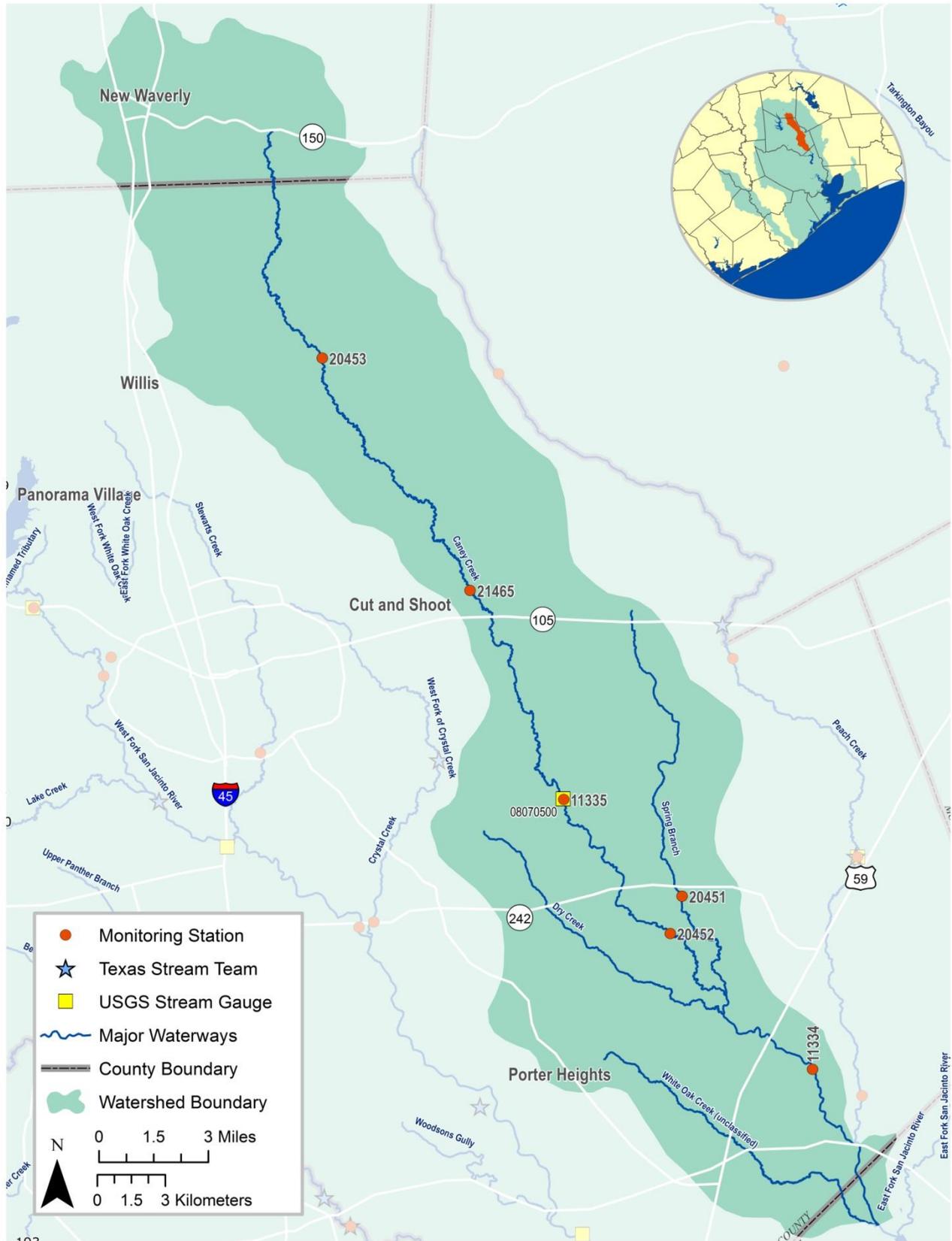
