

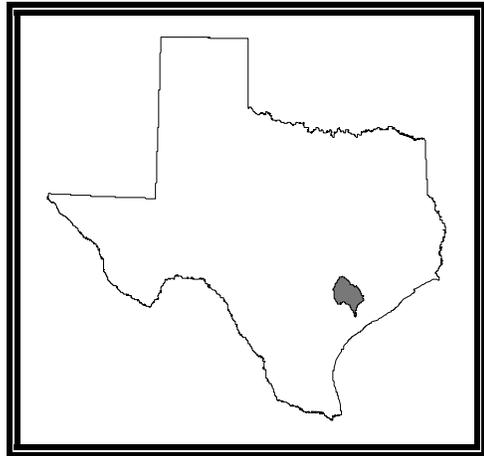
Below is an Electronic Version of an Out-of-Print Publication

You can scroll to view or print this publication here, or you can borrow a paper copy from the Texas State Library, 512/463-5455. You can also view a copy at the TCEQ Library, 512/239-0020, or borrow one through your branch library using interlibrary loan.

The TCEQ's current print publications are listed in our catalog at www.tnrcc.state.tx.us/admin/topdoc/index.html.

Basin 16

Lavaca River

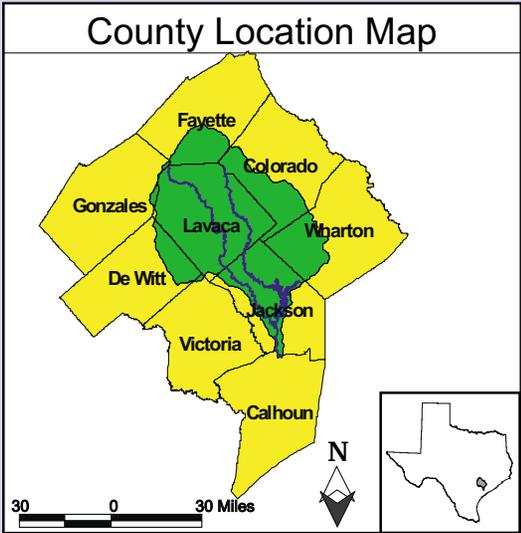
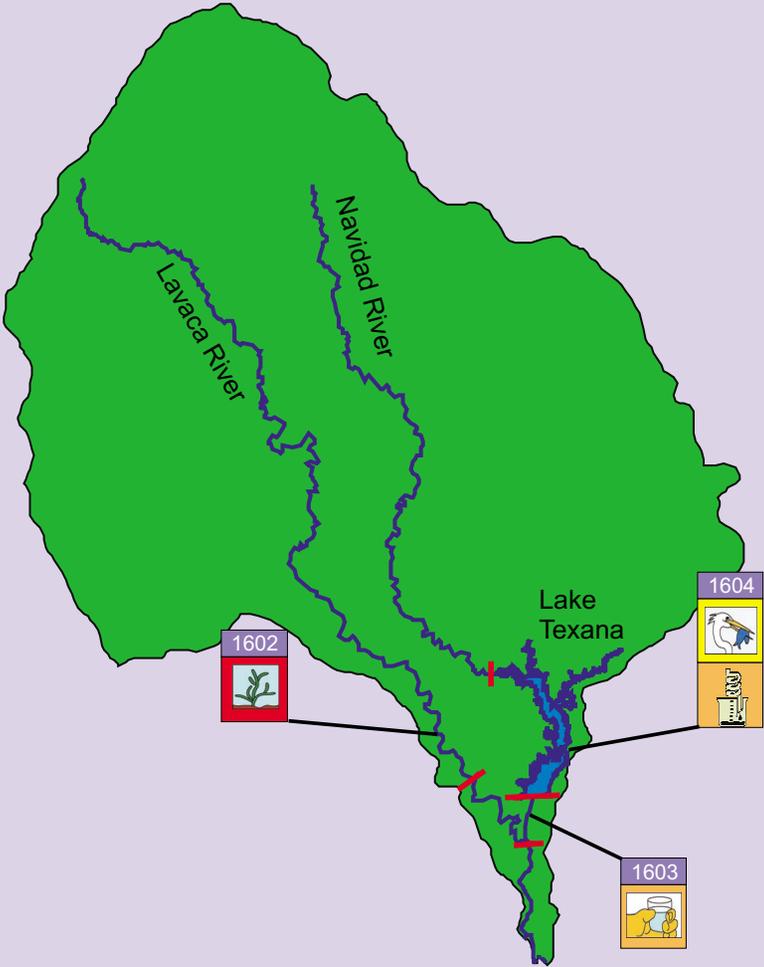


Lavaca River Basin Narrative Summary

The Lavaca River Basin is located on the coastal prairie lying north of the San Antonio Bay–Matagorda Bay area. The city of Yoakum is the largest population center. The drainage area of the basin is 2,309 square miles. Headwaters of the Lavaca River originate in southern Fayette County and eventual flow is into Lavaca Bay. About 60 percent of the basin is drained by the Navidad River and its tributaries. The Navidad River headwaters also originate in Fayette County. The Navidad River provides inflow to Lake Texana.

