

## **DECISION DOCUMENT FOR LOUISIANA'S 2008 §303(d) LIST**

EPA has reviewed the State of Louisiana's 2008 §303(d) list submission, and has concluded that the State developed its §303(d) list in partial compliance with §303(d) of the Clean Water Act ("the Act") and 40 CFR 130.7. EPA has determined that Louisiana's submission does not include all waters that meet §303(d) listing requirements. Therefore, EPA is partially approving and proposing to partially disapprove Louisiana's list submission. The proposed 2008 §303(d) list includes the list submitted by the State of Louisiana, plus three Gulf of Mexico coastal segments located west of the Mississippi River mouth, added by EPA because the applicable numeric water quality standards marine criteria for dissolved oxygen (DO) was not attained in these segments.

### **Administrative Records Cited**

1. Date of Transmittal Letter "FINAL 2008 §303(d) list" From the State: August 25, 2009, Date of Receipt by EPA: August 25, 2009
2. EPA Decision Document for Louisiana's 2006 §303(d) list
3. LDEQ Assessment Methodology and Summary Data/Integrated Report Rationale
4. EPA's 2008 Integrated Reporting Clarification Memorandum ([http://www.epa.gov/owow/tmdl/2008\\_ir\\_memorandum.html](http://www.epa.gov/owow/tmdl/2008_ir_memorandum.html))
5. LDEQ Response to Public Comments and Rationale for not including Coastal Segments on the 2008 §303(d) list
6. LDEQ Sampling Standard Operating Procedures for Water Sample Collection, Preservation, Documentation and Shipping: Sonde Deployment and Continuous Monitoring
7. 2008 Hypoxic Zone Map-Data source N. Rabalais, Louisiana Universities Marine Consortium (<http://www.gulfhypoxia.net/Research/Shelfwide%20Cruises/>)
8. Guidance for Water Quality Based Decisions: The TMDL Process. EPA 44/04-91-001. April 1991.
9. Louisiana Administrative Code Title 33 Part IX. Subpart 1, Chapter 11. Louisiana Surface Water Quality Standards
10. Mississippi River Gulf of Mexico Watershed Nutrient Task Force-2008 Gulf Hypoxia Action Plan
11. 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.
12. Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act, EPA, July 25, 2005

### **Purpose**

The purpose of this review document is to describe the rationale for EPA's partial approval and partial disapproval of Louisiana's 2008 §303(d) list of water quality limited segments (WQLS) requiring total maximum daily loads (TMDLs). The following sections identify those key elements to be included in the list submittal based on the

Clean Water Act and EPA regulations. See 40 CFR 130.7. EPA reviewed the methodology used by the State in developing the §303(d) list and the description of the data and information the State considered. However, EPA's review of Louisiana's §303(d) list is based on whether the State considered all existing and readily available water quality related data and information and reasonably identified waters required to be listed.

## **Statutory and Regulatory Background**

### Identification of WQLSs for Inclusion on Section 303(d) List

Section 303(d)(1) of the Act directs States to identify those waters within their jurisdiction for which effluent limitations required by §301(b)(1)(A) and (B) are not stringent enough to implement any applicable water quality standard, and to establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters. The §303(d) listing requirements apply to waters impaired by point and/or nonpoint source pollutants. EPA regulations provide that States do not need to list waters where the following controls are adequate to implement applicable standards: (1) technology-based effluent limitations required by the Act, (2) more stringent effluent limitations required by State or local authority, and (3) other pollution control requirements required by State, local, or Federal authority. See 40 CFR 130.7(b)(1).

### Consideration of Existing and Readily Available Water Quality-Related Data and Information

In developing §303(d) lists, the States are required to assemble and evaluate all existing and readily available water quality-related data and information, including, at a minimum, all existing and readily available data and information about the following categories of waters: (1) waters identified as partially meeting or not meeting designated uses, or as threatened, in the State's most recent §305(b) report; (2) waters for which dilution calculations or predictive modeling indicate non-attainment of applicable standards; (3) waters for which water quality problems have been reported by governmental agencies, members of the public, or academic institutions; and (4) waters identified as impaired or threatened in any section 319 nonpoint assessment submitted to EPA. See 40 CFR 130.7(b)(5). In addition to these minimum categories, 40 CFR 130.7(b)(5) requires the States to consider any other data and information that are existing and readily available. EPA's 1991 Guidance for Water Quality-Based Decisions describes categories of water quality-related data and information that may be existing and readily available. ("EPA's 1991 Guidance"). See Administrative Record No. 8.

