

***TOTAL MAXIMUM DAILY LOADS FOR LOUISIANA WATERBODIES:***

***An Emerging Issue for Louisiana Industries and Cities***

**M. Dwayne Johnson, Partner  
Kean, Miller, Hawthorne, D'Armond,  
McCowan & Jarman, L.L.P.  
Baton Rouge, Louisiana**

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**I. WHAT ARE THE BASES FOR TMDLs UNDER THE CLEAN WATER ACT?**

A. Clean Water Act.

1. General.

In 1972, Congress enacted the Federal Water Pollution Control Act, commonly referred to as the Clean Water Act (the “CWA”).<sup>1</sup> The CWA establishes a comprehensive program to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters” through reduction and eventual elimination of the discharge of pollutants<sup>2</sup> into such waters.<sup>3</sup>

The CWA established a new “technology-based” program to control the discharge of pollutants into the nation’s waters and required the United States Environmental Protection Agency (“EPA”)—which is the federal agency with primary authority for implementation of CWA programs<sup>4</sup>-- to develop and promulgate uniform technology-based regulations which would establish minimum levels of wastewater treatment for categories of (a) industrial dischargers that discharge directly to the nation’s waters and (b) industrial sources that discharge to publically owned treatment works,<sup>5</sup> which then discharge directly to the nation’s waters.<sup>6</sup>

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<sup>1</sup> 33 U.S.C. 1251, *et seq.*

<sup>2</sup> “Pollutant” is defined in 33 U.S.C. 1362(6), in pertinent part, as follows:

dredge spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water . . . .

<sup>3</sup> 33 U.S.C. 1251(a).

<sup>4</sup> However, the United States Army Corps of Engineers has general authority for the issuance of “dredged and fill,” or Section 404, permits. See, 33 U.S.C. 1344; 33 C.F.R. Parts 320, 323, 325, 326, and 327.

<sup>5</sup> Otherwise known as indirect dischargers.

<sup>6</sup> See, 33 U.S.C. 1311, 1314, 1316-17. See, also, 40 C.F.R. Parts 401, 405-471.

## 2. Water Quality Standards.

In addition to the new technology-based programs, Congress continued in the CWA a previously existing program based on water quality standards. The basic premise of this program is that a discharger should be subject to additional regulation where its discharges result in unacceptable levels of pollution in the receiving waterbody, even after the discharger has complied with all technology-based program requirements.<sup>7</sup>

The CWA directs states, with federal approval and oversight, to adopt water quality standards to assure protection of the quality of all state waters.<sup>8</sup> Water quality standards are specific to each state waterbody and must reflect the following: (1) the designated “uses” of the waterbody, e.g., whether it is to be used as a public water supply, and/or for recreation, the propagation of fish and wildlife, and/or agriculture, (2) the “criteria” or pollutant concentration limits that must not be exceeded within the waterbody for the waterbody to achieve and maintain its designated uses, and (3) an antidegradation policy to protect existing uses.<sup>9</sup> Because water quality standards are not technology-based standards and, instead, are based on the desired uses and condition of the particular waterbody involved, they may require controls on discharges more stringent than the federally imposed technology-based regulations.<sup>10</sup>

## 3. NPDES Permit Program

In the CWA, Congress provided a permitting program—the National Pollutant Discharge Elimination System (“NPDES”) permit program—as the primary means for achieving and enforcing technology-based regulations and state water quality standards.<sup>11</sup> Congress prohibited the discharge of any pollutant into the nation’s waters except when authorized by an applicable NPDES permit.<sup>12</sup> Thus, generally applicable technology-based regulations and state water quality standards are transformed into obligations of an individual discharger through an NPDES permit.<sup>13</sup>

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<sup>7</sup> See, 42 U.S.C. 1313; 40 C.F.R. Parts 130 and 131.

<sup>8</sup> 42 U.S.C. 1313(a), (b), and (c).

<sup>9</sup> 33 U.S.C. 1313(c)(2); 40 C.F.R. 131.10-131.12.

<sup>10</sup> See, **Jefferson City PUD. v. Ecology Department of Washington**, 114 S.Ct. 1900, 1906 (1994).

<sup>11</sup> 33 U.S.C. 1342.

<sup>12</sup> 42 U.S.C. 1311(a). Of course, Congress also allowed the discharge of “dredged or fill material” into the nation’s waters pursuant to a “Section 404” permit. Id.

