



TULANE ENVIRONMENTAL LAW CLINIC

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157-049

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**RE: Comments on LDEQ's Notice of Intent to Amend the Water Quality Regulations regarding Dissolved Oxygen Criteria for Water Quality Subsegments in the Eastern Lower Mississippi River Alluvial Plains Ecoregion (LAC 33:IX.1123.Table 3) (WQ091)**

Dear Ms. Johnson:

Please consider the following comments on the Louisiana Department of Environmental Quality's (LDEQ's) June 20, 2015, Notice of Intent to amend the Dissolved Oxygen (DO) Criteria for Water Quality Subsegments in the Eastern Lower Mississippi River Alluvial Plains Ecoregion ("Eastern LMRAP" or "Eastern Subecoregion"). LDEQ's Notice of Intent is based upon the results presented in LDEQ's June 7, 2013, Use Attainability Analysis (UAA) of Inland Rivers and Streams in the Eastern Lower Mississippi River Alluvial Plains Ecoregion for Revision of Dissolved Oxygen Water Quality Criteria, which is, in turn, based in large part on the UAA of Barataria and Terrebonne Basins for Revision of Dissolved Oxygen Water Quality Criteria (BTUAA). The Tulane Environmental Law Clinic submits these comments on behalf of the Gulf Restoration Network (GRN),<sup>1</sup> the Little Tchefuncte River Association (LTRA),<sup>2</sup> Louisiana Environmental Action Network (LEAN),<sup>3</sup> the Sierra Club Delta Chapter,<sup>4</sup> and the Louisiana Audubon Council.<sup>5</sup>

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<sup>1</sup> GRN is a non-profit corporation organized under the laws of the State of Louisiana. GRN, a regional coalition of almost fifty environmental and social justice groups, is committed to the protection and restoration of the resources of the Gulf of Mexico region. GRN staff provides technical assistance and support to communities in the states bordering the Gulf in opposing environmental threats to local water bodies that jeopardize their communities.

<sup>2</sup> Little Tchefuncte River Association is a non-profit corporation dedicated to the protection of the Tchefuncte River and its Tributaries.

<sup>3</sup> LEAN is a non-profit corporation organized under the laws of the State of Louisiana. LEAN serves as an umbrella organization for environmental and citizen groups. LEAN's purpose is to preserve and protect the state's land, air, water, and other natural resources, and to protect its members and other residents of the state from threats of pollution. LEAN has members statewide, including members who live, work, or recreate in the area of the proposed DO criteria revisions.

<sup>4</sup> The Sierra Club, Delta Chapter, is a non-profit 501(c)(4) organization comprised of Sierra Club members in Louisiana.

<sup>5</sup> The Louisiana Audubon Council (LAC) is a non-profit 501(c)(4) organization comprised of Audubon Chapters and National Audubon Society members. Since its organization in 1989, the LAC has been involved in protecting wetlands and water quality throughout the state.

(collectively “Citizen Groups”). Citizen Groups reserve the right to rely on all public comments submitted. We request a written response to all comments.

### **SUMMARY**

LDEQ’s proposal to drastically lower the minimum dissolved oxygen criteria on thirty-four rivers and streams east of the Mississippi River from Baton Rouge to Lake Maurepas and north of Lake Pontchartrain is unlawful and improper because LDEQ has not demonstrated that these nearly hypoxic DO criteria supports the designated use of fish and wildlife propagation and because LDEQ fails to sufficiently support its determination with sound science. To be clear, though LDEQ characterizes the DO change as “important to establish appropriate and protective dissolved oxygen (DO) criteria,” there is nothing protective about lowering the minimum DO criteria by almost 3 mg/l. The ecoregion is large, and includes streams with vastly different water quality. Some of the streams which LDEQ proposes to lower the DO on by almost 3 mg/l evidence no signs of naturally low DO and, instead, the available evidence – including LDEQ’s own monitoring data, suggests that the streams regularly meet the current DO criteria. Many of the streams LDEQ proposes to prime for degradation are popular with residents for recreation, including fishing, canoeing, and swimming. Twenty of the streams are designated Scenic Streams – Outstanding Natural Resource Waters under LDEQ’s classification. As such, they are particularly valued under state law and merit extra protection. Further, the ecoregion includes valuable resources and areas and streams heavily used for both recreation and fishing (commercial and recreational). It includes the Big Branch Wildlife Management area near Lacombe, as well as the Tchefuncte River from the Bogue Falaya to Lake Pontchartrain, Bayou Lacombe, Tangipahoa River, and Bayou Liberty – all heavily for primary contact recreation by boaters, water skiers, and fishermen.

