

Brazos River Basin Summary Report 2012



Brazos River Authority

Executive Summary

Introduction

The principal aim of the Texas Clean Rivers Program (CRP) is to ensure safe, clean water supplies for the future of Texans' drinking water needs, industry, agriculture, healthy ecosystems, and recreation and for all other uses of this valuable state resource. The Brazos River Authority, as a member of the Texas Clean Rivers Program, works to answer questions about the quality of our local streams, rivers and lakes in the *Brazos River Basin Summary Report 2012*. The report also summarizes the results of the ongoing water quality assessment activities in the Brazos River basin under the Texas Clean Rivers Program. Based on an evaluation of recent water quality monitoring data from the Brazos River basin, various impairments and concerns are highlighted for particular rivers, lakes and creeks.

In the 14 major watersheds of the Brazos River Basin one can find examples of both high quality waters, as well as streams that have been degraded by human settlement and development activities. Amid an overall trend of generally good water quality in the basin, there are problem areas to address and issues on which management agencies and stakeholders must focus.

Water Quality Monitoring Activities

Although the Brazos River Authority is the primary agency collecting water quality monitoring data in the Brazos River basin, it also works closely with the Texas Commission on Environmental Quality (TCEQ) and other CRP Partners. All data is collected under TCEQ approved Quality Assurance Project Plans with all laboratory analysis performed by NELAP accredited laboratories and undergoes a rigorous quality assurance and quality control process.

Ambient water quality monitoring is coordinated through the Authority's Clean Rivers Program Technical Advisory Committee. A Coordinated Monitoring Schedule for the Brazos River Basin is developed in the spring of each year and is implemented in September of each year. The purpose of this Coordinated Monitoring Schedule is to reduce duplication of effort between agencies, to maximize limited monitoring funds and ensure monitoring coverage of the entire basin.

Currently, there are over 252 active ambient water quality monitoring stations in the 14 watersheds. Parameters monitored vary by station depending on the concerns of the waterbody. A core set of field parameters is collected at each site and includes: water temperature, dissolved oxygen, conductivity, salinity and pH.

In addition to ambient water quality monitoring, the Authority has aided in and conducted special studies throughout the basin that required targeted monitoring to address specific pollutants as well as biological and habitat assessments. Each special study was selected because it was a basin priority.

Data Analysis

Having data to analyze is the objective of these monitoring activities. Data analysis results are shared with the TCEQ and basin CRP Stakeholders on a routine basis and are used to develop future monitoring programs and to identify issues. Data collected through CRP are available to the public at the BRA hosted webpage <http://crpdata.brazos.org/> as well as the TCEQ webpage <http://www.tceq.texas.gov/waterquality/clean-rivers/data/samplequery.html>.

Top 10 Water Quality Management Issues Facing the Brazos River Basin

EXCEEDANCE OF STATE STANDARDS

- Concerns for recreation due to elevated bacteria levels are pervasive throughout the Brazos River Basin with 74 segment impairments.
- Dissolved oxygen depletion which may negatively impact aquatic life with 10 segment impairments.
- Natural salt which impacts the usability of water for human consumption in the Brazos River with 5 segment impairments for chloride and/or sulfate and/or TDS.
- Evaluate stream standards to ensure that they are appropriate before listing segments for water quality violations.

DATA NEEDS

- Respond to the listing (support or refute) of stream segments on the Integrated Report.
- Data elements such as rainfall, flow, and other climatic and geographic conditions to determine if a listed or suspected impairment is naturally occurring, especially in relatively undeveloped watersheds.
- Collection of accurate flow information to correlate with regional water quality data to better understand that data.

NONPOINT SOURCE POLLUTION, STORMWATER DISCHARGE AND RUNOFF

- Work to determine the actual role stormwater conveyances play in the cause of elevated bacteria levels.
- Accumulation of pesticides, fertilizers and animal waste from residential properties and agricultural practices.
- Sedimentation and turbidity from soil and bank erosion, quarrying and construction activities, along with the transport of other pollutants with sediment.
- Accumulation of trash and other debris from littering and illegal dumping.