<sup>13</sup> See, 40 C.F.R. 122.44(d)(1).

NPDES permits are issued by EPA, except in those jurisdictions—like Louisiana—which have been authorized by EPA to administer the federal NPDES program.<sup>14</sup> Louisiana received delegation of the federal NPDES program on August 27, 1996.<sup>15</sup> In Louisiana, the program is referred to as the Louisiana Pollutant Discharge Elimination System (“LPDES”) program.

B. CWA Section 303(d).

Under Section 303(d) of the CWA,<sup>16</sup> each state is required to identify those waters within its boundaries for which required technology-based effluent limitations are not stringent enough to implement applicable water quality standards. These waters are referred to as water quality limited segments, or “WQLSs.” The procedure for identifying WQLSs is generally set forth in 40 C.F.R. 130.7(b). Among other things, this regulation requires a priority ranking for all listed WQLSs still requiring total maximum daily loads (as discussed below), taking into account the severity of the pollution and the uses to be made of such waters, and identification of the pollutants causing or expected to cause violations of the applicable water quality standards. This list of a state’s WQLSs constitutes the state’s “303(d) list.”

Section 303(d) of the CWA serves as the general basis for total maximum daily loads (“TMDLs”). States are required to establish TMDLs for the WQLSs on their 303(d) lists.<sup>17</sup>

## II. WHAT IS A TMDL?

A. General.

The following definitions, all found within 40 C.F.R. 130.2, are pertinent to the discussion of what is a TMDL:

*Load or loading.* An amount of matter or thermal energy that is introduced into a receiving water; to introduce matter or thermal energy into a receiving water. Loading may be either man-caused (pollutant loading) or natural (natural background loading).

*Loading capacity.* The greatest amount of loading that a water can receive without violating water quality standards.

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<sup>14</sup> 42 U.S.C. 1342(b)-(d).

<sup>15</sup> See, 61 Fed.Reg. 47932 (September 11, 1996).

<sup>16</sup> 33 U.S.C. 1313(d).

<sup>17</sup> 33 U.S.C. 1313(d)(1)(C); 40 C.F.R. 130.7(c).

*Load allocation (LA).* The portion of a receiving water's loading capacity that is attributed either to one of its existing or future nonpoint sources of pollution or to natural background sources. Load allocations are best estimates of the loading, which may range from reasonably accurate estimates to gross allotments, depending on the availability of data and appropriate techniques for predicting the loading. Whenever possible, natural and nonpoint source loads should be distinguished.

*Waste load allocation (WLA).* The portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution. WLAs constitute a type of water quality-based effluent limitation.

*Total maximum daily load (TMDL).* The sum of the individual WLAs for point sources and LAs for nonpoint sources and natural background. If a receiving water has only one point source discharger, the TMDL is the sum of that point source WLA plus the LAs for any nonpoint sources of pollution and natural background sources, tributaries, or adjacent segments. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure. If Best Management Practices (BMPs) or other nonpoint source pollution controls make more stringent load allocations practicable, then wasteload allocations can be made less stringent. Thus, the TMDL process provides for nonpoint source control tradeoffs.

#### B. Application of Definitions.

When applying the above definitions to the question at hand, it is clear that a total maximum daily load, or TMDL, represents the maximum allowable "loading" of a pollutant to a waterbody, such that applicable water quality standards will not be exceeded. The TMDL is to be allocated among contributing point and/or nonpoint sources.<sup>18</sup>

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<sup>18</sup> The CWA defines "point source" as "any discernable, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return flows from irrigated agriculture." 33 U.S.C. 1362(14). Typical point source discharges are the end-of-pipe discharges from manufacturing facilities and publicly owned treatment works.

Nonpoint-sources include storm water runoff from orchards, cultivated crops, pastures, range lands, and forest lands. See, 40 C.F.R. 122.3(e).

