

# APPENDIX K: EPA Responses to Public Comments

Table K-1. EPA responses to public comments received from the Lake Pontchartrain Basin Foundation .....	K-1
Table K-2. EPA responses to public comments received from Jefferson Parish.....	K-4
Table K-3. EPA responses to public comments received from the Sewerage and Water Board of New Orleans.....	K-6
Table K-4. EPA responses to public comments received from St. Tammany Parish .....	K-7



**NOTE: Full public comment letters are included in Appendix J.**

**Table K-1. EPA responses to public comments received from the Lake Pontchartrain Basin Foundation**

#	Comment	EPA response
1	<p><b>The Pontchartrain Basin Fecal Coliform TMDLs should be split into multiple documents</b>                      This single document presents the reader with fecal coliform TMDLs for 15 subsegments in the Pontchartrain Basin. There is an overwhelming amount of information on many separate, disparate systems. Even though all the waterways are in the Pontchartrain Basin, they represent vastly different land uses, contributing factors, and environments. LPBF recommends breaking this single document into at least three documents to separate the man-made stormwater conveyance systems, metropolitan waterways, and rivers draining rural and developing areas. Jefferson and Orleans parishes and the W-14 Main Diversion Canal represent metropolitan area man-made stormwater drainage conveyances. The Amite River, Comite River, and Bayou Manchac drain the metropolitan Baton Rouge area and could be grouped together. The rest of the waterways are in the developing region north of Lake Pontchartrain and could be grouped.</p>	<p>Comment noted. Currently, EPA is under a consent decree to finalize these TMDLs by March 31, 2012. Given the current EPA resources and time available, it is unlikely we will have time to split the document.</p>
2	<p><b>Percent reduction and current loads not given for waterways</b>                      The executive summary and body of the TMDL need a table that includes the current loads into the streams, the information in Table ES-3, and the percent load reduction in each waterway. Although the current loads are given in the calculations for each waterway in Appendix E, they are rather hidden for such important information. The TMDL would be more user-friendly if the current loads were clearly given in the executive summary and body of the TMDL (as described above).</p> <p>This TMDL also does not give the percent reductions for any waterway in either the body of the document or in the appendices. Giving the percent reductions is common practice and should be expected for TMDLs. It is also done on other TMDLs prepared by Tetra Tech, which provide a summary column for percent reductions and give the percent reduction in the individual calculations (see below for example). Not having the percent reduction explicitly stated makes review of the document (and eventual implementation of the document) difficult. We recommend adding the percent reduction to the Executive Summary, the main TMDL document, and Appendix E, the calculations.</p> <p>Example from <i>TMDLs for Fecal Coliform Bacteria for Selected Subsegments in the Mississippi River Basin, LA</i></p>	<p>EPA will add percent reductions to the TMDL tables in the report.</p>

#	Comment	EPA response
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Table 4-3. Summary of fecal coliform bacteria TMDLs, WLAs, LAs, MOS, and FG for the Mississippi River Basin

Subsegment	Designated use	Season	TMDL (#/day)	WLA (#/day)	LA (#/day)	MOS (#/day)	FG (#/day)	Percent reduction
070203	PCR	Winter	1.99E+11	4.77E+10	1.09E+11	1.99E+10	1.99E+10	17%
		Summer	2.02E+11	4.77E+10	1.14E+11	2.02E+10	2.02E+10	89%
070401	SFP	Annual	1.82E+11	1.20E+07	1.46E+11	1.82E+10	1.82E+10	80%
070403	SFP	Annual	7.75E+10	0.00E+00	8.20E+10	7.75E+09	7.76E+09	83%
070404	SFP	Annual	1.29E+11	9.93E+07	1.03E+11	1.28E+10	1.29E+10	72%
070501	PCR	Winter	1.49E+13	4.11E+09	1.17E+13	1.49E+12	1.49E+12	0%
		Summer	1.29E+12	4.11E+09	1.02E+12	1.28E+11	1.29E+11	16%
070502	PCR	Winter	3.31E+13	4.17E+11	2.60E+13	3.31E+12	3.31E+12	89%
		Summer	2.91E+12	4.94E+10	2.28E+12	2.91E+11	2.91E+11	84%



Table E-2. Fecal coliform bacteria TMDL summary table for subsegment 070401

Average water budget (mm/day)	2.462	
Subsegment area (acres)	96,042.9	
Criterion #1 (< 10% over ctu/100 mL)	45	
Criterion #1 as loading (< 10% over ctu/d)	4.01E+11	
Criterion #2 (median) (ctu/100 mL)	14	
Criterion #2 as loading (median) (ctu/d)	1.31E+11	
Wasteload allocation (ctu/d)	1.20E+07	
Point source flow (Mgd)	0.01	
Percent reduction	80.5	
	Before reduction	After reduction
Average concentration (ctu/100 mL)	100	19
Average loading (ctu/d)	9.31E+11	1.82E+11
Median concentration (ctu/100 mL)	63	12
Median loading (ctu/d)	5.88E+11	1.15E+11



