

Responsiveness Summary Concerning EPA's Decision to Add Waters to Louisiana's 2010 Section 303(d) List

Administrative Records Cited

1. Federal Register, Wednesday November 30, 2011 at Volume 76, Number 230
2. The Advocate, published in Baton Rouge, Louisiana. December 3, 2011
3. Decision Document for Louisiana's 2008 Section 303(d) List. Available at <http://www.epa.gov/region6/water/npdes/tmdl/index.html>
4. US EPA, 2002 Integrated Water Quality Monitoring and Assessment Report Guidance. November 19, 2001. Available at <http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/2001wqma.cfm>
5. US EPA, Guidance for 2006 Assessment, Listing and Report Requirements Pursuant to Section 303(d), 305(b) and 314 of the Clean Water Act. July 29, 2005. Available at <http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/upload/2006irg-report.pdf>
6. Louisiana Universities Marine Consortium (LUMCON), Southeast Area Monitoring and Assessment Program (SEAMAP), Louisiana Department of Wildlife and Fisheries (LDWF), EPA Gulf Breeze Laboratory, dissolved oxygen data
7. Louisiana Administrative Code Title 33 Part IX. Subpart 1, Chapter 11. Louisiana Surface Water Quality Standards
8. Comment No. 1. Mabelle R. Lee Hall, Counsel for GRN and LEAN, Tulane Environmental Law Clinic, 639 Freret Street, New Orleans, LA 70118
9. Comment No. 2. Sam L. Philips, Assistant Secretary, Office of Environmental Services, Louisiana Department of Environmental Quality, P.O. Box 4313, Baton Rouge, Louisiana 70821-4312
10. Comment No. 3. Bill Northey, Iowa Secretary of Agriculture, Iowa Department of Agriculture and Land Stewardship, 502 E 9th St, Des Moines Iowa 50319
11. Exhibits 1 through 8, documentation submitted by Tulane law clinic in support of submitted comments
12. United States Environmental Protection Agency, Science Advisory Board, *Hypoxia in the Northern Gulf of Mexico: An Update by the EPA Science Advisory Board*. December 2007. Available at http://www.epa.gov/owow_keep/msbasin/pdf/sab_report_2007.pdf
13. Decision Document for Louisiana's 2010 Section 303(d) List. Available at <http://www.epa.gov/region6/water/npdes/tmdl/index.html>
14. LDEQ Attachment 1: Response to comments concerning Gulf of Mexico hypoxic zone

Public Participation Activity Conducted

On Wednesday, November 30, 2011, EPA Region 6 published a notice in the Federal Register at Volume 76 Number 230, pages 74057-74058 and The Advocate, published in Baton Rouge, Louisiana, on December 3, 2011. See Administrative Record Nos. 1 and 2. These public notices requested comments from the public on EPA's proposed (1) disapproval of Louisiana's decisions

not to list three coastal segments; and (2) decision to add these coastal segments to Louisiana's 2010 Section § 303(d) list.

Summary of Actions

EPA received public responses from three parties regarding its proposed action to add three coastal segments as well as other comments that were outside the scope of the request for public comments. See Administrative Record No. 1. This response to comments addresses only those comments regarding EPA's proposed action to add three coastal waters west of the Mississippi River mouth to the 2010 Louisiana § 303(d) list.

EPA has reviewed the public responses regarding the addition of the three coastal segments and finds no new information presented or persuasive arguments as to why these segments should not be added as part of the 2010 Louisiana § 303(d) list. Therefore, EPA is taking Final Action on the addition of coastal segments 120806, 070601, and 021102 to the Louisiana 2010 § 303(d) list.

Summary of Public Comments

The following respondents provided written comments during the advertised public comment period.

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List of Abbreviations

CFR – Code of Federal Regulation
CWA – Clean Water Act

LDEQ – Louisiana Department of Environmental Quality
LDWF – Louisiana Department of Wildlife and Fisheries
MRB – Mississippi River Basin
LUMCON – Louisiana Universities Marine Consortium - 3 -
SEAMAP – Southeast Area Monitoring and Assessment Program

1) EPA’s decision to list subsegments 120806, 070601 and 021102 of Louisiana’s coastal waters which violate the numeric criteria for dissolved oxygen is correct

Public Comment

Machelle R. Lee Hall, Counsel for GRN and LEAN, Tulane Environmental Law Clinic, 639 Freret Street, New Orleans, LA 70118. See Administrative Record No. 8

EPA correctly concluded that LDEQ’s placement of these 3 subsegments in category 4b is improper. Category 4b is reserved for situations where controls are already in place that are demonstrably sufficient to achieve water quality standards. It requires that the alternative control measures be “expected to result in attainment of designated uses.” EPA guidance provides further clarification: “EPA would like to reiterate that States have the opportunity to assign impaired waters to Category 4b where controls sufficient to achieve water quality standards in a reasonable period of time are already in place.” EPA requires States’ to demonstrate how the alternative pollution controls will achieve the water quality standards, show that the controls are actual requirements, estimate the time it will take for the controls to achieve the water quality standard, and provide a schedule for implementing the controls. EPA appropriately found that the control which LDEQ relies on, the Gulf Hypoxia Action Plan (GHAP) falls far short of these requirements.

EPA Response

EPA acknowledges and concurs with the comments to add these three segments to the Louisiana § 303(d) list.

2) Total Maximum Dailey Load (TMDL) priority schedule

Public Comment

Machelle R. Lee Hall, Counsel for GRN and LEAN, Tulane Environmental Law Clinic, 639 Freret Street, New Orleans, LA 70118. See Administrative Record No. 8

EPA’s priority ranking does not properly take into account the urgency of action required to reduce the hypoxic zone. EPA properly assigned the subsegments at issue a priority ranking pursuant to CWA § 303(d), 33 U.S.C. § 1313(d). Congress intended for all waters on the 303(d) list to have a priority ranking based upon the severity of the pollution. *Id.* Therefore, EPA properly determined that, in placing the subsegments on Louisiana’s 303(d) list, a priority ranking was necessary.