Under Section 303(d)(1)(C) of the CWA<sup>19</sup> and its enabling regulations,<sup>20</sup> states must establish TMDLs for all pollutants “preventing or expected to prevent attainment of water quality standards” in a particular WQLS, taking into account seasonal variations and providing for an adequate margin of safety.<sup>21</sup> TMDLs are to be established at levels necessary to attain and maintain the applicable narrative and numerical water quality standards, and determinations of TMDLs must take into account critical conditions for stream flow, loading, and water quality parameters.<sup>22</sup> Calculations to establish TMDLs are subject to public review.<sup>23</sup>

A TMDL for a particular pollutant on a WQLS typically includes three elements: (1) a waste load allocation, which is the amount of the pollutant which may be discharged to the WQLS from point sources, (2) a load allocation, which is the best estimate of the amount of the pollutant the WQLS receives from nonpoint and/or background sources, and (3) a margin of safety (which is either an explicit allocation or impliedly accounted for by conservative assumptions) that accounts for any uncertainty about the relationship between effluent limitations and water quality.<sup>24</sup> This may be most simply illustrated by the following:<sup>25</sup>

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<sup>19</sup> 33 U.S.C. 1313(d)(1)(C).

<sup>20</sup> On July 13, 2000, EPA amended its TMDL regulations. 65 Fed. Reg. 43,586 (July 13, 2000). The July 2000 rule was the subject of much controversy, and Congress prohibited EPA from spending FY2000 and FY2001 money to implement it. EPA then delayed the effective date of the July 2000 rule until April 30, 2003. 66 Fed. Reg. 53,044 (October 18, 2001). During the delay, EPA is to reconsider some of the more controversial elements of the rule and amend it as appropriate.

<sup>21</sup> See, 40 C.F.R. 130.7(c)(1).

<sup>22</sup> Id.

<sup>23</sup> 40 C.F.R. 130.7(c)(1)(ii).

<sup>24</sup> See, 40 C.F.R. 130.2(h); 40 C.F.R. 130.2(g); 33 U.S.C. 1313(d)(1)(C); and 40 C.F.R. 130.7(c)(1).

<sup>25</sup> NPDES permits must include any requirement necessary to achieve water quality standards. 40 C.F.R. 122.44(d)(1). See, also, 33 U.S.C. 1311(b)(1)(C); LAC 33:IX.2361.D.

TMDL =	Wasteload Allocation (point sources)
	+
	Load Allocation (nonpoint sources and natural background sources)
	+
	Margin of Safety

### III. HOW ARE TMDLS IMPLEMENTED?

#### A. General.

##### 1. EPA Review.

Congress required states to submit their initial 303(d) lists and TMDLs to EPA within 180 days of EPA’s identification of pollutants suitable for TMDL calculations.<sup>26</sup> EPA identified all pollutants suitable for TMDL calculations on December 28, 1978.<sup>27</sup> Thus, the initial 303(d) lists and TMDLs were due to EPA by June 26, 1979. Thereafter, states were to submit 303(d) lists and TMDLs to EPA for review and approval “from time to time”.<sup>28</sup> In the 1992 amendments to its TMDL regulations, EPA more narrowly defined the statutory directive for state submissions “from time to time” by requiring states to submit 303(d) lists, along with the priority ranking of the WQLSs on those lists, to EPA on April 1st of every even-numbered year.<sup>29</sup>

EPA is to review the states’ lists and TMDLs within 30 days after their submission. If EPA disapproves a 303(d) list, it must identify the WQLSs that should be on the 303(d) list within 30 days from the date of disapproval.<sup>30</sup> By the same token, if EPA disapproves a TMDL, it must establish the TMDL within 30 days from the date of disapproval.<sup>31</sup>

##### 2. Point Sources/Nonpoint Sources.

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<sup>26</sup> 33 U.S.C. 1313(2).

<sup>27</sup> 43 Fed.Reg. 60, 662 (December 28, 1978).

<sup>28</sup> 33 U.S.C. 1313(d)(2).

<sup>29</sup> 40 C.F.R. 130.7(d).

<sup>30</sup> 33 U.S.C. 1313(d)(2).

<sup>31</sup> Id.

Once TMDLs have been developed, they are to be implemented for both point sources and nonpoint sources. For point sources, the TMDLs are to be incorporated into applicable NPDES permit limits. Conversely, for nonpoint sources—which, of course, are not subject to the NPDES permitting program—TMDLs are to be implemented by the institution of best management practices<sup>32</sup> as part of the continuing planning process of the affected state.<sup>33</sup>

B. TMDL Litigation.

1. National.

Although Congress first provided for TMDLs in 1972 when it enacted the CWA, and TMDLs were first required to be submitted to EPA for approval in June of 1979 (as discussed above), states and EPA were slow to warm to the TMDL concept, focusing instead on point source discharges under the NPDES program. Citizens groups entered this void and brought a number of legal actions against EPA, seeking the complete listing of impaired waters and development of TMDLs required under the CWA. According to EPA, there have been about 45 legal actions in 37 states (including Louisiana) and the District of Columbia seeking to enforce the CWA's 303(d) list and TMDL requirements. Frequent issues in such litigation included: (a) the adequacy, basis, and underlying data for the 303(d) lists, (b) the pace of development of TMDLs, and (c) the backstop under which EPA was to guarantee the development of TMDLs if a state did not timely do so.<sup>34</sup>

2. Louisiana.

a. General.

