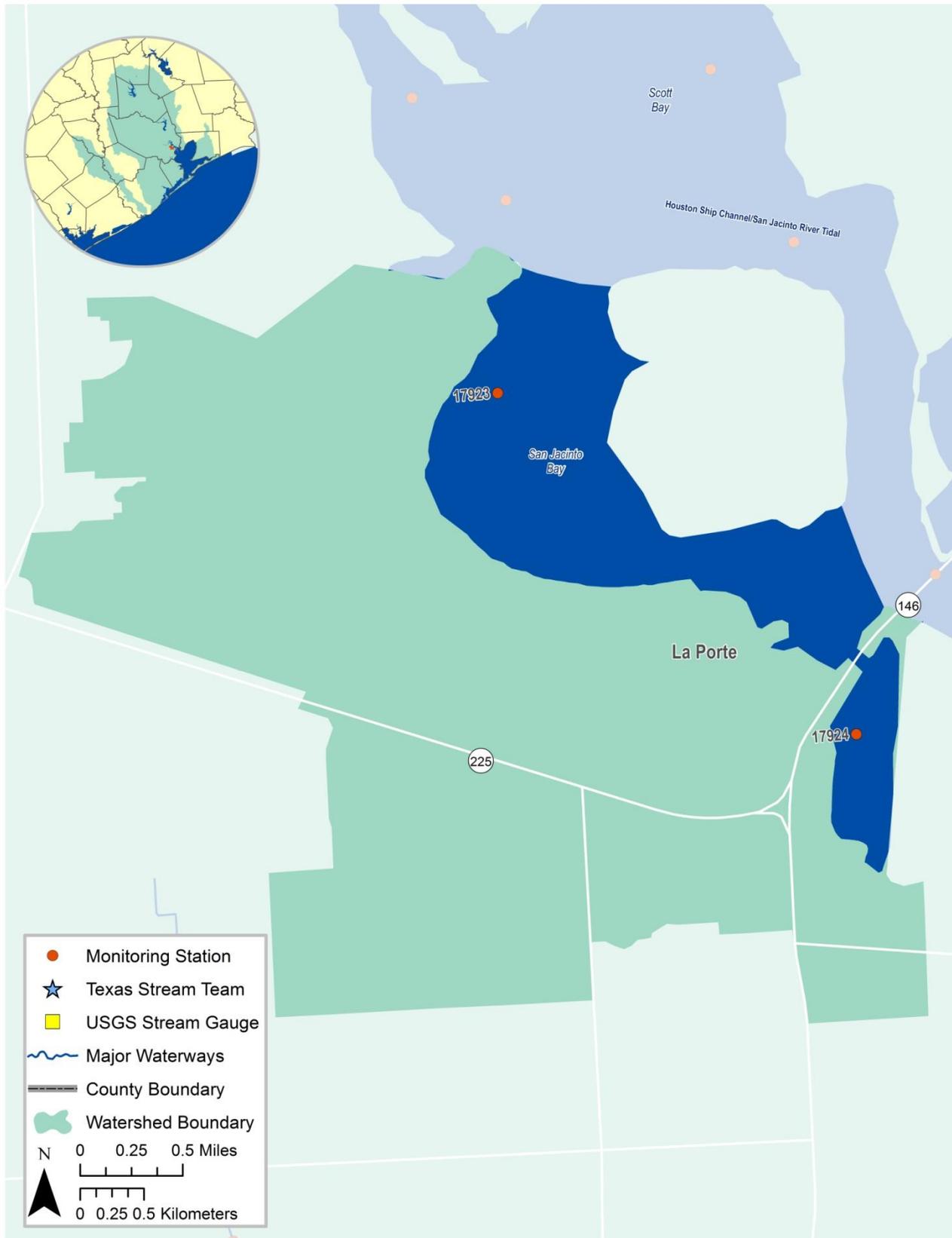
