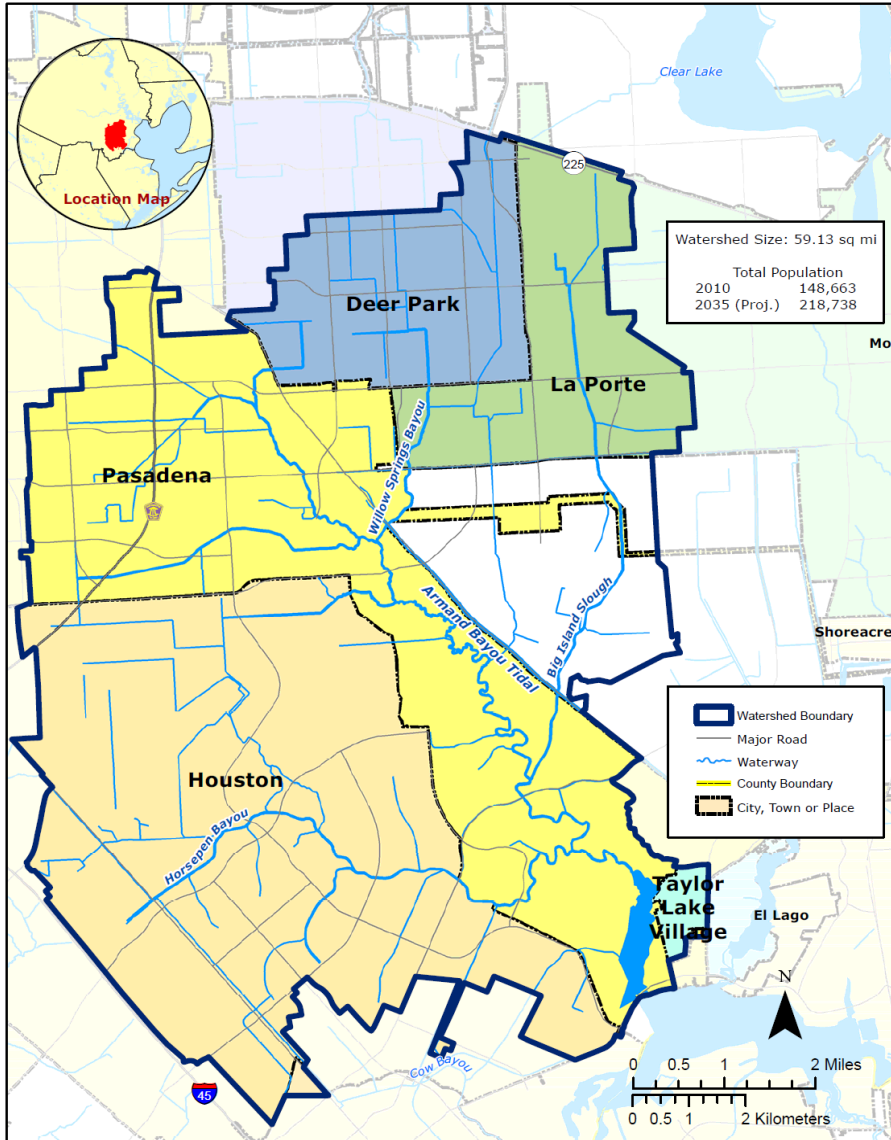

Todd Running, Houston Galveston Area Council

Jurisdictions Involved

ARMAND BAYOU WATERSHED

Watershed Size: 59.13 sq mi

Total Population
2010   148,663
2035 (Proj.)   218,738

Legend:
- Watershed Boundary
- Major Road
- Waterway
- County Boundary
- City, Town or Place