In 1996, the Sierra Club and the Louisiana Environmental Action Network filed suit against EPA in the United States District Court for the Eastern District of Louisiana for alleged violations of Section 303(d) of the CWA. Plaintiffs alleged that EPA (a) improperly approved Louisiana's 303(d) list, (b) failed to identify and list all Louisiana waters that did not meet water quality standards, and (c) failed to reasonably schedule and establish TMDLs for Louisiana

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<sup>32</sup> Best management practices include but are not limited to structural and nonstructural controls and operation and maintenance procedures. Best management practices can be applied before, during and after pollution-producing activities to reduce or eliminate the introduction of pollutants into receiving waters. See, definition of "best management practice" in 40 C.F.R. 130.2(m).

<sup>33</sup> See, 40 C.F.R. 130.0(d); 40 C.F.R. 130.5; 40 C.F.R. 130.6(c)(4); 40 C.F.R. 122.44(d)(1); 33 U.S.C. 1313(e).

<sup>34</sup> See, <http://www.epa.gov/owow/tmdl/tpdml/>.

waters not satisfying water quality standards.<sup>35</sup> After much legal wrangling, including the appointment of a special master, judgment by the district court judge, and reversal by the United States Court of Appeals for the Fifth Circuit,<sup>36</sup> the parties entered into a consent decree, effective April 1, 2002 (the “Consent Decree”).

b. Consent Decree.

The Consent Decree included a list of impacted WQLSs in Louisiana along with suspected causes of impairment. The Consent Decree also provided a schedule for waterbody/pollutant combinations to be addressed on a basin-by-basin approach. The Consent Decree’s schedule is as follows:

**Schedule for Addressing Waterbody/Pollutant Combinations:**

<b>Basin</b>	<b>Date Work Will Be Initiated</b>	<b>State Target Completion Date</b>	<b>EPA Backstop Due Date</b>
Barataria (154)	March 31, 2002	March 31, 2004	March 31, 2005
Terrebonne (369)	March 31, 2003	March 31, 2007	March 31, 2008
Sabine (10)	March 31, 2005	March 31, 2007	March 31, 2008
Pearl (42)	March 31, 2006	March 31, 2008	March 31, 2009
Atchafalaya (29)*	March 31, 2006	March 31, 2009	March 31, 2010
Red (174)	March 31, 2005	March 31, 2007	March 31, 2008
Pontchartrain (309)*	March 31, 2007	March 31, 2011	March 31, 2012
Mississippi (64)*	March 31, 2006	March 31, 2010	March 31, 2011

\* Waterbody/pollutant combinations listed for “Toxic Pollutants” within the Atchafalaya, Pontchartrain, and Mississippi basins will be addressed within the first two years following the date work is initiated in each such basin. “Toxic Pollutants” are defined as those pollutants listed in 40 C.F.R. 401.15. Waterbody/pollutant combinations generically listed under descriptions that may include Toxic Pollutants, for example, including but not limited to, those listed for “metals,” “priority organics,” or “priority inorganics,” will be evaluated to establish the individual pollutant(s) of concern within the generic description, and treated as Toxic Pollutants only to the extent that the individual pollutants of concern fall within the definition of Toxic Pollutants provided above.

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<sup>35</sup> **Sierra Club and Louisiana Environmental Action Network v. Clifford, et al.**, Civil Action No. 96-0527, Section “S”(4).

<sup>36</sup> No. 99-31299, July 9, 2001.

Under the Consent Decree, waterbody/pollutant combinations in the Ouachita and Calcasieu Basins are to be established by May 31, 2002.<sup>37,38</sup>

c. MOA Amendment.

