



WETLAND RESTORATION MANGROVE PLANTINGS PILOT PROJECT

Our work is never so urgent or important that we cannot take the time to do it safely and in an environmentally responsible manner

Restoration of the Mississippi River Delta is of national significance. The economic health of much of the United States depends on sustaining the navigation, flood control, energy production, and seafood production functions of the Mississippi Delta and river system. Each of those functions is currently at severe risk due to a coastal wetland loss rate of approximately one football field an hour. Louisiana has more than 4 million acres of coastal wetlands, representing 40% of the country's total. However, Louisiana currently accounts for 90% of coastal wetland loss in the United States.

Wetland restoration techniques, such as planting mangroves, provide a wealth of benefits such as storm surge reduction, fish and wildlife habitat, carbon sequestration, recreation, job creation, and economic development that are vital to the sustainability of coastal Louisiana. Mangroves have naturally expanded into the coastal salt marshes of Louisiana over the past several decades.

PROJECT DETAILS

The joint ConocoPhillips–Tierra Resources pilot project focuses on mangrove plantings and prevented wetland loss. ConocoPhillips owns approximately 640,000 acres of wetlands in the coastal zone of southeast Louisiana. The pilot is being implemented on a small acreage of salt marsh where various mangrove planting techniques are being tested.

This three year pilot project has three main goals—to study the viability of planting mangroves for restoration purposes, to apply the best practices of the recently certified wetland methodology to quantify carbon sequestration, and to research the carbon impacts of prevented wetland loss.

continued

ABOUT THE PARTNERS



ConocoPhillips | At ConocoPhillips, responsibly delivering energy to the world is just the beginning. As an international exploration & production company, ConocoPhillips is committed to protecting the environment that we share. We set high environmental standards to ensure that our actions today will provide the energy needed to drive economic growth and social well-being, while also securing a stable and healthy environment for tomorrow.

Tierra Resources | Based in New Orleans, La, Tierra was founded in 2007 with a mission to conserve, protect, and restore coastal wetland ecosystems by creating innovative solutions that support investment into wetland restoration activities. Tierra Resources' services enable landowners, corporations, nonprofits, and government clients to understand the regulatory, financial, and scientific landscape to preserve and restore wetlands and monetize wetland offsets.

Other Partners | Based out of Zachary, La, *Comite Resources* has been subcontracted to provide monitoring services for the pilot project. Based in Portland, Ore., *The Climate Trust*, is a nonprofit organization providing advisory services on environmental markets.



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Approximately 4 million acres in the Mississippi Delta are eligible for restoration under this new wetlands methodology.

WETLAND RESTORATION

Looking at prevented wetland loss. Wetlands sequester carbon through photosynthesis as they grow. However, as wetlands convert to open water the previously stored carbon contained in the soil can be released to the atmosphere. It is currently unknown how much of this carbon contained in the soil is released as greenhouse gases (GHGs) and how much of this soil is transported and buried in adjacent water bodies. This question will be researched as part of the mangrove pilot project and may give more value to restoring wetlands.

WHY MANGROVES?

Mangroves and tidal salt marshes are among the most endangered marine wetland habitats in the world. Mangroves provide important habitat and sustainability to Louisiana's coastal salt marshes via their extensive root system, and ability to filter and trap sediments. The woody structure of mangrove roots increase a wetlands ability to reduce storm surge and also helps keep wetland soils in place, allowing other plants to grow and improving overall wetland health and productivity. In addition to their role in protecting wetlands, mangrove trees also sequester relatively high amounts of carbon dioxide.

GROUNDBREAKING METHODOLOGY

Restoration of Degraded Deltaic Wetlands of the Mississippi Delta, developed by Tierra Resources, is a first-of-its-kind methodology providing a new means of quantifying the carbon benefits from wetland restoration projects, as well as providing a rigorous scientific framework for project activities—including the planting of mangroves. This certified methodology ensures the environmental integrity and robustness of restoration projects and can be used to estimate the carbon benefits provided by the pilot project.

The methodology passed a rigorous 18-month certification process by the *American Carbon Registry (ACR)* that included an internal review by Winrock and ACR scientist and technical staff, a 30-day national public comment period, and a blind scientific peer-review by a panel of experts.

MANAGING RISKS

The overall greatest risk to the project success is a severe freeze or a hurricane impact during the first few years after mangrove planting. These conditions could kill the mangroves, although recently planted mangrove sites in Louisiana have shown no negative impacts after major hurricanes. Mangroves are becoming prevalent in Louisiana and were selected for the pilot project because there has not been a hard freeze capable of killing mangroves since 1989.



MEASURING SUCCESS

Wetland restoration in the Mississippi River Delta has broad impacts on the entire U.S. economy. These wetlands and waterways contribute tens of billions of dollars to the national economy every year and support millions of jobs. ConocoPhillips intends to remain a good environmental steward of its property and to help protect the region's important assets such as the fifth largest port in the nation, at-risk communities, critical oil and gas infrastructure, and a culture that is dependent upon healthy wetlands.

As the largest wetland landowner in Louisiana, ConocoPhillips supports greater conservation of wetlands in the Gulf Coast and around the world. Piloting this groundbreaking mangrove project broadens options for the development of restoration projects by landowners in this region.

Wetland restoration and conservation is a global issue. The data from this pilot will contribute to the collective understanding of wetland and carbon science, and generate results that may be globally relevant for the protection and restoration of wetland ecosystems.

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