

# Overview of Lake Pontchartrain Basin Water Quality

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May 23, 2023



# Overview of Water Quality Basins in Louisiana

- LDEQ divides the state into twelve different large-scale basins. These include:

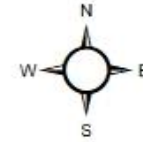
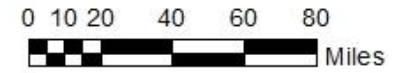
|                                    |                                |
|------------------------------------|--------------------------------|
| Atchafalaya River Basin – LA01     | Mississippi River Basin – LA07 |
| Barataria Basin – LA02             | Ouachita Basin – LA08          |
| Calcasieu River Basin – LA03       | Pearl River Basin – LA09       |
| Lake Pontchartrain Basin – LA04    | Red River Basin – LA10         |
| Mermentau River Basin – LA05       | Sabine River Basin – LA11      |
| Vermilion-Teche River Basin – LA06 | Terrebonne Basin – LA12        |

- Basins are further divided into 497 “subsegments” or management units
- Subsegments are named for significant waterbodies and include the watershed surrounding them





## Louisiana Water Quality Basins



### Legend

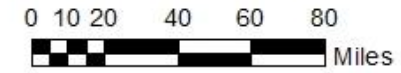
 LDEQ Water Quality Basins

Louisiana Department of Environmental Quality  
Water Planning and Assessment Division  
Map No. 202302003, April 25, 2023  
Base Map: NAIP\_2019  
Projection: UTM Zone 15N, NAD\_1983


LDEQ Disclaimer: The Louisiana Department of Environmental Quality (LDEQ) has made every reasonable effort to ensure quality and accuracy in producing this map or data set. Nevertheless, the user should be aware that the information on which it is based may have come from any of a variety of sources, which are of varying degrees of map accuracy. Therefore, LDEQ cannot guarantee the accuracy of this data set, and does not accept any responsibility for the consequences of its use.



## Louisiana Water Quality Subsegments



### Legend

 LDEQ Water Quality Subsegments

Louisiana Department of Environmental Quality  
Water Planning and Assessment Division  
Map No. 202302004, April 25, 2023  
Base Map: NAIP\_2019  
Projection: UTM Zone 15N, NAD\_1983

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# Overview of Lake Pontchartrain Basin