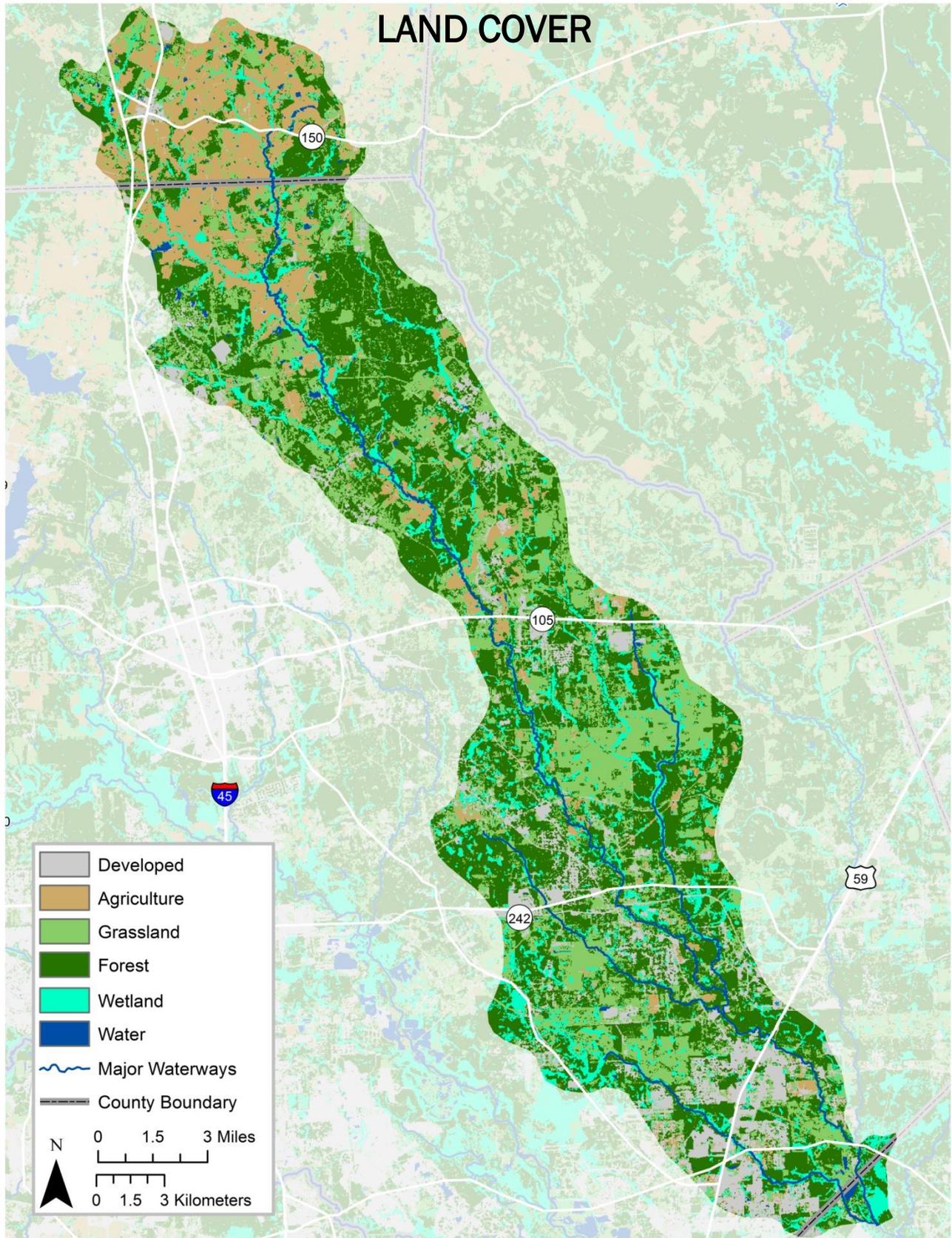