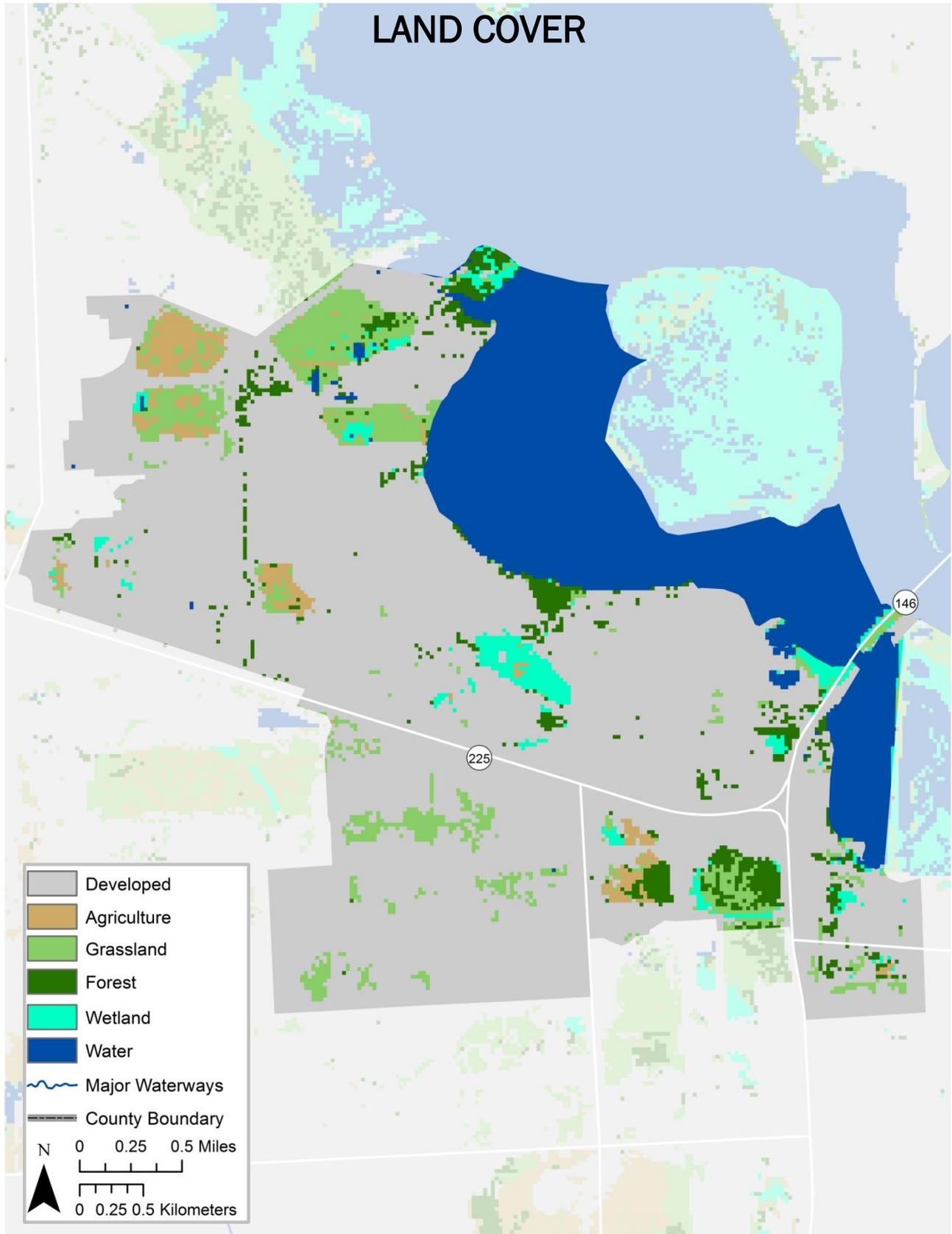


