

## Big Thicket National Preserve Neches River Project

Railroad Commission of Texas in partnership with the National Park Service/Big Thicket National Preserve, Laredo Construction, Inc., and funded by the National Park Service

### Environmental Partnership Award

The Environmental Partnership Award recognizes innovative projects led by non-industry organizations with the cooperation and participation of industry.

#### Provide a brief explanation of the project

Established in 1974, Big Thicket National Preserve protects a biologically significant portion of the Piney Woods of southeast Texas. The Big Thicket is a place where many plant species from the East Coast and Midwest reach the western and southern limits of their ranges. Working in coordination with the National Park Service at Big Thicket National Preserve, the Railroad Commission of Texas partnered with Laredo Construction, Inc to remove the steel casings from four properly plugged oil wells that was exposed due to erosion caused by migration of the Neches River and were now directly within the river's stream channel.

#### Describe the purpose of the project

Exposed steel casings in the Neches River created a navigational hazard for all users of the waterway and had the potential to affect all downstream ecosystems and communities had they been damaged and released petroleum products into the waterway. Removing the steel casings eliminated the navigational hazard and provide the opportunity to verify that the four wells were properly plugged, having been plugged by operators in the 1970s and 1980s.

While proper removal of the steel casing involved relatively small and isolated sections of the Neches River, they represented a significant navigational hazard and had the potential to be a source of petroleum pollution that could impact the surface waters of the Neches River, which flows into Sabine Lake and the Gulf of Mexico.

*Figure 1: State Lease NO. M-49802 #3, the beach well*



Explain the process taken to complete the project

The project began in early March 2023 with permit approval from the Army Corps of Engineers for work to be conducted at:

- Elisha Morris Fee #1 (API# 42-241-80053)
- State Lease No. M-49802 #1U (API# 42-199-03194)
- State Lease No. M-49802 #3 (API# 42-199-03196)

River levels began rising at the end of March, with the project shutdown in early April as rain and water releases from Sam Rayburn Reservoir by the Army Corps of Engineers flooded work sites, making road access to the river impassable and creating a new temporary habitat for snakes. With delays increasing costs daily, the National Park Service, the Railroad Commission, and Laredo Construction worked collaboratively to develop cost saving approaches that would allow the entire project to be completed within the available limited funds.

- Begin work on the isolated fourth well site (E.C. Taliaferro #1) as soon as possible.
- Prioritize the two wells in the river, with the beach well last on the priority list.
- Cut the wells located in the river at the mudline (riverbed) instead of 3 feet below mudline that was initially planned.
- Cut the well on shore at approximately 7 feet below surface instead of 15 feet below surface that was initially planned.

On April 28, Laredo Construction moved their boat to the E.C. Taliaferro #1 site, located in a different section of the Neches River that was not as affected by river levels farther upstream at the three well site. Work was completed at E.C. Taliaferro #1 (API# 42-361-00044) on April 30, 2023.

*Figure 2: E.C. Taliaferro #1 near Rose City, Texas in 2021*



River level remained a problem farther up the river with the tops of the 2 river wells barely visible. On May 8, Commission staff met with the Army Corps of Engineers. At that time, the Army Corps indicated that they were likely to slightly reduce releases from the Steinhagen Reservoir, but that those reductions would probably not be sufficient to reduce water levels downstream at the work site.

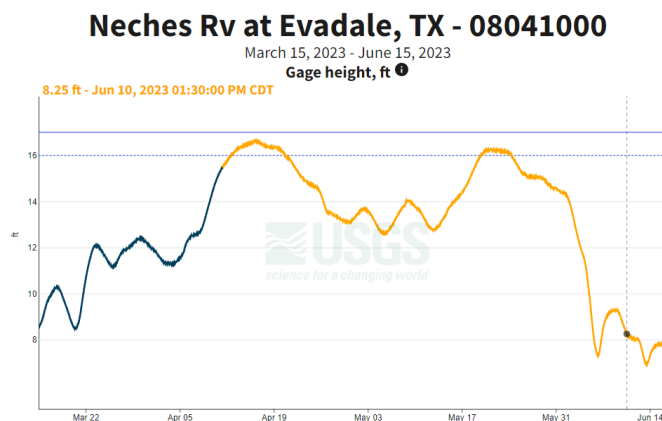
On May 8, collaboratively, the Commission and Laredo Construction determined that in response to changing site conditions to shift work to the beach well (State Lease No. M-49802 #3 (API# 42-199-03196) as the river wells remained partially submerged. Laredo Construction jetted down the thunder mole cofferdam, and then drilled two half inch holes in the top plate on the well finding no pressure or petroleum product. They next checked for a cement plug with rebar, hitting cement at 7 feet 7 inches down. Laredo Construction reached the appropriate depth and excavated out from inside the cofferdam. They installed the hot tap at 8 feet on May 9 did not see any pressure. On May 10, Laredo Construction set the diamond wire cutter to cut off casing. Following a slight delay resulting from mechanical difficulties, the saw was positioned on May 11 and the cut was made in 16 minutes. A dry hole cap was lowered over the casing stub and the work at State Lease No. M-49802 #3 (API# 42-199-03196) was complete.

By May 15 rising river levels completely submerged State Lease No. M-49802 #1U (API# 42-199-03194) and Elisha Morris Fee #1 (API# 42-241-80053). Laredo Construction worked to equip their barge, with a trackhoe and other items. On May 18, the barge was loaded and ready, but with water knee deep at the parking area and road mats floating, work was shut down for safety reasons as the river surged. The Army Corps of Engineers released near historic levels of water from Sam Rayburn Reservoir.

From May 19 to June 2, the project shut down a second time as the team waited for water levels to decrease several feet. At higher levels they could not access the casing above the water as it was submerged, and the fast-moving river current and flow rate created conditions unsafe for the divers.

A precipitous drop in the river level occurred beginning on June 1. Since Laredo Construction had equipment and personnel staged, they were ready to begin work immediately as river levels dropped. State Lease No. M-49802 #1U (API# 42-199-03194) and Elisha Morris Fee #1 (API# 42-241-80053) were addressed without issue and completed on June 5. On June 6, Laredo Construction rigged down their equipment and moved out. The project was complete with surfacing casing removed from all four well sites in and adjacent to the Neches River in Big Thicket National Preserve.

Figure 3: USGS River Flow on the Neches River at Evadale, Texas



Describe any contributions made to the environment

Exposed steel casing from properly plugged oil wells posed an ongoing navigational risk, with the potential for environmental risk. The project succeeded in restoring and conserving habitat within the Neches River as it traverses Big Thicket National Preserve. Laredo Construction supported the National Park Service and the Railroad Commission in their compatible goal to ensure that abandoned oil and gas wells are, and remain, properly plugged and that associated disturbed areas are restored.

*Figure 4: Morris Elisha Fee #1*



Describe what has been accomplished

More than two months after the project began the project was complete with steel casing removed from all four well sites in and adjacent to the Neches River in Big Thicket National Preserve ensuring that future generations of visitors are able to enjoy a natural treasure in Texas.

*Figure 5: Neches River in Big Thicket National Preserve—removing surface casing*