In addition to requiring the States to assemble and evaluate all existing and readily available water quality-related data and information, EPA regulations at 40 CFR 130.7(b)(6) require the States to provide documentation to EPA supporting the State's decision to list or not list particular waters. Such documentation needs to include, at a minimum, the following information: (1) a description of the methodology used to

develop the list; (2) a description of the data and information used to identify waters; (3) a rationale for any decision not to use any existing and readily available information and (4) any other reasonable information requested by the Region. 40 CFR 130.7(b)(i)-(iv). Thus, while the States are required to evaluate all existing and readily available water quality-related data and information in deciding whether to list their waters, 40 CFR 130.7(b)(6) allows States to decide to use or not use particular data or information in determining whether to list particular waters. However, 40 CFR 130.7(b)(6)(iii) requires States to provide a rationale for any decision not to use particular data and information. The State of Louisiana described in Chapter 2 of the Integrated Report submittal titled “Assessment Method and Summary Data/Integrated Report Rationale” how it used existing and readily available data in the preparation of the Louisiana’s 2008 §303(d) List. See Administrative Record No. 3.

### Priority Ranking

EPA regulations also codify and interpret the requirement in §303(d)(1)(A) of the Act that the States establish a priority ranking for listed waters. The regulations at 40 CFR 130.7(b)(4) require the States to prioritize waters on their §303(d) Lists for TMDL development, and also to identify those water quality limited segments (WQLSs) targeted for TMDL development in the next two years. In prioritizing and targeting waters, the States must, at a minimum, take into account the severity of the pollution and the uses to be made of such waters. See §303(d)(1)(A). As long as these factors are taken into account, the Act provides that the States establish priorities. The States may consider other factors relevant to prioritizing waters for TMDL development, including immediate programmatic needs, vulnerability of particular waters as aquatic habitats; recreational, economic, and aesthetic importance of particular waters; degree of public interest and support; and the State or national policies and priorities. See 57 FR 33040, 33045 (July 24, 1992), and EPA's 1991 Guidance.

### **Review of Louisiana’s Submission**

#### Assembly and Evaluation of Existing and Readily Available Water Quality-Related Data and Information.

EPA has reviewed Louisiana’s submission, and has concluded that the State developed its §303(d) list in partial compliance with §303(d) of the Act and 40 CFR 130.7. EPA has determined that Louisiana’s submission does not include all waters that meet §303(d) listing requirements. Therefore, EPA is partially approving and proposing to partially disapprove the 2008 §303(d) list inclusive of the list submitted by Louisiana and additional waters that EPA has determined meet the listing requirements. EPA's review was based on its analysis of whether the State reasonably considered existing and readily available water quality related data and information and reasonably identified waters required to be listed, including whether the State performed a careful review of the waters addressed in the April 1, 2002 Consent Decree (CD) in *Sierra Club and Louisiana Environmental Action Network, Inc. v. EPA*, Civil Action Number: 96-0527.

Louisiana combined the 2008 §305(b) report and the §303(d) list into a single report (“the Integrated Report”) in accordance with EPA’s listing guidance titled “Guidance for the 2006 Integrated Assessment and Reporting on the Quality of States’ Waters” (“EPA’s 2006 Guidance”). See administrative Record No. 12. A single assessment methodology for the Integrated Report was used for both the 305(b) reporting and the 303(d) listing activities.

Louisiana’s Integrated Report divided assessed waters into five categories as recommended by EPA’s 2006 Guidance. Category 5, which includes 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, is the 2008 §303(d) list that EPA approves or disapproves pursuant to §303(d)(2) and 40 CFR 130.7. Category 5 is the portion of the Integrated Report on which EPA is taking action today. Although EPA reviewed Louisiana’s listing methodology as part of our review of the listing submission, EPA’s approval of the State’s listing decisions should not be construed as agreement with or approval of the listing methodology. EPA is not required to take action on the listing methodology. EPA’s decision to partially approve and partially disapprove Louisiana’s listing decisions is based on EPA’s review of the data and information submitted concerning individual waters and the State’s evaluations of those waters. While EPA considered the State’s listing methodology as part of its review, our evaluation was intended to determine whether the State had identified all waters that meet Federal listing requirements specified in section 303(d) and 40 CFR 130.7.

The listing methodology employed by Louisiana in developing its 2008 list describes a set of decision criteria that were reasonably applied. In general, waters were listed in cases where a certain percentage of samples exceeded the applicable water quality criteria over a four year period. The applicable percentages are provided in the Assessment Method and Summary Data/Integrated Report Rationale for Louisiana’s 2008 Integrated Report section of the Louisiana submittal. See Administrative Record No. 3. EPA staff determined Louisiana’s assessment methodology is a reasonable approach consistent with EPA 1991 Guidance document and with Louisiana’s water quality standards. See Administrative Record Nos. 8 and 9.

