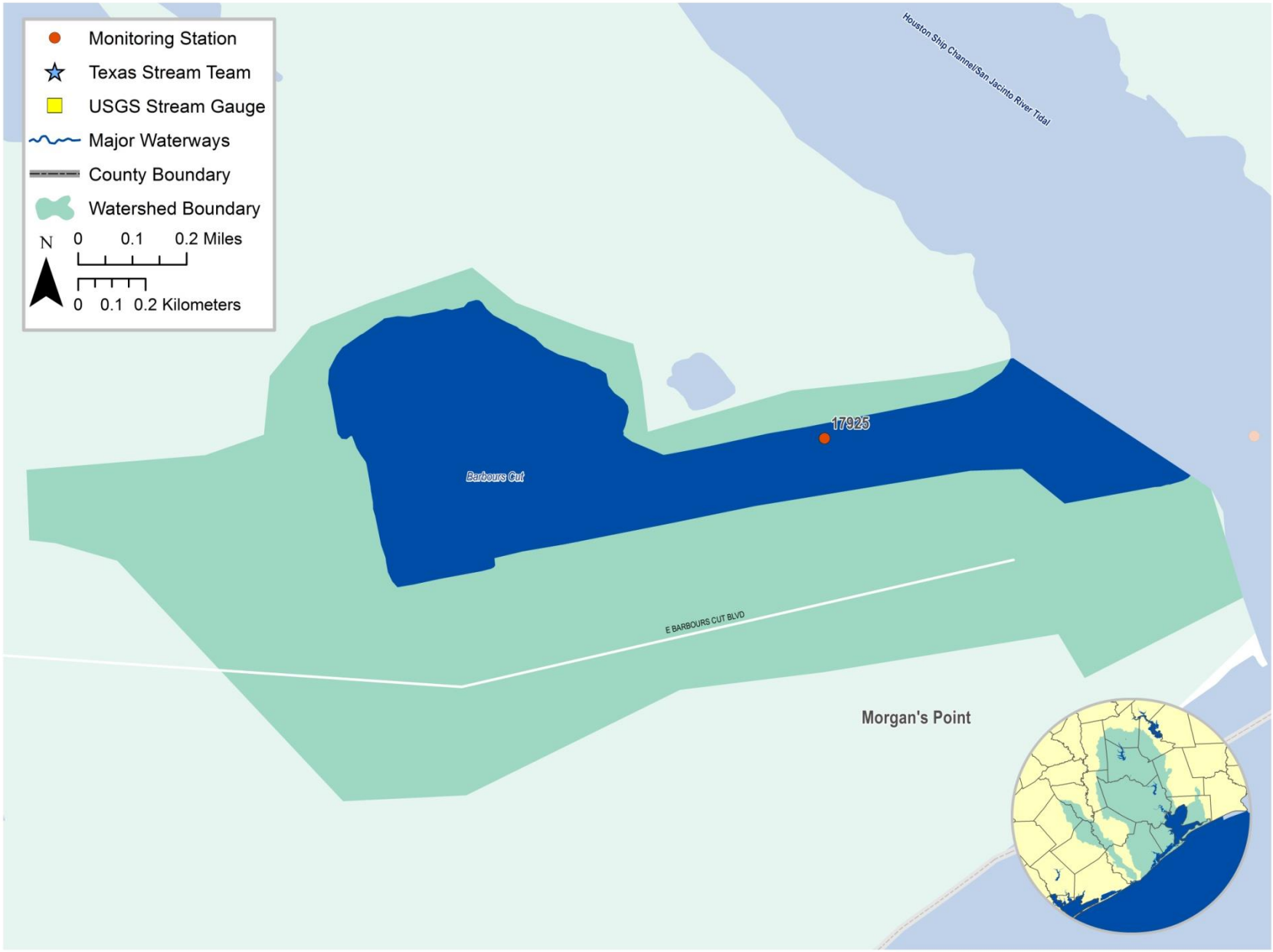