However, in assigning a priority ranking for TMDL development, EPA assigned all three subsegments the lowest ranking, setting the timeframe for developing a TMDL at 8-13 years. Congress discussed the priority ranking of waters in section 303(d)(1)(A) of the Clean Water Act, 33 U.S.C. § 1313(d)(1)(A). And EPA guidance supplements this language. Section 303(d)(1)(A) of the Clean Water Act requires that States take into account the designated use of the waters and the severity of the pollution in establishing priority rankings. EPA supplemented these requirements with various guidance, which EPA relied upon in making its determination of priority ranking for these subsegments. However, EPA did not properly rank the waters based upon these factors.

EPA should rank the Gulf coastal water subsegments higher based upon the severity of the pollution there. Hypoxic conditions can persist for several months of the year, and make the marine environment unsuitable for aquatic life. LUMCON, *What is Hypoxia?* <http://www.gulfhypoxia.net/Overview/>. Once waters reach hypoxic levels, they have fallen far below the lower limit of D.O. necessary to support aquatic life as determined by Louisiana. This represents severe pollution impacting a designated use, and the data proves that it is still growing. The priority ranking assigned by EPA will allow the problem to grow even worse before beginning to address it, which will make the solution that much harder to achieve. Additionally, in its 1991 guidance, EPA provides that States should consider economic factors and the degree of public support when setting a priority ranking. These factors require a higher ranking than the one EPA proposes to establish, which is the lowest ranking possible.

Taking the severity of pollution, the economic consideration, and the public support for the area into account, EPA should set a higher priority ranking than the 8-13 year priority ranking.

EPA Response

No change has been made to the priority ranking as a result of comments received. The State of Louisiana chose to combine the 2010 CWA § 305(b) report and § 303(d) list into a single report following EPA's listing guidance, *Guidance for the 2002 Integrated Assessment and Reporting on the Quality of States' Waters* (i.e., Integrated Report). See Administrative Record No. 4 and 40 CFR 130.7(d)(1). The Integrated Report includes five categories as established in EPA guidance with Category 5 the 2010 Louisiana § 303(d) list of impaired and threatened waters requiring a TMDL. Category 5 is the only portion of the Integrated Report on which EPA takes approval and/or disapproval action. See Administrative Record No. 4. EPA neither approves nor disapproves the States' priority ranking submittal and is under no obligation per 40 CFR 130.7(b)(4) or the CWA to include a priority ranking or schedule for TMDL development to waters added to a States' § 303(d) list. However, in order to communicate EPA's commitment to addressing Hypoxia in the Gulf of Mexico, EPA proposed an assigned priority ranking and associated schedule for TMDL development to the proposed three added segments.

In making the determination to assign a priority ranking and schedule to the three coastal segments, EPA considered both the designated uses and the severity of pollution as required by the CWA and federal regulations. See CWA § 303(d)(1)(A) and 40 CFR 130.7(b)(4). EPA does

not dispute the dissolved oxygen problem in these three coastal segments is severe. As EPA noted in its proposal to list the waters, the segments show a high proportion (70%) of minimum dissolved oxygen values well below the dissolved oxygen criteria and often times below hypoxic levels. Dissolved oxygen criteria are assigned to protect the segments Fish and Wildlife Propagation Use, and existing data show the applicable criterion is not currently being met. Further, EPA understands the importance of these waters to Louisiana's fishing industry and to the State's economy as a whole. EPA is fully committed to addressing the water quality issues present in these three coastal segments, as well as the overall problem of hypoxia in the Northern Gulf of Mexico as quickly as possible. However, this issue will require a complex analysis before a TMDL can be developed, and the State will need sufficient time to collect the data and information necessary to complete such an analysis.

Therefore, in consideration of the scope and severity of the problem and the resulting need to allow sufficient time to complete a scientifically sound TMDL, EPA assigned each of the three added coastal segments a priority ranking of not later than 8 to 13 years, which is consistent with *EPA's 2006 Integrated Reporting Guidance* for establishing timelines for TMDL development in water quality limited segments. EPA encourages the State of Louisiana to begin the collection of information and data, as well as any other relevant precursors to TMDL development that may be related to interpretation or refinement of relevant water quality standards without delay and to complete the TMDL as expeditiously as possible, with the expectation that the TMDL could be completed within 8 years. See Administrative Record Nos. 3 and 5.

3) EPA should develop the TMDLs for subsegments 120806, 070601 and 021102 of Louisiana's coastal waters

Public Comment

Machelle R. Lee Hall, Counsel for GRN and LEAN, Tulane Environmental Law Clinic, 639 Freret Street, New Orleans, LA 70118. See Administrative Record No. 8

EPA should promulgate TMDLs for subsegments 120806, 070601 and 021102 in accordance with the statutory language of 303(d)(2). The EPA must "identify such waters in such State *and* establish such loads" upon disapproval of a 303(d) submission. In addition to identifying WQLSs that should have been submitted, the Administrator has a dual duty to also "establish such loads." The word "such" in this statute is continually referring to the same "waters," thereby linking the duty to "establish such loads" to the specific waters that the Administrator identified upon disapproval.

EPA Response

At this time EPA has no plans to establish TMDLs for the three Louisiana coastal segments that EPA is adding to the 2010 Louisiana § 303(d) list. EPA's regulations require States to establish TMDLs for waters included on State § 303(d) lists. For those waters added to the § 303(d) list by EPA in a disapproval action, EPA's longstanding policy allows States the opportunity first to establish the TMDLs. EPA reviews the State's TMDLs and if EPA disapproves the TMDL, then EPA must establish the TMDL.