EPA has determined that Louisiana took reasonable steps to assemble and evaluate all existing and readily available water quality-related data and information as required by 40 CFR 130.7, including data and information from members of the public and government agencies via the public participation for Louisiana's 2008 Integrated Report by the State of Louisiana as outlined below:

1. Public notice posted approximately on **August 20, 2008** requesting relevant data, comments on draft 2008 303(d) list and on the rationale for development of the 303(d) list. The public notice provided a 30 day comment period. These requests were also posted on LDEQ’s website. Notice was placed in newspapers on or before **August 20, 2008** depending on the paper. Notices were placed in the following newspapers:

Baton Rouge, The Advocate (official State journal)

Lake Charles American Press  
Lafayette, The Advertiser  
Monroe New-Star  
Alexandria, The Town Talk  
Shreveport, The Times  
New Orleans, The Times-Picayune

2. Public comment period was extended to October 15, 2008 upon request by nonprofit environmental groups.

3. Following conclusion of public comment period and assessment of submitted data LDEQ prepared a response to comments document. This document was included in the Integrated Report submittal to EPA on **August 25, 2009**. The response to comments and proposed Integrated Report was also posted on LDEQ's website. See Administrative Record No. 5

EPA has reviewed Louisiana's description of the data and information it considered and its methodology for identifying water quality-limited segments still requiring TMDLs. As a result of its review, EPA has concluded that, except for the three waters discussed below, the State properly assembled and evaluated all existing and readily available data and information, including data and information relating to the categories of waters specified in 40 CFR 130.7(b)(5). However, EPA has concluded that the State's decision not to list certain coastal segments not meeting the dissolved oxygen criteria is inconsistent with Federal listing requirements. As discussed in detail below, EPA believes the available data and information leads to a conclusion that these waters are water quality limited under Louisiana Water Quality Standards and need to be listed pursuant to §303(d). Therefore, EPA is proposing to add these waters to Louisiana's 2008 List and will be seeking public comment on these proposed additions.

### **Decision to Add Waters to Louisiana's 2008 section 303(d) List**

In the evaluation of Louisiana's 2008 §303(d) list submission, EPA identified certain waters where the applicable water quality criteria is not being met, resulting in a finding of non-support pursuant to 40 CFR §130.7(b). These waters are as identified below.

### Coastal Marine Waters Exceeding Louisiana Water Quality Standards Dissolved Oxygen Criteria

#### ***Summary***

The numeric dissolved oxygen criterion for coastal marine waters (including nearshore Gulf of Mexico) is 5 mg/l. 33 LAC Section 1113.C.3.c. See Administrative Record No. 9. The Coastal Marine DO criterion is applicable during all seasons and is not specific to station location or depth.

LDEQ posted the proposed 2008 §303(d) List for public review and comment in August 2008. A majority of the comments received by LDEQ in response to public notice of its 2008 §303(d) list involved the issue of very low dissolved oxygen concentrations or hypoxia (defined as dissolved oxygen concentrations less than 2 mg/l) in State coastal waters (those waters within 3 miles of the State's shoreline). Commenters such as Tulane Law Clinic, Gulf Restoration Network, academics from Louisiana State University and the general public contended that hypoxia routinely occurs in State Territorial Coastal Waters during summer months and therefore those waters should be included on the §303(d) list as impaired for low dissolved oxygen and nutrients. To support this claim, commenters submitted dissolved oxygen data collected at various depths within State waters between the months of July and September by Louisiana Universities Marine Consortium researchers (LUMCON). See Administrative Record No. 5.

The State considered this data and information prior to submitting the 2008 Integrated Report to EPA. The State also obtained additional data collected by EPA Gulf Breeze Laboratory, Southeast Area Monitoring and Assessment Program (SEAMAP) and Louisiana Department of Wildlife and Fisheries (LDWF) which included similar dissolved oxygen measurements at various locations and depths in State coastal waters. See Administrative Record No. 11. 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. 5.

The State chose not to place these waters under Category 5 of the Integrated Report, which as discussed above is 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. 10 and 4. 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 disagrees with the State's decision that these water quality limited segments are exempt from the TMDL process. Through this action EPA is proposing to add these segments to the Louisiana 2008 §303(d) list, as discussed below.

### ***Description of Available Data***

For open water systems such as lakes, bays and marine waters LDEQ's Standard Operating Procedure for the collection of grab samples for the routine monitoring program is to sample one meter below the surface at a predetermined sample location.

See Administrative Record No. 6. In some lakes and marine environments where seasonal stratification occurs, collection of surface water sample may not be adequate to determine if low levels of dissolved oxygen exist throughout the water column. In marine and lake environments during summer months, surface agitation and photosynthetic activity may cause elevated levels of dissolved oxygen at the surface while at depths below the stratified layer (pycnocline, thermocline, etc.) dissolved oxygen levels may be significantly lower due to the biological oxygen demand caused by the decay of excess organic matter. This phenomenon, commonly referred to as hypoxia, has been well documented for decades in the Northern Gulf of Mexico during summer months. Annual maps depicting the location and extent of the hypoxia off the Louisiana coast (hypoxic zone) are published by Louisiana Universities Marine Consortium. See Administrative Record No. 7. In previous §303(d) lists, LDEQ did not make a decision on non-attainment of dissolved oxygen criteria due to the lack of data and understanding of low dissolved oxygen conditions in State coastal waters. The State, in the past, relied entirely on surface water grab samples for attainment determinations in coastal waters. Generally, these data showed the coastal waters to be meeting applicable marine dissolved oxygen criteria. Only recently has the State been able to obtain, for assessment purposes, data collected throughout the water column by LUMCON, EPA Gulf Breeze, LDWF and SEAMAP in State coastal segments. See Administrative Record No. 11.

