



August 31, 2009
FINAL

July 2009 Update to the Texas Water Quality Management Plan

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Office of Permitting & Registration, Water Quality Division

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

July 2009 Update to the Texas Water Quality Management Plan

Compiled and distributed by the
Water Quality Assessment Section
Water Quality Division
Texas Commission on Environmental Quality
P.O. Box 13087, MC-150
Austin, Texas 78711-3087

August 2009

WQMP updates are also available on the TCEQ web site at:
<www.tceq.state.tx.us/nav/eq/eq_wqmp.html>

Developed in accordance with Sections 205(j)
and 208 of the Federal Clean Water Act
and applicable regulations thereto.



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Table of Contents

Introduction	1
Projected Effluent Limit Updates	2
Total Maximum Daily Load Updates	5

Tables

Table 1. Projected Effluent Limit Updates	3
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Appendixes

Appendix I. Two Total Maximum Daily Loads for Total Dissolved Solids and Chlorides in Clear Creek Above Tidal For Segment 1102	6
Appendix II. Two Total Maximum Daily Loads for Chloride and Total Dissolved Solids in the Colorado River Below E. V. Spence Reservoir For Segment Number 1426	8
Appendix III. Two Total Maximum Daily Loads for Total Dissolved Solids and Sulfate in E. V. Spence Reservoir For Segment Number 1411	10
Appendix IV. Two Total Maximum Daily Loads for Phosphorus in the North Bosque River For Segments 1226 and 1255	11
Appendix V. Six Total Maximum Daily Loads for Bacteria in waters of the Upper Gulf Coast For Segments 2421, 2422, 2423, 2424 and 2439	12

Introduction

The Texas Water Quality Management Plan (WQMP) is the product of a wastewater treatment facility planning process developed and updated in accordance with provisions of Sections 205(j), 208, and 303 of the federal Clean Water Act (CWA), as amended. The WQMP is an important part of the State's program for accomplishing its clean water goals.¹

The Texas Department of Water Resources, a predecessor agency of the Texas Commission on Environmental Quality (TCEQ), prepared the initial WQMP for waste treatment management during the late 1970s. The Clean Water Act mandates that the WQMP be updated as needed to fill information gaps and revise earlier certified and approved plans. Any updates to the plan need involve only the elements of the plan that require modification. The original plan and its subsequent updates are collectively referred to as the State of Texas Water Quality Management Plan.

The WQMP is tied to the State's water quality assessments that identify priority water quality problems. The WQMPs are used to direct planning for implementation measures that control and/or prevent water quality problems. Several elements may be contained in the WQMP, such as effluent limitations of wastewater facilities, total maximum daily loads (TMDLs), nonpoint source management controls, identification of designated management agencies, and ground water and source water protection planning. Some of these elements may be contained in separate documents which are prepared independently of the current WQMP update process, but may be referenced as needed to address planning for water quality control measures.

This document, as with previous updates², will become part of the WQMP after completion of its public participation process, certification by the TCEQ on behalf of the Governor of Texas, and approval by the Environmental Protection Agency (EPA). The materials presented in this document revise only the information specifically addressed in the following sections. Previously certified and approved water quality management plans remain in effect.

The July 2009 WQMP update addresses the following topics:

1. Projected Effluent Limits Updates for water quality planning purposes
2. Total Maximum Daily Load Updates

The Projected Effluent Limit Update section provides information compiled from May 1, 2009 through July 31, 2009, and is based on water quality standards, and may be used for water quality planning purposes in Texas Pollutant Discharge Elimination System (TPDES) permit actions.

The Total Maximum Daily Load (TMDL) Update section provides information on proposed waste load allocations for new dischargers and revisions to existing TMDLs and has been developed by the Water Quality Planning Division, TMDL Program.

¹ A formal definition for a water quality management plan is found in 40 Code of Federal Regulations (CFR) 130.2(k).

