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January 2013 Update to the Texas Water Quality Management Plan

Prepared by the:
Office of Water, Water Quality Division

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

January 2013 Update to the Texas Water Quality Management Plan

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WQMP updates are also available on the TCEQ web site at:

< www.tceq.texas.gov/waterquality/assessment/WQmanagement_updates.html >

Developed in accordance with Sections 205(j), 208,
and 303 of the Federal Clean Water Act
and applicable regulations thereto.



Bryan W. Shaw Ph.D., *Chairman*
Carlos Rubinstein, *Commissioner*
Toby Baker, *Commissioner*
Zak Covar, *Executive Director*

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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 United States 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 January 2013 WQMP update addresses the following topics:

1. Projected Effluent Limits Updates for water quality planning purposes,
2. Service Area Population for Municipal Wastewater Facilities,
3. Total Maximum Daily Load Updates.

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 1974, 1975, 1977, 1978, 1979, 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, 04/2009, 07/2009, 10/2009, 01/2010, 04/2010, 07/2010, 10/2010, 01/2011, 04/2011, 07/2011, 10/2011, BPUB 2011, 01/2012, 04/2012, 07/2012, and 10/2012.

The Projected Effluent Limit Update section provides information compiled from November 1, 2012 through January 31, 2013, 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 Service Area Population for municipal wastewater facilities has been developed and evaluated by the TCEQ in cooperation with the Texas Water Development Board (TWDB) and regional water quality management planning agencies.

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.

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 (WQS) effective at the time of the TCEQ production of this update. WQS 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
10544-001	1242	TX0020451	City of West McLennan	0.90	10	75.06	2	15.01			6	
10688-007	2439	TX0133922	City of Galveston Galveston	0.015					10	1.25	4	
13646-001	2311	TX0076422	University of Texas at Austin Jeff Davis	0.015					20	2.50	2	
14964-001	1008	TX0132471	Harris County Improvement District No. 18 Harris	2.25	10	187.65	3	56.30			6	
14975-001	1908	TX0133825	DHJB Development, LLC Comal	0.35	5	14.60	2	5.84			4	
15038-001	1806	TX0133914	SH-DJL Development, LLC Comal	0.24	5	10.01	2	4.00			4	
15056-001	1007	TX0133787	Victorian Gardens, Ltd. Fort Bend	0.60	10	50.04	3	15.01			4	
15058-001	2105	TX0133795	New Way Land Development, LLC La Salle	0.20	10	16.68	3	5.00			4	
15063-001	0203	TX0133850	Flowing Wells Resort, LLC Grayson	0.0495					10	4.13	4	
15065-001	1010	TX0133906	Lennar Homes of Texas Land and Construction, Ltd. Montgomery	0.60	10	50.04	3	15.01			6	

Planning Information Summary

The Water Quality Planning Division of the TCEQ coordinated with the TWDB and regional planning agencies to compile the wastewater facility information in this section. Domestic facility financing decisions under the State Revolving Loan Fund (SRF) program must be consistent with the certified and approved WQMP.

The purpose of this section is to present data reflecting facility planning needs, including previous water quality management plan needs requiring revision. Data are also presented to update other plan information for the TWDB's SRF projects. Table 2 contains the updated Service area population information. The table is organized in alphabetical order and includes the following 10 categories of information:

1. Planning Area – Area for which facility needs are proposed. The facility planning areas are subject to change during the facility planning process and any such changes will be documented in a later water quality management plan update. All planning areas listed are also designated management agencies (DMAs) unless otherwise noted in the “Comments” column.
2. Service Area – Area that receives the provided wastewater service.
3. Needs – A “T” indicates a need for either initial construction of a wastewater treatment plant, additional treatment capacity, or the upgrading of a wastewater treatment plant to meet existing or more stringent effluent requirements. A “C” indicates a need for improvements to, expansion of, rehabilitation of, or the initial construction of a wastewater collection system in the facility planning area. “T/C” indicates a need for both treatment and collection system facilities. More detailed facility planning conducted during a construction project may define additional needs and those needs will be reflected in a future update to the WQMP.
4. Needs Year – The year in which the needs were identified for the planning area.
5. Basin Name – The river basin or designated planning area where the entity is located. The seven water quality management planning areas designated by the Governor are Corpus Christi [Coastal Bend Council of Governments (CBCOG)], Killeen-Temple [Central Texas Council of Governments (CTCOG)], Texarkana [Ark-Tex Council of Governments (ATCOG)], Southeast Texas [South East Texas Regional Planning Council (SETRPC)], Lower Rio Grande Valley [Lower Rio Grande Valley Development Council (LRGVDC)], Dallas-Fort Worth [North Central Texas Council of Governments (NCTCOG)] and Houston [Houston-Galveston Area Council (H-GAC)]. Basin names are shown for agencies outside one of these areas.
6. Segment – The classified stream segment or tributary into which any recommended facility may discharge existing or projected wastewater. In the case of no-discharge facilities, this is the classified stream segment drainage area in which the facilities are located.
7. County – The county in which the facility planning area is located.
8. Date – The date the planning information was reviewed by the TCEQ.

