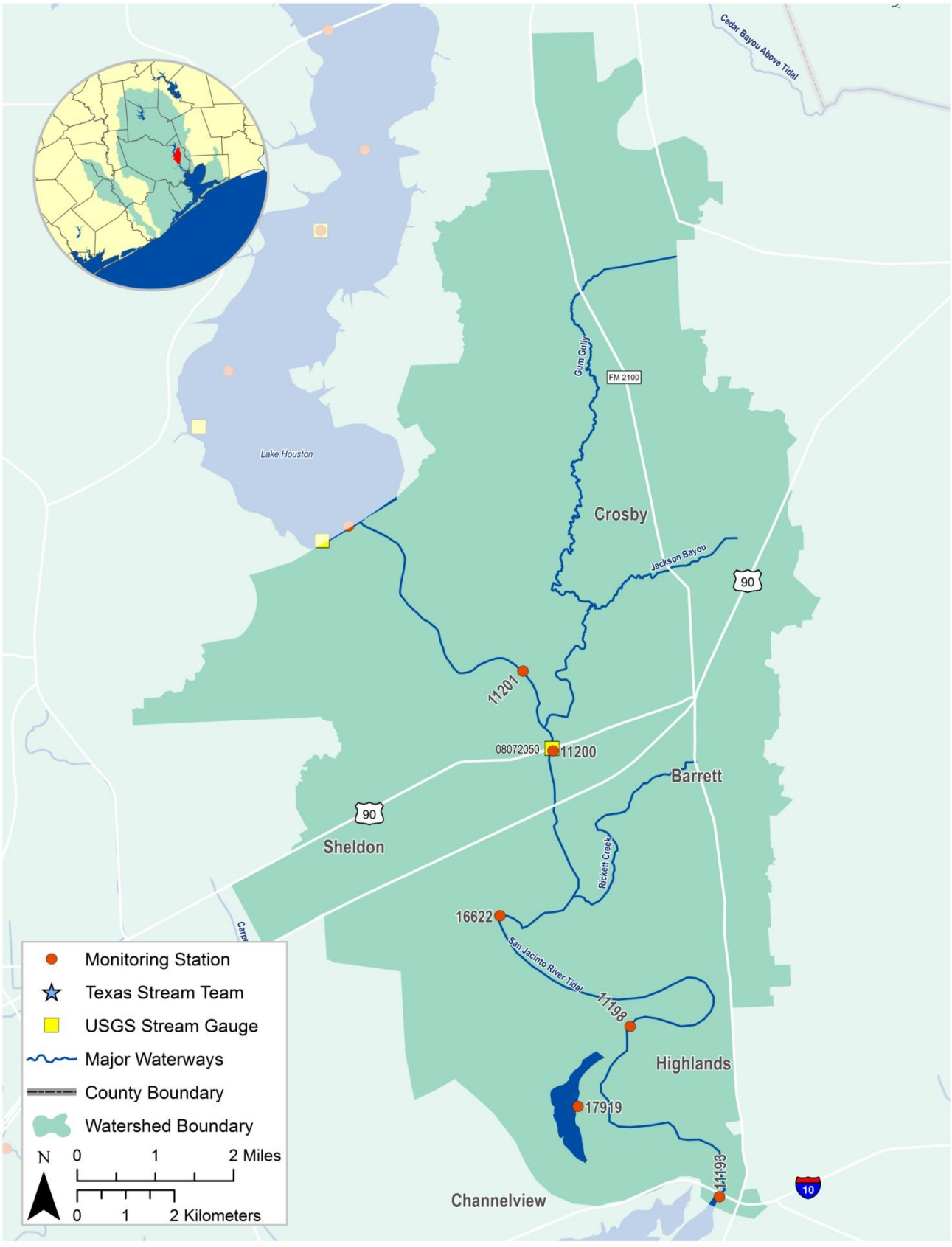