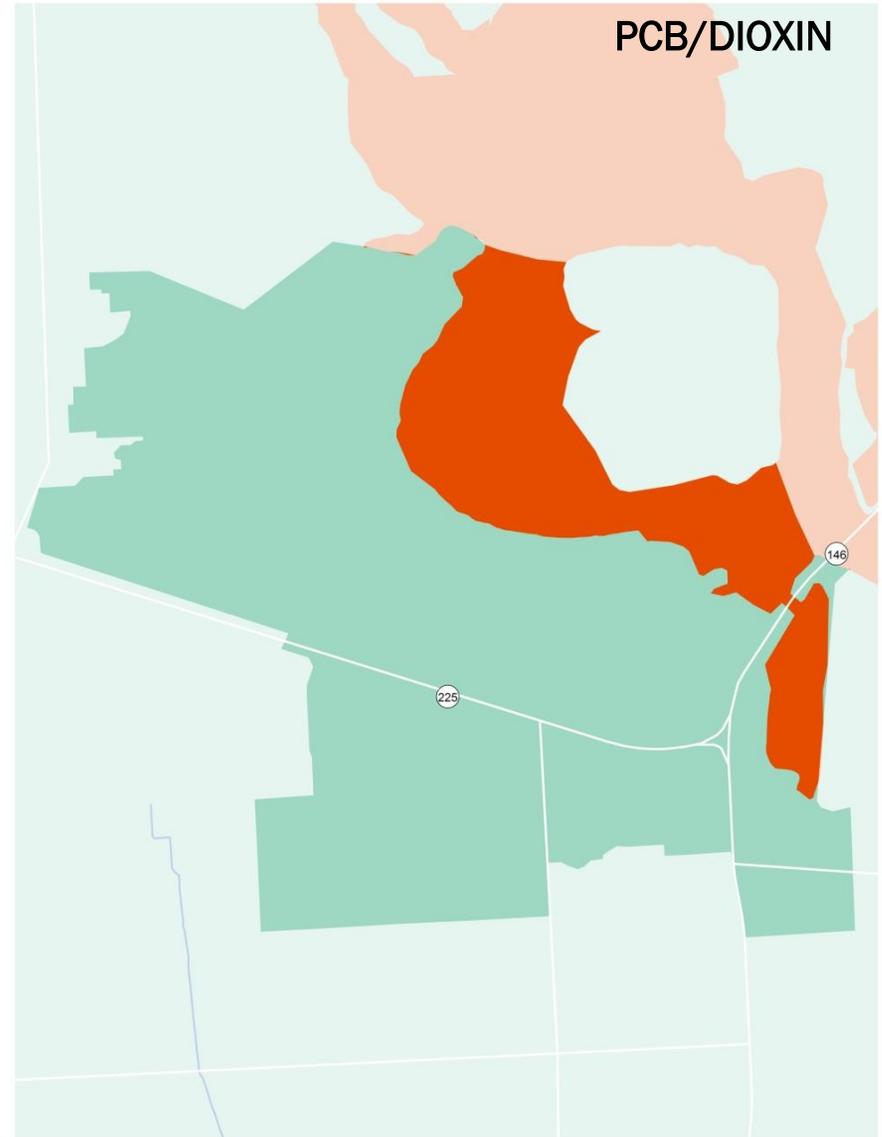