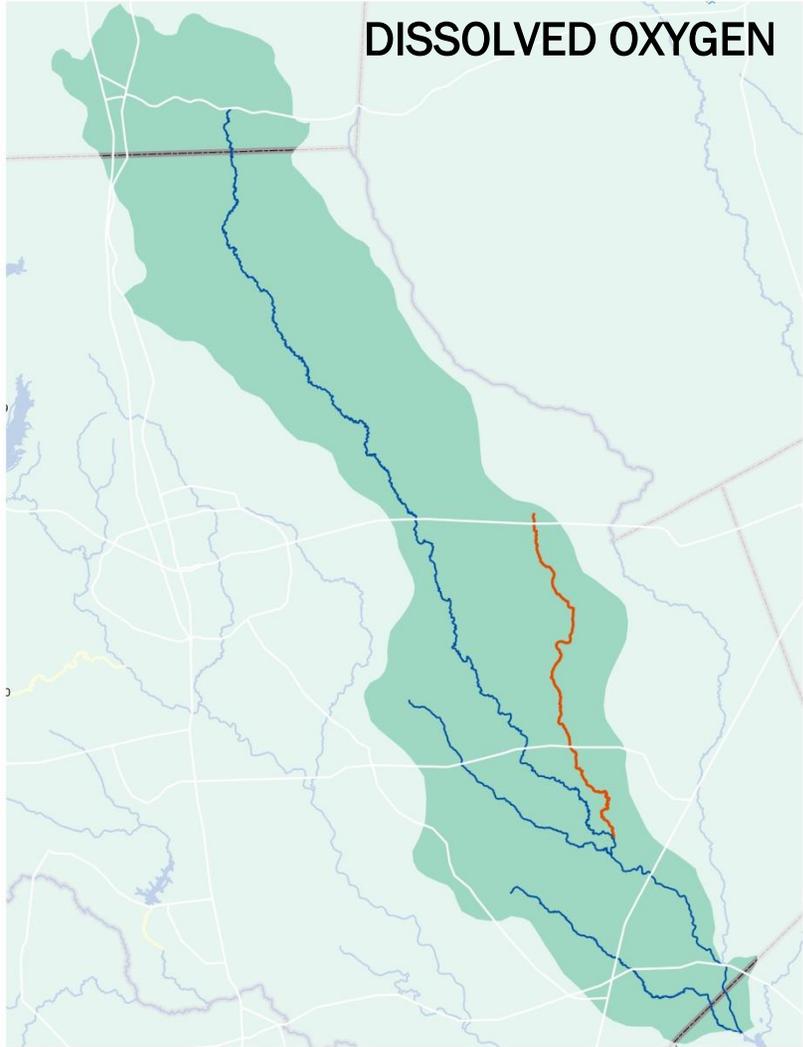
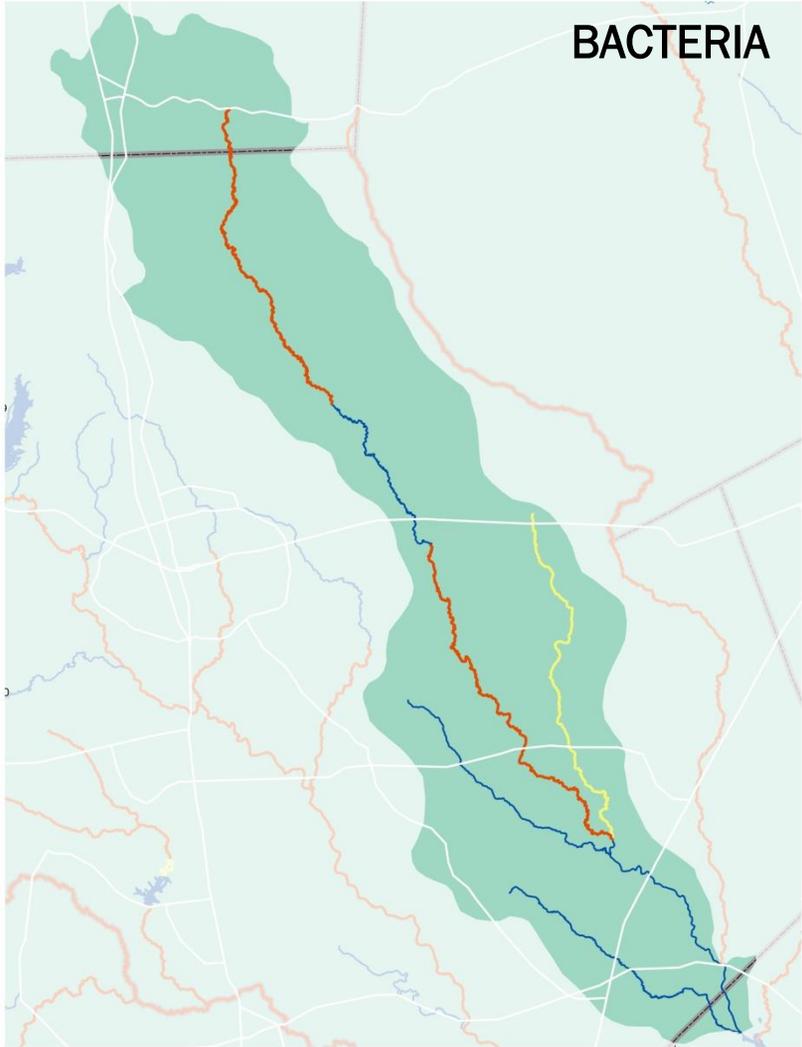
# CANEY CREEK - SEGMENT 1010