Harris County

City of Pasadena
City of La Porte
City of Houston
City of Deer Park
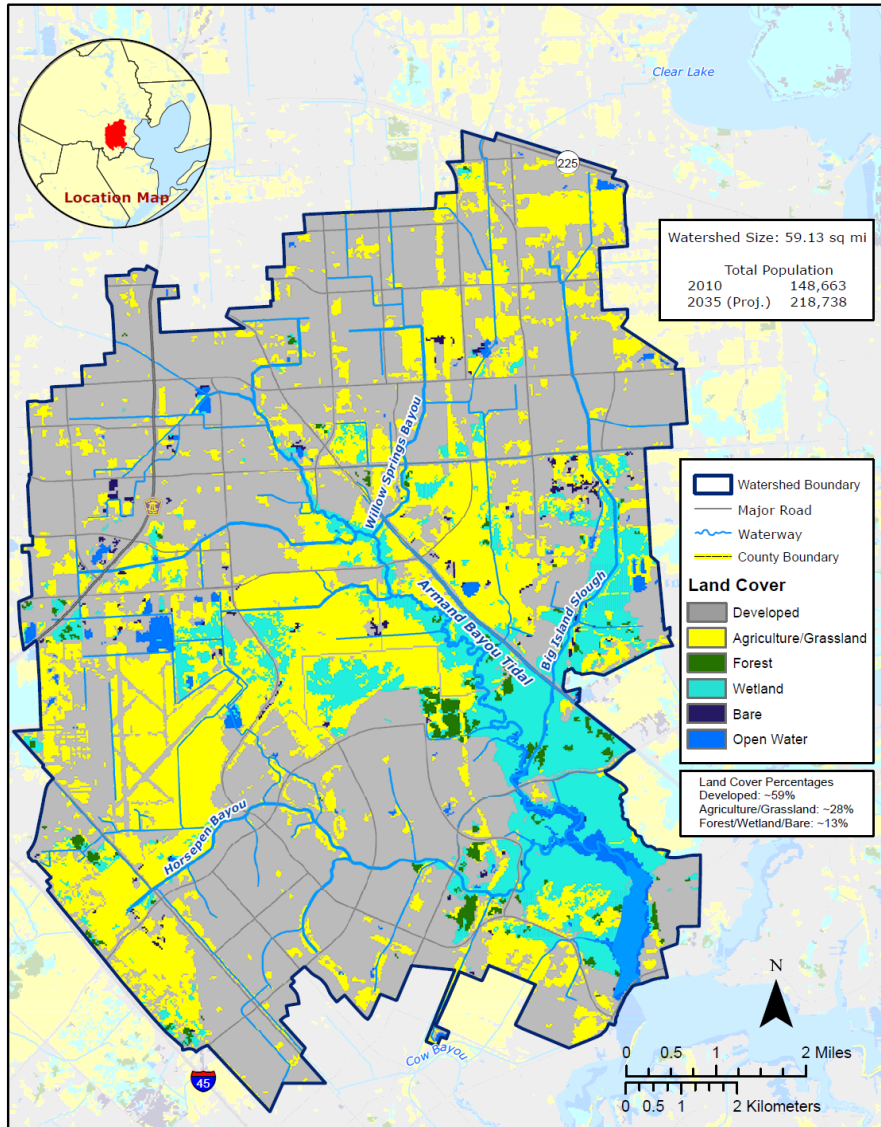**Taylor Lake Village**

Ellington Air Field
Johnson Space Center
Armand Bayou Nature Center
University of Houston Clear Lake

Land Cover

ARMAND BAYOU WATERSHED - LAND COVER 2010
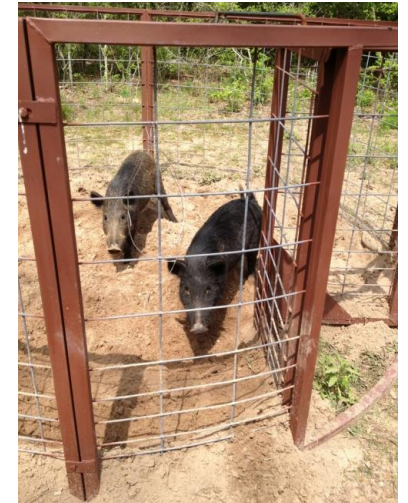
Armand Bayou Has it All