As the LUMCON, EPA Gulf Breeze, LDWF and SEAMAP data was collected through federally funded research efforts and in many cases a part of peer reviewed publications, LDEQ and EPA agree that it is reasonable to presume that the proper quality control procedures were followed during collection. The data collected by these agencies consisted of dissolved oxygen measurements collected from one meter below the surface to areas below the stratified layer or bottom waters. The data sets available for review and the sample frames are briefly described in Table 1.

**Table 1. Data source descriptions used for assessment of State coastal waters.**

<b>Data Source</b>	<b>Sample Frame</b>	<b>Description</b>
LUMCON	Data Available from 2002 to 2005	Seven stations located in State coastal waters sampled once per year in July. One Station sampled once per month year round
EPA Gulf Breeze	Data available from 2003 to 2007	Eight Stations located in State coastal waters generally sampled twice per year in early and late summer.
SEAMAP	Data available from 2004 to 2008	Thirty five sampling points located in the three State coastal segments, samples collected throughout the year.
LDWF	Data available from 2008	Three stations sampled twice during August and July.

For each §303(d) listing cycle LDEQ assesses data collected only during the previous four years. However, after review of the available data sets EPA has determined that due to the difficulty and expense of sampling in the marine environment and the limited amount of samples collected at depth (stations in some cases sampled only once per year), samples collected prior to 2004 were relevant for assessment purposes on the 2008 §303(d) list. As the State §303(d) list contains water quality limited segments associated

only with State jurisdictional waters (within State segment boundaries), only those data collected in Louisiana waters were assessed. The station locations for available LUMCON, SEAMAP, EPA Gulf Breeze and LDWF are depicted below in Figure 1.

