

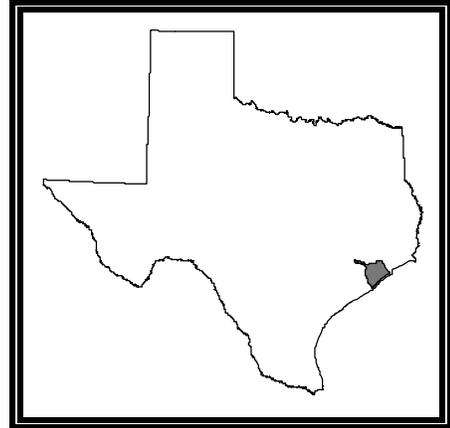
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Basin 11

San Jacinto–Brazos Coastal



San Jacinto-Brazos Coastal Basin Narrative Summary

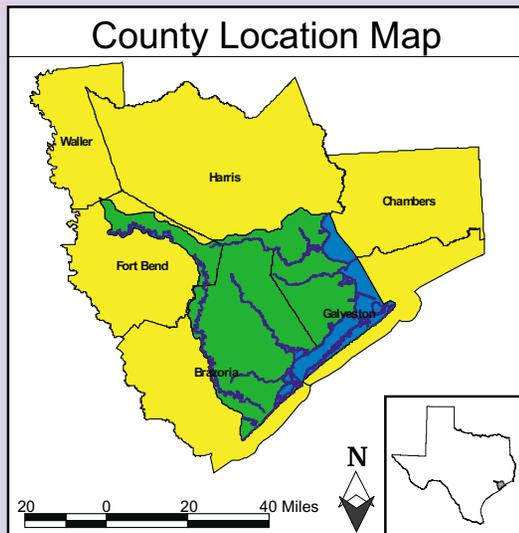
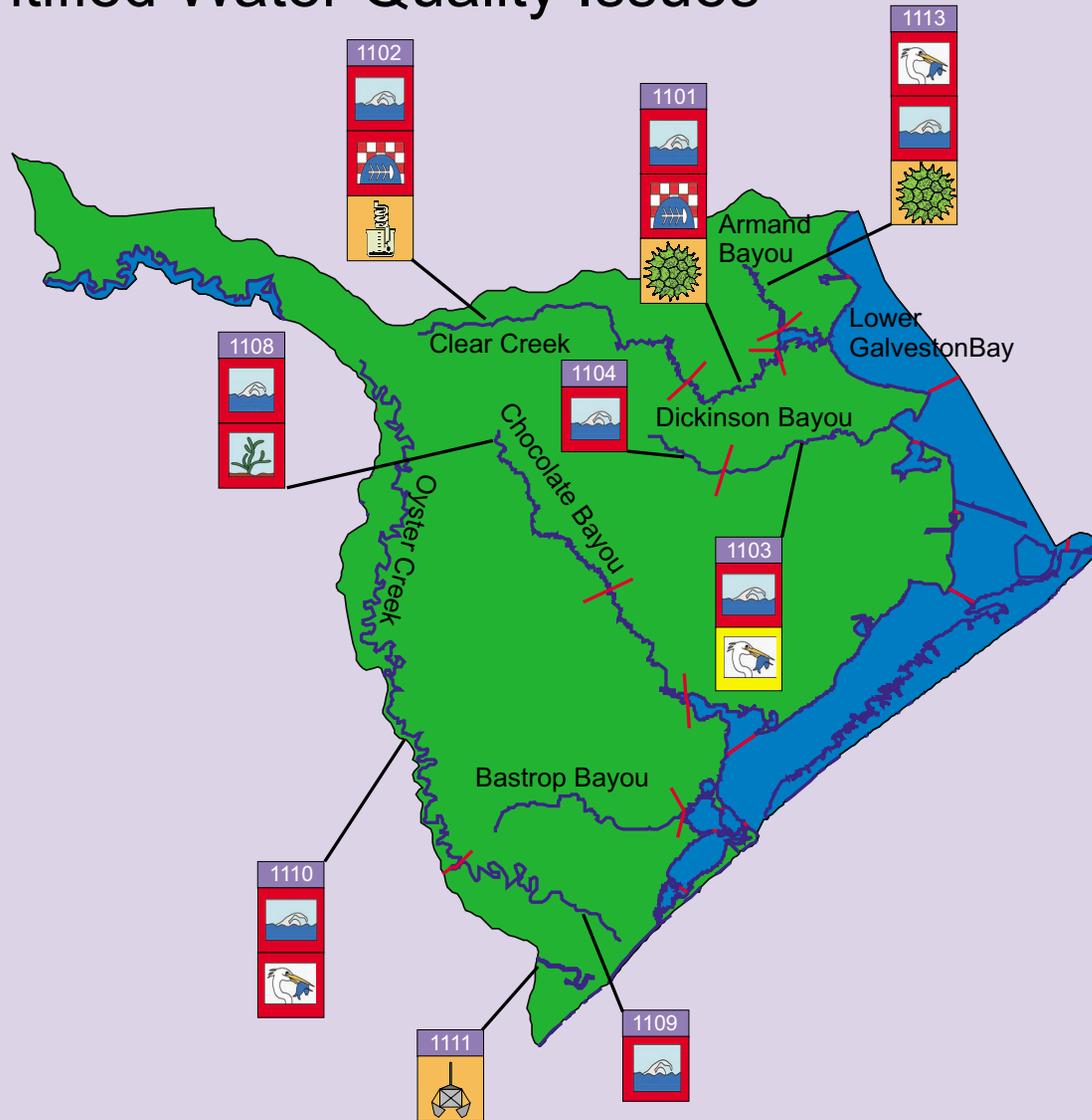
The coastal plain between the San Jacinto River and the Brazos River forms the San Jacinto-Brazos Coastal Basin. Most of the 11 classified segments in the basin are small tidal streams that drain into Galveston Bay. The 11 segments total 241 miles in length and drain approximately 1,440 square miles.