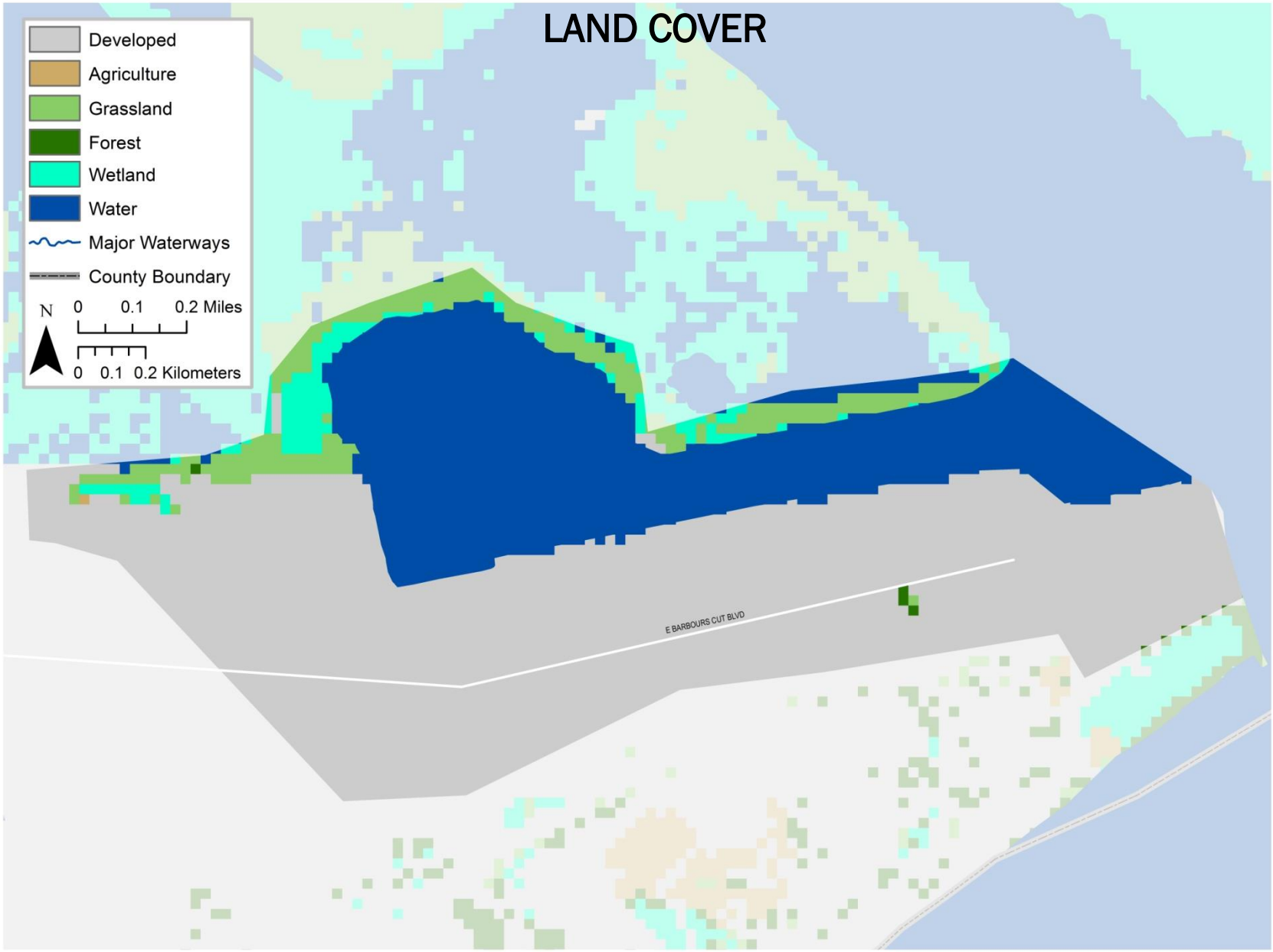