- |   |  |  |
|---|--|--|
| 3 | <p><b>Summer vs. Winter reductions confusing</b></p> <p>Although it is stated once in the body of the TMDL that the summer reductions will be followed, this should also be stated clearly in the Executive Summary, near Table ES-3. Because the source of the fecal coliform inputs is wastewater treatment plants, any upgrades that will have to be done to the plants will result in year-round reductions.</p>   | <p>A statement will be added to the executive summary to clarify this topic. Treatment plants were given one year-round WLA, which was based on their permit limits. MS4s will have specific summer and winter allocations, reflecting their nonpoint source nature.</p>   |
| 4 | <p><b>Large percentage of undocumented wastewater treatment plants in watersheds</b></p> <p>The draft TMDLs fail to address an important source of fecal coliform in the watersheds—undocumented wastewater treatment plants. In Louisiana, there was a historical disconnect in the permitting process. Small commercial wastewater treatment plants were permitted to be built according to the Louisiana Department of Health and Hospitals (LDHH) Sanitary Code, but they were never permitted to discharge through the Louisiana Department of Environmental Quality (LDEQ). The plants were not known to LDEQ, which never took effluent samples or examined the plants.</p> <p>The LPBF has worked with LDEQ and LDHH on this issue since 2002. Within watersheds north of Lake Pontchartrain (not on metropolitan or regional wastewater treatment systems), we have found that a very large percentage (60 to over 80 percent) of small commercial wastewater treatment plants fall into this category. The plants' effluents are never tested, and on average about half of the plants do not even have the capacity to disinfect their effluent. Through working on this issue with LDEQ and LDHH, we have been able to have three basin rivers removed from the Impaired Waterbodies List for fecal coliform. LDEQ's TMDLs for oxygen-demanding substances acknowledge these undocumented sources. The TMDLs should do that as well.</p> | <p>EPA will make note of the effects of undocumented wastewater treatment plants and the potential for failing home septic systems. The following text will be added to the load allocation section of the report: "The permitting authority may reallocate LAs to WLAs if the undocumented wastewater treatment plant effluent loads are more than the allocation provided for in the FG allocation."</p> |



#	Comment	EPA response
	<p>Also, the contribution of a large number of not-inspected and assumed-to-have-failed home systems needs to be considered as well. Much of the soil in southeast Louisiana is high in clay content, so percolation beds do not exist and the home systems discharge into local ditches that lead to basin waterways. EPA estimates an average 50% failure rate for home systems. With tens of thousands of these home systems occurring outside municipal and regional wastewater systems, they must be included as a major fecal source.</p>	
5	<p><b>Appendix E calculation values and use in TMDLs</b>  Appendix E shows before-reduction and after-reduction values in the tables. LPBF's understanding is that these were calculated to determine the reductions needed to reach the water quality criteria and were not actually used in the TMDL calculations. Please clarify. If that is the case, LPBF recommends revising the tables in Appendix E to represent the actual TMDL calculations.</p>	<p>The before and after values in Appendix F (previously Appendix E), show the observed concentrations/ loadings and the final concentrations/loadings based on the percent reduction needed for the stream to meet its designated uses. The calculations in Appendix F (previously Appendix E) are needed to determine the overall percent reduction that was requested in Comment 2 above. The TMDL is calculated on the basis of the water quality standards, not the observed calculations.</p>
6	<p><b>Monthly water yield used instead of actual stream flow</b>  The TMDLs use a monthly water yield (divided into a daily water yield) as a surrogate for flow for several waterways. The monthly water yield is a function of overland flow and does not seem to account for groundwater or other water inputs into these streams. This substitution of monthly/daily water yield for actual flow has the potential to introduce a large source of error into the TMDL calculations. There are concerns as to the validity of this approach, and it begs a few questions: Where are the monthly discharge data found? Are the data known to be accurate? Is there an established relationship between monthly/daily discharge and flow? Finally, has this relationship been tested on streams of known flow? If it has, we recommend showing the chart/relationship in an appendix.</p>	<p>As stated in the TMDL report, the monthly water yield was obtained from the Louisiana Office of State Climatology and is assumed to be accurate. Monthly water yield was used for subsegments where a load duration curve could not be used to represent the entire subsegment. The water yield represents the overland flow of water and edge-of-stream loadings, so it does not include groundwater sources. Point source loads and flows are added into the TMDL calculation separately. EPA feels that this is an acceptable alternative to USGS flow data and has been used in previously approved TMDLs.</p>
7	<p><b>Representative of monitoring sites in waterways/ translation to valid model</b>  These draft fecal coliform TMDLs are trying to address many streams at once. They are using a variety of available data, with varying amounts of data available for each waterway. The data might or might not actually be representative of the entire watershed. For example, the parishes of Jefferson and Orleans use one sampling location each for their vast stormwater drainage canal systems. LPBF recommends more comprehensive water quality testing and careful modeling of each waterway to assess its individual flow patterns, actual inputs, and in-stream processes (including interaction with adjacent wetlands) to produce the most accurate TMDLs on each stream.</p>	<p>EPA used data collected by LDEQ during its ambient water quality monitoring as a representative monitoring location. EPA believes that given the highly urban nature of Jefferson and Orleans parishes and similar land usage throughout the subsegment, it is reasonable to assume that water quality is similar throughout the stormwater drainage canal system. If additional monitoring data become available, with corresponding water quality data, the model from this TMDL can be used in the future for any additional investigation that LDEQ might choose to do. The updating of information in the <i>Water Quality Management Plan</i> is handled through the update process contained in the Continuing Planning Process manual.</p> <p>EPA is required by regulation (40 CFR 130.7.(d)(2)) and by consent decree to prepare TMDLs for section 303(d)-approved water body-pollutant pairs and currently does not have the resources for additional monitoring. In addition, for these TMDLs, simple Microsoft Excel-based methods were used, in keeping with the resources and</p>