# CANEY CREEK - SEGMENT 1010

## LAND COVER





 Impairment     Concern     No Impairments or Concerns

<b>Segment Number:</b> 1010		<b>Name:</b> Caney Creek			
<b>Length:</b> 52 miles	<b>Watershed Area:</b> 222 square miles	<b>Designated Uses:</b> Primary Contact Recreation 1; High Aquatic Life; Public Water Supply			
<b>Number of Active Monitoring Stations:</b> 6		<b>Texas Stream Team Monitors:</b> 0	<b>Permitted Outfalls:</b> 21		
<b>Description:</b>	Segment 1010 (Perennial Stream): From the confluence with the East Fork San Jacinto River in Harris County to SH 150 in Walker County				
	Segment 1010A (Intermittent Stream with pools w/ intermediate ALU): Dry Creek (unclassified water body) – Intermittent stream with perennial pools from Caney Creek upstream to the confluence with an unnamed tributary approximately 3.6 km upstream of SH 242				
	Segment 1010B (Perennial Stream w/ high ALU): Perennial stream from the confluence with Caney Creek upstream to the confluence with an unnamed tributary approximately 2.08 km upstream of US 59				
	Segment 1010C (Perennial Stream w/ high ALU): Spring Branch (unclassified water body) – From the Caney Creek confluence to a point 0.54 km (0.34 mi) upstream of SH 105				

Percent of Stream Impaired or of Concern						
Segment ID	Dissolved Oxygen	Bacteria	Nutrients	PCBs/Dioxin	Chlorophyll a	Other
1010	-	31	-	-	-	-
1010C	100	100	-	-	-	-

Segment 1010			
Standards	Perennial Stream	Screening Levels	Perennial Stream
Temperature (°C/°F):	32 / 90	Ammonia (mg/L):	0.33
Dissolved Oxygen (24-Hr Average) (mg/L):	5.0	Nitrate-N (mg/L):	1.95
Dissolved Oxygen (Absolute Minima) (mg/L):	3.0	Orthophosphate Phosphorus (mg/L):	0.37
pH (standard units):	6.5-9.0	Total Phosphorus (mg/L):	0.69
<i>E. coli</i> (MPN/100 mL) (grab):	399	Chlorophyll-a (µg/L):	14.1
<i>E. coli</i> (MPN/100 mL) (geometric mean):	126		
Chloride (mg/L as Cl):	50		
Sulfate (mg/L as SO <sub>4</sub> ):	50		
Total Dissolved Solids (mg/L):	300		

## FY 2016 Active Monitoring Stations

Site ID	Site Description	Frequency	Monitoring Entity	Parameter Groups
11334	Caney Creek at FM 1485	Quarterly	TCEQ	Field, Conventional, Bacteria, Chlorophyll a
11334	Caney Creek at FM 1485	Bimonthly	COH / WQC	Field, Conventional, Bacteria
11335	Caney Creek at FM 2090 West of Splendora	Quarterly	H-GAC	Field, Conventional, Bacteria, Flow
20451	Spring Branch at SH 242	Quarterly	H-GAC	Field, Conventional, Bacteria, Flow
20452	Caney Creek at Fire Tower Road	Quarterly	H-GAC	Field, Conventional, Bacteria, Flow
20453	Caney Creek at County Line Road in Montgomery County	Quarterly	H-GAC	Field, Conventional, Bacteria, Flow
21465	Caney Creek at Millmac Rd NE of Cut and Shoot	Bimonthly	COH / WQC	Field, Conventional, Bacteria

## 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
<b>Elevated Levels of Indicator Bacteria</b>	1010 I 1010C I	<ul style="list-style-type: none"> <li>▪ Animal waste from agricultural production and domestic animal facilities</li> <li>▪ Constructed stormwater controls failing</li> <li>▪ Developments with malfunctioning OSSFs</li> <li>▪ Presence of feral hogs and other wild animals</li> <li>▪ Direct and dry weather discharges</li> <li>▪ Poorly operated or undersized WWTFs</li> <li>▪ Waste haulers illegal discharges/improper disposal</li> <li>▪ WWTF non-compliance, overflows, and collection system by-passes</li> <li>▪ Improper or no pet waste disposal</li> </ul>	<ul style="list-style-type: none"> <li>▪ Improve compliance and enforcement of existing stormwater quality permits</li> <li>▪ Improve construction oversight to minimize TSS discharges to waterways</li> <li>▪ Improve stormwater controls in new developments by adding bacteria reduction measures</li> <li>▪ More public education regarding OSSF operation and maintenance</li> <li>▪ Ensure proper citing of new or replacement OSSFs</li> <li>▪ Regionalize chronically non-compliant WWTFs</li> <li>▪ Require all systems to develop and implement a utility asset management program and protect against power outages at lift stations</li> <li>▪ Impose new or stricter bacteria limits than currently designated by TCEQ</li> <li>▪ Increase monitoring requirements for self-reporting</li> <li>▪ More public education on pet waste disposal</li> </ul>
<b>Dissolved Oxygen Concentrations</b>	1010C I	<ul style="list-style-type: none"> <li>▪ Agricultural runoff from row crops, fallow fields, and animal operations</li> <li>▪ Fertilizer runoff from urbanized properties, such as landscaped areas, residential lawns,</li> </ul>	<ul style="list-style-type: none"> <li>▪ Add water quality features to stormwater systems</li> <li>▪ Develop and implement Water Quality Management Plans for individual agricultural properties</li> </ul>