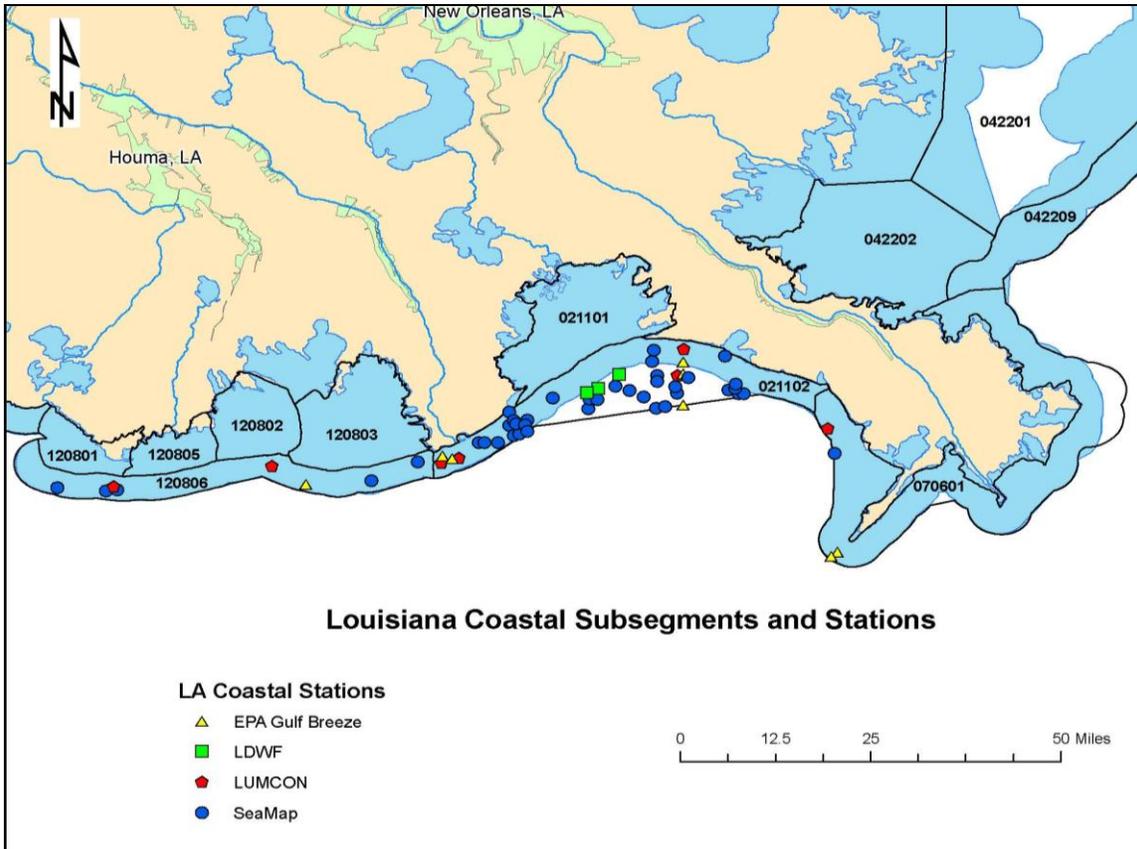


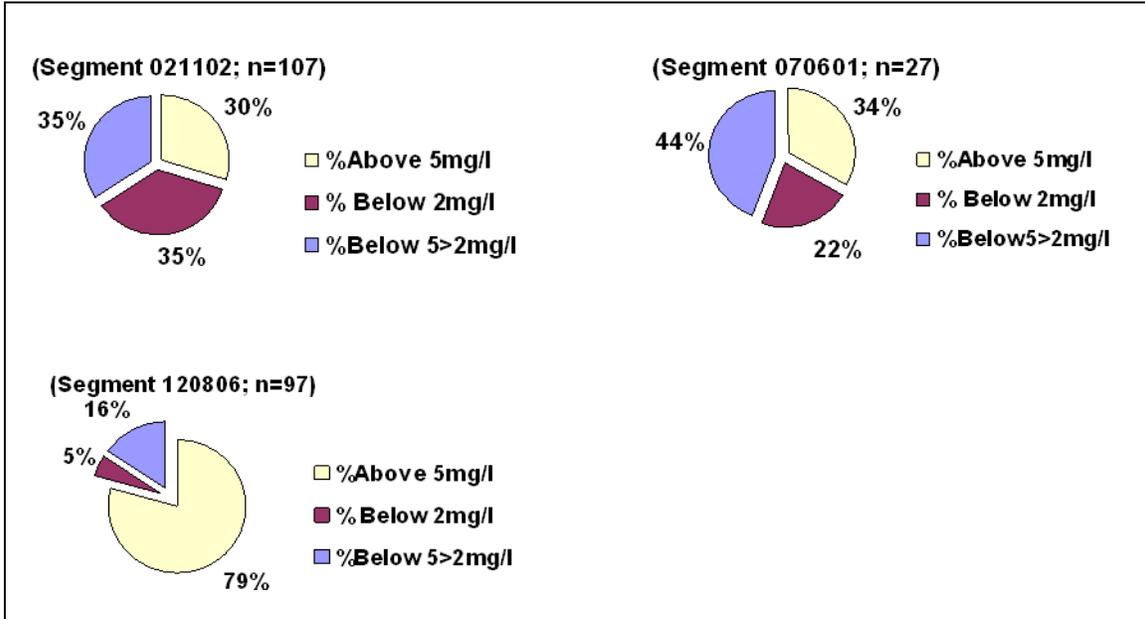
Figure 1. LUMCON, SEAMAP, EPA Gulf Breeze and LDWF stations in the State coastal waters.

***EPA Assessment of Dissolved Oxygen Data and Agreement with State Finding of Non-support.***

For Coastal Marine Waters (Including Nearshore Gulf of Mexico) the dissolved oxygen criterion is 5 mg/l as defined by (LAC) 33:IX.1113.3(c). The Coastal Marine DO criterion is applicable during all seasons and is not specific to station location or depth. This minimum DO criterion was designed to be protective of indigenous marine aquatic life and shall apply except in those water bodies that have site specific or ecoregional specific criteria. See LAC 33:IX 1113.3. The State assessment methodology for dissolved oxygen assessments allows a 10% exceedance rate of the marine dissolved oxygen criterion to account for natural variability before a determination of non-support is made. Therefore the Null hypothesis ( $H_0$ ) and the alternative hypothesis ( $H_a$ ) are:

- $H_0$ : the proportion of the X samples with  $DO < 5.0$  mg/l is  $\leq 0.10$
- $H_a$ : the proportion of the X samples with  $DO < 5.0$  mg/l is  $\geq 0.10$

Minimum dissolved oxygen values from samples collected by LUMCON, SEAMAP, LDWF and EPA Gulf Breeze were compared to the Louisiana minimum marine dissolved oxygen criterion (5 mg/l) allowing a 10% exceedance rate before a finding of non-attainment. Figure 2 depicts the percentage of dissolved oxygen values for each segment below and above the Louisiana marine dissolved oxygen criteria for each coastal segment where SEAMAP, LUMCON, EPA Gulf Breeze and LDWF data were available.