#	Comment	EPA response
		data available. It should be noted that the fact that some acceptable TMDL calculation methods appear simple does not imply that the results of such methods are not valid. Models vary in the amount of necessary resources (e.g., training, setup/computational time, personnel, expense), required input and background data, questions answered, and output capability (e.g., charts, tables, data files).
8	<p><b>Stormwater drainage canals listed as primary contact recreation</b></p> <p>The Orleans and Jefferson parishes' stormwater drainage canals have primary contact recreation listed as a designated use. These canals are 100 percent man-made features whose sole purpose is to drain water from the below-sea-level metropolitan New Orleans area. They have never been intended for swimming. LPBF would like to understand why these drainage canals carry the primary contact designated use rather than the seemingly more appropriate secondary contact designated use. Is a man-made stormwater conveyance system expected to be swimmable?</p>	<p>Comment noted. States and tribes are responsible for ensuring that state waters are assigned designated uses in accordance with the goals of CWA section 101(a), including the goal to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The state is responsible for evaluating and determining appropriate designated uses applicable to a water body. A state may modify a designated use goal only after a thorough evaluation of the attainability of that use in accordance with the provisions of 40 CFR 131.10(g) and state water quality standards. An existing use may not be removed unless a use requiring more stringent criteria is added.</p>

**Table K-2. EPA responses to public comments received from Jefferson Parish**

#	Comment	EPA response
1	<p>Jefferson Parish opposes the Draft TMDL for fecal coliform bacteria for the referenced drainage canals in Jefferson Parish because the use of the canals is inappropriately designated as Primary Contact Recreation. These canals were created specifically and used principally for drainage or conveyance of stormwater. Therefore, they should be designated as Water Body Exception Classification or should be specifically exempted. Were these canals properly classified and/or exempted from classification, they would not be included on the LDEQ list of impaired waterbodies and TMDLs would not be warranted. These drainage canals are improperly classified by LDEQ as Primary Contact Recreation, Secondary Contact Recreation, and Fish and Wildlife Propagation.</p> <p>The sole purpose of these man-made canals is to convey stormwater to pumping stations, thereby preventing flooding. Most of the land surface in Jefferson Parish is at or below mean sea level (MSL), resulting in a "saucer" effect in the drainage basin. Over the years, Jefferson Parish has designed and constructed a system of drainage canals and several high-capacity pumping stations to convey collected stormwater runoff within the stormwater drainage basin. Due to land surface at or below MSL, the parish is surrounded by hurricane protection levees. There is no gravity drainage discharge outlet, and all rainfall occurring within the area is removed entirely by a system of conveyance canals and pumps. High-volume, low-lift pumps are used at the pumping stations to lift the water from the canals to the higher water surface elevation of Lake Pontchartrain or the lakes, bayous, and canals of the Barataria Basin. There are over 300 miles of open canals and ditches, approximately 1,465 miles of subsurface drain lines, and 53 pumping stations in Jefferson Parish, with a combined capacity to pump stormwater</p>	<p>Comment noted. EPA is required by regulation (40 CFR 130.7(d)(2)) and consent decree to prepare TMDLs for section 303(d)-approved water body-pollutant pairs. This TMDL is a reflection of that obligation.</p> <p>States and tribes are responsible for ensuring that state waters are assigned designated uses in accordance with the goals of CWA section 101(a), including the goal to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The state is responsible for evaluating and determining appropriate designated uses applicable to a water body. A state may modify a designated use goal only after a thorough evaluation of the attainability of that use in accordance with the provisions of 40 CFR 131.10(g) and state water quality standards. An existing use may not be removed unless a use requiring more stringent criteria is added.</p>