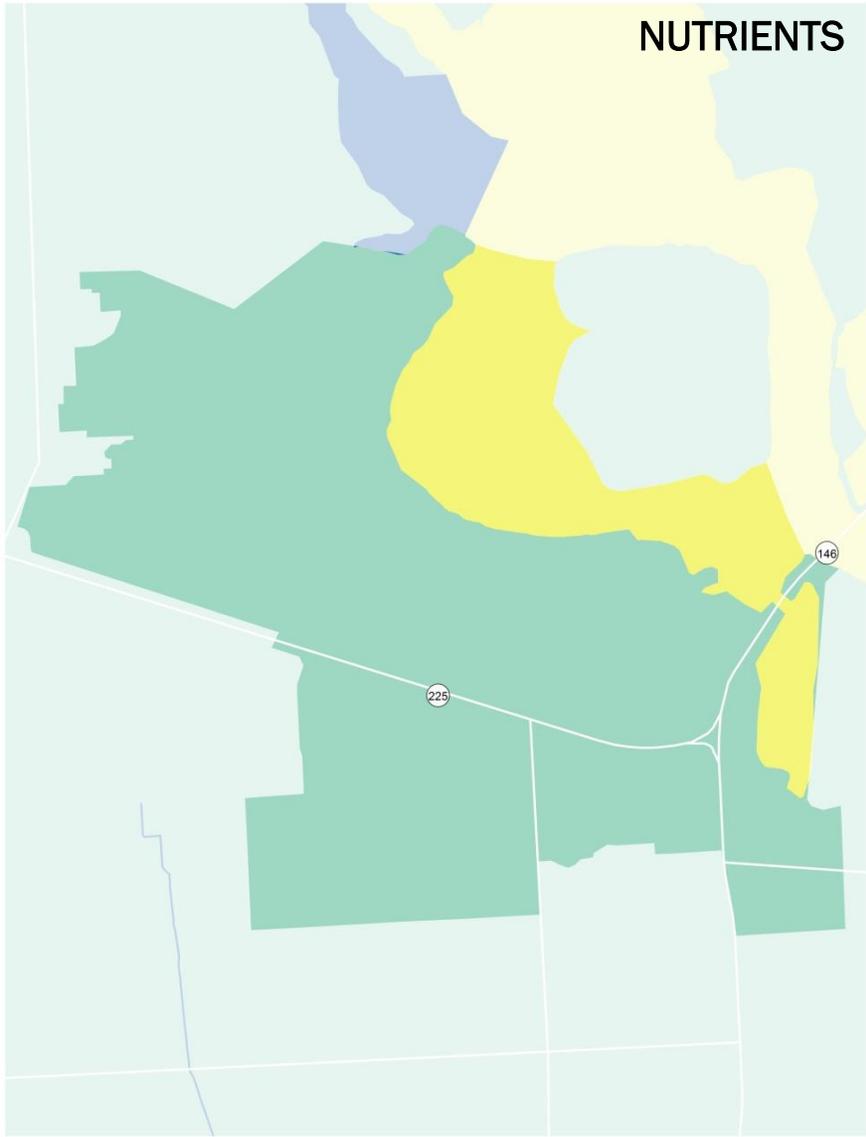
# SAN JACINTO BAY - SEGMENT 2427