4) EPA should require LDEQ to classify certain waterbody segments in category 5 for low dissolved oxygen nitrate/nitrite and/or total phosphorus

Public Comment

Machelle R. Lee Hall, Counsel for GRN and LEAN, Tulane Environmental Law Clinic, 639 Freret Street, New Orleans, LA 70118. See Administrative Record No. 8

EPA should disapprove LDEQ's decision to use IR category 3 in cases where nitrate/nitrite and/or total phosphorus were reported as a suspected cause of impairment." (Rationale at paragraph 1, p. 9). LDEQ explained this decision as resulting from the State's lack of nutrient criteria, which then makes it "impossible to know if nutrients are in fact causing impairment." (Rationale at paragraph 1, p. 9). In its Decision Document, EPA should have disapproved this approach. Instead, EPA decided to evaluate these nutrient loads only as a part of the process of creating TMDLs for D.O. to remove waterbody segments.

EPA Response

EPA's action was to propose for listing as impaired the three subject segments. While several related and other comments were received as a result of that solicitation, EPA concluded its action on all other segments at issue with respect to Louisiana's waters with its November 30, 2011 partial approval. In making the determination to partially approve the State's list, EPA reviewed the data and information submitted by the State concerning individual waters and the State's evaluation of those waters. Based on its review, EPA determined that the State reasonably identified waters that meet Federal listing requirements specified in § 303(d) and 40 CFR 130.7, except for the three coastal segments EPA is adding to the State's list.

Public Comment

Machelle R. Lee Hall, Counsel for GRN and LEAN, Tulane Environmental Law Clinic, 639 Freret Street, New Orleans, LA 70118. See Administrative Record No. 8

5) LDEQ should include on its § 303(d) list nearshore waters west of the Mississippi River for nitrate/nitrite, phosphorus and dissolved oxygen

- a) EPA must also consider the evidence offered by Dr. Rabalais in comments on the Mermentau Coastal Bays and Gulf Waters TMDL for D.O. and Nutrients. This data is relevant to the issue of the impairment of nearshore waters of the Gulf. Failure to consider it violates EPA regulations at 40 C.F.R. §130.7(b)(5), which requires that each State "assemble and evaluate all existing and readily available water quality-related data and information to develop the list. . . ." In particular, this data fits under the following category of "readily available data" specified in this regulation: "Waters for which water quality problems have been reported by local, state, or federal agencies; members of the public; or academic institutions. These organizations and groups should be actively solicited for research they may be conducting or reporting." *Id.* at 130.7(b)(5)(iii). The status of the Gulf and the Dead Zone has been extensively reported and studied; LDEQ must make use of this

readily-available information for purposes of this list. The data supports a listing of not only the three subsegments listed as impaired by LDEQ, but all nearshore subsegments, including subsegments 010901, 021102, 031201, 050901, 061201, 070601, 110701, 120806 for low D.O.

EPA Response

EPA concurs with the commenter's assertion that segments 201102, 070601, and 120806 should be added to the 2010 Louisiana § 303 (d) list for low dissolved oxygen. During the review of the 2010 Louisiana § 303(d) list EPA reviewed all readily available data and information including data collected by LUMCON, SEAMAP, EPA Gulf Breeze Laboratory and LDWF. See Administrative Record No. 6.

The commenter's request that segments 010901, 031201, 050901, 061201, 110701 should be added to the final 2010 § 303(d) list for low dissolved oxygen is outside the scope of EPA's request for public comments. See Administrative Record No. 1. EPA's action was to propose for listing as impaired the three subject segments. EPA concluded its action on all other segments at issue with respect to Louisiana's waters with its November 30, 2011 partial approval. In making the determination to partially approve the State's list, EPA reviewed the data and information submitted by the State concerning individual waters and the State's evaluation of those waters. Based on its review, EPA determined that the State reasonably identified waters that meet Federal listing requirements specified in § 303(d) and 40 CFR 130.7, except for the three coastal segments EPA is adding to the State's list.

- b) EPA should reconsider its finding that “[w]ithout data definitively attributing the low D.O. levels in these segments to nitrogen and phosphorus, EPA did not believe it was appropriate to list the segments for nitrogen or phosphorus.” Low D.O. is the symptom of the nitrogen and phosphorus flowing into the Northern Gulf of Mexico.¹⁰ Because of this, subsegments 010901, 021102, 031201, 050901, 061201, 070601, 110701, 120806 must also be listed for phosphorus and nitrate/nitrite. We recognize that Louisiana is not responsible for the majority of the nitrate/nitrite and phosphorus pollution. However, this fact is not relevant to the 303(d) listing of impaired waters (40 C.F.R. § 130.7(b)(1)).

EPA Response

EPA does not agree with the commenter's assertion that EPA should disapprove Louisiana's failure to list coastal segments 021102, 070601, 120806 for nitrate/nitrite and phosphorus. EPA acknowledges that elevated nutrient loadings from the Mississippi River may be a contributing factor in the formation of low dissolved oxygen concentrations in Gulf waters as identified in the *Hypoxia in the Northern Gulf of Mexico: An Update by the EPA Science Advisory Board*. However, the low dissolved oxygen concentrations in these coastal segments are likely a function of many variables, including freshwater flow, organic loading rates, water depth and stratification, circulation patterns, water temperature and meteorological conditions. See Administrative Record No 12.

The Louisiana Water Quality Standards contain narrative nutrient criteria applicable to all waters specifying that the “naturally occurring range of nitrogen-phosphorous ratios shall be maintained. This range shall not apply to designated intermittent streams. To establish the appropriate range of ratios and compensate for natural seasonal fluctuations, the administrative authority will use site-specific studies to establish limits for nutrients.” See Administrative Record No. 7. Without data definitively attributing the low dissolved oxygen levels in these segments to nitrogen and phosphorus, EPA did not believe it was appropriate to list the segments for nitrogen or phosphorus. However, EPA determined there was sufficient information to list these segments based on the exceedance of applicable dissolved oxygen criteria. During the TMDL development, nutrients and other contributing factors will be evaluated to determine to what degree nutrients are contributing to the coastal segment impairments.

