



U.S. Fish & Wildlife Service

# Oil and Gas

## *Marsh Restoration*

### Delta NWR

Established in 1935

Located in Plaquemines Parish, Louisiana

48,800-acre refuge

Composed primarily of emergent marsh  
Provides wintering habitat and sanctuary  
for waterfowl and other migratory birds

Public use opportunities include boating,  
bird watching, fishing, hunting and  
photography

The refuge is located six miles southeast  
of Venice, Louisiana, and can only be  
accessed by boat.

Delta National Wildlife Refuge combines the warmth of the Gulf of Mexico and the wealth of the Mississippi River. Its lush vegetation is the food source for a variety of fish, waterfowl and other wildlife. Delta is the winter home for hundreds of thousands of snow geese, coots and ducks, as well as provides year-round habitat for multitudes of migratory birds.

Since the 1930s, oil and gas-related activities have occurred on Delta. Delta does not own all the mineral rights. The federally-owned minerals are administered by the Bureau of Land Management, while the privately held mineral rights are exercised by a number of corporations/operators.

On April 6, 2010, a Chevron Pipeline Company pipeline, which traverses

### WELL STATISTICS:

*Like many refuges in Louisiana, Delta has a long history of oil and gas development. According to our most recent data, Delta has 29 active oil/gas wells; over 400 wells have been drilled on the refuge.*

the refuge, was ruptured by an Exxon-Mobil spud barge. The pipeline released approximately 400 barrels of oil on the refuge, which ultimately impacted 57 acres of marsh habitat.

During 2011, Texas Petroleum Investment Company had several small oil releases in two fields it owns on Delta that impacted 13.6 acres of



Oil and gas facility on Delta National Wildlife Refuge/USFWS

marsh habitat. Both Chevron and Texas Petroleum Investment Company, as responsible parties, agreed to participate in a cooperative partnership project to fulfill their remediation obligations on the refuge resulting from past spills.

Through a cooperative partnership between the U.S. Fish and Wildlife Service, Friends of Louisiana Wildlife Refuges, National Fish and Wildlife Foundation, Chevron Pipeline Company, and Texas Petroleum Investment Company, a project was selected to restore marsh habitat in an open water pond. This project was selected in 2012 by The Department of the Interior as a component of its Great American Outdoor Initiative. The total combined project costs, considering all entities involved, exceeded \$800,000.

The project's goal was to excavate a maximum 100-foot wide x 800 foot long x 6 foot deep crevasse off Octave Pass in the Refuge. This will allow sediment laden water to flow out into a shallow open water area, causing the sediments to drop out, creating flats and emergent areas where marsh will develop naturally. Similar projects in the vicinity have created hundreds of acres of marsh and extensive mud flats.

In addition, approximately 6,200 linear feet of marsh terraces were created within the receiving pond for the sediment diversion. Terraces were constructed of native material stacked to a height of 3 feet and a width of 50 feet; perpendicular to the sediment diversion channel. The purpose is to direct the flow of water in a serpentine pathway

through the pond to allow for sediment fall out resulting in marsh creation and re-vegetation. Planting of marsh vegetation (smooth cordgrass *Spartina alterniflora*) at all terraces was completed in June 2013. This is an excellent example of the use of mitigation funds, grants, and volunteers, via a cooperative partnership to accomplish what will become a self-sustaining marsh creation project.

**What is a "Spud Barge?"**

*Spud barges are barges with long posts at each of their 4 corners. The posts are lowered to the bottom to hold the barge in place and then raised when the barge is repositioned. Spud barges are typically used for bottom dredging shallow channels or other marine construction work that requires a stable platform.*



*Oil spilled in marsh/USFWS*



*Construction using marsh buggies/USFWS*



*Terraces and crevasse in 2013 (Photo left) and further terrace development in 2014 (Photo right)/USFWS*

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