9. Comments – Additional explanation or other information concerning the facility planning area.
10. Population – The base year and projected populations for each facility planning area. Population projections presented are consistent with the latest available statewide population projections or represent the most current information obtained from facility planning analyses.

The facility information in this section is intended to be utilized in the preparation of facility plans and the subsequent design and construction of wastewater facilities. Design capacities of the treatment and collection systems will be based upon the population projections contained in this document plus any additional needed capacity established for commercial/industrial flows and documented infiltration/inflow volumes (treatment or rehabilitation). The probable needs shown under the “Needs” heading are preliminary findings; specific needs for an area shall be as established in the completed and certified detailed engineering studies conducted during facility planning under the SRF and other state loan programs.

Specific effluent quality for any wastewater discharges resulting from any of the facilities recommended in this document will be in accordance with the rule on the Texas Surface Water Quality Standards in effect at the time of permit issuance for the specific facility.

Table 2. Service Area Population Updates

Planning Agency	Service Area	Needs	Needs Year	Basin Name / COG	Segment	County	WQMP Date	Comments	Year	Population
City of West Tawakoni	Tawakoni Lake	T/C	2012	Sabine River Basin / NCTCOG	0507	Hunt	11/01/2012	Construct two new clarifiers and abandon the existing intra-channel clarifier unit.	2010	1,576
									2020	1,859
									2030	2,004
									2040	2,169

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 EPA 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. Eighteen Total Maximum Daily Loads for Bacteria in Buffalo and Whiteoak Bayous and Tributaries For Segment Numbers 1013, 1013A, 1013C, 1014, 1014A, 1014B, 1014E, 1014H, 1014K, 1014L, 1014M, 1014N, 1014O, 1017, 1017A, 1017B, 1017D, and 1017E

TMDL Updates to the Water Quality Management Plan (WQMP): Buffalo and Whiteoak Bayous and Tributaries (Segments 1013, 1013A, 1013C, 1014, 1014A, 1014B, 1014E, 1014H, 1014K, 1014L, 1014M, 1014N, 1014O, 1017, 1017A, 1017B, 1017D, and 1017E)

The document *Eighteen Total Maximum Daily Loads for Bacteria in Buffalo and Whiteoak Bayous and Tributaries For Segment Numbers 1013, 1013A, 1013C, 1014, 1014A, 1014B, 1014E, 1014H, 1014K, 1014L, 1014M, 1014N, 1014O, 1017, 1017A, 1017B, 1017D, and 1017E* was adopted by the TCEQ on 04/08/2009 and approved by EPA on 06/11/09, and became an update to the state's Water Quality Management Plan (WQMP). Five subsequent WQMP updates prior to this one have updated the list of individual waste load allocations (WLAs) found in the original TMDL document.

The purpose of this update is to make the following changes to the TMDL, presented in Table 1:

- add a new permit,
- include an existing permit that had been inadvertently left out of the list,
- remove one permit that has been canceled, and
- update the names of five facilities

Table 1 – Change to Individual Waste Load Allocation (Updates Table 45, pp. 99-103 in the TMDL document.)