- Developed
  - Residential
  - Commercial
  - Industrial
- Grasslands and Ag
- Forested
- Wetlands
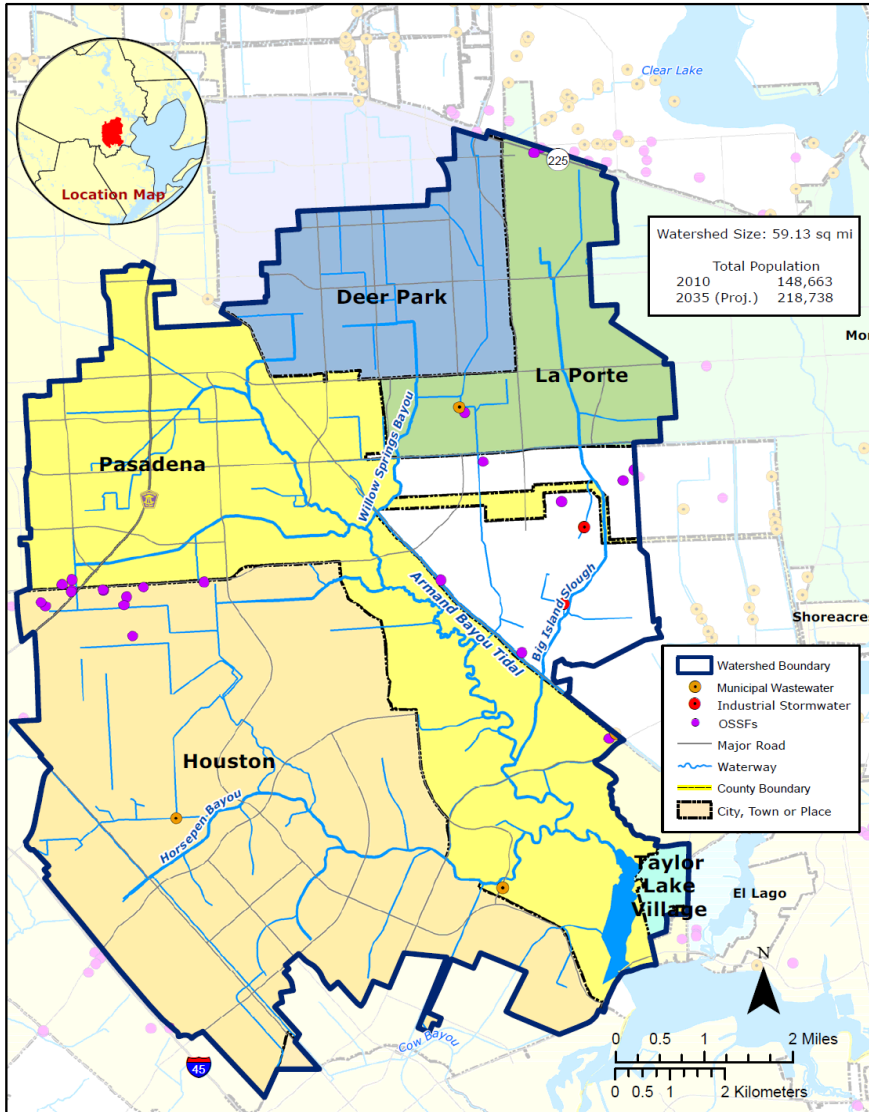- Open Water

Potential Sources

- WWTFs
- OSSFs
- Sanitary Sewer Overflows
- Illicit Connection/Discharges
- Storm Water Runoff
- Pet Waste
- Wildlife

Wastewater Treatment

ARMAND BAYOU WATERSHED - WASTEWATER TREATMENT

Watershed Size: 59.13 sq mi

Total Population
2010   148,663
2035 (Proj.)   218,738

Legend:
- Watershed Boundary
- Municipal Wastewater
- Industrial Stormwater
- OSSFs
- Major Road
- Waterway
- County Boundary
- City, Town or Place

- **Five Permitted Treatment Plants**
  - Three municipal
  - Two Industrial Stormwater
- **27 Permitted OSSFs**
- **170 Unpermitted OSSFs (estimated)**