² Fiscal Years 1980, 1981, 1982, 1983, 1984/85, 1986/88, 1989, 1990, 1991, 1992, 1993/94, 1995, 1996, 1997/98, 02/1999, 05/1999, 07/1999, 10/1999, 01/2000, 04/2000, 07/2000, 10/2000, 01/2001, 04/2001, 07/2001, 10/2001, 01/2002, 04/2002, 07/2002, 10/2002, 01/2003, 04/2003, 07/2003, 10/2003, 01/2004, 04/2004, 07/2004, 10/2004, 01/2005, 04/2005, 07/2005, 10/2005, 01/2006, 04/2006, 07/2006, 10/2006, 01/2007, 04/2007, 07/2007, 10/2007, 01/2008, 04/2008, 07/2008, 10/2008, 01/2009 and 04/2009.

Projected Effluent Limit Updates

Table 1 reflects proposed effluent limits for new dischargers and preliminary revisions to original proposed effluent limits for preexisting dischargers (MGD-Million Gallons per Day, CBOD₅ – 5 Day Carbonaceous Biochemical Oxygen Demand, NH₃-N – Ammonia-Nitrogen, BOD₅ – 5 Day Biochemical Oxygen Demand and DO – Dissolved Oxygen).

Effluent flows indicated in Table 1 reflect future needs and do not reflect current permits for these facilities. These revisions may be useful for water quality management planning purposes. The effluent flows and constituent limits indicated in the table have been preliminarily determined to be appropriate to satisfy the stream standards for dissolved oxygen in their respective receiving waters. These flow volumes and effluent sets may be modified at the time of permit action. These limits are based on water quality standards effective at the time of the TCEQ production of this update. Water Quality Standards are subject to revision on a triennial basis.

Table 1. Projected Effluent Limit Updates

State Permit Number	Segment Number	EPA ID Number	Permittee Name County	Flow (MGD)	CBOD ₅ (mg/L)	CBOD ₅ (lbs/day)	NH ₃ -N (mg/L)	NH ₃ -N (lbs/day)	BOD ₅ (mg/L)	BOD ₅ (lbs/day)	DO (mg/L)	Months/ Comments	
10176-004 1	221	TX0024953	City of Gatesville Coryell	1.5	10	125.10	3	37.53			5		
10760-001 0	507	TX0100021	City of Lone Oak Hunt	0.06	30	15.01	6	3.00			4	June-Sept.	
				0.06					30	15.01	4	Oct.-May	
10793-002 1	404	TX0026484	City of Burnet Burnet	1.7	5	70.89	2	28.36			5		
10795-001 2	307	TX0086045	Horizon Regional MUD El Paso *Total combined flow (Outfalls 001 & 003) = 3.0 MGD	3	10	250.20	3	75.06			4	Outfall 001*	
				1									Outfall 002 Irrigation
				3	10	250.20	3	75.06			4	Outfall 003*	
11080-001 2	202	TX0058386	City of Hidalgo Hidalgo	2.7	10	225.18	3	67.55			4		
11408-002 1	203	TX0106551	City of Whitney Hill	0.4	20	66.72	3	10			4	Apr.-Oct.	
				0.4	30	100.08	3	10.01			4	Nov.-Mar.	
11473-001 1	006	TX0066478	Blue Bell Manor Utility Co. and Magna-Flow Environmental Harris	0.7	5	29.19	2	11.68			6		
11787-001 0	604	TX0071188	City of Bullard Cherokee	0.438	10	36.53	3	10.96			6		
12716-001 1	006	TX0092991	Harris County MUD No. 285 Harris	1.15	10	95.91	2	19.18			6		

