

# **Ecological Function and Recovery of Biological Communities within Sand Shoal Habitats within the Gulf of Mexico**

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## **Abstract**

Ship Shoal is a large transgressive sand shoal located approximately 10 miles off the central coast of Louisiana. Ship Shoal is an active dredging site in Louisiana because it is estimated to contain ~2 billion cubic meters of high-quality sand. The shoal is a highly productive and dynamic benthic habitat that is utilized by a diverse and important assemblage of species, including several federally managed species. The shoal is a spawning habitat for commercially important species such as blue crabs and other nekton. To properly manage dredging activity and retain the critical ecological function of the shoal it is necessary to understand the responses of the shoal ecosystem to the changes in physical and biological drivers induced by both natural processes and dredging. This project uses a modified Before-After Control Impact (BACI) experimental design to determine the biological, physical, and chemical responses of borrow areas on Ship Shoal compared to reference sites. The data from this project will provide a basis for modeling impacts of dredging on the biological function of Ship Shoal to increase Bureau of Ocean Energy Management's (BOEM) decision making ability regarding effects of sediment extraction on environmental and cultural resources.