Trinity River Authority Clean Rivers Program
2012 Basin Highlights Report

Watershed Characterizations for the Main Stem and Trinity Below Livingston Subwatersheds

INTRODUCTION

The Texas Clean Rivers Program (CRP) was created in 1991 by Texas Senate Bill 818 and is administered by the Texas Commission on Environmental Quality (TCEQ) which contracts with local planning agencies to conduct the program in each river basin. The program is tasked with protecting the water quality resources of the state and improving water quality. In the Trinity River basin, the TRA Clean Rivers Program focuses on water quality monitoring, special projects, and public outreach to achieve the goals of the program.

Data collected by the TRA CRP and other river authorities are used for regulatory purposes, such as setting water quality standards and modeling for permit limits and for water quality assessments. Every two years, TCEQ conducts an assessment of water quality throughout the state and issues a Water Quality Inventory; which identifies impairments and concerns for designated uses. These designated uses include Aquatic Life Use, Contact Recreation, General Use, Fish Consumption, and Public Water Supply Use. The Draft 2010 Texas Water Quality Inventory was used in the development of this report. This water quality inventory was also extensively discussed and analyzed in the TRA CRP 2010 Basin Summary Report; which can be found at http://www.trinityra.org/default.asp?contentID=97.

TRINITY RIVER BASIN

The Trinity River basin covers approximately 18,000 square miles. The northern portion of the basin flows through the Blackland Prairie and the DFW Metroplex. Both of these features impact the river in different ways. The Blackland Prairie is known as excellent agricultural land but is also highly erodible and contributes a high sediment load to the upper and middle Trinity River. The DFW Metroplex contributes all the factors one would expect from urban life: bacteria from pets and wildlife, nutrients from fertilizers and wastewater effluent, and other chemicals picked up in storm water runoff. These issues are not uncommon for highly urbanized watersheds.

The river is effluent dominated in the summer. Effluent from the large regional wastewater treatments plants is of very high quality although it can contain high levels of nutrients. Current nutrient removal technology is not yet developed to a point that it is practical for use at the scale of regional plants. However, light penetration rather than nutrients are typically the limiting factor for algal growth in the Trinity River so algae are generally not affected by the high nutrient load available. Regardless of the nutrient load, wastewater effluent has allowed the Trinity River to maintain habitats with far greater flows—especially in the summer—and much higher water quality that was historically available.

BASIN HIGHLIGHTS REPORT

This report is intended to characterize the watersheds of the Trinity River basin. Features such as land use, soil and vegetation types, and watershed activities are reviewed. Potential sources of impairments and concerns based on the Draft 2010 Texas Water Quality Inventory are identified and recommendations to improve water quality are suggested.

This report focuses on the Main Stem Trinity River and the Trinity River below Lake Livingston. These subwatersheds were selected because they are the main run of the river. The other eight subwatersheds in the Trinity River basin will be discussed in future reports. Site numbers listed in the text of this report are defined in the Site Glossary at the end of this document. In addition, the sites assigned to each assessment unit are as defined by the Draft 2010 Texas Water Quality Inventory and may change slightly in future water quality inventories.

Main Stem Subwatershed

0806 – West Fork Trinity River Below Lake Worth

SEGMENT DESCRIPTION
Segment 0806 begins from a point immediately upstream of the confluence of Village Creek in Tarrant County and continues up to the Lake Worth Dam in Tarrant County. There are two assessment units in this segment. 0806_01 is from the confluence of Village Creek upstream to the confluence of the Clear Fork Trinity River. Sites in this assessment unit include 10938, 10939, 10940, 11085, 16120, 17368, 17662, 17863, 18459, 20292, 20336, and 20422. 0806_02 is from the confluence of the Clear Fork Trinity River up to the Lake Worth Dam. Sites in this assessment unit include 10941, 18460, 20424, and 20425.

Unclassified water bodies in this segment include those listed below.

- 0806A – Fosdic Lake – From Fosdic Lake Dam to the reservoir headwaters in Oakland Lake Park in Tarrant County. This segment includes site 16818.
- 0806B – Echo Lake – From Echo Lake Dam to the reservoirs headwaters in Tarrant County. This segment includes site 16813.
- 0806C – Big Fossil Creek – From the confluence with Little Fossil Creek in Haltom City to HWY 183 in Tarrant County. This segment includes sites 10814 and 17133.
- 0806D – Marine Creek – A two mile stretch of Marine Creek running upstream from the confluence with the West Fork of the Trinity River to Ten Mile Bridge Road in Fort Worth. This segment includes site 17370.
- 0806E – Sycamore Creek – A five mile stretch of Sycamore Creek running upstream from the confluence with the West Fork of the Trinity River to the confluence with the Echo Lake tributary in Fort Worth. This segment includes sites 17131 and 17369.
- 0806F – Little Fossil Creek – A 13.7 mile stretch of Little Fossil Creek running from the confluence with segment 0806 of the West Fork Trinity River upstream to the upper end of Little Fossil Creek. This segment includes site 17129.

Figure 0806.1 shows the locations of assessment units, monitoring stations, dischargers, landfills, and confined animal feeding operations (CAFOs). Table 0806.1 lists the stations being monitored in fiscal year 2012 as well as the parameters being collected and the frequency of sampling.

HYDROLOGIC CHARACTERISTICS
The median annual average flow in this segment is 335 cubic feet per second (cfs) based on historic values at two USGS gages – 08048000 West Fork Trinity River at Fort Worth and 08048543 West Fork Trinity River at Beach Street in Fort Worth. Over the past year, post-rainfall flows generally return to normal within a week depending on the magnitude of the flow peak. This rapid recovery may be due to the highly channelized nature of the river through Fort Worth in addition to the lack of inputs from large wastewater treatment plants. Summertime base flows are typically in the low double digits. Base flows during other seasons are only slightly higher than the summertime flow.

IMPAIRMENT/AREA OF INTEREST DESCRIPTION
Based on the Draft 2010 Texas Water Quality Inventory, there are impairments in assessment units 0806_01, 0806A, 0806B, 0806D, 0806E, and 0806F. Details of the assessment are located in Table 0806.2.

LAND USE AND NATURAL CHARACTERISTICS
The majority of this segment is highly urbanized with a mix of residential, industrial, and commercial areas. The upper ends of some of the tributaries drain rural and agricultural areas. There are small areas of forest/grassland and agriculture in the mid and lower portions of the segment concentrated around the river channel. The upper portion of the segment drains the Grand Prairie soil region while the lower end flows through the Eastern Cross Timbers. See Figures 0806.2 to 0806.4 for land covers, soil regions, and vegetative provinces in this segment. There are a few small dischargers in this segment along with several landfills and one confined animal feeding operation (CAFO). The locations of these can be seen in Figure 0806.1.

POTENTIAL CAUSES OF IMPAIRMENT OR INTEREST
Due to the highly urbanized nature of this watershed, it is likely that bacteria impairments in this segment are related to pet waste and/or wildlife. Fish consumption bans throughout the segment are based on legacy pollutant chemicals that have been banned for decades. It is assumed that contaminated sediments or buried chemical stockpiles are the source of continued impairments in this segment.

POTENTIAL STAKEHOLDERS
AgriLife Extension
Tarrant Regional Water District
Trinity River Vision Authority
Cities of Fort Worth, Haltom City

RECOMMENDATIONS FOR IMPROVING WATER QUALITY
Public education of homeowners in the watershed may help to improve water quality issues related to bacteria. Education should include pet waste clean-up practices. In addition, intensive sampling may be helpful in narrowing down sources of legacy pollutants. If sources are found, clean-ups or sequestration may reduce loading into water bodies and fish tissue.

ONGOING PROJECTS
There are currently two projects underway in this segment, which are being managed by the TMDL team of the TCEQ. The Dallas and Tarrant County Fish Tissue TMDL is in progress. This TMDL is due to chlordane in fish tissue. Sampling for this project has been completed. The Trinity River PCBs in Tissue TMDL is underway; however, there is no sampling at this time.

MAJOR WATERSHED EVENTS (PRESENT AND FUTURE)
As this segment is above major dischargers, it is highly susceptible to extreme low

flows during drought conditions. If drought conditions recur, flow will be dominated by runoff and effluent from small dischargers. Flow from runoff could be expected to be high in bacteria and nutrients from residential fertilizers while flow from wastewater treatment plants can be high in nutrients. The Trinity River Vision Authority is continuing the development of the Trinity River Vision project on the portion of the river that flows through Fort Worth. At this time, it is unknown how or if the projects involved will affect water quality. Continued monitoring will take place in order to detect any trends. One discharger in this segment renewed their MS4 permit in 2011. See Table 0806.3 for details.

IMAGES

See Figures 0806.5 to 0806.8 for images of this segment.

FIGURE 0806.1

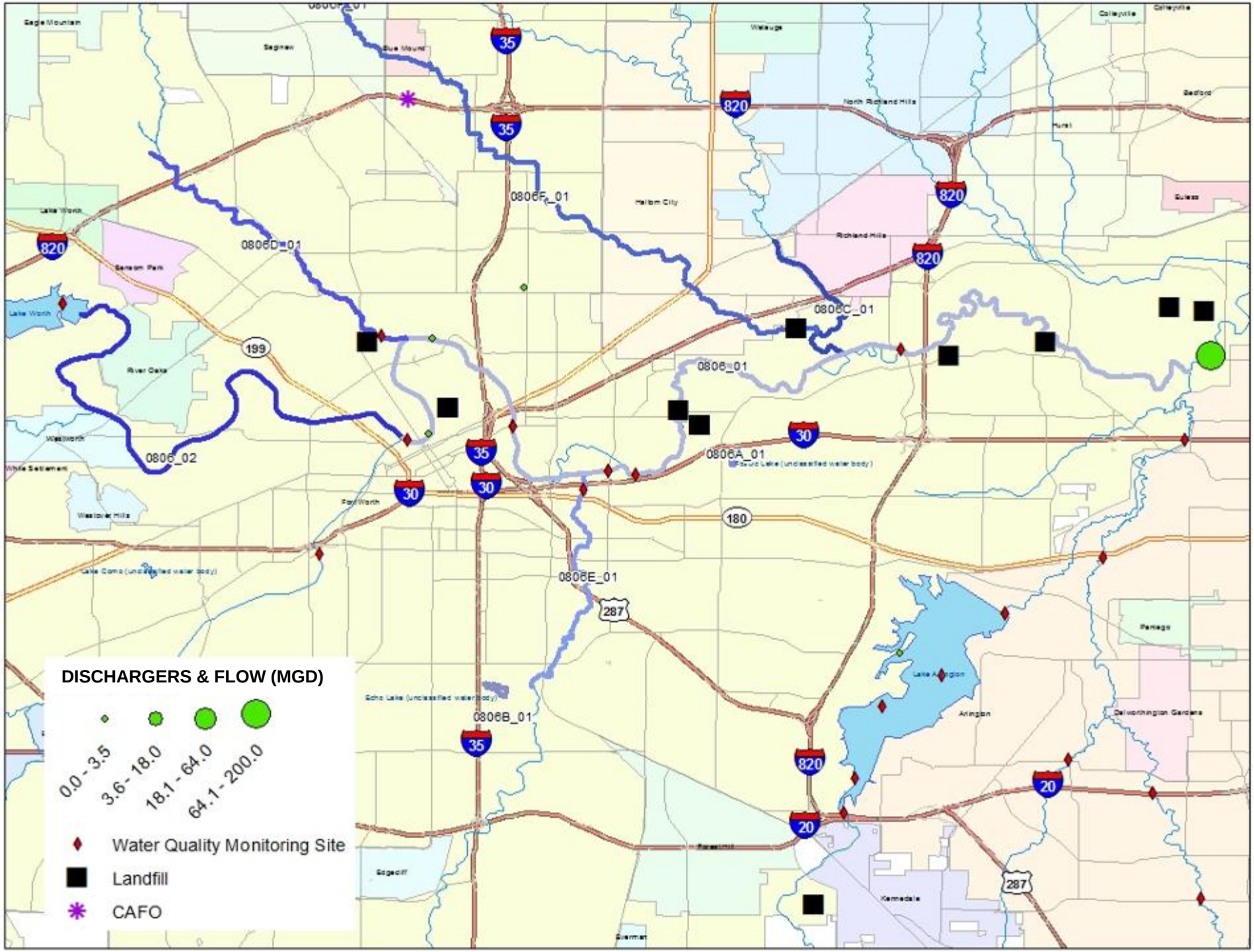


TABLE 0806.1: Fiscal Year 2012 Monitoring

Monitoring Entity	Segment	AU	Site ID	Site Description	Monitoring Type	24 Hour DO	Metals in Water	Conventionals	Bacteria	Flow	Field
Fort Worth	0806	0806_01	10938	WEST FORK TRINITY RIVER 54 METERS DOWNSTREAM OF BEACH STREET IN FORT WORTH	RT					12	12 (Water Temp, Specific Conductance, DO, pH, Turbidity, Flow Severity, Days Since Precipitation Event)
TRWD	0806	0806_01	10938	WEST FORK TRINITY RIVER 54 METERS DOWNSTREAM OF BEACH STREET IN FORT WORTH	RT		4 (Dissolved Arsenic, Cadmium, Chromium, Lead)	4 (Chlorophyll-a, NH3, NO2+NO3, TKN, TP, OP, Chloride, Sulfate)	4 (E. coli)		4 (Water Temp, Specific Conductance, DO, pH, Secchi Depth)
Fort Worth	0806	0806_01	16120	WEST FORK TRINITY RIVER 260 METERS DOWNSTREAM OF HANDLEY EDERVILLE ROAD 0.55KM UPSTREAM OF IH 820 IN FORT WORTH	RT						12 (Water Temp, Specific Conductance, DO, pH, Turbidity, Flow Severity, Days Since Precipitation Event)
TRWD	0806	0806_01	17368	WEST FORK TRINITY RIVER IMMEDIATELY DOWNSTREAM OF 4TH STREET EAST OF FORT WORTH	RT		4 (Dissolved Arsenic, Cadmium, Chromium, Lead)	4 (Chlorophyll-a, NH3, NO2+NO3, TKN, TP, OP, Chloride, Sulfate)	4 (E. coli)		4 (Water Temp, Specific Conductance, DO, pH, Secchi Depth)
Fort Worth	0806	0806_01	17368	WEST FORK TRINITY RIVER IMMEDIATELY DOWNSTREAM OF 4TH STREET EAST OF FORT WORTH	RT						12 (Water Temp, Specific Conductance, DO, pH, Turbidity, Flow Severity, Days Since Precipitation Event)
TRA	0806	0806_01	17863	WEST FORK TRINITY RIVER AT GATEWAY PARK 804 METERS DOWNSTREAM OF BEACH STREET OFF OF PIER AT RIVERBANK DRIVE IN FORTH WORTH	RT		2 (Dissolved Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Nickel, Zinc, Aluminum)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness)	4 (E. coli)	4	4 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Flow Severity, Days Since Precipitation Event)
TRA	0806	0806_01	20292	WEST FORK TRINITY RIVER AT HERITAGE PARK PEDESTRIAN BRIDGE 285M UPSTREAM OF NORTH MAIN STREET IN FORT WORTH	RT		2 (Dissolved Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Nickel, Zinc, Aluminum)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness)	4 (E. coli)	4	4 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Flow Severity, Days Since Precipitation Event)
Fort Worth	0806D	0806D_01	17370	MARINE CREEK AT ABANDONED LOW WATER CROSSING 244 M DOWNSTREAM OF NE 23RD STREET IN NORTH FORT WORTH	RT						12 (Water Temp, Specific Conductance, DO, pH, Turbidity, Flow Severity, Days Since Precipitation Event)
Fort Worth	0806E	0806E_01	17369	SYCAMORE CREEK AT WESTERN END OF PAVEMENT OF SCOTT AVENUE 179 M UPSTREAM OF IH 30 IN EAST FORT WORTH	RT						12 (Water Temp, Specific Conductance, DO, pH, Turbidity, Flow Severity, Days Since Precipitation Event)

TABLE 0806.2: Draft 2010 Water Quality Inventory

Segment and Assessment Unit	Use	Method	Parameter Description	Criteria	Number of samples assessed	Number of samples exceed criteria	Mean of samples assessed (avg or geomean)	Mean of samples that exceed criteria	Dataset Qualifier	Impairment Level	Impairment Category
0806_01	General Use	Nutrient Screening Levels	Chlorophyll-a	14.1 ug/L	71	43		26.82	AD	CS	
0806_01	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Aquatic Life Closure-chlordane in fish tissue						OE	NS	5a
0806_01	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Aquatic Life Closure-PCBs in fish tissue						OE	NS	5a
0806A	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Restricted-Consumption-PCBs in fish tissue						OE	NS	4a
0806A	Fish Consumption Use	Bioaccumulative Toxics in fish tissue	Arsenic	0.036 ug/L	10	9		0.07	AD	CS	
0806B	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Aquatic Life Closure-PCBs in fish tissue						OE	NS	4a
0806B	Fish Consumption Use	Bioaccumulative Toxics in fish tissue	Arsenic	0.036 ug/L	10	10		0.06	AD	CS	
0806D	Recreation Use	Bacteria Single Sample	E. coli	394 cfu/100 mL	76	25		2828.66	AD	NS	5a
0806D	Recreation Use	Bacteria Geomean	E. coli	126 cfu/100 mL	76		138.98		AD	NS	5a
0806E	Recreation Use	Bacteria Single Sample	E. coli	394 cfu/100 mL	77	26		5388.23	AD	NS	5a
0806E	Recreation Use	Bacteria Geomean	E. coli	126 cfu/100 mL	77		221.14		AD	NS	5a
0806F	Recreation Use	Bacteria Geomean	E. coli	126 cfu/100 mL	6		165.97		LD	CN	

Dataset Qualifier Codes

AD - Adequate Data (10 or more samples)

LD - Limited data (between 4 and 9 samples)

OE - Other information than ambient samples evaluated

Impairment Level

CN - Use concern

CS - Screening level concern

NS - Nonsupport

Impairment Category

4a - TMDL has been completed and approved by EPA

5a - A TMDL is underway, scheduled, or will be scheduled

FIGURE 0806.2: LAND COVER

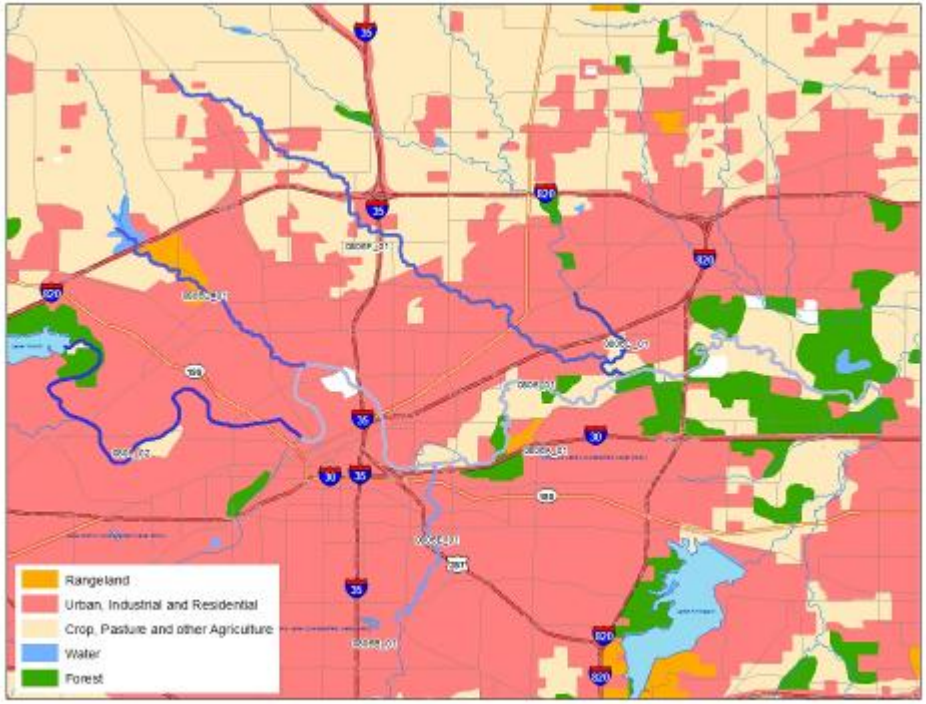


FIGURE 0806.3: SOIL REGIONS

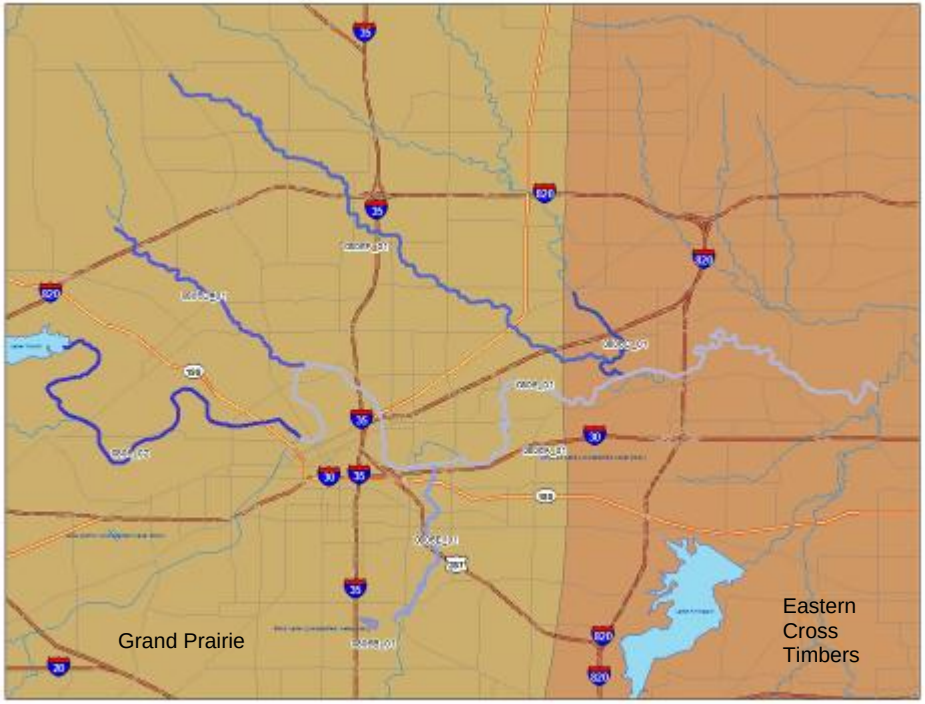


FIGURE 0806.4: VEGETATIVE PROVINCES

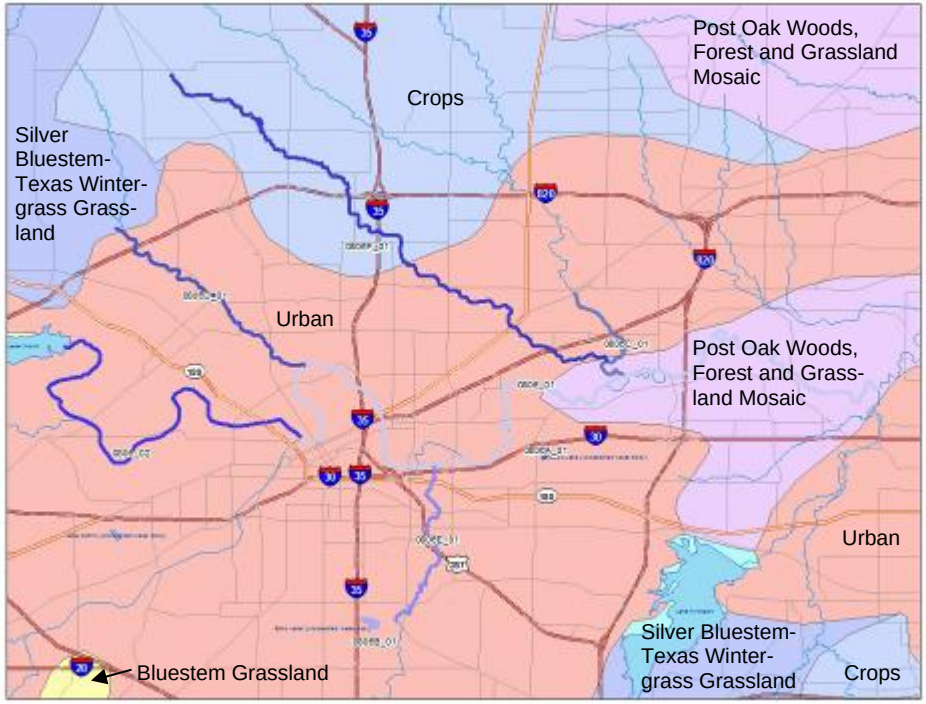


TABLE 0806.3: New and Renewed Discharge Permits

Segment	Notice received by TRA on	Permitee/Facility	County	Permit Type	Action	Status	Permit Number
806	8/10/2011	FORT WORTH, CITY, TRWD, TXDOT - MS4	Tarrant	MS4	Renewal	Final	04350-000

FIGURE 0806.5: Confluence of West Fork and Clear Fork Trinity River at Heritage Park in Fort Worth

FIGURE 0806.6: West Fork Trinity River at Heritage Park in Fort Worth

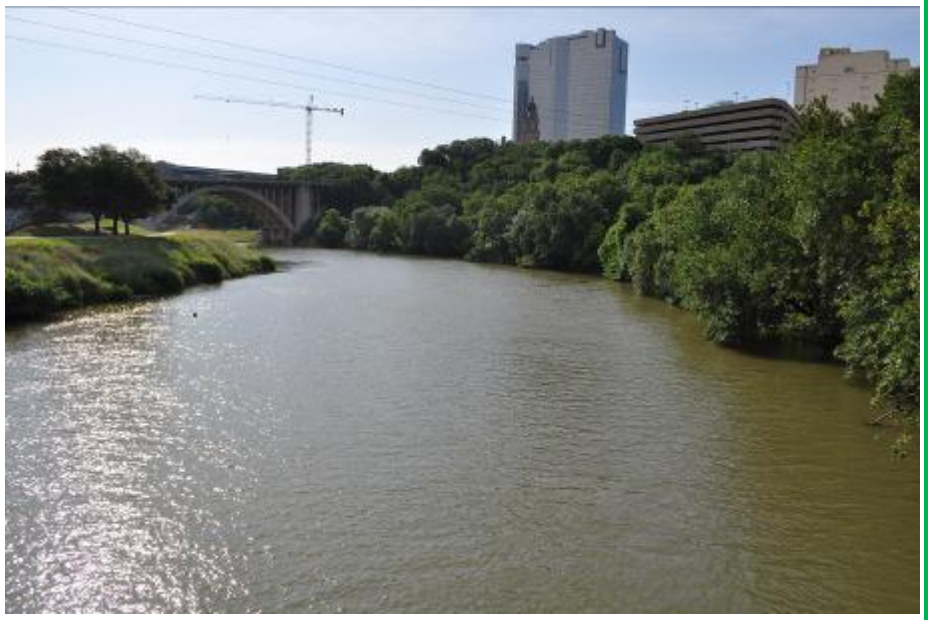


FIGURE 0806.7: West Fork Trinity River at Beach Street in Fort Worth

FIGURE 0806.8: West Fork Trinity River at Gateway Park in Fort Worth

0841 – Lower West Fork Trinity River

SEGMENT DESCRIPTION

Segment 0841 begins from a point immediately upstream of the confluence of the Elm Fork Trinity River in Dallas County up to a point immediately upstream of the confluence of Village Creek in Tarrant County. There are two assessment units in this segment. 0841_01 is from the confluence of the Elm Fork Trinity River up to the Tarrant/Dallas county line. Sites in this assessment unit include 11079, 11080, 11081, 11082, 11089, and 17669. 0841_02 is from the Tarrant/Dallas county line up to the confluence of Village Creek. Sites in this assessment unit include 11083, 11084, 11086, 11087, 11088, and 17160.

Unclassified water bodies in this segment include those listed below.

0841A – Mountain Creek Lake – From Mountain Creek Lake Dam to the reservoir headwater at the confluence of Mountain and Fish Creeks, in Dallas County (impounds Mountain Creek).

0841B – Bear Creek – A 12 mile stretch of Bear Creek running upstream from confluence with West Fork Trinity River, to the confluence with Little Bear Creek just upstream of HWY 183 in Euless, Tarrant County, TX. This segment includes sites 10864, 10865, 10866, 10867, 10868, 10869, 17663, 18313, and 18315.

0841C – Arbor Creek – A 2.2 mile stretch of Arbor Creek running upstream from confluence with Johnson Creek, to approx. 0.5 miles upstream of Tarrant/Dallas county line. This segment includes site 17666.

0841D – Big Bear Creek – An 8 mile stretch of Big Bear Creek running upstream from confluence with Little Bear Creek to SH 26, Tarrant Co. This segment includes site 17089.

0841E – Copart Branch Mountain Creek – A 2.8 mile stretch of Copart Branch running upstream from confluence with Mountain Creek to approximately 0.3 miles upstream of Camden Road on Dallas Naval Academy, Dallas County. This segment includes site 17672.

0841F – Cottonwood Creek – A 6.5 mile stretch of Cottonwood Creek running upstream from approx. 0.1 mi. upstream of Mountain Creek Reservoir in Dallas Co., to SH 360 in, Tarrant Co. This segment includes sites 10723, 17674, and 17676.

0841G – Dalworth Creek – A 2.2 mile stretch of Dalworth Creek running upstream from confluence with Lower W. Fork Trinity to County Line Road in Grand Prairie, Dallas Co. This segment includes site 17671.

0841H – Delaware Creek – An 8.5 mile stretch of Delaware Creek running upstream from confluence with Lower W. Fork Trinity to Finley Road in Irving. This segment includes sites 10871, 17175, 17176, 17177, 17178, and 18314.

0841I – Dry Branch Creek – An 1.5 mile stretch of Dry Branch Creek running upstream from confluence with Lower W. Fork Trinity to Rock Island Road in Irving, Dallas County. This segment includes sites 17173.

0841J – Estelle Creek – A 4 mile stretch of Estelle Creek running upstream from confluence with Bear Creek to Valley View Lane in Irving, Dallas County. This segment includes site 17174.

0841K – Fish Creek – A 15 mile stretch of Fish Creek running upstream from the confluence with Mountain Creek Reservoir in Grand Prairie, Dallas Co., to the upper end of the creek (NHD RC 12030102000107) in Arlington, Tarrant Co. This segment includes sites 10724, 10725, 17677, 17679, and 20342.

0841L – Johnson Creek – Four mile stretch of Johnson Creek running upstream from confluence with the Arbor Creek to just upstream of I30 in Grand Prairie, Tarrant Co. This segment includes sites 10719, 10721, 17664, 17665, and 18311.

0841M – Kee Branch – Six mile stretch of Kee Branch running upstream from confluence with Rush Creek to upper end of the creek (NHD RC 12030102000165). This segment includes sites 10792, 15103, and 16896.

0841N – Kirby Creek – Four mile stretch of Kirby Creek running upstream from confluence with Fish Creek in Grand Prairie, Dallas Co., to just upstream of Great Southwest Parkway in Arlington, Tarrant Co. This segment includes site 17675.

0841O – Mountain Creek – Four mile stretch of Mountain Creek running upstream from confluence with West Fork Trinity, to approximately 0.3 mile downstream of Mountain Creek Lake in Grand Prairie, Dallas Co. This segment includes sites 10815, 13672, 17681, and 17682.

0841P – North Fork Cottonwood Creek – A 4.4 mile stretch of North Fork Cottonwood Creek running upstream from confluence with the S. Fork Cottonwood Creek in Grand Prairie, Dallas Co., to approx. 0.3 mi. upstream of Carter St. in Arlington, Tarrant Co. This segment includes sites 10722 and 17673.

0841Q – North Fork Fish Creek – A 5 mile stretch of North Fork Fish Creek running upstream from confluence with Fish Creek in Dallas Co., to SH 360 in, Tarrant Co. This segment includes site 17678.

0841R – Rush Creek – A 5 mile stretch of Rush Creek running upstream from confluence with Village Creek to confluence with Kee Branch in Arlington, Tarrant Co. This segment includes sites 10788, 10790, 10791, 17190, and 17191.

0841S – Vilbig Lakes – A 5 acre area in NW corner of Vilbig Lakes, near confluence with unnamed creek, approx. 100 m south of intersection of Rusdell Rd./Marvel Dr. in Irving, Dallas, Co. This segment includes site 15624.

0841T – Village Creek – A 7 mile stretch of Village Creek running upstream from confluence with West Fork Trinity River to SH 303 approx. 0.75 mi. downstream of Lake Arlington. This segment includes sites 10778 and 17189.

0841U – West Irving Creek – A 4 mile stretch of West Irving Branch running upstream from approx. 0.4 mi. downstream of Oakdale Rd. to just south of Sowers Road in Irving, Dallas Co. This segment includes site 17179.

0841V – Crockett Branch – A 1 mile (1.5 KM) stretch of Crockett Branch extending upstream from the confluence with Cottonwood Creek to the upper end of the creek (NHD RC 12030102044745). This segment includes site 17683.

Figure 0841.1 shows the locations of assessment units, monitoring stations, dischargers, landfills, and confined animal feeding operations (CAFOs). Table 0841.1 lists the stations being monitored in fiscal year 2012 as well as the parameters being collected and the frequency of sampling.

HYDROLOGIC CHARACTERISTICS

Based on the USGS gage at the West Fork Trinity River at Grand Prairie (08049500), the median annual average flow in this segment is 544 cfs. This increase in flow over the upstream segment (0806) is due in part to the increased watershed size as well as inputs from regional wastewater treatment plants. Base flows for the past year have generally been between 150 and 200 cfs. Depending on the magnitude of the high flow peak, base flows recover in between 6 to 11 days. This portion of the river has very little channelization and therefore, the flow of water through this segment could be expected to be slightly slower than through the more channelized portions.

IMPAIRMENT/AREA OF INTEREST DESCRIPTION

Based on the Draft 2010 Texas Water Quality Inventory, there are impairments in assessment units 0841_01 and 0841_02. Segments 0841A through 0841N and 0841P through 0841V have impairments as well. Details of the assessment are located in Table 0841.2.

