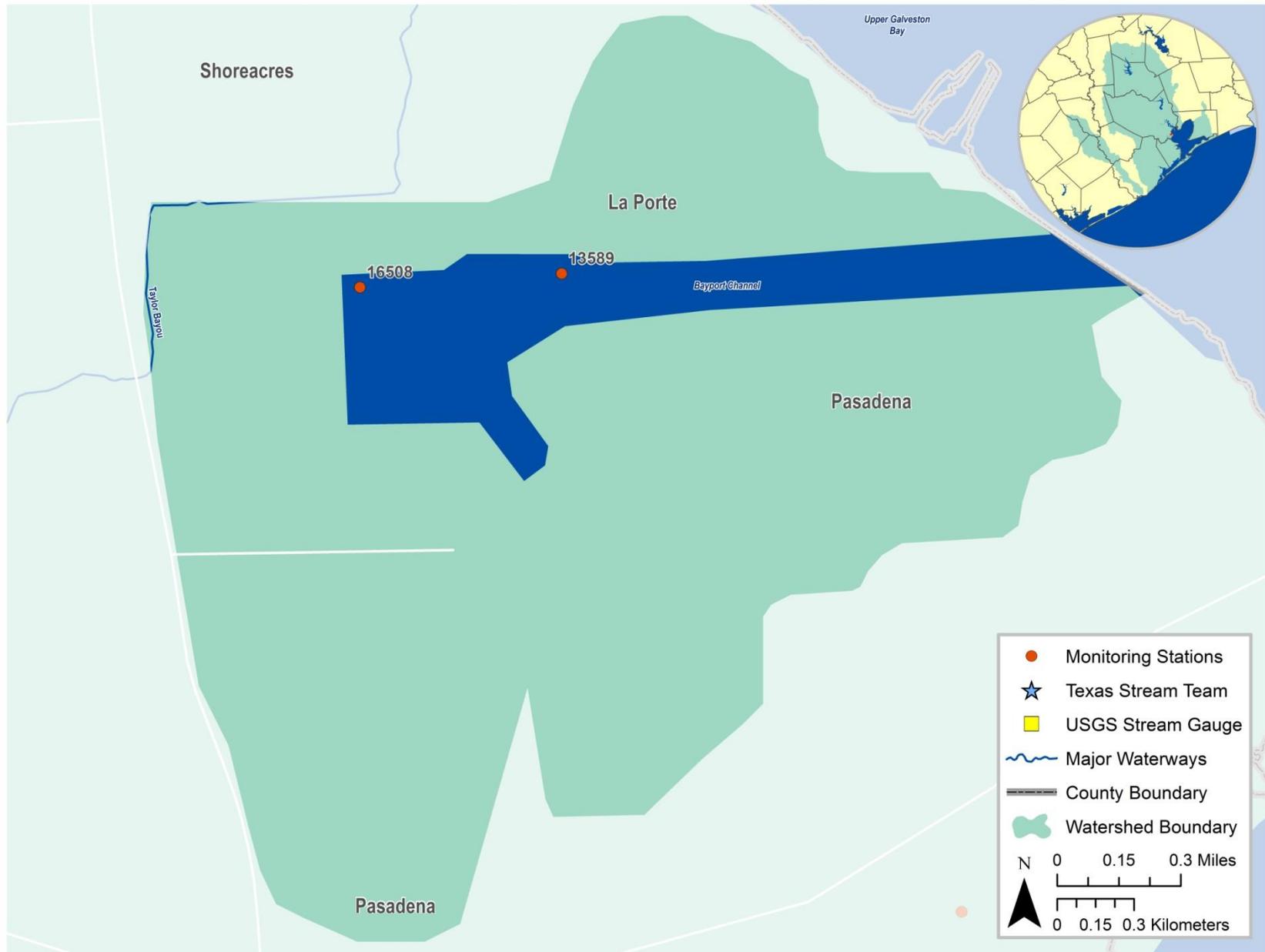
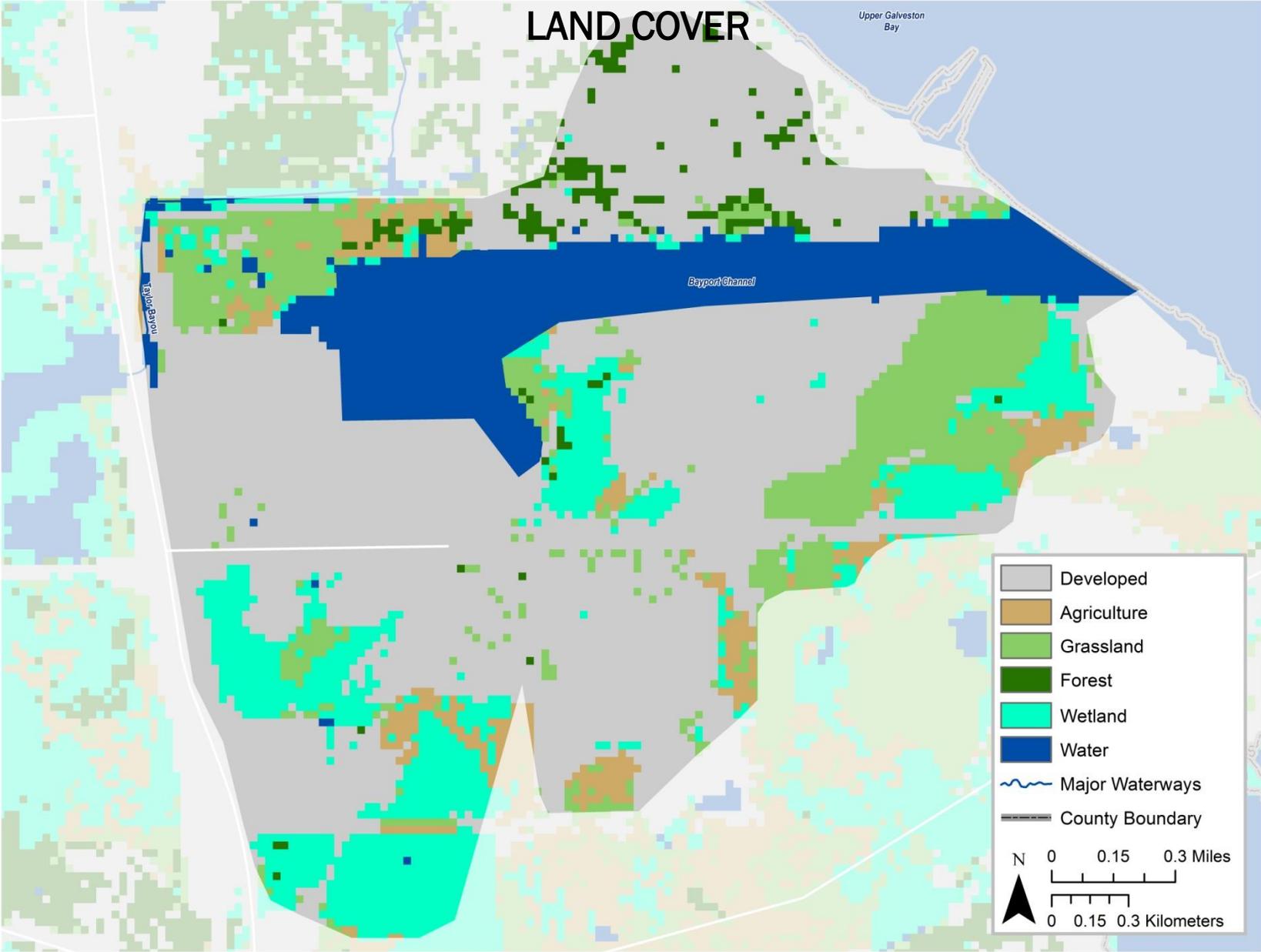