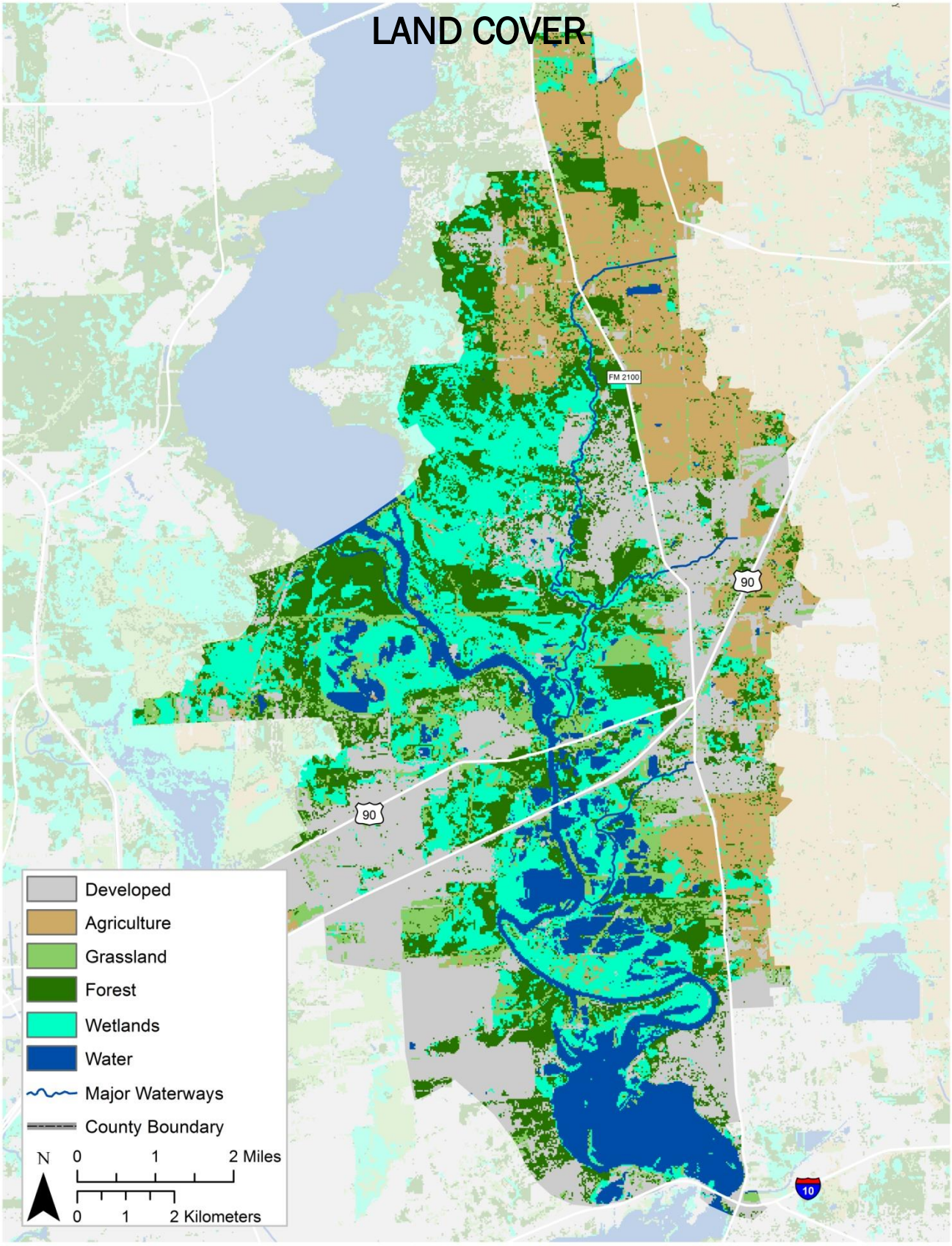
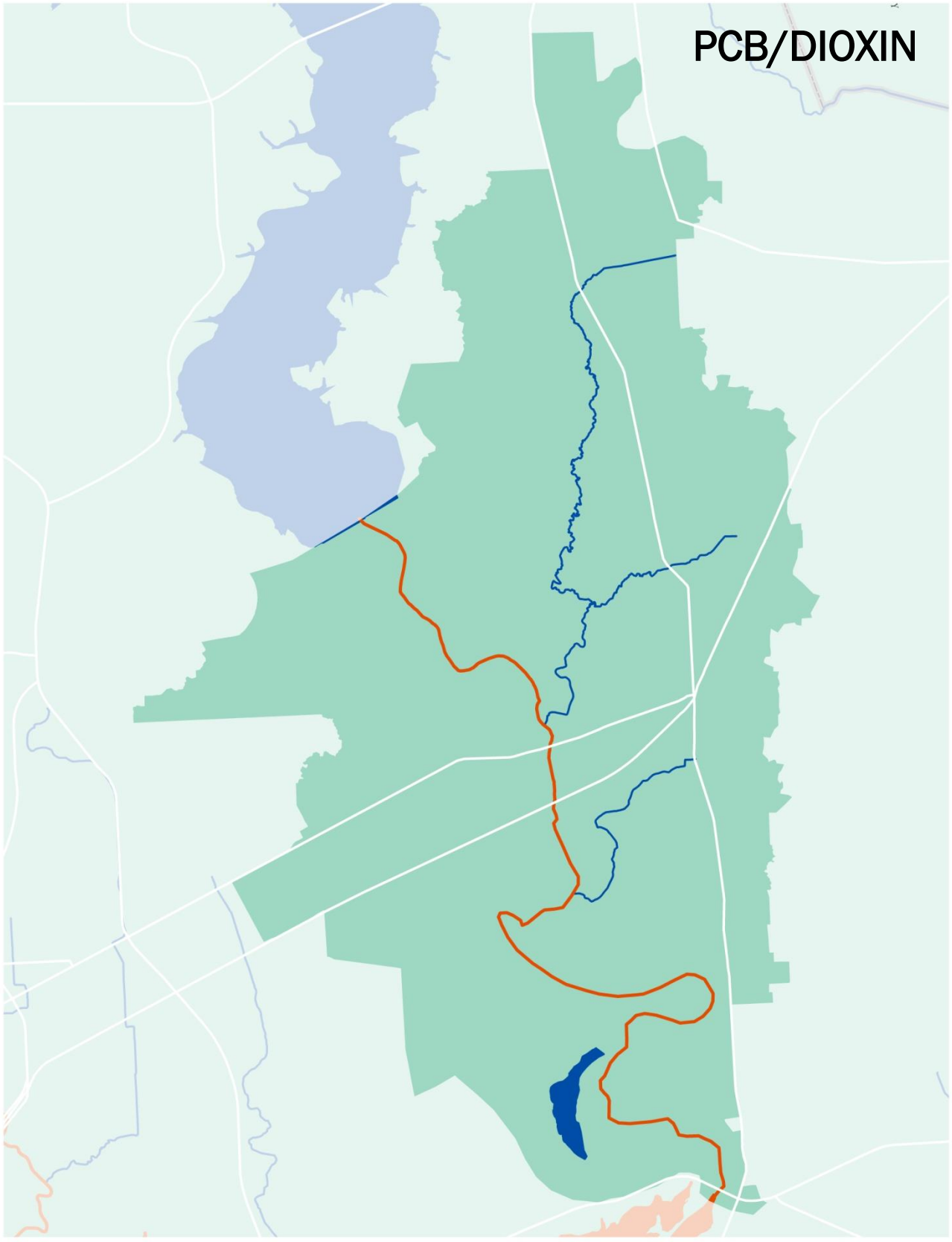
SAN JACINTO RIVER TIDAL - SEGMENT 1001