LAND USE AND NATURAL CHARACTERISTICS

Similar to Segment 0806, this segment is heavily urbanized with residential, industrial, and commercial areas throughout. There are forest and grasslands running adjacent to most of the river channel and larger tributaries. The headwaters of several of the tributaries are rural and agricultural. The upper half of the segment flows through the Eastern Cross Timbers while the lower half drains the Northern Blackland Prairie. See Figures 0841.2 to 0841.4 for land covers, soil regions, and vegetative provinces in this segment. There are two large and several small dischargers in this segment in addition to several landfills. The locations of the dischargers and landfills can be seen in Figure 0841.1.

POTENTIAL CAUSES OF IMPAIRMENT OR INTEREST

Nutrient concerns in the river itself are potentially due to wastewater effluent as well as runoff from residential fertilizer usage. Fish consumption bans in 0841_01 and 0841A are based on legacy pollutant chemicals that have been banned for decades. It is assumed that contaminated sediments or buried chemical stockpiles are the source of continued impairments in this segment. Bacteria impairments are widespread throughout the segment. Similar to 0806, the highly urbanized and residential nature of this watershed is a likely cause for the impairments. Residential pet waste in addition to wildlife in the urban areas as well as wildlife and agricultural animals in the rural areas are the most likely contributing factors.

POTENTIAL STAKEHOLDERS

AgriLife Extension
Cities of Arlington, Grand Prairie, Euless, Duncanville, Dallas, Irving

RECOMMENDATIONS FOR IMPROVING WATER QUALITY

Public education of homeowners and landowners in the watershed may help to improve water quality issues related to bacteria and nutrients. Education should include pet waste clean-up and proper fertilizer use practices. In addition, intensive sampling may be helpful in narrowing down sources of legacy pollutants. If sources are found, clean-ups or sequestration may reduce loading into water bodies and fish tissue.

ONGOING PROJECTS

There are currently two projects underway in this segment, which are being managed by the TMDL team of the TCEQ. The Trinity River PCBs in Tissue TMDL is underway; however, there is no sampling at this time. The Fort Worth Legacy Pollutants in Fish Tissue TMDL is due to chlordane, DDE, dieldrin, and PCBs in fish tissue. The sampling phase in coordination with the DSHS has been completed.

MAJOR WATERSHED EVENTS (PRESENT AND FUTURE)

During drought conditions, this segment is dominated by effluent from a wastewater treatment plant. While this effluent is of high quality, it can be high in nutrients. If drought conditions recur, nutrient levels in the river could be expected to increase. Pet and wildlife waste building up on land during prolonged dry weather can be washed into the river and tributaries during a rain event leading to elevated bacteria levels. Five dischargers applied for renewal of or renewed their water quality permits in 2011 and 2012. One discharger renewed their MS4 permit in 2012. See Table 0841.3 for details.

IMAGES

See Figures 0841.5 to 0841.8 for images of this segment.

FIGURE 0841.1

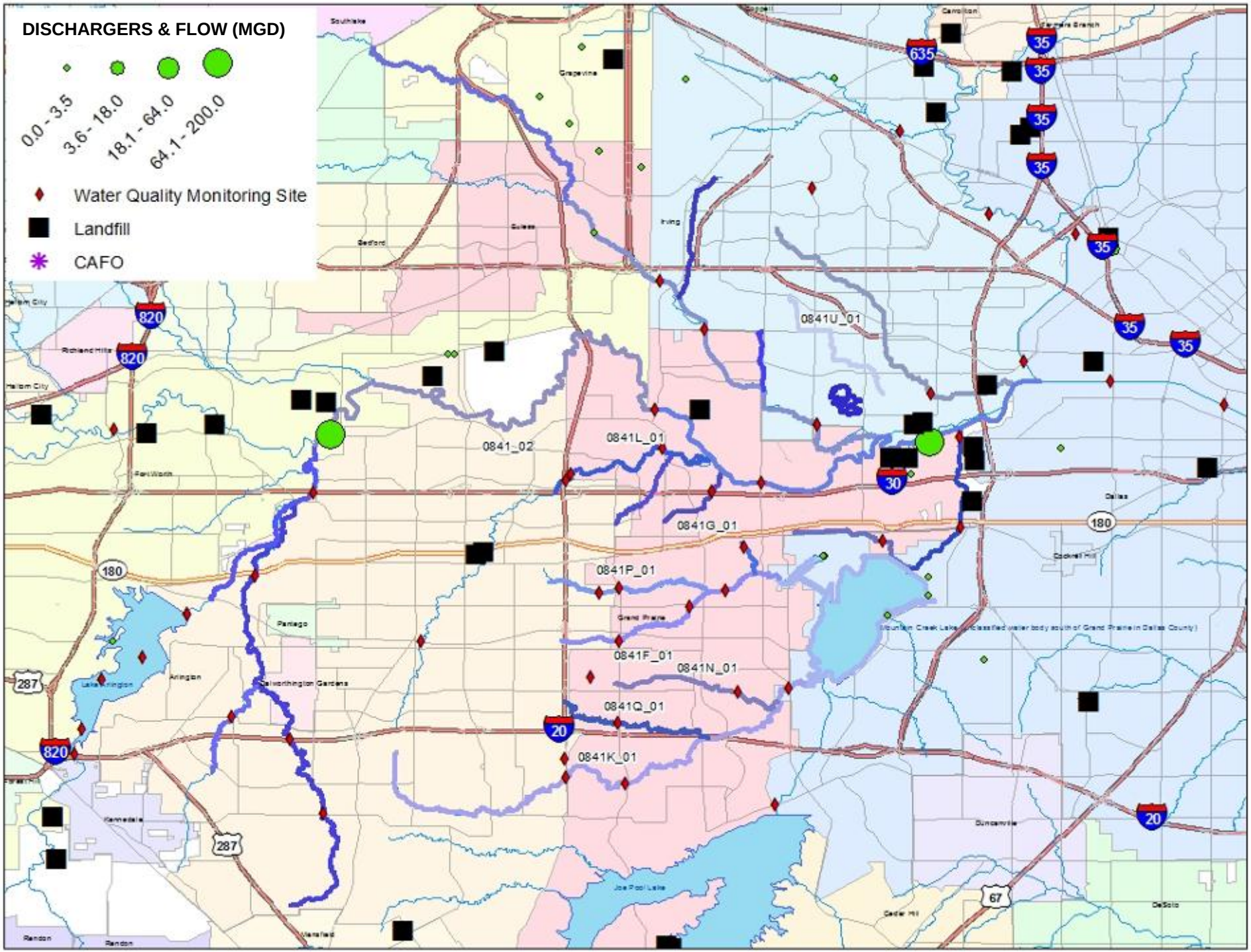


TABLE 0841.1: Fiscal Year 2012 Monitoring

Monitoring Entity	Segment	AU	Site ID	Site Description	Monitoring Type	24 Hour DO	Metals in Water	Conventionals	Bacteria	Flow	Field
TRA	0841	0841_01	11081	LOWER WEST FORK TRINITY RIVER AT BELT LINE ROAD IN GRAND PRAIRE	RT		2 (Dissolved Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Nickel, Zinc, Aluminum)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness)	4 (E. coli)	4	4 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Flow Severity, Days Since Precipitation Event)
Grand Prairie	0841	0841_01	17669	LOWER WEST FORK TRINITY RIVER AT ROY ORR BOULEVARD IN GRAND PRAIRIE	RT		1 (Dissolved and Total Cadmium, Chromium, Copper, Lead, Zinc)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness, BOD5)	12 (E. coli, Fecal Strep, Fecal Coliform)		12 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Turbidity, Flow Severity, Days Since Precipitation Event)
Irving	0841B	0841B_01	10865	BEAR CREEK 16 METERS DOWNSTREAM OF WEST HUNTER FERRELL ROAD IMMEDIATELY WEST OF THE INTERSECTION WITH SOUTH STORY ROAD IN IRVING	RT		6 (Dissolved Cadmium, Chromium, Copper, Lead, Zinc)	6 (Chlorophyll-a, NH3, NO2+NO3, TKN, TP, OP, Hardness)	6 (E. coli)		6 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Flow Severity, Days Since Precipitation Event)
Grand Prairie	0841B	0841B_01	10865	BEAR CREEK 16 METERS DOWNSTREAM OF WEST HUNTER FERRELL ROAD IMMEDIATELY WEST OF THE INTERSECTION WITH SOUTH STORY ROAD IN IRVING	RT		1 (Dissolved and Total Cadmium, Chromium, Copper, Lead, Zinc)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness, BOD5)	12 (E. coli, Fecal Strep, Fecal Coliform)		12 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Turbidity, Flow Severity, Days Since Precipitation Event)
Grand Prairie	0841B	0841B_01	10867	BEAR CREEK AT ROCK ISLAND ROAD IN IRVING	RT		1 (Dissolved and Total Cadmium, Chromium, Copper, Lead, Zinc)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness, BOD5)	12 (E. coli, Fecal Strep, Fecal Coliform)		12 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Turbidity, Flow Severity, Days Since Precipitation Event)
Irving	0841B	0841B_01	10869	BEAR CREEK 37 METERS DOWNSTREAM OF COUNTY LINE ROAD SOUTH OF SR 183 IN IRVING	RT		6 (Dissolved Cadmium, Chromium, Copper, Lead, Zinc)	6 (Chlorophyll-a, NH3, NO2+NO3, TKN, TP, OP, Hardness)	6 (E. coli)		6 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Flow Severity, Days Since Precipitation Event)
Grand Prairie	0841E	0841E_01	17672	COPART BRANCH MOUNTAIN CREEK/MUCK RUN IMMEDIATELY DOWNSTREAM OF IDLEWILD ROAD IN GRAND PRAIRIE	RT		1 (Dissolved and Total Cadmium, Chromium, Copper, Lead, Zinc)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness, BOD5)	12 (E. coli, Fecal Strep, Fecal Coliform)		12 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Turbidity, Flow Severity, Days Since Precipitation Event)
Arlington	0841F	0841F_01	10723	UNNAMED TRIBUTARY OF COTTONWOOD CREEK AT NORTH BOUND DIRECTION OF FORUM DRIVE IN ARLINGTON	RT		4 (Dissolved Cadmium, Chromium, Copper, Iron, Nickel, Zinc)		4 (E. coli)		4 (Water Temp, Air Temp, Specific Conductance, DO, pH, Flow Severity, Days Since Precipitation Event)
Grand Prairie	0841F	0841F_01	17674	COTTONWOOD CREEK IMMEDIATELY UPSTREAM OF SOUTHWEST 3RD STREET IN GRAND PRAIRIE	RT		1 (Dissolved and Total Cadmium, Chromium, Copper, Lead, Zinc)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness, BOD5)	12 (E. coli, Fecal Strep, Fecal Coliform)		12 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Turbidity, Flow Severity, Days Since Precipitation Event)

TABLE 0841.1 Continued: Fiscal Year 2012 Monitoring

Grand Prairie	0841F	0841F_01	17676	SOUTH FORK COTTONWOOD CREEK AT ROBINSON ROAD IN GRAND PRAIRIE	RT		1 (Dissolved and Total Cadmium, Chromium, Copper, Lead, Zinc)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness, BOD5)	12 (E. coli, Fecal Strep, Fecal Coliform)		12 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Turbidity, Flow Severity, Days Since Precipitation Event)
Grand Prairie	0841F	0841F_01	20836	COTTONWOOD CREEK AT SOUTH GREAT SOUTHWEST PARKWAY IN GRAND PRAIRIE APPROX 141 METERS SOUTH AND 52 METERS EAST OF THE INTERSECTION OF S GREAT SW PARKWAY AND TIMBERLAKE DRIVE	RT		1 (Dissolved and Total Cadmium, Chromium, Copper, Lead, Zinc)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness, BOD5)	12 (E. coli, Fecal Strep, Fecal Coliform)		12 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Turbidity, Flow Severity, Days Since Precipitation Event)
Grand Prairie	0841F	0841F_01	20837	UNNAMED TRIBUTARY OF COTTONWOOD CREEK AT SOUTH GREAT SOUTHWEST PARKWAY IN GRAND PRAIRIE APPROX 270 METERS NORTH AND 5 METERS WEST OF THE INTERSECTION OF S GREAT SW PARKWAY AND ARKANSAS LANE	RT		1 (Dissolved and Total Cadmium, Chromium, Copper, Lead, Zinc)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness, BOD5)	12 (E. coli, Fecal Strep, Fecal Coliform)		12 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Turbidity, Flow Severity, Days Since Precipitation Event)
Grand Prairie	0841G	0841G_01	17671	DALWORTH CREEK IMMEDIATELY UPSTREAM OF WEST PALACE PARKWAY IN GRAND PRAIRIE	RT		1 (Dissolved and Total Cadmium, Chromium, Copper, Lead, Zinc)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness, BOD5)	12 (E. coli, Fecal Strep, Fecal Coliform)		12 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Turbidity, Flow Severity, Days Since Precipitation Event)
Irving	0841H	0841H_01	17178	DELAWARE CREEK IMMEDIATELY DOWNSTREAM OF EAST OAKDALE ROAD IN IRVING	RT		6 (Dissolved Cadmium, Chromium, Copper, Lead, Zinc)	6 (Chlorophyll-a, NH3, NO2+NO3, TKN, TP, OP, Hardness)	6 (E. coli)		6 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Flow Severity, Days Since Precipitation Event)
Arlington	0841K	0841K_01	10724	FISH CREEK NORTH BRANCH AT SH 360 SOUTHBOUND SERVICE ROAD APPROXIMATELY 365 METERS SOUTH OF EAST MAYFIELD ROAD IN ARLINGTON	RT		4 (Dissolved Cadmium, Chromium, Copper, Iron, Nickel, Zinc)		4 (E. coli)		4 (Water Temp, Air Temp, Specific Conductance, DO, pH, Flow Severity, Days Since Precipitation Event)
Arlington	0841K	0841K_01	10725	FISH CREEK SOUTH BRANCH AT SH 360 SOUTH BOUND SERVICE ROAD APPROXIMATELY 75 METERS SOUTH OF GREEN OAKS BOULEVARD IN ARLINGTON	RT		4 (Dissolved Cadmium, Chromium, Copper, Iron, Nickel, Zinc)	4 (Chlorophyll-a, NO2, NO2+NO3, TKN, TP, OP, Hardness)	4 (E. coli)		4 (Water Temp, Air Temp, Specific Conductance, DO, pH, Flow Severity, Days Since Precipitation Event)
Grand Prairie	0841K	0841K_01	15294	FISH CREEK SOUTH BRANCH AT GREAT SOUTHWEST PARKWAY/LAKERIDGE PARKWAY IN GRAND PRAIRIE	RT		1 (Dissolved and Total Cadmium, Chromium, Copper, Lead, Zinc)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness, BOD5)	12 (E. coli, Fecal Strep, Fecal Coliform)		12 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Turbidity, Flow Severity, Days Since Precipitation Event)
Grand Prairie	0841K	0841K_01	17679	FISH CREEK AT BELTLINE ROAD/FM1382 APPROXIMATELY 205 METERS SOUTH OF THE INTERSECTION OF SE 14TH STREET	RT		1 (Dissolved and Total Cadmium, Chromium, Copper, Lead, Zinc)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness, BOD5)	12 (E. coli, Fecal Strep, Fecal Coliform)		12 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Turbidity, Flow Severity, Days Since Precipitation Event)

TABLE 0841.1 Continued: Fiscal Year 2012 Monitoring

Grand Prairie	0841L	0841L_01	10718	JOHNSON CREEK 96 METERS UPSTREAM OF AVENUE J IN ARLINGTON	RT		1 (Dissolved and Total Cadmium, Chromium, Copper, Lead, Zinc)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness, BOD5)	12 (E. coli, Fecal Strep, Fecal Coliform)		12 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Turbidity, Flow Severity, Days Since Precipitation Event)
Arlington	0841L	0841L_01	10719	JOHNSON CREEK AT SH 360 IN ARLINGTON	RT		4 (Dissolved Cadmium, Chromium, Copper, Iron, Nickel, Zinc)	4 (Chlorophyll-a, NO2, NO2+NO3, TKN, TP, OP, Hardness)	4 (E. coli)		4 (Water Temp, Air Temp, Specific Conductance, DO, pH, Flow Severity, Days Since Precipitation Event)
Arlington	0841L	0841L_01	10721	JOHNSON CREEK AT SH 303 IN ARLINGTON	RT		4 (Dissolved Cadmium, Chromium, Copper, Iron, Nickel, Zinc)		4 (E. coli)		4 (Water Temp, Air Temp, Specific Conductance, DO, pH, Flow Severity, Days Since Precipitation Event)
Grand Prairie	0841L	0841L_01	17664	JOHNSON CREEK 78 METERS UPSTREAM OF NORTH CARRIER PARKWAY IN GRAND PRAIRIE	RT		1 (Dissolved and Total Cadmium, Chromium, Copper, Lead, Zinc)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness, BOD5)	12 (E. coli, Fecal Strep, Fecal Coliform)		12 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Turbidity, Flow Severity, Days Since Precipitation Event)
Arlington	0841M	0841M_01	10792	KEE BRANCH AT WEST PLEASANT RIDGE ROAD IN ARLINGTON	RT		4 (Dissolved Cadmium, Chromium, Copper, Iron, Nickel, Zinc)		4 (E. coli)		4 (Water Temp, Air Temp, Specific Conductance, DO, pH, Flow Severity, Days Since Precipitation Event)
Grand Prairie	0841N	0841N_01	17675	KIRBY CREEK AT CORN VALLEY ROAD IN GRAND PRAIRIE	RT		1 (Dissolved and Total Cadmium, Chromium, Copper, Lead, Zinc)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness, BOD5)	12 (E. coli, Fecal Strep, Fecal Coliform)		12 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Turbidity, Flow Severity, Days Since Precipitation Event)
Grand Prairie	0841O	0841O_01	10815	MOUNTAIN CREEK IMMEDIATELY DOWNSTREAM OF SINGLETON BLVD IN GRAND PRAIRIE	RT		1 (Dissolved and Total Cadmium, Chromium, Copper, Lead, Zinc)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness, BOD5)	12 (E. coli, Fecal Strep, Fecal Coliform)		12 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Turbidity, Flow Severity, Days Since Precipitation Event)
Grand Prairie	0841O	0841O_01	17681	MOUNTAIN CREEK IMMEDIATELY UPSTREAM OF EAST CAMP WISDOM ROAD IN GRAND PRAIRIE	RT		1 (Dissolved and Total Cadmium, Chromium, Copper, Lead, Zinc)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness, BOD5)	12 (E. coli, Fecal Strep, Fecal Coliform)		12 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Turbidity, Flow Severity, Days Since Precipitation Event)
Grand Prairie	0841O	0841O_01	17682	MOUNTAIN CREEK AT WEST JEFFERSON BOULEVARD IN GRAND PRAIRIE	RT		1 (Dissolved and Total Cadmium, Chromium, Copper, Lead, Zinc)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness, BOD5)	12 (E. coli, Fecal Strep, Fecal Coliform)		12 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Turbidity, Flow Severity, Days Since Precipitation Event)
Arlington	0841P	0841P_01	10722	COTTONWOOD CREEK AT TIMBERLAKE DRIVE IN ARLINGTON	RT		4 (Dissolved Cadmium, Chromium, Copper, Iron, Nickel, Zinc)	4 (Chlorophyll-a, NO2, NO2+NO3, TKN, TP, OP, Hardness)	4 (E. coli)		4 (Water Temp, Air Temp, Specific Conductance, DO, pH, Flow Severity, Days Since Precipitation Event)
Grand Prairie	0841Q	0841Q_01	20838	NORTH FORK FISH CREEK AT SOUTH GREAT SOUTHWEST PARKWAY IN GRAND PRAIRIE 115 METERS NORTH OF INTERSECTION WITH SARA JANE PARKWAY	RT		1 (Dissolved and Total Cadmium, Chromium, Copper, Lead, Zinc)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness, BOD5)	12 (E. coli, Fecal Strep, Fecal Coliform)		12 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Turbidity, Flow Severity, Days Since Precipitation Event)

TABLE 0841.1 Continued: Fiscal Year 2012 Monitoring

Arlington	0841R	0841R_01	10791	RUSH CREEK IMMEDIATELY DOWNSTREAM OF WEST SUBLETT ROAD IN ARLINGTON	RT		4 (Dissolved Cadmium, Chromium, Copper, Iron, Nickel, Zinc)		4 (E. coli)		4 (Water Temp, Air Temp, Specific Conductance, DO, pH, Flow Severity, Days Since Precipitation Event)
Arlington	0841R	0841R_01	17190	RUSH CREEK AT IH 20 IN ARLINGTON	RT		4 (Dissolved Cadmium, Chromium, Copper, Iron, Nickel, Zinc)		4 (E. coli)		4 (Water Temp, Air Temp, Specific Conductance, DO, pH, Flow Severity, Days Since Precipitation Event)
Arlington	0841R	0841R_01	17191	RUSH CREEK 46 METERS UPSTREAM OF SH 180 IN ARLINGTON	RT		4 (Dissolved Cadmium, Chromium, Copper, Iron, Nickel, Zinc)	4 (Chlorophyll-a, NO2, NO2+NO3, TKN, TP, OP, Hardness)	4 (E. coli)		4 (Water Temp, Air Temp, Specific Conductance, DO, pH, Flow Severity, Days Since Precipitation Event)
Arlington	0841T	0841T_01	17189	VILLAGE CREEK IMMEDIATELY UPSTREAM OF IH 30 IN ARLINGTON	RT		4 (Dissolved Cadmium, Chromium, Copper, Iron, Nickel, Zinc)		4 (E. coli)		4 (Water Temp, Air Temp, Specific Conductance, DO, pH, Flow Severity, Days Since Precipitation Event)
Grand Prairie	0841V	0841V_01	17683	CROCKETT BRANCH COTTONWOOD CREEK 179 METERS DOWNSTREAM OF EAST GRAND PRAIRIE ROAD IN GRAND PRAIRIE	RT		1 (Dissolved and Total Cadmium, Chromium, Copper, Lead, Zinc)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness, BOD5)	12 (E. coli, Fecal Strep, Fecal Coliform)		12 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Turbidity, Flow Severity, Days Since Precipitation Event)

TABLE 0841.2: Draft 2010 Water Quality Inventory

Segment and Assessment Unit	Use	Method	Parameter Description	Criteria	Number of samples assessed	Number of samples exceed criteria	Mean of samples assessed (avg or geomean)	Mean of samples that exceed criteria	Dataset Qualifier	Impairment Level	Impairment Category
0841_01	Recreation Use	Bacteria Single Sample	E. coli	394 cfu/100 mL	205	54		3782.52	AD	CN	
0841_01	Recreation Use	Bacteria Single Sample	Fecal coliform	400 cfu/100 mL	113	52		4601.92	SM	NS	
0841_01	Recreation Use	Bacteria Geomean	E. coli	126 cfu/100 mL	205		171.00		AD	NS	5a
0841_01	Recreation Use	Bacteria Geomean	Fecal coliform	200 cfu/100 mL	113		399.70		SM	NS	
0841_01	General Use	Nutrient Screening Levels	Nitrate	1.95 mg/L	120	108		9.25	AD	CS	
0841_01	General Use	Nutrient Screening Levels	Orthophosphorus	0.37 mg/L	143	113		1.06	AD	CS	
0841_01	General Use	Nutrient Screening Levels	Total Phosphorus	0.69 mg/L	113	82		1.32	AD	CS	
0841_01	General Use	Nutrient Screening Levels	Chlorophyll-a	14.1 ug/L	110	40		21.25	AD	CS	
0841_01	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Aquatic Life Closure-chlordane in fish tissue						OE	NS	4a
0841_01	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Aquatic Life Closure-PCBs in fish tissue						OE	NS	5a
0841_02	General Use	Nutrient Screening Levels	Nitrate	1.95 mg/L	12	12		12.68	AD	CS	
0841_02	General Use	Nutrient Screening Levels	Orthophosphorus	0.37 mg/L	11	11		1.19	AD	CS	
0841_02	General Use	Nutrient Screening Levels	Total Phosphorus	0.69 mg/L	10	10		1.11	AD	CS	
0841_02	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Aquatic Life Closure-chlordane in fish tissue						OE	NS	4a
0841_02	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Aquatic Life Closure-PCBs in fish tissue						OE	NS	5a
0841A	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Aquatic Life Closure-chlordane in fish tissue						OE	NS	4a
0841A	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Aquatic Life Closure-DDD in fish tissue						OE	NS	4a
0841A	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Aquatic Life Closure-DDE in fish tissue						OE	NS	4a
0841A	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Aquatic Life Closure-DDT in fish tissue						OE	NS	4a
0841A	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Aquatic Life Closure-dieldrin in fish tissue						OE	NS	4a
0841A	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Aquatic Life Closure-heptachlor epoxide in fish tissue						OE	NS	4a
0841A	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Aquatic Life Closure-PCBs in fish tissue						OE	NS	4a
0841B	Recreation Use	Bacteria Single Sample	E. coli	394 cfu/100 mL	316	94		2557.16	AD	NS	5a
0841B	Recreation Use	Bacteria Single Sample	Fecal coliform	400 cfu/100 mL	261	129		5183.33	SM	NS	
0841B	Recreation Use	Bacteria Geomean	E. coli	126 cfu/100 mL	316		152.385		AD	NS	5a
0841B	Recreation Use	Bacteria Geomean	Fecal coliform	200 cfu/100 mL	261		362.72		SM	NS	
0841C	Recreation Use	Bacteria Single Sample	E. coli	394 cfu/100 mL	68	22		3576.18	AD	NS	5a
0841C	Recreation Use	Bacteria Single Sample	Fecal coliform	400 cfu/100 mL	66	29		5783.03	SM	NS	
0841C	Recreation Use	Bacteria Geomean	E. coli	126 cfu/100 mL	68		138.823		AD	NS	5a
0841C	Recreation Use	Bacteria Geomean	Fecal coliform	200 cfu/100 mL	66		379.46		SM	NS	
0841D	Recreation Use	Bacteria Single Sample	Fecal coliform	400 cfu/100 mL	5	3		2133.33	SM	NS	
0841D	Recreation Use	Bacteria Geomean	Fecal coliform	200 cfu/100 mL	5		637.87		SM	CN	
0841E	Recreation Use	Bacteria Single Sample	E. coli	394 cfu/100 mL	79	24		2454.17	AD	NS	5c
0841E	Recreation Use	Bacteria Single Sample	Fecal coliform	400 cfu/100 mL	77	41		12947.6	SM	NS	
0841E	Recreation Use	Bacteria Geomean	E. coli	126 cfu/100 mL	79		156.376		AD	NS	5c
0841E	Recreation Use	Bacteria Geomean	Fecal coliform	200 cfu/100 mL	77		470.07		SM	NS	
0841F	Aquatic Life Use	Dissolved Oxygen grab screening level	Dissolved Oxygen Grab	5 mg/L	39	7		3.81	AD	CS	
0841F	Recreation Use	Bacteria Single Sample	E. coli	394 cfu/100 mL	194	68		3704.88	AD	NS	5c
0841F	Recreation Use	Bacteria Single Sample	Fecal coliform	400 cfu/100 mL	159	79		5030.81	SM	NS	
0841F	Recreation Use	Bacteria Geomean	E. coli	126 cfu/100 mL	194		268.49		AD	NS	5c
0841F	Recreation Use	Bacteria Geomean	Fecal coliform	200 cfu/100 mL	159		470.53		SM	NS	
0841G	Recreation Use	Bacteria Single Sample	E. coli	394 cfu/100 mL	52	32		3059.88	AD	NS	5a
0841G	Recreation Use	Bacteria Single Sample	Fecal coliform	400 cfu/100 mL	50	40		6104.68	SM	NS	
0841G	Recreation Use	Bacteria Geomean	E. coli	126 cfu/100 mL	52		720.306		AD	NS	5a
0841G	Recreation Use	Bacteria Geomean	Fecal coliform	200 cfu/100 mL	50		1565.26		SM	NS	

TABLE 0841.2 Continued: Draft 2010 Water Quality Inventory

0841H	Recreation Use	Bacteria Single Sample	E. coli	394 cfu/100 mL	168	91		2468.71	AD	NS	5a
0841H	Recreation Use	Bacteria Single Sample	Fecal coliform	400 cfu/100 mL	149	95		8408.35	SM	NS	
0841H	Recreation Use	Bacteria Geomean	E. coli	126 cfu/100 mL	168		383.436		AD	NS	5a
0841H	Recreation Use	Bacteria Geomean	Fecal coliform	200 cfu/100 mL	149		821.34		SM	NS	
0841I	Recreation Use	Bacteria Single Sample	Fecal coliform	400 cfu/100 mL	32	11		6762.73	SM	NS	
0841J	Recreation Use	Bacteria Single Sample	E. coli	394 cfu/100 mL	32	14		2673.14	AD	NS	5a
0841J	Recreation Use	Bacteria Single Sample	Fecal coliform	400 cfu/100 mL	32	18		4966.06	SM	NS	
0841J	Recreation Use	Bacteria Geomean	E. coli	126 cfu/100 mL	32		342.327		AD	NS	5a
0841J	Recreation Use	Bacteria Geomean	Fecal coliform	200 cfu/100 mL	32		462.05		SM	NS	
0841K	Aquatic Life Use	Dissolved Oxygen grab screening level	Dissolved Oxygen Grab	5 mg/L	52	8		3.54	AD	CS	
0841K	Recreation Use	Bacteria Single Sample	E. coli	394 cfu/100 mL	218	67		2860.7	AD	NS	5c
0841K	Recreation Use	Bacteria Single Sample	Fecal coliform	400 cfu/100 mL	160	67		5363.94	SM	NS	
0841K	Recreation Use	Bacteria Geomean	E. coli	126 cfu/100 mL	218		230.67		AD	NS	5c
0841K	Recreation Use	Bacteria Geomean	Fecal coliform	200 cfu/100 mL	160		376.23		SM	NS	
0841L	Aquatic Life Use	Dissolved Oxygen grab screening level	Dissolved Oxygen Grab	5 mg/L	47	4		3.33	AD	CS*	
0841L	Recreation Use	Bacteria Single Sample	E. coli	394 cfu/100 mL	222	53		2926	AD	CN	
0841L	Recreation Use	Bacteria Single Sample	Fecal coliform	400 cfu/100 mL	157	53		4829.47	SM	NS	
0841L	Recreation Use	Bacteria Geomean	E. coli	126 cfu/100 mL	222		127.937		AD	NS	5c
0841M	Aquatic Life Use	Dissolved Oxygen grab screening level	Dissolved Oxygen Grab	5 mg/L	7	0			LD	CS*	
0841M	Recreation Use	Bacteria Geomean	E. coli	126 cfu/100 mL	38		195.59		AD	NS	5a
0841N	Aquatic Life Use	Dissolved Oxygen grab screening level	Dissolved Oxygen Grab	5 mg/L	15	3		4.2	AD	CS	
0841N	Recreation Use	Bacteria Single Sample	E. coli	394 cfu/100 mL	84	45		2852	AD	NS	5c
0841N	Recreation Use	Bacteria Single Sample	Fecal coliform	400 cfu/100 mL	78	51		7011.02	SM	NS	
0841N	Recreation Use	Bacteria Geomean	E. coli	126 cfu/100 mL	84		557.519		AD	NS	5c
0841N	Recreation Use	Bacteria Geomean	Fecal coliform	200 cfu/100 mL	78		888.68		SM	NS	
0841P	Recreation Use	Bacteria Single Sample	E. coli	394 cfu/100 mL	99	25		2614.72	AD	CN	
0841P	Recreation Use	Bacteria Single Sample	Fecal coliform	400 cfu/100 mL	72	24		3898.33	SM	NS	
0841Q	Recreation Use	Bacteria Single Sample	Fecal coliform	400 cfu/100 mL	74	22		4608.95	SM	CN	
0841R	Recreation Use	Bacteria Geomean	E. coli	126 cfu/100 mL	74		148.43		AD	NS	5c
0841S	Recreation Use	Bacteria Single Sample	E. coli	394 cfu/100 mL	31	25		3674.88	AD	NS	5c
0841S	Recreation Use	Bacteria Single Sample	Fecal coliform	400 cfu/100 mL	31	26		6419.19	SM	NS	
0841S	Recreation Use	Bacteria Geomean	E. coli	126 cfu/100 mL	31		1548.23		AD	NS	5c
0841S	Recreation Use	Bacteria Geomean	Fecal coliform	200 cfu/100 mL	31		2547.07		SM	NS	
0841T	Recreation Use	Bacteria Geomean	E. coli	126 cfu/100 mL	32		137.218		AD	NS	5c
0841U	Recreation Use	Bacteria Single Sample	E. coli	394 cfu/100 mL	35	13		4839.54	AD	NS	5c
0841U	Recreation Use	Bacteria Single Sample	Fecal coliform	400 cfu/100 mL	30	19		11418.1	SM	NS	
0841U	Recreation Use	Bacteria Geomean	E. coli	126 cfu/100 mL	35		356.737		AD	NS	5c
0841U	Recreation Use	Bacteria Geomean	Fecal coliform	200 cfu/100 mL	30		724.96		SM	NS	
0841V	Aquatic Life Use	Dissolved Oxygen grab screening level	Dissolved Oxygen Grab	5 mg/L	18	3		4	AD	CS	
0841V	Recreation Use	Bacteria Single Sample	E. coli	394 cfu/100 mL	81	54		3120.46	AD	NS	5c
0841V	Recreation Use	Bacteria Single Sample	Fecal coliform	400 cfu/100 mL	81	62		9180.48	SM	NS	
0841V	Recreation Use	Bacteria Geomean	E. coli	126 cfu/100 mL	81		883.794		AD	NS	5c
0841V	Recreation Use	Bacteria Geomean	Fecal coliform	200 cfu/100 mL	81		1655.53		SM	NS	

Dataset Qualifier Codes

AD - Adequate Data (10 or more samples)

LD - Limited data (between 4 and 9 samples)

OE - Other information than ambient samples evaluated

SM - This assessment method is superceded by another method

Impairment Level

CN - Use concern

CS - Screening level concern

CS* - Screening level concern carried forward from previous assessments

NS - Nonsupport

Impairment Category

4a - TMDL has been completed and approved by EPA

5a - A TMDL is underway, scheduled, or will be scheduled

5c - Additional data and information will be collected before a TMDL is scheduled

