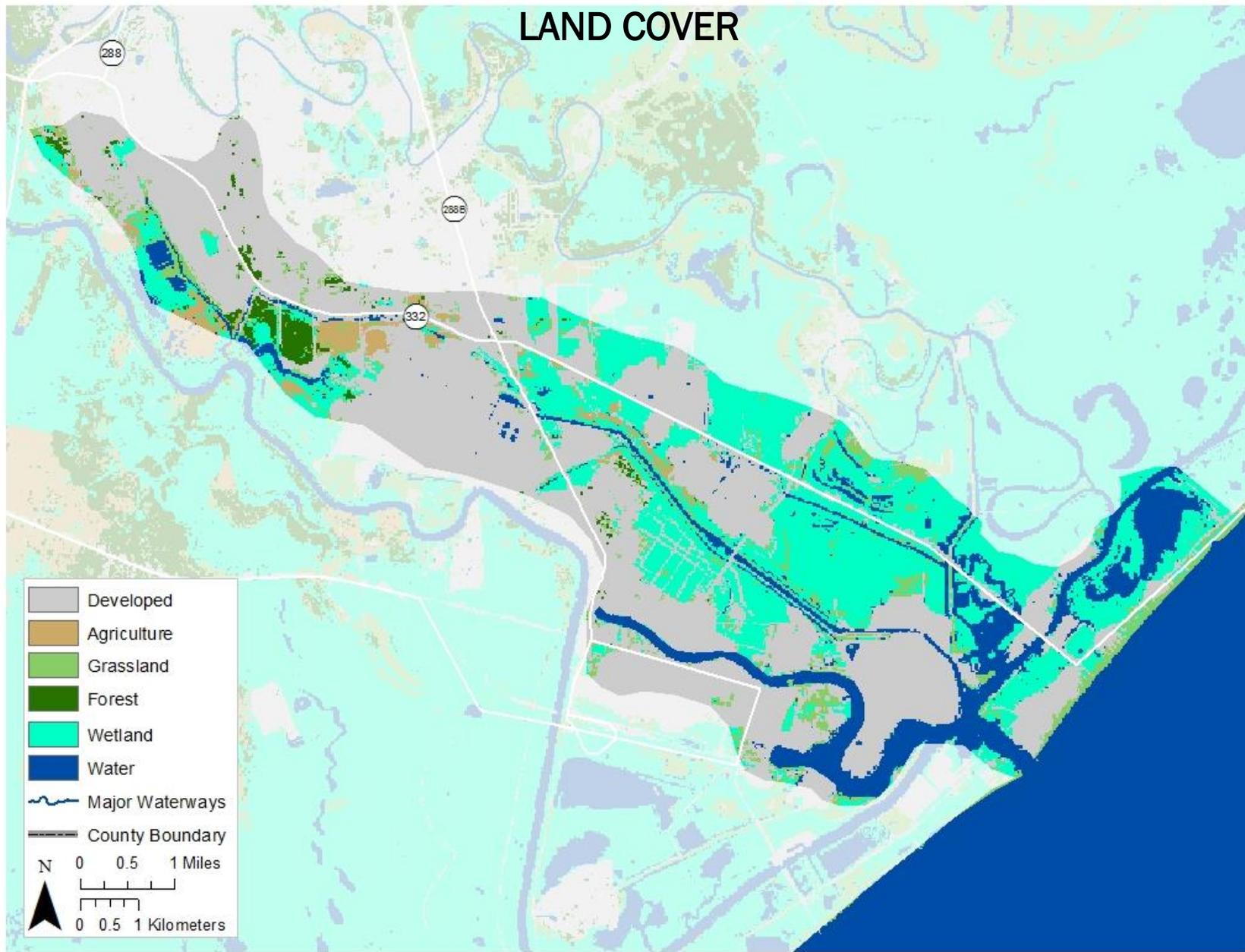


OLD BRAZOS RIVER CHANNEL TIDAL - SEGMENT 1111

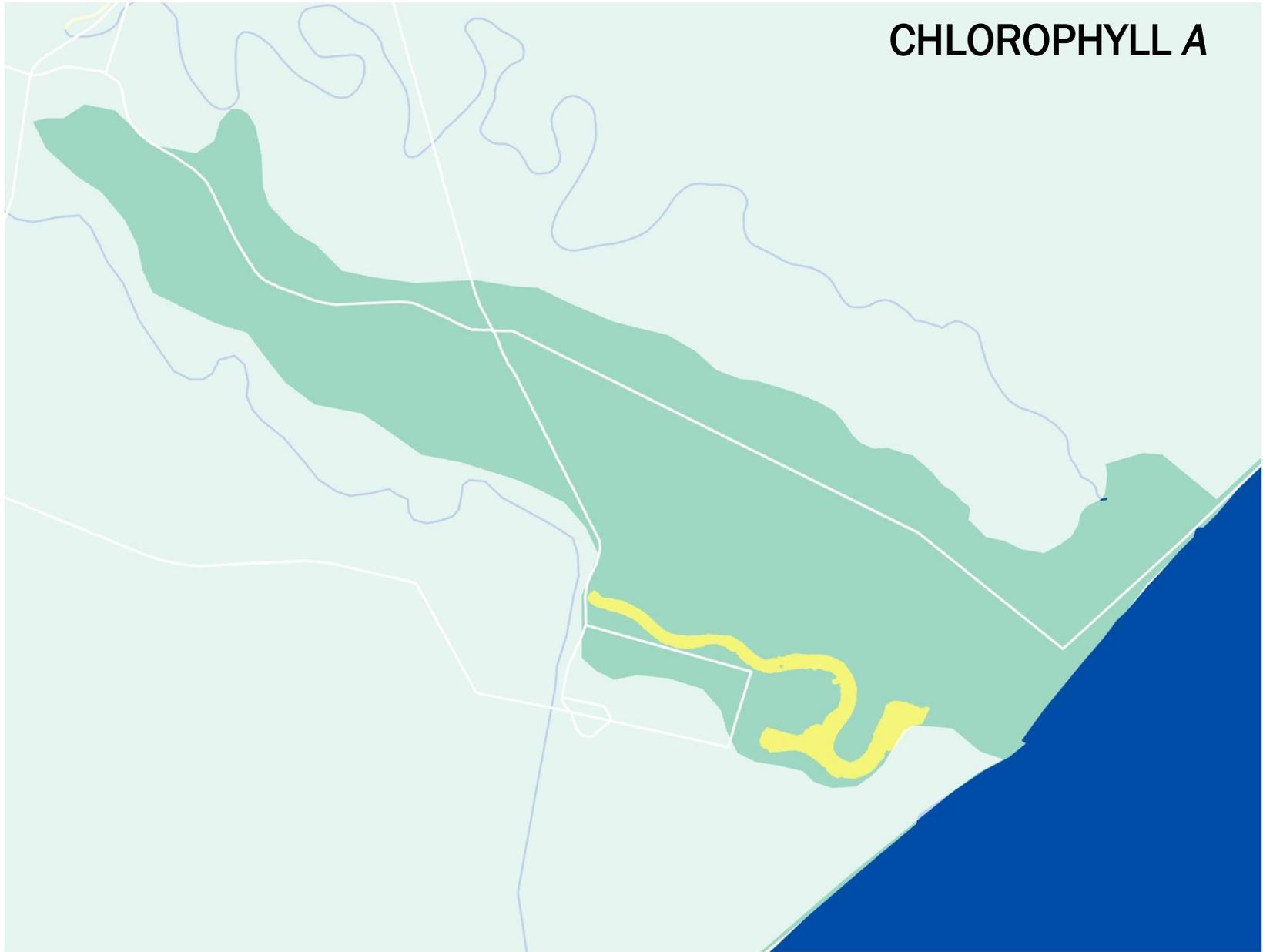


OLD BRAZOS RIVER CHANNEL TIDAL - SEGMENT 1111

LAND COVER



CHLOROPHYLL A



 Impairment  Concern  No Impairments or Concerns

Segment Number: 1111		Name: Old Brazos River Channel Tidal			
Length:	6 miles	Watershed Area:	30 square miles	Designated Uses:	Primary Contact Recreation 1; High Aquatic Life;
Number of Active Monitoring Stations:	1	Texas Stream Team Monitors:	0	Permitted Outfalls:	34
Description:	From the Intracoastal Waterway confluence to SH 288 in Brazoria County.				

Percent of Stream Impaired or of Concern						
Segment ID	PCBs/Dioxin	Bacteria	Dissolved Oxygen	Nutrients	Chlorophyll a	Other
1111	-	-	-	-	100	-

Segment 1111			
Standards	Estuary	Screening Levels	Estuary
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
11498	Old Brazos River Channel midway between mouth and terminus	Quarterly	TCEQ	Field, Conventional, Bacteria, Chlorophyll a
11498	Old Brazos River Channel midway between mouth and terminus	Twice / Year	TCEQ	Metals & Organics in Sediment

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
Elevated Chlorophyll a Concentrations	1111 C	<ul style="list-style-type: none"> ▪ Fertilizer runoff from surrounding watershed promote algal growth in waterways ▪ Nutrient loading from WWTF effluent, sanitary sewer overflows, and malfunctioning OSSFs promotes algal growth 	<ul style="list-style-type: none"> ▪ Improve compliance and enforcement of existing stormwater quality permits ▪ Reduce or manage fertilizer runoff from agricultural areas ▪ More public education regarding nutrients and consequences

Segment Discussion:

Watershed Characteristics: This small watershed comprises what was once the mouth of the Brazos River, in southern Brazoria County. The watershed is home to the Freeport petrochemical complex, which dominates the landscape. Beachfront residential development along with water recreational activities are present in the lower reaches of the watershed at Surfside Beach and Quintana. There are large expanses of wetlands within and surrounding the watershed.