State Permit Number	Outfall	EPA Permit Number	Segment Number	Permittee Name	Flow (MGD)	Waste Load Allocation (WLA) - <i>E. coli</i> in Billion MPN/day	TMDL Comments
04997-000	001	TX0133680	1014_01	CARDET WHOLESALE INC	0.3	0.715	New permit
14827-001	001	TX0081256	1017_01	FESTIVAL PROPERTIES INC	0.04	0.095	Permit previously left off list
14585-001	001	TX0127418	1014B_01	J.A.C. INTERESTS LTD	N/A	N/A	Permit canceled
14117-001	001	TX0119571	1014_01	AQUA TEXAS INC	No change	No change	Name changed
11375-001	001	TX0026247	1017_01	AQUA TEXAS INC	No change	No change	Name changed
13433-001	001	TX0103705	1017_01	AQUA TEXAS INC	No change	No change	Name changed
13727-001	001	TX0113697	1017_01	MEBB ENTERPRISES LLC	No change	No change	Name changed
11193-001	001	TX0075434	1017B_01	AQUA TEXAS INC	No change	No change	Name changed

The changes reflected in this update resulted in the shifting of allocations between the sum of the individual WLAs and the allowance for future growth (AFG) in three assessment units (AUs). This was originally presented in Table 53 in the TMDL document, and the affected AUs are included here as Table 2.

Table 2 - *E. coli* TMDL Summary Calculation (Updates Table 53, pp. 118-119 in the TMDL document.)

Assessment Unit	TMDL (Billion MPN/day)	WLA_{WWTF} (Billion MPN/day)	WLA_{StormWater} (Billion MPN/day)	LA (Billion MPN/day)	MOS (Billion MPN/day)	Upstream Load (Billion MPN/day)	Future Growth (Billion MPN/day)
1014_01	1841.94	102.11	837.68	13.08	0	856.98	32.09
1014B-01	626.91	87.15	482.44	38.6	0	0	18.72
1017_01	173.57	74.71	58.94	6.55	0	0	33.37

In Table 54 of the TMDL, the WLAs for permitted facilities are the sum of the individual WLAs and the allowance for future growth within each assessment unit. Therefore, these overall numbers did not change, and Table 54 of the TMDL remains the same.

Appendix II. Five Total Maximum Daily Loads for Indicator Bacteria in Brays Bayou Above Tidal and Tributaries For Segment Numbers 1007B, 1007C, 1007E, and 1007L

TMDL Updates to the Water Quality Management Plan (WQMP): Brays Bayou Above Tidal and Tributaries (1007B, 1007C, 1007E, and 1007L)

The document *Five Total Maximum Daily Loads for Indicator Bacteria in Brays Bayou Above Tidal and Tributaries For Segment Numbers 1007B, 1007C, 1007E, and 1007L* was adopted by the TCEQ on 09/15/2010 and approved by EPA on 09/27/10, and became an update to the state's WQMP. One subsequent WQMP update prior to this one has updated the list of individual waste load allocations (WLAs) found in the original TMDL document.

The purpose of this update is to make the following changes to the TMDL, presented in Table 1:

- add a new permit,

The changes reflected in this update resulted in the shifting of allocations between the sum of the individual WLAs and the allowance for future growth (AFG) in two assessment units (AUs). This was originally presented in Table 17 in the TMDL document, and the two affected AUs are included here as Table 2.

In Table 18 of the TMDL, the WLAs for permitted facilities are the sum of the individual WLAs and the allowance for future growth within each assessment unit. Therefore, these overall numbers did not change, and Table 18 of the TMDL remains the same.

Table 1 – Change to Individual Waste Load Allocation (Updates Table 15, pp. 35-36 in the TMDL document.)

State Permit Number	Outfall	EPA Permit Number	Segment Number	Permittee Name	Flow (MGD)	Waste Load Allocation (WLA) – <i>E. coli</i> in Billion MPN/day	TMDL Comments
15056-001	001	TX0133787	1007C_01	VICTORIAN GARDENS LTD	0.6	1.43	New permit

Table 2 - *E. coli* TMDL Summary Calculations for Brays Bayou Assessment Units (Updates Table 17, p. 41 in the TMDL document.)