FIGURE 0841.2: LAND COVER

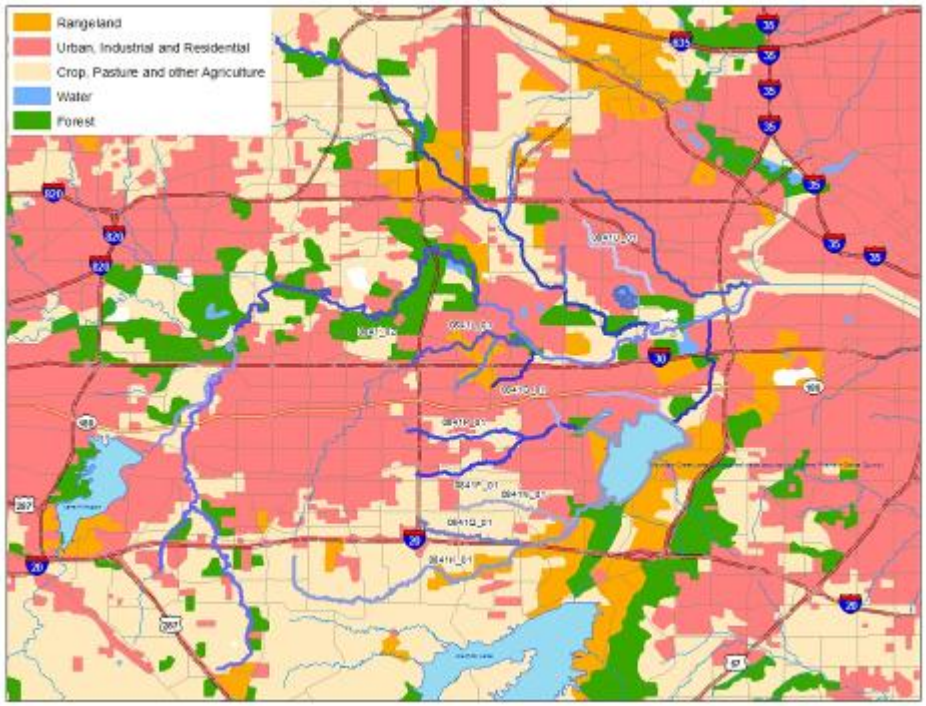


FIGURE 0841.3: SOIL REGIONS

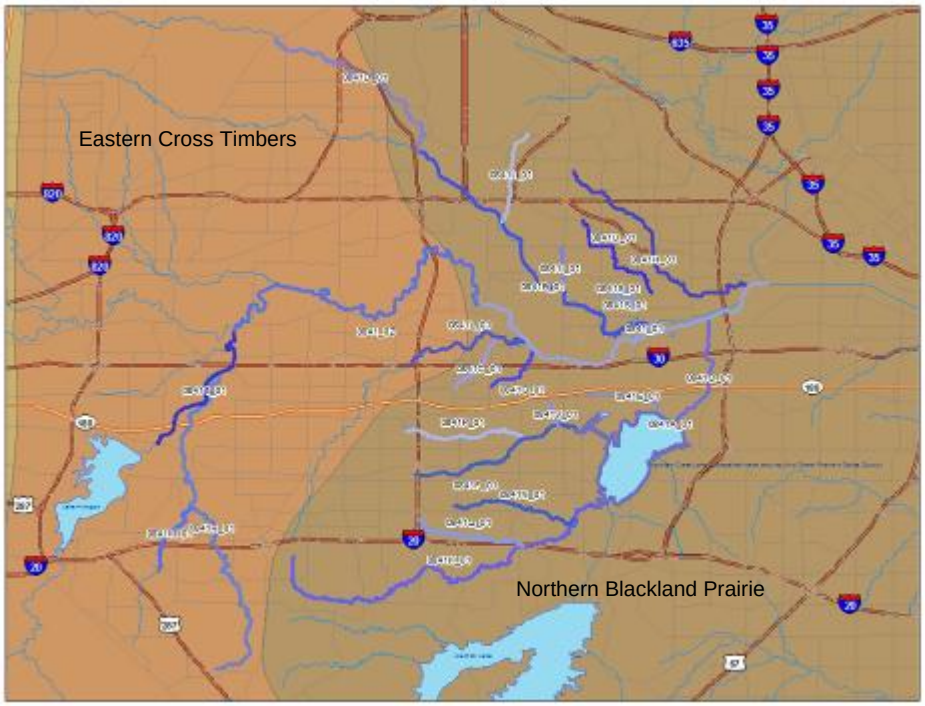


FIGURE 0841.4: VEGETATIVE PROVINCES

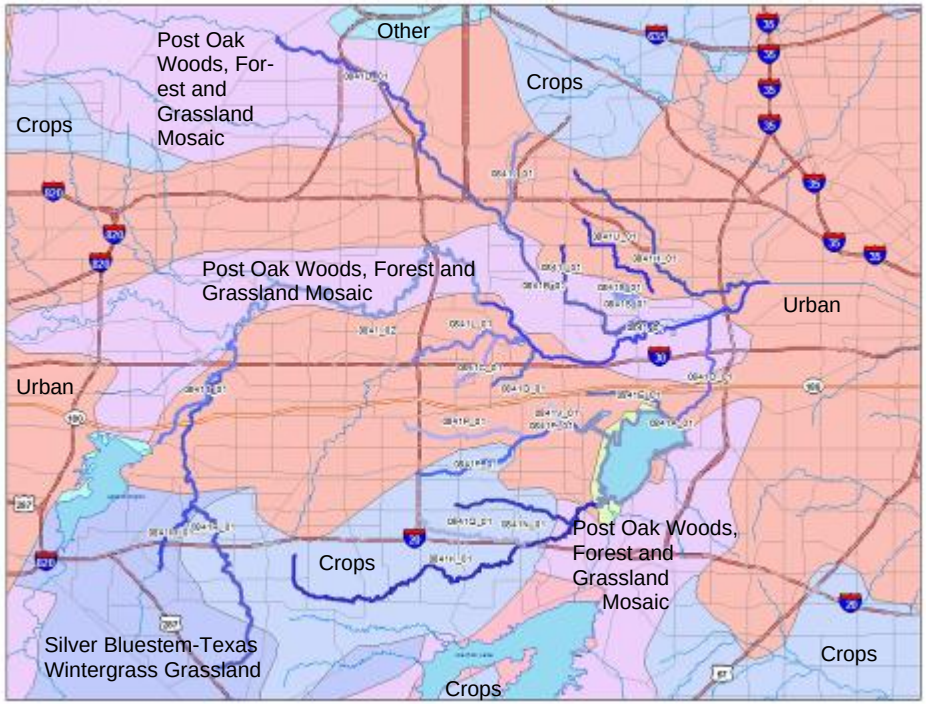


TABLE 0841.3: New and Renewed Discharge Permits

Segment	Notice received by TRA on	Permitee/Facility	County	Permit Type	Action	Status	Permit Number
841	4/7/2011	TRA - CRWS	Dallas	Water Quality	Renewal	Draft	10303-001
841	7/14/2011	US DEPT OF THE NAVY (owner) & VOUGHT AIRCRAFT INDUS INC (operator)	Dallas	Water Quality	Renewal	Received notification	04519-000
841	10/17/2011	ALTA VISTA MHP WASTEWATER TREATMENT FACILITY	Tarrant	Water Quality	Renewal	Final	11032-001
841	1/30/2012	FORT WORTH, CITY OF	Tarrant	Water Quality	Renewal	Final	10494-013
841	3/16/2012	HANSON PRESSURE PIPE, INC.	Dallas	Water Quality	Renewal	Final	03446-000
841	5/16/2012	ARLINGTON, CITY, UTA, & TXDOT - MS4	Tarrant	MS4	Renewal	Final	04635-000

FIGURE 0841.5: Lower West Fork Trinity River at Roy Orr Blvd. in Grand Prairie

FIGURE 0841.6: Lower West Fork Trinity River at Beltline Road in Grand Prairie

FIGURE 0841.7: North Fork Fish Creek at South Great Southwest Parkway in Grand Prairie

FIGURE 0841.8: Mountain Creek at West Jefferson Blvd. in Grand Prairie

0805 – Upper Trinity River

SEGMENT DESCRIPTION

Segment 0805 begins from a point immediately upstream of the confluence of the Cedar Creek Reservoir discharge canal in Henderson/Navarro County to a point immediately upstream of the confluence of the Elm Fork Trinity River in Dallas County. There are five assessment units in this segment. 0805_01 is from the confluence of the Cedar Creek Reservoir discharge canal upstream to confluence of Smith Creek. Sites in this assessment unit include 10924. 0805_02 is from the confluence of Smith Creek upstream to confluence of Ten Mile Creek. Sites in this assessment unit include 10925, 10926, 10927, 10928, and 16121. 0805_03 is from the confluence of Five Mile Creek upstream to the confluence of Cedar Creek. Sites in this assessment unit include 10934, 10935, 13614, 17161, 20444, and 20567. 0805_04 is from the confluence of Cedar Creek upstream to confluence of Elm Fork Trinity River. Sites in this assessment unit include 10936, 10937, and 16088. 0805_06 is from the confluence of Ten Mile Creek upstream to confluence of Five Mile Creek. Sites in this assessment unit include 10929, 10930, 10931, 10932, and 20566.

Unclassified water bodies in this segment include those listed below.

- 0805A – Red Oak Creek – From confluence with segment 0805 Trinity River 12 miles upstream to I-45. This segment includes site 17506 and 18569.
- 0805B – Parsons Slough – From confluence with segment 0805 Trinity River in Kaufman County, 11 miles upstream to Malloy Bridge Road in Dallas Co. This segment includes site 10839.
- 0805C – White Rock Creek below White Rock Lake – From the confluence with segment 0805 of the Trinity River up to the confluence with 0827 White Rock Lake. This segment includes site 18458.
- 0805D – Five Mile Creek – A 17 mile stretch of Five Mile Creek extending from confluence with segment 0805 Trinity River upstream to upper end of NHD stream Five Mile Creek (NHD RC 12030105000066). This segment includes site 18575.

Figure 0805.1 shows the locations of assessment units, monitoring stations, dischargers, landfills, and confined animal feeding operations (CAFOs). Table 0805.1 lists the stations being monitored in fiscal year 2012 as well as the parameters being collected and the frequency of sampling.

HYDROLOGIC CHARACTERISTICS

Based on USGS gages throughout this segment at Dallas (08057000), below Dallas (08057410), and at Rosser (08062500), the median annual average flow in this segment is 2,077 cfs with median annual average flows of 1516 cfs at Dallas, 2180 below Dallas, and 2770 at Rosser. Increases in flow at the Dallas gage is due to inputs from a regional wastewater treatment plant as well as the Elm Fork Trinity River. Additional inputs from another regional wastewater treatment plant and White Rock Creek increase flows at the gage below Dallas. The East Fork Trinity River and another regional wastewater treatment plant add flow upstream of the Rosser gage. Only the portion of the river from upstream of the Elm Fork confluence to just downstream of Corinth Street in Dallas is highly channelized. Base flows at Dallas over the past year have generally been between about 300 and 470 cfs. Base flows have been between 500 and 750 cfs below Dallas and between 575 and 800 cfs at Rosser. In this portion of the river, base flows recover after high flow events in 9 to 16 days.

IMPAIRMENT/AREA OF INTEREST DESCRIPTION

Based on the Draft 2010 Texas Water Quality Inventory, there are impairments in assessment units 0805_01, 0805_02, 0805_03, 0805_04, and 0805_06. Details of the assessment are located in Table 0805.2.

LAND USE AND NATURAL CHARACTERISTICS

The upper end of this segment drains a heavily urbanized area, however, mid and lower portions of the river and many of its tributaries drain rural and agricultural areas. There are forested areas immediately adjacent to the river channel throughout the segment. Most of the segment drains the Northern Blackland Prairie while the river channel itself lies within the Floodplains and Low Terraces. A small number of tributaries on the lower end of the segment drains the Northern and Southern Post Oak Savanna. See Figures 0805.2 to 0805.4 for land covers, soil regions, and vegetative provinces in this segment. There are several large dischargers and many landfills in this segment. The locations of dischargers and landfills can be see in Figure 0805.1.

POTENTIAL CAUSES OF IMPAIRMENT OR INTEREST

Nutrients are elevated throughout this segment. Similar to 0841, wastewater effluent and fertilizer run off are the most likely contributing factors to the nutrients concerns in this segment. The upper portion is probably impacted by residential fertilizers while the lower portions may be influenced by agricultural fertilizers. As seen in both 0806 and 0841, fish consumptions bans throughout this segment are also due to legacy pollutant chemicals. At this point in the river, it is assumed that the source is contaminated sediments carried down from upstream although local sources should not be ruled out. Bacteria impairments in the upper end of the segment (0805_03 and 0805_04) are assumed to be due to the high concentration of residential developments in this area and the resultant pet waste.

POTENTIAL STAKEHOLDERS

AgriLife Extension
Trinity Waters
Cities of Dallas, Mesquite, Waxahachie, Ennis

RECOMMENDATIONS FOR IMPROVING WATER QUALITY

Public education of homeowners and landowners in the watershed may help to improve water quality issues related to bacteria and nutrients. Education should include pet waste clean-up and proper fertilizer use practices. In addition, intensive sampling in the tributaries may be helpful in determining if the sources of legacy pollutants are local or if they are being carried down from upstream. If local sources

are found, clean-ups or sequestration may reduce loading into the river and fish tissue.

ONGOING PROJECTS

There are currently three projects underway in this segment, all of which are being managed by the TMDL team of the TCEQ. The Trinity River Bacteria TMDL is currently in the report preparation phase. The Dallas and Tarrant County Fish Tissue TMDL is in progress. This TMDL is due to chlordane in fish tissue. Sampling for this project has been completed. The Trinity River PCBs in Tissue TMDL is underway; however, there is no sampling at this time.

TRA, in conjunction with consultants, have begun a project of long-term monitoring in this segment. The goal of the project is to establish long-term monitoring stations based on scientifically defensible site selection rather than ease of access. This included identification of representative reaches based on cross sections, mesohabitats, and depth measurements. Based on this work, two locations in this segment have been designated as long term monitoring sites. Physical and biological monitoring at these locations will be conducted to determine how the Trinity River changes over time. In addition, environmental flow standards have been established in the Trinity River basin. In response, TRA with work with other state agencies and consultants to collect biological assemblage data in this segment. This sampling will continue over time and provide data for the adaptive management process of Texas Instream Flow Program.

MAJOR WATERSHED EVENTS (PRESENT AND FUTURE)

Similar to segment 0841, this segment is highly effluent dominated during drought and low flow conditions as typically seen in the summer. As discussed previously, wastewater effluent can be high in nutrients and may contribute to elevated nutrient levels in the river if drought conditions recur. Likewise, pet and wildlife waste building up on land during prolonged dry weather can be washed into the river and tributaries during a rain event leading to elevated bacteria levels. The City of Dallas is continuing development of the Trinity River Corridor Project on a 20 mile portion of the river from Web Chapel Road to I-20. At this time, it is unknown how or if the projects involved will affect water quality. Continued monitoring will take place in order to detect any trends. Eight dischargers applied for renewal of or renewed their water quality permits in 2011 and 2012. One discharger received a new water quality permit in 2011 and one discharger renewed their MS4 permit in 2012. See Table 0805.3 for details.

IMAGES

See Figures 0805.5 to 0805.8 for images of this segment.

FIGURE 0805.1

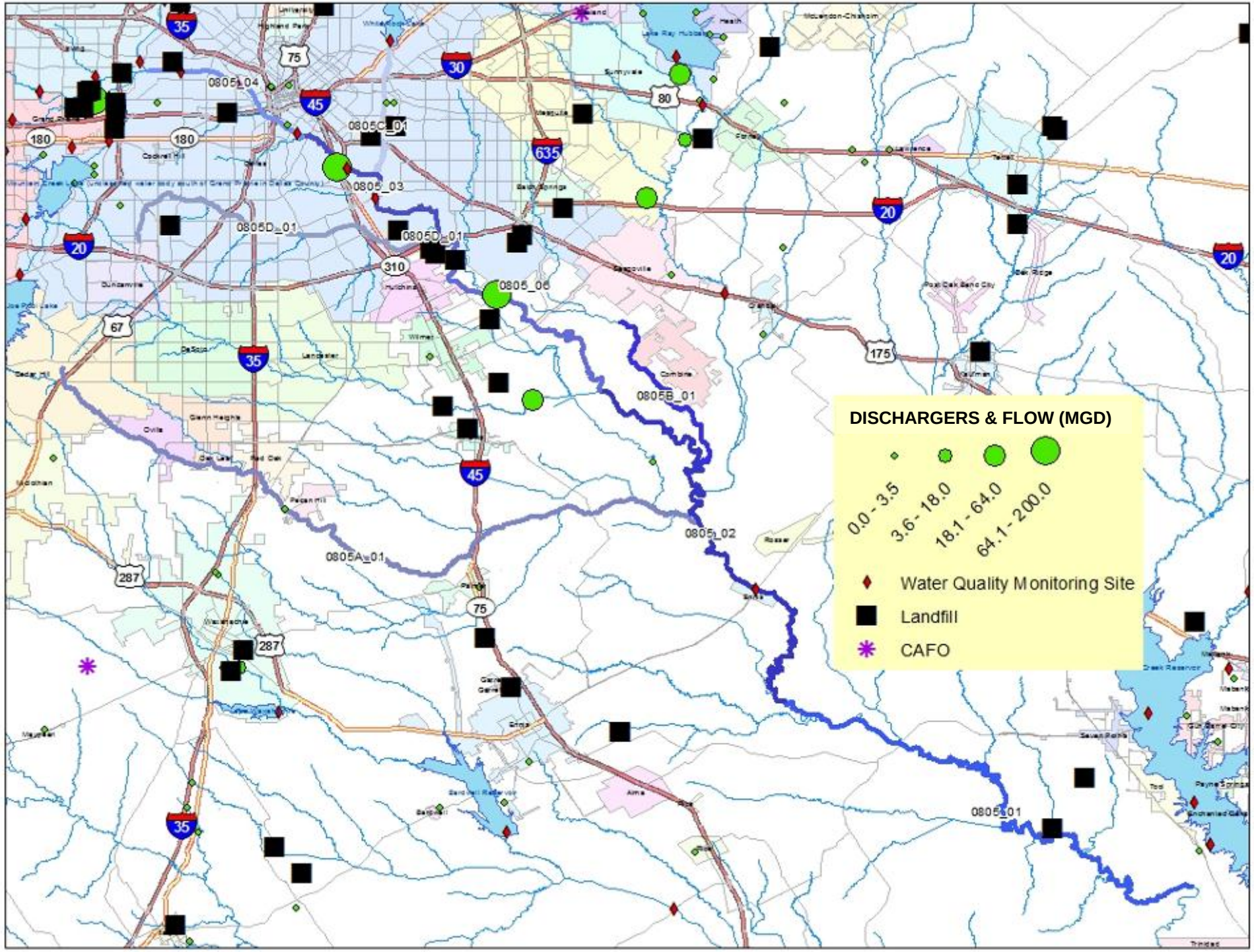


TABLE 0805.1: Fiscal Year 2012 Monitoring

Monitoring Entity	Segment	AU	Site ID	Site Description	Monitoring Type	24 Hour DO	Metals in Water	Conventionals	Bacteria	Flow	Field
TRA	0805	0805_02	10925	TRINITY RIVER 50 METERS DOWNSTREAM OF SH 34 NORTHEAST OF ENNIS	RT		2 (Dissolved Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Nickel, Zinc, Aluminum)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness)	4 (E. coli)	4	4 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Flow Severity, Days Since Precipitation Event)
TRA	0805	0805_03	10934	TRINITY RIVER AT SOUTH LOOP SH 12 SOUTH OF DALLAS	RT		2 (Dissolved Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Nickel, Zinc, Aluminum)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness)	4 (E. coli)	4	4 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Flow Severity, Days Since Precipitation Event)
Dallas	0805	0805_03	20444	UPPER TRINITY RIVER 190 METERS DOWNSTREAM OF SOUTH CENTRAL EXPRESSWAY/SH 310 AND 105 METERS UPSTREAM OF RAILROAD BRIDGE	RT				4 (E. coli)	4	4 (Water Temp, Specific Conductance, DO, pH, Turbidity, Flow Severity, Days Since Precipitation Event)
Dallas	0805	0805_03	20934	UPPER TRINITY RIVER AT SANTA FE AVENUE IN DALLAS, UNDER DART RAIL BRIDGE	RT				4 (E. coli)	4	4 (Water Temp, Specific Conductance, DO, pH, Turbidity, Flow Severity, Days Since Precipitation Event)
TRA	0805	0805_04	10937	TRINITY RIVER 46 METERS UPSTREAM OF N WESTMORELAND ROAD IN DALLAS	RT		2 (Dissolved Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Nickel, Zinc, Aluminum)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness)	4 (E. coli)	4	4 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Flow Severity, Days Since Precipitation Event)
Dallas	0805	0805_04	20933	UPPER TRINITY RIVER AT SYLVAN AVENUE IN DALLAS	RT				4 (E. coli)	4	4 (Water Temp, Specific Conductance, DO, pH, Turbidity, Flow Severity, Days Since Precipitation Event)

TABLE 0805.2: Draft 2010 Water Quality Inventory

Segment and Assessment Unit	Use	Method	Parameter Description	Criteria	Number of samples assessed	Number of samples exceed criteria	Mean of samples assessed (avg or geomean)	Mean of samples that exceed criteria	Dataset Qualifier	Impairment Level	Impairment Category
0805_01	General Use	Nutrient Screening Levels	Nitrate	1.95 mg/L	4	3		8.43	LD	CS	
0805_01	General Use	Nutrient Screening Levels	Orthophosphorus	0.37 mg/L	4	3		1.37	LD	CS	
0805_01	General Use	Nutrient Screening Levels	Total Phosphorus	0.69 mg/L	3	2		1.28	ID	CS*	
0805_01	General Use	Nutrient Screening Levels	Chlorophyll-a	14.1 ug/L	3	1		20.6	ID	CS*	
0805_01	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Restricted-Consumption-chlordane in fish tissue						OE	NS	4b
0805_01	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Restricted-Consumption-DDE in fish tissue						OE	NS	5a
0805_01	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Restricted-Consumption-PCBs in fish tissue						OE	NS	5a
0805_02	Recreation Use	Bacteria Single Sample	E. coli	394 cfu/100 mL	82	23		1664.83	AD	CN	
0805_02	General Use	Nutrient Screening Levels	Nitrate	1.95 mg/L	100	82		7.61	AD	CS	
0805_02	General Use	Nutrient Screening Levels	Orthophosphorus	0.37 mg/L	95	67		1.23	AD	CS	
0805_02	General Use	Nutrient Screening Levels	Total Phosphorus	0.69 mg/L	72	49		1.6	AD	CS	
0805_02	General Use	Nutrient Screening Levels	Chlorophyll-a	14.1 ug/L	71	30		23.12	AD	CS	
0805_02	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Restricted-Consumption-chlordane in fish tissue						OE	NS	4b
0805_02	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Restricted-Consumption-DDE in fish tissue						OE	NS	5a
0805_02	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Restricted-Consumption-PCBs in fish tissue						OE	NS	5a
0805_03	Recreation Use	Bacteria Single Sample	E. coli	394 cfu/100 mL	79	35		4241	AD	NS	5a
0805_03	Recreation Use	Bacteria Geomean	E. coli	126 cfu/100 mL	79		329.00		AD	NS	5a
0805_03	General Use	Nutrient Screening Levels	Nitrate	1.95 mg/L	124	104		7.62	AD	CS	
0805_03	General Use	Nutrient Screening Levels	Orthophosphorus	0.37 mg/L	121	92		1.26	AD	CS	
0805_03	General Use	Nutrient Screening Levels	Total Phosphorus	0.69 mg/L	122	83		1.53	AD	CS	
0805_03	General Use	Nutrient Screening Levels	Chlorophyll-a	14.1 ug/L	70	22		19.5	AD	CS	
0805_03	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Restricted-Consumption-chlordane in fish tissue						OE	NS	4b
0805_03	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Restricted-Consumption-DDE in fish tissue						OE	NS	5a
0805_03	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Restricted-Consumption-PCBs in fish tissue						OE	NS	5a
0805_04	Recreation Use	Bacteria Single Sample	E. coli	394 cfu/100 mL	77	26		4543	AD	NS	5a
0805_04	Recreation Use	Bacteria Geomean	E. coli	126 cfu/100 mL	77		199.00		AD	NS	5a
0805_04	General Use	Nutrient Screening Levels	Nitrate	1.95 mg/L	70	53		8.43	AD	CS	
0805_04	General Use	Nutrient Screening Levels	Orthophosphorus	0.37 mg/L	70	49		1.33	AD	CS	
0805_04	General Use	Nutrient Screening Levels	Total Phosphorus	0.69 mg/L	72	48		1.58	AD	CS	
0805_04	General Use	Nutrient Screening Levels	Chlorophyll-a	14.1 ug/L	68	18		19.5	AD	CS	
0805_04	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Restricted-Consumption-chlordane in fish tissue						OE	NS	4b
0805_04	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Restricted-Consumption-DDE in fish tissue						OE	NS	5a
0805_04	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Restricted-Consumption-PCBs in fish tissue						OE	NS	5a
0805_06	General Use	Nutrient Screening Levels	Nitrate	1.95 mg/L	4	4		11.19	LD	CS	
0805_06	General Use	Nutrient Screening Levels	Orthophosphorus	0.37 mg/L	4	4		1.8	LD	CS	
0805_06	General Use	Nutrient Screening Levels	Total Phosphorus	0.69 mg/L	3	3		1.57	ID	CS*	
0805_06	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Restricted-Consumption-chlordane in fish tissue						OE	NS	4b
0805_06	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Restricted-Consumption-DDE in fish tissue						OE	NS	5a
0805_06	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Restricted-Consumption-PCBs in fish tissue						OE	NS	5a

Dataset Qualifier Codes

AD - Adequate data (10 or more samples)

ID - Inadequate data (less than 4 samples)

LD - Limited data (between 4 and 9 samples)

OE - Other information than ambient samples evaluated

Impairment Level

CN - Use concern

CS - Screening level concern

CS* - Screening level concern carried forward from previous assessments

NS - Nonsupport

Impairment Category

4b - Other pollution control requirements are reasonably expected to result in the attainment of the water quality standard in the near future

5a - A TMDL is underway, scheduled, or will be scheduled

FIGURE 0805.2: LAND COVER

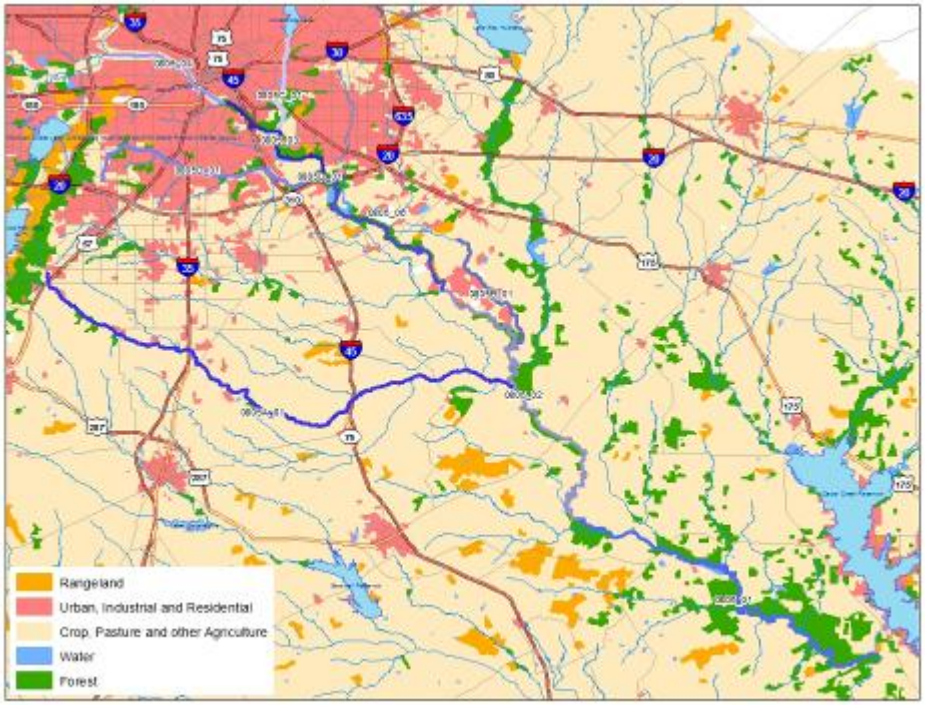


FIGURE 0805.3: SOIL REGIONS

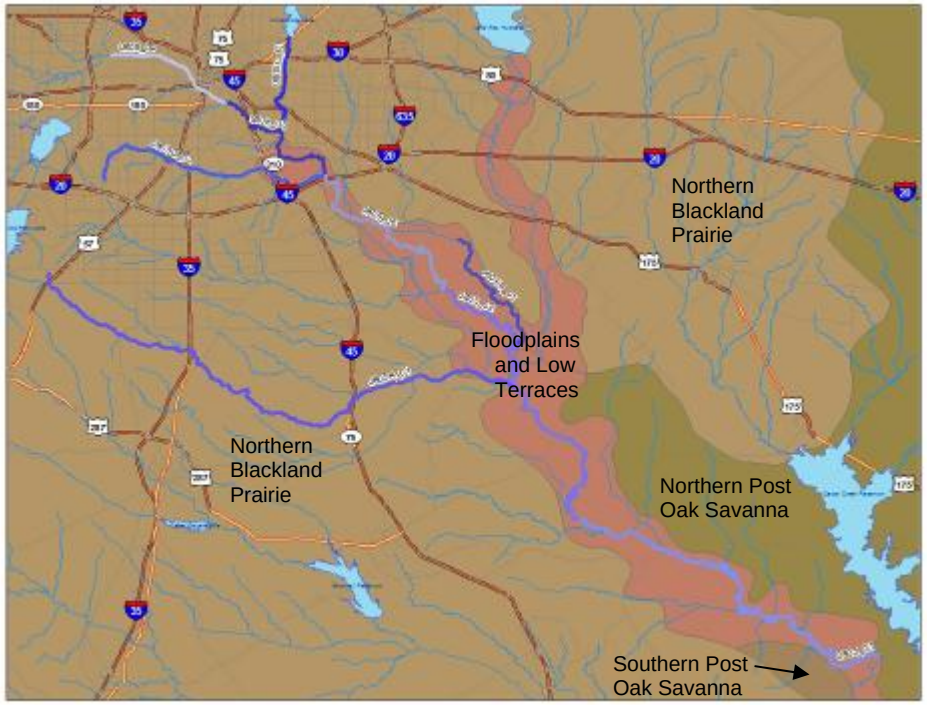


FIGURE 0805.4: VEGETATIVE PROVINCES

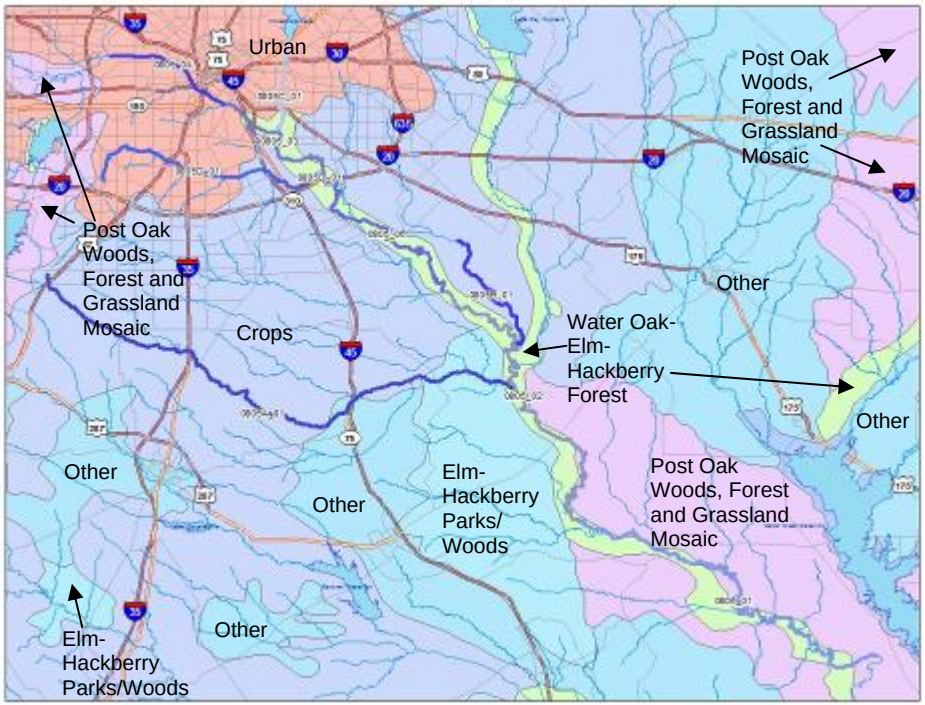


TABLE 0805.3: New and Renewed Discharge Permits

Segment	Notice received by TRA on	Permitee/Facility	County	Permit Type	Action	Status	Permit Number
805	1/24/2011	DALLAS, CITY - SS STP	Dallas	Water Quality	New	Final	10060-006
805	7/14/2011	UNIVAR USA INC. - CHEMCENTRAL SOUTHWEST - CHEM SALES & DISTRIB	Dallas	Water Quality	Renewal	Received notification	4687-000
805	8/1/2011	PALMER, CITY - STP	Ellis	Water Quality	Renewal	Received notification	14795-001
805	8/3/2011	DALLAS, CITY - CENTRAL STP	Dallas	Water Quality	Renewal	Received notification	10060-001
805	8/10/2011	TRA - TMC	Dallas	Water Quality	Renewal	Received notification	10984-001
805	1/19/2012	SCURRY-ROSSER ISD - STP	Kaufman	Water Quality	Renewal	Final	14471-001
805	3/5/2012	UNIVAR, USA INC	Dallas	Water Quality	Renewal	Final	04687-000
805	4/10/2012	HINES REIT AND HINES INTERESTS LP	Dallas	Water Quality	Renewal	Final	04161-000
805	4/26/2012	BUCKLEY OIL CO - DALL CHEM DISTRIB PL	Dallas	Water Quality	Renewal	Final	04663-000
805	5/16/2012	TXDOT - DALLAS DIST MS4	Dallas	MS4	Renewal	Final	04521-000

FIGURE 0805.5: Upper Trinity River at Mockingbird Lane in Dallas

FIGURE 0805.6: Upper Trinity River at Sylvan Avenue in Dallas

FIGURE 0805.7: Trinity River at South Loop 12 south of Dallas

FIGURE 0805.8: Trinity River at SH 34 near Rosser

0804 – Trinity River Above Lake Livingston

SEGMENT DESCRIPTION

Segment 0804 begins from a point 1.8 km (1.1 miles) upstream of Boggy Creek in Houston/Leon County and continues up to a point immediately upstream of the confluence of the Cedar Creek Reservoir discharge canal in Henderson/Navarro County. There are seven assessment units in this segment. 0804_01 is from the lower end of the segment up to just above the confluence with Hurricane Bayou in Houston County. Sites in this assessment unit include 10918 and 13690. 0804_02 is from just upstream of the confluence with Hurricane Bayou up to just above the confluence with Boons Creek. 0804_03 is from just upstream of the confluence with Boons Creek up to just above the confluence with Caney Creek. 0804_04 is from the confluence with Caney Creek up to just above the confluence with Indian Creek in Anderson County. Sites in this assessment unit include 10919. 0804_05 is from just above the confluence with Indian Creek in Anderson County up to just above the confluence with Tehuacana Creek. 0804_06 is from just above the confluence with Tehuacana Creek to just above the confluence with Richland Creek. 0804_07 is from just above the confluence with Richland Creek in Henderson County, up to the upper end of the segment. Sites in this assessment unit include 10920, 10921, and 10922.