The TNRCC routinely monitors 16 surface water quality monitoring sites on the classified segments, and one additional site on Armand Bayou upstream of tidal, an unclassified water body. Most 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 partial support of the aquatic life use. While nutrient concentrations, especially phosphorus, are generally elevated in most segments, screening levels for orthophosphorus and nitrite plus nitrate nitrogen are only exceeded in Clear Creek upstream of tidal (Segment 1102). Nutrient compounds contribute to elevated chlorophyll *a* concentrations in Clear Creek Tidal (Segment 1101) and Armand Bayou (Segment 1113). Fecal coliform densities are frequently elevated throughout the basin and cause nonsupport of the contact recreation use.

Due to elevated organic toxic substances in tissue, the Texas Department of Health has issued a fish and shellfish no-consumption advisory for Clear Creek. The former Brio Refinery is the suspected source of the contaminants. Sediments in the Old Brazos River Channel Tidal contain elevated metals concentrations.

The Clear Lake Board Rule adopted by the Texas Water Commission, 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.

San Jacinto-Brazos Coastal Basin Identified Water Quality Issues

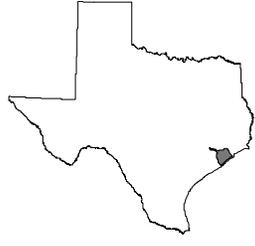


San Jacinto-Brazos Coastal Basin Graphical Summary

Basin Map	Water Bodies									
	Segment 1101 Clear Creek Tidal	Segment 1102 Clear Creek Above Tidal	Segment 1103 Dickinson Bayou Tidal	Segment 1104 Dickinson Bayou Above Tidal	Segment 1105 Bastrop Bayou Tidal	Segment 1107 Chocolate Bayou Tidal	Segment 1108 Chocolate Bayou Above Tidal	Segment 1109 Oyster Creek Tidal	Segment 1110 Oyster Creek Above Tidal	Segment 1111 Old Brazos River Channel Tidal
DESIGNATED USE SUPPORT										
Contact Recreation	N	N	N	N	S	S	N	N	N	NA
Noncontact Recreation	X	X	X	X	X	X	X	X	X	X
Public Water Supply	X	X	X	X	X	X	X	X	S	X
Fish Consumption										
Human Health	NA	S	NA	NA	NA	NA	NA	NA	NA	S
Advisories/Closures	N	N	NA	NA	NA	NA	NA	NA	NA	NA
Aquatic Life										
Dissolved Oxygen (Grab)	S	S	P	S	S	S	S	S	N	S
Dissolved Oxygen (24-Hour)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals in Water	NA	NA	NA	NA	NA	NA	NA	NA	NA	S
Organics in Water	NA	S	NA	NA	NA	NA	NA	NA	NA	NA
Water Toxicity Tests	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sediment Toxicity Tests	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Macrobenthos	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fish	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GENERAL USE SUPPORT										
Water Temperature	S	S	S	S	S	S	S	S	S	S
pH	S	S	S	S	S	S	S	S	S	S
Chloride	X	S	X	S	X	X	S	X	S	X
Sulfate	X	S	X	S	X	X	S	X	S	X
Total Dissolved Solids	X	S	X	S	X	X	N	X	S	X