WASTEWATER

- Maintaining the progress made in the quality of municipal and industrial point source discharges.
- Closer oversight and technical assistance to the numerous small wastewater dischargers in the basin.
- Regionalize wastewater treatment facilities whenever possible to reduce the problems caused by inadequately-operated smaller plants that are dispersed across the basin and the problems caused by the high concentration of aging, poorly functioning on-site sewage disposal systems in population growth centers.
- Burden on local governments to finance and accomplish major capital improvements, especially in response to state and federal mandates, budget cuts, and the problems caused by aging infrastructure.

WATERSHED MANAGEMENT

- Watershed-based management strategies built on stakeholder involvement.
- Coordinating and integrating concurrent assessment and management programs whenever possible.
- Focus on microwatershed concerns for nonpoint source runoff, point source discharges, accidental spills and illegal dumping.
- Determine continuous sources of contamination.

ECOSYSTEMS

- Inadequate management of shoreline and riparian areas adjacent to waterways.
- Physical alteration and disruption of waterways and their associated natural drainage systems, wetlands, floodplains, and riparian areas:
 - erosion and sedimentation
 - loss of stabilizing, filtering, and shading vegetation
 - stream diversions
 - man-made, dead-end canals and channels
 - impacts on boating traffic
 - Impacts of degraded water quality on aquatic life and on species abundance and diversity.

FUNDING

- Stable, adequately-funded, long-term water quality monitoring programs.
- Implementation funds to address problems in areas where small communities or low-income residents do not have the resources.
- Funds to help communities improve aging infrastructure.

PUBLIC EDUCATION

- Public education on the role that individual citizens play in pollution prevention and the cumulative effects of individual actions.
- Public resistance to land use regulation and other measures that would impact individuals and private property.
- Effectiveness of voluntary water quality protection efforts on private lands, particularly for agricultural lands and residential properties.
- Importance of basic water aesthetics to the general public.

ENFORCEMENT

- Difficulty of illegal dumping prevention and enforcement of ordinances already in place.
- Difficulty of identifying illegal dischargers and enforcement of regulations already in place.
- Prevention of the proliferation of non-native, invasive species and enforcement on those trading in these species.
- Education of rural law enforcement and judicial personnel regarding environmental laws and prosecution of environmental crimes.

NATURAL SALT

- Brine springs in the upper region of the basin impact the Brazos River with elevated chloride levels affecting water use and availability.
- Burden on local governments and industry to finance advanced treatment technologies to produce potable water from the Brazos River.
- Difficulty of disposal of highly concentrated brine from the advanced treatment process.

Results

The Brazos River Clean Rivers Program's watersheds are spread over a wide variety of land uses and ecoregions. Water travels from the undeveloped regions through increasingly urbanized areas, through arid West Texas to wet Gulf Coastal Plains and finally into the Gulf of Mexico. The largest water quality management issue facing the Brazos River basin is the intrusion of natural salt into the mainstem of the Brazos River from brine springs in the northern portion of the basin and from the Gulf of Mexico in the south.

Elevated chlorides and total dissolved solids affect water usability along the entire mainstem. Bacteria and nutrients are a problem in over one third of the basin's segments. The problems caused by human activity can be controlled through proper management of wastewater systems and through implementing best management practices in the basin. Throughout this report, the Authority has outlined areas that need more detailed analysis or more information to better assess water quality conditions. The Authority will continue to coordinate with the Technical Advisory Committee and local entities to gather this data. As the Authority gains understanding of the dynamics within each of the watersheds, we are able to better inform and educate the public on water quality in their community. To address all the problems identified in this report will require continued participation by local stakeholders in addition to federal, state and regional entities. The most important factor determining the success of activities to improve the waters of the Brazos basin will be the commitment and understanding of individuals in the basin to water quality.