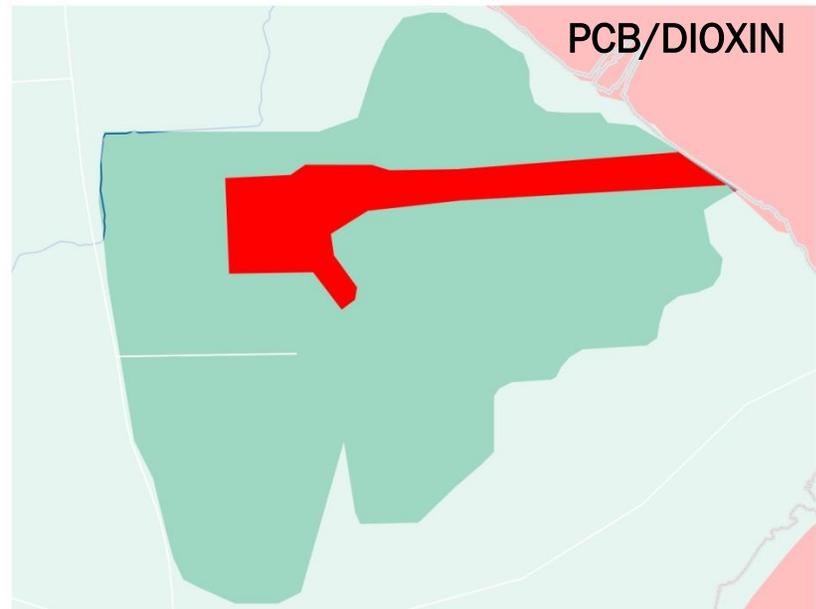
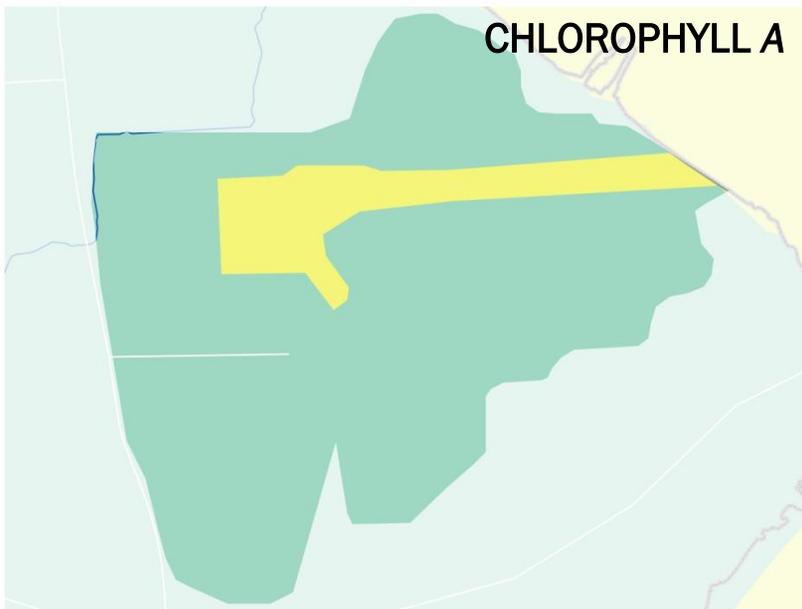