		<ul style="list-style-type: none"> <li>and sport fields</li> <li>▪ Excessive organic matter from malfunctioning OSSFs, SSOs, agricultural operations, illegal disposal of grease trap waste, and biodegradable solid waste (e.g., grass clippings and pet waste)</li> </ul>	<ul style="list-style-type: none"> <li>▪ More public education regarding OSSF operation and maintenance</li> <li>▪ Increase OSSF maintenance and repairs</li> <li>▪ More public education on pet waste disposal</li> </ul>
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### Segment Discussion:

**Watershed Characteristics:** This segment is primarily forested but development in the form of small ranches, ranchettes and hobby farms has become common throughout. Cleared lands for cattle grazing and hay production make up most of the agricultural activities. Timber harvesting is also present in the middle and upper reaches of the watershed. A few tracts of the Sam Houston National Forest lie in the very northern portions of the watershed. With the exception of the communities of New Waverly, Willis, and Cut and Shoot, most of the urbanized area is found in the lower portion of the watershed around U.S. Highway 59. Caney Creek flows into the East Fork San Jacinto River and then to Lake Houston, a public drinking water supply.

**Water Quality Issues:** There are seven AUs in this watershed, and five were assessed by TCEQ for the 2014 IR. AU 1010\_01 was assessed for a subset of general uses only. Two AUs (1010\_02 and 1010\_04) do not support contact recreation use. Spring Branch (1010C\_01) is listed as a concern for nonsupport; the TCEQ found that the geometric mean was 229 MPN/100 mL, but fewer than 20 samples were available during the assessment period. H-GAC analysis for the period 2008-2015 found the geometric mean was largely unchanged at 233 MPN/100 mL, so it is likely that this AU will be listed as impaired in the 2016 IR.

Assessment Unit	TCEQ Assessment (2005-2012)	HGAC Analysis 2001-2008	HGAC Analysis 2008-2015
	Geomean (MPN/100 mL) / % Grab Exceedance	Geomean (MPN/100 mL) / % Grab Exceedance	Geomean (MPN/100 mL) / % Grab Exceedance
1010_02	235	532 / 66.7	144 / 18.4
1010_03	128	Insufficient Data	226 / 26.7
1010_04	230	234 / 29.2	191 / 28.3
1010C_01	229	322 / 33.3	233 / 30.8

Aquatic life use is not supported in Spring Branch (1010C\_01) due to depressed dissolved oxygen (DO). 31.6 percent and 57.9 percent of samples collected during the assessment period were below the minimum and screening levels respectively.

General and public water supply uses are fully supported in the watershed.

**Special Studies/Projects:** This segment is currently part of a larger geographic area covered under several TMDLs, collectively known as the Bacteria Implementation Group (BIG) I-Plan. Refer the Public Involvement and Outreach section of the 2016 Basin Summary Report for more information about the BIG.

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**Trends:** Regression analysis of data from the main segment of Caney Creek revealed statistically significant water quality trends for five parameters – increasing pH, salinity, total Kjeldahl nitrogen (TKN), and total phosphorous (TP) while sulfate levels are decreasing over time. Although [TKN](#) and [TP](#) concentrations are increasing, levels are still below the set screening criteria for TP, so no concern is present at this time. The 2014 Texas Integrated Report lists DO) as impaired for Spring Branch segment 1010C. However, less than 30 DO samples have been collected since 2007 at monitoring station [20451](#) located on Spring Branch. The existing data showed no significant trend in DO at monitoring station 20451, but more data is necessary to better evaluate variations in DO levels within this segment. The majority of the main segment is impaired for bacteria while Spring Branch is currently designated as having a concern for bacteria. Regression analysis showed no significant change in [E. coli](#) levels during the period of record; however, the [moving seven-year geometric means](#) show *E. coli* concentrations remaining relatively stable at levels well above the 126 MPN/100 mL standard.

### 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.