**Status of Water Bodies
in the Brazos River Basin
(from the 2010 Integrated Report)**

NS - indicates a segment is non-supporting for a designated use, or impaired

CS - indicates a segment has a concern for water quality based on screening levels

CN - indicates a segment has concern for near-nonattainment of applicable water quality standards

Entries in **BOLD** were newly listed in 2010

If there is a special project detailed in the report for a segment to address a water quality issue, the Special Project field will contain an "X"

Watershed of the Salt and Double Mountain Forks

Water Body	Segment	Parameter(s) Impairment and/or Concern	Special Study
North Fork Double Mountain Fork Brazos River	1241A_01	Bacteria – CN Nutrients and/or Chl a – CS	
	1241A_02	Bacteria – NS	
Buffalo Springs Lake	1241C_01	Nutrients and/or Chl a – CS	
Lake Alan Henry	1241B_01	Mercury in Edible tissue – NS	
White River Lake	1240_01	TDS, Cl, SO4 – NS	
Double Mountain Fork Brazos River	1241_01	TDS, Cl – NS Bacteria – NS	
	1241_02	TDS, Cl – NS	
Croton Creek	1238A_01	Bacteria – CS	
Miller's Creek Reservoir	1208A_01	Bacteria – CS DO – CS	
Brazos River Above Possum Kingdom Lake	1208_02	Bacteria – NS	X
	1208_04		
	1208_05	Bacteria – NS Nutrients and/or Chl a – CS	X

Watershed of the Clear Fork

Water Body	Segment	Parameter(s) Impairment and/or Concern	Special Study
Clear Fork Brazos River	1232_02	Nutrients and/or Chl a – CS	
	1232_03	DO – CS Nutrients and/or Chl a – CS	
California Creek	1232A_01	Bacteria – NS Nutrients and/or Chl a – CS	X
Deadman Creek	1232B_01	Bacteria – NS Nutrients and/or Chl a – CS	
	1232B_02	Bacteria – CN	
Paint Creek	1232C_01	Nutrients and/or Chl a – CS	
Big Sandy Creek	1233A_01	Bacteria – CN	

Upper Watershed

Water Body	Segment	Parameter(s) Impairment and/or Concern	Special Study
Brazos River Above Possum Kingdom Lake	1208_01	Bacteria – NS Nutrients and/or Chl a – CS	X
Brazos River Below Possum Kingdom Lake	1206_01 1206_02	Habitat - CS Macrobenthics – CN	X
Lake Granbury	1205_02 1205_03 1205_05	Nutrients and/or Chl a – CS	X
Squaw Creek	1229A_01	Nutrients and/or Chl a – CS Habitat - CS	
Brazos River Below Granbury	1204_02	Nutrients and/or Chl a – CS	X
Camp Creek	1204A_01	Bacteria – NS Nutrients and/or Chl a – CS	
Squaw Creek Reservoir	1229A_01	Nutrients and/or Chl a – CS	
Nolan River	1227_01 1227_02	TDS, Cl, SO4 – NS Nutrients and/or Chl a – CS	
Buffalo Creek	1227A_01	Nutrients and/or Chl a – CS	
Lake Pat Cleburne	1228_01	Nutrients and/or Chl a – CS	
Whitney Lake	1203_01	DO – CN	
	1203_03 1203_05 1203_06	Nutrients and/or Chl a – CS	
	1257_01	Nutrients and/or Chl a – CS	X

Aquilla Creek Watershed

Water Body	Segment	Parameter(s) Impairment and/or Concern	Special Study
Aquilla Reservoir	1254_01 1254_02	Nutrients and/or Chl a – CS	
	1254_03	Nutrients and/or Chl a – CS Sediment – CS	
	1254A_01	DO – CS Nutrients and/or Chl a – CS	
Aquilla Creek	1256A_01	Nutrients and/or Chl a – CS	X