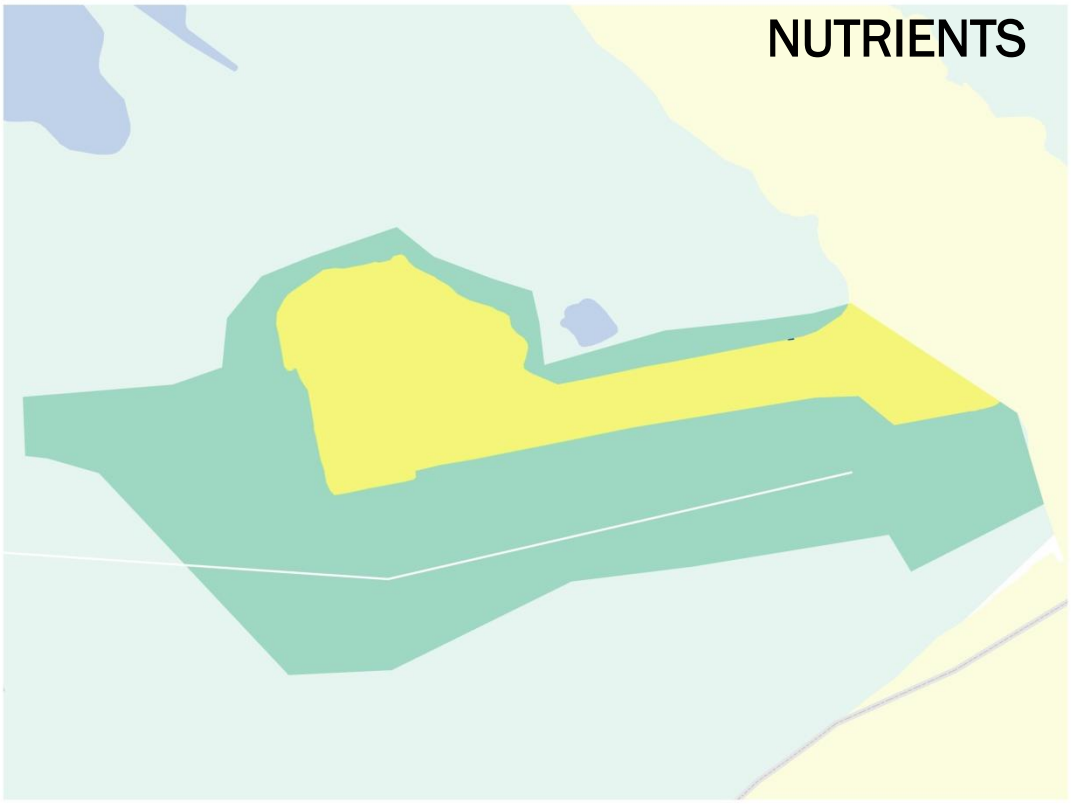
BARBOURS CUT - SEGMENT 2436

