



Oil and Gas

Legacy of Oil Well Leaks

Plague Refuge

St. Catherine Creek

Established in 1990

Located on the Mississippi River just South of Natchez, Mississippi

Comprised of 24,442 acres

The refuge was established to provide habitat for endangered species, including the Bald Eagle, migratory waterfowl in the Mississippi Flyway, and for a wide array of wildlife and plant species.

Black bear and cougar prowled the extensive bottomland hardwoods and a multitude of neotropical songbirds graced the forested canopies extending along the Mississippi River from Illinois to Louisiana. In half-a-century, extensive agricultural development and flood control modified the hydrology of the river and its floodplain resulting in the loss of 20 million acres of bottomland hardwood forests along the Mississippi River. St. Catherine Creek National Wildlife Refuge, established in 1990, preserves 24,931 acres of the Mississippi River floodplain two miles south of Natchez, Mississippi.



Leaking well head/USFWS

In April 2012, A Federal Wildlife Officer (USFWS) discovered a leaking well head on St. Catherine Creek NWR. Due to an improperly plugged well an unknown amount of oil was leaking into the Bottomland Hardwoods. With help from the U.S. Coast Guard, EPA and MDEQ the well was redrilled and plugged properly.

Acquisition of the floodplain habitat included remnants of bottomland hardwood forest, fallow fields, cleared land, and cypress swamps. Mineral rights were excluded from the land purchased for the refuge and so, are privately owned. The owners have the legal right to explore for and extract oil and gas from their mineral estate. Numerous oil wells, pipelines, and oil and oilfield brine storage tanks have been here since the 1950's. While there are relatively few active oil and gas wells on the refuge, there are over 500 inactive wells

identified, based on best available data. Many of the inactive wells have not been properly plugged and abandoned.

Since the establishment of the refuge, spills, and leaks from oil wells and pipelines have plagued the refuge. A leaking oil well discovered by a refuge wildlife officer in April 2012 led to an investigation by the Mississippi State Oil and Gas Board and the Mississippi Department of Environmental Quality. A review of the well's history revealed that the well was 6,000 feet in depth and it had been plugged and abandoned in 1983.



Pump Jack and waterfowl on Butler Lake/Scott Covington, USFWS

Although the well was never properly plugged and abandoned in 1983, the State's policy transferred the responsibility of replugging the well and site cleanup to the surface owner; in this case, the U.S. Fish and Wildlife Service. The refuge wildlife officer reported the leaking well to the National Response Center as an oil spill with the potential to reach the Mississippi River. The report initiated a response from the US Coast Guard and the Environmental Protection

Agency (EPA). Because of the severity of the leak, EPA took jurisdiction of the site and assumed all costs for plugging the well and site cleanup.

Work began in February 2013 to plug and abandon the well. During the plugging operation, the EPA discovered that the well contained only one 60-foot concrete plug at the surface level and the well casing had deteriorated severely.

Re-plugging the well required drilling, cementing and testing the well at a cost of approximately \$95,000. Few states have bond requirements that adequately cover these costs. For example, Mississippi requires only a \$10,000 bond for a well. Only two states have regulations with a bond amount sufficient to cover the costs for plugging this well - and none require posting a bond in the amount to properly reclaim and revegetate the site.

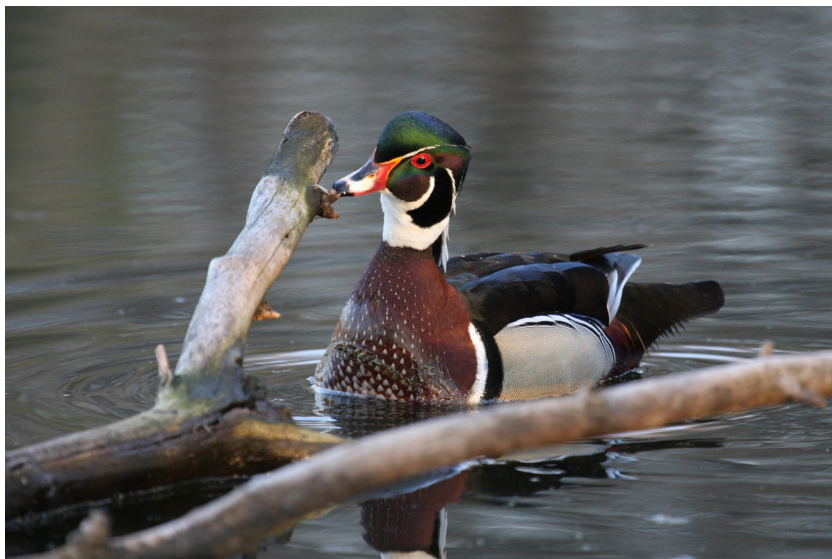
Site restoration followed completion of the plugging. All surface contaminants were removed from the well site. The site was seeded and covered with mulch to control erosion. Plugging the well, site restoration and vegetation planting cost \$260,000. After much work, trees and grasses are finally becoming re-established at the site.



Roseate spoonbill/USFWS



650 sacks of concrete were required to properly plug the well/USFWS



Wood Duck/USFWS



Pump jack on Bitter Lake/USFWS

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