#	Comment	EPA response
	<p>at a rate of approximately 30 billion gallons of rainfall per day. Jefferson Parish's 17 pumping stations in subsegment 041302 have a total capacity of 20,535 cfs serving an area of 31,734 acres. Thus, the canal system is designed to efficiently carry stormwater runoff to the major pumping stations that discharge into Lake Pontchartrain on the east side of the Mississippi River, and to lakes, bayous, and canals on the west side of the Mississippi River.</p> <p>The canals have steep banks and are inaccessible by boat. The pumps are turned on without notice in response to rainfall, making the canals unsuitable for recreational uses such as swimming and fishing. The canals are clearly not designed or intended for primary contact recreational activities (swimming, skiing, diving). Because such activities do not occur in the canals, it is inappropriate to develop primary contact criteria for these water bodies.</p> <p>Although Jefferson Parish drainage canals are fully supporting Secondary Contact Recreation, the canals are not designed or intended for fishing. Therefore, classification of these waterbodies for this designated use is also inappropriate.</p> <p>Jefferson Parish drainage canals are also improperly classified for Fish and Wildlife Propagation. Again, the canals are man-made channels designed to efficiently move rainfall via pumping stations. They are not natural waterbodies, and therefore they should be classified as excepted use and/or specifically exempted. Although construction of these man-made canals has produced new aquatic habitat that has subsequently been populated by aquatic species (e.g., fish, turtles, snakes, ducks, wading birds, nutria), the canals are not designed or intended to provide such habitat. In addition, due to inherent hydrologic modifications, variable flows, and other variable environmental conditions, they are not conducive to the establishment of a balanced population of aquatic biota or to the full support of recreational activities. If they are not reclassified as Water Body Exception classification or specifically exempted from this designated use, the Limited Aquatic Life and Wildlife use would be a more appropriate classification because the aquatic life in the canals includes species tolerant of severe or variable environmental conditions. Although inappropriately designated as <i>Fish and Wildlife Propagation</i>, it is unclear what scientific data were used to determine that the canals do not fully support that use.</p> <p>It is Jefferson Parish's intent, within the first quarter of 2012, to petition LDEQ for a Water Body Exception classification and/or a specific exemption for the Jefferson Parish drainage canals in accordance with LAC 33:IX.1109.C, which allows exceptions for man-made water bodies specifically and primarily used for the drainage or conveyance of water.</p>	
2	<p>Jefferson Parish questions the methodology used to develop the draft TMDL under the <i>Data Quality Act</i> and its guidelines. The TMDL is based on a total of only 37 samples collected at a single drainage pumping station location in Jefferson Parish in 2001, 2007, 2009, and 2010. Data from only one sample point inadequately represent the more than 300 miles of Jefferson Parish drainage canals. Use of such a small data set to develop the TMDL is not sound science. It is noteworthy that the area of the canal from which all samples were collected was under construction for drainage improvements between 2003 and 2010, with construction having been interrupted only for a limited time after Hurricane Katrina. This</p>	<p>EPA believes that 37 data points are sufficient to develop a TMDL. There are numerous examples of approved and implemented TMDLs that were developed on less water quality data. EPA has used data collected by LDEQ during its ambient water quality monitoring. This location was chosen by LDEQ as a representative monitoring location for the subsegment. Note that the data from 2007 and 2010 are equal to or less than sample concentrations from 2001. EPA</p>

#	Comment	EPA response
	construction activity raises the question of whether samples collected in the years 2007–2010 are truly representative of that particular canal's water quality, much less the water quality in all other canals.	believes that given the highly urban nature of the subsegment and similar land usage, it is reasonable to assume that water quality is similar throughout the canal system. EPA welcomes any data that Jefferson Parish possesses from the canal. If more flow information becomes available, with corresponding water quality data, the model from this TMDL can be used in the future for any additional investigation that LDEQ might choose to do. The updating of information in the <i>Water Quality Management Plan</i> is handled through the update process contained in the <i>Continuing Planning Process</i> manual.
3	Furthermore, using monthly water yield data obtained from the Louisiana Office of State Climatology from the period of 1980 to 2003 in lieu of stream flow in this segment (drainage canals) is inappropriate because the flow rates in the canals are dependent on rainfall as well as which pumping stations are operational at a given point in time. The Jefferson Parish Department of Drainage maintains pump run logs, which provide more appropriate data for determining flow. It appears that the MS4 (acres) data in Table 4.4 are incorrect. Our data indicate the correct acreages to be approximately as follows: Jefferson Parish (unincorporated east bank): 20,787; City of Harahan: 1,266; and City of Kenner: 9,681. The north-south canals are interconnected by a system of east-west canals, any of which can flow to a pumping station to the east or west of where rainfall occurs depending on which pumping station is activated. Jefferson Parish owns, operates, and maintains the canals and drainage pumping stations that serve unincorporated Jefferson Parish and the cities of Harahan and Kenner; therefore, it seems more appropriate to calculate a single waste load allocation for the entire east bank of the Parish, using correct acreages.	As you stated, flow is variable based on rainfall and pumping. By using the monthly water yield, the calculations estimate the loadings from the land surface that enter the canals. This estimates the loadings that enter the canals from the MS4 areas. This will be explicitly stated in the final TMDL  MS4 areas were calculated using the developed area in a GIS and permitted boundaries. EPA will update the TMDL to reflect the areas provided.
4	Jefferson Parish wants assurance that the proposed TMDL was based on sound science and reliable data that stand up to standard quality assurance/quality control. The proposed TMDL could have significant impacts on Jefferson Parish and its municipalities. Our pump stations are needed to protect lives and property from flooding. Jefferson Parish has a Phase I MS4 Permit, and, as required by that permit, the parish has implemented many programs and best management practices to improve stormwater quality from the drainage pump stations.	EPA believes that the TMDL is based on sound science and reliable data. It is not the intention of the TMDL to alter the function or use of the pump stations. EPA applauds Jefferson Parish for the efforts it has already undertaken to improve water quality within its boundaries.

