



**FEATURING: DREDGE CONSTRUCTION & REPAIR** Page 6



**Dredging**  
through a  
**Louisiana**  
**swamp**  
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On the cover:

## Mitchell Marine Uses Dredge and Other Equipment to Clear Canal Through Swamp



Large cypress logs, other debris, and “floating land” -- bottom vegetation that has risen to the surface bringing the earth with it -- faced the contractor, who was clearing a canoe and kayak trail through the swamp.

By John S Ludwig  
Owner, Mitchell Marine Inc.

The Barataria Preserve section of the Jean Lafitte National Historical Park and Preserve, 20 miles southwest of New Orleans, Louisiana, is a maze of swamp, narrow streams and historical canals.

Mitchell Marine Inc., teaming with the prime contractor – OTAK Group Inc. -- was selected by the National Park Service to restore almost three miles of this delicate waterway and swamp.

Over the years, silt and detritus has blocked the waterways both from the viewpoint of natural hydrology and public use. Our task was clear -- remove the detritus with a weed harvester,

then dredge the watershed to fifteen feet wide and three feet below mean sea level (MSL). This task was to be performed on both the Kenta Canal and the Bayou Coquille Canal, restoring them for use as canoe and kayak trails.

The Kenta Canal is the longest and most frequently used by the public. Equipped with an IMS 5012 low pressure dredge, modified with a spray broadcaster, we were ready to perform our task.

The IMS Starwheel system allowed the dredge to move continuously into the cut, compared to a spudded dredge that had to stop to walk ahead. When we got to an area that was only silt, we could do 1000 feet in a day, while in thick mass, we would do 100 feet per day.

Due to the environmental requirements

and concerns for the delicate ecosystem that exists in the park, modifications had to be done to the dredge to reduce environmental impacts. The cutterhead was modified so that it could be used in the shallow water with heavy silt with a lot of organic matter. The pump impeller was also modified with sharp steel blades that could chop the heavy plant growth. Clay below the silt required the cutter drive motors to be run in reverse enabling the teeth to lift and separate the clay sediment layers. The spraying of the dredged material restored the subsiding swamp and offered nutrients to the plants.

Bayou Coquille is a historic bayou, connecting the old river system to Lake Salvador in the west. This route was used by the legendary pirate, Jean Lafitte, who helped save New Orleans during the Battle of New Orleans. This area is also known as the ‘floating land’. The water plants in this area start their life cycle on the bottom of the bayou and as they grow their stems fill with gas. Eventually the plants break free from the bottom and form this floating land. This area is home to various species of wild life. It is common place to see alligators, birds, black panthers and nutria roaming the waterways and swamps. Before beginning our daily task in the mornings, we often had to chase alligators off the dredge. The reptiles were just seeking warmth from the heat provided by the power units. Just think of them as pets with three inch teeth.

A small part of the project was handled by marsh buggy, which was used to remove the many logs that were left in the bayous over the centuries that this area was logged. High pressure pumps on a small barge and a fire monitor prevented a buildup of mud on the banks. By permit, all material on the banks could not be deeper than six inches. This project removed over 16,500 cubic yards of material. At completion, these canals were once again usable to the public and the flood plain protecting New Orleans was provided.

on October 7, 2011 by the St. Paul District, Corps of Engineers. W912ES-12-P-0003/W912ES-12-T-0001

**69,000 Gallons of # 2, Diesel Fuel Oil for the Dredge McFarland, Anchorage Area #16 Harbor & Fisher range of the Delaware River, Philadelphia, Pennsylvania.** To Plaza Fueling Agents Inc. for 208,110.90, line item 1, on October 7, 2011 by the Philadelphia Engineer District. W912BU-12-P-0003 /W912BU-11-T-0065

**Reconditioning of Pump Traction Motors for the Dredge Goetz in Fountain City, Wisconsin.** To L & S Electric for \$20,045, line item 1, on October 25, 2011 by the St. Paul Engineer District. 912ES-12-P-0005/W912ES-12-T-0003

**52,500 Gallons of #2 Dyed Diesel Fuel for the Dredge Goetz in Fountain City, Wisconsin.** To Wilson Oil Company for \$177,765, line item 1, on October 28, 2011 by the St. Paul District, Corps of Engineers. W912ES-12-P-0009/W912ES-12-T-0010