State Permit Number	Segment Number	EPA ID Number	Permittee Name County	Flow (MGD)	CBOD ₅ (mg/L)	CBOD ₅ (lbs/day)	NH ₃ -N (mg/L)	NH ₃ -N (lbs/day)	BOD ₅ (mg/L)	BOD ₅ (lbs/day)	DO (mg/L)	Months/ Comments
12900-001 1	434	TX0095184	City of Manor Travis	2	5	83.40	2	33.36			6	
13462-001 2	202	TX0104612	Military Highway WSC Hidalgo	0.75	10	62.55	3	18.77			4	
13523-014 2	491	TX0132055	La Joya ISD Hidalgo	0.0135					20	2.25	2	
13847-001 0	814	TX0118877	North Texas District Council Assemblies of God Ellis	0.08					20	13.34	2	
13966-001 1	255	TX0132039	Stephenville Mobile Home Park, Ltd. Erath	0.024					20	4.00	4	
14008-001 0	823	TX0103501	North Texas Municipal Water District Denton	15	5	625.50	2	250.20			6	
14740-001 1	014	TX0127302	CW SCOA West, L.P. Harris	1.5	10	125.10	2	25.02			6	
14935-001 0	821	TX0129089	Wylie Northeast Special Utility District Collin	0.9	7	52.54	2	15.01			5	
14939-001 1	105	TX0131971	Oak Valley Mobile Home Park Brazoria	0.03	10	2.50	3	0.75			4	
14941-001 1	012	TX0132012	South Central Water Co. Montgomery	0.075					10	6.26	4	
14946-001 1	434	TX0132080	XS Ranch Fund VI, L.P. Bastrop	0.99	10	82.57	2	16.51			5	

Total Maximum Daily Load Updates

The Total Maximum Daily Load (TMDL) Program works to improve water quality in impaired or threatened waters bodies in Texas. The program is authorized by and created to fulfill the requirements of Section 303(d) of the federal Clean Water Act.

The goal of a TMDL is to restore the full use of a water body that has limited quality in relation to one or more of its uses. The TMDL defines an environmental target and based on that target, the State develops an implementation plan with waste load allocations for point source dischargers to mitigate anthropogenic (human-caused) sources of pollution within the watershed and restore full use of the water body.

The development of TMDLs is a process of intensive data collection and analysis. After adoption by the TCEQ, TMDLs are submitted to the U.S. Environmental Protection Agency for review and approval.

The attached appendixes may reflect proposed waste load allocations for new dischargers and revisions to TMDLs. To be consistent, updates will be provided in the same units of measure used in the original TMDL document. And note that for bacteria TMDLs, loads may be expressed in counts for day, organisms per day, colony forming units per day, or similar expressions. These typically reflect different lab methods, but for the purposes of the TMDL program, these terms are considered synonymous.

Appendix I. Two Total Maximum Daily Loads for Total Dissolved Solids and Chlorides in Clear Creek Above Tidal For Segment 1102

TMDL Update to the WQMP: Clear Creek Above Tidal (Segment 1102).

The document *Two Total Maximum Daily Loads for Total Dissolved Solids and Chlorides in Clear Creek above Tidal For Segment 1102* was adopted by the TCEQ on 8/10/2005. It was revised and then re-adopted by the TCEQ on 4/12/2006 and approved by EPA on 6/26/2006, and became an update to the state's Water Quality Management Plan. The TCEQ approved its corresponding implementation plan on 8/23/2006.

Figure 5 of the TMDL document includes a list of permitted wastewater facilities (WWTFs) in the watershed, and has a column that appears to give individual Waste Load Allocations (WLAs) for chloride and total dissolved solids (TDS) for the facilities. However, the TMDL study revealed that the excessive total dissolved solids and chloride levels were the result of a single discharge associated with dewatering of a sand and gravel quarry, which is on top of the Mykawa Salt Dome and has salty ground water. The discharge from the waste water treatment facilities does not contribute to the TDS impairment addressed by the TMDL. The dewatering discharge was addressed via permit enforcement activities, and has since ceased. Load allocations stated in the final TMDL were calculated to represent only the small sub watershed area that contains that quarry. Compliance monitoring conducted at two stations on Segment 1102 downstream of the quarry since the approval of the implementation plan indicates that the segment is now meeting its designated water quality standards for TDS and chloride.