Bosque River Watershed

Water Body	Segment	Parameter(s) Impairment and/or Concern	Special Study
Upper North Bosque River	1255_01	Bacteria – NS Nutrients and/or Chl a – CS Fish Kill Report – CN	
	1255_02	Bacteria – NS DO – NS Nutrients and/or Chl a – CS Fish Kill Report – CN	
Goose Branch	1255A_01	Bacteria – CN Nutrients and/or Chl a – CS	
North Fork Upper North Bosque River	1255B_01	Bacteria – NS Nutrient – CS	
Scarborough Creek	1255C_01	Bacteria – NS Nutrients and/or Chl a – CS	
South Fork North Bosque River	1255D_01	Bacteria – NS Nutrients and/or Chl a – CS	
Unnamed Tributary of Goose Branch	1255E_01	Bacteria – NS Nutrients and/or Chl a – CS	

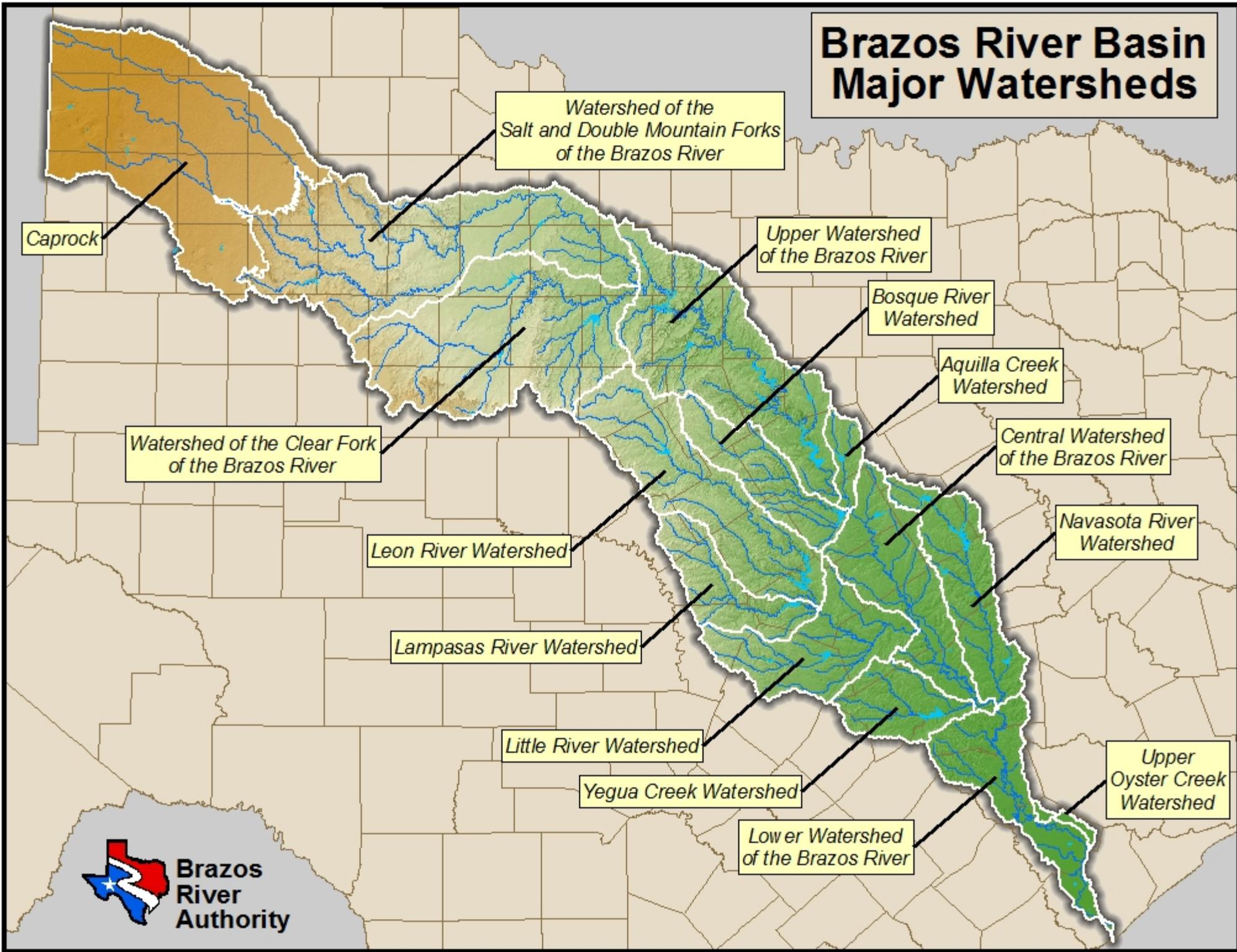
Bosque River Watershed (cont.)