Water Quality Monitoring

ARMAND BAYOU WATERSHED - MONITORING STATIONS
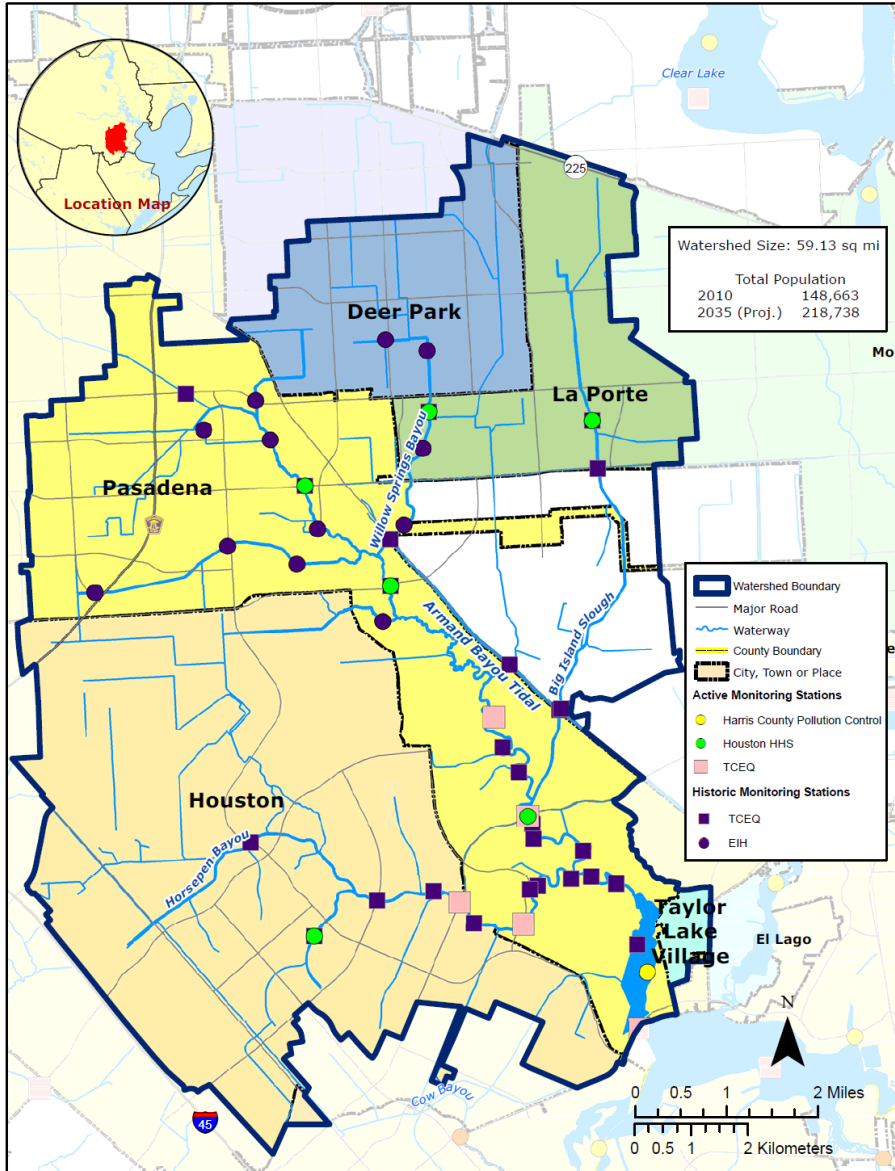
11 Active Sites
     Harris County
     City of Houston
     TCEQ