Unclassified water bodies in this segment include those listed below.

0804A – Box Creek – Perennial stream from the confluence of Elkhart Creek upstream to the Elkhart Lake dam northeast of the City of Elkhart.

0804B – Keechi Creek – Perennial stream from the confluence with the Trinity River to a point 0.05 km upstream of FM 645.

0804C – Mims Creek – Perennial stream from the confluence with Upper Keechi Creek upstream to the confluence of an unnamed tributary approximately 2.1 km upstream of FM 1580 near the City of Fairfield.

0804D – Toms Creek – Perennial stream from the confluence with the Trinity River to the Missouri Pacific Railroad crossing near Oakwood.

0804E – Northwest Branch – Perennial stream from the confluence with Toms Creek to a point 0.3 km upstream of FM 831.

0804F – Tehuacana Creek – From the confluence with the Trinity River northeast of Fairfield in Freestone County to the headwaters northwest of Mexia in Limestone County. This segment is broken into two assessment units. 0804F_01 is a 27 mile stretch of Tehuacana Creek extending from the confluence with 0804 of the Trinity River up to the confluence with Caney Creek (NHD RC 120302010000226) and includes station 10705. 0804F_02 is a 28.4 mile (45.7 KM) stretch of Tehuacana Creek extending from the confluence with Caney Creek to the upper end (NHD RC 120302010000225) of Tehuacana Creek and includes site 18572.

0804G – Catfish Creek – Twenty mile stretch of Catfish Creek running upstream from US 287 in Anderson Co., to Catfish Creek Ranch Lake just upstream of SH 19 in Henderson Co. This segment includes sites 10717, 18596, and 18597.

0804H – Upper Keechi Creek – From confluence with segment 0804 Trinity River to the upper end of NHD stream Upper Keechi Creek (NHD RC 12030201001075). This segment is broken into two assessment units. 0804H_01 is from the confluence with segment 0804 Trinity River up to confluence with Twin Branch (NHD RC 12030201027099) and includes site 18401. 0804H_02 is from the confluence with Twin Branch (NHD RC 12030201027099) to the upper end (NHD RC 12030201001075) of NHD RC stream Upper Keechi Creek and includes site 18520.

0804I – Big Brown Creek – From the confluence with segment 0804 of the Trinity River upstream to the end of segment (NHD RC Reach Code 112030201000928). This segment is broken into two assessment units. This segment is broken into two assessment units. 0804I_01 is from the confluence with the Trinity River (0804) upstream to the Fairfield Lake Dam in Freestone County. 0804I_02 is from the upper end of Fairfield Lake upstream to headwaters (NHD RC 112030201000928).

0804J – Fairfield Lake – Impounded Big Brown Creek in Freestone County. This segment includes site 17951.

Figure 0804.1 shows the locations of assessment units, monitoring stations, dischargers, landfills, and confined animal feeding operations (CAFOs). Table 0804.1 lists the stations being monitored in fiscal year 2012 as well as the parameters being collected and the frequency of sampling.

HYDROLOGIC CHARACTERISTICS

Based on USGS gages in this segment near Trinidad (08062700), Oakwood (08065000), and Crockett (08065350), the median annual average flow is 5,009 cfs with median annual average flows of 4529 cfs at Trinidad, 4923 cfs at Oakwood, and 6735 cfs at Crockett. There are no major wastewater treatment plants to contribute to flow in this segment. The outflow from Cedar Creek Reservoir adds flow upstream of the Trinidad gage and from Richland-Chambers Reservoir upstream of the Oakwood gage. There are no major tributaries or reservoir inputs, other than Houston County Lake, that would add flow between the Oakwood and Crockett gages. Therefore, the increase in flow between these two gages is due to smaller tributaries and other watershed sources. This portion of the river has undergone little to no channelization. Base flows at each of the three gages have been between about 620 and 920 cfs at Trinidad, 500 and 1,000 cfs at Oakwood, and 490 and 1,000 cfs at Crockett.

Base flows at Dallas over the past year have generally been between about 300 and 470 cfs. Base flows have been between 500 and 750 cfs below Dallas and between 575 and 800 cfs at Rosser. In this portion of the river, base flows recover after high flow events in 9 to 16 days.

IMPAIRMENT/AREA OF INTEREST DESCRIPTION

Based on the Draft 2010 Texas Water Quality Inventory, there are impairments in assessment units 0804_01, 0804_02, 0804_03, 0804_04, and 0804_07. There are also impairments in 0804G, 0804H_01, and 0804J. Details of the assessment are located in Table 0804.2.

LAND USE AND NATURAL CHARACTERISTICS
This segment is largely rural with a fairly even mix of forest/grassland and agriculture. The river flows through the Floodplains and Low Terraces while the tributaries drain the Northern Blackland Prairie, Post Oak Savannas, and Tertiary Uplands. See Figures 0804.2 to 0804.4 for land covers, soil regions, and vegetative provinces in this segment. There are many landfills and small dischargers as well as one CAFO located in this segment; the locations of which can be seen in Figure 0804.1.

POTENTIAL CAUSES OF IMPAIRMENT OR INTEREST
Being downstream from the DFW Metroplex and several large wastewater treatment plants as well as draining a largely rural and agricultural area, nutrient concerns in this segment could be attributed to both wastewater effluent as well as agricultural fertilizers. Issues of low dissolved oxygen in Catfish Creek (0804G) and Upper Keechi Creek (0804H) may be the result of very low flows. Nutrient concerns in Fairfield Lake (0804J) are most likely due to agricultural fertilizer runoff in the watershed.

POTENTIAL STAKEHOLDERS
AgriLife Extension
Trinity Waters
Tarrant Regional Water District
Texas Department of Criminal Justice
Cities of Corsicana, Athens, Fairfield, Palestine, Centerville, Crockett

RECOMMENDATIONS FOR IMPROVING WATER QUALITY
Public education of landowners in the watershed, consisting of proper fertilizer use practices, may help improve water quality related to nutrients in this segment; especially in Fairfield Lake. Additional sampling in Catfish Creek and Upper Keechi Creek could be used to determine if low dissolved oxygen levels are due to low flows or other factors.

ONGOING PROJECTS
The Diurnal Dissolved Oxygen Dynamics in Selected Least Disturbed Streams project is currently underway in this segment and is being managed by the SWQM team at TCEQ. This project will determine if existing DO criteria are appropriate by sampling least disturbed reference streams in each ecoregion.

TRA, in conjunction with consultants, have begun a project of long-term monitoring in this segment. The goal of the project is to establish long-term monitoring stations based on scientifically defensible site selection rather than ease of access. This included identification of representative reaches based on cross sections, mesohabitats, and depth measurements. Based on this work, two locations in this segment have been designated as long term monitoring sites. Physical and biological monitoring at these locations will be conducted to determine how the Trinity River changes over time. In addition, environmental flow standards have been established in the Trinity River basin. In response, TRA with work with other state agencies and consultants to collect biological assemblage data in this segment. This sampling will continue over time and provide data for the adaptive management process of Texas Instream Flow Program.

MAJOR WATERSHED EVENTS (PRESENT AND FUTURE)
This segment is downstream of large tributaries including releases from Cedar Creek Reservoir and Richland-Chambers Reservoir. While these releases add flow to the river, there can still be impacts related to drought conditions as discussed previously when the river is effluent dominated and dam releases are lowered or suspended. Twenty-three dischargers applied for renewal of or renewed their water quality permits in 2011 and 2012. One discharger amended their water quality permit in 2011. See Table 0804.3 for details.

IMAGES
See Figures 0804.5 to 0804.8 for images of this segment.

FIGURE 0804.1

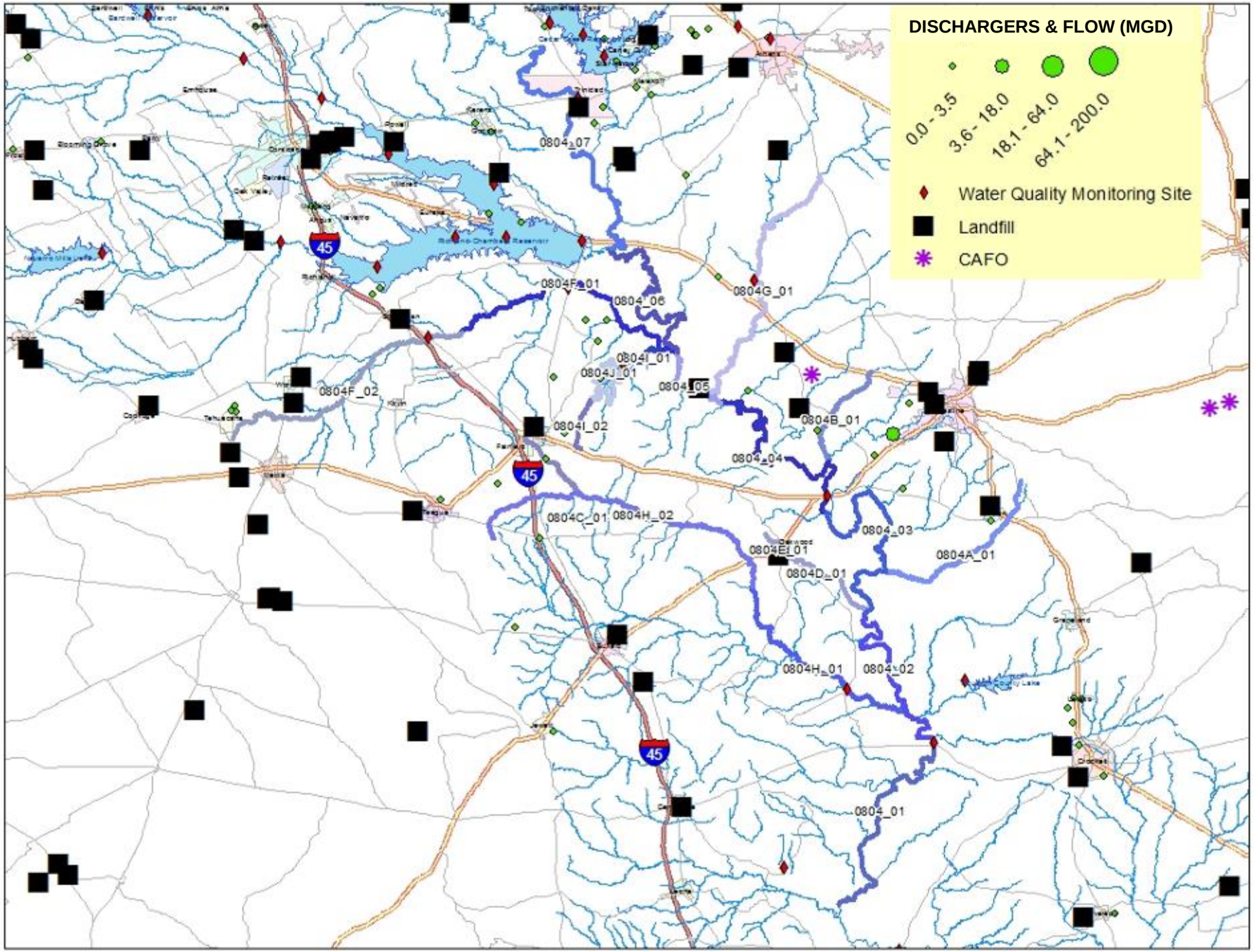


TABLE 0804.1: Fiscal Year 2012 Monitoring

Monitoring Entity	Segment	AU	Site ID	Site Description	Monitoring Type	24 Hour DO	Metals in Water	Conventionals	Bacteria	Flow	Field
LLP	0804	0804_01	13690	TRINITY RIVER 304 METERS UPSTREAM OF SH 7 11.9 MI WEST OF CROCKETT	RT		4 (Dissolved Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Nickel, Silver, Zinc, Aluminum; Total Selenium)	12 (Chlorophyll-a, NH3, NO2, NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Total Alkalinity, TSS, Hardness)	12 (E. coli)	12	12 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth)
TRA	0804	0804_04	10919	TRINITY RIVER IMMEDIATELY DOWNSTREAM OF US 79 NORTHEAST OF OAKWOOD	RT		2 (Dissolved Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Nickel, Zinc, Aluminum)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness)	4 (E. coli)	4	4 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Flow Severity, Days Since Precipitation Event)
TRA	0804	0804_07	10922	TRINITY RIVER AT SH 31 IN TRINIDAD	RT		2 (Dissolved Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Nickel, Zinc, Aluminum)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness)	4 (E. coli)	4	4 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Flow Severity, Days Since Precipitation Event)

TABLE 0804.2: Draft 2010 Water Quality Inventory

Segment and Assessment Unit	Use	Method	Parameter Description	Criteria	Number of samples assessed	Number of samples exceed criteria	Mean of samples assessed (avg or geomean)	Mean of samples that exceed criteria	Dataset Qualifier	Impairment Level	Impairment Category
0804_01	Recreation Use	Bacteria Geomean	Fecal coliform	200 cfu/100 mL	5		452.88		SM	CN	
0804_01	General Use	Nutrient Screening Levels	Nitrate	1.95 mg/L	95	61		4.58	AD	CS	
0804_01	General Use	Nutrient Screening Levels	Orthophosphorus	0.37 mg/L	103	50		0.69	AD	CS	
0804_01	General Use	Nutrient Screening Levels	Total Phosphorus	0.69 mg/L	78	40		1.05	AD	CS	
0804_01	General Use	Nutrient Screening Levels	Chlorophyll-a	14.1 ug/L	64	20		35.95	AD	CS	
0804_02	General Use	Nutrient Screening Levels	Nitrate						ID	CS*	
0804_02	General Use	Nutrient Screening Levels	Orthophosphorus						ID	CS*	
0804_02	General Use	Nutrient Screening Levels	Total Phosphorus						ID	CS*	
0804_02	General Use	Nutrient Screening Levels	Chlorophyll-a						ID	CS*	
0804_03	General Use	Nutrient Screening Levels	Nitrate						ID	CS*	
0804_03	General Use	Nutrient Screening Levels	Orthophosphorus						ID	CS*	
0804_04	General Use	Nutrient Screening Levels	Nitrate	1.95 mg/L	73	53		6.75	AD	CS	
0804_04	General Use	Nutrient Screening Levels	Orthophosphorus	0.37 mg/L	74	41		1.01	AD	CS	
0804_04	General Use	Nutrient Screening Levels	Total Phosphorus	0.69 mg/L	73	46		1.29	AD	CS	
0804_04	General Use	Nutrient Screening Levels	Chlorophyll-a	14.1 ug/L	67	26		25.22	AD	CS	
0804_07	General Use	Nutrient Screening Levels	Nitrate	1.95 mg/L	78	61		7.6	AD	CS	
0804_07	General Use	Nutrient Screening Levels	Orthophosphorus	0.37 mg/L	79	57		1.12	AD	CS	
0804_07	General Use	Nutrient Screening Levels	Total Phosphorus	0.69 mg/L	77	63		1.35	AD	CS	
0804_07	General Use	Nutrient Screening Levels	Chlorophyll-a	14.1 ug/L	70	28		29.78	AD	CS	
0804G	Aquatic Life Use	Dissolved Oxygen grab screening level	Dissolved Oxygen Grab	5 mg/L	27	6		3.37	AD	CS	
0804G	Aquatic Life Use	Dissolved Oxygen 24hr average	Dissolved Oxygen 24hr Avg	5 mg/L	29	21		3.48	AD	NS	5c
0804G	Aquatic Life Use	Dissolved Oxygen 24hr minimum	Dissolved Oxygen 24hr Min	3 mg/L	29	7		2.34	AD	NS	5c
0804G	Aquatic Life Use	Macrobenthic Community	Macrobenthic Community	29	3	3	27.00	25	AD	CN	
0804G	Recreation Use	Bacteria Geomean	E. coli	126 cfu/100 mL	23		245.56		AD	NS	5c
0804H_01	Aquatic Life Use	Dissolved Oxygen 24hr average	Dissolved Oxygen 24hr Avg	5 mg/L	12	3		2.9	AD	NS	5c
0804H_01	Aquatic Life Use	Dissolved Oxygen 24hr minimum	Dissolved Oxygen 24hr Min	3 mg/L	12	3		2.27	AD	NS	5c
0804J	General Use	Nutrient Screening Levels	Orthophosphorus	0.05 mg/L	13	5		0.12	AD	CS	
0804J	General Use	Nutrient Screening Levels	Chlorophyll-a	26.7 ug/L	12	12		68.28	AD	CS	

Dataset Qualifier Codes

AD - Adequate data (10 or more samples)

ID - Inadequate data (less than 4 samples)

SM - This assessment method is superceded by another method

Impairment Level

CN - Use concern

CS - Screening level concern

CS* - Screening level concern carried forward from previous assessments

NS - Nonsupport

Impairment Category

5c - Additional data and information will be collected before a TMDL is scheduled

FIGURE 0804.2: LAND COVER

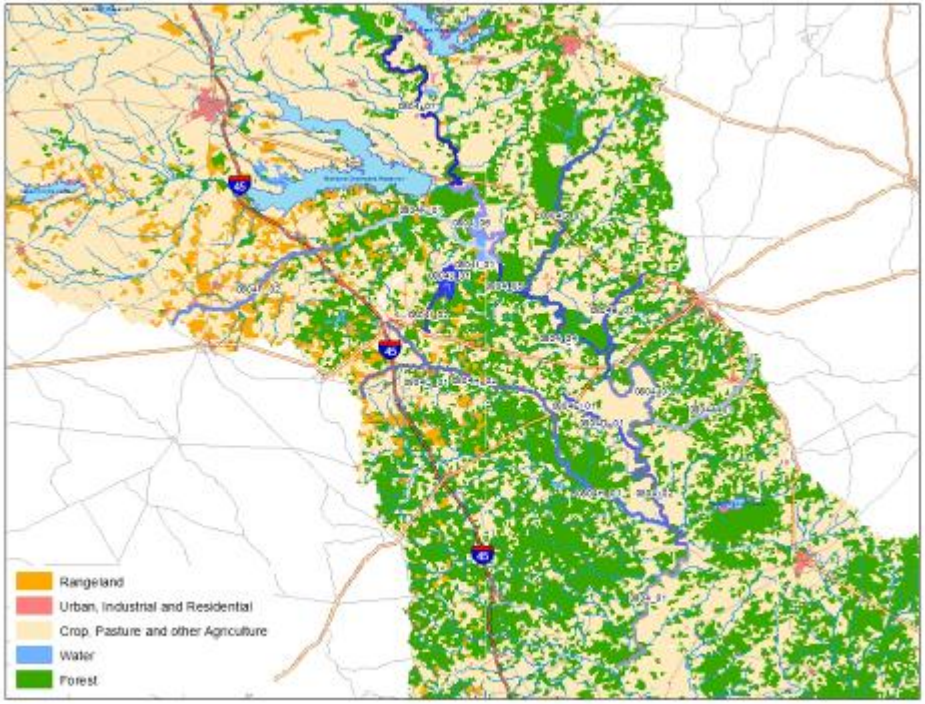


FIGURE 0804.3: SOIL REGIONS

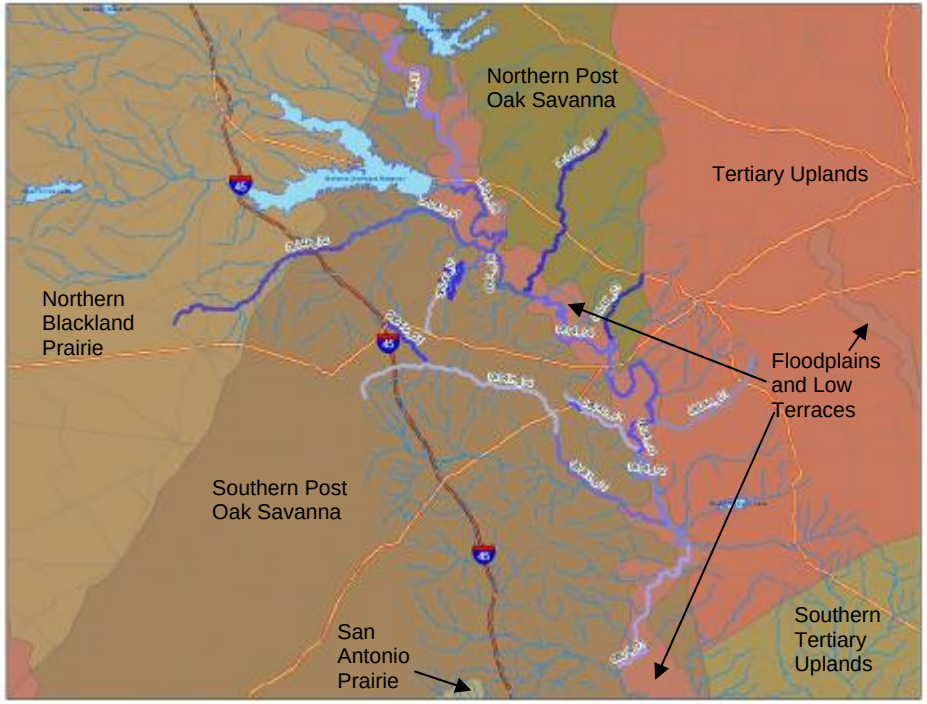


FIGURE 0804.4: VEGETATIVE PROVINCES

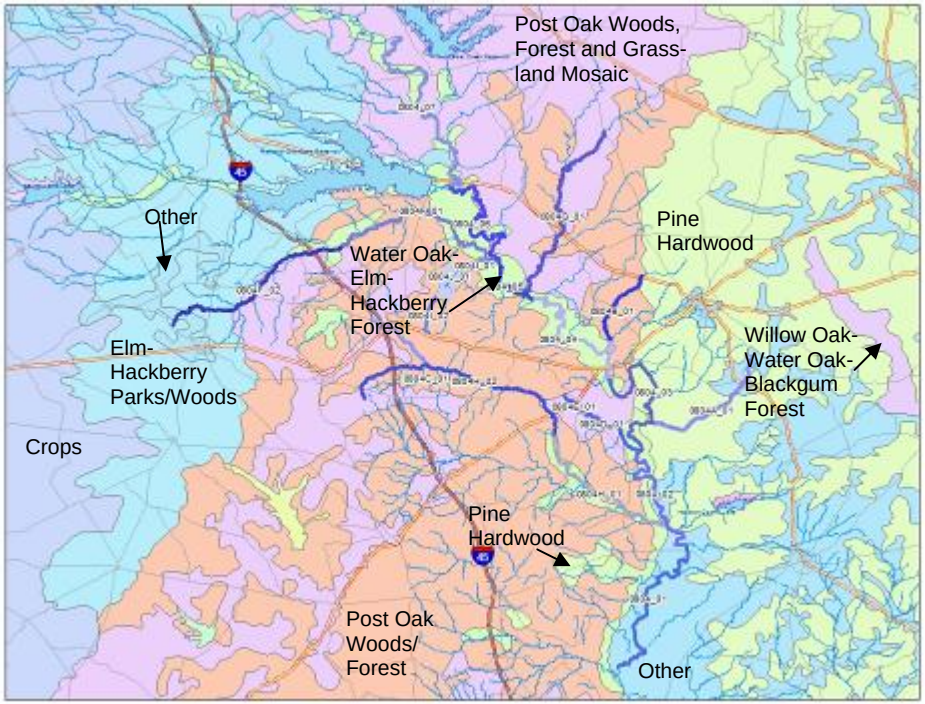


TABLE 0804.3: New and Renewed Discharge Permits

Segment	Notice received by TRA on	Permitee/Facility	County	Permit Type	Action	Status	Permit Number
804	1/24/2011	CROSS ROADS ISD - STP	Henderson	Water Quality	Renewal	Final	13789-001
804	2/15/2011	HOUSTON COUNTY WCID 1- WTP	Houston	Water Quality	Amendment	Final	10871-001
804	2/15/2011	ELKHART, CITY - STP	Anderson	Water Quality	Renewal	Final	10735-001
804	3/3/2011	MONARCH UTILITIES I LP - BEECHWOOD EST	Henderson	Water Quality	Renewal	Final	11282-001
804	5/2/2011	WORTHAM, CITY - STP	Freestone	Water Quality	Renewal	Final	10551-001
804	9/19/2011	FREESTONE POWER GENERATION, L.P. - FREESTONE POWER GENERATION PLANT (SIC 4911)	Freestone	Water Quality	Renewal	Received notification	04298-000
804	9/19/2011	TEAGUE, CITY & FAIRFIELD, CITY - BOYD UNIT STP	Freestone	Water Quality	Renewal	Received notification	13579-001
804	10/17/2011	LUMINANT GENERATION CO LLC - TRINIDAD SES	Henderson	Water Quality	Renewal	Received notification	00947-000
804	10/17/2011	ALLOY POLYMERS TEXAS, LP - CROCKETT PLASTICS PLANT	Houston	Water Quality	Renewal	Received notification	02207-000
804	2/17/2012	TEXAS DEPARTMENT OF CRIMINAL JUSTICE	Anderson	Water Quality	Renewal	Final	13717-001
804	2/29/2012	LATEXO INDEPENDENT SCHOOL DISTRICT	Houston	Water Quality	Renewal	Final	13780-001
804	3/5/2012	THOMPSON WATER CO INC - STP	Freestone	Water Quality	Renewal	Final	11508-001
804	3/16/2012	TDCJ-COFFIELD STP	Anderson	Water Quality	Renewal	Final	10823-001
804	3/16/2012	MALAKOFF, CITY-STP	Henderson	Water Quality	Renewal	Final	10738-001
804	3/16/2012	STREETMAN, CITY - STP	Freestone	Water Quality	Renewal	Final	10471-001
804	3/16/2012	KERENS, CITY OF	Navarro	Water Quality	Renewal	Final	10745-001
804	4/10/2012	ATHENS, CITY - WEST STP	Henderson	Water Quality	Renewal	Final	10143-003
804	4/26/2012	TRINIDAD, CITY-STP	Henderson	Water Quality	Renewal	Final	10467-002
804	4/26/2012	FAIRFIELD, CITY OF	Freestone	Water Quality	Renewal	Final	10168-002
804	5/16/2012	CENTERVILLE, CITY - STP	Leon	Water Quality	Renewal	Final	10147-001
804	5/16/2012	ROGER ALLEN LUND - STP	Anderson	Water Quality	Renewal	Final	14801-001
804	5/16/2012	PALESTINE, CITY - TOWN CR STP	Anderson	Water Quality	Renewal	Final	10244-001
804	5/23/2012	P CHEM, INC. - CHEM MANUFACTURING	Houston	Water Quality	Renewal	Final	02393-000
804	6/11/2012	WEST CEDAR CREEK MUNICIPAL UTILITY DISTRICT	Henderson	Water Quality	Renewal	Final	11839-001

FIGURE 0804.5: Trinity River at SH 31 in Trinidad

FIGURE 0804.6: Trinity River approximately 14 river miles downstream of Highway 287

FIGURE 0804.7: Trinity River at US 79 near Oakwood

FIGURE 0804.8: Trinity River at Lock and Dam Marina upstream from SH 7 near Crockett

0803 – Lake Livingston

SEGMENT DESCRIPTION

Segment 0803 begins from Livingston Dam in Polk/San Jacinto County up to a point 1.8 km (1.1 miles) upstream of Boggy Creek in Houston/Leon County. It impounds the Trinity River up to the normal pool elevation of 131 feet. There are 12 assessment units in this segment. 0803_01 is the lowermost portion of reservoir adjacent to the dam and includes sites 10899, 14003, and 14004. 0803_02 is the lower portion of reservoir East of Wolf Creek and includes site 14005. 0803_03 is the lower portion of reservoir East of Willow Springs and includes site 14006. 0803_04 is the middle portion of reservoir East of Pointblank and includes sites 14007 and 14008. 0803_05 is the middle portion of reservoir downstream of Kickapoo Creek and includes sites 10909 and 14009. 0803_06 is the middle portion of reservoir centering on US 190 and includes sites 10911 and 14010. 0803_07 is the upper portion of reservoir West of Carlisle and includes sites 10913 and 14013. 0803_08 is a cove off the upper portion of reservoir East of Trinity and includes site 14014. 0803_09 is West of Carolina Creek cove off the upper portion of the reservoir and includes site 14011. 0803_10 is the upper portion of reservoir centering on SH 19 and includes site 10914. 0803_11 is the riverine portion of reservoir centering on SH 21 and includes site 10917. 0803_12 is the remainder of reservoir.

Unclassified water bodies in this segment include those listed below.

- 0803A – Harmon Creek – From the confluence with Lake Livingston (normal pool elevation of 131 feet) to the confluence of East Fork Harmon Creek east of Huntsville in Walker County. This segment includes site 10698.
- 0803B – White Rock Creek – From the confluence of Lake Livingston northeast of Trinity in Trinity County to the upstream perennial portion of the stream east of Lovelady in Houston County. This segment is broken into two assessment units. 0803B_01 is the lower 25 miles of segment and includes site 10696. 0803B_02 is the upper 13 miles of segment.
- 0803C – Turkey Creek – Perennial stream from Lake Livingston upstream to the confluence with an unnamed tributary 2.55 km downstream of FM 960.
- 0803D – Parker Creek – Perennial stream from the confluence with Harmon Creek upstream to the confluence with Town Branch.
- 0803E – Nelson Creek – From the confluence with segment 0803 Trinity River, to upper end of Nelson Creek NHD RC 12030202005424 and includes sites 10700 and 10701.
- 0803F – Bedias Creek – From the confluence with segment 0803 Trinity River, to upper end of Bedias Creek, NHD RC 12030202000350. This segment is broken into two assessment units. 0803F_01 is from the confluence with segment 0803 of the Trinity River up to confluence with Poole Creek (NHD RC 12030202000572) and includes site 10702. 0803F_02 is from the confluence with Poole Creek (NHD RC 12030202000572) to upper end of NHD RC Bedias Creek (NHD RC 12030202000350) and includes site 10703.
- 0803G – Lake Madisonville – Entire water body.

Figure 0803.1 shows the locations of assessment units, monitoring stations, dischargers, landfills, and confined animal feeding operations (CAFOs). Table 0803.1 lists the stations being monitored in fiscal year 2012 as well as the parameters being collected and the frequency of sampling.

HYDROLOGIC CHARACTERISTICS

Lake Livingston has a conservation pool elevation of 131 feet and is fed by the Main Stem Trinity River. This reservoir is not a flood control reservoir and as such any increased inflows to the reservoir due to rainfall are immediately released through the dam. Reservoir storage and elevation generally fluctuate at or above the permitted storage capacity and conservation pool elevation, respectively. Recent events that have lowered the capacity of the reservoir include damage caused by Hurricane Rita in 2005 and the severe drought over the summer of 2011. Both of these events brought the reservoir down by four feet however, the drawn down of the reservoir after Hurricane Rita was planned in order to make repairs. During the 2011 drought, the reservoir reached its lowest point by mid-October 2011 but had recovered by late -January 2012.

IMPAIRMENT/AREA OF INTEREST DESCRIPTION

Based on the Draft 2010 Texas Water Quality Inventory, there are impairments in all assessment units within segment 0803. In addition, there are impairments in 0803A, 0803B_01, 0803E, 0803F_01, 0803F_02, and 0803G. Details of the assessment are located in Table 0803.2.

LAND USE AND NATURAL CHARACTERISTICS

A majority of this segment is heavily forested and rural. The upper portion of the segment is slightly less forested and has grasslands and agriculture. Immediately around the perimeter of the reservoir and interspersed throughout the segment are small urban areas. The segment drains the Southern Post Oak Savanna, Tertiary Uplands, and Southern Tertiary Uplands. See Figures 0803.2 to 0803.4 for land covers, soil regions, and vegetative provinces in this segment. There are many landfills and small dischargers in this segment; the locations of which can be seen in Figure 0803.1.

POTENTIAL CAUSES OF IMPAIRMENT OR INTEREST

Impairments for sulfate in the reservoir are related to the application of the standard of 50 mg/L which applies to the whole reservoir. The reservoir consists of a long riverine portion and the main body reservoir portions. Therefore, the application of the standard to the whole reservoir is inappropriate. In addition, the standard in the river upstream of this segment is 150 mg/L. The standard is currently under revision and may be increased in the future. Nutrient concerns in the reservoir are likely due to runoff from residential and agricultural fertilizers from the areas immediately surrounding the reservoir. Nutrients in Harmon Creek (0803A), however, are assumed to be due to effluent from an upstream wastewater treatment plant. A fish consumption advisory based on mercury in fish tissue in Lake Madisonville (0803G) may be to natural sources such as atmospheric deposition or soil leaching. Concerns for metals in Nelson Creek (0803E) and Bedias Creek (0803G) are based on small data sets with one high value. Sources for the metals are unknown.