SAN JACINTO RIVER TIDAL - SEGMENT 1001

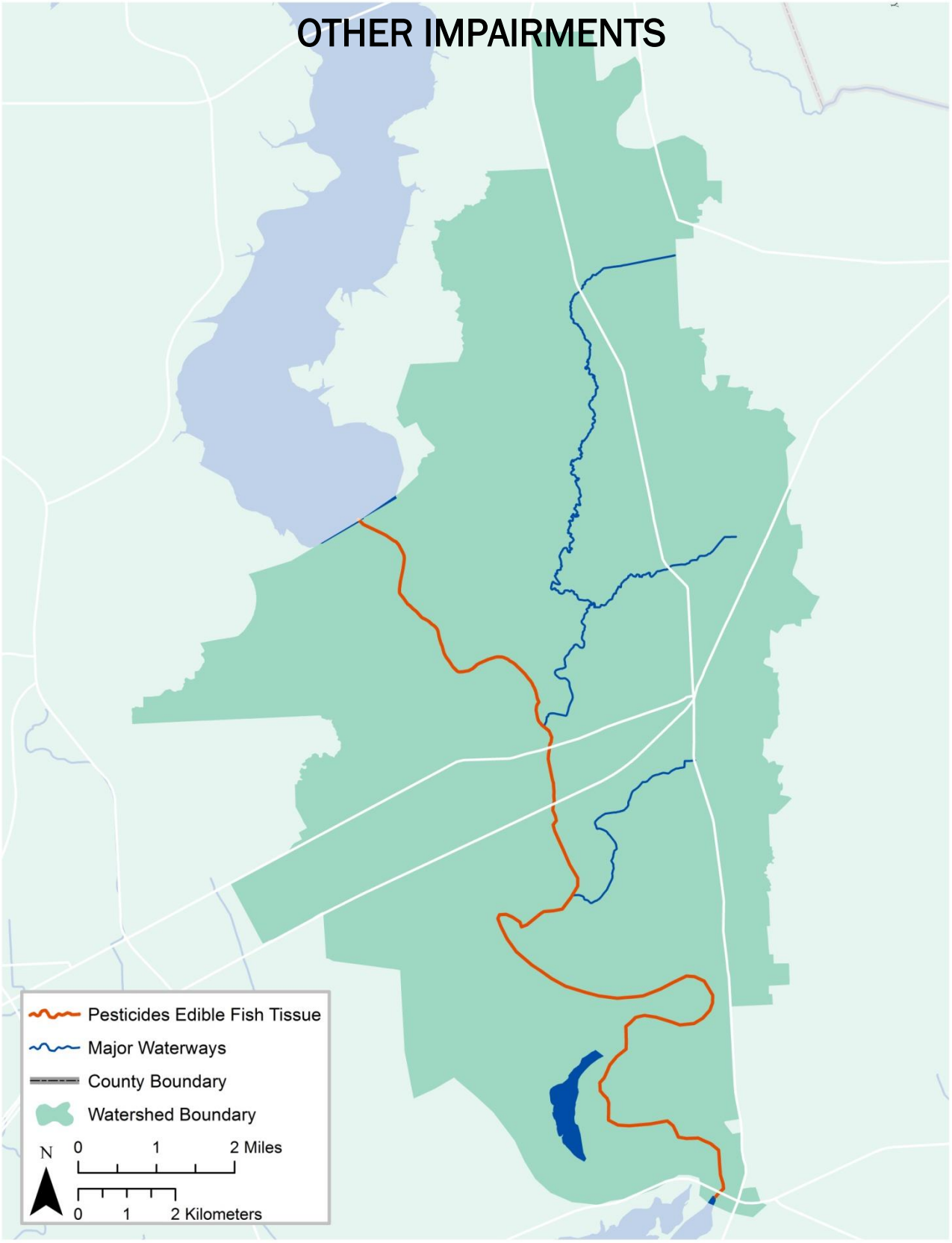
LAND COVER




PCB/DIOXIN
Impairment
Concern
No Impairments or Concerns

SAN JACINTO RIVER TIDAL - SEGMENT 1001

OTHER IMPAIRMENTS



Segment Number:	1001	Name:	San Jacinto River Tidal		
Length:	17 miles	**Watershed Area:**	67 square miles	**Designated Uses:**	Primary Contact Recreation 1; High Aquatic Life
Number of Active Monitoring Stations:	6	**Texas Stream Team Monitors:**	0	**Permitted Outfalls:**	47