For water quality monitoring purposes, the Lavaca River has been divided into 5 segments that consist of 188 stream miles. There is one major reservoir in the basin covering 10,995 surface acres. The Lavaca River above tidal experiences frequently elevated fecal coliform densities and nutrient concentrations. Depressed dissolved oxygen concentrations occasionally occur during summer months in the upper reaches of Lake Texana, and elevated water temperatures are found in the upper reaches of the Lavaca River during the summertime.

Lavaca River Basin Identified Water Quality Issues

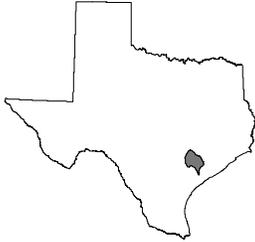


Lavaca River Basin Graphical Summary

Basin Map	Water Bodies									
	Segment 1601 Lavaca River Tidal	Segment 1601A Catfish Bayou	Segment 1601B Redfish Bayou	Segment 1602 Lavaca River Above Tidal	Segment 1603 Navidad River Tidal	Segment 1604 Lake Texana	Segment 1604A East Mustang Creek	Segment 1604B West Mustang Creek	Segment 1604C Sandy Creek	Segment 1605 Navidad River Above Lake Texana
DESIGNATED USE SUPPORT										
Contact Recreation	S	NA	NA	S	NA	NA	NA	NA	NA	S
Noncontact Recreation	X	X	X	X	X	X	X	X	X	X
Public Water Supply	X	X	X	S	S	S	X	X	X	S
Fish Consumption										
Human Health	NA	NA	NA	NA	NA	S	NA	NA	NA	NA
Advisories/Closures	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aquatic Life										
Dissolved Oxygen (Grab)	S	S	S	S	S	P	S	S	S	S
Dissolved Oxygen (24-Hour)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals in Water	NA	NA	NA	NA	NA	S	NA	S	NA	NA
Organics in Water	NA	NA	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	X	X	N	S	S	X	X	X	S
pH	S	X	X	S	S	S	X	X	X	S
Chloride	X	X	X	S	X	S	X	X	X	S
Sulfate	X	X	X	S	X	S	X	X	X	S
Total Dissolved Solids	X	X	X	S	X	NA	X	X	X	S

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

Lavaca River Basin Graphical Summary (Continued)

Basin Map	Water Bodies									
	Segment 1601 Lavaca River Tidal	Segment 1601A Cattfish Bayou	Segment 1601B Redfish Bayou	Segment 1602 Lavaca River Above Tidal	Segment 1603 Navidad River Tidal	Segment 1604 Lake Texana	Segment 1604A East Mustang Creek	Segment 1604B West Mustang Creek	Segment 1604C Sandy Creek	Segment 1605 Navidad River Above Lake Texana
										
WATER QUALITY CONCERNS										
Contact Recreation	X	NA	NA	X	NA	NA	NA	NA	NA	X
Noncontact Recreation	X	X	X	X	X	X	X	X	X	X
Fish Tissue	NA	NA	NA	NA	NA	NC	NA	NA	NA	NA
Sediment	NA	NA	NA	NA	NA	NC	NA	NA	NA	NA
Narrative	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Nutrient Enrichment										
Ammonia Nitrogen	NC	NA	NA	NC	NA	NA	NA	NA	NA	NC
Nitrite + Nitrate Nitrogen	NC	NA	NA	NC	NC	NA	NA	NA	NA	NC
Orthophosphorus	NA	NA	NA	NC	NA	C	NA	NC	NC	NA
Total Phosphorus	NC	NA	NA	NC	NA	NA	NA	NA	NA	NC
Chlorophyll <i>a</i>	NC	NA	NA	NC	NA	NA	NA	NA	NA	NC
Public Water Supply										
Finished Water Chloride	X	X	X	NC	NC	NC	X	X	X	NC
Finished Water Sulfate	X	X	X	NC	NC	NC	X	X	X	NC
Finished Water TDS	X	X	X	NC	NC	NC	X	X	X	NC
Surface Water Chloride	X	X	X	NC	C	NC	X	X	X	NC
Surface Water Sulfate	X	X	X	NC	NA	NC	X	X	X	NC
Surface Water TDS	X	X	X	NC	NA	NA	X	X	X	NC
Aquatic Life										
Dissolved Oxygen	X	X	X	X	X	X	X	X	X	X
Metals in Water	NA	NA	NA	NA	NA	NA	X	NA	X	NA
Organics in Water	NA	NA	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