The proposed criteria change violates both federal and state laws regarding water quality and the procedure to change criteria. Both federal and state law requires water quality criteria to be based upon – and to support – the existing and designated uses of the area. LDEQ proposes to lower the criteria without showing that such criteria can protect the designated and existing uses. LDEQ has done no study of the fish and other aquatic life in any of the affected streams or the reference streams to demonstrate that they can survive and thrive at 2.3 mg/L of DO for nine months of the year. Without a study demonstrating this, LDEQ fails to show that its proposed change supports the designated use.

Moreover, LDEQ’s proposed criteria change is not supported by the sound scientific rationale required by law. Indeed, LDEQ’s scientific procedure violates its own Memorandum of Agreement with the United States Environmental Protection Agency (“USEPA”), where LDEQ agreed to use specific scientific procedures when assessing dissolved oxygen levels in water bodies. Examples of LDEQ’s analytical shortcomings include inappropriate choice of reference sites, insufficient data, and improper methodology. For example, LDEQ chose reference sites without demonstrating that they are not influenced by point or nonpoint sources of pollution. In some cases, available evidence proves that reference sites are influenced by these anthropogenic sources and are, therefore, inappropriate as reference sites. By improperly lowering the criteria and failing to ensure protection of existing and designated uses, LDEQ is essentially declining to require clean up of these waters, and is instead accepting a lower water quality for these ecoregions. Further, even by

LDEQ's own analysis, it proposes to set the minimum DO criteria at a level proven to have adverse impacts on fish. Accordingly, LDEQ's proposed dissolved oxygen criteria are unlawful.

## **SPECIFIC COMMENTS**

### **I. LDEQ'S PROPOSED CRITERIA VIOLATE LEGAL PROTECTIONS FOR OUTSTANDING NATURAL RESOURCE WATERS.**

LDEQ's proposal to lower the DO criterion in this ecoregion to 2.3 mg/L includes twenty waterbody subsegments which are designated Outstanding Natural Resource Waters (ONRWs or "Scenic Streams."). June 20, 2015, LDEQ Notice of Intent Dissolved Oxygen Criteria Revisions for Eastern Lower Mississippi River Alluvial Plains (LMRAP) Ecoregion ("Notice of Intent") at Table 3. Louisiana defines Outstanding Natural Resource Waters as "water bodies designated for preservation, protection, reclamation, or enhancement of wilderness, aesthetic qualities, and ecological regimes, such as those designated under the Louisiana Natural and Scenic Rivers System or those designated by the department as waters of ecological significance. Characteristics of *outstanding natural resource waters* include, but are not limited to, highly diverse or unique instream and/or riparian habitat, high species diversity, balanced trophic structure, unique species, or similar qualities." LAC 33.IX.1111.A.

With regard to adoption of criteria, EPA regulations provide: "States must adopt those water quality criteria that protect the designated use." 40 C.F.R. §131.11(a)(1). EPA also requires that "criteria must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use." *Id.* LDEQ has lumped the twenty Scenic Streams it plans to lower the DO on together with other streams and rivers in the ecoregion, and has not separately studied whether the low DO will protect their higher designated use to "enhance[ ] wilderness, aesthetic qualities, and ecological regimes" of these special waterbodies. LDEQ has only addressed (inadequately) the impact of the new criteria on Fish and Wildlife, but not on the Outstanding Natural Resource Water designated use. As such, it fails to comply with EPA regulations. All proposed changes to the DO criteria for ONRWs must be withdrawn until LDEQ can demonstrate that its extremely low DO will protect the ONRW designated use.