Description:

Segment 1001 (Tidal Stream): From a point 100 meters (110 yards) downstream of IH 10 in Harris County to Lake Houston Dam in Harris County

Segment 1001A (Perennial Stream w/ high ALU): Jackson Bayou (unclassified water body) – Perennial stream from a point immediately upstream of the tidal portion of Jackson Bayou upstream to the confluence with Gum Gully

Segment 1001B (Perennial Stream w/ Limited ALU): Rickett Creek (unclassified water body) – Intermittent stream with perennial pools from San Jacinto River Tidal upstream to US 90

Segment 1011C (Perennial Stream w/ high ALU): Gum Gully (unclassified water body) – Perennial stream from the confluence with Jackson Bayou upstream to the confluence with an unnamed tributary approximately 0.4 km downstream of Huffman-Crosby Road

Segment 1001D (Estuary/Tidal Stream w/ high ALU): Bear Lake (unclassified water body) – Encompasses the entire tidal portion of the bay (tributary bay of San Jacinto Rid)

Percent of Stream Impaired or of Concern

Segment ID	PCBs/Dioxin	Bacteria	Dissolved Oxygen	Nutrients	Chlorophyll *a*	Other
1001	100	-	-	100	-	100

Segment 1001

Standards	Tidal Stream	Perennial Stream	Screening Levels	Tidal Stream	Perennial Stream
Temperature (°C/°F):	35 / 95	35 / 95	Ammonia-N (mg/L):	0.46	0.46
Dissolved Oxygen *(24-Hr Average)* (mg/L):	4.0	5.0	Nitrate-N (mg/L):	1.10	1.10
Dissolved Oxygen *(Absolute Minima)* (mg/L):	3.0	3.0	Orthophosphate Phosphorus (mg/L):	0.46	0.46
pH (standard units):	6.5-9.0	6.5-9.0	Total Phosphorus-P (mg/L):	0.66	0.66
Enterococci (MPN/100mL) (grab):	104		Chlorophyll *a* (µg/L):	21	21
Enterococci (MPN/100mL) (geometric mean):	35				
E. coli (MPN/100 mL) (grab):		399			
E. coli (MPN/100 mL) (geometric mean):		126			

FY 2016 Active Monitoring Stations

Site ID	Site Description	Frequency	Monitoring Entity	Parameter Groups
11193	San Jacinto River Tidal at IH-10	Quarterly	TCEQ	Field, Conventional, Bacteria, Chlorophyll a
11193	San Jacinto River Tidal at IH-10	Monthly	HCPCS	Field, Conventional, Bacteria, Chlorophyll a (Qrtrly)
11198	San Jacinto River Tidal at Wallisville Road	Monthly	HCPCS	Field, Conventional, Bacteria
11200	San Jacinto River Tidal at US 90	Monthly	HCPCS	Field, Conventional, Bacteria
11201	San Jacinto River Tidal near Magnolia Gardens below Granite Creek	Monthly	HCPCS	Field, Conventional, Bacteria
16622	San Jacinto River Tidal at Banana Bend Road	Monthly	HCPCS	Field, Conventional, Bacteria, Chlorophyll a
17919	San Jacinto River Tidal near Shady Lane	Monthly	HCPCS	Field, Conventional, Bacteria

Water Quality Issues Summary			
Issue	**2014 Assessment** *I – Impaired C – Of Concern*	**Possible Causes / Influences / Concerns Voiced by Stakeholders**	**Possible Solutions / Actions To Be Taken**
PCBs/Dioxin in Edible Fish Tissue	1001 I	▪ Waste pit located along the San Jacinto River immediately upstream of I-10 bridge is now a National Priority List Superfund site managed by EPA ▪ Concentrated deposits outside boundaries of the waste pits located adjacent to San Jacinto River and I-10 bridge ▪ Unknown industrial or urban sources	▪ Encourage EPA and responsible parties to work together to remediate Superfund site ▪ Remove or contain contamination from locations already identified ▪ Encourage additional testing to locate all unknown sources/deposits
Pesticides in Edible Fish Tissue	1001 I	▪ Agricultural runoff from row crops ▪ Fertilizer runoff from urbanized properties, such as landscaped areas, residential lawns, and sport fields	▪ Create and implement Water Quality Management Plans for individual agricultural properties ▪ Implement YardWise and Watersmart landscape practices ▪ Install and/or maintain riparian buffer areas between agricultural fields and waterways