Lavaca River Basin

Segment 1601 - Lavaca River Tidal

Water body description: From the confluence with Lavaca Bay in Calhoun/Jackson County to a point 8.6 km (5.3 miles) downstream of US 59 in Jackson County

Water body classification: Classified

Water body type: Tidal Stream

Water body length / area: 23.00 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
12523	Lavaca River Tidal at FM 616 between Lolita and Vanderbilt
14135	Lavaca River tidal, 13000 ft upstream of terminus in Lavaca Bay, Formosa Plastics Program Ref. Station R4
15371	Lavaca River tidal 3.25 mi. downstream of SH 16 and 100 yds. upstream of Menefee Bayou at mobile dock
15372	Lavaca River Tidal at Frels Boat Ramp, 1.1 km downstream of FM 616 between Vanderbilt and Lolita
15373	Lavaca River Tidal 30m upstream of Navidad River confluence and 200 m upstream of FM 616 between Vanderbilt and Lolita

Wastewater dischargers

Permit type	Number of outfalls
Domestic	1
Industrial	4

Historical fish kills

Start date	Location	Fish killed	Suspected cause
05/25/1996	Lavaca River, below Lolita near Redfish Lake	40,000	Disease
01/20/1998	Lavaca River at Highway 616 Bridge	35	Disease

Lavaca River Basin

Segment 1601A - Catfish Bayou (unclassified water body)

Water body description: From the confluence of Lavaca Bay north of Point Comfort in Calhoun County to the confluence of the Lavaca River south of Edna in Jackson County

Water body classification: Unclassified

Water body type: Tidal Stream

Water body length / area: 1.80 Miles

Use support summary: Available data indicate that the aquatic life use is supported. Other uses were not assessed due to insufficient data.

Water quality concerns summary: Water quality concerns were not assessed due to insufficient data.

Monitoring sites used in the assessment

Station	Station Description
15369	Catfish Bayou at confluence of Swan Lake, 2.5 mi. north of Point Comfort

Lavaca River Basin

Segment 1601B - Redfish Bayou (unclassified water body)

Water body description: From the confluence of the Lavaca River north of Point Comfort in Jackson County to the confluence of Redfish Lake south of Edna in Jackson County

Water body classification: Unclassified

Water body type: Tidal Stream

Water body length / area: 1.20 Miles

Use support summary: Available data indicate that the aquatic life use is supported. Other uses were not assessed due to insufficient data.

Water quality concerns summary: Water quality concerns were not assessed due to insufficient data.

Monitoring sites used in the assessment

Station	Station Description
15370	Redfish Bayou 30m east of Lavaca River, 6 mi. north of Point Comfort

Lavaca River Basin

Segment 1602 - Lavaca River Above Tidal

Water body description: From a point 8.6 km (5.3 miles) downstream of US 59 in Jackson County to a point 5.5 km (3.4 miles) upstream of SH 95 in Lavaca County

Water body classification: Classified

Water body type: Freshwater Stream

Water body length / area: 94.00 Miles

Use support summary: General uses are not supported due to elevated water temperatures during the summer months in a 25-mile reach upstream and downstream of Hallettsville. The aquatic life and contact recreation uses are supported in the same 25-mile reach. The public water supply 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: A project is scheduled for water temperature 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
12524	Lavaca River at upstream bridge on US 59 southwest of Edna
12525	Lavaca River at SH 111 SE of Yoakum
12526	Lavaca River old metal bridge on South Main in Hallettsville

Wastewater dischargers

Permit type	Number of outfalls
Domestic	4

Historical fish kills

Start date	Location	Fish killed	Suspected cause
04/18/1996	Boggy Creek	2,032	Low Dissolved Oxygen
12/29/1996	Lavaca River in Hallettsville and downstream for about two miles	50	Organic compound

Lavaca River Basin

Segment 1603 - Navidad River Tidal

Water body description: From the confluence with the Lavaca River in Jackson County to Palmetto Bend Dam in Jackson County

Water body classification: Classified

Water body type: Tidal Stream

Water body length / area: 9.00 Miles

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

Water quality concerns summary: Average chloride in surface water is a drinking water concern.