Additionally, LDEQ's proposal has the potential of degrading these ONRWs, in violation of the state and federal antidegradation policies. LDEQ regulations provide that "no degradation shall be allowed in high-quality waters designated as *outstanding natural resource waters* . . ." LAC 33.IX.1109.A.2. Degradation, in turn, is defined as "a lowering of water quality . . ." Federal regulations establish: "Where high quality waters constitute an outstanding National resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected." 40 C.F.R. § 131.12(a)(3). Though LDEQ argues that 2.3 mg/L is the natural DO level in all thirty-four waterbodies it seeks to affect, it has not reviewed the DO levels in the twenty Scenic Streams in particular, nor has it studied the impact of its proposal on these ONRWs. In fact, for its reference sites in the eastern LMRAP, LDEQ only sampled two ONRWs – 040403 and 040401 – at three sampling sites.

See UAA, Table 1.<sup>6</sup> Thus, it has no basis to conclude that lowering the DO criterion in these Scenic Streams by as much as 2.7 mg/L will not degrade their water quality.

Additionally, the Scenic Rivers Act provides that “In all planning for the use and development of water and water-related land resources, full and equal consideration shall be given by all local, state, and federal agencies to the potential natural and scenic river areas . . .” La. R.S. § 56:1848(A). LDEQ’s proposal to lower the DO criteria is use-related, and it must undergo this review. Further, there is no indication that LDEQ has consulted with the Louisiana Department of Wildlife and Fisheries (LDWF) or that LDWF is even aware of this proposal. LDEQ must involve LDWF in this proposal which will drastically lower the DO criterion on twenty Scenic Streams within LDWF’s jurisdiction.

**II. LDEQ HAS NOT SHOWN THAT ITS PROPOSED DO CRITERIA WILL PROTECT THE DESIGNATED USE OF FISH AND WILDLIFE BECAUSE IT HAS NOT DONE AN ANALYSIS OF THEIR IMPACTS OF ON FISH AND AQUATIC LIFE IN THE AFFECTED STREAMS.**

Again, federal law requires that States must only adopt “those water quality criteria that protect the designated use.” 40 C.F.R. §131.11(a)(1). All of the affected streams are designated for Fish and Wildlife. However, LDEQ has made no effort to demonstrate that the fish and other aquatic life in these streams and rivers can survive and thrive in only 2.3 mg/L of dissolved oxygen. While it collected fish data and assessed abundance and richness of the fish, this data does not substitute for a recruitment analysis or other scientific method of determining the effect of various low DO levels on these fish. Regardless, LDEQ only collected this data to compare the fish in the Eastern LMRAP with the fish in the Western LMRAP, not to separately consider these fish.

LDEQ offers that its proposed criterion is the natural background level of DO and then appears to assume that, if it is “natural” and there are fish there, the fish must be able to survive and thrive at these DO levels. Putting aside the fact that LDEQ’s methodology of showing that these levels are “natural” in the eastern LMRAP is flawed, LDEQ offers no law to support this assumption. It offers no law to support that it has met its burden to show that its criteria protect fish and wildlife based on an assumption, or even offered law to support that it protects fish and wildlife if it validly proves that this is the natural waterbody condition. The only way for LDEQ to demonstrate that its criterion protects the fish and wildlife use is to study the effect of the criterion, and various other DO levels, on the fish and aquatic life actually present in the streams.

**III. FEDERAL LAW DOES NOT AUTHORIZE LDEQ’S ACTION.**

The Memorandum of Agreement which LDEQ relies upon to allow it to set site specific criterion for an entire ecoregion at once references federal regulations that do not actually authorize what LDEQ proposes. The January 10, 2008, EPA/LDEQ Memorandum

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<sup>6</sup> Further, LDEQ omitted 282 of the data points from Site 1102 in Subsegment 040401 from consideration due to a DO probe failure. UAA Table A-3.