**Table K-3. EPA responses to public comments received from the Sewerage and Water Board of New Orleans**


#	Comment	EPA response
1	The Sewerage and Water Board of New Orleans wishes to object to the proposed TMDL criteria of 400 colonies/100mL (5/01–10/31) and 2,000 colonies/100mL (11/01–4/30) for the subsegments 041302 and 041401.	Comment noted. See following comments/responses.
2	Most of the water bodies included in these segments (with the exception of the Bayou Sauvage National Wildlife Refuge wetlands) are man-made drainage canals. The 90 miles of canals are exempt from TMDL regulation pursuant to LAC § 1109, Title 33, Part IX, which exempts man-made water bodies from TMDL review. A man-made water body is defined in this section as "a ditch, canal or channelized	Comment noted. EPA is required by regulation (40 CFR 130.7.(d)(2)) and consent decree to prepare TMDLs for section 303(d)-approved water body-pollutant pairs. This TMDL is a reflection of that obligation.



#	Comment	EPA response
	stream created specifically and used primarily for drainage or conveyance of water." The drainage canals that would be subject to TMDLs clearly meet this definition.	States and tribes are responsible for ensuring that state waters are assigned designated uses in accordance with the goals of CWA section 101(a), including the goal to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The state is responsible for evaluating and determining appropriate designated uses applicable to a water body. A state may modify a designated use goal only after a thorough evaluation of the attainability of that use in accordance with the provisions of 40 CFR 131.10(g) and state water quality standards. An existing use may not be removed unless a use requiring more stringent criteria is added.
3	Because primary contact recreation (swimming) is clearly not encouraged, intended, or appropriate in the drainage canals, it is incorrect to develop primary contact criteria for these canals. If TMDLs are to be based on the recreational use of Orleans Parish water bodies, they should be limited to secondary contact recreation in Orleans Parish, although no drainage canals are designated or appropriate for fishing either.	See Response 2 on Table K-3.
4	We also question the sampling procedure used to set the fecal coliform limits in Orleans Parish. Data from only one sample point inadequately represent the 90 miles of canals that compose segment 041401. Furthermore, wet weather flow rates in these canals are largely dependent on pumping stations at the mouths of the canals; this has not been factored into the determination of flow rates.	<p>EPA has used data collected by LDEQ during its ambient water quality monitoring. This location was chosen by LDEQ as a representative monitoring location for the subsegment. EPA believes that given the highly urban nature of the subsegment and similar land usage, it is reasonable to assume that water quality is similar throughout the canal system. EPA welcomes any data that the City of New Orleans possesses from the canal. If more flow information becomes available, with corresponding water quality data, the model from this TMDL can be used in the future for any additional investigation that LDEQ might chose to do. Update of information in the <i>Water Quality Management Plan</i> is handled through the update process contained in the <i>Continuing Planning Process</i> manual.</p> <p>As you stated, flow is variable based on rainfall and pumping. By using the monthly water yield, the calculations estimate the loadings from the land surface that enter the canals. This estimates the loadings that enter the canals from the MS4 areas. This will be explicitly stated in the final TMDL.</p>

**Table K-4. EPA responses to public comments received from St. Tammany Parish**

#	Comment	EPA response
1	The TMDLs for FCB pertain to the W-14 Main Diversion Canal (040909) and Salt Bayou (040910) located on the north shore of Lake Pontchartrain in St. Tammany Parish, Louisiana.	LDEQ has the responsibility of assigning designated uses to waterbodies in its biannual Integrated Report. EPA is required by regulation (40 CFR 130.7.(d)(2)) and consent decree to prepare