**Figure 2. Percent of LUMCON, EPA Gulf Breeze, SEAMAP and LDWF samples below and above LA marine dissolved oxygen criterion (5 mg/l) in three LA coastal segments.**

A total of 107 dissolved oxygen measurements were collected in segment 021102, with 70 percent below the marine criterion and 34 percent at or below hypoxic levels (2 mg/l). Segment 120806 contained 97 samples collected with 20 percent below the dissolved oxygen criteria and 5 percent considered hypoxic. This segment contained the one LUMCON station that was sampled year round and thus a higher proportion of measurements collected during periods when hypoxic conditions were not as prevalent. In contrast, segments 021102 and 070601 contained a higher proportion of samples collected during the summer critical period and thus contained a higher proportion of samples below the marine dissolved oxygen criterion. Segment 070601 had only 27 samples collected. Of these, 66 percent were below the marine dissolved oxygen criterion and 22 percent were below hypoxic levels. These data 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 and greater than the 10% exceedance rate. Therefore, EPA agrees with the State determination that coastal segments 120806, 070601 and 021102 are not meeting the marine criterion of 5 mg/l.

In addition to the segments mentioned above, thirteen samples were collected in the western State coastal waters in segment 110701 through SEAMAP efforts. However, only one of the 13 samples showed minimum dissolved oxygen values below the marine criterion. All of the samples in segment 110701 were collected in late fall/early winter,

and therefore contained no dissolved oxygen measurements during the critical summer period. The State did not identify segment 110701 as exceeding applicable dissolved oxygen criteria on the §303(d) list. Based on the limited data available for assessment purposes, EPA agrees that the evidence does not show that the segment is currently impaired by low dissolved oxygen.

***EPA's proposed decision to add Category 4b waters to the §303(d) list***

As described in previous sections of this Record of Decision, the State determined that three coastal segments (120806, 070601, 021102) are exceeding applicable marine dissolved oxygen criterion but that those segments are not required to be listed on the State's §303(d) list. See 40 CFR 130.7 (b)(1) and Administrative Record No. 5. Instead, the State placed these water quality limited segments in Category 4b. Category 4b is defined by the EPA's 2008 Integrated Reporting Clarification Memorandum 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". Category 4b is supported by 40 CFR 130.7(b)(1), which provides that States are not required to list water quality limited segments where effluent limitations required by the CWA, more stringent effluent limitations required by the State, local, or Federal authority, or other pollution control requirements required by State, local, or Federal authority, are stringent enough to implement applicable water quality standards. EPA's 2008 Integrated Reporting Clarification Memorandum specifies six elements that should be included in a State's rationale for including waters in category 4b. These include (1) a statement of the problem causing the impairment, (2) a description of the proposed implementation strategy and supporting pollution controls necessary to achieve water quality standards, including the identification of point and nonpoint source loadings that when implemented assure the attainment of all applicable water quality standards, (3) an estimate or projection of the time when water quality standards will be met, (4) a reasonable schedule for implementing the necessary pollution controls, (5) a description of, and schedule for, monitoring milestones for tracking and reporting progress to EPA on the implementation of the pollution controls, and (6) a commitment to revise as necessary the implementation strategy and corresponding pollution controls if progress towards meeting water quality standards is not being shown. See Administrative Record No. 4.

To support assignment of the three impaired coastal segments to Category 4b, the State cited the ongoing efforts associated with the 2008 Gulf Hypoxia Action Plan (<http://www.epa.gov/msbasin/index.htm>). See Administrative Record No. 5. The 2008 Action Plan is a Federal and State supported National strategy to reduce, mitigate, and control hypoxia in the Northern Gulf of Mexico. See Administrative Record No.10. EPA Region 6 carefully reviewed the Gulf Hypoxia Action Plan and LDEQ's Category 4b rationale to evaluate the State's decision to exclude the three segments at issue from Category 5 (the section 303(d) list) based on the Category 4b alternative. EPA's assessment of whether the Action Plan sufficiently addresses each Integrated Report 4b element is described below.

- Element 1. Identification of segment and statement of the problem causing the impairment.** The segments not meeting the 5 mg/L dissolved oxygen criteria have been identified in the Louisiana Integrated Report in Category 4b. By assigning these segments to Category 4b based on the Action Plan, the state has indicated that excessive nutrient loadings to the Gulf are contributing to the impairment. According to the Action Plan, estimates indicate that basin point sources represent 22% of nitrogen and 34% of phosphorus loads to the Gulf (upper end of the range assuming delivery without any stream losses). Nonpoint sources, including atmospheric deposition, are estimated to represent 78% of nitrogen and 66% of phosphorous loads (lower end of the range).
- Element 2. Description of pollution controls and how they will achieve water quality standards.** The Action Plan identifies 11 “Next Steps” to meet the Action Plan goals of reducing the five-year running average areal extent of the Gulf of Mexico hypoxic zone to less than 5,000 sq km by 2015. To achieve this goal, the plan calls for a dual nutrient strategy targeting at least a 45% reduction in riverine total nitrogen load and in riverine total phosphorus load, measured against the average load over the 1980-1996 time period. However, 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.