Water Quality Issues: While the recreation use is fully supported, the aquatic life and general uses are listed as water quality concerns in the 2014 Texas Integrated Report (IR) due to elevated chlorophyll a concentrations. Levels of chlorophyll a, higher than the standard of 11.6 µg/mL, were found in 48% of the samples collected.

Special Studies/Projects: H-GAC has been tasked by the TCEQ to implement a basin-wide approach for addressing bacterial impairments for the San Jacinto-Brazos Coastal Basin which includes the Old Brazos River Channel. Development for the basin-wide TMDL began in September of 2015 and will result in a final Basin 11 Summary Report in September of 2016 that will summarize basin characteristics, water quality impairments, potential bacteria sources, and recommendations for bacterial reduction.

Trends: Regression analysis of water quality data for this segment revealed four significant trends including increasing chloride and sulfate and decreasing chlorophyll a and total Kjeldahl nitrogen (TKN). Currently, the only water quality concern listed in the 2014 Texas Integrated Report for this segment is for chlorophyll a. Analysis of [chlorophyll a](#) data for this segment identified a gradual improvement over time with the majority of samples collected since 2012 falling below the 11.6 µg/L screening criteria for bays and estuaries. Although a slight increase in mean enterococci levels are observed in the moving seven-year [bacteria geometric means](#) plot for this segment, levels remain significantly lower than the 35 MPN/100 mL water quality standard and are not of concern at this time.

Recommendations

Address concerns found in this segment summary through stakeholder participation.

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