POTENTIAL STAKEHOLDERS
Lake Livingston Project
AgriLife Extension
Homeowners
Landowners
Texas Department of Criminal Justice
Cities of Trinity, Riverside, Huntsville, Onalaska, Point Blank, Livingston, Coldspring, Crockett

RECOMMENDATIONS FOR IMPROVING WATER QUALITY
Public education of homeowners and landowners in the watershed, consisting of proper fertilizer use practices, may help improve water quality related to nutrients in the reservoir. Additional sampling for metals in Nelson Creek and Bedias Creek are needed to determine if there is in fact an issue with metals or if the high values were a single discrete occurrence.

ONGOING PROJECTS
There are no ongoing projects in this segment.

MAJOR WATERSHED EVENTS (PRESENT AND FUTURE)
There are no known or anticipated events that would affect water quality in this segment. However, if drought conditions recur, levels of some parameters may increase due to concentration by evaporation without adequate dilution from inflows. Thirty-two dischargers applied for renewal of or renewed their water quality permits in 2011 and 2012. One discharger received a new water quality permit and one discharger amended their permit in 2011. See Table 0803.3 for details.

IMAGES
See Figures 0803.5 to 0803.8 for images of this segment.

FIGURE 0803.1

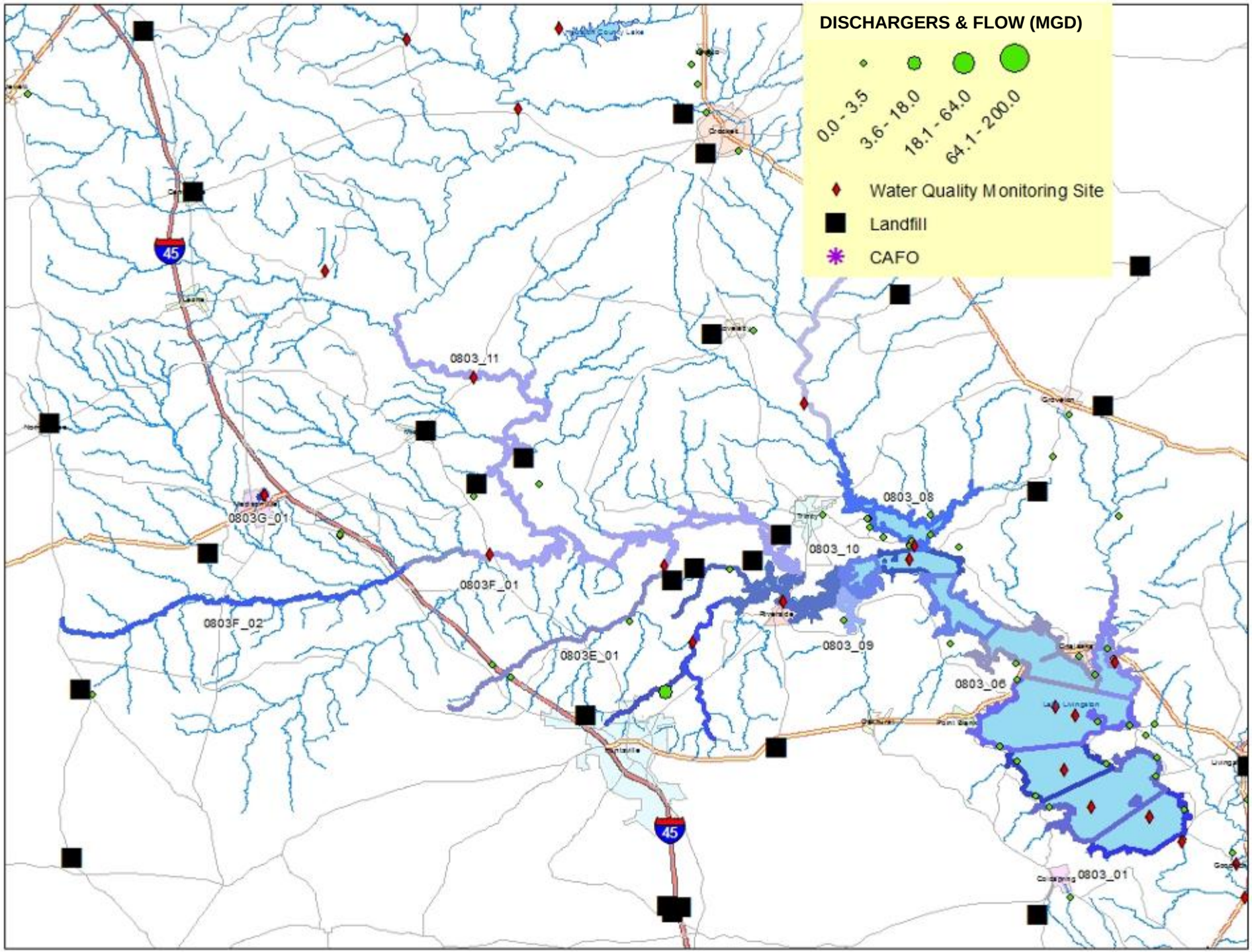


TABLE 0803.1: Fiscal Year 2012 Monitoring

Monitoring Entity	Segment	AU	Site ID	Site Description	Monitoring Type	24 Hour DO	Metals in Water	Conventionals	Bacteria	Flow	Field
LLP	0803	0803_01	10899	LAKE LIVINGSTON IN MAIN POOL NEAR DAM AT TRA BOUY #2 4.25 KM WEST OF INTERSECTION OF FM 1988 AND FM 3128	BS	2					
LLP	0803	0803_01	10899	LAKE LIVINGSTON IN MAIN POOL NEAR DAM AT TRA BOUY #2 4.25 KM WEST OF INTERSECTION OF FM 1988 AND FM 3128	RT		2 (Dissolved Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Nickel, Silver, Zinc, Aluminum; Total Selenium)	4 (Chlorophyll-a, NH3, NO2, NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Total Alkalinity, TSS, Hardness)	4 (E. coli)		4 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth)
LLP	0803	0803_02	14005	LAKE LIVINGSTON USGS SITE BC 550 METERS SOUTH AND 2.32 KM EAST OF INTERSECTION OF WALNUT POINT DRIVE AND CAPE ROYALE	BS	2					
LLP	0803	0803_03	14006	LAKE LIVINGSTON USGS SITE CC 3.64 KM WEST AND 1.31 KM SOUTH OF INTERSECTION OF FM 3277 AND NORMAGENE STREET	BS	2					
LLP	0803	0803_04	14007	LAKE LIVINGSTON USGS SITE DL 1.27 KM NORTH AND 2.81 KM WEST OF INTERSECTION OF FM 3277 AND FM 2457	BS	2					
LLP	0803	0803_05	10909	LAKE LIVINGSTON IN KICKAPOO CREEK BAY CHANNEL 66 METERS WEST OF INTERSECTION OF NOEL POINT AND PINEGROVE DRIVE TRA #12	RT		2 (Dissolved Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Nickel, Silver, Zinc, Aluminum; Total Selenium)	4 (Chlorophyll-a, NH3, NO2, NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Total Alkalinity, TSS, Hardness)	4 (E. coli)		4 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth)
LLP	0803	0803_06	10911	LAKE LIVINGSTON 4.39 KM EAST AND 1.17 KM SOUTH OF INTERSECTION OF US 190 AND FM 980 WEST OF ONALASKA	RT		2 (Dissolved Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Nickel, Silver, Zinc, Aluminum; Total Selenium)	4 (Chlorophyll-a, NH3, NO2, NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Total Alkalinity, TSS, Hardness)	4 (E. coli)		4 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth)
LLP	0803	0803_07	10913	LK LIVINGSTON 1.8 KM S AND 496 METERS E OF INTERSECTION OF FM 356 AND DAVIS RDIN MAIN CHANNEL NEAR MOUTH OF WHITE ROCK CREEK BAY TRA 6	RT		2 (Dissolved Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Nickel, Silver, Zinc, Aluminum; Total Selenium)	4 (Chlorophyll-a, NH3, NO2, NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Total Alkalinity, TSS, Hardness)	4 (E. coli)		4 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth)
LLP	0803	0803_08	14014	LAKE LIVINGSTON USGS SITE HC 280 METERS SOUTH AND 363 METERS EAST OF INTERSECTION OF 2ND STREET AND FM 356	BS	2					
LLP	0803	0803_10	10914	LAKE LIVINGSTON AT SH 19 SOUTH OF TRINITY USGS SITE JC	BS	2					

TABLE 0803.1 Continued: Fiscal Year 2012 Monitoring

LLP	0803	0803_10	10914	LAKE LIVINGSTON AT SH 19 SOUTH OF TRINITY USGS SITE JC	RT		4 (Dissolved Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Nickel, Silver, Zinc, Aluminum; Total Selenium)	12 (Chlorophyll-a, NH3, NO2, NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Total Alkalinity, TSS, Hardness)	12 (E. coli)		12 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth)
LLP	0803	0803_11	10917	LAKE LIVINGSTON HEADWATERS AT SH 21 NORTHEAST OF MID WAY TRA 97	RT		4 (Dissolved Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Nickel, Silver, Zinc, Aluminum; Total Selenium)	12 (Chlorophyll-a, NH3, NO2, NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Total Alkalinity, TSS, Hardness)	12 (E. coli)		12 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth)
LLP	0803A	0803A_01	10698	HARMON CREEK 509 METERS UPSTREAM FROM INTERSECTION WITH OTTER RD EAST OF FM 980 AND 7.6 MILES NORTHEAST OF HUNTSVILLE	RT			2 (Chlorophyll-a, NH3, NO2, NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Total Alkalinity, TSS, Hardness)	2 (E. coli)		2 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth)
LLP	0803B	0803B_01	10696	WHITE ROCK CREEK 2.77 KM DOWNSTREAM OF CONFLUENCE WITH CEDAR CREEK NORTHEAST OF TRINITY TRA #21	RT			2 (Chlorophyll-a, NH3, NO2, NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Total Alkalinity, TSS, Hardness)	2 (E. coli)		2 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth)
LLP	0803E	0803E_01	10700	NELSON CREEK AT FM 3478 NEAR MOUNT OLIVE TRA #20	RT			2 (Chlorophyll-a, NH3, NO2, NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Total Alkalinity, TSS, Hardness)	2 (E. coli)		2 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth)
LLP	0803F	0803F_01	10702	BEDIAS CREEK AT BRIDGE ON FM 247 EAST OF MADISONVILLE	RT			2 (Chlorophyll-a, NH3, NO2, NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Total Alkalinity, TSS, Hardness)	2 (E. coli)		2 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth)

TABLE 0803.2: Draft 2010 Water Quality Inventory

Segment and Assessment Unit	Use	Method	Parameter Description	Criteria	Number of samples assessed	Number of samples exceed criteria	Mean of samples assessed (avg or geomean)	Mean of samples that exceed criteria	Dataset Qualifier	Impairment Level	Impairment Category
0803_01	General Use	High pH	pH	9 S.U.	82	13		9.18	AD	NS	5c
0803_01	General Use	Dissolved Solids	Sulfate	50 mg/L	247		53.41		AD	NS	5c
0803_01	General Use	Nutrient Screening Levels	Nitrate	0.37 mg/L	65	22		0.99	AD	CS	
0803_01	General Use	Nutrient Screening Levels	Orthophosphorus	0.05 mg/L	65	44		0.09	AD	CS	
0803_02	General Use	Dissolved Solids	Sulfate	50 mg/L	247		53.41		AD	NS	5c
0803_03	General Use	Dissolved Solids	Sulfate	50 mg/L	247		53.41		AD	NS	5c
0803_04	Aquatic Life Use	Dissolved Oxygen grab screening level	Dissolved Oxygen Grab	5 mg/L	13	3		4.68	AD	CS	
0803_04	General Use	Dissolved Solids	Sulfate	50 mg/L	247		53.41		AD	NS	5c
0803_04	General Use	Nutrient Screening Levels	Nitrate	0.37 mg/L	13	5		0.86	AD	CS	
0803_04	General Use	Nutrient Screening Levels	Orthophosphorus	0.05 mg/L	13	11		0.09	AD	CS	
0803_05	General Use	Dissolved Solids	Sulfate	50 mg/L	247		53.41		AD	NS	5c
0803_05	General Use	Nutrient Screening Levels	Orthophosphorus	0.05 mg/L	33	16		0.1	AD	CS	
0803_05	General Use	Nutrient Screening Levels	Total Phosphorus	0.2 mg/L	20	6		0.37	AD	CS	
0803_05	General Use	Nutrient Screening Levels	Chlorophyll-a	26.7 ug/L	19	8		52.88	AD	CS	
0803_06	General Use	High pH	pH	9 S.U.	38	7		9.3	AD	NS	5c
0803_06	General Use	Dissolved Solids	Sulfate	50 mg/L	247		53.41		AD	NS	5c
0803_06	General Use	Nutrient Screening Levels	Nitrate	0.37 mg/L	18	7		0.72	AD	CS	
0803_06	General Use	Nutrient Screening Levels	Orthophosphorus	0.05 mg/L	19	13		0.12	AD	CS	
0803_06	General Use	Nutrient Screening Levels	Total Phosphorus	0.2 mg/L	22	9		0.31	AD	CS	
0803_06	General Use	Nutrient Screening Levels	Chlorophyll-a	26.7 ug/L	19	10		44.8	AD	CS	
0803_07	General Use	Dissolved Solids	Sulfate	50 mg/L	247		53.41		AD	NS	5c
0803_07	General Use	Nutrient Screening Levels	Nitrate	0.37 mg/L	32	28		1.24	AD	CS	
0803_07	General Use	Nutrient Screening Levels	Orthophosphorus	0.05 mg/L	33	30		0.16	AD	CS	
0803_07	General Use	Nutrient Screening Levels	Total Phosphorus	0.2 mg/L	23	18		0.37	AD	CS	
0803_07	General Use	Nutrient Screening Levels	Chlorophyll-a	26.7 ug/L	17	8		70.63	AD	CS	
0803_08	Aquatic Life Use	Dissolved Oxygen grab screening level	Dissolved Oxygen Grab	5 mg/L	7	3		3.58	LD	CS	
0803_08	General Use	Dissolved Solids	Sulfate	50 mg/L	247		53.41		AD	NS	5c
0803_08	General Use	Nutrient Screening Levels	Nitrate	0.37 mg/L	13	11		1.19	AD	CS	
0803_08	General Use	Nutrient Screening Levels	Orthophosphorus	0.05 mg/L	13	10		0.16	AD	CS	
0803_09	Aquatic Life Use	Dissolved Oxygen grab screening level	Dissolved Oxygen Grab	5 mg/L	6	2		4.6	LD	CS	
0803_09	General Use	Dissolved Solids	Sulfate	50 mg/L	247		53.41		AD	NS	5c
0803_10	Aquatic Life Use	Dissolved Oxygen 24hr average	Dissolved Oxygen 24hr Avg	4 mg/L	6	0			LD	CN*	
0803_10	General Use	Dissolved Solids	Sulfate	50 mg/L	247		53.41		AD	NS	5c
0803_10	General Use	Nutrient Screening Levels	Nitrate	0.37 mg/L	75	65		2.79	AD	CS	
0803_10	General Use	Nutrient Screening Levels	Orthophosphorus	0.05 mg/L	83	82		0.33	AD	CS	
0803_10	General Use	Nutrient Screening Levels	Total Phosphorus	0.2 mg/L	81	75		0.5	AD	CS	
0803_11	Recreation Use	Bacteria Single Sample	Fecal coliform	400 cfu/100 mL	5	3		1125	SM	CN	
0803_11	Recreation Use	Bacteria Geomean	Fecal coliform	200 cfu/100 mL	5		468.20		SM	CN	
0803_11	General Use	Dissolved Solids	Sulfate	50 mg/L	247		53.41		AD	NS	5c
0803_11	General Use	Nutrient Screening Levels	Nitrate	0.37 mg/L	66	63		3.2	AD	CS	
0803_11	General Use	Nutrient Screening Levels	Orthophosphorus	0.05 mg/L	70	70		0.38	AD	CS	
0803_11	General Use	Nutrient Screening Levels	Total Phosphorus	0.2 mg/L	80	80		0.64	AD	CS	
0803_12	General Use	Dissolved Solids	Sulfate	50 mg/L	247		53.41		AD	NS	5c
0803A	General Use	Nutrient Screening Levels	Nitrate	1.95 mg/L	8	5		4.56	LD	CS	
0803A	General Use	Nutrient Screening Levels	Orthophosphorus	0.37 mg/L	7	7		1.06	LD	CS	

TABLE 0803.2 Continued: Draft 2010 Water Quality Inventory

0803A	General Use	Nutrient Screening Levels	Total Phosphorus	0.69 mg/L	9	9		1.18	LD	CS	
0803B_01	General Use	Nutrient Screening Levels	Chlorophyll-a	14.1 ug/L	5	3		27.67	LD	CS	
0803E	Aquatic Life Use	Acute Toxic Substances in water	Copper	13.521118856 ug/L	6	1		68	LD	CN	
0803E	Aquatic Life Use	Chronic Toxic Substances in water	Copper	10.798613758 ug/L	6		12.33		LD	CN	
0803E	Aquatic Life Use	Chronic Toxic Substances in water	Lead	2.0796304735 ug/L	6		2.42		LD	CN	
0803F_01	Recreation Use	Bacteria Geomean	E. coli	126 cfu/100 mL	5		213.57		LD	CN	
0803F_02	Aquatic Life Use	Acute Toxic Substances in water	Zinc	151.28026175 ug/L	4	1		539	LD	CN	
0803F_02	Aquatic Life Use	Chronic Toxic Substances in water	Zinc	91.970653249 ug/L	4		147.75		LD	CN	
0803G	Fish Consumption Use	DSHS Advisories, Closures, and Risk Assessments	Restricted-Consumption-mercury in fish tissue						AD	NS	5c

Dataset Qualifier Codes

AD - Adequate data (10 or more samples)

LD - Limited data (between 4 and 9 samples)

SM - This assessment method is superceded by another method

Impairment Level

CN - Use concern

CS - Screening level concern

CS* - Screening level concern carried forward from previous assessments

NS - Nonsupport

Impairment Category

5c - Additional data and information will be collected before a TMDL is scheduled

FIGURE 0803.2: LAND COVER

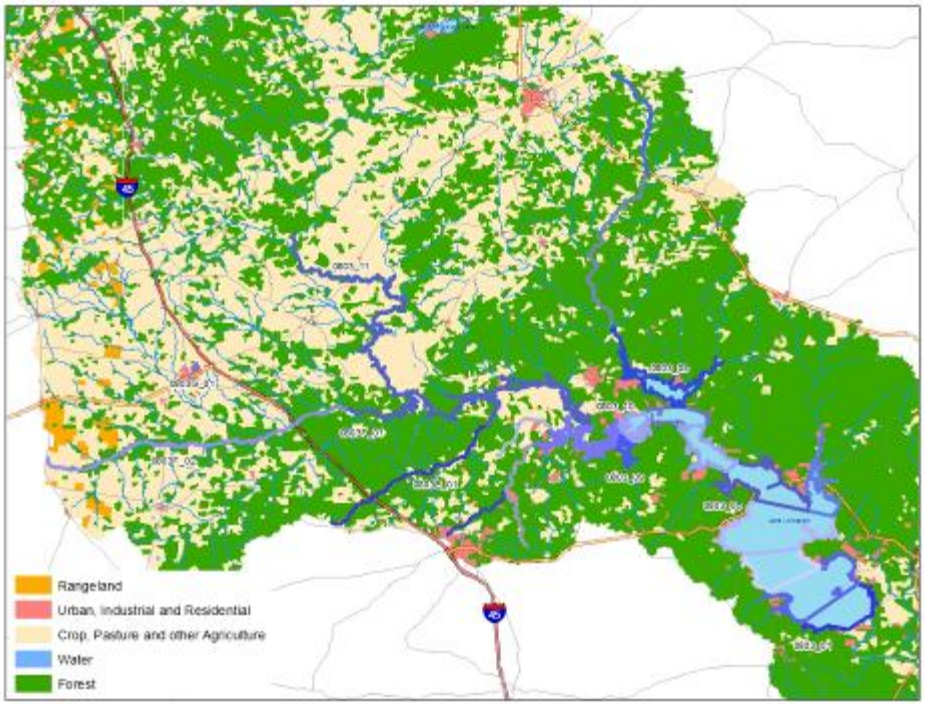


FIGURE 0803.3: SOIL REGIONS

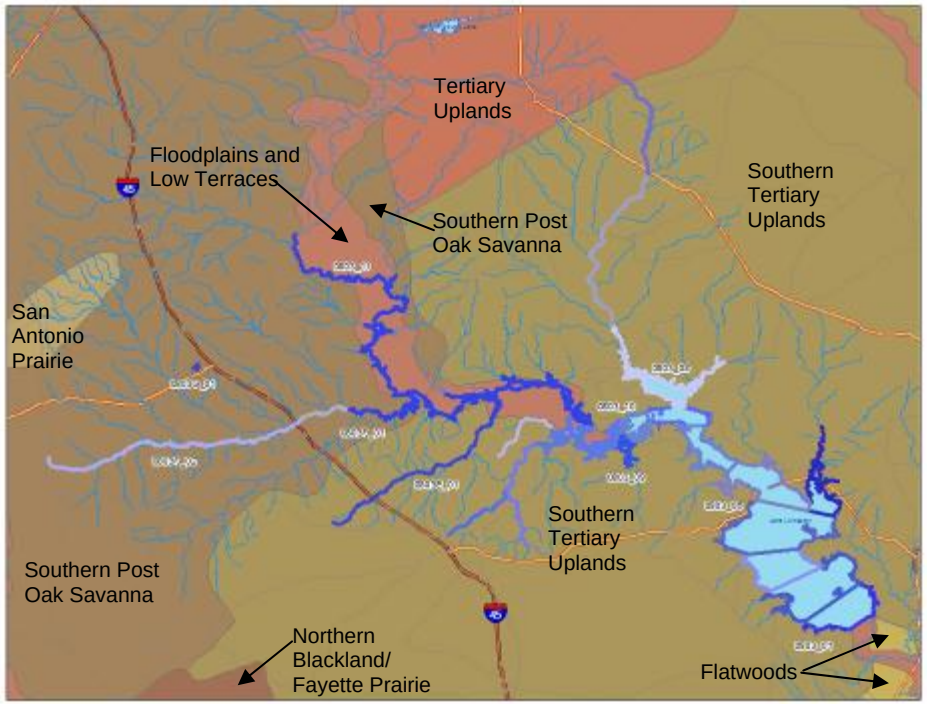


FIGURE 0803.4: VEGETATIVE PROVINCES

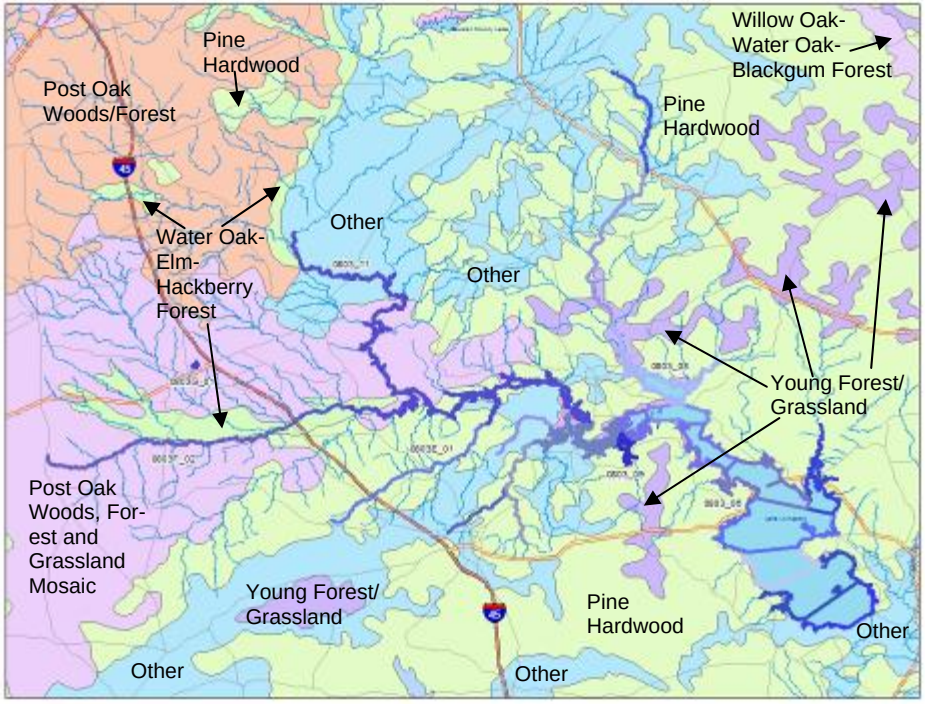


TABLE 0803.3: New and Renewed Discharge Permits

Segment	Notice received by TRA on	Permitee/Facility	County	Permit Type	Action	Status	Permit Number
803	1/24/2011	YMCA GREATER HOUSTON - CAMP CULLEN STP	Trinity	Water Quality	Renewal	Final	11644-001
803	1/24/2011	MIDWAY, CITY - STP	Madison	Water Quality	Renewal	Final	13378-001
803	1/24/2011	MONARCH UTILITIES I LP - BLUE WATER COVE STP	San Jacinto	Water Quality	Renewal	Final	14179-001
803	2/15/2011	DAVID LEE SHEFFIELD - TEXAS LANDING STP	Polk	Water Quality	Renewal	Final	13147-001
803	2/15/2011	PURE UTILITIES LC	Polk	Water Quality	Renewal	Final	11621-001
803	2/15/2011	PURE UTILITIES LC	Polk	Water Quality	Renewal	Final	11465-001
803	3/3/2011	WATERWOOD MUD 1 - STP	San Jacinto	Water Quality	Renewal	Final	11447-001
803	3/3/2011	BEACON HOLDINGS CORP - BEACON BAY MARINA STP	Polk	Water Quality	Renewal	Final	13637-001
803	3/9/2011	LOVELADY, CITY-STP	Houston	Water Quality	Renewal	Final	10734-001
803	3/17/2011	CAMP OLYMPIA, INC. - STP	Trinity	Water Quality	Renewal	Final	14261-001
803	4/25/2011	NEW WAVERLY, CITY - STP	Walker	Water Quality	Renewal	Final	11020-002
803	4/25/2011	WESTWOOD SHORES MUD	Trinity	Water Quality	Amendment	Final	11300-001
803	6/20/2011	APPLE SPRINGS ISD - STP	Trinity	Water Quality	Renewal	Draft	14086-001
803	8/24/2011	WATERWOOD MUNICIPAL UTILITY DISTRICT	San Jacinto	Water Quality	New	Final	11447-002
803	8/30/2011	MADISONVILLE, CITY - STP	Madison	Water Quality	Renewal	Draft	10215-001
803	9/19/2011	CAPE ROYAL UD -STP	San Jacinto	Water Quality	Renewal	Final	10997-001
803	9/19/2011	GROVETON, CITY STP	Trinity	Water Quality	Renewal	Final	10556-001
803	12/8/2011	TRA-WOLF CR PK STP	San Jacinto	Water Quality	Renewal	Draft	11310-001
803	2/17/2012	HOLIDAY HARBOR WSC - STP	San Jacinto	Water Quality	Renewal	Final	13145-001
803	2/17/2012	TDCJ - ESTELLE UNIT 1 - STP	Walker	Water Quality	Renewal	Final	11180-001
803	2/17/2012	AQUASOURCE UTILITY INC-CEDAR PT SUBDIVISION-STP	Polk	Water Quality	Renewal	Final	12454-001
803	2/17/2012	LAKE OAKS LANDING, INC - STP	San Jacinto	Water Quality	Renewal	Final	13039-001
803	2/17/2012	TEXAS DEPARTMENT OF CRIMINAL JUSTICE	Houston	Water Quality	Renewal	Final	11181-001
803	2/17/2012	AQUA UTILITIES, INC. - PORT ADVENTURE STP	Trinity	Water Quality	Renewal	Final	14096-001
803	2/17/2012	FOUNTAIN LAKE OWNERS WATER SUPPLY CORPORATION	Polk	Water Quality	Renewal	Final	13151-001
803	2/17/2012	FREEDOM SHORES INVESTMENT PARTNERSHIP LP - STP	Trinity	Water Quality	Renewal	Final	11350-001
803	2/29/2012	TDCJ-FERGUSON STP	Madison	Water Quality	Renewal	Final	11176-001
803	3/5/2012	AZTEC COVE PROPERTY OWNERS	Trinity	Water Quality	Renewal	Final	11831-001
803	3/29/2012	HUNTSVILLE, CITY - STP	Walker	Water Quality	Renewal	Final	10781-003
803	3/29/2012	NORMANGEE, CITY - STP	Leon	Water Quality	Renewal	Final	14787-001
803	4/26/2012	TEXAS PARKS AND WILDLIFE DEPARTMENT	Polk	Water Quality	Renewal	Final	11722-001
803	4/26/2012	MONTEREY MUSHROOMS	Madison	Water Quality	Renewal	Final	01896-000
803	5/16/2012	BEDIAS, CITY - STP	Grimes	Water Quality	Renewal	Final	14838-001
803	6/11/2012	WHITE ROCK ESTATES PROPERTY OWNERS CIVIC ASSOCIATION	Trinity	Water Quality	Renewal	Final	13354-001

FIGURE 0803.5: Lake Livingston at SH 19

FIGURE 0803.6: Main pool of Lake Livingston

FIGURE 0803.7: White Rock Creek

FIGURE 0803.8: Harmon Creek

0827 – White Rock Lake

SEGMENT DESCRIPTION
Segment 0827 begins from White Rock Dam in Dallas County and impounds White Rock Creek up to the normal pool elevation of 458 feet. There is one assessment unit in this segment, 0827_01, which includes site 11038.

Unclassified water bodies in this segment include those listed below.

0827A – White Rock Creek above White Rock Lake – Perennial stream from the headwaters of White Rock Lake upstream to the confluence with McKamy Branch east of the City of Addison. This segment includes sites 15280, 18517, and 20289.

0827B – Cottonwood Creek – Perennial stream from the confluence with White Rock Creek upstream to the confluence with an unnamed tributary approximately 0.25 km upstream of Campbell road in the City of Richardson.

Figure 0827.1 shows the locations of assessment units, monitoring stations, dischargers, landfills, and confined animal feeding operations (CAFOs). Table 0827.1 lists the stations being monitored in fiscal year 2012 as well as the parameters being collected and the frequency of sampling.

HYDROLOGIC CHARACTERISTICS
White Rock Lake has a conservation pool elevation of 458 feet. While initially built as a water supply reservoir, this reservoir is currently used only for recreational purposes. This reservoir is fed by White Rock Creek. Based on the USGS gage at Greenville Avenue in Dallas (08057200), the median annual average flow in this stream is 83 cfs. Over the past year, base flows in the stream have been between 3 and 26 cfs. Base flows generally recover within 4 to 9 days after a high flow event.

IMPAIRMENT/AREA OF INTEREST DESCRIPTION
Based on the Draft 2010 Texas Water Quality Inventory, there are impairments in segment 0827A. Details of the assessment are located in Table 0827.2.

LAND USE AND NATURAL CHARACTERISTICS
The majority of the southern half of this watershed is urban and residential. There are small areas of commercial development interspersed in the residential areas. The far northern portions of the watershed are slightly less developed with areas of cropland and pastures. The entire watershed is within the Northern Blackland Prairies soil region. See Figures 0827.2 to 0827.4 for land covers, soil regions, and vegetative provinces in this segment. There is one wastewater discharger and several landfills in this segment; the locations of which can be seen in Figure 0827.1.

POTENTIAL CAUSES OF IMPAIRMENT OR INTEREST
Due to the highly urbanized residential nature of the watershed, bacteria impairments may be due to pet waste and/or wildlife especially in the narrow wooded riparian band along the creek. In addition, elevated nitrate levels may be due to runoff from residential and golf course fertilizers in the southern portion on the segment and/or agricultural fertilizers in the northern portions.

POTENTIAL STAKEHOLDERS
North Texas Municipal Water District
Homeowners
City of Dallas
For The Love Of The Lake
AgriLife Extension

RECOMMENDATIONS FOR IMPROVING WATER QUALITY
Public education of homeowners in the watershed may help to improve water quality in this segment. Homeowner education should include pet waste clean-up and proper fertilizer application practices. Additional upstream monitoring may be needed in order to locate a source for elevated bacteria levels.

ONGOING PROJECTS
There are no ongoing projects in this segment.

MAJOR WATERSHED EVENTS (PRESENT AND FUTURE)
There are no known or anticipated events that would affect water quality in this segment. Flows in this segment were low during the past summer due to drought however there were no known drought related fish kills. There is current construction at the intersection of White Rock Creek and I-635, east of Hillcrest Road. One discharger in this segment renewed their water quality permit in 2012. See Table 0827.3 for details.

IMAGES
See Figures 0827.5 and 0827.6 for images of this segment.