of Agreement (MOA) states: “When a state wishes to adopt a use (or a subcategory of a use) which is less stringent or requires less stringent supporting criteria, federal and state regulations provide a mechanism for change (40 CFR § 131.10(d), 40 CFR 131.10(g), 40 CFR 131.10(j)(2) . . . . That mechanism is a Use Attainability Analysis (UAA).” MOA at 3. But, as the sentence itself states, these regulations only allow for a UAA to “adopt a use [ ] or a subcategory of a use [ ] which . . . requires less stringent supporting criteria.” LDEQ is not proposing to change the use of Fish and Wildlife. Thus, no federal law authorizes LDEQ to do what it proposes to do here. Instead, a properly conducted and scientifically valid UAA may authorize LDEQ to change the use to, for example, Limited Aquatic Life. However, in that instance, LDEQ must meet the other requirements of federal law, including to prove that “attaining the use is not feasible” because of one of the six factors listed. 40 C.F.R. § 131.10(g). Presumably, LDEQ would argue this fits under subparagraph (g)(2) (“Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use . . .” and/or (g)(5) (“Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection use.”). However, even if LDEQ were to resubmit this rule change as a change in the use, or downgrade, it would need to show that the use is not an existing use, and it cannot make the change if “Such uses will be attained by implementing effluent limits required under sections 301(b) and 306 of the Act and by implementing cost-effective and reasonable best management practices for nonpoint source control.” 40 C.F.R. § 131.10(h)(1)&(2).

In fact, LDEQ’s proposal appears to be an unlawful attempt to eliminate an existing designated use. LDEQ may not remove any “existing use.” 40 C.F.R. § 131.10(h); La. Admin. Code tit. 33, pt. IX, §1109.B.3. “Existing uses are those uses actually attained in the water body on or after November 28, 1975, whether or not they are included in the water quality standards.” 40 C.F.R. § 131.3(e); La. Admin. Code tit. 33, pt. IX, §1105 (“Existing use[s] . . . may or may not be designated uses.”). In the case of the waters of the eastern LMRAP, the assigned designated uses, including Fish and Wildlife Propagation and Outstanding Natural Resource Waters, among others, are existing uses, as these uses have been actually attained in these water bodies. Rather than formally removing any designated use, LDEQ has modified its criteria to be less protective than the national criteria without changing – nor often even considering – those existing designated uses. Further, LDEQ has produced no analysis regarding other existing uses that could be impacted or removed due to the lowering of dissolved oxygen standards. In short, it appears that, because LDEQ cannot formally remove any existing use, it is simply lowering its dissolved oxygen criteria without protecting those uses, thus circumventing the § 131.10(h) prohibition. Interestingly, LDEQ indicates this circumvention, for example, when it justifies using less protective criteria because they reflect so-called “natural” conditions. Such justification is necessary when lawfully removing a designated use. Accordingly, LDEQ is foregoing proper procedural routes to lower designated uses – and consequently lower the criteria to protect those uses. Instead, LDEQ proposes to just lower the criteria, potentially removing the existing designated uses unlawfully.

#### **IV. LDEQ'S SELECTION AND USE OF REFERENCE STREAMS IS FLAWED.**

Critical to LDEQ analysis is its use of “least impacted” reference streams to both compare the Eastern LMRAP with the western LMRAP and to evaluate the Eastern LMRAP alone. The LDEQ/EPA MOA also discusses the use of least impacted reference streams, and LDEQ cites this MOA as its authorization. However, LDEQ’s discussion of the use of these sites and its use of the sites are significantly flawed based on its own guiding document, resulting in the science supporting LDEQ’s attempt being flawed.

##### **A. LDEQ Fails to Show That Its Reference Sites Have Not Been Impacted By Human Activity.**

LDEQ does not adequately show that the references sites – those the LDEQ claims are “least disturbed” sites – are free of human impacts, as it must to justify lowering the criteria based on its own guidance. The MOA provides that “The premise of the ecoregional framework . . . is that . . . conditions in reference water bodies of an ecoregion represent the best attainable or “least impacted reference” conditions of most water bodies within that ecoregion.” MOA at 5. In fact, available evidence in numerous instances shows that the reference sites likely are influenced by human activities.