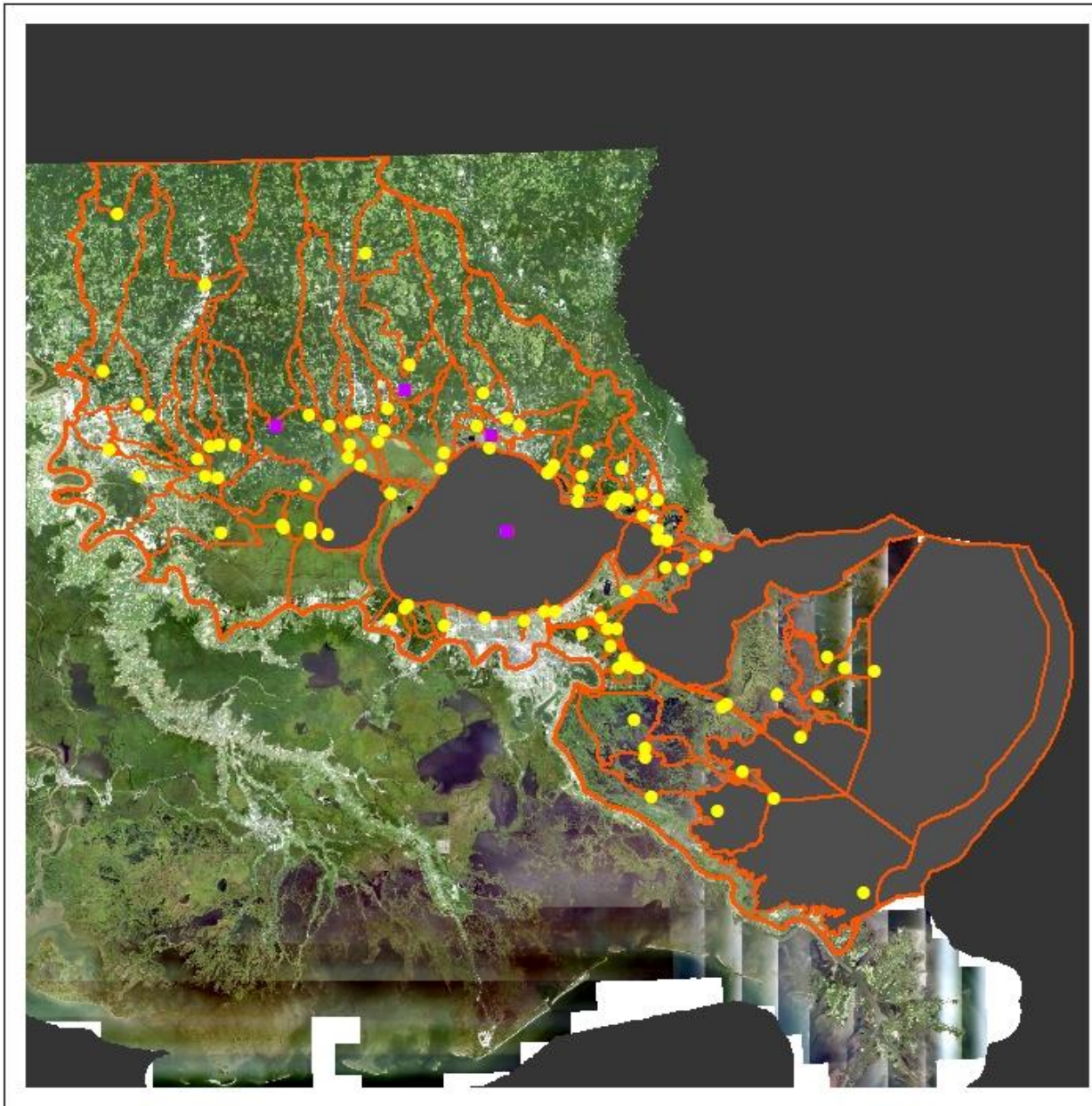
- LDEQ assesses 108 subsegments in the Lake Pontchartrain Basin
- Most waterbodies are identified as a single subsegment, however, some are divided into two or more.
  - Tangipahoa River is divided into two subsegments: LA040701\_00, LA040702\_00
  - Lake Pontchartrain is divided into two subsegment: LA041001\_00 (west), LA041002\_00 (east)
  - Tchefuncte River is divided into four subsegments: LA040801\_00, LA040802\_00, LA040803\_00, LA040808\_00



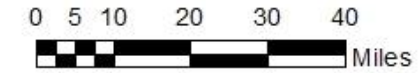
# Monitoring and Assessment of Lake Pontchartrain by LDEQ

- LDEQ currently maintains 103 active monitoring sites in the Lake Pontchartrain Basin
- Most sites are monitored monthly for one “water year” from November through October. This is done on a four-year rotating basis.
- Four sites are monitored every month of every year as long-term monitoring sites. These include:
  - Lake Pontchartrain at the center of the causeway – site 0138
  - Tangipahoa River at U.S. 90 – site 0033
  - Tchefuncte River at Madisonville – site 0106
  - Tickfaw River at Holden – site 0116








## Lake Pontchartrain Basin Subsegments and Active LDEQ Ambient Monitoring Sites



### Legend

-  Long-Term Monitoring Sites
-  Active Pontchartrain Basin WQN Sites
-  Pontchartrain Basin Subsegs

Louisiana Department of Environmental Quality  
Water Planning and Assessment Division  
Map No. 202302002, April 25, 2023  
Base Map: NAIP\_2019  
Projection: UTM Zone 15N, NAD\_1983

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# LDEQ 2022 Water Quality Integrated Report Assessments for Lake Pontchartrain Basin

- Primary Contact Recreation (Swimming)
  - **Fully Supporting** the use: **37** subsegments
  - **Not Supporting** due to one or more causes: **67** subsegments
- Secondary Contact Recreation (Boating/Fishing)
  - **Fully Supporting** the use: **100** subsegments
  - **Not Supporting** due to one or more causes: **4** subsegments
  - **Insufficient Data**: **4** subsegments
- Fish and Wildlife Propagation
  - **Fully Supporting** the use: **29** subsegments
  - **Not Supporting** due to one or more causes: **78** subsegments
  - **Insufficient Data**: **1** subsegment