FIGURE 0827.1

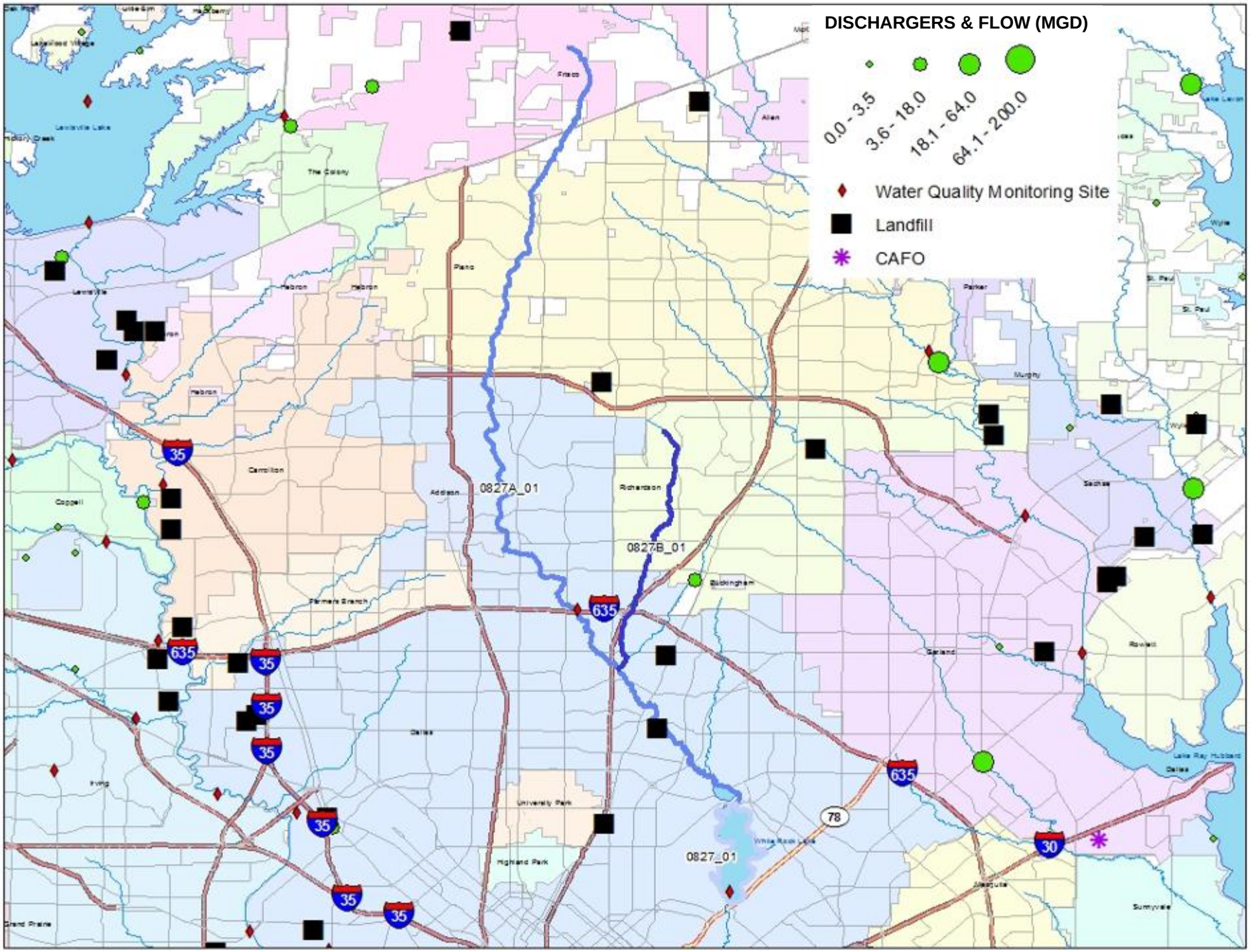


TABLE 0827.1: Fiscal Year 2012 Monitoring

Monitoring Entity	Segment	AU	Site ID	Site Description	Monitoring Type	24 Hour DO	Metals in Water	Conventionals	Bacteria	Flow	Field
TRA	0827A	0827A_01	20289	WHITE ROCK CREEK AT I-635 NORTH SERVICE ROAD IMMEDIATELY WEST OF PARK CENTRAL DRIVE	RT		2 (Dissolved Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Nickel, Zinc, Aluminum)	4 (Chlorophyll-a, NH3, NO2, NO2+NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Hardness)	4 (E. coli)		4 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Flow Severity, Days Since Precipitation Event)

TABLE 0827.2: Draft 2010 Water Quality Inventory

Segment and Assessment Unit	Use	Method	Parameter Description	Criteria	Number of samples assessed	Number of samples exceed criteria	Mean of samples assessed (avg or geomean)	Mean of samples that exceed criteria	Dataset Qualifier	Impairment Level	Impairment Category
0827A	Recreation Use	Bacteria Single Sample	E. coli	394 cfu/100 mL	6	5		2780	LD	NS	5c
0827A	Recreation Use	Bacteria Geomean	E. coli	126 cfu/100 mL	6		1554.27		LD	CN	
0827A	General Use	Nutrient Screening Levels	Nitrate	1.95 mg/L	71	27		2.35	AD	CS	

Dataset Qualifier Codes

AD - Adequate data (10 or more samples)

LD - Limited data (between 4 and 9 samples)

Impairment Level

CN - Use concern

CS - Screening level concern

NS - Nonsupport

Impairment Category

5c - Additional data and information will be collected before a TMDL is scheduled

FIGURE 0827.2: LAND COVER

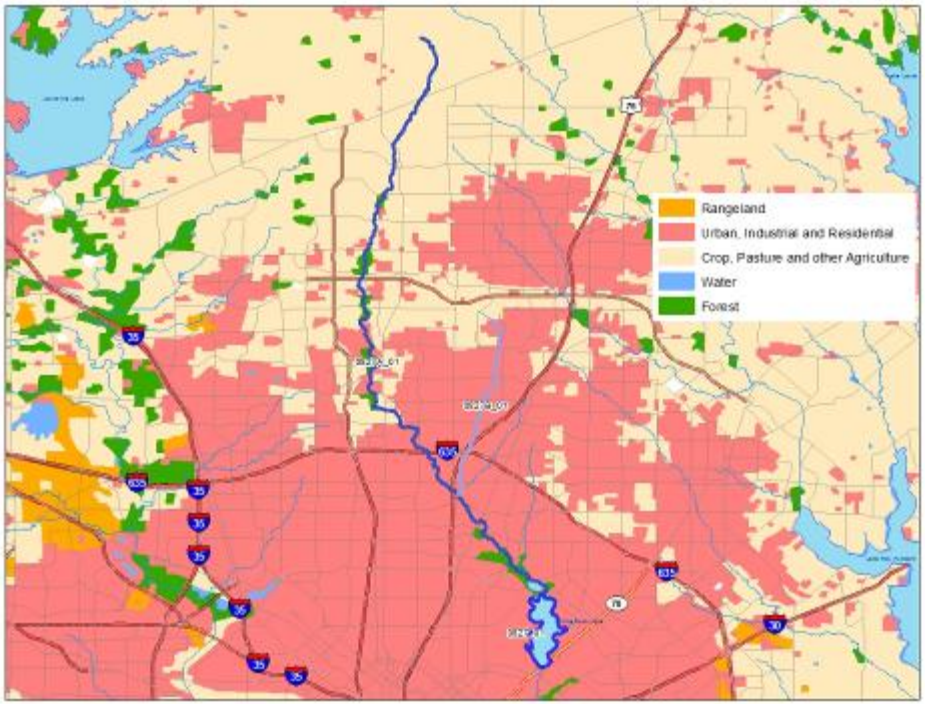


FIGURE 0827.3: SOIL REGIONS

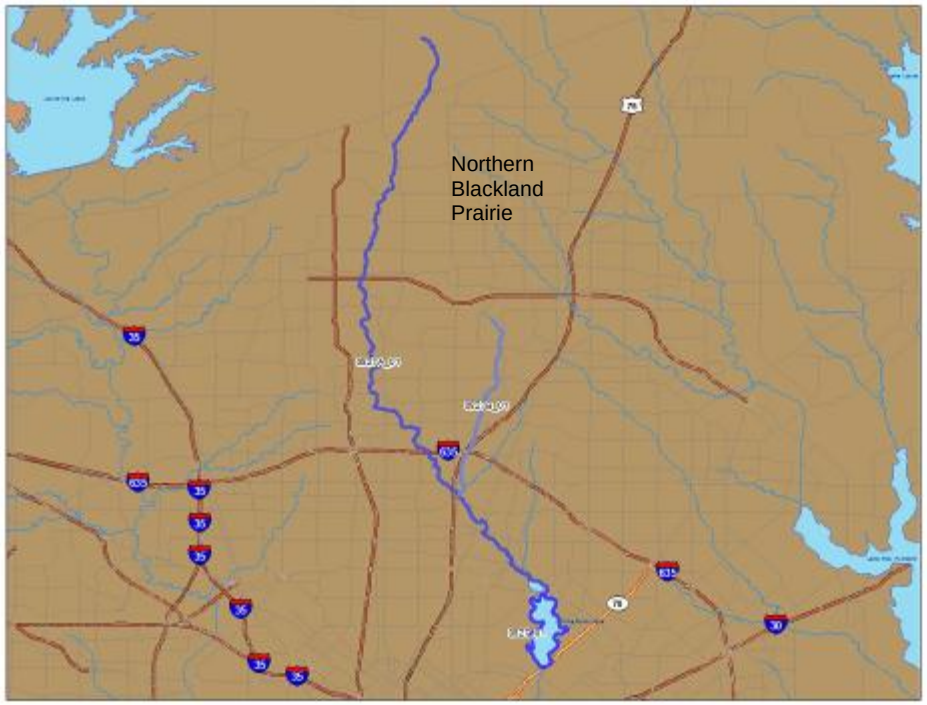


FIGURE 0827.4: VEGETATIVE PROVINCES

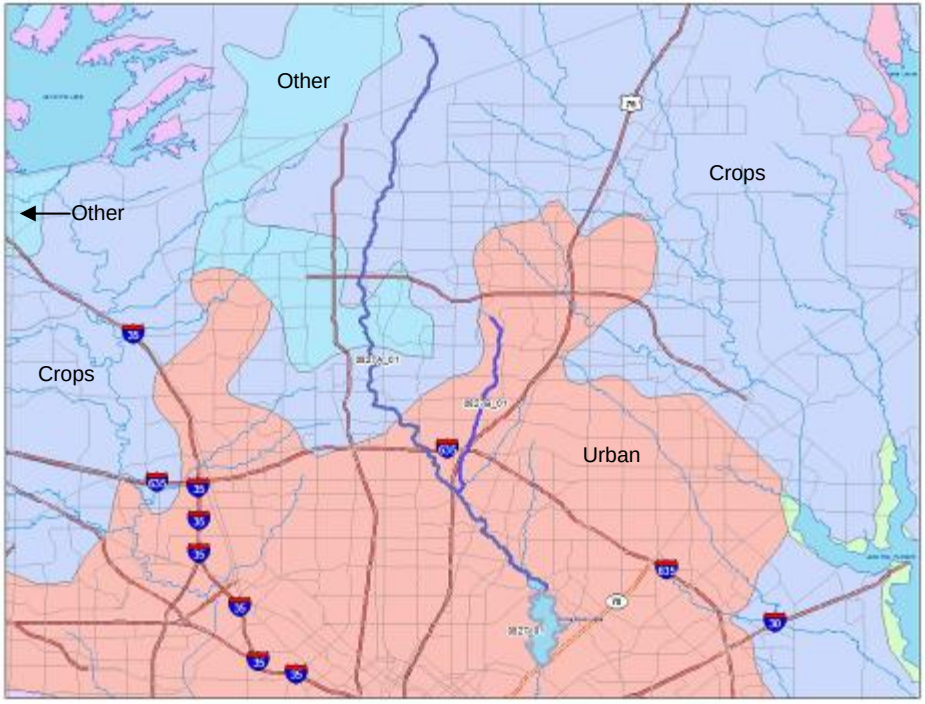


TABLE 0827.3: New and Renewed Discharge Permits

Segment	Notice received by TRA on	Permitee/Facility	County	Permit Type	Action	Status	Permit Number
827	3/5/2012	NTMWD - FLOYD BR STP	Dallas	Water Quality	Renewal	Final	10257-001

FIGURE 0827.5: White Rock Creek at I-635 downstream

FIGURE 0827.6: White Rock Creek at I-635 upstream

0835 – Richland Creek Below Richland-Chambers Reservoir

SEGMENT DESCRIPTION
Segment 0835 begins from the confluence with the Trinity River in Freestone County and continues up to Richland-Chambers Dam in Freestone County. There is one assessment unit in this segment, 0835_01, which includes site 11064.

Figure 0835.1 shows the locations of assessment units, monitoring stations, dischargers, landfills, and confined animal feeding operations (CAFOs).

HYDROLOGIC CHARACTERISTICS
This segment is very short and is dominated by releases from Richland-Chambers Reservoir. Releases from the dam enter the stream less than one mile upstream from the confluence with the Trinity River.

IMPAIRMENT/AREA OF INTEREST DESCRIPTION
Based on the Draft 2010 Texas Water Quality Inventory, there are no impairments in this segment.

LAND USE AND NATURAL CHARACTERISTICS
This segment is entirely rural and sparsely populated. A majority of this watershed is cropland and pasture with small pockets of rangeland and forest. There is also a small wetland project in this watershed. The entire segment is within the Floodplains and Low Terraces soil region. See Figures 0835.2 to 0835.4 for land covers, soil regions, and vegetative provinces in this segment.

POTENTIAL CAUSES OF IMPAIRMENT OR INTEREST
There are no impairments or concerns in this segment.

POTENTIAL STAKEHOLDERS
Tarrant Regional Water District
AgriLife Extension
Trinity Waters

RECOMMENDATIONS FOR IMPROVING WATER QUALITY
There are no impairments or concerns in this segment.

ONGOING PROJECTS
There are no ongoing projects in this segment.

MAJOR WATERSHED EVENTS (PRESENT AND FUTURE)
There are no known or anticipated events that would affect water quality in this segment.

IMAGES
See Figures 0835.5 and 0835.6 for images of this segment.

FIGURE 0835.1

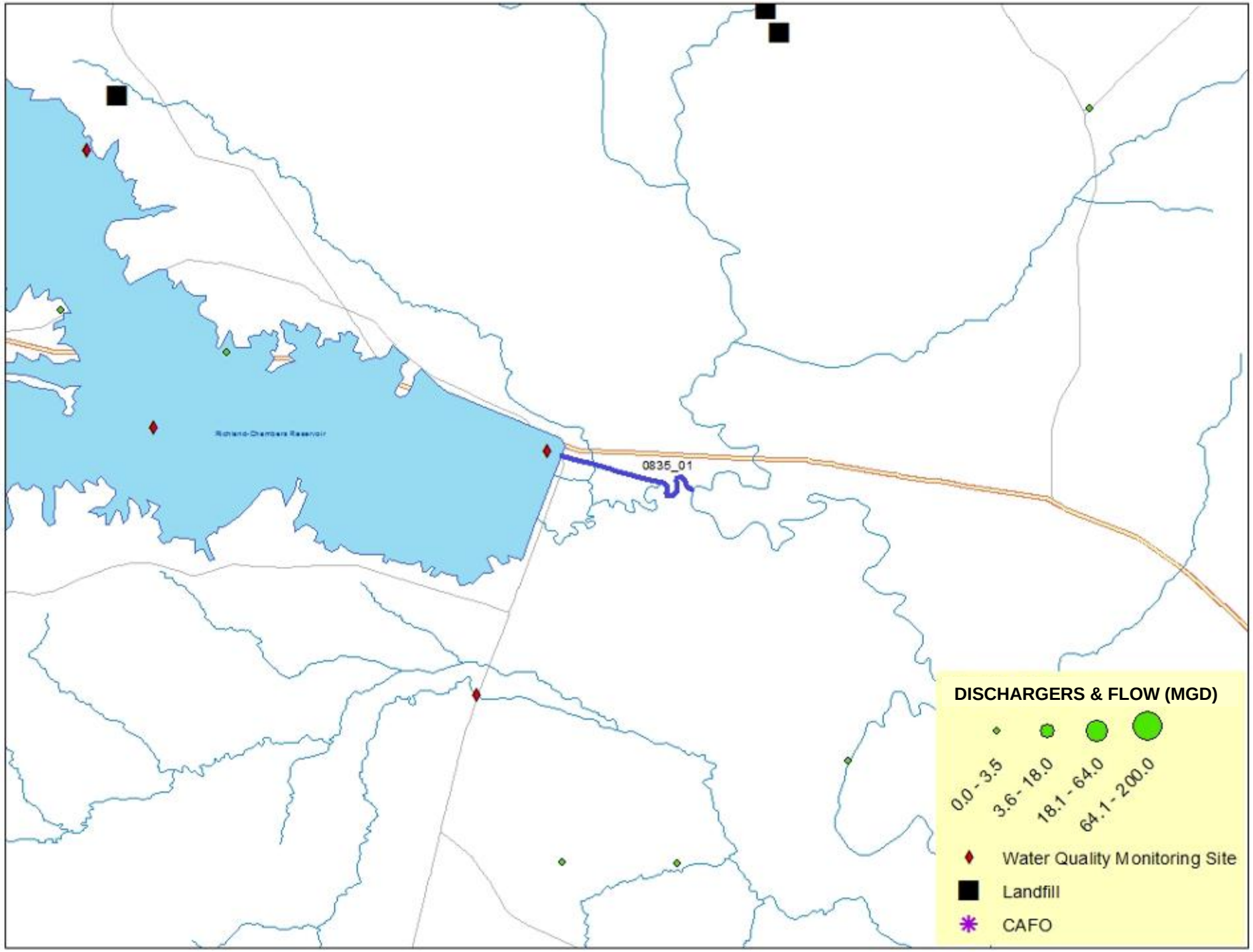


FIGURE 0835.2: LAND COVER

FIGURE 0835.3: SOIL REGIONS

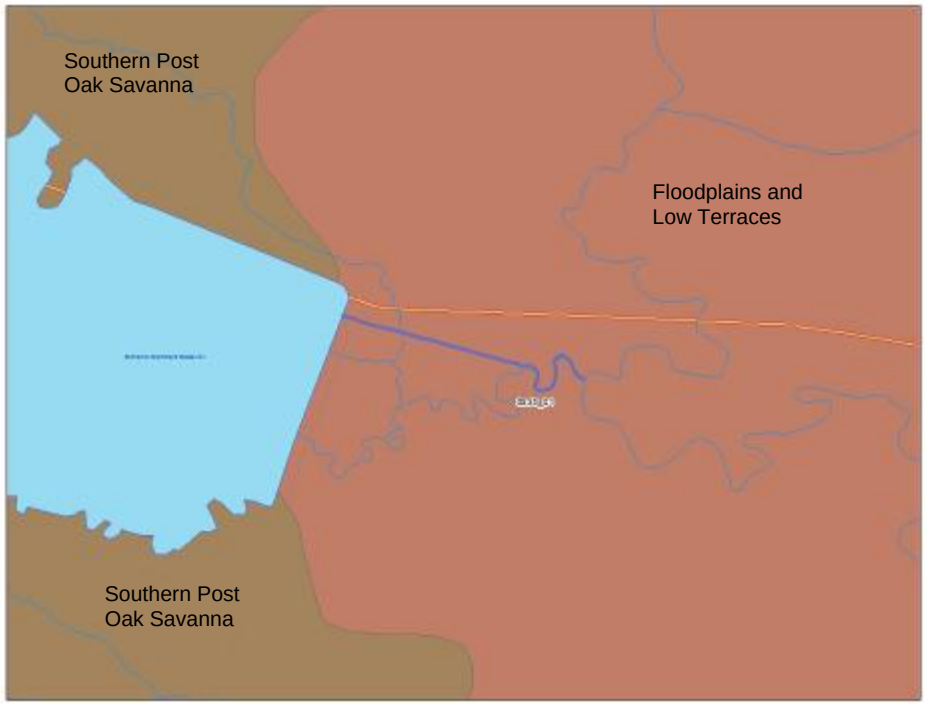


FIGURE 0835.4: VEGETATIVE PROVINCES

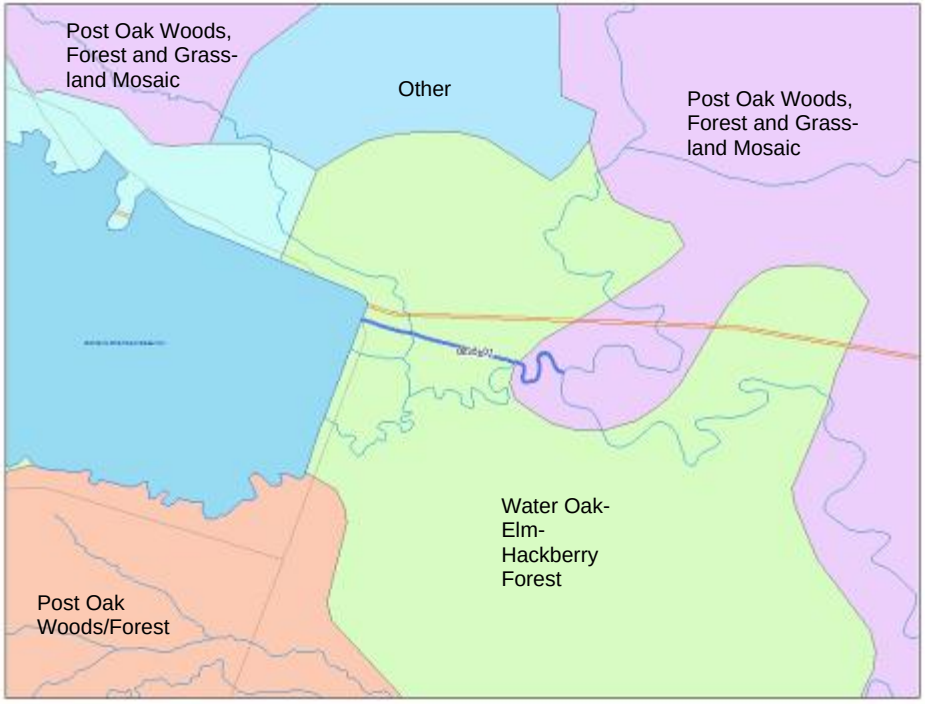


FIGURE 0835.5: Outfall canal downstream of Richland-Chambers Reservoir outfall

FIGURE 0835.6: Richland Creek downstream of Richland-Chambers Reservoir outfall

0813 – Houston County Lake

SEGMENT DESCRIPTION
Segment 0813 begins at Houston County Dam in Houston County and impounds Little Elkhart Creek up to the normal pool elevation of 260 feet. There is one assessment unit in this segment, 0813_01, which includes site 10973.

Figure 0813.1 shows the locations of assessment units, monitoring stations, dischargers, landfills, and confined animal feeding operations (CAFOs).

HYDROLOGIC CHARACTERISTICS
Houston County Lake has a conservation pool elevation of 260 feet with an uncontrolled spillway and small watershed. The reservoir is below the conservation pool elevation approximately 40% of the time as reported by data since 1999 from USGS gage 08065330. It is between 260 and 261 feet approximately 58% of the time. Less than 2% of the time, the reservoir is above 261 feet. Over the summer of 2011, Houston County Lake experienced a reduction in elevation due to drought similar to that seen in Lake Livingston. Elevation dropped by just over four feet and reached the lowest elevation to date as recorded by the USGS gage in early November. As of late February 2012, the reservoir has yet to fully recover.

IMPAIRMENT/AREA OF INTEREST DESCRIPTION
Based on the Draft 2010 Texas Water Quality Inventory, there are no impairments in this segment.

LAND USE AND NATURAL CHARACTERISTICS
This watershed is largely rural. There is some urban development with residential areas immediately around Houston County Lake however the remainder of the watershed is sparsely populated. The non-residential portion of the watershed is fairly evenly split between pine hardwood forest and cropland/pasture. This segment lies within the Tertiary Uplands soil region. See Figures 0813.2 to 0813.4 for land covers, soil regions, and vegetative provinces in this segment.

POTENTIAL CAUSES OF IMPAIRMENT OR INTEREST
There are no impairments or concerns in this segment.

POTENTIAL STAKEHOLDERS
Homeowners
Fishermen
AgriLife Extension

RECOMMENDATIONS FOR IMPROVING WATER QUALITY
There are no impairments or concerns in this segment.

ONGOING PROJECTS
There are no ongoing projects in this segment.

MAJOR WATERSHED EVENTS (PRESENT AND FUTURE)
There are no known or anticipated events that would affect water quality in this segment. However, Houston County Lake has a small watershed that is not capable of providing enough inflow to keep the reservoir full. The reservoir is supplemented by pumping water from the Trinity River. At this point in the river, nutrients are elevated. The nutrient rich water from the river in conjunction with very little dilution from runoff in the watershed and evaporation from the reservoir itself has lead to eutrophication. This eutrophication can potentially lead to algal blooms and associated low dissolved oxygen issues that could result in fish kills.

IMAGES
See Figure 0813.5 for an image of this segment.

FIGURE 0813.1

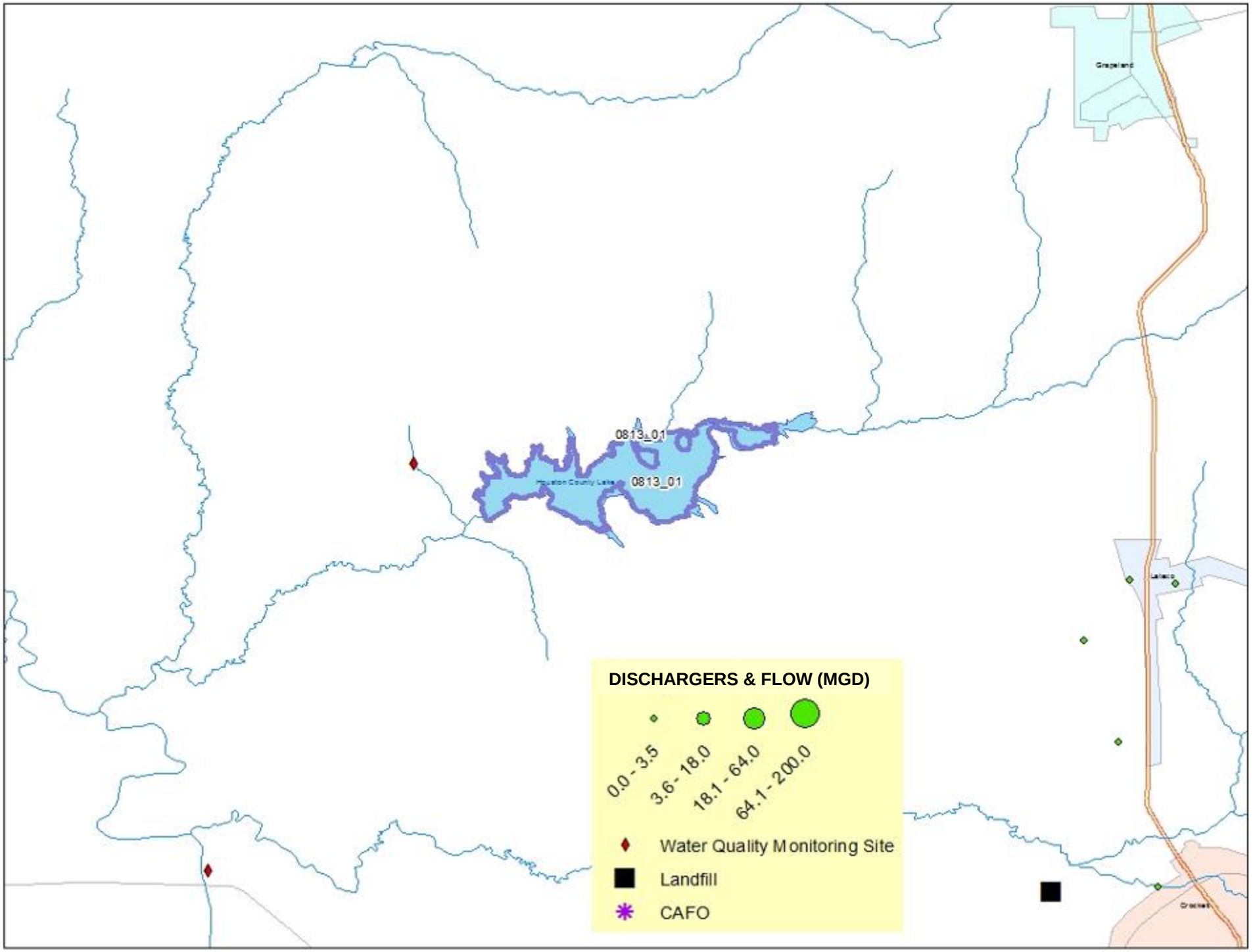


FIGURE 0813.2: LAND COVER

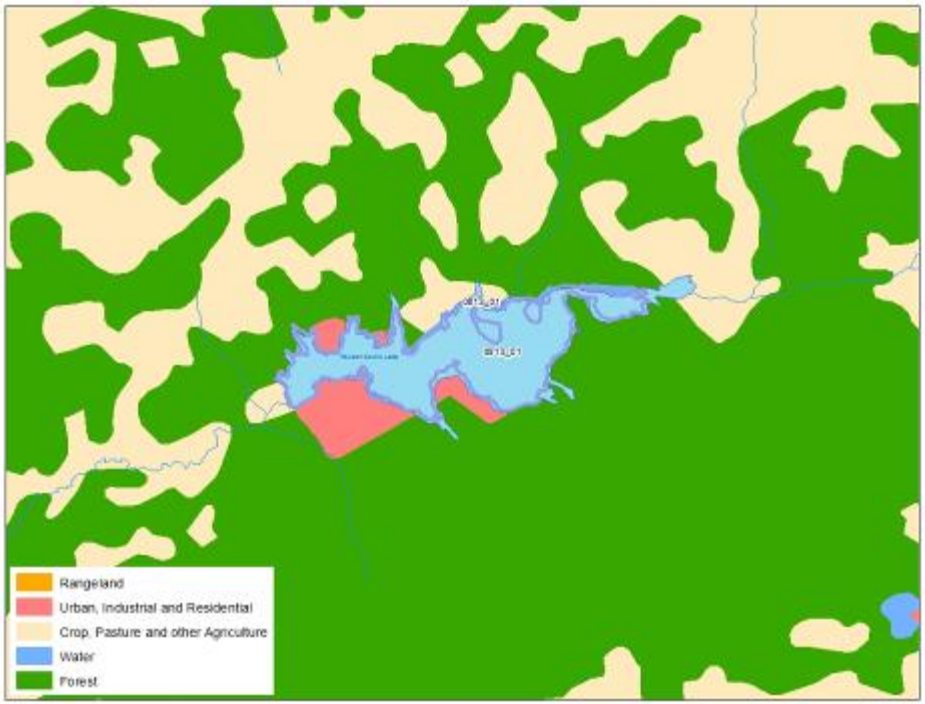


FIGURE 0813.3: SOIL REGIONS

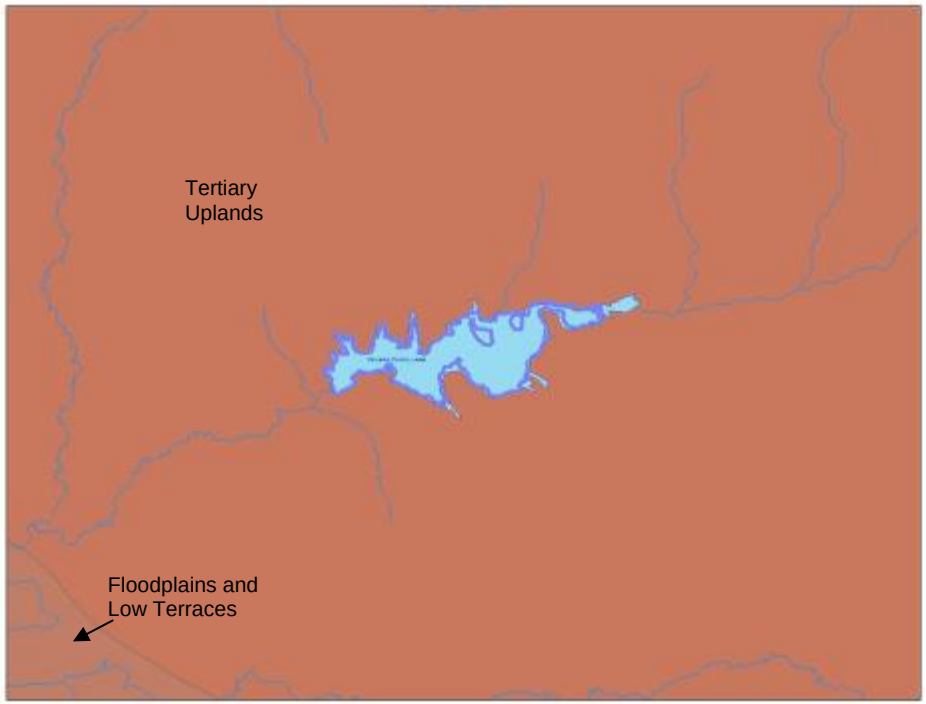


FIGURE 0813.4: VEGETATIVE PROVINCES

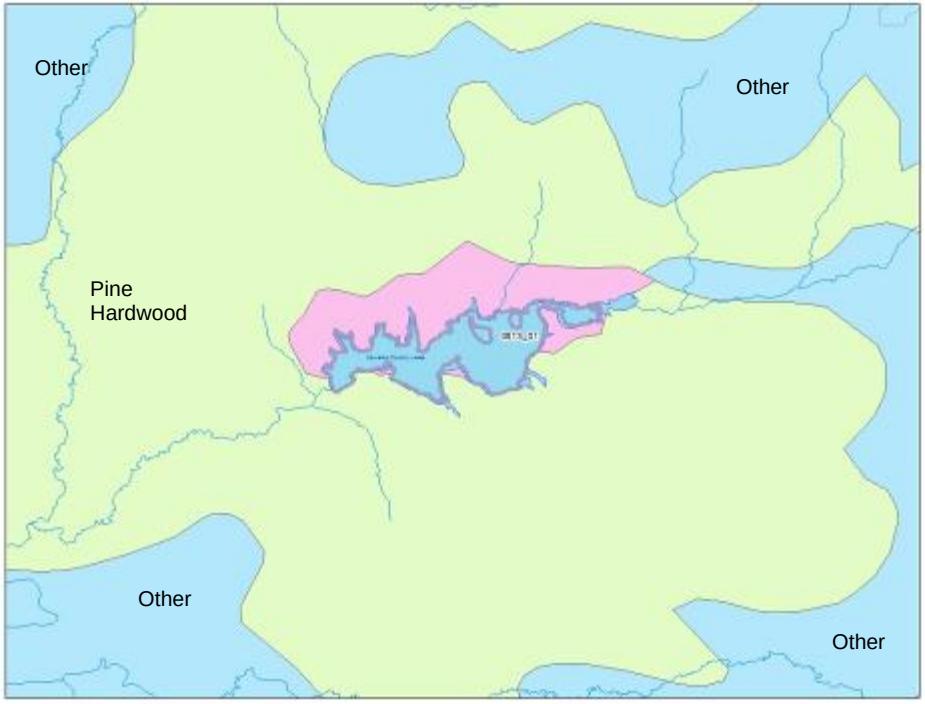
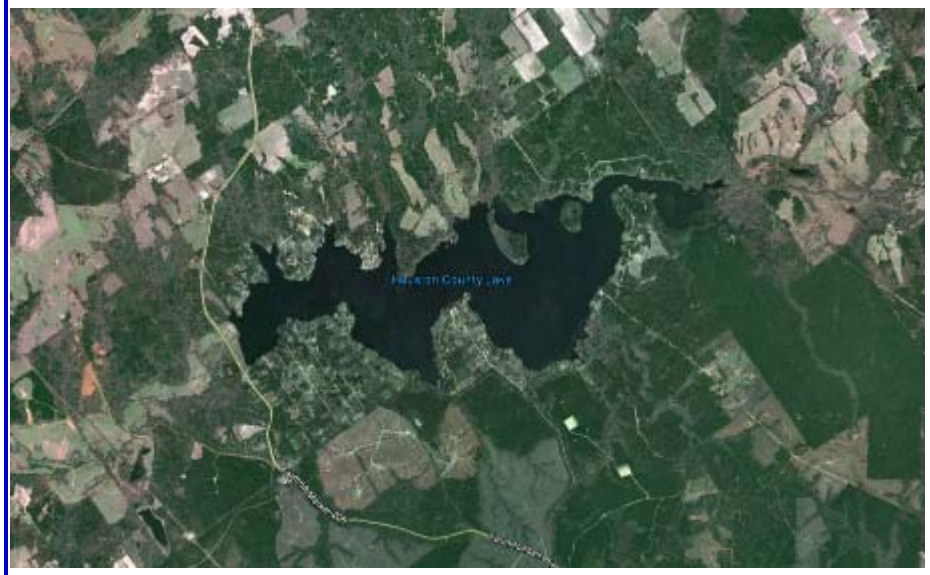


FIGURE 0813.5: Watershed around Houston County Lake



Trinity Below Livingston Subwatershed

0802 – Trinity River Below Lake Livingston

SEGMENT DESCRIPTION
Segment 0802 begins from a point 3.1 km (1.9 miles) downstream of US 90 in Liberty County to Livingston Dam in Polk/San Jacinto County. There are five assessment units in this segment. 0802_01 is the lower 17 miles of segment and includes site 10894. 0802_02 is approximately 9 miles upstream to approximately 15 miles downstream of SH 105 and includes site 10895. 0802_03 is 11 miles upstream to approximately 9 miles downstream of FM 787 and includes site 10896. 0802_04 is 5 miles upstream to 11 miles downstream of US 59 and includes site 10897. 0802_05 is the upper 6 miles of the segment and includes site 16998.

