

LAKE PONTCHARTRAIN BASIN FOUNDATION

SAVE OUR COAST **SAVE OUR LAKE**

20 YEARS OF SAVING OUR LAKE AND COAST

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Report Documents Large Dead Zone Near Chandeleur Sound

Working with a local volunteer organization and receiving data from the Louisiana Universities Marine Consortium (LUMCON), the Lake Pontchartrain Basin Foundation has confirmed the presence of a 1,050 square mile “dead zone” in Chandeleur Sound (see map). This is four times larger than the region found in 2010, because a much larger area was surveyed. The most recent survey, conducted in July of 2011, confirmed the low oxygen region covers the northern part of Chandeleur Sound, extends south on the eastern side of the Chandeleur Islands to the southern tip of the Islands and extends east to the Mississippi/Alabama boarder in a swath that starts eight miles off shore and extends approximately 28 miles into the Gulf of Mexico. The hypoxia most likely extends past the Mississippi/Alabama boarder but this was the limit of data collection this year. A report has been released describing the area affected by low oxygen (hypoxia) entitled "*Recently observed seasonal hypoxia in Eastern Louisiana within Chandeleur Sound and near coastal Mississippi within the Gulf of Mexico*" (<http://www.saveourlake.org/>).

Initial evidence of a hypoxic region in Chandeleur Sound emerged in 2008 and was confirmed again in 2010. In 2011, the Lake Pontchartrain Basin Foundation partnered with Marine Research and Assistance Council (<http://www.marinecouncil.org/>) to conduct water quality monitoring in Chandeleur Sound. A survey in July of 2011 found strong evidence of hypoxia in Chandeleur Sound. The low dissolved oxygen is within a stratified layer occurring 10 to 24 feet below the surface, where the deeper sea water is 18% saltier than shallow water. In 2011, researchers at LUMCON had surveyed a large area to the east of Chandeleur Sound in July as well. By combining the two data sets, it was discovered that the dead zone is much larger than previously thought. The dead zone probably developed between May and July. It is assumed that some marine mortality has occurred as a result of the hypoxia, but the extent is unknown.

Continued monitoring and hydrologic modeling of Chandeleur Sound as well as near shore coastal waters off of the Mississippi and Alabama coast is necessary to understand the nature of the low oxygen event. This may provide a basis for recommendations to reduce the occurrence of or minimize the environmental impact from the Chandeleur Sound dead zone.

Although the low oxygen layer in Chandeleur Sound and coastal Mississippi is much smaller than the typical annual dead zone in the Gulf of Mexico, its re-occurrence over a significant portion of the area may be ecologically significant. Working with the Marine Research and Assistance Council, LPBF will continue seasonal monitoring in 2012 to characterize the water quality. The next survey is planned for February 2012. LPBF will also encourage LUMCON to continue the survey they conducted in 2011 and will contact agencies in Mississippi and Alabama in order to expand the area surveyed. The cumulative observations over several years may begin to shed light on why the Chandeleur Sound dead zone is occurring. There is beginning speculation that unlike the dead zone that develops in the Gulf of Mexico due to high nutrient Mississippi River water, this dead zone may develop due to lack of currents. More surveys are needed to confirm or reject this alternative hypothesis.

LPBF is a non-profit, non-governmental organization based in the New Orleans Region whose mission is to protect and restore the natural habitats of the Lake Pontchartrain Basin in southeast Louisiana.