The municipal and industrial facilities in the watershed that are listed in Figure 5 of the TMDL document are not considered to be significant sources of chloride and TDS, and do not require individual WLAs. Table 1 updates Figure 5, found on page 10 of the TMDL document. Similarly, new (or amended) facilities will not need individual WLAs for TDS and chloride.

Table 1 – Update to Figure 5 of the TMDL Document

ID	Permit Number	Permittee	WLA (lbs/day)	
			TDS	Chloride
1 W	Q0001910-000	TEXAS GENCO LP	N/A	N/A
2	WQ0003593-000	SYNTECH CHEMICALS INC	N/A	N/A
3 W	Q0010134-002	CITY OF PEARLAND	N/A	N/A
4 W	Q0010134-005	CITY OF PEARLAND	N/A	N/A
5 W	Q0010134-007	CITY OF PEARLAND	N/A	N/A
6 W	Q0010134-007	CITY OF PEARLAND	N/A	N/A
7 W	Q0010134-008	CITY OF PEARLAND	N/A	N/A
8 W	Q0010134-009	CITY OF PEARLAND	N/A	N/A
9 W	Q0010134-010	CITY OF PEARLAND	N/A	N/A
10 W	Q0010134-010	CITY OF PEARLAND	N/A	N/A
11 W	Q0010495-075	CITY OF HOUSTON	N/A	N/A
12 W	Q0010495-079	CITY OF HOUSTON	N/A	N/A
13	WQ0012295-001	BRAZORIA COUNTY MUD 5	N/A	N/A

ID	Permit Number	Permittee	WLA (lbs/day)	
			TDS	Chloride
14	WQ0012332-001	BRAZORIA COUNTY MUD 1	N/A	N/A
15 W	Q0012680-001	KORENEK ALBERT H	N/A	N/A
16 W	Q0012849-001	CMH PARKS INC	N/A	N/A
17	WQ0012939-001	HARRIS COUNTY WCID 89	N/A	N/A
18 W	Q0013307-001	MARTIN PEYTON	N/A	N/A
19	WQ0013784-001	BRAZORIA COUNTY MUD 6	N/A	N/A
20 W	Q0013864-001	CELL-U-FOAM CORPORATION	N/A	N/A
21	WQ0013865-001	TIKI LEASING COMPANY LTD	N/A	N/A
22	WQ0014050-001	NORMAN CLAUDE AND NORMAN DIA	N/A	N/A
23	WQ0014135-001	BRAZORIA COUNTY MUD 19	N/A	N/A
24	WQ0014160-001	HARVARD ESTATES LTD	N/A	N/A
25	WQ0012822-001	WALKER WATER WORKS INC	N/A	N/A

Appendix II. Two Total Maximum Daily Loads for Chloride and Total Dissolved Solids in the Colorado River Below E. V. Spence Reservoir For Segment Number 1426

TMDL Update to the WQMP: Colorado River Below E. V. Spence Reservoir (Segment 1426)

The document *Two Total Maximum Daily Loads for Chloride and Total Dissolved Solids in the Colorado River Below E. V. Spence Reservoir For Segment Number 1426* was adopted by the TCEQ on 2/07/2007 and approved by EPA on 4/9/07, and became an update to the state's Water Quality Management Plan. The TCEQ approved its corresponding implementation plan on 10/10/07.

The TMDL document included individual Waste Load Allocations (WLAs) for chloride and total dissolved solids (TDS) for four wastewater treatment facilities (WWTFs). However, three of those facilities have Texas Land Application Permits (TLAP), and therefore do not discharge to the TMDL segment. The remaining facility will retain the individual WLAs it was originally given. The remaining allocation originally in the WLAs will be moved into an Allowance for Future Growth (AFG) category, which can then be accessed if any of the other three facilities (or any new facilities) require a Texas Pollutant Discharge Elimination System (TPDES) permit to discharge to the affected segment at a future date.