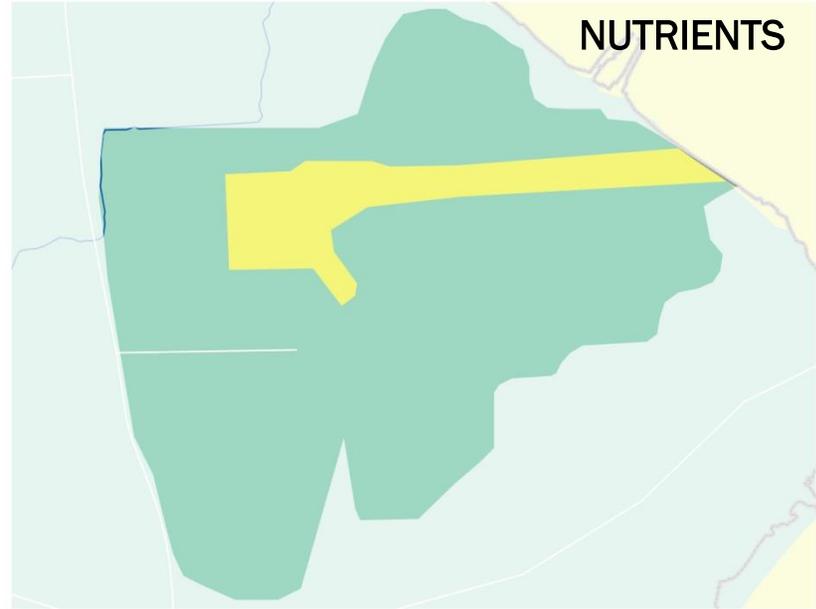
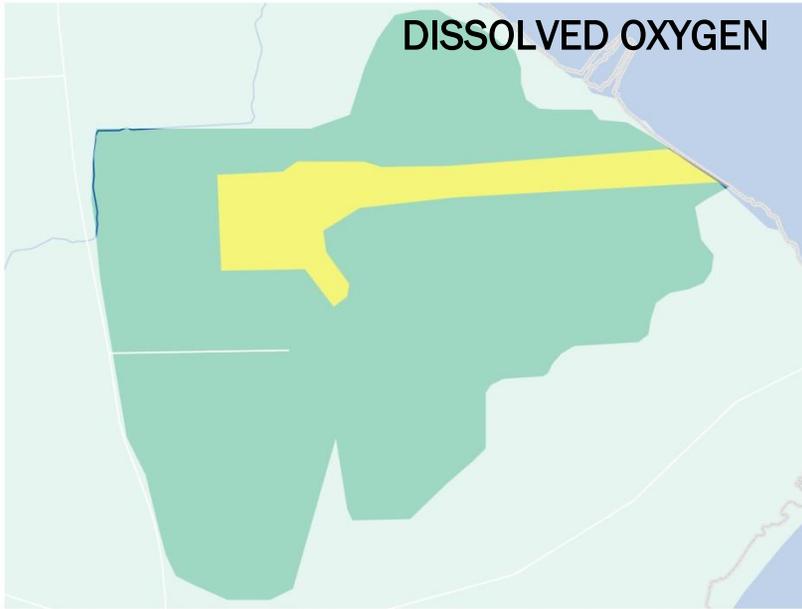