Over 30 Historical Sites
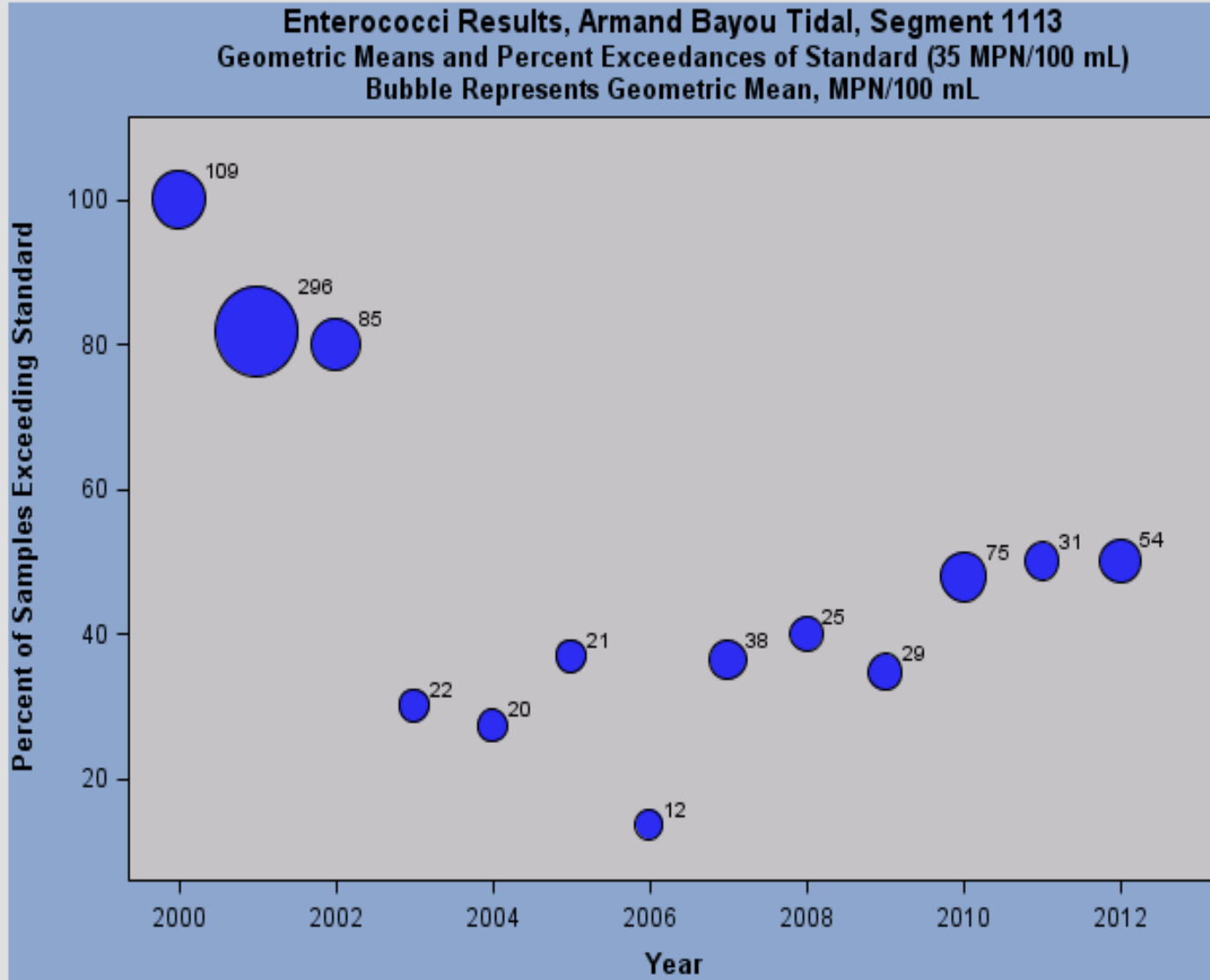   **TCEQ**
     EIH

12 Years of Tidal Bacteria Data

Summary Statistics - Enterococci in Armand Bayou Tidal, Segment 1113
Current Water Quality Standard: 35 MPN/100 mL

Year	Number of Samples	Minimum	Maximum	Geometric Mean	Percent of Samples Exceeding Standard
2000	2	109	110	109	100
2001	11	10	13000	296	82
2002	5	20	486	85	80
2003	10	10	169	22	30
2004	11	10	346	20	27
2005	19	10	300	21	37
2006	22	10	500	12	14
2007	22	10	24192	38	36
2008	20	10	330	25	40
2009	26	10	1700	29	35
2010	23	10	24000	75	48
2011	26	10	4100	31	50
2012	4	20	200	54	50