S = Support; P = Partial Support; N = Nonsupport; T = Threatened; NC = No Concern; C = Concern; NA = Not Assessed; X = Not Applicable

San Jacinto-Brazos Coastal Basin Graphical Summary (Continued)

Basin Map	Water Bodies									
	Segment 1101 Clear Creek Tidal	Segment 1102 Clear Creek Above Tidal	Segment 1103 Dickinson Bayou Tidal	Segment 1104 Dickinson Bayou Above Tidal	Segment 1105 Bastrop Bayou Tidal	Segment 1107 Chocolate Bayou Tidal	Segment 1108 Chocolate Bayou Above Tidal	Segment 1109 Oyster Creek Tidal	Segment 1110 Oyster Creek Above Tidal	Segment 1111 Old Brazos River Channel Tidal
										
WATER QUALITY CONCERNS										
Contact Recreation	X	X	X	X	X	X	X	X	X	NA
Noncontact Recreation	X	X	X	X	X	X	X	X	X	X
Fish Tissue	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sediment	NA	NA	NA	NA	NA	NA	NA	NA	NA	C
Narrative	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Nutrient Enrichment										
Ammonia Nitrogen	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Nitrite + Nitrate Nitrogen	NC	C	NC	NC	NC	NC	NC	NC	NC	NC
Orthophosphorus	NC	C	NC	NC	NC	NC	NC	NC	NC	NC
Total Phosphorus	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Chlorophyll <i>a</i>	C	NC	NC	NC	NC	NC	NC	NC	NC	NC
Public Water Supply										
Finished Water Chloride	X	X	X	X	X	X	X	X	NC	X
Finished Water Sulfate	X	X	X	X	X	X	X	X	NC	X
Finished Water TDS	X	X	X	X	X	X	X	X	NC	X
Surface Water Chloride	X	S	X	S	X	X	S	X	S	X
Surface Water Sulfate	X	S	X	S	X	X	S	X	S	X
Surface Water TDS	X	S	X	S	X	X	S	X	S	X
Aquatic Life										
Dissolved Oxygen	X	X	X	X	X	X	X	X	X	X
Metals in Water	NA	NA	NA	NA	NA	NA	NA	NA	NA	X
Organics in Water	NA	X	NA	NA	NA	NA	NA	NA	NA	NA
Water Toxicity Tests	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sediment Toxicity Tests	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

San Jacinto-Brazos Coastal Basin Graphical Summary

Basin Map	Water Bodies									
	Segment 1113 Armand Bayou Tidal	Segment 1113A Armand Bayou Above Tidal								
										
DESIGNATED USE SUPPORT										
Contact Recreation	N	N								
Noncontact Recreation	X	X								
Public Water Supply	X	X								
Fish Consumption										
Human Health	NA	NA								
Advisories/Closures	NA	NA								
Aquatic Life										
Dissolved Oxygen (Grab)	N	N								
Dissolved Oxygen (24-Hour)	NA	NA								
Metals in Water	NA	NA								
Organics in Water	NA	NA								
Water Toxicity Tests	NA	NA								
Sediment Toxicity Tests	NA	NA								
Macrobenthos	NA	NA								
Fish	NA	NA								
GENERAL USE SUPPORT										
Water Temperature	S	X								
pH	S	X								
Chloride	X	X								
Sulfate	X	X								
Total Dissolved Solids	X	X								

S = Support; P = Partial Support; N = Nonsupport; T = Threatened; NC = No Concern; C = Concern;
 NA = Not Assessed; X = Not Applicable

San Jacinto-Brazos Coastal Basin Graphical Summary (Continued)

Basin Map	Water Bodies									
	Segment 1113 Armand Bayou Tidal	Segment 1113A Armand Bayou Above Tidal								
										