First, Site 0156, Blind River at Gramercy, LA, seems to be impacted by sedimentation from a channel or ditch from an agricultural area. This is evidenced by an aerial view on Google Earth (see Exhibit A). Given this site is fed by a channelized stream from an agricultural area, carrying sediment that discolors the water, it cannot be considered a “least-impacted” site. Further this site, along with Site number 0243, Blind River East of Gonzales, LA, are in subsegment 040403, which is not meeting its Fish and Wildlife Propagation Designated Use. While we acknowledge the intent of this proposed rule is to lower Dissolved Oxygen standards, according to EPA, the suspected cause of this impairment is “agriculture” and “draining/filling/loss of wetlands.”<sup>7</sup> These causes are obviously man-made and show that this subsegment and two sites are not “least-impacted.”

Second, Site 0998, Upper Grand River at Levee, is situated at the confluence of the Upper Grand River and a levee-bound man-made canal (see Exhibit B). This canal and levee are obviously man-made and impact the natural nature of the Upper Grand, especially at this location. Further, this site has multiple camps which probably have septic systems that can impact the surrounding waters.

Third, according to LDEQ’s 2014 305(b) report, the subsegment that both Upper Grand River sites (0998 and 3083) are in (subsegment 120107) is not meeting its Fish and Wildlife uses. This non-attainment is attributed to not only natural sources, but also Municipal Point Source Discharges and On-site Treatment Systems (Septic Systems and

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<sup>7</sup>[http://iaspub.epa.gov/tmdl\\_waters10/attains\\_waterbody.control?p\\_list\\_id=&p\\_au\\_id=LA040403\\_00&p\\_cycle=2012&p\\_state=LA](http://iaspub.epa.gov/tmdl_waters10/attains_waterbody.control?p_list_id=&p_au_id=LA040403_00&p_cycle=2012&p_state=LA)

Similar Decentralized Systems). The fact that these systems are impacting the water make these sites inappropriate as “least-impacted” sites.

Fourth, currently, according to the 2014 305(b) report, the subsegment 120206, which includes Site 2976, Grand Bayou southwest of Belle Rose, LA, is impaired for dissolved oxygen and turbidity. It also has a TMDL for fecal coliform (see exhibit C). The fecal coliform TMDL shows that this waterbody is indeed impacted by anthropogenic sources, including approximately 543 septic tanks. Further human impacts are shown in the TMDL, as 47.4% of the subsegment, much of which is upstream of the sample site, is row crops. Row crops are known to impact water quality through pollutants such as sediment, biochemical oxygen demanding substances and nutrients.

Fifth, Site 2976 is also problematic as a “least-impacted” site, as it is downstream from significant oil and gas activity. This activity has a significant impact to the land and water, including land clearing, stormwater runoff, and point sources.

Sixth, Site 3079, Pierre Part Bay southeast of Pierre Part, LA (subsegment 120204) is also not appropriate as it is less than 2 miles downstream of an urban area with multiple point sources, urban run-off and impervious surfaces. This is certainly not “least-impacted” and should be excluded from the list. See Exhibit D.

#### **B. Two Reference Sites Do Not Support LDEQ’s Low DO Criterion and Instead Support the Existing DO Criterion of 5.0 mg/L.**

There is at least one instance where a TMDL shows that a 5.0 mg/l standard can be achieved if it were not anthropogenically impacted. One example pertains to Grand Bayou, where we find “least-impacted” site 2976, Grand Bayou southwest of Belle Rose, LA. The *Grand Bayou Watershed TMDL for Biochemical Oxygen-Demanding Substances*, drafted in 2008, shows on page iii, Table 1, that if there is no reduction in point sources and a 100% reduction in Manmade Nonpoint Sources, a 5.0 mg/l Dissolved oxygen minimum can be achieved throughout the year. Exhibit E. This is evidence that it can *naturally* meet the criteria and should be used as evidence that the current dissolved oxygen criterion is appropriate and should not be lowered.