The commenter’s request that EPA should add segments 010901, 031201, 050901, 061201, 110701 to the final 2010 § 303(d) list for nitrate/nitrite and phosphorus is outside the scope of EPA’s request for public comments. See Administrative Record No. 1. EPA’s action was to propose for listing as impaired the three subject segments. EPA concluded its action on all other segments at issue with respect to Louisiana’s waters with its November 30, 2011 partial approval. In making the determination to partially approve the State’s list, EPA reviewed the data and information submitted by the State concerning individual waters and the State’s evaluation of those waters. Based on its review, EPA determined that the State reasonably identified waters that meet Federal listing requirements specified in section 303(d) and 40 CFR 130.7, except for the three coastal segments EPA is adding to the State’s list.

6) LDEQ should include on its 303(d) list the Mississippi and Atchafalaya Rivers for nitrate/nitrite, phosphorus and dissolved oxygen.

Public Comment

Machelle R. Lee Hall, Counsel for GRN and LEAN, Tulane Environmental Law Clinic, 639 Freret Street, New Orleans, LA 70118. See Administrative Record No. 8

Nitrogen and phosphorus pollution flowing down the Mississippi River in 2010 caused one of the largest Gulf of Mexico Dead Zones ever recorded. And researchers have stated that it might have rivaled the largest if they had been able to complete their 2010 survey. Yet, LDEQ has not listed the Mississippi (subsegments 00101, 070201, 070301, 070401) or Atchafalaya (subsegments 010101, 010201, 010301, 010401, 010501) Rivers as impaired for these pollutants (nitrate/nitrite and phosphorus). As stated in Dr. Eugene Turner’s attached letter, the unnaturally low D.O. in Louisiana’s nearshore waters is caused by the nitrogen and phosphorus flowing down the Mississippi and Atchafalaya Rivers. Because of this fact, both of these rivers must also be listed for low D.O., nitrate/nitrite, and phosphorus. As stated above, we recognize that Louisiana is not responsible for the majority of the nitrate/nitrite and phosphorus pollution. However, this does not preclude the 303(d) listing of these impaired waters (40 C.F.R. §130.7(b)(1)).

First, this explanation ignores the fact that LDEQ has narrative criteria and also ignores the fact that LDEQ must consider downstream impacts LDEQ already acknowledged that nutrients in these rivers are a major cause of the Dead Zone. Second, LDEQ's explanation provides no support for its leap that, because the rivers do not experience low DO, this also means they are not impaired for nutrients. The relationship between DO and nutrients is complicated; high DO levels are not necessarily indicative of low nutrient levels. This is particularly true in fast moving, high volume streams like these, where reaeration is significant in raising DO levels.

In fact, a review of the data supplied by EPA Region 6 to LDEQ supports a conclusion that the Mississippi River is indeed impaired for D.O. EPA's data shows multiple instances of D.O. levels below the water quality standard in the Mississippi River Passes (segment 070401). In this segment the minimum D.O. level allowed is 4 mg/L. Several of the measurements in this data set have GPS coordinates that fall within this segment (portions of stations M00, M01, M02, M03, and M04; mostly in Southwest Pass). Taking into account the data set that falls within the segment (the years 2002-2007), approximately 16% of the data violate the D.O. criteria. According to the Integrated Report, this would place this segment in the "partially supporting" category, which, according to Footnote 3, requires a TMDL. Further, if one considers the data from just 2006-2007, approximately 27% of the data points within the segment violate the D.O. standard, which would place it in the "not supporting" category. Though LDEQ's ambient monitoring does not show similar D.O. levels, given the EPA supplied data, it would be prudent for LDEQ to place segment 070401 in IRC5, as impaired for low D.O. Although LDEQ states that it is working to establish nutrient criteria for low D.O.

Although LDEQ states that it is working to establish nutrient criteria for State waters, this effort has yet to yield numeric standards. Indeed, LDEQ does not list nutrients as a parameter in table II of the IR rationale. Yet LDEQ does list phosphorus or nitrates/nitrites as the source of impairment for a waterbody. LDEQ must clarify what nutrient testing is conducted for water bodies, and why LDEQ will not list the Mississippi River and nearshore coastal waters for nutrient impairment.

EPA Response

EPA's action was to propose for listing as impaired the three subject segments. While several related and other comments were received as a result of that solicitation, EPA concluded its action on all other segments at issue with respect to Louisiana's waters with its November 30, 2011 partial approval. In making the determination to partially approve the State's list, EPA reviewed the data and information submitted by the State concerning individual waters and the State's evaluation of those waters. Based on its review, EPA determined that the State reasonably identified waters that meet Federal listing requirements specified in section 303(d) and 40 CFR 130.7, except for the three coastal segments EPA is adding to the State's list.

7) LDEQ provides insufficient information to justify delisting and fails to explain the adequacy of its monitoring program.

Public Comment

Machelle R. Lee Hall, Counsel for GRN and LEAN, Tulane Environmental Law Clinic, 639 Freret Street, New Orleans, LA 70118. See Administrative Record No. 8

a) Waterbodies Reclassified from IRC 5 to IRC 3.

A comparison of the 2008 Integrated List to the 2010 List shows at least seven waterbody segments that had been listed as IRC 5 for nutrients in 2008, but were reclassified as IRC 3 in 2010. These segments include: LA040303_00, LA040304_00, LA040305_00, LA040505_00, LA040603_00, LA041202_00, and LA100801_00. IRC 3, according to LDEQ, represents categories where “[t]here is insufficient data to determine if uses and standards associated with the specific WIC cited are being attained.” Rationale at Table 3.

b) Waterbody Reclassified from IRC 5 to IRC 4a.