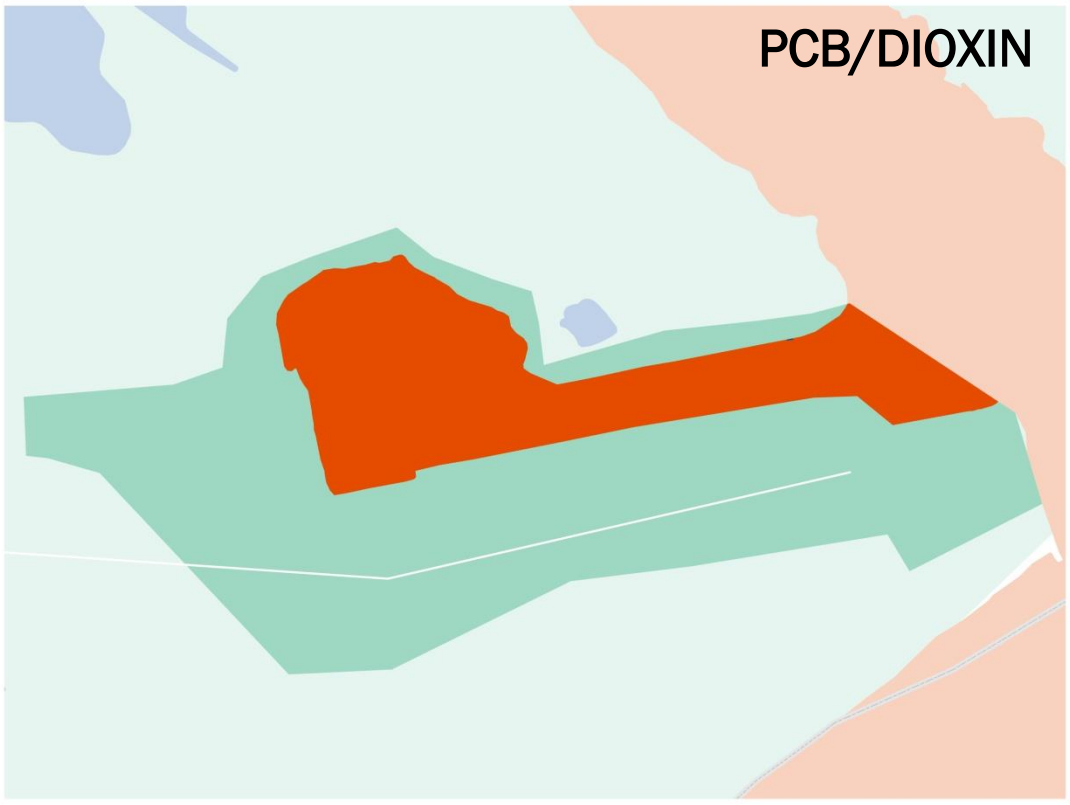


BARBOURS CUT – SEGMENT 2436

LAND COVER







Impairment Concern No Impairments or Concerns

Segment Number:	2436	Name:	Barbours Cut		
Area:	0.4 square miles	**Miles of Shoreline:**	4 miles	**Designated Uses:**	Primary Contact Recreation a; High Aquatic Life Use
Number of Active Monitoring Stations:	1	**Texas Stream Team Monitors:**	0	**Permitted Outfalls:**	4
Description:	A side waterbody located on west side of Houston Ship Channel/tidal San Jacinto River immediately north of Morgan's Point in the City of La Porte.				

Percent of Stream Impaired or of Concern

Segment ID	PCBs/Dioxin	Bacteria	Dissolved Oxygen	Nutrients	Chlorophyll *a*	Other
2436	100	-	-	100	-	-

Segment 2436

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
17925	Barbour's Cut near North Bank	Monthly	HCPHES	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**
Elevated Nutrients	2436 C	▪ Fertilizer runoff from urbanized properties, such as landscaped areas, residential lawns, and sport fields ▪ Agricultural runoff from row crops, fallow fields, and animal operations ▪ Nutrient loading from WWTF effluent, sanitary sewer overflows, and malfunctioning OSSFs	▪ Implement YardWise and Watersmart landscape practices ▪ Encourage Water Quality Management Plans or similar projects for agricultural properties ▪ Install and/or maintain riparian buffer areas between agricultural fields and waterways ▪ Monitor phosphorus levels at WWTFs to determine if controls are needed
PCBs/Dioxin in Edible Fish Tissue	2436 I	▪ Concentrated deposits outside boundaries of the waste pits located adjacent to San Jacinto River and I-10 bridge ▪ Unknown industrial or urban sources	▪ Remove or contain contamination from locations already identified ▪ Encourage additional testing to locate all unknown sources/deposits

Segment Discussion:

Watershed Characteristics: This watershed is at the south end of the Houston Ship Channel (HSC) at Morgan's Point. The area is surrounded by some wetlands, sparsely populated residential areas, and the Port of Houston container yard. The Houston Ship Channel provides heavy boat and barge traffic on a consistent basis.

Water Quality Issues: The 2014 Texas IR lists segment 2436 as impaired for fish consumption due to high levels of dioxin and PCBs. The Texas Department of State Health Services has issued a Limited Consumption Fish Advisory for this water body. This segment is also listed for having water quality screening criteria concerns for ammonia nitrogen, nitrate nitrogen, and total phosphorus. Over 50 percent of ammonia nitrogen samples were over the screening criteria level of 0.10 mg/L, 93 percent of nitrate nitrogen samples were over the screening criteria level of 0.17 mg/L, and 81% of total phosphorus samples were over the screening criteria level of 0.21 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 dioxin and PCB TMDLs.

Trends: Regression analysis of water quality data for Barbours Cut identified four statistically significant increasing trends for total dissolved solids (TDS), specific conductance (SPCond), Secchi transparency, and salinity. The 2014 Texas Integrated Report lists this segment as having a concern for elevated nutrient levels. Trend analysis of nitrate, and total phosphorous (TP) for this segment showed that concentrations have remained relatively stable over time with the majority of samples exceeding the set screening criteria for each parameter. The elevated nutrient concentrations in Barbours Cut are likely originating from agricultural runoff or from wastewater treatment facility (WWTF) outfalls.

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.
Encourage labs to lower detection limits for nutrients.