To achieve the goal of reducing the hypoxic zone, the Action Plan recommends the development and implementation of State nutrient reduction strategies for States in the Mississippi/Atchafalaya River Basin. However, the Action Plan does not identify specific point and nonpoint source controls needed to achieve the goals of the Action Plan or the attainment of the applicable water quality criterion for dissolved oxygen in the three coastal segments.

The Agency considers a number of factors in evaluating whether a particular set of pollution controls are in fact "requirements" as specified in EPA's regulations, including: (1) authority (local, State, Federal) under which the controls are required and will be implemented with respect to sources contributing to the water quality impairment (examples may include: self-executing State or local regulations, permits, and contracts and grant/funding agreements that require implementation of necessary controls); (2) existing commitments made by the sources to implement the controls (including an analysis of the amount of actual implementation that has already occurred); (3) availability of dedicated funding for the implementation of the controls; and (4) other relevant factors as determined by EPA depending on case-specific circumstances. See Administrative Record No.12. Because the specific point and nonpoint source controls needed to achieve the applicable water quality criterion of 5 mg/L in the three coastal segments have yet to be identified, the Action Plan itself does not provide sufficient information to determine whether adequate “requirements” exist. Finally, 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.”

- **Element 3. An estimate or projection of the time when WQS will be met.** The Action Plan states a goal of reducing the five-year running average areal extent of the Gulf of Mexico hypoxic zone to less than 5,000 sq km by 2015. However, the 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, as discussed above, 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.
- **Element 4. Schedule for implementing pollution controls.** To achieve the goal of the Action Plan, the plan recommends the development of nutrient reduction strategies for States in the Mississippi/Atchafalaya River Basin by 2013. Hence, the 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.
- **Element 5. Monitoring plan to track effectiveness of pollution controls.** Because the Plan does not specifically address pollution controls necessary to achieve water quality standards for dissolved oxygen in the State of Louisiana, 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. The hypoxic zone and the Mississippi River watershed will continue to be monitored by a collection of State, Federal and academic entities. However, controls to limit nutrient loading are not currently in place on a scale that could significantly reduce nutrient loadings and the size of the hypoxic zone or lead to Water Quality Standards attainment. The Gulf Hypoxia Action Plan does state that EPA should reassess nitrogen and phosphorus load reductions and the response of the hypoxic zone in 2013. However, a monitoring plan or strategy specifically designed to measure the effectiveness of pollution controls has to date not been developed.
- **Element 6. Commitment to revise pollution controls, as necessary.** The Task Force has demonstrated a significant commitment to reduce the size of the Gulf hypoxic zone and apply adaptive management principles through development of the first (2001) and the most recent Action Plan (2008). However, as discussed above, the Action Plan itself 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.

In summary, the 2008 Gulf Hypoxia Action Plan contains useful trends information, identifies objectives, needs and actions intended to accelerate the reduction of nitrogen and phosphorus loadings from the Mississippi River. However, the Gulf Hypoxia Action

plan does not, by itself, meet the requirements of 40 CFR 130.7(b)(1) and expectations for Category 4b as discussed in EPA's Integrated Reporting Guidance.

### ***Why Nutrients are not Currently Identified as Pollutants Causing the Impairment***

Numerous comments were received by the State of Louisiana on the initial 2008 §303(d) list requesting that both the Mississippi River and nearshore coastal waters be listed for nutrients. EPA acknowledges that elevated nutrient loadings from the Mississippi River are a contributing factor in the formation of low dissolved oxygen concentrations at depth in Gulf waters. However, the low dissolved oxygen concentrations in these coastal waters are likely a function of many variables, including freshwater flow, organic loading rates, water depth and stratification, circulation patterns, water temperature and meteorological conditions. Louisiana Water Quality Standards contain narrative nutrient criteria applicable to all waters that specify the naturally occurring range of nitrogen-phosphorus ratios shall be maintained and site specific studies will be used to establish these nutrient limits. Currently, numeric nutrient standards or ratios for nutrients in State coastal segments have not yet been developed. In light of all these considerations, EPA is proposing to add the three coastal segments to the §303(d) list for the exceedance of applicable dissolved oxygen criteria (Table 2). During the TMDL development process, nutrients and other contributing factors will be evaluated to determine to what degree nutrients are contributing to the depressed dissolved oxygen levels in the coastal waters not meeting the marine DO criterion.

### **Priority Ranking and Targeting**

As noted earlier in this Record of Decision, 40 CFR 130.7(b)(4) requires that a State's 303(d) list also "include a priority ranking for all listed water quality limited segments still requiring TMDLs, taking into account the severity of the pollution and uses to be made of such waters." Under Section 130.7(b)(4), the priority ranking must also identify waters targeted for TMDL development in the next two years. EPA reviewed the State's priority ranking of listed waters for TMDL development, and concluded that the State properly took into account the severity of pollution and the uses to be made of such waters. The State's priority ranking falls into seven categories consistent with the Consent Decree Attachment B schedule.