In its comments to LDEQ’s draft 2010 listing, GRN and LEAN noted that Segment LA081503_00 was classified as IRC 5 for D.O. on the 2008 list, but LDEQ has reclassified it as IRC 4a (“WIC exists but a TMDL has been completed for the specific WIC cited”) for D.O. on the 2010 list. A search of both LDEQ and EPA’s list of water bodies having TMDLs did not show a TMDL for D.O. in LA081503_00.

c) LDEQ Provides Insufficient Information to Determine the Adequacy of Its Monitoring.

LDEQ explains that it monitored the State water bodies based on a rotating schedule over a 4-year period, which resulted in ¼ of the State waterbody segments being tested every year (Rationale at 1). However, in its 2008 IR Rationale, it included a table, Table 1, that listed the monitoring schedule for each of the 12 basins. For the 2010 list, it removed this table, replacing it with a Table 1 that provided no useful information. The new Table 1 simply lists the years of sampling for four listed monitoring cycles without providing any information on which basins belong in which cycles. Rationale at 2. In the 2010 Response to Comments, LDEQ argues that its monitoring program is now statewide rather than limited to certain basins: “the 2010 Rationale update does not require specific basins because monitoring is now statewide instead of basin by basin. This statewide nature was pointed out on page 2 of the 2010 Rationale in bullet 2.” But LDEQ should provide more detailed information in the Rationale as to which waterbodies are monitored which years.

Another significant source of confusion in this aspect of the Rationale involves figuring out how many samples the agency used to evaluate the waterbodies. LDEQ states that its monitoring schedule resulted in twelve monthly samples for each waterbody subsegment. Rationale at 3. But then it explains that at least five samples were required for most parameters for the assessment to be valid. This leaves a question as to whether and when LDEQ used all of the available sampling results for each waterbody (12) or whether and when it used some

samples and did not use others (resulting in 5). This explanation is particularly necessary where a waterbody segment was delisted. In the 2010 Response to Comments, LDEQ argued that it uses all data that meets Quality Assurance/Quality Control (QA/QC) protocols. “LDEQ in no way chooses some data over others, except in so far as QA/QC protocols permit. Sample sizes below the expected 12 for any parameter are generally related to problems encountered during sampling or laboratory analysis.” But this explanation is vague and insufficient, particularly where waterbodies were delisted.

d) LDEQ Must Provide Details on its Use of Downstream Testing to Determine Water Quality of a Waterbody.

On page 3 of the Rationale, LDEQ says that it used data from “within or immediately downstream” of a waterbody subsegment to evaluate that subsegment’s water quality. In the 2010 Response to Comments, LDEQ argues that it has improved its description of “immediately downstream” in the final version of the IR text. But this description still does not adequately explain the appropriateness of such data for determining the condition of a different, upstream waterbody. While GRN and LEAN feel that it is important that a segment’s water quality both protect the segment and downstream uses, the use of downstream samples may misrepresent the upstream segment water quality, potentially indicating compliance with water quality criteria where there is none. *See Quarles Aff.* at ¶ 12. Though LDEQ indicated in its 2010 Response to Comments that downstream data use is necessary in some instances because of access issues, LDEQ should state clearly which waterbody segments presented such access issues.

e) LDEQ Did Not Include Information About the Methods it Used in Collecting the Data Used to Prepare the 2010 Integrated Report.

The Rationale did not describe in detail the surface water monitoring methods that LDEQ used, such as describing grab sampling versus continuous monitoring, the sample size, and the seasonal duration of the sample lot, among others. Without such detail, the validity and the reliability of the data are questionable. *See Quarles Aff.* at ¶ 7. LDEQ should provide detailed descriptions of all methodology used to obtain the data upon which it based its water quality impairment decisions. While LDEQ has indicated that this information is available on request, because the LDEQ provides no summary of changes in listings from the previous 303(d) list, it is difficult if not impossible for the public to know which situations to focus on in requesting additional information.

EPA Response

EPA’s action was to propose for listing as impaired the three subject segments. While several related and other comments were received as a result of that solicitation, EPA concluded its action on all other segments at issue with respect to Louisiana’s waters with its November 30, 2011 partial approval. In making the determination to partially approve the State’s list, EPA reviewed the data and information submitted by the State concerning individual waters and the State’s evaluation of those waters. Based on its review, EPA determined that the State reasonably identified waters that meet Federal listing requirements specified in section 303(d) and 40 CFR 130.7, except for the three coastal segments EPA is adding to the State’s list.

8) Stratified dissolved oxygen criteria for coastal waters

Public Comment

Sam L. Philips, Assistant Secretary, Office of Environmental Services, Louisiana Department of Environmental Quality, P.O. Box 4313 Baton Rouge, Louisiana 70821-4312. See Administrative Record No. 9

EPA and LDEQ agree that depth-stratified dissolved oxygen criteria should be investigated for application in Louisiana coastal waters. The lack of appropriate and promulgated dissolved oxygen criteria specific to the deeper waters of coastal Louisiana subsegments has resulted in inaccurate assessments. The detailed and low dissolved oxygen criteria recommendations outlined in the guidance for the Chesapeake Bay point to the need for the same level of effort to evaluate appropriate and protective dissolved oxygen criteria for Louisiana coastal waters. Until further investigation into the applicability of stratified dissolved oxygen criteria for Louisiana coastal waters can be accomplished, insufficient data and information remain a concern in conducting accurate water quality assessments.

EPA Response

EPA agrees that in the future depth stratified or seasonal dissolved oxygen criteria should be investigated for application in Louisiana coastal waters. However, for the purpose of identifying water quality limited segments, i.e., any segment where it is known that water quality does not meet applicable water quality standards, and/or is not expected to meet applicable water quality standards, even after the application of the technology based effluent limitations (See 40 CFR § 130.2(j), the term water quality standard applicable to such waters refers to those water quality standards established under § 303 of the Clean Water Act, including numeric criteria, narrative criteria, and waterbody uses. See 40 CFR § 130.7(a)(3). Thus, regarding EPA's decision for add the referenced waterbodies to the list, EPA's decision was based on **current** water quality standards as required by Federal Regulation.