Water Body	Segment	Parameter(s) Impairment and/or Concern	Special Study
Unnamed Tributary of Scarborough Creek	1255F_01	Bacteria – NS	
Woodhollow Branch	1255G_01	Bacteria – NS	
South Fork Upper North Bosque River Reservoir	1255H_01	DO – CS	
Dry Branch	1255I_01	Bacteria – NS Nutrients and/or Chl a – CS	
Goose Branch Reservoir	1255J_01	Nutrients and/or Chl a – CS	
Scarborough Creek Reservoir	1255K_01	Nutrients and/or Chl a – CS	
North Bosque River	1226_02	DO – CN Nutrients and/or Chl a – CS	X
	1226_03	Nutrients and/or Chl a – CS	X
	1226_04	Nutrients and/or Chl a – CS Macrobenthics – CN	X
Green Creek	1226B_01	DO – NS Nutrients and/or Chl a – CS	
Indian Creek	1226E_01	Bacteria – NS Nutrients and/or Chl a – CS	
Sims Creek	1226F_01	Bacteria – NS Nutrients and/or Chl a – CS	
Alarm Creek	1226H_01	Bacteria – NS Nutrients and/or Chl a – CS	
Little Duffau Creek	1226K_01	Bacteria – NS Nutrients and/or Chl a – CS	
Little Green Creek	1226M_01	Bacteria – NS	
Indian Creek Reservoir	1226N_01	Nutrients and/or Chl a – CS	
Sims Creek Reservoir	1226O_01	DO – CS Nutrients and/or Chl a – CS	
Waco Lake	1225_01 1225_02 1225_03	Nutrients and/or Chl a – CS	X
Middle Bosque/South Bosque River	1246_01 1246_02	Nutrients and/or Chl a – CS	X
Tonk Creek	1246D_01	Nutrients and/or Chl a – CS	
Wasp Creek	1246E_01	Nutrients and/or Chl a – CS	

Leon River Watershed

Water Body	Segment	Parameter(s) Impairment and/or Concern	Special Study
Nolan Creek/South Nolan Creek	1218_02	Bacteria – NS Nutrients and/or Chl a – CS	X
Little Nolan Creek	1218C_01	Bacteria – NS	
Leon River Below Belton Lake	1219_01	Nutrients and/or Chl a – CS	
Belton Lake	1220_01 1220_03	Fish Kill Report – CN	
Cowhouse Creek	1220A_03	Bacteria – NS	
Leon River Below Proctor Lake	1221_01	Bacteria – NS DO – CS Nutrients and/or Chl a – CS	X
	1221_03	Nutrients and/or Chl a – CS	X
	1221_04	Bacteria – NS Nutrients and/or Chl a – CS	X
	1221_05	Bacteria – NS DO – CS Nutrients and/or Chl a – CS	X

Brazos River Basin Major Watersheds



Leon River Watershed (cont.)