# LDEQ 2022 Water Quality Integrated Report Assessments for Pontchartrain Basin

- Outstanding Natural Resource
  - **Fully Supporting** the use: **19** subsegments
  - **Not Supporting** due to one or more causes: **9** subsegments
- Oyster Propagation
  - **Fully Supporting** the use: **13** subsegments
  - **Not Supporting** the use due to one or more causes: **9** subsegments



# Suspected Causes of Impairment

| Suspected Cause                   | Subsegment Count |
|-----------------------------------|------------------|
| Low Dissolved Oxygen              | 60               |
| Enterococcus                      | 42               |
| Mercury-Fish Consumption Advisory | 31               |
| Fecal Coliform                    | 29               |
| Total Dissolved Solids (TDS)      | 15               |
| Turbidity                         | 12               |
| pH, Low                           | 11               |
| Nitrate/Nitrite Nitrogen          | 9                |
| Phosphorus, Total                 | 9                |
| Chloride                          | 8                |
| Sulfate                           | 8                |
| Temperature                       | 7                |
| Non-Native Aquatic Plants         | 4                |
| Copper                            | 2                |
| Ammonia, Total                    | 1                |
| Cause Unknown                     | 1                |



# Suspected Sources of Impairment

| Suspected Source   | Subsegment Count   |
|--|--------------------|
| Source Unknown (Predominantly related to mercury, low dissolved oxygen, enterococcus, fecal coliform but also other causes)  | 74                 |
| Atmospheric Deposition (Related to mercury)  | 31                 |
| Septic Systems (Related to fecal coliform or enterococcus)   | 29                 |
| Natural Sources  | 28                 |
| Package Plants (Mechanical sewage systems)   | 11                 |
| Reduced Freshwater Flows, Sanitary Sewer Overflows, Silviculture, Wildlife Other than Waterfowl  | 5 subsegments each |
| Non-Native Invasive Organisms, Site Clearance (Land Development)   | 4 subsegments each |
| Construction, Municipal (Urbanization), Naturally Occurring Organic Acids, Sewage Discharges in Unsewered Areas  | 3 subsegments each |
| Municipal Point Source Discharges (Sewage), Residential Districts  | 2 subsegments each |
| Forced Drainage Pumping, Golf Courses, Marina Boat Maintenance, Marina/Boating Sanitary Discharges, Sand/Gravel Mining, Transfer from Outside Watersheds, Upstream Source, Urban Runoff/Storm Sewers | 1 subsegments each |



# Most Common Causes of Impairment

- Low dissolved oxygen, elevated enterococcus and elevated fecal coliforms can all be related to poor sewage systems or lack of sewage treatment. Solutions include:
  - Better maintenance of home sewage systems, whether septic tanks or mechanical systems
  - Consolidation of sewage collection and treatment with better, larger municipal sewage systems
- Elevated levels of mercury in fish
  - This is largely due to coal fired power plants and certain natural conditions (low pH) in watersheds
  - Natural conditions promote bacterial conversion of elemental mercury from the atmosphere into methyl-mercury, which is then taken up by fish
  - Recommend knowing and following health advisories established by the Louisiana Departments of Health, Environmental Quality, and Wildlife and Fisheries



# Most Common Causes of Impairment

- Elevated turbidity in streams. Solutions include:
  - Restoration of sand and gravel mining areas on Amite and other rivers
  - Better controls for runoff from sand and gravel mining operations
  - Better controls for construction site runoff
- Elevated nutrients, including nitrogen and phosphorus:  
Solutions include:
  - Better sewage treatment
  - Reduced or controlled fertilizer use around homes, farms, and livestock facilities
  - Restricting livestock from streams



# Online Access to LDEQ Assessments and Water Quality Data

- <https://www.deq.louisiana.gov/page/louisiana-water-quality-integrated-report>
- <https://waterdata.deq.louisiana.gov/>



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