12 Years of Tidal Bacteria Data

Enterococci Results, Armand Bayou Tidal, Segment 1113
Geometric Means and Percent Exceedances of Standard (35 MPN/100 mL)
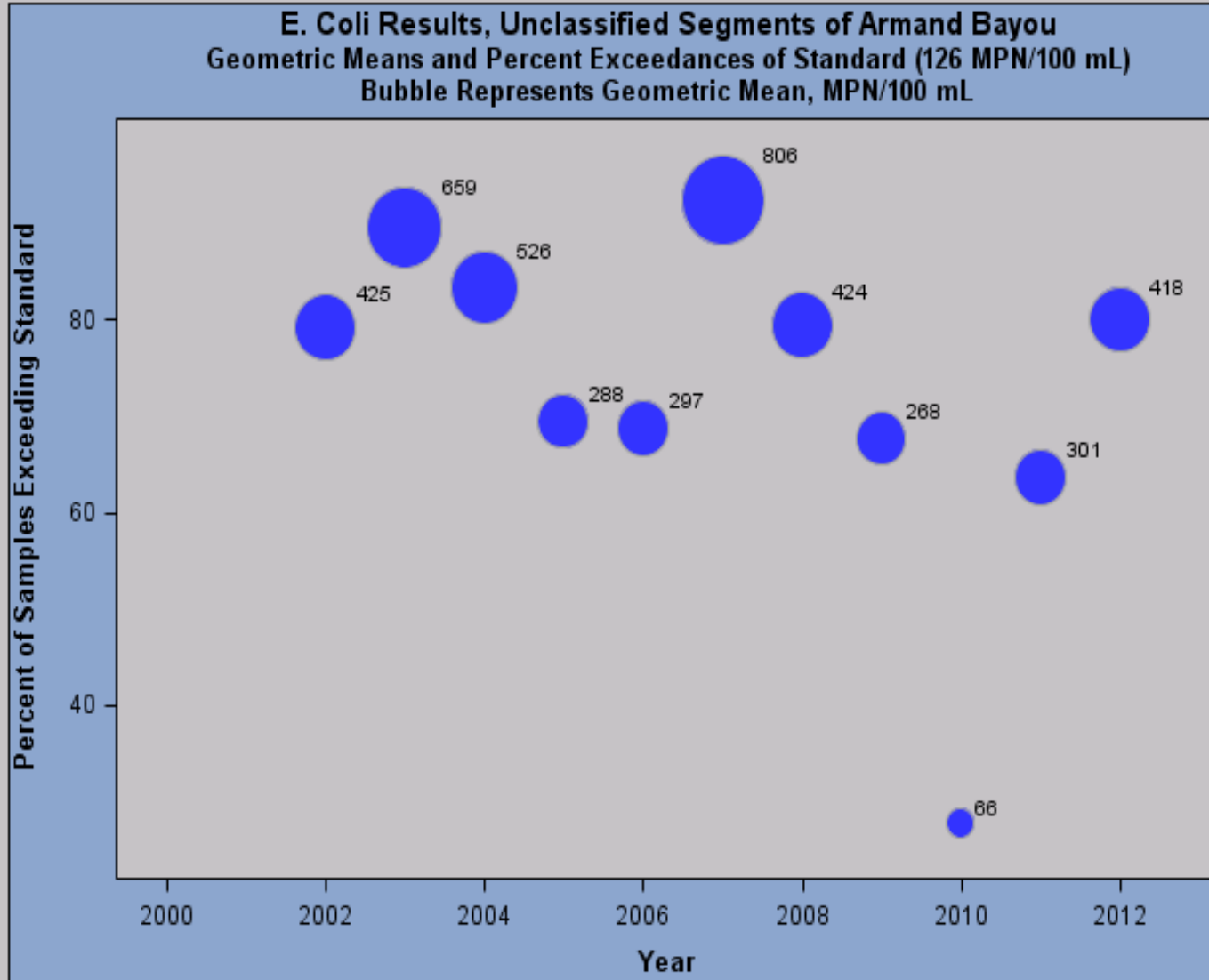Bubble Represents Geometric Mean, MPN/100 mL

12 Years of Bacteria Data

Summary Statistics - E. Coli in Unclassified Segments of Armand Bayou
Current Water Quality Standard: 126 MPN/100 mL

Year	Number of Samples	Minimum	Maximum	Geometric Mean	Percent of Samples Exceeding Standard
2002	48	10	25000	425	79
2003	48	10	24000	659	90
2004	48	10	19000	526	83
2005	36	10	6000	288	69
2006	48	10	20000	297	69
2007	39	84	61000	806	92
2008	34	30	44000	424	79
2009	34	45	77000	268	68
2010	36	2	1200	66	28
2011	44	4	24000	301	64
2012	10	24	24000	418	80