BAYPORT SHIP CHANNEL - SEGMENT 2438



BAYPORT SHIP CHANNEL - SEGMENT 2438





 Impairment  Concern  No Impairments or Concerns

Segment Number:	2438	Name:	Bayport Ship Channel		
Length:	0.3 square miles	Miles of Shoreline:	5 miles	Designated Uses:	Noncontact Recreation; High Aquatic Life Use
Number of Active Monitoring Stations:	2	Texas Stream Team Monitors:	0	Permitted Outfalls:	6
Description:	Located on the western shore of Upper Galveston Bay from confluence with Galveston Bay extending west approximately 2 miles to the terminus in the turning basin immediately south of the Cities of La Porte and Shoreacres.				

Percent of Stream Impaired or of Concern						
Segment ID	PCBs/Dioxin	Bacteria	Dissolved Oxygen	Nutrients	Chlorophyll a	Other
2438	100	-	100	100	100	-

Segment 2438			
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
13589	Bayport Channel at Turning Basin	Quarterly	TCEQ	Field, Conventional, Bacteria, Chlorophyll a
13589	Bayport Channel at Turning Basin	Twice / Year	TCEQ	Metals in Water
13589	Bayport Channel at Turning Basin	Once / Year	TCEQ	Metals in Sediments, Organics in Sediment
16508	Bayport Channel near 98GB015	Quarterly	TCEQ	Field, Conventional, Bacteria, Chlorophyll a, Metals

Water Quality Issues Summary			
Issue	2014 Assessment <i>I – Impaired C – Of Concern</i>	Possible Causes / Influences / Concerns Voiced by Stakeholders	Possible Solutions / Actions To Be Taken
Elevated Nutrients	2438 C	<ul style="list-style-type: none"> ▪ Fertilizer runoff from urbanized properties, such as landscaped areas, residential lawns, and sport fields ▪ Nutrient loading from WWTF effluent, sanitary sewer overflows, and malfunctioning OSSFs 	<ul style="list-style-type: none"> ▪ Implement YardWise and Watersmart landscape practices ▪ Monitor phosphorus levels at WWTFs to determine if controls are needed
Elevated Chlorophyll a Concentrations	2438 C	<ul style="list-style-type: none"> ▪ Excess nutrients from residential lawns ▪ Fertilizer runoff from surrounding watershed promotes algal growth in waterways ▪ Nutrient loading from WWTF effluent, sanitary sewer overflows, and malfunctioning OSSFs promotes algal growth 	<ul style="list-style-type: none"> ▪ Educate residents about excessive fertilizer use ▪ Reduce or manage fertilizer runoff from agricultural areas ▪ Improve compliance and enforcement of existing stormwater quality permits ▪ Add water quality features to stormwater systems ▪ More public education regarding nutrients
Dissolved Oxygen Concentrations	2438 C	<ul style="list-style-type: none"> ▪ Excessive nutrients from domestic lawn fertilizers ▪ Excessive nutrients and organic matter from WWTF effluent, SSOs, malfunctioning OSSFs, illegal disposal of grease trap waste, and biodegradable solid waste (e.g., grass clippings and pet waste) ▪ High temperature discharges from industrial WWTFs ▪ Vegetative canopy removed 	<ul style="list-style-type: none"> ▪ More public education regarding fertilizer use ▪ Improve compliance and enforcement of existing stormwater quality permits ▪ Encourage Water Quality Management Plans or similar projects for agricultural properties ▪ Install and/or maintain riparian buffer areas between agricultural fields and waterways ▪ More public education on pet waste disposal ▪ More public education regarding OSSF operation and maintenance ▪ More public education regarding disposal of household fats, oils, and grease ▪ Improve operation and maintenance of existing WWTF and collection systems ▪ Regionalize chronically non-compliant WWTFs