WATER QUALITY CONCERNS										
Contact Recreation	X	X								
Noncontact Recreation	X	X								
Fish Tissue	NA	NA								
Sediment	NA	NA								
Narrative	NC	NC								
Nutrient Enrichment										
Ammonia Nitrogen	NC	NC								
Nitrite + Nitrate Nitrogen	NC	NC								
Orthophosphorus	NC	NC								
Total Phosphorus	NC	NC								
Chlorophyll <i>a</i>	C	NC								
Public Water Supply										
Finished Water Chloride	X	X								
Finished Water Sulfate	X	X								
Finished Water TDS	X	X								
Surface Water Chloride	X	X								
Surface Water Sulfate	X	X								
Surface Water TDS	X	X								
Aquatic Life										
Dissolved Oxygen	X	X								
Metals in Water	NA	NA								
Organics in Water	NA	NA								
Water Toxicity Tests	NA	NA								
Sediment Toxicity Tests	NA	NA								

San Jacinto-Brazos Coastal Basin

Segment 1101 - Clear Creek Tidal

Water body description: From the confluence with Clear Lake at a point 3.2 km (2.0 miles) downstream of El Camino Real in Galveston/Harris County to a point 100 meters (110 yards) upstream of FM 528 in Galveston/Harris County

Water body classification: Classified

Water body type: Tidal Stream

Water body length / area: 12.00 Miles

Use support summary: The contact recreation use is not supported due to elevated fecal coliform densities. The fish consumption use is not supported due to a no-consumption advisory issued by the Texas Department of Health in 1993. The advisory applies to an 8.3 mile portion upstream of SH 3 in Clear Creek Tidal, and warns against consumption of any fish and blue crabs taken from the affected area. Test results reveal dichloroethane, trichloroethane, carbon disulfide, and chlordane in fish and crab tissue. The aquatic life and general uses are supported.

Water quality concerns summary: Chlorophyll *a* is a concern.

Additional information: A total maximum daily load (TMDL) to evaluate the causes and sources of chlordane in fish and crab tissue and allocate the allowable loading has been completed and approved by the Commission.

Total maximum daily loads (TMDLs) to evaluate the causes and sources of dichloroethane and trichloroethane in fish and crab tissue and allocate the allowable loading have been completed and approved by the Commission.

Projects are scheduled for carbon disulfide in fish and crab tissue and fecal coliform bacteria to do one or more of the following: assess the relevant water quality standard; to confirm the impairment; to conduct a total maximum daily load (TMDL) to evaluate the causes and sources and allocate the allowable loading; or to correct the impairment under another program.

**Additional information,
continued:**

For more information on specific TMDL projects, visit the TNRCC Web site at www.tnrcc.state.tx.us/water/quality/tmdl/.

Monitoring sites used in the assessment

Station	Station Description
11446	Clear Creek Tidal at SH 3 near Webster

Published studies

Publication	Date	Author
IMS 62 Clear Creek	Sept. 1976	Shaw, C. (Region 12)
IS 5 Clear Creek	Sept. 1979	Kirkpatrick, J.

Wastewater dischargers

Permit type	Number of outfalls
Domestic	7

Historical fish kills

Start date	Location	Fish killed	Suspected cause
07/06/1997	Unnamed tributary to Turkey Creek	5	Inorganic compound
06/07/1998	Clear Creek, 5458 Apple Blossom, in Friendswood	5,000	Low Dissolved Oxygen
06/08/1998	Horsepen Bayou, Clear Lake, between Bay Area and El Dorado	300	Low Dissolved Oxygen

San Jacinto-Brazos Coastal Basin

Segment 1102 - Clear Creek Above Tidal

Water body description: From a point 100 meters (110 yards) upstream of FM 528 in Galveston/Harris County to Rouen Road in Fort Bend County

Water body classification: Classified

Water body type: Freshwater Stream

Water body length / area: 30.00 Miles

Use support summary: The contact recreation use is not supported in the lower 25 miles due to elevated fecal coliform densities. The fish consumption use is not supported due to a no-consumption advisory issued by the Texas Department of Health in November 1993. The advisory applies to all of Clear Creek Above Tidal, and warns against consumption of any fish and blue crabs taken from the affected area. Test results reveal dichloroethane, trichloroethane, carbon disulfide, and chlordane in fish and crab tissue. The aquatic life and general uses are supported.

Water quality concerns summary: Nitrite + nitrate nitrogen and orthophosphorus are concerns in the lower 25 miles.

Additional information: A total maximum daily load (TMDL) to evaluate the causes and sources of chlordane in fish and crab tissue and allocate the allowable loading has been completed and approved by the Commission.

Total maximum daily loads (TMDLs) to evaluate the causes and sources of dichloroethane and trichloroethane in fish and crab tissue and allocate the allowable loading have been completed and approved by the Commission.