Another example is found in *TMDLs for Dissolved Oxygen and Nutrients in Selected Subsegments in the Middle Terrebonne Basin, Louisiana (120202, 120204, 120304, 120403, 120604)* (see Exhibit F). This TMDL includes “least-impacted” site 3079, Pierre Part Bay southeast of Pierre Part, LA. In this TMDL, it states that there is a 22.6% reduction of Carbonaceous Biochemical Oxygen Demanding substances (CBOD) in order to reach the 5.0 mg/l standard (p. iv of TMDL). This is certainly reasonable since there are evident point sources and approximately a quarter of the watershed is agriculture where there are surely anthropogenic sources of pollution entering the system (p. 5 of TMDL). Further, historical monitoring of this sub segment (station 145 Lake Verret near Pierre Part, LA—a very similar location to site 3079 in question) shows that from 1/13/87-12/11/90, over 47 observations, the minimum dissolved oxygen was 5.2 mg/l, well within the current standard (table 3-1, p.

10 of TMDL). This further shows that current standards (5.0 mg/l dissolved oxygen) can be achieved even with some anthropogenic impacts.

### **C. LDEQ Overstates the Extent of Its Reference Sites.**

Several of the least-impacted sites are duplicative. Removing the duplications, there are only the equivalent of three in the Eastern section and two in the Western section, as opposed to eight in each section as the UAA purports (see page 11 of UAA).

In the eastern section, there are three blind river sites (LDEQ site numbers 0243, 0156, and 1102). Each of these sites is downstream of the other (see Exhibits G and H). It is inappropriate to call these three separate “least-impacted” sites, as they reflect the same river.

Also in the eastern section, there are “least-impacted” sites that act as the two main connections between Lake Maurepaus and Lake Pontchartrain. See Exhibit I. Given their source waters are the same, it is not appropriate to use them both as separate “least-impacted” sites.

In the western section, the four sites in the Upper Grand River system (sites 0998, 3083, 2750, and 3082) are all part of the same system, with sites 0998 and 3083 only 2.75 miles apart and in the exact same reach of the river (see Exhibits J and K).

Also in the western section, site numbers 2976 and 3079 are along the same river reach and are only 2.65 miles apart (see exhibit L).

These examples demonstrate the extent to which LDEQ’s methodology is flawed. Given that LDEQ is attempting to drastically lower the DO criterion on thirty-four streams in one fell swoop, and that such an effort mandates even more robust support than changing the DO criterion on a single waterbody would require, such flaws mandate withdrawal of this effort and additional more robust reference site selection procedures.

## **V. LDEQ’S PROPOSED CRITERIA CHANGE IS NOT BASED ON SOUND SCIENCE.**

LDEQ’s proposed dissolved oxygen criteria change is not supported by sound science. EPA requires that “criteria must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use.” *Id.*

The attached affidavit by Dr. JoAnn Burkholder lists significant ways in which LDEQ’s effort is scientifically invalid. Exhibits M and N (Affidavit and CV).

### **A. LDEQ’s Methods to Calculate the New Criteria Are Not Sufficiently Conservative to Give an Accurate Analysis of the Actual Dissolved Oxygen Levels.**

LDEQ’s method to determine the new dissolved oxygen criteria relies on non-conservative assumptions that potentially threaten the designated uses. For example, LDEQ



uses the 10th percentile of morning dissolved oxygen concentrations of the samples it took at its reference sites. *See Burkholder Aff.* By doing so, LDEQ bases its analysis on at least two non-conservative assumptions, thus allowing less protective criteria where more protection is actually necessary. First, by using the 10th percentile of data, LDEQ describes so-called “natural” water conditions as, essentially, the least healthy waters that it tested. EPA, on the other hand, recommends using a statistic equivalent to the 25th percentile of all reference site dissolved oxygen data (a more protective data set than LDEQ’s 10th percentile of morning data), to recognize, as here, that even reference sites may be impacted by human activity. *See Burkholder Aff.* Second, by using only a morning data set, LDEQ relies on data from the time of day when dissolved oxygen is at the lowest (most polluted) level. *See Burkholder Aff.* Consequently, LDEQ’s analysis bases its proposed criteria on so-called “natural” conditions with less healthy dissolved oxygen concentrations than may actually be present. Accordingly, LDEQ’s proposed criteria are not sufficient to protect the natural conditions that may actually be present.