Water Body	Segment	Parameter(s) Impairment and/or Concern	Special Study
Leon River Below Proctor Lake	1221_06	Bacteria – NS Nutrients and/or Chl a – CS	X
	1221_07	Bacteria – NS Nutrients and/or Chl a – CS	X
Resley Creek	1221A_01	Bacteria – NS DO – NS Nutrients and/or Chl a – CS	X
	1221A_02	Bacteria – NS Nutrients and/or Chl a – CS	X
South Leon River	1221B_01	Bacteria – NS DO – CS	X
Indian Creek	1221D_01	Bacteria – NS DO – CN	X
	1221D_02	Bacteria – NS Nutrients and/or Chl a – CN	X
Walnut Creek	1221F_01	Bacteria – NS	X
Proctor Lake	1222_01 1222_02 1222_03	Nutrients and/or Chl a – CS	
Duncan Creek	1222A_01	Bacteria – NS DO – CN	X
Rush-Copperas Creek	1222B_01	Bacteria – NS	X
Sabana River	1222C_01	Bacteria – NS	
Sowells Creek	1222D_01	Bacteria – CN	
Sweetwater Creek	1222E_01	Bacteria – NS	X
Hackberry Creek	1222F_01	Bacteria – CN DO – CS	
Leon River Below Leon Reservoir	1223_01	Bacteria – NS DO – NS Nutrients and/or Chl a – CS	X
Armstrong Creek	1223A_01	Bacteria – NS	
Cow Creek	1223B_01	Bacteria – CN Nutrients and/or Chl a – CS	

Lampasas River Watershed

Water Body	Segment	Parameter(s) Impairment and/or Concern	Special Study
Lampasas River Below Stillhouse Hollow Lake	1215_01	Bacteria – NS	
Trimmier Creek	1216A_01	Bacteria – NS	X
Sulphur Creek	1217B_02	DO – NS	
North Rocky Creek	1217D_01	DO – NS	
Salado Creek	1243_01 1243_02	Nutrients and/or Chl a – CS	X

Little River Watershed

Water Body	Segment	Parameter(s) Impairment and/or Concern	Special Study
Little River	1213_01	Bacteria – NS Nutrients and/or Chl a – CS	X
	1213_02 1213_03	Bacteria – CN	X
	1213_04	Bacteria – NS	X
	1213A_01	Bacteria – NS	
Little Elm Creek	1213B_01	Nutrients and/or Chl a – CS	
Unnamed Tributary of Little Elm Creek	1213C_01	Nutrients and/or Chl a – CS Habitat – CS	
San Gabriel River	1214_01	Bacteria – NS Cl, SO4 – NS Nutrients and/or Chl a – CS	
	1214_02	Cl, SO4 – NS	
Trimmier Creek	1216A_01	Macrobenthics – CN	
Brushy Creek	1244_03	Bacteria – NS Nutrients and/or Chl a – CS	X
	1244_04	Bacteria – NS	X
South Brushy Creek	1244D_01	Nutrients and/or Chl a – CS	
Granger Lake	1247_01 1247_02 1247_03	Nutrients and/or Chl a – CS	X
	1247A_01	Bacteria – NS Nutrients and/or Chl a – CS	X
	1248_01	Cl – NS	X
Huddleston Branch	1248B_01	Bacteria – CN Nutrients and/or Chl a – CS	
Mankins Branch	1248C_01	Bacteria – NS Nutrients and/or Chl a – CS Habitat – CS	X
South Fork San Gabriel River	1250_03	DO – CS	X

Central Watershed

Water Body	Segment	Parameter(s) Impairment and/or Concern	Special Study
Brazos River/Lake Brazos	1256_02	Nutrients and/or Chl a – CS	
Brazos River Above Navasota River	1242_05	Nutrients and/or Chl a – CS	X
Marlin City Lake System	1242A_01 1242A_02	Nutrients and/or Chl a – CS	
	1242B_01 1242B_02	Bacteria – NS Nutrients and/or Chl a – CS Bacteria – NS	
Still Creek	1242C_01 1242C_02	Bacteria – NS Nutrients and/or Chl a – CS Bacteria – NS	
	1242D_01	Bacteria – NS Nutrients and/or Chl a – CS	X
Thompson Creek	1242D_02	Bacteria – NS DO – NS Nutrients and/or Chl a – CS	X
	1242F_01	Bacteria – NS	

Central Watershed (cont.)