Unclassified water bodies in this segment include those listed below.

- 0802A – Choates Creek – Perennial stream from the confluence with Long King Creek upstream to the confluence with an unnamed tributary approximately 3.0 km upstream of SH 146 near the City of Livingston.
- 0802B – Long King Creek – Perennial stream from the confluence with the Trinity River upstream to the confluence with an unnamed tributary approximately 1.2 km upstream of FM 350 near the City of Livingston. This segment is broken into two assessment units. 0802B_01 is from the confluence with segment 0802 of the Trinity River to just upstream of confluence with an unknown tributary (NHD RC 12030202001817). 0802B_02 is from just upstream of the confluence with an unnamed tributary (NHD RC 12030202001817) up to the confluence with Mud Creek, in Polk County and includes site 10689.
- 0802C – Unnamed Tributary of Coley Creek – Perennial stream from the confluence with Coley Creek upstream to its origin at the culvert leading from Lake Run-Amuck at Wright Road.
- 0802D – Menard Creek – From the confluence with segment 0802 of the Trinity River up to the confluence with Meetinghouse Creek and contains site 10688.

Figure 0802.1 shows the locations of assessment units, monitoring stations, dischargers, landfills, and confined animal feeding operations (CAFOs). Table 0802.1 lists the stations being monitored in fiscal year 2012 as well as the parameters being collected and the frequency of sampling.

HYDROLOGIC CHARACTERISTICS
Based on USGS gages in this segment near Goodrich (08066250) and Romayor (08066500), median annual average flows are 8,052 cfs and 8,517 cfs respectively from 1966 to 2010. The Romayor gage has a longer period of record back to 1925 with a median annual average flow of 7,578 cfs. The river in this portion of the basin is natural and meandering with large sandbars on the inside turns of the river. There is evidence of many oxbow cutoffs throughout this segment.

IMPAIRMENT/AREA OF INTEREST DESCRIPTION
Based on the Draft 2010 Texas Water Quality Inventory, there are concerns in all assessment units within segment 0802 and in 0802D. Details of the assessment are located in Table 0802.2.

LAND USE AND NATURAL CHARACTERISTICS
This watershed is largely rural with some smaller towns interspersed throughout. The majority of the watershed is forested. There are small areas of cropland and pasture throughout the watershed with a heavier concentration around the river channel in the upper portion of the watershed. The immediate area around the river channel is within the Floodplains and Low Terraces soil region. The remainder of the watershed is in the Flatwoods and Southern Tertiary Uplands. See Figures 0802.2 to 0802.4 for land covers, soil regions, and vegetative provinces in this segment. There are several small wastewater dischargers as well as several landfills in this segment. The locations of the dischargers and landfills can be seen in Figure 0802.1.

POTENTIAL CAUSES OF IMPAIRMENT OR INTEREST
Chlorophyll-a concerns are assumed to be related to the releases from Lake Livingston. The screening criteria for Chlorophyll-a in the reservoir is 26.7 ug/L while the criteria in the river immediately downstream is 14.1 ug/L. Similarly, the pH concern in 0802_02 can be assumed to be related to the Chlorophyll-a coming from the reservoir. pH is relatively high throughout the segment with approximately half the measurements being above 8 S.U.

The E. coli concern in 0802D could potentially be due to several sources. The area is in a heavily wooded area therefore wildlife could be a cause for the concern. The site at which the data were collected is immediately downstream from a rural residential area, which is most likely on individual septic systems. It could be assumed that failing septic tanks in addition to pet waste are potentially contributing to this concern.

POTENTIAL STAKEHOLDERS
Homeowners
Landowners
City Wastewater Treatment Providers
AgriLife Extension
Lake Livingston Project

RECOMMENDATIONS FOR IMPROVING WATER QUALITY
There are no recommendations for improving water quality in 0802 for the Chlorophyll-a and pH concerns as these appear to be related to the releases from Lake Livingston. The bacteria concern in 0802D may be improved by homeowner education and septic system inspections.

ONGOING PROJECTS
The National Rivers and Streams Assessment (NRSA) is currently underway in this segment and is being managed by the SWQM team at TCEQ. This project is a sur-

vey to assess the condition of streams and rivers throughout the nation. There are approximately 58 water bodies in Texas included in this project. Sampling includes benthic macroinvertebrates, fish, fish tissue, sediment enzymes, water chemistry, physical habitat analysis, and bacteria. Sample locations for this project are planned but are subject to change.

MAJOR WATERSHED EVENTS (PRESENT AND FUTURE)

Water quality in this segment is dominated by flows from Lake Livingston, especially during dry conditions. If drought conditions reoccur, it could be expected that elevated chlorophyll-a levels will be seen in this segment as discussed in the Potential Causes of Impairment or Interest section. Thirteen dischargers in this segment renewed their water quality permits in 2011 and 2012. See Table 0802.3 for details.

IMAGES

See Figures 0802.5 to 0802.8 for images of this segment.

FIGURE 0802.1

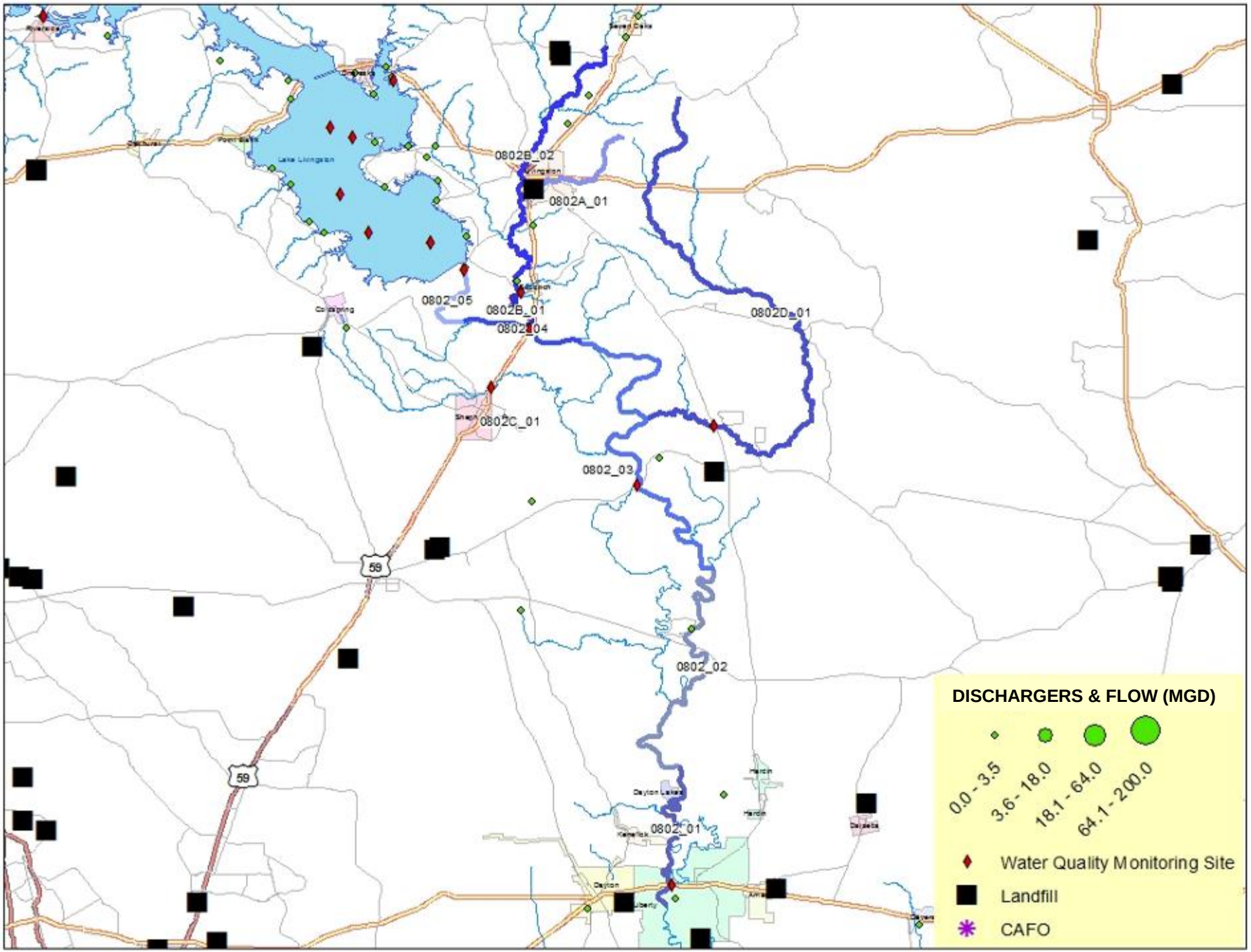


TABLE 0802.1: Fiscal Year 2012 Monitoring

Monitoring Entity	Segment	AU	Site ID	Site Description	Monitoring Type	24 Hour DO	Metals in Water	Conventionals	Bacteria	Flow	Field
LLP	0802	0802_04	10897	TRINITY RIVER AT US 59 SOUTH OF GOODRICH TRA #30	RT		2 (Dissolved Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Nickel, Silver, Zinc, Aluminum; Total Selenium)	4 (Chlorophyll-a, NH3, NO2, NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Total Alkalinity, TSS, Hardness)	4 (E. coli)	4	4 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth)
LLP	0802	0802_05	16998	TRINITY RIVER AT FM 3278 775 METERS DOWNSTREAM OF LAKE LIVINGSTON AND 8MI EAST OF COLDSPRING	RT			12 (Chlorophyll-a, NH3, NO2, NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Total Alkalinity, TSS, Hardness)	12 (E. coli)		12 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Flow Severity, Days Since Precipitation Event)
LLP	0802D	0802D_01	10688	MENARD CREEK AT SH 146 SOUTHEAST OF LIVINGSTON TRA #37	RT			2 (Chlorophyll-a, NH3, NO2, NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Total Alkalinity, TSS, Hardness)	2 (E. coli)	2	2 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth)
LLP	0802 (unclassified)		13685	BIG CREEK AT US 59 NORTH 1.5 MI NE OF SHEPHERD 11.6 MI UPSTREAM FROM MOUTH	RT			2 (Chlorophyll-a, NH3, NO2, NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Total Alkalinity, TSS, Hardness)	2 (E. coli)		2 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth)

TABLE 0802.2: Draft 2010 Water Quality Inventory

Segment and Assessment Unit	Use	Method	Parameter Description	Criteria	Number of samples assessed	Number of samples exceed criteria	Mean of samples assessed (avg or geomean)	Mean of samples that exceed criteria	Dataset Qualifier	Impairment Level	Impairment Category
0802_01	General Use	Nutrient Screening Levels	Chlorophyll-a	14.1 ug/L	27	11		34.45	AD	CS	
0802_02	General Use	High pH	pH	9 S.U.	5	2		9.65	LD	CN	
0802_03	General Use	Nutrient Screening Levels	Chlorophyll-a	14.1 ug/L	28	15		28.26	AD	CS	
0802_04	General Use	Nutrient Screening Levels	Chlorophyll-a	14.1 ug/L	19	7		27.29	AD	CS	
0802_05	General Use	Nutrient Screening Levels	Chlorophyll-a	14.1 ug/L	49	21		18.89	AD	CS	
0802D	Recreation Use	Bacteria Geomean	E. coli	126 cfu/100 mL	8		139.89		LD	CN	

Dataset Qualifier Codes

AD - Adequate data (10 or more samples)

LD - Limited data (between 4 and 9 samples)

Impairment Level

CN - Use concern

CS - Screening level concern

FIGURE 0802.2: LAND COVER

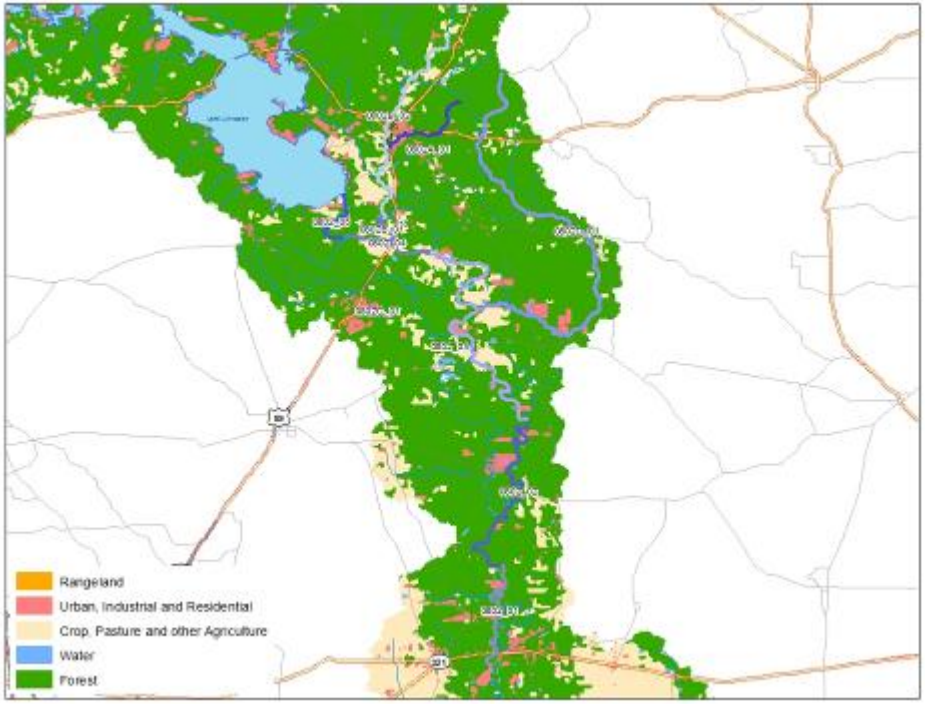


FIGURE 0802.3: SOIL REGIONS

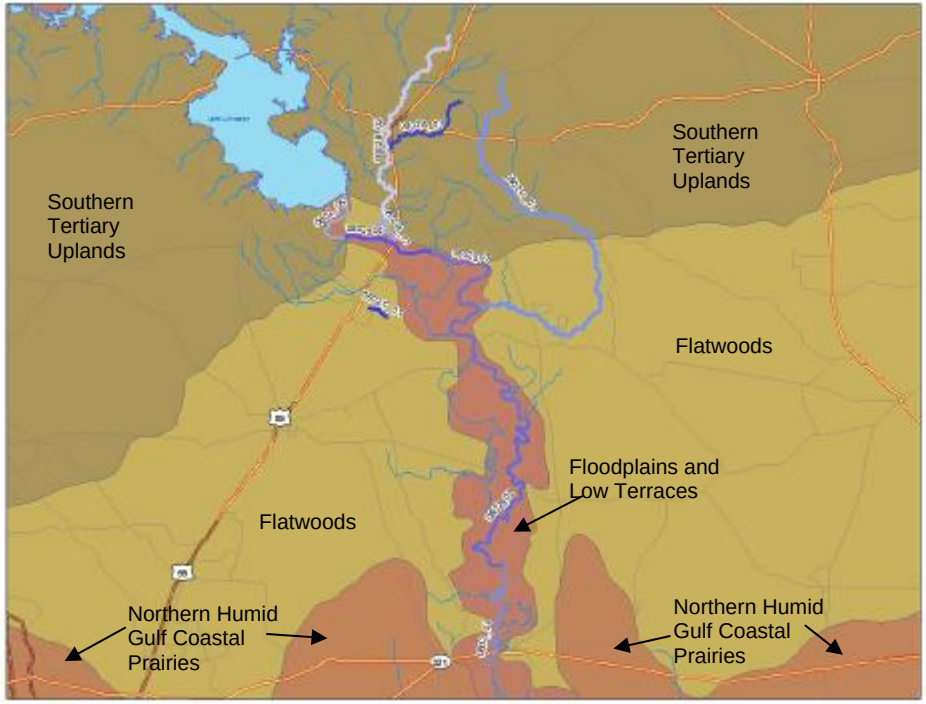


FIGURE 0802.4: VEGETATIVE PROVINCES

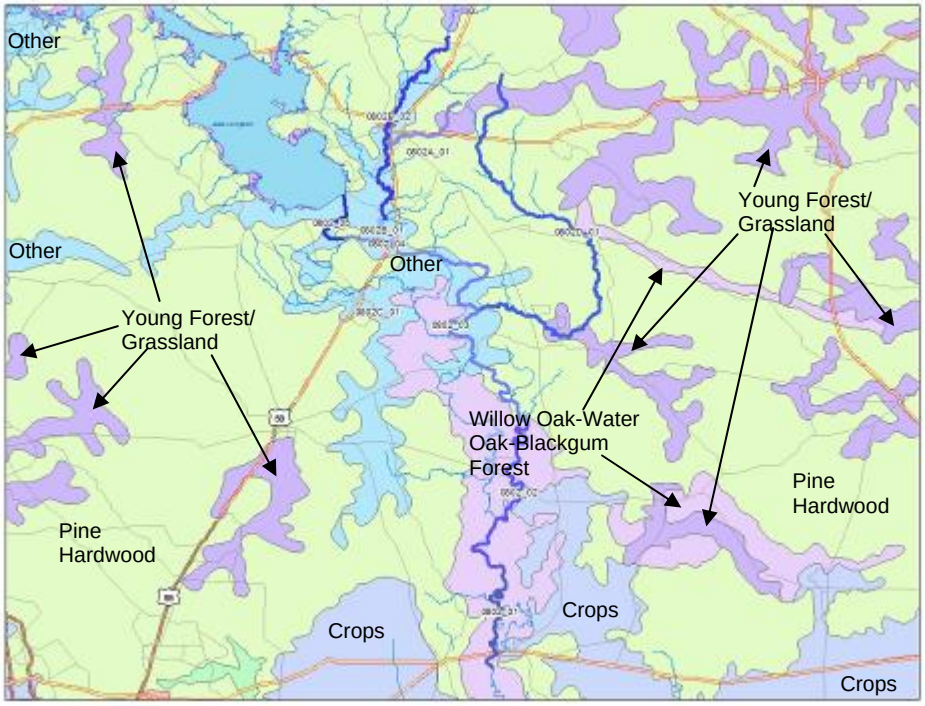


TABLE 0802.3: New and Renewed Discharge Permits

Segment	Notice received by TRA on	Permitee/Facility	County	Permit Type	Action	Status	Permit Number
802	3/3/2011	PURE UTILITIES LC	Polk	Water Quality	Renewal	Final	14014-001
802	7/14/2011	DR. JAMES DONALD SMITH, JR - ARTESIAN LAKES/CHAIN O LAKES STP	Liberty	Water Quality	Renewal	Final	14498-001
802	12/16/2011	AQUA TEXAS INC - LAKE LIVINGSTON VILLAGE STP	Polk	Water Quality	Renewal	Final	13209-001
802	2/17/2012	GOODRICH, CITY - STP	Polk	Water Quality	Renewal	Final	12711-001
802	2/17/2012	COLDSPRING, CITY OF	San Jacinto	Water Quality	Renewal	Final	13291-001
802	2/17/2012	LIVINGSTON, CITY OF	Polk	Water Quality	Renewal	Final	10208-001
802	2/17/2012	POLK COUNTY	Polk	Water Quality	Renewal	Final	11223-001
802	3/5/2012	LIVINGSTON CARE ASSOC INC & POLK HEALTH HOLDING LLC - STP	Polk	Water Quality	Renewal	Final	13388-001
802	3/16/2012	TXDOT - US 59 SOUTHBOUND STP	Polk	Water Quality	Renewal	Final	14796-001
802	4/10/2012	MOSCOW WATER SUPPLY CORPORATION	Polk	Water Quality	Renewal	Final	11139-001
802	4/26/2012	POLK COUNTY	Polk	Water Quality	Renewal	Final	11223-001
802	4/26/2012	WEST HARDIN COUNTY CONSOLIDATED ISD - STP	Hardin	Water Quality	Renewal	Final	11274-001
802	6/11/2012	GEORGIA-PACIFIC CORP - RAYBURN PLYWOOD MILL	Liberty	Water Quality	Renewal	Final	02196-000

FIGURE 0802.5: Trinity River downstream of Lake Livingston Dam and FM 3278 looking upstream

FIGURE 0802.6: Trinity River Upstream of US 59 near Goodrich

FIGURE 0802.7: Trinity River at FM 787 near Romayor

FIGURE 0802.8: Trinity River upstream of SH 105 near Moss Hill

0801 – Trinity River Tidal

SEGMENT DESCRIPTION

Segment 0801 begins from the confluence with the Anahuac Channel in Chambers County and continues up to a point 3.1 km (1.9 miles) downstream of US 90 in Liberty County. There are two assessment units in this segment. 0801_01 is the lower 25 miles of segment and includes site 10892. 0801_02 is the upper 12 miles of segment.

Unclassified water bodies in this segment include those listed below.

- 0801A – Lost River – From IH 10 in Chambers County to approximately 6 KM upstream of confluence with John Wiggins Bayou and includes sites 17879, 17880, and 17881.
- 0801B – Old River – From IH 10 in Chambers County to approximately 9 miles upstream of confluence with Cherry Point Gully and includes site 18360.
- 0801C – Cotton Bayou – From the confluence of Cotton Lake southeast of Mont Belvieu in Chambers County upstream to a point (NHD RC 12040203000496) approximately 1 mile north of IH 10 in Chambers County and includes sites 17628, 17629, 17632, 17633, 18696, 18697, and 20003.
- 0801D – Lynchburg Canal – Lynchburg Canal from confluence with Trinity River Tidal to confluence with Cedar Point lateral (Reach Code 12030203000425) and includes site 16148.

Figure 0802.1 shows the locations of assessment units, monitoring stations, dischargers, landfills, and confined animal feeding operations (CAFOs). Table 0802.1 lists the stations being monitored in fiscal year 2012 as well as the parameters being collected and the frequency of sampling.

HYDROLOGIC CHARACTERISTICS

This portion of the river is characterized as tidal by the TCEQ segment name. However, the Wallisville Saltwater Barrier, which is located approximately 6.5 miles upstream from the mouth of the river in Trinity Bay, prevents the saltwater wedge from moving any further upstream due to tidal influences or low river flows. The Barrier became operational in 1999. This segment is meandering and mostly natural with the exception of channel modifications for the Wallisville Saltwater Barrier.

IMPAIRMENT/AREA OF INTEREST DESCRIPTION

Based on the Draft 2010 Texas Water Quality Inventory, there are impairments in assessment unit 0801_01 as well as in 0801B and 0801C. Details of the assessment are located in Table 0801.2.

LAND USE AND NATURAL CHARACTERISTICS

This watershed is mostly rural with some small towns and residential areas throughout. The majority of the watershed along the river channel is heavily forested. The lowermost portion of the watershed has forested and non-forested marshes. The remainder of the watershed away from the river channel is cropland and pasture. See Figures 0801.2 to 0801.4 for land covers, soil regions, and vegetative provinces in this segment. There are a few landfills and small wastewater dischargers in this segment. Their locations can be seen in Figure 0801.1.

POTENTIAL CAUSES OF IMPAIRMENT OR INTEREST

Concerns for chlorophyll-a in 0801_01 may be due to the nature of the watershed surrounding the sampling location. The sample is collected at the Wallisville Saltwater Barrier Dam. The surrounding watershed is marsh land. The wide expanse of slow moving water with relatively clear water is ideal for the growth of algae.

The issues with nutrients in 0801C (Cotton Bayou) may be due to the agricultural and residential areas adjacent to the bayou. Agricultural and residential fertilizers can contribute to increased nutrient levels in a water body. The watershed on the northern side of the bayou has a large residential area while the southern side is wooded. Pet waste and wildlife could be contributing factors to the bacteria issues in this segment.

POTENTIAL STAKEHOLDERS

Landowners
Homeowners
City of Mont Belvieu
City of Cove
AgriLife Extension
Lake Livingston Project

RECOMMENDATIONS FOR IMPROVING WATER QUALITY

Public education of homeowners and landowners in the Cotton Bayou watershed may help improve bacteria and nutrient issues in this segment. Homeowner education should include pet waste clean-up and proper fertilizer application practices. Landowner education should also include proper fertilizer application practices.

ONGOING PROJECTS

There are no ongoing projects in this segment.

MAJOR WATERSHED EVENTS (PRESENT AND FUTURE)

There are no known or anticipated events that would affect water quality in this segment. Two dischargers renewed their water quality permits in 2011 and 2012. See Table 0801.3 for details.

IMAGES

See Figures 0801.5 to 0801.8 for images of this segment.

FIGURE 0801.1

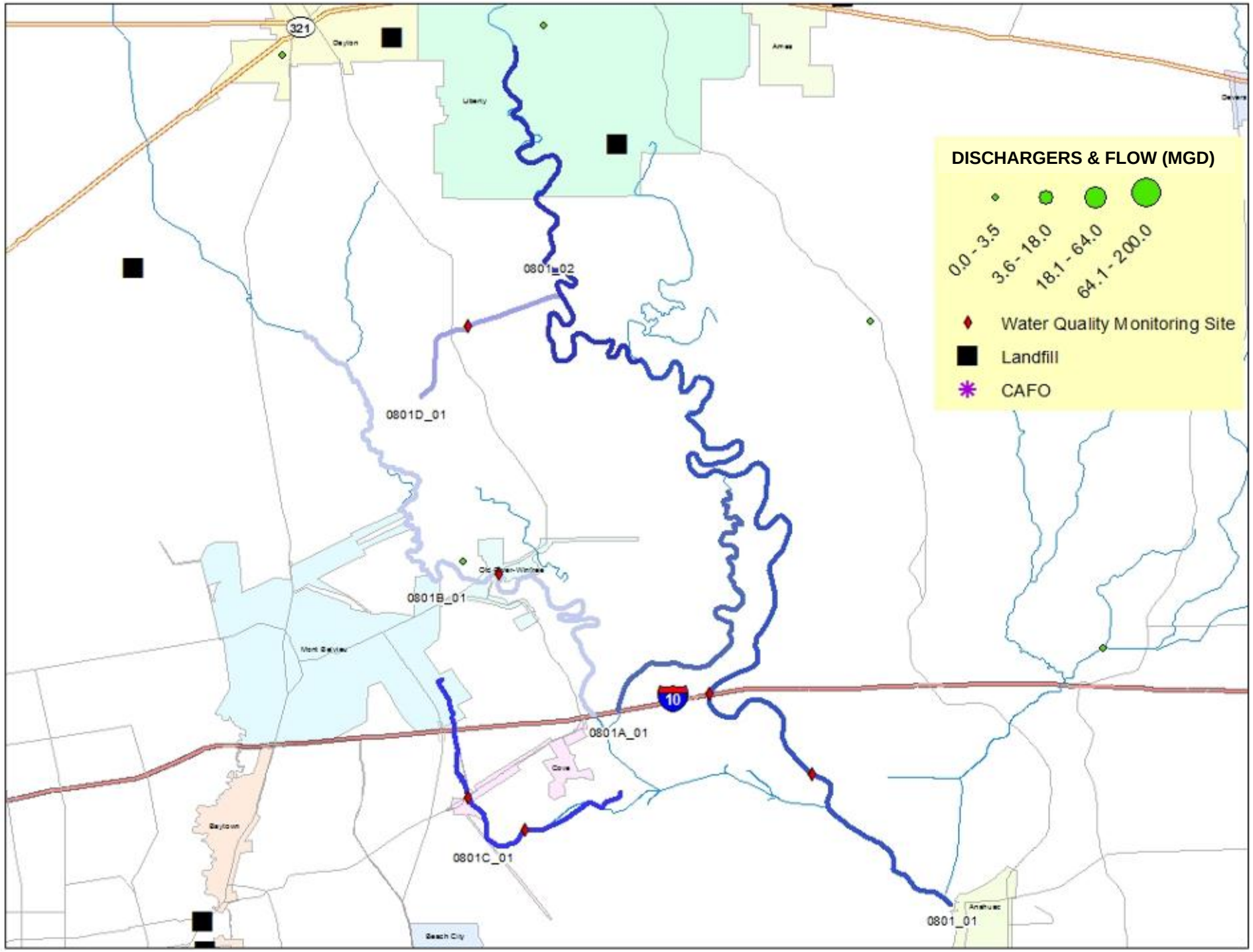


TABLE 0801.1: Fiscal Year 2012 Monitoring

Monitoring Entity	Segment	AU	Site ID	Site Description	Monitoring Type	24 Hour DO	Metals in Water	Conventionals	Bacteria	Flow	Field
LLP	0801	0801_01	20839	TRINITY RIVER TIDAL AT WALLISVILLE DAM	RT			4 (Chlorophyll-a, NO2, NO3, TKN, TP, OP, Chloride, TDS)			4 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Flow Severity, Days Since Precipitation Event)
LLP	0801B	0801B_01	18360	OLD RIVER AT FM 1409 SOUTHWEST OF WINFREE	RT			4 (Chlorophyll-a, NO2, NO3, TKN, TP, OP, Chloride, TDS)			4 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth, Flow Severity, Days Since Precipitation Event)
LLP	0801D	0801D_01	16148	COASTAL WATER AUTHORITY CANAL/LYNCHBURG CANAL 533 METERS UPSTREAM OF FM 1409 3.6KM DOWNSTREAM OF CONFLUENCE WITH TRINITY RIVER SOUTH OF LIBERTY	RT		2 (Dissolved Arsenic, Cadmium, Chromium, Copper, Iron, Lead, Manganese, Nickel, Silver, Zinc, Aluminum; Total Selenium)	2 (Chlorophyll-a, NH3, NO2, NO3, TKN, TP, OP, Chloride, Sulfate, TDS, Total Alkalinity, TSS, Hardness)	2 (E. coli)		2 (Water Temp, Air Temp, Specific Conductance, DO, pH, Secchi Depth)

TABLE 0801.2: Draft 2010 Water Quality Inventory

Segment and Assessment Unit	Use	Method	Parameter Description	Criteria	Number of samples assessed	Number of samples exceed criteria	Mean of samples assessed (avg or geomean)	Mean of samples that exceed criteria	Dataset Qualifier	Impairment Level	Impairment Category
0801_01	General Use	Nutrient Screening Levels	Chlorophyll-a	21 ug/L	74	21		29.96	AD	CS	
0801B	General Use	Nutrient Screening Levels	Chlorophyll-a	21 ug/L	49	25		41.48	AD	CS	
0801C	Aquatic Life Use	Dissolved Oxygen 24hr minimum	Dissolved Oxygen 24hr Min	3 mg/L	11	2		2.25	AD	NS*	5b
0801C	Recreation Use	Bacteria Single Sample	E. coli	394 cfu/100 mL	11	7		3865.71	AD	NS	5c
0801C	Recreation Use	Bacteria Single Sample	Enterococcus	89 cfu/100 mL	21	9		7306	AD	NS	5c
0801C	Recreation Use	Bacteria Geomean	E. coli	126 cfu/100 mL	11		484.95		AD	NS	5c
0801C	Recreation Use	Bacteria Geomean	Enterococcus	35 cfu/100 mL	21		106.03		AD	NS	5c
0801C	General Use	Enterococci (1006, 1007) single sample	Enterococcus	89 cfu/100 mL	21	9		7306	AD	NS	5c
0801C	General Use	Nutrient Screening Levels	Nitrate	1.1 mg/L	57	18		7.83	AD	CS	
0801C	General Use	Nutrient Screening Levels	Orthophosphorus	0.46 mg/L	57	15		1.68	AD	CS	
0801C	General Use	Nutrient Screening Levels	Total Phosphorus	0.66 mg/L	57	16		1.81	AD	CS	

Dataset Qualifier Codes

AD - Adequate Data (10 or more samples)

Impairment Level

CS - Screening level concern

NS - Nonsupport

NS* - Nonsupport carried forward from previous assessments

Impairment Category

5b - A review of the water quality standards for this water body will be conducted before a TMDL is scheduled

5c - Additional data and information will be collected before a TMDL is scheduled