Projects are scheduled for carbon disulfide in fish and crab tissue and fecal coliform bacteria to do one or more of the following: assess the relevant water quality standard; to confirm the impairment; to conduct a total maximum daily load (TMDL) to evaluate the causes and sources and allocate the allowable loading; or to correct the impairment under another program.

**Additional information,
continued:**

For more information on specific TMDL projects, visit the TNRCC Web site at www.tnrcc.state.tx.us/water/quality/tmdl/.

Monitoring sites used in the assessment

Station	Station Description
11450	Clear Creek at Clear Lake City Blvd. (FM 2351) near Friendswood

Wastewater dischargers

Permit type	Number of outfalls
Domestic	19
Industrial	3

Historical fish kills

Start date	Location	Fish killed	Suspected cause
05/02/1998	Sun Meadow subdivision off FM528 at Chigger Creek	100	Low Dissolved Oxygen

San Jacinto-Brazos Coastal Basin

Segment 1103 - Dickinson Bayou Tidal

Water body description: From the confluence with Dickinson Bay 2.1 km (1.3 miles) downstream of SH 146 in Galveston County to a point 4.0 km (2.5 miles) downstream of FM 517 in Galveston County.

Water body classification: Classified

Water body type: Tidal Stream

Water body length / area: 15.00 Miles

Use support summary: The contact recreation uses is not supported due to elevated fecal coliform densities. The aquatic life use is partially supported due to depressed dissolved oxygen concentrations in the reach from IH 45 southeast of Dickinson downstream to one-half mile downstream of SH 3. General uses are supported throughout the segment. The fish consumption use was not assessed due to insufficient data.

Water quality concerns summary: Available data indicate that there are no water quality concerns.

Additional information: A wasteload evaluation (WLE) for dissolved oxygen was approved in 1986 and has been incorporated into the state Water Quality Management Plan. Advanced waste treatment is required for one or more dischargers.

A project is underway for dissolved oxygen to do one or more of the following: assess the relevant water quality standard; to confirm the impairment; to conduct a total maximum daily load (TMDL) to evaluate the causes and sources and allocate the allowable loading; or to correct the impairment under another program.

**Additional information,
continued:**

A project is scheduled for fecal coliform bacteria to do one or more of the following: assess the relevant water quality standard; to confirm the impairment; to conduct a total maximum daily load (TMDL) to evaluate the causes and sources and allocate the allowable loading; or to correct the impairment under another program.

For more information on specific TMDL projects, visit the TNRCC Web site at www.tnrcc.state.tx.us/water/quality/tmdl/.

Monitoring sites used in the assessment

Station	Station Description
11455	Dickinson Bayou Tidal at SH 146 Bridge east of Dickinson
11460	Dickinson Bayou Tidal at SH 3 Bridge in Dickinson

Published studies

Publication	Date	Author
IMS 71 Dickinson Bayou	Sept. 1976	Kirkpatrick, J.
IS 34 Dickinson Bayou	May 1980	Ottmers, D.
IS 86-03 Dickinson Bayou	Sept. 1984	Kirkpatrick, J.

Wastewater dischargers

Permit type	Number of outfalls
Domestic	2
Industrial	8

Historical fish kills

Start date	Location	Fish killed	Suspected cause
06/20/1996	Dickinson Bayou, between HWY 3 and IH 45	1,000	Low Dissolved Oxygen
06/20/1996	Dickinson Bayou, between HWY 3 and IH 45	500,000	Low Dissolved Oxygen
07/30/1997	Dickinson Bayou - One mile west of I-45 and 517	500	Low Dissolved Oxygen
09/10/1997	Dickinson Bayou and IH 45	100,050	Low Dissolved Oxygen

San Jacinto-Brazos Coastal Basin

Segment 1104 - Dickinson Bayou Above Tidal

Water body description: From a point 4.0 km (2.5 miles) downstream of FM 517 in Galveston County to FM 528 in Galveston County

Water body classification: Classified

Water body type: Freshwater Stream

Water body length / area: 7.00 Miles

Use support summary: The contact recreation use is not supported due to elevated fecal coliform densities. Aquatic life and general uses are supported. The fish consumption use was not assessed due to insufficient data.

Water quality concerns summary: Available data indicate that there are no water quality concerns.

Additional information: A wasteload evaluation (WLE) for dissolved oxygen was approved in 1986 and has been incorporated into the state Water Quality Management Plan. Advanced waste treatment is required for one or more dischargers.