#	Comment	EPA response
	<p>The W-14 Canal's designated uses include Primary Contact Recreation, but this water body is a stormwater drainage canal and is not intended to be used for recreation or full body contact. There is only "a minimal chance of ingesting appreciable amounts of water."</p> <p>The Primary Contact Recreation designation should be downgraded to the more appropriate designation of Secondary Contact Recreation for subsegment 040909, and the TMDL should be adjusted accordingly.</p>	<p>TMDLs for section 303(d)-approved water body-pollutant pairs. This TMDL is a reflection of that obligation.</p> <p>States and tribes are responsible for ensuring that state waters are assigned designated uses in accordance with the goals of CWA section 101(a), including the goal to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The state is responsible for evaluating and determining appropriate designated uses applicable to a water body. A state may modify a designated use goal only after a thorough evaluation of the attainability of that use in accordance with the provisions of 40 CFR 131.10(g) and state water quality standards. An existing use may not be removed unless a use requiring more stringent criteria is added.</p>
2	The proposed draft TMDL is only a WLA, which is usually conducted/enforced for LDEQ-permitted discharges (at the end-of-pipe), not nonpoint sources.	As shown in Tables ES-3 and 4-3, all subsegments received load allocations (LAs) for nonpoint sources in addition to WLAs.
3	No compelling science is presented for the fecal coliform sources or loadings, much less the recommended reductions throughout the watersheds of subsegments 040909 and 040910.	For these TMDLs, simple Microsoft Excel-based methods were used according to the resources and data available. It should be noted that the fact that some acceptable TMDL calculation methods appear simple does not imply that the results of such methods are not valid. Models vary in the amount of necessary resources (e.g., training, setup/computational time, personnel, expense), required input and background data, questions answered, and output capability (e.g., charts, tables, data files).
4	<p>Subsegment 040909 is not included on Table 2-7 on Page 2-14 for either the St. Tammany Parish MS4 or the City of Slidell MS4, but it should be added to Table 2-7 because parts of subsegment 040909 are located in both MS4s (see Figure 1).</p>  <p>Figure 1 Location of Subsegments 040909 &amp; 040910 in relationship to MS4 boundaries.</p>	MS4 permits were reviewed to determine the receiving waters of the stormwater runoff. According to permit documentation in LDEQ's EDMS and verified by LDEQ, these permits do not discharge to subsegment 040909. WLAs for this MS4s will be added to the TMDL. If St. Tammy Parish or the City of Slidell believe this is inaccurate, it is suggested that the parish or city work with LDEQ to update the receiving water bodies of its MS4s in its permits and in LDEQ records.

#	Comment	EPA response
5	Subsegment 040910 is not located in an MS4 and should be deleted from Table 2-7 on Page 2-14 (see Figure 1)	MS4 permits were reviewed to determine the receiving waters of the stormwater runoff. According to permit documentation in LDEQ's EDMS and verified by LDEQ, the MS4 discharges to this Salt Bayou. The 2003 Notice of Intent (EDMS Document 1706551) and the 2010 Annual Report (EDMS Document 7860474) for this MS4 list Salt Bayou as a MS4 discharge location. The WLA for this MS4 will remain in the TMDL. If St. Tammy Parish believes this is inaccurate, it is suggested that the parish work with LDEQ to update the receiving water bodies of its MS4 permit and in LDEQ records.
6	<p>St. Tammany Parish concurs with the following TMDL assessments:</p> <ul style="list-style-type: none"> <li>• Suspected sources of fecal coliform impairment are the storm sewer systems, sanitary sewer overflows, and on-site sewer systems.</li> <li>• Fecal coliform reduction is necessary in order for the affected waterways to meet their designated uses.</li> <li>• MS4s should achieve WLAs with BMPs and adaptive management instead of numeric effluent limitations.</li> </ul>	Comments noted.
7	The TMDL data are not necessarily representative of individual subsegments due to the omission of comprehensive monitoring results and the lack of modeling for each waterway to include flow, discharges, human impacts, and natural processes.	The FCB concentration data used in these TMDLs were from ambient monitoring data stations that are monitored by LDEQ as part of its water body assessment program as being representative of the water body. EPA used the data available to determine the TMDL. If you have additional data you would like to have analyzed for inclusion in TMDL development, please submit the information to EPA. EPA will review the data or information. The actions for preparation of a water quality management plan update will be evaluated. If an update is required, additional modeling or reallocation will be performed.
8	Subsegments 040909 (W-14 Canal) and 040910 (Salt Bayou), both located in St Tammany Parish, are distinctly different in hydrology, geomorphology, and land use. St Tammany Parish is concerned that almost the entire area of Subsegment 040910 (Salt Bayou) is near the pristine, undeveloped Pearl River State Wildlife Management Area, a habitat protection area managed by Louisiana Wildlife and Fisheries. This management area is outside the jurisdiction of St Tammany Parish (see map).	St. Tammany Parish is not responsible for loads generated outside its jurisdiction.