Interestingly, based on the district court's order of October 1, 1999, which was later reversed, EPA and the Louisiana Department of Environmental Quality ("LDEQ") amended their memorandum of agreement for administration of the NPDES program in Louisiana. Pursuant to that amendment (which has not been revised), LDEQ is to implement TMDLs in LPDES permits to require the limits for point sources established in TMDLs be achieved:

- (1) by any point source that discharges pursuant to a new permit issued after the TMDL has been established.
- (2) by every point source discharging pursuant to an existing permit within the earlier of six years from the date the TMDL is established or three years following the first expiration of the permit after the TMDL is established.

This provision appears to restrict flexibility provided by federal and state regulations for EPA and Louisiana under the NPDES program which allow construction schedules for existing facilities which may need to install or construct additional treatment works to meet effluent limitations. As noted by EPA in the notice of the amendment to the memorandum of agreement:

This action may change the flexibility of the State to provide compliance schedules for dischargers . . . . Once a TMDL for a particular stream segment is established or approved by EPA, the court-ordered MOA Addendum amendment provides existing dischargers on these segments with as little as 3 to 6 years to achieve the limitations based on the TMDL's wasteload allocations. Federal regulations at 40 C.F.R. 122.47 and corresponding Louisiana regulations provide for compliance schedules of up to 3 years in permits where necessary to comply with more stringent limitations. Due to the five year permit cycle under the CWA, some permits may not come up for renewal until four or five years after a TMDL has been finalized. EPA Region VI believes a significant number of LPDES permits fall within this category. In these specific cases, [a] permit construction/compliance schedule may be further limited by time frames set out in the Court order for achievement of TMDL allocations.

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<sup>37</sup> On March 29, 2002, EPA publically noticed various proposed TMDLs and delistings of WQLSs for the Calcasieu and Ouachita Basins. 67 Fed. Reg. 15196 (March 29, 2002). The comment period on the EPA proposals expired on Monday, April 29, 2002.

<sup>38</sup> EPA and/or the Louisiana Department of Environmental Quality had previously addressed waterbody/pollutant combinations in the Vermilion and Mermentau Basins.

Burdens associated with the shortened time frames may be offset if dischargers are aware of TMDL allocations for their point source discharges and plan ahead for the additional limitations that will be forthcoming in the next cycle of their LPDES permit. While EPA and the State believe the above described situations can be avoided by dischargers planning ahead, or the State modifying or reopening permits to include new TMDL-based limits, some permits may have to be issued with shortened or no compliance schedules. In such cases, compliance with TMDL-based limits should be addressed through a Compliance or Administrative Order.<sup>39</sup>

#### **IV. WHY SHOULD MY CLIENT BE CONCERNED ABOUT TMDLs?**

Any client that has wastewater discharges to an impaired waterbody, or WQLS, should be concerned about the eventual TMDL which may be set by EPA or LDEQ. If the client is a point source discharger, the TMDL will be implemented within its LPDES permit. As a result thereof, permit limits for certain pollutants may be significantly reduced; limits may be provided for new pollutants; and monitoring requirements may be increased. If a nonpoint source discharger, the TMDL will be implemented through best management practices (via agreements or voluntary efforts in coordination with LDEQ).

In a draft report on the costs associated with the TMDL program, EPA noted that costs to pollutant sources for implementing the TMDL program are expected to be between approximately \$1 billion and \$3.4 billion per year.<sup>40</sup> These costs obviously are significant.

Once a TMDL is in place and no longer subject to administrative/judicial review, the TMDL will be implemented. Thus, dischargers on the affected WQLS will have the wasteload allocations provided for in the TMDL. As indicated in the proposed TMDLs for the Calcasieu Basin, facilities may be required to reduce their current discharges of a pollutant by as much as 90% or more (e.g., current permit allows 15.9 pound/day of pollutant "X" to be discharged, while the TMDL provides for a wasteload allocation of only 1.6 pound/day of pollutant "X"). This can obviously have Draconian effects on affected dischargers. Technology may not be available to achieve the required reductions or, if available, may involve inordinate costs.

#### **V. IF CONCERNED, WHAT SHOULD MY CLIENT DO?**

In a nutshell, clients should undertake the following:

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<sup>39</sup> 65 Fed. Reg. 6843 (August 8, 2000).

<sup>40</sup> 66 Fed. Reg. 41875 (August 9, 2001).