A project is scheduled for fecal coliform bacteria to do one or more of the following: assess the relevant water quality standard; to confirm the impairment; to conduct a total maximum daily load (TMDL) to evaluate the causes and sources and allocate the allowable loading; or to correct the impairment under another program. For more information on specific TMDL projects, visit the TNRCC Web site at www.tnrcc.state.tx.us/water/quality/tmdl/.

Monitoring sites used in the assessment

Station	Station Description
11467	Dickinson Bayou at FM 517 east of Alvin

Published studies

Publication	Date	Author
IMS 71 Dickinson Bayou	Sept. 1976	Kirkpatrick, J.
IS 8 Dickinson Bayou	Aug. 1978	Kirkpatrick, J.
IS 86-07 Dickinson Bayou	May 1985	Kirkpatrick, J.

Wastewater dischargers

Permit type	Number of outfalls
Domestic	2
Industrial	4

San Jacinto-Brazos Coastal Basin

Segment 1105 - Bastrop Bayou Tidal

Water body description: From the confluence with Bastrop Bay 1.1 km (0.7 miles) downstream of the Intracoastal Waterway in Brazoria County to Old Clute Road at Lake Jackson in Brazoria County.

Water body classification: Classified

Water body type: Tidal Stream

Water body length / area: 25.00 Miles

Use support summary: Available data indicate that the aquatic life, contact recreation, and general uses are supported. The fish consumption use was not assessed due to insufficient data.

Water quality concerns summary: Available data indicate that there are no water quality concerns.

Monitoring sites used in the assessment

Station	Station Description
11474	Bastrop Bayou Tidal in Intracoastal Canal at intersection of Bayou and Bay
11475	Bastrop Bayou Tidal at CR 227 near Mims
14652	Bastrop Bayou Tidal at Lost Lake

Published studies

Publication	Date	Author
IMS 54 Bastrop Bayou	Sept. 1976	Ezell, C.
IS 13 Bastrop Bayou	Aug. 1978	Ottmers, O.

Wastewater dischargers

Permit type	Number of outfalls
Domestic	7
Industrial	1

Historical fish kills

Start date	Location	Fish killed	Suspected cause
08/25/1996	Bastrop Bayou - Jabo Tackle Box (formerly Marlin Marina)	10,000	Low Dissolved Oxygen
05/16/1997	Bastrop Bayou from State HWY 288 to Business 288 near Richwood	3,000	Inorganic compound

San Jacinto-Brazos Coastal Basin

Segment 1107 - Chocolate Bayou Tidal

Water body description: From the confluence with Chocolate Bay 1.4 km (0.9 miles) downstream of FM 2004 in Brazoria County to a point 4.2 km (2.6 miles) downstream of SH 35 in Brazoria County.

Water body classification: Classified

Water body type: Tidal Stream

Water body length / area: 14.00 Miles

Use support summary: Available data indicate that the aquatic life, contact recreation, and general uses are supported. The fish consumption use was not assessed due to insufficient data.

Water quality concerns summary: Available data indicate that there are no water quality concerns.

Monitoring sites used in the assessment

Station	Station Description
11478	Chocolate Bayou Tidal FM 2004 Bridge south of Alvin

Wastewater dischargers

Permit type	Number of outfalls
Domestic	2
Industrial	11

Historical fish kills

Start date	Location	Fish killed	Suspected cause
08/14/1998	Chocolate Bayou downstream of Lutes Marina.	10,000	Low Dissolved Oxygen

San Jacinto-Brazos Coastal Basin

Segment 1108 - Chocolate Bayou Above Tidal

Water body description: From a point 4.2 km (2.6 miles) downstream of SH 35 in Brazoria County to SH 6 in Brazoria County

Water body classification: Classified

Water body type: Freshwater Stream

Water body length / area: 22.00 Miles

Use support summary: The contact recreation use is not supported due to elevated fecal coliform densities. General uses are not supported due to the elevated average total dissolved solids concentration. The aquatic life use is supported. The fish consumption use was not assessed due to insufficient data.

Water quality concerns summary: Available data indicate that there are no water quality concerns.

Additional information: Projects are scheduled for total dissolved solids and fecal coliform bacteria to do one or more of the following: assess the relevant water quality standard; to confirm the impairment; to conduct a total maximum daily load (TMDL) to evaluate the causes and sources and allocate the allowable loading; or to correct the impairment under another program. For more information on specific TMDL projects, visit the TNRCC Web site at www.tnrcc.state.tx.us/water/quality/tmdl/.