#	Comment	EPA response
<p>9</p>	<p>Subsegment 040910 (Salt Bayou) is surrounded by wetlands (76.07 percent), open water (11.08 percent), forest (7.09 percent), and grass (0.07 percent), with essentially no pasturage (0.15 percent) or cultivated crops (0.12 percent). Developed land constitutes only a small portion of the total land use in the subsegment (5.42 percent) (page 2-4 draft TMDL report). Additionally, as a result of buyouts following Hurricane Katrina, St Tammany Parish has acquired approximately 30 percent of the residences in the Salt Bayou area, which should further limit fecal coliform discharges into the bayou.</p>	<p>St. Tammany Parish is responsible for only the loadings generated in developed areas of the subsegment.</p>
<p>10</p>	<p>Ambient water quality data, other than FCB data, were not presented in the TMDL for site #1044; data, such as nutrients, DO, and BOD, would corroborate other information or indicate whether the FCB might be from anthropogenic waste streams. What is the objective of siting an ambient water quality monitoring station in such an obscure, pristine, undeveloped location?</p>	<p>Ambient monitoring data stations are monitored by LDEQ as part of its water body assessment program as being representative of the water body to assess the condition of waterbodies within Louisiana. LDEQ uses these data to generate its 305 report and 303(d) lists. In these reports, LDEQ indicates that the suspected source of fecal coliform bacteria in Subsegment 040910 is "On-site treatment systems (septic systems and similar decentralized systems)." It is not the purpose of this TMDL to second guess LDEQ's findings.</p> <p>EPA disagrees that reviewing nutrient and DO data would corroborate anthropogenic sources. Increased levels of these parameters might result from both natural and anthropogenic sources. Please note that LDEQ's ambient water quality data are available for review on the LDEQ website at <a href="http://www.deq.louisiana.gov/portal/tabid/2739/Default.aspx">http://www.deq.louisiana.gov/portal/tabid/2739/Default.aspx</a>. Ambient water quality data do not include BOD data.</p>
<p>11</p>	<p>The Parish proposes that, in the absence of DNA documentation, the fecal coliform bacteria in subsegment 040910 are naturally occurring and, in fact, expected within this relatively unimpacted wetland area. In such a case, no amount of load reduction will result in the attainment of established standards.</p>	<p>EPA notes the parish's comment. However, as stated above, LDEQ has listed the suspected cause of the impairment as "On-site treatment systems (septic systems and similar decentralized systems)." If the parish has the data to show that the fecal coliform</p>

#	Comment	EPA response
		bacteria are from natural sources, EPA suggests that the parish assist Louisiana in the preparation of a use attainability analysis.
12	Flow is one of the most critical parameters for modeling, calculating and allocating TMDLs. Flow influences all fate-and-transport phenomena within the water body, including transformations, dilution, dispersion, resuspension, and reaeration. There are no USGS flow gauges on either 040909 (W-14) or 040910 (Salt Bayou).	Comment noted. EPA acknowledged in the report that there are no USGS flow gauges in the subsegments.
13	Further, water quality throughout the lower reach demonstrates the effect of tidal mixing and flow. A substantial tidal prism exists at the mouth of water bodies in these subsegments, dominating advective flow in summer-critical, low-flow conditions. These mixing effects due to tidal prisms greatly attenuate the concentration and mortality of fecal coliform bacteria.	By using the monthly water yield, the TMDL calculations estimate the loadings from the land surface that enter the water bodies through runoff; therefore, tidal action does not affect the calculations. EPA will state more clearly in the TMDL that the loadings are reflective of surface loadings.
14	<p>The TMDL states that “FCB were not compared to flow because a majority of these subsegments are in tidal areas for which no representative data are available.” In the absence of flow measurements, EPA’s contractor utilized a method of determining edge-of-bank loading termed monthly water yield, obtained from the Louisiana Office of Climatology. Monthly water yield is a calculated value that includes assumptions for rainfall (which changes significantly over the period of record), evaporation, evapotranspiration, infiltration, vegetation interception, runoff coefficients, etc. Thus, the quantity of rainfall reaching a receiving stream is totally dependent upon site-specific factors that have not been provided in the TMDL. Further, the runoff from the monthly water yield should be calibrated with the flow in the receiving stream, which was not done.</p> <p>The reviewers appreciate that the mathematical exercise of calculating flow rate in <i>some</i> water body was performed, yet these questionable assumptions lead to questionable results in the loading curve and the reduction scenarios.</p> <p>The reviewers believe that the TMDL does not contain a hydraulics and hydrology (H&amp;H) modeling component and that no attempt was made to simulate the dynamic system to address the tidal impacts of flow. Thus, the uncalibrated, unreviewed assumptions provide NO defensible runoff into the streams, making the loading curves equally indefensible.</p> <p>The reviewers question the calculation of loading, not to mention the even more complex fate and transport, using any calculation method in which dynamic, unsteady-state (tidal) hydrology is not included.</p> <p>The USACE has developed an unsteady-state H&amp;H model for the W-14 watershed and tributaries, which also includes Salt Bayou. The model is in the public domain, and its use would greatly enhance FCB fate and transport and provide defensibility for the TMDL.</p>	For these TMDLs, simple Microsoft Excel-based methods were used, in keeping with the resources and data available. It should be noted that the fact that some acceptable TMDL calculation methods appear simple does not imply that the results of such methods are not valid. Models vary in the amount of necessary resources (e.g., training, setup/computational time, personnel, expense), required input and background data, questions answered, and output capability (e.g., charts, tables, data files).
15	The TMDL in its current state would be difficult to implement because it lacks clarity and is not “user-friendly.” For example, there are no percent reductions recommendations or discharge permit limits presented.	As you stated above and as stated in Section 1, Table 1-1, the suspected sources of the impairments are onsite wastewater systems, sanitary sewer overflows, and municipal areas. The TMDL