1. Determine if the client's receiving waterbody is impaired (i.e., is the waterbody a WQLS on the 303(d) list).
2. If the receiving waterbody is on the 303(d) list, determine which pollutants are causing the suspected impairment.
3. Determine if the client discharges the pollutants of concern.
4. If the client discharges the pollutants of concern, determine the schedule for TMDL development, as provided in the consent decree.
5. Understand the applicable water quality standards being applied to develop TMDLs (how they were established; how they have been applied; how they have been incorporated into permits, etc.).
6. Become involved in the TMDL development process as early as possible.
  - a. Retain effective consultant who can review TMDL methodology and data.
  - b. Develop additional data as required for appropriate TMDL development.
  - c. If possible, have WQLS delisted (i.e., if WQLS is actually meeting water quality standards and is not actually impaired).
  - d. Assist the affected agency in development of delisting petitions and/or TMDLs, by providing technical information/assistance (e.g., pay for engineering studies, modeling, analyses, etc.).
  - e. Be involved in the process for development of wasteload allocations. (There are different ways to develop wasteload allocations; e.g., by volume of existing discharges, by relative cost to achieve reductions, etc.)
  - f. Review any proposed TMDL document and provide comments thereon.
  - g. Encourage agency (EPA/LDEQ) to include language in any proposed TMDL that would allow subsequent amendment/modification of the TMDL if better information is later developed/obtained.
7. Develop strategy for communication with all affected stakeholders with respect to the WQLS.
8. Develop strategy for communication with agency developing TMDL (EPA or LDEQ).
9. Be prepared for any required administrative/judicial challenge to final TMDL.



## APPENDIX

### A. TMDL Web Pages

#### 1. EPA

<http://www.epa.gov/owow/tmdl/>

<http://www.epa.gov/owow/tmdl/states/la.html> (La. TMDL program)

<http://www.epa.gov/region6/water/tmdl/htm>  
(La. Court-ordered TMDL documents and information)

#### 2. LDEQ:

<http://www.deq.state.la.us/technology/tmdl/index.htm>

### B. Contacts

#### 1. EPA:

a. Jayne N. Fontenot, 6WQ-C  
(Supervisor of TMDL Section)  
U. S. EPA Region 6  
1445 Ross Avenue, Suite 1200  
Dallas, Texas 75202-2733  
Telephone: 214-665-7191  
[fontenot.jayne@epa.gov](mailto:fontenot.jayne@epa.gov)

b. Willie Lane, 6WQ-EW  
(Deals with Louisiana TMDLs)  
U. S. EPA Region 6  
1445 Ross Avenue, Suite 1200  
Dallas, Texas 75202-2733  
Telephone: 214-665-8460  
[lane.willie@epa.gov](mailto:lane.willie@epa.gov)

- c. David Gillespie, 6RC-M  
(EPA Attorney involved in Louisiana TMDL litigation)  
U.S. EPA Region 6  
1445 Ross Avenue, Suite 1200  
Dallas, Texas 75202-2733  
Telephone: 214-665-7467  
gillespie.david@epa.gov

2. LDEQ Contacts:

- a. Barbara Romanowsky (heavily involved in TMDL development)  
Administrator, Enforcement Division  
Office of Environmental Compliance  
Louisiana Department of Environmental Quality  
7290 Bluebonnet Boulevard  
Baton Rouge, Louisiana 70810  
Telephone: 225-765-0634  
barbara\_r@deq.state.la.us
  
- b. Emelise Cormier (TMDL development)  
Environmental Technology Division  
Office of Environmental Assessment  
Louisiana Department of Environmental Quality  
7290 Bluebonnet Boulevard  
Baton Rouge, Louisiana 70810  
Telephone: 225-765-0355  
emelise\_c@deq.state.la.us
  
- c. Dugan Sabins (assessment of waterbodies)  
Environmental Planning Division  
Office of Environmental Assessment  
Louisiana Department of Environmental Quality  
7290 Bluebonnet Boulevard  
Baton Rouge, Louisiana 70810  
Telephone: 225-765-0355  
dugan\_s@deg.state.la.us
  
- d. Christopher Ratcliff (LDEQ attorney for TMDL issues)

Legal Division  
Office of the Secretary  
Louisiana Department of Environmental Quality  
7290 Bluebonnet Boulevard  
Baton Rouge, Louisiana 70810  
Telephone: 225-765-0236  
chris\_r@deq.state.la.us

- e. tmdl@deq.state.la.us (for TMDL information)