Monitoring sites used in the assessment

Station	Station Description
11484	Chocolate Bayou at FM 1462 west of Alvin

Published studies

Publication	Date	Author
IMS 60 Chocolate Bayou	Sept. 1976	Ezell, C.

Wastewater dischargers

Permit type	Number of outfalls
Domestic	5
Industrial	2

San Jacinto-Brazos Coastal Basin

Segment 1109 - Oyster Creek Tidal

Water body description: From the confluence with the Intracoastal Waterway in Brazoria County to a point 100 meters (110 yards) upstream of FM 2004 in Brazoria County

Water body classification: Classified

Water body type: Tidal Stream

Water body length / area: 25.00 Miles

Use support summary: The contact recreation use is not supported due to elevated fecal coliform densities. Aquatic life and general uses are supported. The fish consumption use was not assessed due to insufficient data.

Water quality concerns summary: Available data indicate that there are no water quality concerns.

Additional information: A project is scheduled for fecal coliform bacteria to do one or more of the following: assess the relevant water quality standard; to confirm the impairment; to conduct a total maximum daily load (TMDL) to evaluate the causes and sources and allocate the allowable loading; or to correct the impairment under another program. For more information on specific TMDL projects, visit the TNRCC Web site at www.tnrcc.state.tx.us/water/quality/tmdl/.

Monitoring sites used in the assessment

Station	Station Description
11485	Oyster Creek Tidal at FM 523 SE of Angleton

Wastewater dischargers

Permit type	Number of outfalls
Domestic	2

San Jacinto-Brazos Coastal Basin

Segment 1110 - Oyster Creek Above Tidal

Water body description: From a point 100 meters (110 yards) upstream of FM 2004 in Brazoria County to the Brazos River Authority diversion dam 1.8 km (1.1 miles) upstream of SH 6 in Fort Bend County

Water body classification: Classified

Water body type: Freshwater Stream

Water body length / area: 77.00 Miles

Use support summary: The aquatic life use is not supported due to depressed dissolved oxygen concentrations in the lower 25 miles. The contact recreation use is not supported due to elevated fecal coliform densities within the same reach. The public water supply and general uses are supported. The fish consumption use was not assessed due to insufficient data.

Water quality concerns summary: Available data indicate that there are no water quality concerns.

Additional information: Projects are scheduled for dissolved oxygen and fecal coliform bacteria to do one or more of the following: assess the relevant water quality standard; to confirm the impairment; to conduct a total maximum daily load (TMDL) to evaluate the causes and sources and allocate the allowable loading; or to correct the impairment under another program. For more information on specific TMDL projects, visit the TNRCC Web site at www.tnrcc.state.tx.us/water/quality/tmdl/.

Monitoring sites used in the assessment

Station	Station Description
11489	Oyster Creek at Walker St (Co. Road) near Ward Lake

Published studies

Publication	Date	Author
IMS 64 Oyster Creek	Aug. 1975	Kirkpatrick, J.
IS 14 Oyster Creek	Dec. 1978	Kirkpatrick, J.
IS 86-02 Oyster Creek	Oct. 1983	Kirkpatrick, J.

Wastewater dischargers

Permit type	Number of outfalls
Agriculture	40
Domestic	24
Industrial	1

Historical fish kills

Start date	Location	Fish killed	Suspected cause
06/01/1994	Oyster Creek at Sugarland, Texas	1,000	Low Dissolved Oxygen

San Jacinto-Brazos Coastal Basin

Segment 1111 - Old Brazos River Channel Tidal

Water body description: From the confluence with the Intracoastal Waterway in Brazoria County to SH 288 in Brazoria County

Water body classification: Classified

Water body type: Estuary

Water body length / area: 0.90 Sq. miles

Use support summary: The aquatic life, fish consumption, and general uses are supported. The contact recreation use was not assessed due to insufficient data.

Water quality concerns summary: Barium, copper, nickel, and zinc in sediment are concerns.