Segment Discussion:

Watershed Characteristics: This segment lies between the Lake Houston dam in the north to the I-10 bridge over the San Jacinto River at the southern end. The lower portion of the watershed is heavily developed with industrial activity representing the dominant land use on the western side of the river. The community of Sheldon is situated in the industrial area. The communities of Crosby, Barrett, and Highlands are located on the eastern side of the river in the upper, middle, and lower portions of the watershed, respectively. This segment of the San Jacinto River is predominantly surrounded by extensive woody wetlands while cultivated lands dominate the northeast quadrant of the watershed.

Water Quality Issues: Fish consumption use is not supported in this segment. High levels of dioxin/PCBs, chlordane, dieldrin, and heptachlor epoxide have been found in the edible fish tissue of fish and crab which led the Texas Department of State Health Services to issue a Limited Consumption Fish Advisory for this water body. Recreation, aquatic life, and general uses are fully supported. No concerns are suggested by dissolved oxygen (DO) data, as no sample between 5/1/2000 and 5/31/2015 fell below the grab minimum of 3.0 mg/L. The geomean of enterococci data fell from 18 to 12 between 2008 and 2015, and seven-year grab sample exceedances fell from 15.6 to 10.9 percent. Exceedances of the chlorophyll *a* screening level increased from 0.0 percent in 2001-2008 to 16.7 percent during 2008-2015. Nitrate nitrogen exceedances increased from 0.0 at the end during 2001- 2008 to 10.4 percent for 2008-2015, while total phosphorus (TP) screening level exceedances fell from 1.3 percent to 0.0 percent.

Special Studies/Projects: This segment is included in two TMDL projects, the Houston Ship Channel and Upper Galveston Bay TMDL for PCBs in Fish Tissue and the Houston Ship Channel TMDL for Dioxin, which are currently underway. For more information, please refer to the detailed discussions located at in the Public Involvement and Outreach section of the 2016 Basin Summary Report.

Trends: Regression analysis of watershed-level data revealed ten statistically significant parameter trends for segment 1001 including increasing alkalinity, chloride, salinity, Secchi transparency, specific conductivity (SPCond), sulfate, total dissolved solids (TDS), and TP while ammonia and enterococci concentrations are decreasing over time. Trends of note include a gradual increase in dissolved constituents in water represented by the increased chloride, salinity, Secchi transparency, SPCond, and TDS levels seen within the watershed. These trends may be related to variations in weather patterns during the period of record where drought conditions may have increased salinity levels through evaporative processes. Other possibilities include changes in wastewater treatment operations, and/or increased tidal influences originating from Galveston Bay and the Gulf of Mexico. Although there are no nutrient concerns present for this segment at this time, a restriction for fish consumption is in place due to pesticides found in edible fish tissue. Increasing trends in TP and sulfate detected on the main river segment are likely from runoff originating from fertilized yards, landscaping, and cultivated lands in the area. Continued monitoring of nutrient concentrations is recommended to better evaluate the origin of pesticides in water and ensure nutrient levels do not exceed the set screening criteria. Additionally, decreased levels of ammonia and enterococci throughout the watershed are likely related to improved wastewater treatment operations in the area.

Recommendations
Address concerns found in this segment summary through stakeholder participation.
Continue collecting water quality data to support actions associated with any future watershed protection plan development and possible modeling.
Pursue a new local partner to Clean Rivers Program to collect additional data that would help better isolate problem areas.
Work with local partner and contract labs to lower detection limits for nutrients since chlorophyll *a* concentrations are increasing and nutrient concentrations have an effect.