**B. LDEQ’s Methodology Fails to Ensure that the Most Sensitive Life Stages of Aquatic Life Are Protected.**

As explained by Dr. Burkholder, LDEQ has not addressed the most sensitive life stages of aquatic life and whether a 2.3 mg/L DO criterion will be protective of these stages.

**VI. LDEQ IMPROPERLY APPLIES ITS CRITERIA TO ESTUARINE AND TIDALLY-INFLUENCED WATERS WHEN NO SUCH REFERENCE SITES WERE STUDIED.**

LDEQ proposes to apply its 2.3 mg/L DO criterion to estuarine streams (with a current 4.0 mg/L DO criterion) and tidally-influenced waters. Yet, it did not include these types of waters in its reference sites. Hence, it has no support for this application,.

EPA itself noted this problem. *See Exhibit O.* EPA also noted that the eastern LMRAP appears to have a good number more tidally-influenced streams than the western LMRAP, where some of the reference streams were and where the UAA was completed upon which LDEQ relies in part. *See Exhibit P.* The reason this is problematic, as EPA noted, is because LDEQ bases its proposed criteria on a conclusion that the eastern LMRAP waters are similar to the western LMRAP waters. If, in fact, they are not (and there are numerous other ways in which LDEQ has not shown enough similarity), this eliminates the justification for LDEQ’s criterion.

Further, as explained by Dr. Burkholder: “In developing its numeric nutrient criteria recommendations for nutrient ecoregions, the U.S. EPA (2000a) recognized four *different* types of waters: lakes and reservoirs, freshwater rivers and streams, estuaries and coastal waters, and wetlands. Accordingly, its recommended ecoregion-based, numeric nutrient criteria were developed *only for freshwaters in these ecoregions*, either rivers and streams or (with separate criteria) lakes and reservoirs (see <http://www2.epa.gov/nutrient-policy-data/ecoregional-nutrient-criteria-documents-rivers-and-streams>). The level III ecoregions of the U.S. EPA, for which recommendations for numeric nutrient criteria were

developed only for freshwaters, did not include DO criteria. The U.S. EPA (2012) uses a completely different approach and recommended criteria, including DO criteria, for salt-influenced waters. These points were completely missed by LDEQ and McCoy and Cook (2014).”

## **VII. LDEQ FAILS TO MEET ITS CONSTITUTIONAL DUTIES AS PUBLIC TRUSTEE AND STEWARD OF THE ENVIRONMENT.**

LDEQ’s proposed dissolved oxygen criteria change and the supporting LDEQ UAA fails to meet its responsibilities as public trustee and steward of the environment. The Louisiana Constitution states that “[t]he natural resources of the state, including air and water, and the healthful, scenic, historic, and esthetic quality of the environment shall be protected, conserved, and replenished insofar as possible and consistent with the health, safety, and welfare of the people.” La. Const. art. IX, § 1. The Louisiana Supreme Court found that this constitutional provision “requires an agency or official, before granting approval of proposed action affecting the environment, to determine that adverse environmental impacts have been minimized or avoided as much as possible consistently with the public welfare.” *Save Ourselves, Inc. v. Louisiana Env’tl. Control Comm’n*, 452 So. 2d 1152, 1157 (La. 1984). The Louisiana Supreme Court explained that LDEQ must support its “basic findings” with evidence “to assure that the agency has acted reasonably in accordance with law.” *Id.* at 1159 (citations omitted). Subsequently, the Louisiana Court of Appeals clarified LDEQ’s public trustee responsibilities, finding that LDEQ must support its environmental impacts analysis with evidence in the administrative record. *In re Rubicon, Inc.*, 95-0108 (La. App. 1 Cir. 2/14/96); 670 So. 2d 475, 481-83. “This is particularly so . . . where the agency performs as a public trustee and is duty bound to demonstrate that it has properly exercised the discretion vested in it by the constitution and the statute.” *Save Ourselves*, 452 So. 2d at 1159-60.