FIGURE 0801.2: LAND COVER

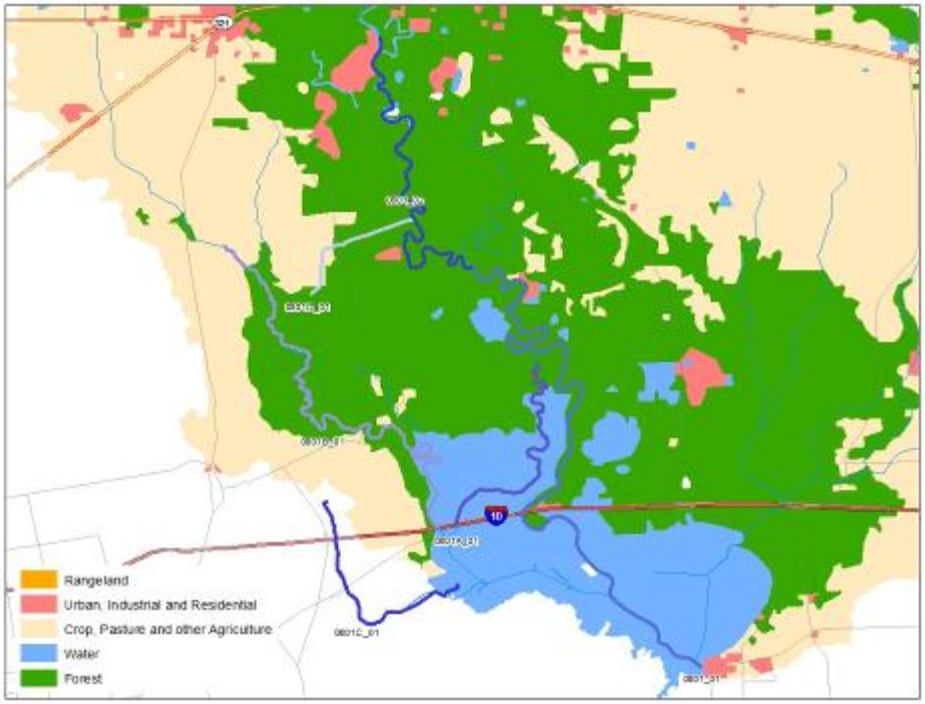


FIGURE 0801.3: SOIL REGIONS

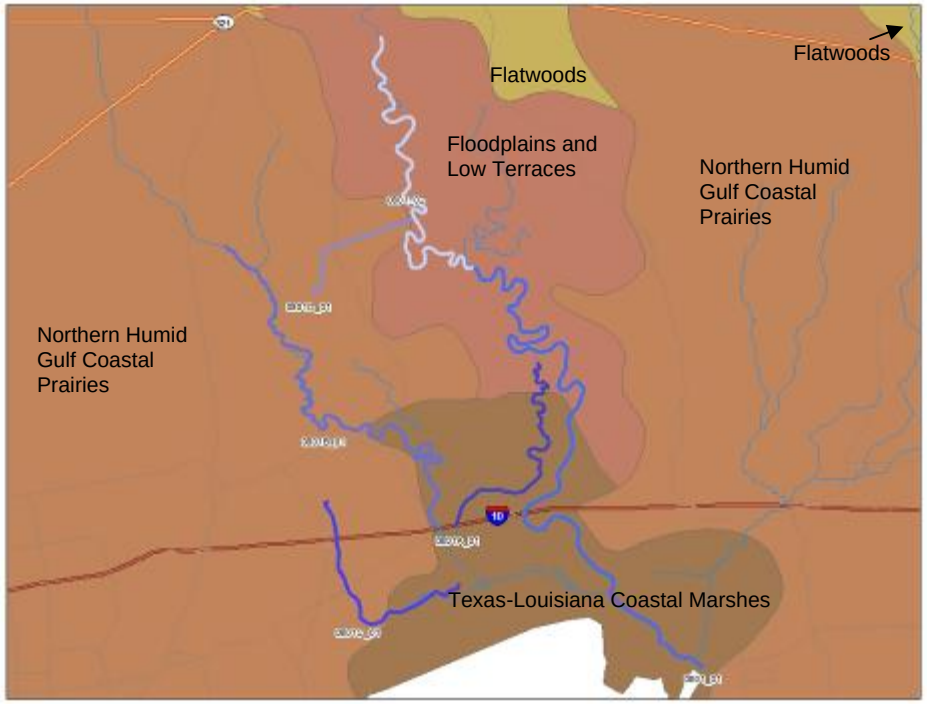


FIGURE 0801.4: VEGETATIVE PROVINCES

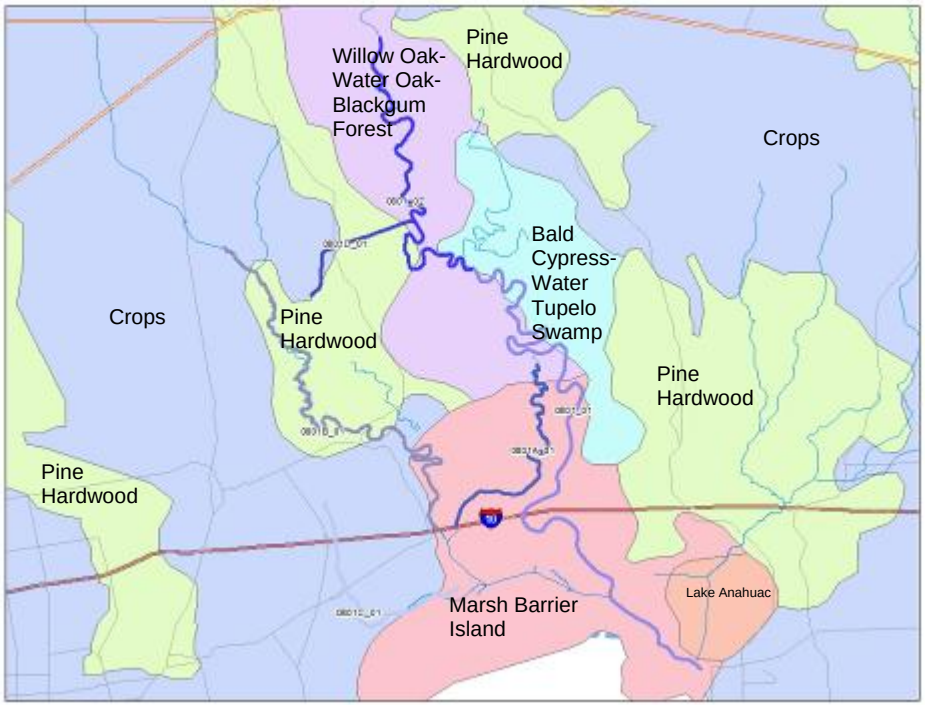


TABLE 0801.3: New and Renewed Discharge Permits

Segment	Notice received by TRA on	Permitee/Facility	County	Permit Type	Action	Status	Permit Number
801	2/15/2011	DEVERS, CITY - STP - WHITES BAYOU TRIB	Liberty	Water Quality	Renewal	Final	11540-001
801	3/16/2012	LIBERTY, CITY - STP	Liberty	Water Quality	Renewal	Final	10108-001

FIGURE 0801.5: Trinity River downstream of US 90 near Liberty

FIGURE 0801.6: Trinity River downstream of CWA Canal inlet

FIGURE 0801.7: Trinity River upstream of the Wallisville Saltwater Barrier

FIGURE 0801.8: Trinity River near Anahuac upstream of the mouth into Trinity Bay

Site Glossary

0801
10892—TRINITY RIVER TIDAL AT IH 10 NEAR LIBERTY TRA #35

0801A
17879—LOST RIVER AT CONFLUENCE WITH OLD RIVER LAKE 1.36 KM UPSTREAM OF IH 10

17880—LOST RIVER 2.77 KM UPSTREAM OF CONFLUENCE WITH JOHN WIGGINS BAYOU 7.56 KM UPSTREAM OF IH 10 NORTHEAST OF LOST LAKE OIL FIELD

17881—LOST RIVER 387 METERS UPSTREAM OF CHAMBERS COUNTY LINE 5.53 KM UPSTREAM OF JOHN WIGGINS BAYOU CONFLUENCE 10.30 KM UPSTREAM OF IH 10

0801B
18360—OLD RIVER AT FM 1409 SOUTHWEST OF WINFREE

0801C
17628—COTTON BAYOU 100 M UPSTREAM OF COTTON LAKE 985 METERS SOUTH AND 3.21 KM EAST OF INTERSECTION OF FM 565 AND FM 3180

17629—COTTON BAYOU 1.04 KM UPSTREAM OF COTTON LAKE 725 METERS SOUTH AND 2.49 KM EAST OF INTERSECTION OF FM 565 AND FM 3180

17632—COTTON BAYOU 1.32 KM UPSTREAM OF COTTON LAKE 929 METERS SOUTH AND 2.21 KM EAST OF INTERSECTION OF FM 565 AND FM 3180

17633—COTTON BAYOU 1.99 KM UPSTREAM OF COTTON LAKE 594 METERS SOUTH AND 1.71 KM EAST OF INTERSECTION OF FM 565 AND FM 3180

18696—COTTON BAYOU AT FM 565

18697—COTTON BAYOU AT BOAT RAMP 0.46 KM UPSTREAM OF THE CONFLUENCE WITH COTTON LAKE

20003—COTTON BAYOU 290 M UPSTREAM OF FM 565 UPSTREAM OF WWTP WQ0011449001 NEAR COVE IN CHAMBERS COUNTY

0801D
16148—COASTAL WATER AUTHORITY CANAL/LYNCHBURG CANAL 533 METERS UPSTREAM OF FM 1409 3.6KM DOWNSTREAM OF CONFLUENCE WITH TRINITY RIVER SOUTH OF LIBERTY

0802
10894—TRINITY RIVER AT US 90 IN LIBERTY TRA #33

10895—TRINITY RIVER AT SH 105 NEAR MOSS HILL TRA #32

10896—TRINITY RIVER 125 METERS UPSTREAM OF FM 787 NEAR ROMAYOR

10897—TRINITY RIVER AT US 59 SOUTH OF GOODRICH TRA #30

16998—TRINITY RIVER AT FM 3278 775 METERS DOWNSTREAM OF LAKE LIVINGSTON AND 8MI EAST OF COLDSPRING

0802B
10689—LONG KING CREEK 80 METERS UPSTREAM OF FM 1988 WEST OF GOODRICH TRA #36

0802D
10688—MENARD CREEK AT SH 146 SOUTHEAST OF LIVINGSTON TRA #37

0803
10899—LAKE LIVINGSTON IN MAIN POOL NEAR DAM AT TRA BOUY #2 4.25 KM WEST OF INTERSECTION OF FM 1988 AND FM 3128

10909—LAKE LIVINGSTON IN KICKAPOO CREEK BAY CHANNEL 66 METERS WEST OF INTERSECTION OF NOEL POINT AND PINEGROVE DRIVE TRA #12

10911—LAKE LIVINGSTON 4.39 KM EAST AND 1.17 KM SOUTH OF INTERSECTION OF US 190 AND FM 980 WEST OF ONALASKA

10913—LK LIVINGSTON 1.8 KM S AND 496 METERS E OF INTERSECTION OF FM 356 AND DAVIS RDIN MAIN CHANNEL NEAR MOUTH OF WHITE ROCK CREEK BAY TRA 6

10914—LAKE LIVINGSTON AT SH 19 SOUTH OF TRINITY USGS SITE JC

10917—LAKE LIVINGSTON HEADWATERS AT SH 21 NORTHEAST OF MID WAY TRA 97

14003—LAKE LIVINGSTON USGS SITE AC 50 METERS SOUTH AND 1.31 KM WEST OF INTERSECTION OF FM 1988 AND RECREATIONAL ROAD 5

14004—LAKE LIVINGSTON USGS SITE AL 411 METERS NORTH AND 770 METERS WEST OF INTERSECTION OF FM 1988 AND RECREATIONAL ROAD 5

14005—LAKE LIVINGSTON USGS SITE BC 550 METERS SOUTH AND 2.32 KM EAST OF INTERSECTION OF WALNUT POINT DRIVE AND CAPE ROYALE

14006—LAKE LIVINGSTON USGS SITE CC 3.64 KM WEST AND 1.31 KM SOUTH OF INTERSECTION OF FM 3277 AND NORMAGENE STREET

14007—LAKE LIVINGSTON USGS SITE DL 1.27 KM NORTH AND 2.81 KM WEST OF INTERSECTION OF FM 3277 AND FM 2457

14008—LAKE LIVINGSTON USGS SITE DC 1.21 KM SOUTH AND 4.57 KM EAST OF INTERSECTION OF FM 980 AND US 190

14009—LAKE LIVINGSTON USGS SITE EC 298 METERS SOUTH AND 380 METERS EAST OF INTERSECTION OF FM 3186 AND VIVIAN ROAD

14010—LAKE LIVINGSTON USGS SITE FC 587 METERS NORTH AND 471 METERS EAST OF INTERSECTION OF COUNTY ROAD AND TROTT LANE

14011—LAKE LIVINGSTON USGS SITE IC 148 METERS NORTH AND 867 METERS WEST OF INTERSECTION OF FM 980 AND RIVERWOOD DRIVE

14013—LAKE LIVINGSTON USGS SITE GC 692 METERS SOUTH AND 319 METERS EAST OF INTERSECTION OF FM 355 AND FM 356

14014—LAKE LIVINGSTON USGS SITE HC 280 METERS SOUTH AND 363 METERS EAST OF INTERSECTION OF 2ND STREET AND FM 356

0803A

10698—HARMON CREEK 509 METERS UPSTREAM FROM INTERSECTION WITH OTTER RD EAST OF FM 980 AND 7.6 MILES NORTHEAST OF HUNTSVILLE

0803B

10696—WHITE ROCK CREEK 2.77 KM DOWNSTREAM OF CONFLUENCE WITH CEDAR CREEK NORTHEAST OF TRINITY TRA #21

0803E

10700—NELSON CREEK AT FM 3478 NEAR MOUNT OLIVE TRA #20

10701—NELSON CREEK 20 METERS DOWNSTREAM OF FM 247 EIGHT MILES NORTH OF HUNTSVILLE

0803F

10702—BEDIAS CREEK AT BRIDGE ON FM 247 EAST OF MADISONVILLE

10703—BEDIAS CREEK IMMEDIATELY DOWNSTREAM OF US 75 SOUTHEAST OF MADISONVILLE

0804

10918—TRINITY RIVER AT SH 7 WEST OF CROCKETT TRA #96

10919—TRINITY RIVER IMMEDIATELY DOWNSTREAM OF US 79 NORTHEAST OF OAKWOOD

10920—TRINITY RIVER 50 METERS DOWNSTREAM OF US 287 WEST OF CAYUGA

10921—TRINITY RIVER AT TP&L CO STATION 1.53 KM DOWNSTREAM FROM SH 31

10922—TRINITY RIVER AT SH 31 IN TRINIDAD

13690—TRINITY RIVER 304 METERS UPSTREAM OF SH 7 11.9 MI WEST OF CROCKETT

0804F

10705—TEHUACANA CREEK 20 METERS DOWNSTREAM OF SH 75 SOUTHEAST OF STREETMAN

18572—TEHUACANA CREEK AT RR 27 NEAR WORTHAM TX

0804G

10717—CATFISH CK IMMEDIATELY DNSTM OF UNNAMED RD 1.70 KM DOWNSTREAM OF CONFLUENCE WITH LONG CREEK IN ENGLING WMA AT CAMP SITE 3 2.6 MILES E OF BETHEL

18596—CATFISH CREEK AT ANDERSON CR 489/MILLER ROAD 1.8 MILES NORTH OF FM 837

18597—CATFISH CREEK AT FM 1615 7.6 MILES SOUTHEAST OF THE FM 1615-SH 19 INTERSECTION

0804H

18401—UPPER KEECHI CREEK AT TPWD WILDLIFE MANAGEMENT AREA ATV BRIDGE 20 KM S OF OAKWOOD 1.72 KM UPSTREAM OF BUFFALO CREEK CONFLUENCE

18520—UPPER KEECHIE CREEK IMMEDIATELY DOWNSTREAM OF US 79 NEAR OAKWOOD TX

0804J

17951—FAIRFIELD LAKE IN MAIN POOL 751 METERS SOUTH AND 503 METERS WEST OF NORTH END OF DAM 12.9 KM NORTHEAST OF FAIRFIELD

0805

10924—TRINITY RIVER 24 METERS DOWNSTREAM OF FM 85 WEST OF SEVEN POINTS

10925—TRINITY RIVER 50 METERS DOWNSTREAM OF SH 34 NORTHEAST OF ENNIS

10926—TRINITY RIVER 5.1 KM UPSTREAM OF SH 34 AT COUNTY ROAD EAST OF BRISTOL

10927—TRINITY RIVER 235 METERS UPSTREAM FROM EAST FORK TRINITY RIVER CONFLUENCE

10928—TRINITY RIVER 2.86 KM DOWNSTREAM OF THE CONFLUENCE WITH TENMILE CREEK SW OF COMBINE

10929—TRINITY RIVER IMMEDIATELY DOWNSTREAM OF MALLOY BRIDGE ROAD EAST OF WILMER

10930—TRINITY RIVER 723 METERS DOWNSTREAM OF BELT LINE ROAD EAST OF WILMER

10931—TRINITY RIVER 327 METERS UPSTREAM OF DALLAS SOUTHSIDE WWTP OUTFALL IN SOUTHWEST DALLAS

10932—TRINITY RIVER 41 METERS UPSTREAM OF DOWDY FERRY ROAD IN DALLAS

10934—TRINITY RIVER AT SOUTH LOOP SH 12 SOUTH OF DALLAS

10935—TRINITY RIVER AT IH 45 IN DALLAS

10936—TRINITY RIVER 68 METERS DOWNSTREAM OF COMMERCE STREET IN DALLAS

10937—TRINITY RIVER 46 METERS UPSTREAM OF N WESTMORELAND ROAD IN DALLAS

13614—TRINITY RIVER 277 METERS UPSTREAM OF CEDAR CREST BLVD IN DALLAS

16088—TRINITY RIVER 39 METERS DONWSTREAM OF CORINTH STREET IN DALLAS

16121—TRINITY RIVER AT CONFLUENCE OF RED OAK CREEK 4.7 KM DOWNSTREAM OF MOUTH OF EAST FORK TRINITY RIVER NEAR ROSSER

17161—TRINITY RIVER 1.01 KM UPSTREAM OF IH 45 AND UPSTREAM OF DALLAS WWTP OUTFALL IN DALLAS

20444—UPPER TRINITY RIVER 190 METERS DOWNSTREAM OF SOUTH CENTRAL EXPRESSWAY/SH 310 AND 105 METERS UPSTREAM OF RAILROAD BRIDGE

20566—UPPER TRINITY RIVER 275 METERS UPSTREAM TO THE CONFLUENCE WITH TEN MILE CREEK AND 1.65 KILOMETERS NORTH AND 71.5 METERS WEST FROM THE INTERSECTION OF WOLF SPRINGS ROAD AND INDIA ROAD

20567—UPPER TRINITY RIVER 2.25 KILOMETERS UPSTREAM OF IH 20 AND 840 METERS WEST FROM THE INTERSECTION OF FIRESIDE DRIVE AND MURDOCK ROAD IN SOUTHEAST DALLAS

0805A

17506—RED OAK CREEK AT FM 660 EAST OF THE INTERSECTION OF IH 45 NORTH OF BRISTOL

18569—RED OAK CREEK NORTH BANK 33 M DOWNSTREAM OF HAMPTON ROAD NEAR RED OAK TX

0805B

10839—PARSONS SLOUGH 60 METERS UPSTREAM OF DAVIS ROAD SOUTH OF COMBINE

0805C

18458—WHITE ROCK CREEK AT SOUTH SECOND AVENUE 5.7 KM UPSTREAM OF THE CONFLUENCE WITH UPPER TRINITY RIVER

0805D

18575—FIVEMILE CREEK IMMEDIATELY UPSTREAM OF STUART SIMPSON ROAD IN DALLAS TX

0806

10938—WEST FORK TRINITY RIVER 54 METERS DOWNSTREAM OF BEACH STREET IN FORT WORTH

10939—WEST FORK TRINITY RIVER AT RIVERSIDE DRIVE IN FORT WORTH

10940—WEST FORK TRINITY RIVER AT UNIVERSITY DRIVE IN FORT WORTH

10941—WEST FORK TRINITY RIVER IMMEDIATELY DOWNSTREAM OF RIVER OAKS BLVD/SH 183 IN FORT WORTH

11085—WEST FORK TRINITY RIVER AT PRECINCT LINE ROAD

16120—WEST FORK TRINITY RIVER 260 METERS DOWNSTREAM OF HANDLEY EDERVILLE ROAD 0.55KM UPSTREAM OF IH 820 IN FORT WORTH

17368—WEST FORK TRINITY RIVER IMMEDIATELY DOWNSTREAM OF 4TH STREET EAST OF FORT WORTH

17662—WEST FORK TRINITY RIVER IMMEDIATELY UPSTREAM OF EAST 1ST STREET ON THE NORTH SIDE OF GATEWAY PARK IN FORT WORTH

17863—WEST FORK TRINITY RIVER AT GATEWAY PARK 804 METERS DOWNSTREAM OF BEACH STREET OFF OF PIER AT RIVERBANK DRIVE IN FORTH WORTH

18459—WEST FORK TRINITY RIVER AT EAST NORTHSIDE DRIVE 2.95 KM DOWNSTREAM OF CONFLUENCE WITH CLEAR FORK TRINITY RIVER IN FORTH WORTH

18460—WEST FORK TRINITY RIVER AT NORTH UNIVERSITY DRIVE 2.4 KM UPSTREAM OF THE CONFLUENCE WITH CLEAR FORK TRINITY RIVER IN FORT WORTH

20292—WEST FORK TRINITY RIVER AT HERITAGE PARK PEDESTRIAN BRIDGE 285M UPSTREAM OF NORTH MAIN STREET IN FORT WORTH

20336—WEST FORK TRINITY RIVER 65 METERS UPSTREAM OF NUTT DAM AND 200 METERS NORTH AND 234 METERS EAST OF NORTH MAIN STREET BRIDGE

20422—WEST FORK TRINITY RIVER 810 METERS UPSTREAM OF EAST NORTHSIDE DRIVE AND 125 METERS NORTH AND 180 METERS EAST TO THE INTERSECTION OF NORTH CALHOUN STREET AND EAST 8TH STREET

20424—WEST FORK TRINITY RIVER 185 METERS SOUTH OF INTERSECTION OF SCOTT ROAD AND NURSERY LANE AND 60 METERS UPSTREAM OF LOW-HEAD DAM NORTHWEST OF FORT WORTH

20425—WEST FORK TRINITY RIVER 360 METERS UPSTREAM OF MEANDERING ROAD AND 5.03 KILOMETERS UPSTREAM OF LOW-HEAD DAM NORTHWEST OF FORT WORTH

0806A

16818—LAKE FOSDIC AT MID LAKE 38 M S AND 213 METERS WEST OF INTERSECTION OF EDERVILLE RD AND BENMAR ST NEAR HALTOM CITY IN EAST FORT WORTH

0806B

16813—ECHO LAKE AT MID LAKE 115 METERS NORTH AND 113 METERS EAST OF INTERSECTION OF COLE ST AND NEW YORK AVENUE IN SOUTH FORT WORTH

0806C

10814—BIG FOSSIL CREEK 731 METERS UPSTREAM OF CONFLUENCE WITH WEST FORK TRINITY RIVER

17133—BIG FOSSIL CREEK AT SH 26 UPSTREAM OF CONFLUENCE WITH LITTLE FOSSIL CREEK IN HALTOM CITY

0806D

17370—MARINE CREEK AT ABANDONED LOW WATER CROSSING 244 M DOWNSTREAM OF NE 23RD STREET IN NORTH FORT WORTH

0806E

17131SYCAMORE CREEK 177 METERS UPSTREAM OF IH 30 IN FORT WORTH

17369—SYCAMORE CREEK AT WESTERN END OF PAVEMENT OF SCOTT AVENUE 179 M UPSTREAM OF IH 30 IN EAST FORT WORTH

0806F

17129—LITTLE FOSSIL CREEK 43 METERS DOWNSTREAM OF THOMAS ROAD IN HALTOM CITY

0813

10973—HOUSTON COUNTY LAKE NEAR DAM OVERFLOW

0827

11038—WHITE ROCK LAKE MID LAKE NEAR DAM 79 METERS NORTH AND 597 METERS WEST OF INTERSECTION OF LAWTHER DRIVE AND GARLAND ROAD

0827A

15280—WHITE ROCK CREEK 55 METERS DOWNSTREAM OF SKILLMAN STREET IN WHITE ROCK LAKE PARK

18517—WHITE ROCK CREEK IMMEDIATELY UPSTREAM OF GREENVILLE AVE IN DALLAS TX

20289—WHITE ROCK CREEK AT IH635 NORTH SERVICE ROAD IMMEDIATELY WEST OF PARK CENTRAL DRIVE

0835

11064—RICHLAND CREEK AT FM 488 NORTH OF FAIRFIELD

0841

11079—LOWER WEST FORK TRINITY RIVER AT NW CORNER OF TRA CENTRAL WWTP IN GRAND PRAIRE 1.5 KM UPSTREAM OF CONFLUENCE WITH MOUNTAIN CREEK

11080—LOWER WEST FORK TRINITY RIVER IMMEDIATELY UPSTREAM OF SOUTH MACARTHUR BLVD IN IRVING

11081—LOWER WEST FORK TRINITY RIVER AT BELT LINE ROAD IN GRAND PRAIRE

11082—LOWER WEST FORK TRINITY RIVER 1.01 KM UPSTREAM OF CONFLUENCE WITH JOHNSON CREEK EAST OF LOWER TARRANT ROAD IN GRAND PRAIRIE

11083—LOWER WEST FORK TRINITY RIVER EAST OF POST AND PADDOCK ROAD 955 METERS UPSTREAM OF ROY ORR BLVD IN NORTH ARLINGTON

11084—LOWER WEST FORK TRINITY RIVER 590 METERS DOWNSTREAM OF SH 360 IN GRAND PRAIRIE

11086—LOWER WEST FORK TRINITY RIVER 2.87 KM UPSTREAM OF SH 360 IN NORTH ARLINGTON

11087—LOWER WEST FORK TRINITY RIVER AT FM 157 IN ARLINGTON

11088—LOWER WEST FORK TRINITY RIVER IMMEDIATELY UPSTREAM OF TRAMMEL- DAVIS ROAD IN FORT WORTH

11089—TRINITY RIVER 194 METERS DOWNSTREAM OF WEST LOOP SH 12 IN DALLAS

17160—LOWER WEST FORK TRINITY RIVER IMMEDIATELY UPSTREAM OF GREENBELT ROAD DOWNSTREAM OF VILLAGE CREEK WWTP OUTFALL IN FT WORTH

17669—LOWER WEST FORK TRINITY RIVER AT ROY ORR BOULEVARD IN GRAND PRAIRIE

0841B

10864—BEAR CREEK AT MACARTHUR BOULEVARD IN IRVING

10865—BEAR CREEK 16 METERS DOWNSTREAM OF WEST HUNTER FERRELL ROAD IMMEDIATELY WEST OF THE INTERSECTION WITH SOUTH STORY ROAD IN IRVING

10866—BEAR CREEK IMMEDIATELY UPSTREAM OF SOUTH BELTLINE RD 1.05 KM SOUTH OF SHADY GROVE ROAD IN IRVING

10867—BEAR CREEK AT ROCK ISLAND ROAD IN IRVING

10868—BEAR CREEK IMMEDIATELY UPSTREAM OF VALLEY VIEW LANE IN IRVING

10869—BEAR CREEK 37 METERS DOWNSTREAM OF COUNTY LINE ROAD SOUTH OF SR 183 IN IRVING

17663—BEAR CREEK 70 METERS DOWNSTREAM OF WEST SHADY GROVE ROAD IN GRAND PRAIRIE

18313—BEAR CREEK 16 METERS DOWNSTREAM OF W HUNTER FERRELL ROAD NEAR INTERSECTION OF STORY ROAD 130 M WEST OF MACARTHUR BOULEVARD IN IRVING

18315—BEAR CREEK AT COUNTY LINE ROAD 487 M SOUTH OF SH 183 IN IRVING

0841C

17666—ARBOR CREEK AT EGYPTIAN WAY IN GRAND PRAIRIE

0841D

17089—BIG BEAR CREEK IMMEDIATELY UPSTREAM OF EULESS-GRAPEVINE ROAD IN GRAPEVINE EAST OF HWY 360

0841E
17672—COPART BRANCH MOUNTAIN CREEK/MUCK RUN IMMEDIATELY DOWNSTREAM OF IDLEWILD ROAD IN GRAND PRAIRIE

0841F
10723—UNNAMED TRIBUTARY OF COTTONWOOD CREEK AT NORTH BOUND DIRECTION OF FORUM DRIVE IN ARLINGTON

17674—COTTONWOOD CREEK IMMEDIATELY UPSTREAM OF SOUTHWEST 3RD STREET IN GRAND PRAIRIE

17676—SOUTH FORK COTTONWOOD CREEK AT ROBINSON ROAD IN GRAND PRAIRIE

0841G
17671—DALWORTH CREEK IMMEDIATELY UPSTREAM OF WEST PALACE PARKWAY IN GRAND PRAIRIE

0841H
10871—DELAWARE CREEK AT WEST 2ND STREET/SR 356 IN IRVING

17175—DELAWARE CREEK AT NORTH STORY ROAD 610 METERS UPSTREAM OF SH 183 IN IRVING

17176—DELAWARE CREEK IMMEDIATELY DOWNSTREAM OF NORTH MACARTHUR IN IRVING

17177—DELAWARE CREEK IMMEDIATELY DOWNSTREAM OF EAST SHADY GROVE ROAD IN IRVING

17178—DELAWARE CREEK IMMEDIATELY DOWNSTREAM OF EAST OAKDALE ROAD IN IRVING

18314—DELAWARE CREEK 82 M UPSTREAM OF WEST 2ND STREET IN IRVING

0841I
17173—DRY BRANCH IMMEDIATELY UPSTREAM OF SOUTH BELTLINE ROAD IN IRVING

0841J
17174—ESTELLE CREEK 79 METERS UPSTREAM OF WEST PIONEER DRIVE IN IRVING

0841K
10724—FISH CREEK NORTH BRANCH AT SH 360 SOUTHBOUND SERVICE ROAD APPROXIMATELY 365 METERS SOUTH OF EAST MAYFIELD ROAD IN ARLINGTON

10725—FISH CREEK SOUTH BRANCH AT SH 360 SOUTH BOUND SERVICE ROAD APPROXIMATELY 75 METERS SOUTH OF GREEN OAKS BOULEVARD IN ARLINGTON

17677—FISH CREEK SOUTH BRANCH AT ROBINSON ROAD APPROXIMATELY 180 METERS SOUTH OF I-20 IN GRAND PRAIRIE

17679—FISH CREEK AT BELTLINE ROAD/FM1382 APPROXIMATELY 205 METERS SOUTH OF THE INTERSECTION OF SE 14TH STREET

20342—FISH CREEK IN FISH CREEK PRESERVE 662 METERS DOWNSTREA OF S CARRIER PARKWAY AND 59 METERS DUE SOUTH OF THE INTERSECTION OF E CROSSLAND BOULEVARD AND E VERDE WOODS STREET IN GRAND PRAIRIE

0841L
10719—JOHNSON CREEK AT SH 360 IN ARLINGTON

10721—JOHNSON CREEK AT SH 303 IN ARLINGTON

17664—JOHNSON CREEK 78 METERS UPSTREAM OF NORTH CARRIER PARKWAY IN GRAND PRAIRIE

17665—JOHNSON CREEK AT DUNCAN PERRY ROAD IN GRAND PRAIRIE

18311—JOHNSON CREEK 425 M DOWNSTREAM OF DUNCAN PERRY ROAD IN GRAND PRAIRIE

0841M
10792—KEE BRANCH AT WEST PLEASANT RIDGE ROAD IN ARLINGTON

15103—KEE BRANCH CREEK 126 METERS DOWNSTREAM OF BARDIN RD 0.5 MI UPSTREAM OF IH 20 AT CLIFF NELSON RECREATION CENTER IN ARLINGTON

16896—KEE BRANCH AT MAYFIELD ROAD NORTH OF I 20 IN ARLINGTON

0841N
17675—KIRBY CREEK AT CORN VALLEY ROAD IN GRAND PRAIRIE

0841O

10815—MOUNTAIN CREEK IMMEDIATELY DOWNSTREAM OF SINGLETON BLVD IN GRAND PRAIRIE

13672—MOUNTAIN CREEK IMMEDIATELY UPSTREAM OF CAMP WISDOM ROAD 0.6 MI DOWNSTREAM OF JOE POOL LAKE DAM 4.9 MI WEST OF WATER TOWERS IN DUNCANVILLE

17681—MOUNTAIN CREEK IMMEDIATELY UPSTREAM OF EAST CAMP WISDOM ROAD IN GRAND PRAIRIE

17682—MOUNTAIN CREEK AT WEST JEFFERSON BOULEVARD IN GRAND PRAIRIE

0841P

10722—COTTONWOOD CREEK AT TIMBERLAKE DRIVE IN ARLINGTON

17673—NORTH FORK COTTONWOOD CREEK IMMEDIATELY UPSTREAM OF WEST FREEWAY STREET IN GRAND PRAIRIE

0841Q

17678—FISH CREEK NORTH BRANCH AT ROBINSON ROAD APPROXIMATELY 220 METERS NORTH OF I-20 IN GRAND PRAIRIE

0841R

10788—RUSH CREEK 516 METERS UPSTREAM OF SH 180 IN ARLINGTON

10790—RUSH CREEK 39 METERS UPSTREAM OF WEST PLEASANT ROAD IN ARLINGTON

10791—RUSH CREEK IMMEDIATELY DOWNSTREAM OF WEST SUBLETT ROAD IN ARLINGTON

17190—RUSH CREEK AT IH 20 IN ARLINGTON

17191—RUSH CREEK 46 METERS UPSTREAM OF SH 180 IN ARLINGTON

0841S

15624—VILBIG LAKE AT UNNAMED CREEK CONFLUENCE AT NORTHWEST CORNER OF LAKE 49 M SOUTH OF RUSDELL DR AND MARVELL DR INTERSECTION IN IRVING

0841T

10778—VILLAGE CREEK 274 METERS UPSTREAM OF IH 30 IN ARLINGTON

17189—VILLAGE CREEK IMMEDIATELY UPSTREAM OF IH 30 IN ARLINGTON

0841U

17179—WEST IRVING BRANCH AT WEST VILBIG STREET IN IRVING

0841V

17683—CROCKETT BRANCH COTTONWOOD CREEK 179 METERS DOWNSTREAM OF EAST GRAND PRAIRIE ROAD IN GRAND PRAIRIE