

# SATURDAY SCIENCE

## Systems Thinking and Ecosystem Design: Applications to Restoring Coastal Louisiana

A public lecture by  
**Dr. Robert R. Twilley**



### About the Topic

Deltas are a unique type of coastal landscape where huge amounts of sediment from the interior of continents flow by way of large rivers and are deposited just before reaching the sea – building new land. Most major human population centers around the world are located on deltas because of their rich fertile soils and plentiful natural resources, but it is not clear if human occupation on many coastal river deltas is sustainable. This includes the Mississippi River Delta, the seventh largest in the world, where a history of designs to control flooding have restricted the flow of sediments that help build the land that formed delta. Over the last 100 years, Coastal Louisiana has lost over 1900 square miles of wetlands, the largest wetland loss rate in the world. This lecture will describe the nature of the problem of coastal wetland loss, the significance of wetlands to our state and nation, and some of the ecosystem design approaches to fixing the problem. New concepts on ecosystem restoration, building upon systems and design thinking, focus on comprehensive restoration alternatives based upon a three-layered framework integrating Ecosystem, Economy, and Community. The idea is to put the Mississippi River back to work not only for society, but also for the wetlands that provide many services to society such as habitat for fisheries, clean air and water, and reducing flood surges during storms.

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Room 130 Nicholson Hall, LSU

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