Here, LDEQ is failing its constitutional mandate. For example, LDEQ has not shown that it is (1) protecting designated uses, (2) protecting existing uses, (3) protecting high quality or impaired waters, (4) basing its proposed criteria on sound scientific rationale, or (5) minimizing or avoiding adverse environmental impacts. As a public trustee of the state’s environment, however, it is LDEQ’s constitutional duty to ensure that these waters are protected. Accordingly, LDEQ must revise its analysis and proposed criteria so as to fulfill its obligations as public trustee of the environment.

## **VIII. LDEQ’S MUST WITHDRAW THE REDESIGNATION OF THE TCHEFUNCTE RIVER AND THE CHANGE IN THE DISSOLVED OXYGEN CRITERION FOR THE NEW PORTION AS WELL AS ALL NORTHSHORE WATERBODIES.**

Worthy of special attention and criticism is LDEQ’s inclusion of a portion of the Tchefuncte River in its proposal to drastically lower the DO. The Tchefuncte River from its headwaters to the Bogue Falaya River is currently designated as Subsegment 040801, which is an Outstanding Natural Resource Water. Public Notice Table 3. LDEQ proposes to break out a portion of that subsegment and make it new subsegment 040807 – Tchefuncte River from US Hwy 190 to Bogue Falaya River. This new subsegment would be subject to LDEQ’s proposed 2.3 mg/L DO criterion. LDEQ proposes to redesignate Subsegment

040801 as being those waters “from headwaters to U.S. 190.” Table 3. These would maintain the 5.0 mg/L DO criterion.

LDEQ must withdraw this attempt to lower the DO criterion on this stretch of the Tchefuncte River. This section is a popular recreational waterbody well used by swimmers, fishermen, and boaters. At least 1/2 of new subsegment has the same continuous flow and current conditions as the portion upriver from US 190, basically the same hydrology, and the DO is always attained and not subject to seasonal lows. Additionally, LDEQ’s own maps show this portion of the Tchefuncte to be outside the ecoregion and, therefore, inappropriate for inclusion in this proposal.

Not only does LDEQ fail to provide any data that this stretch of the Tchefuncte is not meeting 5.0 mg/L DO, but it is an Outstanding Natural Resource Water that *all available data proves* is meeting the 5.0 mg/L DO criterion. Attached as Exhibits Q and R are LDEQ’s own monitoring data, from two testing sites in this new proposed subsegment. This data shows that the proposed new subsegment consistently meets the 5.0 mg/L standard. LDEQ has additional data from another reach of this subsegment in Covington which it has not disclosed and which likely shows that this reach as well meets the 5.0 mg/L standard. See Exhibit S.

In fact, LDEQ has no support that any of the waterbodies on the northshore of Lake Pontchartrain are: a) like the waters of the western LMRAP, or b) suffer from naturally low DO. While some of the lower reaches of some of these waterbodies may be stagnant and have naturally low DO, many other reaches and other waterbodies on the Northshore are not. None of LDEQ’s reference waterbodies are from this section of the ecoregion. See UAA, Figure 2. Further, Figure 2 also demonstrates that this entire region above Lake Pontchartrain is totally unlike the other areas of the eastern LMRAP in land use. The Northshore has significant urban areas so, to the extent that some of the waterbodies there are not meeting the 5.0 mg/L DO, LDEQ has not demonstrates that this is not due to anthropogenic sources like septic tanks and wastewater treatment systems. Unlike most other sections of this LMRAP and every other reference site except one, the Northshore has significant forest land, making it physically unlike both the rest of the ecoregion and unlike the western LMRAP. As LDEQ’s entire rationale for its criterion is the similarity between the streams of the eastern ecoregion and the streams of the west, this dissimilarity is a fatal flaw requiring LDEQ to withdraw its inclusion of the waterbodies on the Northshore of Lake Pontchartrain until it can properly demonstrate, through appropriate reference sites or actual data that the streams do not meet 5.0 mg/L DO, that a 2.3 mg/L DO standard is appropriate and protective of the designated uses.

## CONCLUSION

LDEQ’s proposed criteria changes are unlawful and unsupported by science. Accordingly, LDEQ must not adopt the proposed criteria for the eastern Lower Mississippi River Alluvial Plains.

Respectfully submitted by:

s/ Lisa Jordan

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