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**MEDIA RELEASE
FOR IMMEDIATE RELEASE**

Mississippi Sound Coalition Announces New Science-Based Recommendations for Better Management of the Bonnet Carré Spillway

For assets and documents related to this release visit this [Dropbox link](#).

(GULFPORT, Miss., April 6, 2026) – At the Harrison County, Mississippi, Board of Supervisors meeting today, the Mississippi Sound Coalition announced the release of two peer-reviewed scientific reports identifying tipping points in the Mississippi Sound in response to Bonnet Carré Spillway openings.

“This research provides a science-based roadmap to aid the U.S. Army Corps of Engineers in protecting communities from flooding while also protecting the natural resources that sustain our coastal economy,” said Marlin Ladner, Chairman of the Mississippi Sound Coalition and member of the Harrison County Board of Supervisors.

The studies conclude that duration, volume, and opening pace are the key drivers of ecological harm, and that these factors can be managed to reduce impacts.

With increasing rainfall trends and more frequent spillway openings in recent years, the Coalition believes these findings arrive at a critical moment.

Win-Win Collaboration with the U.S. Army Corps of Engineers.

The reports will be delivered to the U.S. Army Corps of Engineers and the Mississippi River Commission. Robert Wiygul, Lead Environmental Counsel for the Coalition, recently briefed Major General Kimberly Peeples, commander of the Mississippi Valley Division of the Corps of Engineers and chair of the Mississippi River Commission about Coalition activities and recommendations. General Peeples complimented the Coalition’s work and committed the Corps to work with the Coalition to find win-win solutions for Mississippi River operations.”

Coast Leadership Made this Research Happen

The Harrison County Board of Supervisors, on behalf of the Coalition, contracted leading scientists at the Northern Gulf Institute and the University of Southern Mississippi to do this research to fill a glaring gap in knowledge needed for better management of the Mississippi River. To fund the research, at the request of Harrison County Board of Supervisors and the cities of Biloxi and D’Iberville, Gerald Blessey, Manager of the Coalition, presented a detailed request to the 2023 Legislature to grant Gulf of Mexico Energy Security Act (GOMESA) funds to Harrison County for this research. Thanks to the entire Coast Legislative Delegation, the grant was awarded.

Science-Based Recommendations

The reports provide actionable guidance to the U.S. Army Corps of Engineers for improving spillway operations to better balance flood protection with environmental stewardship:

- Limit total freshwater discharge to below ~80% of Lake Pontchartrain volume
- Restrict opening duration to less than ~30 days when possible
- Reduce opening pace to allow more time for fisheries management response
- Incorporate real-time environmental monitoring and predictive modeling into operational decisions

These recommendations establish, for the first time, a science-based framework for managing spillway operations to minimize ecological damage while providing flood protection for life and property.

A Call for Balanced Management

The findings underscore the urgent need for a more integrated approach to flood control of the Mississippi River—one that considers not only river levels and infrastructure protection, but also the health of coastal ecosystems and economies. Further studies will be needed to recommend ways and means to eliminate the pollution in Mississippi River Water that causes algal blooms and dead zones in the Gulf.

Dr. Paul Mickle, Co-Director of the Northern Gulf Institute, emphasized the importance of the research:

“This report is designed to serve multiple purposes and should be impactful toward altering the operational procedures of the Bonnet Carré Spillway to account for life, property, *and* ecological impacts.”

Tipping Points

Together, the reports identify critical “hydrodynamic” and “ecological tipping points” that occur when freshwater diversions from the Mississippi River overwhelm the natural balance of the Mississippi Sound.

Key Findings

The research confirms that prolonged or high-volume openings of the Bonnet Carré Spillway can fundamentally disrupt the Mississippi Sound ecosystem, particularly through drastic reductions in salinity.

- Near-zero salinity conditions lasting weeks or months were observed during major spillway openings, creating lethal conditions for oysters and other marine life.
- The studies define a hydrodynamic tipping point as 14 consecutive days below 2 parts per thousand (psu), a threshold beyond which oysters cannot survive prolonged exposure.
- Ecological modeling shows that oyster populations experience severe collapse when biomass losses exceed critical thresholds, with young oysters (spat) being most vulnerable.

- The 2019 dual spillway openings, which lasted a combined 123 days, produced the most severe impacts, leading to near-total oyster mortality and long-term fishery closures.

Importantly, the research demonstrates that not all spillway operations produce the same level of damage.

- Shorter, lower-volume openings—such as those in 2018 and 2020—avoided crossing critical ecological tipping points and allowed for partial ecosystem resilience.

Protecting Mississippi's Coastal Future

The Mississippi Sound Coalition supports a wide range of economic and ecological benefits of adopting the report's recommendations, including fisheries, tourism, water quality improvement, and coastal resilience. The collapse of the oyster fishery following the 2019 spillway events highlights the stakes involved.

View the Ecological Tipping Points in the Mississippi Sound in Response to Modeled Bonnet Carré Spillway Openings report [here](#).

View the Hydrodynamic Tipping Points in the Mississippi Sound in Response to Bonnet Carré Spillway Openings report [here](#).

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MISSISSIPPI SOUND COALITION (MSSC)

The Mississippi Sound Coalition's mission is to restore and protect the ecosystem of the Mississippi Sound estuary and the way of life and economies of coastal communities that depend on it, based on good science and fair public policy. We seek win-win solutions, preferably by negotiated agreements and legislation, but, when necessary, members who chose to be parties engage in litigation in support of our Mission. Our scientific research, public education, and advocacy are focused primarily on ways and means to avoid or mitigate harm to the Mississippi Sound caused by the Bonnet Carré Spillway and other negative impacts.

The Coalition provides public education on the subject, and, if necessary, engages in litigation. Members of the Coalition include Harrison County, Hancock County, the Mississippi cities of Biloxi, D'Iberville, Gulfport, Long Beach, Pass Christian, Diamondhead, Bay St. Louis, Waveland, Ocean Springs, Gautier, Pascagoula, the Mississippi Hotel & Lodging Association and Mississippi Commercial Fisheries United.

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