Note that while this TMDL and its implementation plan give allocations for chloride and TDS to permitted facilities, the focus of the implementation activities is on nonpoint sources of these constituents. These include phreatophytic brush control, investigation and abatement of salinity contamination associated with oil and gas production, and reservoir management.

Table 1 updates the individual WLAs for chloride and TDS, found in part in Table 7 of the TMDL document.

Table 1 – Waste Load Allocations

State Permit Number	Segment Number	Permittee Name	Flow (MGD)	Waste Load Allocation (WLA) – Chloride lb/day	Waste Load Allocation (WLA) – TDS lb/day	TMDL
10320-001	1426	City of Winters	0.53	*	*	Updates p. 26
10325-003	1426	Plant No. 2 City of Ballinger	0.375 *		*	Updates p. 26
10390-001	1426	City of Bronte	0.15	*	*	Updates p. 26
13901-001	1426	City of Robert Lee	0.121	585	1,917	Updates p. 26

*These facilities are permitted for land application, with no discharge to the TMDL segment. The allocation previously given to them will be placed in the Allowance for Future Growth portion of the updated TMDL equations.

Table 2 updates the TMDL equation for chloride (Table 12 in the TMDL document). Changes from the original table are in bold, and are a result of a portion of the WLA being moved to the AFG.

Table 2: Chloride TMDL

TMDL (lbs/year)	WLA (lbs/year)	LA (lbs/year)	AFG (lbs/year)	MOS (lbs/year)
1.32E+07	2.14E+05	1.05E+07	1.86E+06	6.62E+05

Table 3 updates the TMDL equation for TDS (Table 13 in the TMDL document). Changes from the original table are in bold, and are a result of a portion of the WLA being moved to the AFG. Also, the WLA was incorrect in the original TMDL document, and in correcting it, the MOS and TMDL numbers were changed slightly.

Table 3: TDS TMDL

TMDL (lbs/year)	WLA (lbs/year)	LA (lbs/year)	AFG (lbs/year)	MOS (lbs/year)
3.80E+07	7.00E+05 2.	93E+07	6.11E+06 1.	90E+06

Appendix III. Two Total Maximum Daily Loads for Total Dissolved Solids and Sulfate in E. V. Spence Reservoir For Segment Number 1411

TMDL Update to the WQMP: E. V. Spence Reservoir (Segment 1411).

The document *Two Total Maximum Daily Loads for Total Dissolved Solids and Sulfate in E.V. Spence Reservoir For Segment 1411* was adopted by the TCEQ on 11/17/2000, revised and adopted again on 6/14/02, and approved by EPA on 5/9/03, and became an update to the state's Water Quality Management Plan. The TCEQ approved its corresponding implementation plan on 8/10/01.

The TMDL document included individual Waste Load Allocations (WLAs) for sulfate and total dissolved solids (TDS) for two wastewater treatment facilities (WWTFs) located in the contributing drainage area above E.V. Spence Reservoir (a portion of Segment 1412). Additional WLAs were given for chloride, for which measurements were approaching the water quality standard during the study.

Note that while this TMDL and its implementation plan give allocations for sulfate, chloride, and TDS to permitted facilities, the focus of the implementation activities is on non-permitted sources of these constituents. These include phreatophytic brush control, investigation and abatement of salinity contamination associated with oil and gas production, diversions to salt-water control reservoirs, reservoir management (of E.V. Spence), and remediation of an abandoned magnesium plant. Wastewater treatment plants were not determined to be significant contributors of the constituents of concern to the reservoir. Therefore, control actions for these permitted sources were not included in the implementation schedule for the TMDLs.

Other permitted facilities (including new facilities or amendments to existing permits) in the contributing drainage area for E.V. Spence are anticipated to have higher quality than the background flows in the watershed and typically provide dilution effects to the reservoir, and therefore do not require additional allocations for the TMDL. Similarly, permitted facilities located in the portion of Segment 1412 upstream of the TMDL-defined contributing watershed are not considered to be significant contributors of the constituents of concern to the reservoir. The TCEQ has the legal authority if necessary at a future date to require reductions from permitted discharges.

