Restoration Solutions:

MARSH CREATION

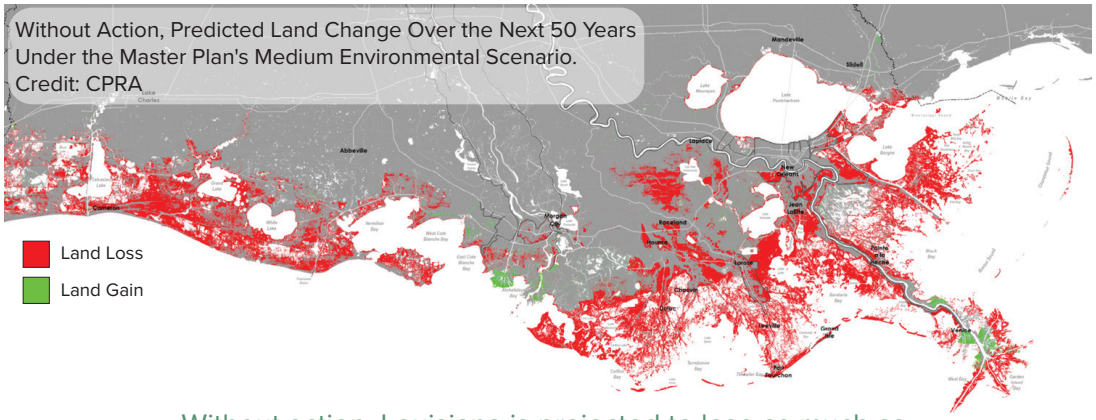
RESTORE
THE MISSISSIPPI RIVER DELTA

Louisiana's Land Loss Crisis:

Louisiana has lost 1.2 million acres of land since the 1930s, exposing our coast to increased risk of flooding and threatening wildlife habitat, communities and vital industries. Louisiana's coastal wetlands are disappearing due to a combination of natural and manmade factors. Without restoration, Louisiana will continue to lose coastal wetlands at an alarming pace.

The Solution:

We have the opportunity to reduce further land loss and restore our coast by using a combination of restoration project types included in Louisiana's Coastal Master Plan. Multiple projects working together are needed to build and sustain land. Marsh creation projects, or "dredging projects" as they're sometimes called, can be used to build land quickly, to expand habitat and help buffer our communities from storm surge and intense wave action.



Without action, Louisiana is projected to lose as much as 2,250 square miles of land in the next 50 years.

What is Marsh Creation?

Marsh creation projects use sediment dredged from nearby water bottoms, offshore shoals, waterways or rivers to build land in shallow open water areas or to enhance existing wetlands. To lengthen the lifespan of marsh creation projects, these "created" marshes are typically built higher than the surrounding natural marsh to offset the sinking of the land over time. The created marsh surface will eventually sink, blending in with the surrounding natural marsh.

Marsh creation projects can build land quickly in strategic locations. Both natural and created wetlands can help buffer storm surge, offering some protection for nearby communities. These projects can also help protect interior wetlands from erosion and saltwater intrusion. Overall, marshes provide vital habitat for hundreds of thousands of birds and nursery habitat for a variety of fish and shellfish crucial to Louisiana's fishing industry.

Before and after aerial views of Bayou Dupont Marsh Creation, a component of the Large-Scale Barataria Marsh Creation project. Credit: Gulf Coast Air Photo.

WHO WE ARE Restore the Mississippi River Delta is working to protect people, wildlife and jobs by reconnecting the river with its wetlands. As our region faces the crisis of threatening land loss, we offer science-based solutions through a comprehensive approach to restoration. We are composed of conservation, policy, science and outreach experts from Environmental Defense Fund, National Audubon Society, the National Wildlife Federation, Coalition to Restore Coastal Louisiana and Lake Pontchartrain Basin Foundation.

FOLLOW US fb.me/MississippiRiverDelta @RestoreDelta @RestoreDelta MississippiRiverDelta.org

RESTORING Coastal Marshes

The Natural Process:

For 7,000 years, the Mississippi River and its distributary channels deposited sediment from 31 states and two Canadian provinces across the Louisiana coast, leaving behind thousands of square miles of wetlands. Through regular flood events, the river would overflow its natural levees depositing sediment and nourishing the wetlands that help support and protect our communities.

What Went Wrong:

Levees and flood-control structures were constructed along the Mississippi River to protect communities and other infrastructure, to maintain a reliable navigation channel and to prevent the river from changing course. These levees have prevented the river from depositing sediment into the surrounding wetlands, contributing to the land loss crisis and making our region more vulnerable to flooding.

Restoration Solution:

Since the development of Louisiana's first Coastal Master Plan in 2007, marsh creation projects have built thousands of acres of wetlands across Louisiana's coast. Louisiana's 2017 Coastal Master Plan includes $17 billion worth of marsh creation projects–the largest investment in a single type of restoration project. Given this large investment and limited life span typical of these projects, marsh creation alone is not enough to solve our land loss crisis. We need other projects, such as sediment diversions, hydrologic restoration, ridge restoration and barrier islands, to help protect marsh creation projects and increase their lifespan and long-term success.

Restore the Mississippi River Delta has included four marsh creation projects in our list of near-term priority restoration projects. Once construction is completed, these three projects will benefit fish and wildlife by creating and maintaining crucial habitat and will help provide storm surge protection for more than a million residents in coastal Louisiana.

1 New Orleans East Landbridge Restoration

This project is located in eastern New Orleans on a landbridge separating Lake Pontchartrain from Lake Borgne. Combined with the exposure to high wave energy, higher salinities have resulted in rapid retreat of the shoreline and the expansion of ponds and lakes within the marsh. This project will create and restore marsh via a sediment conveyance pipeline. The landbridge is a critical landscape feature that serves as a crucial line of defense from storm surge for nearly 1.5 million people in eight parishes.

2 Golden Triangle Marsh Creation

This project is located near the confluence of two major navigation and shipping channels—the Mississippi River Gulf Outlet and the Gulf Intracoastal Waterway. The restored marsh will help buffer the recently constructed surge barrier and eventually provide important estuarine habitat for Lake Borgne.

3 Large-scale Barataria Marsh Creation

This project is located in Barataria Bay near Lafitte. Canal networks, erosion and subsidence have severely degraded the natural barriers between the upper and lower basin, exposing freshwater wetlands to saltwater intrusion and increased wave energy. This project will continue to build on projects to strengthen the Barataria Landbridge that are already in place or under construction. Sediment conveyed from the river through a pipeline will be used to build new marsh, nourish existing marsh in the area, help restore historic salinities in the upper basin and provide benefits to the nearby community of Lafitte by buffering storm surge and tidal flooding.

4 Freshwater Bayou North Marsh Creation

This project is planned for Vermilion Parish, just west of Freshwater Bayou and north of the bayou locks. The project is one of the largest and fastest land-building priority projects, projected to build around 9,000 acres upon construction. It will restore marsh degraded by Hurricanes Rita, Gustav and Ike and prevent Freshwater Bayou from continuing to enlarge and further erode interior marshes.

To learn more about these and other priority projects, visit MississippiRiverDelta.org/map.