9) Limited data set used by EPA

Public Comment

Sam L. Philips, Assistant Secretary, Office of Environmental Services, Louisiana Department of Environmental Quality, P.O. Box 4313 Baton Rouge, Louisiana 70821-4312. See Administrative Record No. 9

The data sets assessed by EPA to place the three coastal subsegments on the 303(d) list are limited both temporally and geographically. The data sets used by EPA routinely only accounted for one day per year at any given site during the critical summer period, with only eight sites located within Louisiana territorial waters.

EPA Response

EPA does not agree that the proposed addition of the three coastal waters (segments 021102, 070601, 120806) on Louisiana's 2010 § 303(d) list for low dissolved oxygen is based on limited data. As described in EPA's 2008 Louisiana § 303(d) list Record of Decision, approximately 231 dissolved oxygen measurements were collected at over 53 stations within state territorial waters. See Administrative Record No. 6 and 13. Although LUMCON, EPA Gulf Breeze and LDWF data were generally collected during the summer critical period; SEAMAP data was collected during various months throughout the calendar year. Given that LDEQ routinely uses 12 or less dissolved oxygen samples collected in a given year to make use support decisions; EPA determined that the data from SEAMAP, LUMCON, EPA Gulf Breeze and LDWF was adequate to determine non-attainment of the marine dissolved oxygen criteria.

Furthermore, the commenter's assertion is contrary to LDEQ's decision to place these three coastal segments in Category 4b of the State's IR submission. Category 4b is defined in EPA's 2006 IR Guidance as impaired but other control measures obviate the need for a TMDL. See Administrative Record 4 and 5. By LDEQ's own admission the data sets definitively show occurrences of low dissolved oxygen concentrations in the three coastal segments below the marine dissolved oxygen criteria in state territorial waters. See Administrative Record No.14. EPA did not disagree with the state as to whether the segments in question were impaired for low dissolved oxygen, but rather the placement of these waters in Category 4b using the Gulf of Mexico Hypoxia Action Plan as the control mechanism which will result in water quality standards attainment. See Administrative Record No. 3 and 13.

10) Hypoxia zone area in coastal subsegments is limited

Public Comment

Sam L. Philips, Assistant Secretary, Office of Environmental Services, Louisiana Department of Environmental Quality, P.O. Box 4313 Baton Rouge, Louisiana 70821-4312. See Administrative Record No. 9

As illustrated in NOAA's 2009 hypoxic zone map the area of the subsegments encroached upon by the Gulf of Mexico hypoxic zone is minimal. Subsegment 021102 shows approximately 9.4% of the subsegment areas is possibly impacted by the hypoxic zone. For 070601 and 120806 8.6% and 2.6% respectively, of the subsegment areas are possible impacted. By contrast the map illustrates the vast majority of the hypoxic zone lies outside of Louisiana territorial waters and thus would be unaffected by any TMDL implementation measures occurring within the subsegments in question.

EPA Response

EPA does not agree that the impacts of low dissolved oxygen concentrations in Louisiana territorial waters are minimal, nor does EPA agree that a TMDL is not needed in the three coastal waterbodies. A total of 231 samples collected at 53 stations in State territorial waters show that the percentage of minimum dissolved oxygen values in each of the three segments fall below the Louisiana marine criterion of 5 mg/l minimum greater than the 10% exceedance rate allowed. See Administrative Record No. 3 and 13. Based on these data EPA determined that these waters should be added to the Louisiana 2010 § 303(d) List. Following the addition of the three coastal segments to the 2010 Louisiana § 303(d) list, the CWA and federal regulations require the development of TMDLs for all pollutants preventing or expected to prevent the attainment of water quality standards. See CWA § 303(d) and 40 CFR 130.7(c)(1).

11) NOAA reports excellent fisheries

Public Comment

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NOAA reports routinely indicate excellent coastal fisheries in Louisiana. The Louisiana coast remains one of the most productive fisheries in the Gulf and the United States as a whole (NOAA 2010). Based on commercial landings for 2009 Louisiana's reported catch (528,071 metric tons) was over five times that of the nearest gulf coast state, Mississippi, which reported 104,456 metric tons. Texas reported 45,132 metric tons while Florida reported 27,904 metric tons. For 2010, Louisiana reported 455,762 metric tons; Mississippi 50,459 metric tons; Texas 40,779 metric tons; and Florida 28,360 metric tons (NOAA 2010).

The coastal waters considered in the NOAA report include the three subsegments in question 021102, 070601 and 120806, where much of Louisiana's commercial and recreational fishing occurs. Based on the preceding NOAA reports of commercial and recreational fisheries, the fish and wildlife propagation use in Louisiana's coastal waters is fully supported and not impaired by the gulf hypoxic zone.

EPA Response

EPA does not agree that NOAA reports of commercial fishing landings in the Gulf of Mexico indicate full use support in the three coastal segments. For the purpose of identifying water quality limited segments, i.e., any segment where it is known that water quality does not meet applicable water quality standards, and/or is not expected to meet applicable water quality standards, even after the application of the technology based effluent limitations (See 40 CFR § 130.2(j)), the term water quality standard applicable to such waters refers to those water quality standards established under § 303 of the Clean Water Act, including numeric criteria, narrative

criteria, and waterbody uses. See 40 CFR § 130.7(a)(3). Thus, regarding EPA's decision to add the referenced waterbodies to the list, EPA's decision was based on current water quality standards as required by Federal Regulation.

12) USGS studies show Louisiana nutrient contributions to Gulf are minimal

Public Comment

Sam L. Philips, Assistant Secretary, Office of Environmental Services, Louisiana Department of Environmental Quality, P.O. Box 4313 Baton Rouge, Louisiana 70821-4312. See Administrative Record No. 9

Studies conducted by the U.S Geological Survey (USGS) using the SPARROW model (Alexander et al. 2008) have clearly shown that only a small percent of the Mississippi River's nutrient flux to the gulf is derived from Louisiana (only 1.7% for total nitrogen and 2.4% for total phosphorus). The same USGS study pointed out that only 9% of nitrogen and 12% of phosphorus loadings to the gulf are derived from urban and population related sources; the remaining nitrogen loadings (91%) and phosphorus loadings (88%) come from agricultural sources, natural sources, and atmospheric deposition (nitrogen only) none of which have any established discharge limits.