Table 1 gives the individual WLAs for chloride, sulfate, and TDS, found in part in Table 1 of the TMDL document.

Table 1 – Waste Load Allocations

State Permit Number	Segment Number	Permittee Name	Flow (MGD)	Waste Load Allocation (WLA) – Chloride tons/day	Waste Load Allocation (WLA) – Sulfate tons/day	Waste Load Allocation (WLA) – TDS tons/day	TMDL
10069-001	1412	City of Big Spring	3.8	17.44*	9.04*	40.27*	p. 27
10056-001	1412	City of Snyder	2.31	2.12*	0.96*	5.21*	p. 27

*These allocations are based on a combination of permitted flow and stream concentration data collected downstream of the facilities.

Appendix IV. Two Total Maximum Daily Loads for Phosphorus in the North Bosque River For Segments 1226 and 1255

TMDL Update to the WQMP: North Bosque River (Segments 1226 and 1255).

The document *Two Total Maximum Daily Loads for Phosphorus in the North Bosque River For Segments 1226 and 1255* was adopted by the TCEQ on 02/09/2001 and became an update to the state's Water Quality Management Plan. The TCEQ approved its corresponding implementation plan on 12/13/02.

The TMDL document did not include individual waste load allocations (WLAs) for total phosphorus. These were specified in the July 2008 WQMP update.

The TMDL program was notified that an existing facility in the watershed is amending its TLAP permit to create a TPDES permit, which will require an individual WLA.

Table 1 gives the individual WLA for total phosphorus, updating the "Pollutant Load Allocations" section of the TMDL document. This allocation is based on an average effluent concentration of 1 mg/L total phosphorus as specified for permits in the implementation plan.

Table 1 – Waste Load Allocations

State Permit Number	Segment Number	Permittee Name	Flow (MGD)	Waste Load Allocation (WLA) lb/day Total P	TMDL
13966-001	1255	Stephenville Mobile Home Park Ltd.	0.024	0.20	p. 14-16

Appendix V. Six Total Maximum Daily Loads for Bacteria in waters of the Upper Gulf Coast For Segments 2421, 2422, 2423, 2424 and 2439

TMDL Updates to the WQMP: Six Total Maximum Daily Loads for Bacteria in Waters of the Upper Gulf Coast (Segments 2421, 2422, 2423, 2424, 2432, and 2439)

The document *Six Total Maximum Daily Loads for Bacteria in Waters of the Upper Gulf Coast: Segments 2421, 2422, 2423, 2424, 2432, and 2439* was adopted by the TCEQ on 8/20/2008 and approved by EPA on 02/04/2009, and became an update to the state's Water Quality Management Plan (WQMP). A subsequent memo updated the list of individual waste load allocations (WLAs) found in the original TMDL document, adding some permitted facilities, and removing others. This information was included in the April 2009 WQMP update.

The TMDL team was notified that one of the facilities that received an individual WLA has amended its permit to increase its discharge. The purpose of this memo is to update that individual WLA to reflect this increased discharge (Table 1). Note that this is a concentration-based TMDL, and therefore there are no final TMDL equations to be affected by the change that follows.

Table 1 - Daily Loads for WWTF based on Concentration Allocations

State Permit Number	Segment Number	Permittee Name	Flow (MGD)	Waste Load Allocation (WLA)	Waste Load Allocation (WLA)	Waste Load Allocation (WLA)	TMDL/Comments
				Fecal Coliform (org/day)*	<i>E. coli</i> (org/day) *	Enterococcus (org/day) *	
10770-001	2421	BAYVIEW MUD	0.9	6,813,741,204	4,292,656,959	1,192,404,711	Six TMDLs for Bacteria in Waters of the Upper Gulf Coast (p. A-1)

*Concentrations limits will be based on the geometric means of the applicable indicator bacteria (Fecal coliform or *E. coli* or Enterococcus).