# SAN JACINTO BAY - SEGMENT 2427

## LAND COVER

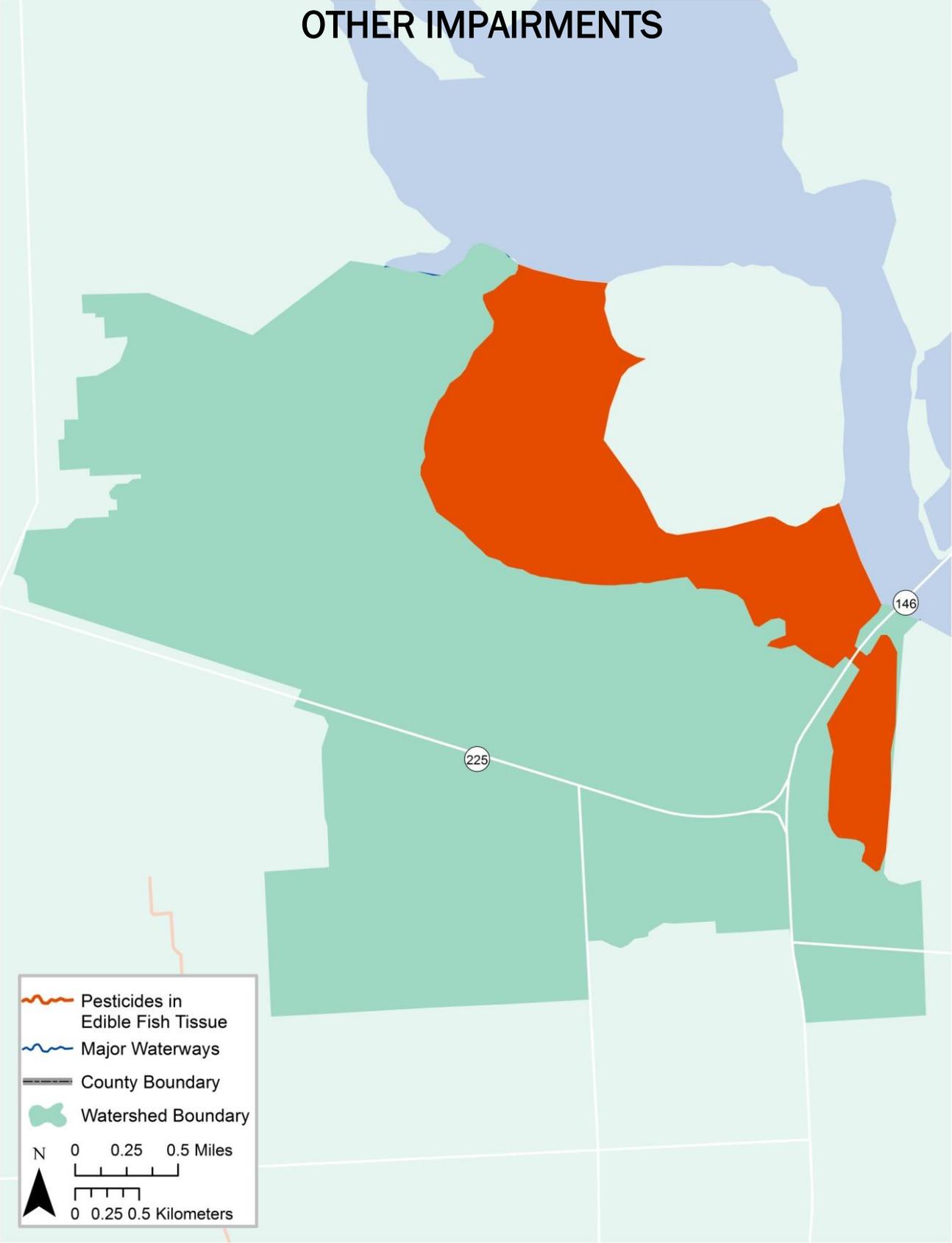




 Impairment     Concern     No Impairments or Concerns

# SAN JACINTO BAY - SEGMENT 2427

## OTHER IMPAIRMENTS



<b>Segment Number:</b>	<b>2427</b>	<b>Name:</b>	<b>San Jacinto Bay</b>		
<b>Area:</b>	2 square miles	<b>Miles of Shoreline:</b>	4.9	<b>Designated Uses:</b>	Primary Contact Recreation 1; High Aquatic Life Use
<b>Number of Active Monitoring Stations:</b>	2	<b>Texas Stream Team Monitors:</b>	0	<b>Permitted Outfalls:</b>	35
<b>Description:</b>	A side bay located on the west side of the Houston Ship Channel/tidal San Jacinto River near Highway 146 bridge to the City of Baytown. There is the Upper San Jacinto Bay and the Lower San Jacinto Bay				

**Percent of Stream Impaired or of Concern**

Segment ID	PCBs/Dioxin	Bacteria	Dissolved Oxygen	Nutrients	Chlorophyll a	Other
2427	100	-	-	100	-	100

**Segment 2427**

Standards	Bays & Estuaries	Screening Levels	Bays & Estuaries
Temperature (°C/°F):	35 / 95	Ammonia-N (mg/L):	0.10
Dissolved Oxygen (24-Hr Average) (mg/L):	4.0	Nitrate-N (mg/L):	0.17
Dissolved Oxygen (Absolute Minima) (mg/L):	3.0	Orthophosphate Phosphorus (mg/L):	0.19
pH (standard units):	6.5-9.0	Total Phosphorus-P (mg/L):	0.21
Enterococci (MPN/100mL) (grab):	104	Chlorophyll a (µg/L):	11.6
Enterococci (MPN/100mL) (geometric mean):	35		

**FY 2016 Active Monitoring Stations**

Site ID	Site Description	Frequency	Monitoring Entity	Parameter Groups
17923	Upper San Jacinto Bay under electrical transmission lines	Bi-Monthly	HCPHES	Field, Conventional, Bacteria, Chlorophyll a (Qtrly)
17924	Lower San Jacinto Bay S of SH 146	Bi-Monthly	HCPHES	Field, Conventional, Bacteria, Chlorophyll a (Qtrly)