EPA Response

EPA agrees that a majority of the nutrient loads to the Gulf of Mexico are the result of nonpoint source pollution originating in the upper Mississippi River watershed. However, EPA does not agree that the source of nutrient loads should be considered when making a decision of non-attainment of the Louisiana marine dissolved oxygen criterion. For the purpose of identifying water quality limited segments, i.e., any segment where it is known that water quality does not meet applicable water quality standards, and/or is not expected to meet applicable water quality standards, even after the application of the technology based effluent limitations (See 40 CFR § 130.2(j), the term water quality standard applicable to such waters refers to those water quality standards established under § 303 of the Clean Water Act, including numeric criteria, narrative criteria, and waterbody uses. See 40 CFR § 130.7(a)(3). Thus, regarding EPA's decision for add the three coastal segments to the list; EPA's decision was based on current water quality standards as required by Federal Regulation.

13) TMDL Is Not the Answer

Public Comment

Sam L. Philips, Assistant Secretary, Office of Environmental Services, Louisiana Department of Environmental Quality, P.O. Box 4313 Baton Rouge, Louisiana 70821-4312. See Administrative Record No. 9

A dissolved oxygen TMDL specific to these coastal segments when development of a TMDL specific to the three coastal segments added to the 2008 Louisiana § 303(d) List will not resolve the Gulf Hypoxia issue?

EPA Response

The CWA and federal regulations require the development of TMDLs for all pollutants preventing or expected to prevent the attainment of water quality standards. See CWA § 303(d) and 40 CFR 130.7(c)(1).

14) Addressing Gulf Hypoxia Requires a Multi-State and Regional Effort

Public Comment

Addressing gulf hypoxia will, at a minimum require a multi-state and regional effort. EPA must proceed in a cohesive, unified manner in addressing the gulf hypoxia issue and work to gain agreement among states for implementing water quality improvement strategies and provide funding or other incentives to gain participation by unregulated sectors that are significant contributors to gulf hypoxia. EPA should therefore support, promote and expand on the process already established by the Mississippi river/Gulf of Mexico Watershed Nutrient Task Force. The actions outlined in the Hypoxia Action Plan are the answer to reducing the anthropogenic impact on gulf hypoxia.

EPA Response

EPA agrees that addressing the cause of hypoxia will require a multi-state and regional effort and that the Gulf of Mexico Hypoxia Action Plan provides a framework for States to progress towards the goal of reducing nutrient loads to the Gulf of Mexico. However, EPA does not agree that with the State's decision to place the three coastal waters in Category 4b and that the Hypoxia Action Plan obviates the need for a TMDL. EPA carefully reviewed the *2008 Gulf Hypoxia Action Plan* and the State's Category 4b rationale to evaluate the State's decision to exclude the three segments at issue from Category 5 (the 2008 § 303(d) list) based on the Category 4b alternative. EPA's review was based on whether the *2008 Gulf Hypoxia Action Plan* addressed each of the Integrated Report Category 4b provisions discussed in EPA's *2008 Integrated Reporting Clarification Memorandum*. EPA's conclusions were described in detail in the EPA Decision Document for Louisiana's 2008 § 303(d) list and are summarized below and described in EPA's 2008 and 2010 Record of Decision. See Administrative Record Nos. 3, 5 and 13.

1) Because the specific point and nonpoint source controls needed to achieve the applicable water quality criterion of 5 mg/L dissolved oxygen in the three coastal segments have yet to be identified, the *2008 Gulf Hypoxia Action Plan* itself does not provide sufficient information to determine whether adequate "requirements" exist. In addition, the Action Plan indicates that

current “resources are insufficient to attain the goals of the Action Plan, and the lack of resources is the primary barrier to successful implementation of the plan.”

2) The *2008 Gulf Hypoxia Action Plan* indicates that the Task Force accepts the advice of EPA’s Science Advisory Board that achieving the hypoxic zone reduction goal by 2015 may no longer be possible. Also, the Action Plan does not describe how reducing the areal extent of the hypoxic zone to 5,000 sq km will lead to attainment of the applicable water quality criterion of 5 mg/L for dissolved oxygen in the three coastal segments.

3) The *2008 Gulf Hypoxia Action Plan* itself does not contain a schedule to implement the pollution controls needed to achieve the goal of the plan and attain the applicable water quality criterion of 5 mg/L for dissolved oxygen in the three coastal segments.

4) The *2008 Gulf Hypoxia Action Plan* does not specifically address pollution controls necessary to achieve water quality standards for dissolved oxygen in the State of Louisiana and it does not contain a description of, and schedule for, monitoring milestones for tracking and reporting progress to EPA on the implementation of those pollution controls.

5) The *2008 Gulf Coast Action Plan* does not identify specific point and nonpoint source controls needed to achieve the goals of the plan or the attainment of the applicable water quality criterion for dissolved oxygen in the three coastal segments.

15) EPA’s listing action will undercut efforts by States to control nutrients

Public Comment

Bill Northey, Iowa Secretary of Agriculture, Iowa Department of Agriculture and Land Stewardship, 502 9th St Des Moines Iowa 50319

- A) The EPA proposal to disapprove Louisiana's decisions not to list three waterbodies for low dissolved oxygen jeopardizes upstream states' efforts to address these and other Gulf state concerns. These three waterbodies were proposed for addition by EPA because the applicable numeric water quality standards marine criterion for dissolved oxygen was not attained in these segments. I ask that the EPA not disapprove Louisiana's decision to not list three waterbodies, and allow states like Louisiana and Iowa to pursue more workable frameworks for addressing nutrients in surface waters. The proposed listing by EPA will only undercut a variety of ongoing efforts.