Water Body	Segment	Parameter(s) Impairment and/or Concern	Special Study
Tradinghouse Reservoir	1242H_01	Harmful Algal Bloom /Golden Algae – CN	
Campbells Creek	1242I_01	Bacteria – NS	X
Deer Creek	1242J_01	Bacteria – NS	X
Mud Creek	1242K_01	Bacteria – NS	X
Pin Oak Creek	1242L_01	Bacteria – NS	X
Spring Creek	1242M_01	Bacteria – NS	X
Tehuacana Creek	1242N_01	DO – CS Nutrients and/or Chl a – CS Fish Kill Report – CN	X
Walnut Creek	1242O_01	Bacteria – NS	X
Big Creek	1242P_01	Bacteria – NS	

Navasota River Watershed

Water Body	Segment	Parameter(s) Impairment and/or Concern	Special Study
Navasota River Below Lake Limestone	1209_01	Nutrients and/or Chl a – CS	X
	1209_02	Bacteria – NS	X
	1209_03		
	1209_05		
Country Club Lake	1209A_01	Sediment – NS Nutrients and/or Chl a – CS	
Fin Feather Lake	1209B_01	Sediment – NS Nutrients and/or Chl a – CS	
Carters Creek	1209C_01	Bacteria – NS Nutrients and/or Chl a – CS	X
Country Club Branch	1209D_01	Bacteria – NS	
Wickson Creek	1209E_01	Bacteria – NS DO – CS	
Cedar Creek	1209G_01	Bacteria – NS DO – CS Habitat – CS	
Duck Creek	1209H_01 1209H_02	Bacteria – NS DO – CS	
Gibbons Creek	1209I_01	Bacteria – NS	
	1209I_02	Bacteria – CN	
Shepherd Creek	1209J_01	Bacteria – NS DO – CN	
Steele Creek	1209K_02	Bacteria – NS	
Burton Creek	1209L_01	Bacteria – NS Nutrients and/or Chl a – CS	X

Yegua Creek Watershed

Water Body	Segment	Parameter(s) Impairment and/or Concern	Special Study
Davidson Creek	1211A_02	Bacteria – NS DO – NS	X
Somerville Lake	1212_01	DO – NS High pH – NS Nutrients and/or Chl a – CS Harmful Algal Bloom /Golden Algae – CN	X
	1212_02	Harmful Algal Bloom /Golden Algae – CN	X
	1212_03	High pH – NS Nutrients and/or Chl a – CS	X
	1212_04	High pH – NS Harmful Algal Bloom /Golden Algae – CN Nutrients and/or Chl a – CS	X

Yegua Creek Watershed (cont.)

Water Body	Segment	Parameter(s) Impairment and/or Concern	Special Study
Middle Yegua Creek	1212A_02	Bacteria – NS DO – CS Macrobenthics – CN Habitat – CS	
East Yegua Creek	1212B_01	Bacteria – NS	X