Monitoring sites used in the assessment

Station	Station Description
11498	Old Brazos River channel mid-way between mouth and terminus

Wastewater dischargers

Permit type	Number of outfalls
Domestic	1
Industrial	10

Historical fish kills

Start date	Location	Fish killed	Suspected cause
02/06/1996	Freeport Dow Plant A, internal canal #201	20	Temperature

San Jacinto-Brazos Coastal Basin

Segment 1113 - Armand Bayou Tidal

Water body description: From the confluence with Clear Lake (at NASA Road 1 bridge) in Harris County to a point 0.8 km (0.5 miles) downstream of Genoa-Red Bluff Road in Pasadena in Harris County (includes Mud Lake).

Water body classification: Classified

Water body type: Tidal Stream

Water body length / area: 8.00 Miles

Use support summary: The aquatic life use is not supported due to depressed dissolved oxygen concentrations in the upper two miles of the bayou. The contact recreation use is not supported due to elevated fecal coliform densities throughout the bayou. The general uses are supported. The fish consumption use was not assessed due to insufficient data.

Water quality concerns summary: Chlorophyll *a* is a concern.

Additional information: The depressed dissolved oxygen concentrations in the upper portion of the bayou may be due to natural conditions associated with poor flushing capability and high sediment oxygen demand. Although nutrient compounds are usually less than screening levels, the elevated chlorophyll *a* concentration indicate that low levels of nutrients may be sufficient to trigger nuisance algal growth in Armand Bayou.

A project is underway for dissolved oxygen to do one or more of the following: assess the relevant water quality standard; to confirm the impairment; to conduct a total maximum daily load (TMDL) to evaluate the causes and sources and allocate the allowable loading; or to correct the impairment under another program.

**Additional information,
continued:**

A project is scheduled for fecal coliform bacteria to do one or more of the following: assess the relevant water quality standard; to confirm the impairment; to conduct a total maximum daily load (TMDL) to evaluate the causes and sources and allocate the allowable loading; or to correct the impairment under another program.

For more information on specific TMDL projects, visit the TNRCC Web site at www.tnrcc.state.tx.us/water/quality/tmdl/.

Monitoring sites used in the assessment

Station	Station Description
11500	Armand Bayou Tidal Lower Mud Lake 1.4km upstream of NASA 1 Bridge
11503	Armand Bayou Tidal at Bay Area Blvd north of NASA
11505	Armand Bayou Tidal at unnamed Road, 1.1 km downstream of Spring Gully

Published studies

Publication	Date	Author
IS 20 Armand Bayou	July 1980	Twidwell, S.
IS 7 Horsepen Bayou	Nov. 1979	Twidwell, S.
IS 89-03 Armand Bayou	April 1987	Ottmers, D.

Wastewater dischargers

Permit type	Number of outfalls
Agriculture	1
Domestic	3
Industrial	6

Historical fish kills

Start date	Location	Fish killed	Suspected cause
01/25/1997	Armand Bayou between Bay Area (above) and the golf course (below).	210	Temperature
02/06/1997	Drainage ditch that goes into Horsepen Bayou at Brook Forest Subdivision.	157	Unknown
12/12/1997	Spencer Highway and Big Island Slough	19,568	Organic compound
05/20/1999	Willow Spring Creek downstream of Pasadena Rd. to Canada Street.	182	Low Dissolved Oxygen

San Jacinto-Brazos Coastal Basin

Segment 1113A - Armand Bayou Above Tidal (unclassified water body)

Water body description: From a point 0.8 km (0.5 miles) downstream of Genoa-Red Bluff Road in Pasadena in Harris County

Water body classification: Unclassified

Water body type: Freshwater Stream

Water body length / area: 5.90 Miles

Use support summary: The aquatic life use is not supported due to depressed dissolved oxygen concentrations. The contact recreation use is not supported due to elevated fecal coliform densities. The fish consumption use was not assessed due to insufficient data.

Water quality concerns summary: Available data indicate that there are no water quality concerns.

Additional information: A project is underway for dissolved oxygen to do one or more of the following: assess the relevant water quality standard; to confirm the impairment; to conduct a total maximum daily load (TMDL) to evaluate the causes and sources and allocate the allowable loading; or to correct the impairment under another program.

A project is scheduled for fecal coliform bacteria to do one or more of the following: assess the relevant water quality standard; to confirm the impairment; to conduct a total maximum daily load (TMDL) to evaluate the causes and sources and allocate the allowable loading; or to correct the impairment under another program.

For more information on specific TMDL projects, visit the TNRCC Web site at www.tnrcc.state.tx.us/water/quality/tmdl/.

Monitoring sites used in the assessment

Station	Station Description
11404	Armand Bayou at Genoa-Red Bluff Rd NE of Ellington AFB