			<ul style="list-style-type: none"> ▪ Conserve or restore trees and habitat along waterways to maintain/create shade to cool water ▪ Work with drainage districts and agencies to change practices of clear cutting and channelizing waterways to protect from solar heating
PCBs/Dioxin in Edible Fish Tissue	2438	I	<ul style="list-style-type: none"> ▪ Concentrated deposits outside boundaries of the waste pits located adjacent to San Jacinto River and I-10 bridge ▪ Unknown industrial or urban sources <ul style="list-style-type: none"> ▪ Remove or contain contamination from locations already identified ▪ Encourage additional testing to locate all unknown sources/deposits

Segment Discussion:

Watershed Characteristics: This watershed is located on the western shore of Upper Galveston Bay from the confluence with Galveston Bay extending west approximately two miles to the terminus in the turning basin. The Channel is used primarily by barges transporting petrochemical feed stocks and related products. The surrounding watershed is heavily developed with industrial activities and residential and commercial uses. The area just northwest of the Channel has been more heavily developed in the past five years. A cruise ship terminal sits at the mouth of the channel but is considered upper Galveston Bay.

Water Quality Issues: This segment is not supporting its fish consumption use due to high levels of PCBs and dioxin found in edible fish tissue. For this reason, the Texas Department of State Health Services has issued a Limited Consumption Fish Advisory for this water body. The 2014 IR lists this segment as having water quality screening level concerns for the nutrients ammonia nitrogen, nitrate nitrogen, and total phosphorus. Over 50% of samples exceeded the ammonia nitrogen screening criteria level of 0.10 mg/L. This segment is also listed as having a chlorophyll a concern with 71% of samples exceeding the screening criteria of 11.6 micrograms per liter. Additionally this segment has a concern for water quality screening levels for dissolved oxygen grab with over 14 percent of measurements lower than the 3.0 minimum.

Special Studies/Projects: This segment is included in three TMDL projects: the Houston Ship Channel and Upper Galveston Bay TMDL for PCBs in Fish Tissue, the Houston Ship Channel TMDL for Dioxin, and the Galveston Bay System Survey for Dioxin and PCBs, 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 the Bayport Ship Channel watershed revealed four statistically significant parameter trends including increasing sulfate, specific conductance (SPCond), and chloride while total Kjeldahl nitrogen (TKN) is decreasing over time. The 2014 Texas Integrated Report lists this segment as having a concern for elevated nutrient levels. Analysis of [total phosphorous \(TP\)](#), nitrate, and [ammonia](#) levels revealed relatively stable trends over time with the majority of samples collected during the period of record exceeding the recommended screening criteria for each parameter.

A concern for chlorophyll a levels also exists for this segment. A statistically significant trend was not detected for [chlorophyll a](#) data over time for the Bayport Ship Channel, however, more than half of the samples collected since 2000 have exceeded the 11.6 µg/L screening criteria. Analysis of [dissolved oxygen \(DO\)](#) data for this segment revealed that most samples collected during the period of record have remained in compliance with state water quality standards with only one grab sample falling below the 3.0 mg/L minimum standard in the past 15 years.

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.

Support all TMDLs being conducted around this water body.