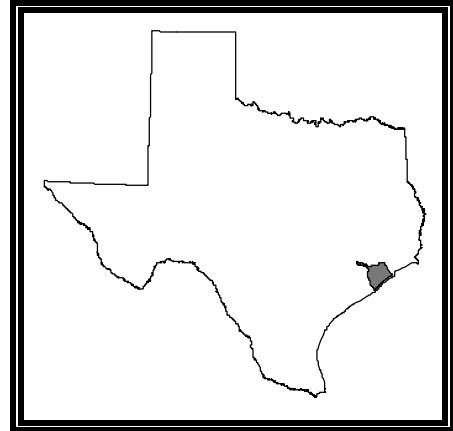


Basin 11

San Jacinto–Brazos Coastal



San Jacinto-Brazos Coastal Basin Narrative Summary

The flat coastal plain between the San Jacinto River and the Brazos River forms the San Jacinto-Brazos Coastal Basin. Most of the 11 classified segments in the basin are small tidal streams that drain into the Galveston Bay system. The 11 segments total 241 miles in length and drain approximately 1,440 square miles. The main streams in this basin are Armand Bayou, Bastrop Bayou, Chocolate Bayou, Clear Creek, Dickinson Bayou, Oyster Creek, and the Old Brazos River Channel.

Associated bay and estuary segments include West Bay, Clear Lake, Moses Lake, Chocolate Bay, Bastrop Bay, Christmas Bay, Drum Bay, Texas City Ship Channel, Bayport Channel and Lower Galveston Bay.

The basin is located in parts of Brazoria, Fort Bend, Galveston and Harris Counties. There are numerous towns and cities within this basin. The largest are Houston, Pasadena, Galveston and Missouri City. The economy of the basin is based primarily on petroleum refining, petrochemical industries, agriculture, manufacturing, aerospace and water-oriented recreation.

Annual rainfall in the basin ranges from 35 to 70 inches with intense year round rainstorms. Many of the most severe storms occur when tropical disturbances move inland from the Gulf of Mexico during late summer and early autumn.

Monitoring coverage in the basin has improved through the coordinated efforts of the Houston-Galveston Area Council, TCEQ, Galveston County Health District, City of Houston, and. Throughout the basin, there are approximately 44 sites scheduled for monitoring in fiscal year 2003. At the scheduled frequency, this represents approximately 627 monitoring events on classified streams and their tributaries.

Some of the streams in the basin are heavily urbanized and receive treated domestic and industrial wastewater as well as agricultural and urban runoff. Depressed dissolved oxygen concentrations contribute to nonsupport of aquatic life uses in Oyster Creek upstream of tidal (Segment 1110) and Armand Bayou (Segments 1113 and 1113A). In Dickinson Bayou Tidal, low dissolved oxygen concentrations cause nonsupport of the aquatic life use. Nutrient concentrations are generally below screening levels in all classified segments with the exception of Clear Creek upstream of tidal. Ammonia-nitrogen, orthophosphorus, total phosphorus, and nitrite plus nitrate-nitrogen are elevated in Clear Creek upstream of tidal (Segment 1102). Tributaries of Clear Creek had elevated ammonia-nitrogen levels (Chigger, Cowart and Mary's Creeks). Fecal coliform densities are frequently elevated in Clear Creek (Segments 1101 and 1102) and Dickinson Bayou (Segments 1103 and 1104) causing nonsupport of the contact recreation use. Tributaries of these segments (Chigger Creek,

Cowart Creek, Mary's Creek, Benson Bayou, Borden Gully, Giessler Bayou and Gum Bayou) also have frequently elevated fecal coliform densities causing nonsupport of the contact recreation use. Sediments in the Old Brazos River Channel Tidal (Segment 1111) contain elevated metals concentrations.

Bastrop and Chocolate Bayous, streams in the less urbanized areas, exhibit good water quality.

In 2001, the Texas Department of Health rescinded a fish and shellfish no-consumption advisory for Clear Creek due to elevated organic toxic substances in tissue. The former Brio Refinery was the suspected source of the contaminants but recent tissue samples indicated that the consumption of fish and shell fish no longer pose a threat to human health.

The Clear Lake Board Rule adopted by the TCEQ, imposes a treatment level (30-day average) of 5 mg/L BOD₅, 12 mg/L TSS, and 2 mg/L NH₃-N on all domestic wastewater treatment plant discharges in the Clear Lake Basin. Comparable effluent limits are also required for industrial discharges.