- B) The goal of discussions between Region 7 Administrator Karl Brooks and Iowa Department of Natural Resources Director Roger Lande have been to tailor a workable, realistic, cost-effective state nutrient strategy specific to Iowa's circumstances, weather and technology, taking into account existing tools and innovative approaches, available resources, and the need to engage all sectors and parties in order to achieve effective and sustained progress. This is the preferred approach by states like Iowa. EPA subsequently supplanting a state's rights to decide their approach, or the listing of specific waters as impaired, or not, seems to fly in the face of these other ongoing efforts.

- C) The nutrient strategy approach is also supported by Administrator Lisa Jackson during her April 2011 visit to Iowa. During the visit, Jackson said that the EPA is not targeting agriculture and that EPA has not decided to apply its model for reducing pollution in the Chesapeake Bay to the Upper Mississippi River Basin. Instead, Jackson indicated the EPA might look at ways to quantify how voluntary conservation methods in the Mississippi River basin are helping reduce hypoxia in the Gulf of Mexico. Further, Jackson "ruled-out" the need to move directly to a regulatory approach when states are working to apply more conservation measures on the ground. This recent proposal by EPA to list waters for low dissolved oxygen seems to be in conflict with these previous collaborative statements and jeopardizes the agency's already tenuous credibility with Iowa farmers.
- D) Another reason for EPA not to interfere with Louisiana's decision not to list these waters is that it, Iowa and other states are well-positioned to work through the federal-state Mississippi River/Gulf of Mexico Watershed Nutrient Task Force, to document past success and make additional progress on nutrient reductions in surface water.

EPA Response

EPA appreciates Iowa's efforts to participate in the Federal/State Hypoxia and Nutrient Task Force, as well as the State's efforts to develop a State nutrient reduction strategy and willingness to partner with local stakeholders to reduce nutrient loads to the Gulf. However, these efforts do not abrogate the requirements for State development and EPA approval or disapproval of § 303(d) lists of impaired waters, based on existing regulations.

States are required by Federal regulation to review all readily available data and information when developing the State 303(d) list. See 40 CFR 130.7 (b)(5). As noted in EPA's Record of Decision on the Louisiana 2008 and 2010 § 303(d) lists, the State considered approximately 231 dissolved oxygen values from samples collected by LUMCON, SEAMAP, LDWF and EPA Gulf Breeze at 51 stations located in State coastal waters. After thorough review of the data, the State determined that dissolved oxygen levels in three State coastal segments (120806, 070601, and 021102) were below the applicable marine dissolved oxygen criteria of 5 mg/l. See Administrative Record No. 3, 13 and 14.

The State chose not to include these waters on the CWA § 303(d) list of waters for which available data and/or information indicate that at least one designated use is not being supported or is threatened, and for which a TMDL is needed. The State has taken the position that more stringent control measures than required by the CWA were already in place, citing current and future efforts described in the 2008 Gulf Hypoxia Action Plan as meeting the requirements of 40 CFR 130.7(b)(1), and the six elements in the 2008 EPA Integrated Reporting Guidance. See Administrative Record No. 3, 5 and 14. Instead, the State has placed these waters under Category 4b, defined by EPA's 2006 Guidance as waters for which "other required control measures are expected to result in the attainment of an applicable water quality standard in a reasonable period of time."

EPA agrees with LDEQ's decision that three coastal segments (120806, 070601, and 021102) are not meeting the applicable marine dissolved oxygen criteria. However, EPA determined that these water

quality limited segments are not exempt from the TMDL process, based on existing regulatory requirements. EPA's conclusions were described in detail in the EPA Decision Document for Louisiana's 2008 § 303(d) list and are summarized below and described in EPA's 2008 and 2010 Record of Decision. See Administrative Record Nos. 3, 5 and 13.

1) Because the specific point and nonpoint source controls needed to achieve the applicable water quality criterion of 5 mg/L dissolved oxygen in the three coastal segments have yet to be identified, the *2008 Gulf Hypoxia Action Plan* itself does not provide sufficient information to determine whether adequate "requirements" exist. In addition, the Action Plan indicates that current "resources are insufficient to attain the goals of the Action Plan, and the lack of resources is the primary barrier to successful implementation of the plan."

2) The *2008 Gulf Hypoxia Action Plan* indicates that the Task Force accepts the advice of EPA's Science Advisory Board that achieving the hypoxic zone reduction goal by 2015 may no longer be possible. Also, the Action Plan does not describe how reducing the areal extent of the hypoxic zone to 5,000 sq km will lead to attainment of the applicable water quality criterion of 5 mg/L for dissolved oxygen in the three coastal segments.

3) The *2008 Gulf Hypoxia Action Plan* itself does not contain a schedule to implement the pollution controls needed to achieve the goal of the plan and attain the applicable water quality criterion of 5 mg/L for dissolved oxygen in the three coastal segments.

4) The *2008 Gulf Hypoxia Action Plan* does not specifically address pollution controls necessary to achieve water quality standards for dissolved oxygen in the State of Louisiana and it does not contain a description of, and schedule for, monitoring milestones for tracking and reporting progress to EPA on the implementation of those pollution controls.

5) The *2008 Gulf Coast Action Plan* does not identify specific point and nonpoint source controls needed to achieve the goals of the plan or the attainment of the applicable water quality criterion for dissolved oxygen in the three coastal segments.

See Administrative Record No. 3 and 14.

Summary

EPA has carefully considered all the comments received concerning EPA's decision to partially approve and proposal to partially disapprove Louisiana's 2010 § 303(d) List. EPA finds no new information presented or persuasive arguments as to why the three coastal segments should not be added to the 2010 Louisiana § 303(d) List. Therefore, EPA is taking Final Action on the addition of coastal segments 120806, 070601, and 021102 to the Louisiana 2010 § 303(d) List.