Monitoring sites used in the assessment

Station	Station Description
12528	Navidad River Tidal below Lake Texana at power line crossing 1 mi. above the confluence with the Lavaca River
15374	Navidad River tidal 30 m upstream of Lavaca River confluence, 200 m upstream of FM 616, between Vanderbilt and Lolita
15375	Navidad River Tidal 2 mi. south of Palmetto Dam at Dry Creek relief
15376	Navidad River Tidal at buoy line 200 yds. south of Palmetto Dam

Wastewater dischargers

Permit type	Number of outfalls
Domestic	1

Lavaca River Basin

Segment 1604 - Lake Texana

Water body description: From Palmetto Bend Dam in Jackson County to a point 100 meters (110 yards) downstream of FM 530 in Jackson County, up to normal pool elevation of 44 feet (impounds Navidad River)

Water body classification: Classified

Water body type: Reservoir

Water body length / area: 11,000 Acres

Use support summary: The aquatic life use is partially supported in the upper reaches of the reservoir due to depressed dissolved oxygen concentrations that occur occasionally during summer months. The fish consumption, public water supply, and general uses are supported. The contact recreation use was not assessed due to insufficient data.

Water quality concerns summary: Orthophosphorus is a concern.

Additional information: A project is scheduled 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. 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
12529	Lake Texana near dam, 300 meters upstream of dam at mid-reservoir
13984	Lake Texana 2 km upstream of SH 111, east of Edna (USGS site CC)
13985	Lake Texana, 1 km south of US 59 between Edna and Ganado (USGS site DC)
13986	Lake Texana, Mustang Creek arm, 1.5 km upstream of confluence With main lake, at Mustang Creek recreation area, south of Ganado (Site EC)
15377	Lake Texana 400m north of FM 3131 and 400m east of spillway inlet

Monitoring sites, continued

15379	Lake Texana 1.9 km south of SH 111, near Brackenridge Plantation recreation area, east of Edna
15381	Lake Texana, mid-lake, 1.8 km upstream of dam and 2 km east of LNRA boat dock

Wastewater dischargers

Permit type	Number of outfalls
Domestic	5

Historical fish kills

Start date	Location	Fish killed	Suspected cause
04/25/1997	North side of hwy 59, approx 1 mile west of Ganado on Cherry Rd.	50	Inorganic compound

Lavaca River Basin

Segment 1604A - East Mustang Creek (unclassified water body)

Water body description: From the confluence of Lake Texana east of Ganado in Jackson County to the upstream perennial portion of the stream east of Louise in Wharton County

Water body classification: Unclassified

Water body type: Freshwater Stream

Water body length / area: 16.00 Miles

Use support summary: Available data indicate that the aquatic life use is supported. Other uses were not assessed due to insufficient data.

Water quality concerns summary: Water quality concerns were not assessed due to insufficient data.

Monitoring sites used in the assessment

Station	Station Description
15382	East Mustang Creek at FM 647, 3 mi. south of Louise

Lavaca River Basin

Segment 1604B - West Mustang Creek (unclassified water body)

Water body description: From the confluence of Lake Texana east of Ganado in Jackson County to the upstream perennial portion of the stream north of El Campo in Wharton County

Water body classification: Unclassified

Water body type: Freshwater Stream

Water body length / area: 33.00 Miles

Use support summary: The aquatic life use is supported in the lower 25 miles of the creek. Other uses were 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
13655	West Mustang Creek at US 59, 3.6 mi. east of Ganado, 2.1 mi. upstream from Middle Mustang Creek

Lavaca River Basin

Segment 1604C - Sandy Creek (unclassified water body)

Water body description: From the confluence of Lake Texana west of Ganado in Jackson County to the upstream perennial portion of the stream northwest of El Campo in Wharton County

Water body classification: Unclassified

Water body type: Freshwater Stream

Water body length / area: 37.00 Miles

Use support summary: The aquatic life use is supported in the lower 25 miles of the creek. Other uses were 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
13654	Sandy Creek at FM 710, 9.1 mi. NW of Louise, 0.9 mi. upstream from Goldenrod Creek

Lavaca River Basin

Segment 1605 - Navidad River Above Lake Texana

Water body description: From a point 100 meters (110 yards) downstream of FM 530 in Jackson County to the confluence of the East Navidad River and the West Navidad River in Colorado/Lavaca County

Water body classification: Classified

Water body type: Freshwater Stream

Water body length / area: 62.00 Miles

Use support summary: The aquatic life, contact recreation, 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.

Monitoring sites used in the assessment

Station	Station Description
12531	Navidad River at FM 530 north of Speaks
12532	Navidad River at US 90A 1.2 miles west of Sublime
15380	Navidad River at Jackson CR 401, 5 mi. north of Edna
15698	Navidad River at FM 530, 17 mi SE of Hallettsville

Wastewater dischargers

Permit type	Number of outfalls
Agriculture	5
Domestic	2
Industrial	9