12 Years of Bacteria Data

E. Coli Results, Unclassified Segments of Armand Bayou
Geometric Means and Percent Exceedances of Standard (126 MPN/100 mL)
Bubble Represents Geometric Mean, MPN/100 mL
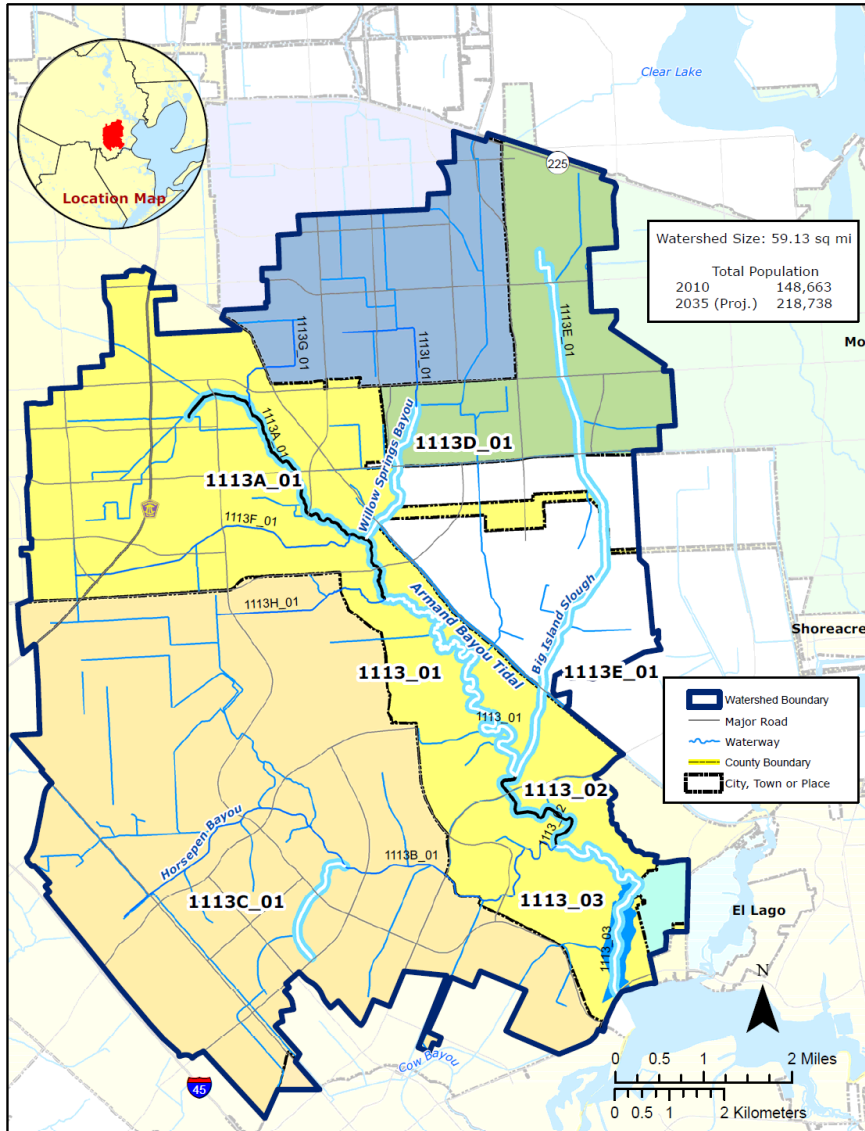
Assessment Units

ARMAND BAYOU WATERSHED - ASSESSMENT UNITS

Tidal:
- **Armand Bayou (1113)**
- **Horspen Bayou Tidal (1113B)**

Fresh:
- **Armand Bayou (1113A)**
- **Unnamed Tributary to Horsepen Bayou (1113C)**
- **Willow Springs Bayou (1113D)**
- **Big Island Slough (1113E)**

Bacteria Data by Assessment Unit

Geometric Means by Assessment Unit

Assessment Unit	Number of Samples	Seven-Year Geometric Mean	Water Quality Standard
1113_01	42	23	Enterococci (35 MPN/100
1113_02	72	38	Enterococci (35 MPN/100
1113_03	19	43	Enterococci (35 MPN/100
1113D_01	54	633	E. Coli (126 MPN/100 mL)
1113A_01	68	153	E. Coli (126 MPN/100 mL)
1113C_01	53	178	E. Coli (126 MPN/100 mL)
1113E_01	50	402	E. Coli (126 MPN/100 mL)

Data from June 2005 – May 2012

Thank You!

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