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		<p>states that "EPA expects that the MS4 WLAs will be achieved through best management practices (BMPs) and adaptive management." Reductions from onsite wastewater systems would be expected through the replacement of failing or inefficient systems. The sanitary sewer overflows are expected to be eliminated, thus reducing loads. In both cases, a percent reduction of 100 percent would be expected. In addition, point sources are set to water quality criteria, which in most, if not all, cases were equal to permit limits, thus receiving no reductions. These practices and monitoring might show compliance with the TMDL without additional practices. There are no percent reductions for point sources because point source dischargers should already be meeting their permit limits.</p>
16	<p>Current loading and percent reduction are not in the body of the TMDL and can be located only by wading through the calculations for waterways in Appendix E, for which spreadsheets had to be requested through a Public Records Request, posing an additional level of reviewing difficulty.</p> <p>Appendix E is confusing and does not clearly indicate the TMDL calculations. The note with the table indicates the values listed were not used in the TMDL calculations.</p> <p>Parish reviewers request clarification on what values were used in the calculations.</p>	<p>The TMDL for the subsegments in St. Tammany Parish were calculated using water quality criteria and the water yield. The water yield, indicated in Table 4-1, was converted to a flow using the area of the subsegment (Table 2-1).</p>
17	<p>St. Tammany Parish recommendations to improve the TMDL:</p> <ul style="list-style-type: none"> <li>• Comprehensive characterization of land use, monitoring, and testing along with adequate H&amp;H modeling for each subsegment should be performed to ensure the data are consistently representative of each waterway.</li> <li>• Improve the clarity and make the TMDL more user-friendly by using additional tables and figures in the summary and body of the report, rather than requiring readers to wade through appendices to understand the TMDL.</li> <li>• Insert loadings and percent reduction for waterways in the executive summary and in the main body of the TMDL in a user-friendly manner such as tables or figures.</li> <li>• Make Appendix E representative of the data values that were actually used in the TMDL calculation.</li> <li>• Include some language regarding implementation difficulties, such as funding, regionalization, and escalating MS4 regulatory requirements.</li> </ul>	<p>As stated above, it should be noted that the fact that some acceptable TMDL calculation methods appear simple does not imply that the results of such methods are not valid. For these TMDLs, simple Microsoft Excel-based methods were used, in keeping with the resources and data available.</p>
18	<p>St. Tammany Parish is developing an action plan to address unsewered subdivisions, individual sewer systems, fecal coliform exceedances, etc. Some of the steps St. Tammany Parish is taking include:</p> <ul style="list-style-type: none"> <li>• SWMP revision to reflect implementation plan to address fecal coliform reduction in the parish</li> <li>• Regionalization of wastewater treatment to decrease the number of point source discharges in the parish</li> <li>• Public education campaigns to make citizens aware of the need to control fecal coliform exceedances in the parish</li> </ul>	<p>EPA commends the actions that St. Tammany Parish is taking to reduce fecal coliform bacteria and other pollutants entering into the waterways of the parish.</p>

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	<ul style="list-style-type: none"> <li>• Developing an action plan to enable St. Tammany Parish to meet the fecal coliform water quality requirements for affected subsegments in the parish</li> <li>• Meeting with LDEQ to present the parish action plan, which includes tie-ins, wastewater regionalization, decentralized management and inspections, tertiary treatment, wastewater-to-wetlands projects, illicit discharge reduction, public education, and public participation and involvement</li> <li>• Aggressive pursuit of funding to expedite implementation of action plan</li> <li>• Implementing the action plan to ultimately achieve improved water quality in the parish</li> </ul>	