Lower Watershed

Water Body	Segment	Parameter(s) Impairment and/or Concern	Special Study
Brazos River Tidal	1201_01	Nutrients and/or Chl <i>a</i> – CS	
Brazos River Below Navasota River	1202_02	Nutrients and/or Chl <i>a</i> – CS	
Allen's Creek	1202H_01	Bacteria – NS DO – CS Nutrient – CS	X
Big Creek	1202J_01	Fish Community – CN Habitat – CS Nutrients and/or Chl <i>a</i> – CS	
	1202J_02	Nutrients and/or Chl <i>a</i> – CS	
Mill Creek	1202K_01	Bacteria – NS	X
Pond Creek	1202P_01	Nutrients and/or Chl <i>a</i> – CS	
Bullhead Bayou	1245C_01	Bacteria – NS	X
Unnamed Tributary of Bullhead Bayou	1245D_01	Bacteria – NS	X
Alcorn Bayou	1245F_01	Bacteria – NS Nutrients and/or Chl <i>a</i> – CS	
Steep Bank Creek	1245I_01	Bacteria – NS Nutrients and/or Chl <i>a</i> – CS	

Upper Oyster Creek Watershed

Water Body	Segment	Parameter(s) Impairment and/or Concern	Special Study
Upper Oyster Creek	1245_01 1245_02 1245_03	DO – NS Nutrients and/or Chl <i>a</i> – CS	X
Red Gully	1245A_01	Bacteria – CN Nutrients and/or Chl <i>a</i> – CS	
Flewellen Creek	1245E_01	Bacteria – CN	
Stafford Run	1245J_01	Bacteria – CN Nutrients and/or Chl <i>a</i> – CS	

Conclusions

In respect to aquatic life, water quality is generally in good shape in the Brazos River basin. There are a few isolated streams with dissolved oxygen issues but these are typically small, shallow streams with intermittent flow that are unable to buffer against high ambient air temperatures experienced in Texas.

We do have significant bacteria problems throughout the basin that impairs water's use for contact recreation. Most of the problem areas are streams with characteristics similar to those with dissolved oxygen impairments; small, rural, intermittent streams. Fortunately, these streams are rarely used for contact recreation.

Bacteria can be controlled through proper management and maintenance of wastewater systems and by implementing appropriate Best Management Practices; however, part of the problem occurs naturally and is beyond control.

There are also growing concerns in many parts of the basin for elevated nutrient levels. With a predominantly rural watershed this will be a major issue for the basin in the future. High nutrient levels can lead to algal blooms and eutrophication of reservoirs. Water bodies with high nutrient levels can be unpleasant, with frequently occurring musty odors and poor water clarity. Nutrient enrichment can be caused by a number of factors, including: failing on-site sewage systems, poor wastewater processing, and nonpoint source pollution. Many nutrient problems can be improved by good infrastructure maintenance, applying BMPs and ensuring that fertilizers are used appropriately.

Overall, there is a good understanding of the water quality problems that exist in the basin. Focus will remain on the known problems and the process of working with various other state and federal agencies and local governments and stakeholders to address these problems.

Because water quality issues frequently move downstream, watershed-based planning and education will be the cornerstone to addressing water quality issues. When individuals recognize that their actions have an impact on water quality, remarkable changes will be made in the cumulative impact that individuals have on the quality of water in their communities. As the population grows, human impacts to water quality and quantity will increase without rigorous education.

It is going to require the continued efforts of every governmental entity, industry and citizen to resolve issues identified in this report.

Basin Summary Report CD Contents

Chapters

Acknowledgements is a section thanking all those who have participated in the Brazos River Basin Clean Rivers Program.

Introduction contains a review of the Clean Rivers Program, its goals, priorities, and the purpose of this report. It also contains a description of the Brazos River Basin's characteristics and water quality management issues.

Public Involvement reviews the Authority's public outreach programs.

Water Quality Review provides descriptions of water quality parameters and terminology, and a brief description of the data analysis process used to develop conclusions regarding water quality in various parts of the basin. Watershed summaries are also in this chapter, providing summaries of watershed characteristics, water resource issues, and water management issues facing each watershed. This section also allows interested individuals to drill more deeply into the water quality of specific watersheds of the Brazos River basin.

Conclusions and Recommendations summarizes the water quality issues identified in the basin and makes specific recommendations for future water quality monitoring and activities.



Brazos River
Authority



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