## Water Quality Issues Summary

Issue	2014 Assessment <i>I – Impaired</i> <i>C – Of Concern</i>	Possible Causes / Influences / Concerns Voiced by Stakeholders	Possible Solutions / Actions To Be Taken
<b>Elevated Nutrients</b>	2427 C	<ul style="list-style-type: none"> <li>▪ Fertilizer runoff from urbanized properties, such as landscaped areas, residential lawns, and sport fields</li> <li>▪ Agricultural runoff from row crops, fallow fields, and animal operations</li> <li>▪ Nutrient loading from WWTF effluent, sanitary sewer overflows, and malfunctioning OSSFs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Implement YardWise and Watersmart landscape practices</li> <li>▪ Encourage Water Quality Management Plans or similar projects for agricultural properties</li> <li>▪ Install and/or maintain riparian buffer areas between agricultural fields and waterways</li> <li>▪ Monitor phosphorus levels at WWTFs to determine if controls are needed</li> </ul>
<b>PCBs/Dioxin in Edible Fish Tissue</b>	2427 I	<ul style="list-style-type: none"> <li>▪ Concentrated deposits outside boundaries of the waste pits located adjacent to San Jacinto River and I-10 bridge</li> <li>▪ Unknown industrial or urban sources</li> </ul>	<ul style="list-style-type: none"> <li>▪ Remove or contain contamination from locations already identified</li> <li>▪ Encourage additional testing to locate all unknown sources/deposits</li> </ul>
<b>Pesticides in Edible Fish Tissue</b>	2427 I	<ul style="list-style-type: none"> <li>▪ Runoff from upstream agricultural areas.</li> <li>▪ Contaminated groundwater discharging into surface waters</li> </ul>	<ul style="list-style-type: none"> <li>▪ Educate agricultural producers about proper pesticide application.</li> <li>▪ Promote conservation practices like riparian buffers that help reduce runoff pollutants in agricultural areas.</li> <li>▪ Encourage additional testing to locate all unknown sources.</li> </ul>

## Segment Discussion:

**Watershed Characteristics:** This watershed is predominantly developed with mixed residential, commercial, and industrial land uses. The Cities of La Porte and Morgan Point make up the majority of development in the area, but small plots of undeveloped and agricultural lands are scattered throughout. Additionally, the Houston Ship Channel supports heavy boat and barge traffic on a consistent basis throughout the year.

**Water Quality Issues:** The 2014 Texas IR lists segment 2427 San Jacinto Bay as impaired for fish consumption due to PCBs, Dioxin, and the pesticides chlordane, dieldrin, and heptachlor epoxide found in edible fish tissue. The Texas Department of State Health Services issued a Limited Consumption Fish Advisory for this bay segment.

Additionally, San Jacinto Bay is listed on the 2014 IR for concerns for water quality based upon screening criteria levels for ammonia nitrogen, nitrate nitrogen, and total phosphorus. Almost 99% of nitrate nitrogen samples exceed the water quality screening criteria level of 0.17 mg/L, 98% of total phosphorus samples exceeded the screening criteria level of 0.21 mg/L, and 54% of ammonia nitrogen samples exceeded the screening criteria level of 0.10 mg/L.

**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 under way. For more information, please refer to the detailed discussions located in the Public Involvement and Outreach section of the 2016 Basin Summary Report regarding the dioxin and PCB TMDLs.

**Trends:** Regression analysis of water quality data revealed seven statistically significant parameter trends for the San Jacinto Bay watershed including increasing salinity, Secchi transparency, specific conductance (SPCond), total dissolved solids (TDS), and total phosphorous (TP) while chlorophyll a and enterococci concentrations are decreasing over time. In addition to the PCB/dioxin and pesticides in edible fish tissue impairments, this segment is also listed as having a concern for elevated nutrient concentrations. Regression analysis of nutrient data for San Jacinto Bay revealed a statistically significant trend in [TP](#) while [nitrate](#) concentrations have remained relatively stable during the period of record. However, the majority of nutrient samples collected since 2002 remain well above the set screening criteria for each parameter. The same is true for [ammonia](#) concentrations in San Jacinto Bay.

## Recommendations

Continue collecting water quality data to support actions associated with any future watershed protection plan development and possible modeling.

Coordinate education efforts with other local TMDL and watershed protection plan efforts.

Pursue a new local partner to Clean Rivers Program to collect additional data that would help better isolate problem areas.

Support additional sampling to investigate sources of elevated dioxin and PCB levels.

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