Assessment Unit	Sampling Location	Stream Name	TMDL (Billion MPN/day)	WLA _{WWTF} (Billion MPN/day)	WLA _{StormWater} (Billion MPN/day)	LA (Billion MPN/day)	MOS (Billion MPN/day)	Future Growth (Billion MPN/day)
1007B_01	11138	Brays Bayou Above Tidal	2,390	367	1,830	9.06	120	66.7
1007C_01	11169	Keegans Bayou above Tidal	325	87.5	200	7.01	16.3	14.8

Appendix III. Fifteen Total Maximum Daily Loads for Indicator Bacteria in Watersheds Upstream of Lake Houston For Segment Numbers 1004E, 1008, 1008H, 1009, 1009C, 1009D, 1009E, 1010, and 1011

TMDL Updates to the Water Quality Management Plan (WQMP): Watersheds Upstream of Lake Houston (1004E, 1008, 1008H, 1009, 1009C, 1009D, 1009E, 1010, and 1011)

The document *Fifteen Total Maximum Daily Loads for Indicator Bacteria in Watersheds Upstream of Lake Houston For Segment Numbers 1004E, 1008, 1008H, 1009, 1009C, 1009D, 1009E, 1010, and 1011* was adopted by the TCEQ on 04/06/11 and approved by EPA on 06/29/11, and became an update to the state's Water Quality Management Plan (WQMP). Five subsequent WQMP updates prior to this one have updated the list of individual waste load allocations (WLAs) found in the original TMDL document..

The purpose of this update is to make the following changes to the TMDL, presented in Table 1:

- update the WLA for a facility that has increased its permitted discharge,
- add a new permit, and
- update the names of two facilities.

The changes reflected in this update resulted in the shifting of allocations between the sum of the individual WLAs and the allowance for future growth (AFG) in two assessment units (AUs). This was originally presented in Table 18 in the TMDL document, and the two affected AUs are included here as Table 2.

In Table 19 of the TMDL, the WLAs for permitted facilities are the sum of the individual WLAs and the allowance for future growth within each assessment unit. Therefore, these overall numbers did not change, and Table 19 of the TMDL remains the same.

Table 1 – Changes to Individual Waste Load Allocations (Updates Table 16, pp. 49-56 in the TMDL document.)

State Permit Number	Outfall	EPA Permit Number	Segment Number	Permittee Name	Flow (MGD)	Waste Load Allocation (WLA) – <i>E. coli</i> in Billion MPN/day	TMDL Comments
14964-001	001	TX0132471	1008_04	HARRIS COUNTY IMPROVEMENT DISTRICT NO 18	2.25	5.37	Increased flow
15065-001	001	TX0133906	1010_04	LENNAR HOMES OF TEXAS LAND AND CONSTRUCTION, LTD	0.6	1.43	New permit
14133-001	001	TX0119857	1008_02	UTILITIES INVESTMENT COMPANY INC	No change	No change	Name changed
14106-001	001	TX0119270	1009_04	AQUA TEXAS INC	No change	No change	Name changed

Table 2 - *E. coli* TMDL Summary Calculations for Lake Houston Assessment Units (Updates Table 18, pp. 61 in the TMDL document.)

Assessment Unit	Sampling Location	Stream Name	TMDL (Billion MPN/day)	WLA _{WWTF} (Billion MPN/day)	WLA _{StormWater} (Billion MPN/day)	LA (Billion MPN/day)	MOS (Billion MPN/day)	Future Growth (Billion MPN/day)
1008_04	11312	Spring Creek	1,510	124	146	1,090	75.7	79.9
1010_04	11334	Caney Creek	493	16.9	28.2	413	24.7	10.1

Appendix IV. Six Total Maximum Daily Loads for Bacteria in Waters of the Upper Gulf Coast (Segments 2421, 2422, 2423, 2424, 2432, and 2439)

TMDL Updates to the WQMP: 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). Four subsequent WQMP updates prior to this one have updated the list of individual waste load allocations (WLAs) found in the original TMDL document.

The purpose of this update is to make the following changes to the TMDL, presented in Table 1:

- Add a new permit, and
- Remove one permit that expired.

Note that this is a concentration-based TMDL, and therefore there are no final TMDL equations to be affected by this change.

Table 1 – Name Changes and Daily Loads for WWTFs based on Concentration Allocations (Updates p. A-1 in TMDL)

State Permit Number	Outfall	EPA Permit Number	Segment Number	Permittee Name	Flow (MGD)	Waste Load Allocation (WLA) Fecal Coliform (org/day)*	Waste Load Allocation (WLA) <i>E. coli</i> (org/day) *	Waste Load Allocation (WLA) Enterococcus (org/day) *	Comments
10688-007	001	TX0133922	2439	CITY OF GALVESTON	0.015	113,562,353	71,544,283	19,873,412	New permit
11679-001	001	TX0104353	2439	TALENS MARINE AND FUEL LLC	N/A	N/A	N/A	N/A	Permit expired

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