In addition, EPA reviewed the State's identification of WQLSs targeted for TMDL development in the next two years and concluded that the targeted waters are appropriate for TMDL development in this time frame. EPA concludes that the State's priority ranking and targeting commitments are consistent with Federal requirements and Consent Decree commitments.

Because Louisiana did not list coastal segments 120806, 070601, and 021102 on its 2008 §303(d) list as needing TMDLs, the State did not provide a priority ranking for these waters. EPA is not required by 40 CFR 130.7(b)(4) or CWA statute to include a priority ranking and schedule for TMDL development to waters added to a States' §303(d) list. However, in order to be consistent with previous EPA Region 6 listing

actions and communicate EPA’s commitment to addressing Hypoxia in the Gulf of Mexico, EPA determined it appropriate to assign a priority ranking and associated schedule for TMDL development to the three coastal segments. In making a 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 well as other factors. See §303(d)(1)(A); 40 CFR 130.7(b)(4).

The three coastal segments added to the State §303(d) list are assigned four designated uses including Primary and Secondary Contact Recreation, Fish and Wildlife Propagation and Oyster Propagation. See 33 LAC Section 1123 Part IX. Associated numeric criteria are assigned to protect these uses. It is assumed that uses are supported if numeric criteria are not exceeded. The three coastal segments added to the §303(d) list 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 be protective of a segment’s Fish and Wildlife Propagation Use. Therefore, existing data show the Wildlife and Propagation use is currently not being supported in the three coastal segments.

In adding coastal segments 120806, 070601, and 021102 to the §303(d) list for exceedance of Louisiana’s dissolved oxygen criteria, EPA has assigned each of these segments a priority ranking of 8 to 13 years. The 8 to 13 year time period follows guidelines in EPA’s 2006 Integrated Reporting Guidance for establishing timelines for TMDL development in water quality limited segments and allows time needed to complete a scientifically sound TMDL.

**Table 2. Segments added to the §303(d) List by EPA.**

<b>Segment ID</b>	<b>LA Segment Number</b>	<b>Criteria Exceedance</b>
Terrebonne Basin Coastal Bays and Gulf Waters to the State three-mile limit	120806	Oxygen, Dissolved
Mississippi River Basin Coastal Bays and Gulf Waters to the State three-mile limit	070601	Oxygen, Dissolved
Barataria Basin Coastal Bays and Gulf Waters to the State three-mile limit	021102	Oxygen, Dissolved

Discussion of LDEQ’s Decision to Place Water bodies in Category 3 (Insufficient data or Information) of the 2008 Integrated Report.

For purposes of evaluating waters for the Integrated Report, LDEQ placed a total of 50 waterbody pollutant combinations in Category 3 on the basis of insufficient information/data available to determine use support. After thorough review of routine monitoring data, LDEQ flagged segments where the quality of the data was in question (improper calibration, collection or transcription error). LDEQ also flagged a number of segments where water quality may have been affected by tidal fluctuations and weather

patterns which were causing elevated levels of TDS, Chlorides and Sulfates in segments near estuarine lakes or bays. LDEQ will, as resources allow, re-evaluate station location and follow-up with additional monitoring for future assessments. EPA agrees with LDEQ's determination to place these 50 waterbody pollutant combinations in category 3 of the 2008 Integrated Report where data quality questions exist and station locations within the segments needs to be re-evaluated for future monitoring.

### **Action Taken**

As discussed above, by this action EPA is partially approving and proposing partially disapproving Louisiana's 2008 §303(d) list submission. EPA is today proposing a 2008 §303(d) list for Louisiana inclusive of the list submitted by the State, plus three additional water quality-limited segments EPA has determined meet federal listing requirements. EPA is proposing to add coastal segments 120806, 070601, and 021102 to the Louisiana §303(d) list for exceedance of the State's 5 mg/L dissolved oxygen criteria, with a priority ranking of 8 to 13 years.

### **Administrative Record Supporting This Action**

In support of this decision to partially approve the State's listing decisions, EPA carefully reviewed the materials submitted by the State with its 303(d) listing decisions. The administrative record supporting EPA's decision comprises the materials submitted by the State, copies of section 303(d), associated Federal regulations, LDEQ's assessment methodology, EPA guidance concerning preparation of section 303(d) lists, and this decision letter and supporting reports. EPA determined that the materials provided by the State with its submittal provided sufficient documentation to support our analysis and findings that the State listing decisions meet in part the requirements of the Clean Water Act and associated Federal regulations. We are aware that the State compiled and considered additional materials (e.g. raw data and water quality analysis reports) as part of its list development process that were not included in the materials submitted to EPA. EPA did not consider these additional materials as part of its review of the listing submission. It was unnecessary for EPA to review all of the materials considered by the State in order to determine that, based on the materials submitted to EPA by the State; the State partially complied with the applicable Federal listing requirements. Moreover, Federal regulations do not require the State to submit all data and information considered as part of the listing submission.