

# PO-104 BAYOU BONFOUCA MARSH CREATION

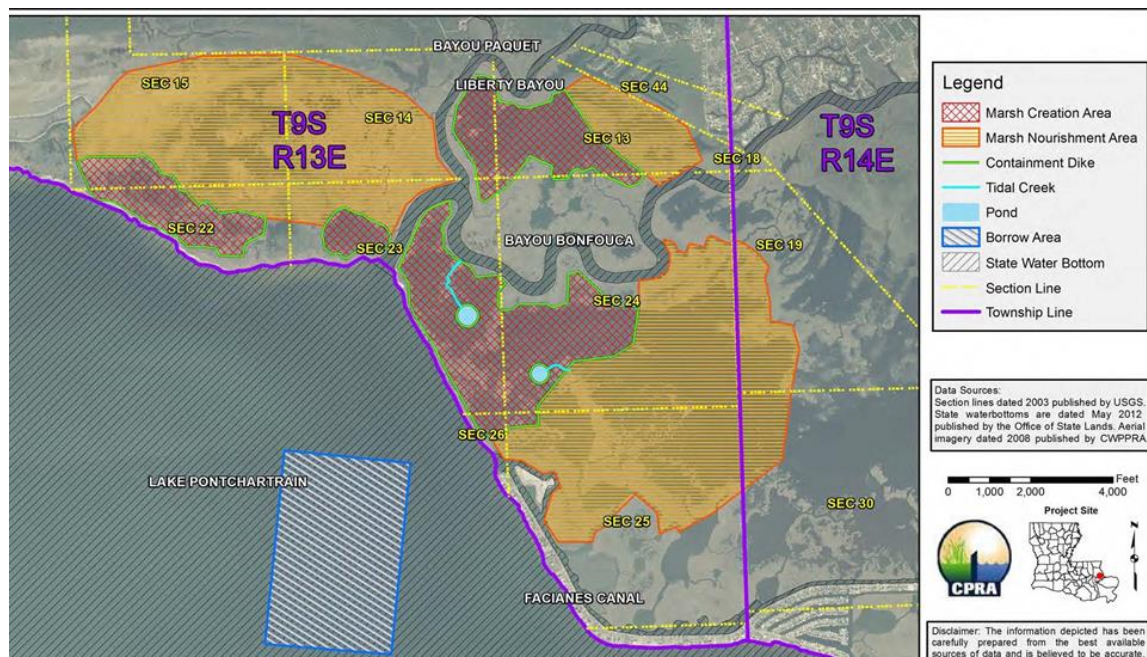
## FWS CWPPRA OUTREACH REPORT

### ROBERT DUBOIS, PROJECT MANAGER

The Bayou Bonfouca Marsh Creation project (PO-104) is located along the north bank of Lake Pontchartrain south and west of Slidell, Louisiana. It is located predominantly on Big Branch National Wildlife Refuge. The original project consisted of 640 acres of marsh creation and a small shoreline restoration component. The marsh creation component consisted of hydraulically dredging material from Lake Pontchartrain and placing that material in four fully contained marsh creation cells. The shoreline restoration component consisted of dredging material from within Marsh Creation Cell (MC) 1 and placing that material along approximately 2,000 feet of Lake Pontchartrain's northern shoreline. During construction it was determined that 1,500 linear feet of the shoreline restoration would be protected with articulated concrete mats.

During Phase I of this project, we anticipated that excess funds would be available during construction, thus we had expanded the marsh creation footprint to include a large overflow area or area for unconfined pumping north of MC 3 and MC 4 and east of MC 1 and MC 2 (Figure 1). This expansion was included in the Corps' Section 404 permit and landrights process. After the bids were opened and the excess funds were realized (\$10 million), we approached the Task Force in January 2017 for approval to expand the marsh creation by 300-acres. Construction began in July 2016.

Figure 1. Preconstruction map showing the 4 marsh creation cells, the nourishment/expansion area, Lake Pontchartrain borrow area, and several small "duck ponds" that would be built.



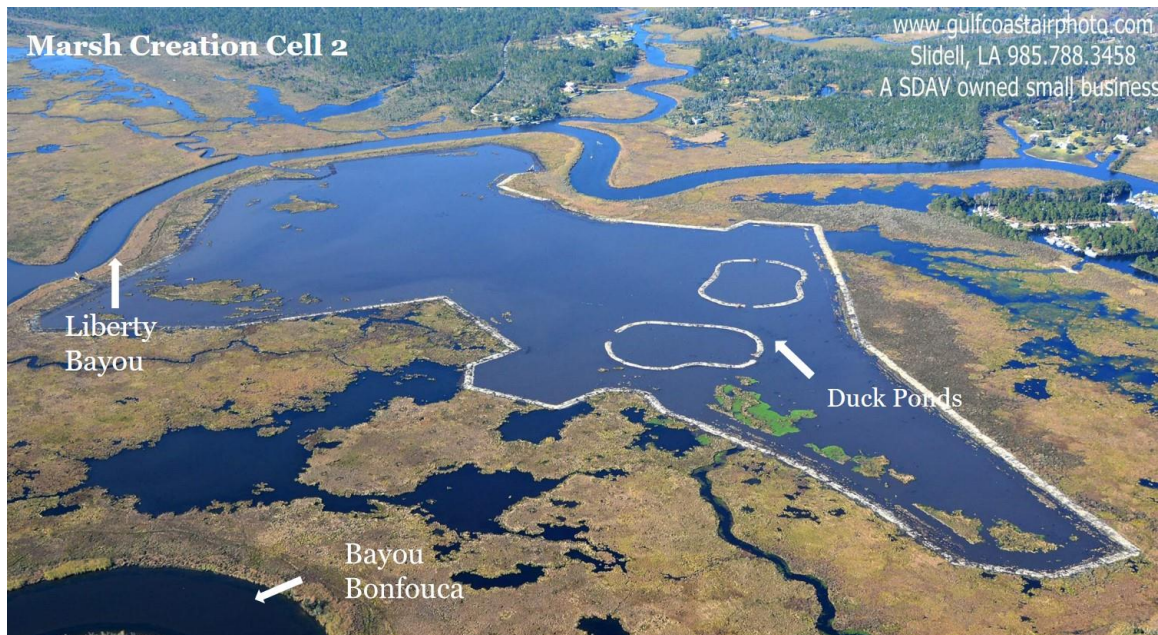
As the construction phase of the project started, the contractor periodically took some aerial photos of the construction site. Early construction photos can be seen in Figure 2 a, b, & c. Those photos show all 4 of the marsh creation cells after containment dikes had been built, but before any of the hydraulic dredging had begun.

Figure 2. Marsh creation cells after containment dikes had been built, but before fill material was pumped in to the marsh creation cells; (a) marsh creation cell 1, (b) marsh creation cell 2, (c) marsh creation cell 3 and 4.

A.

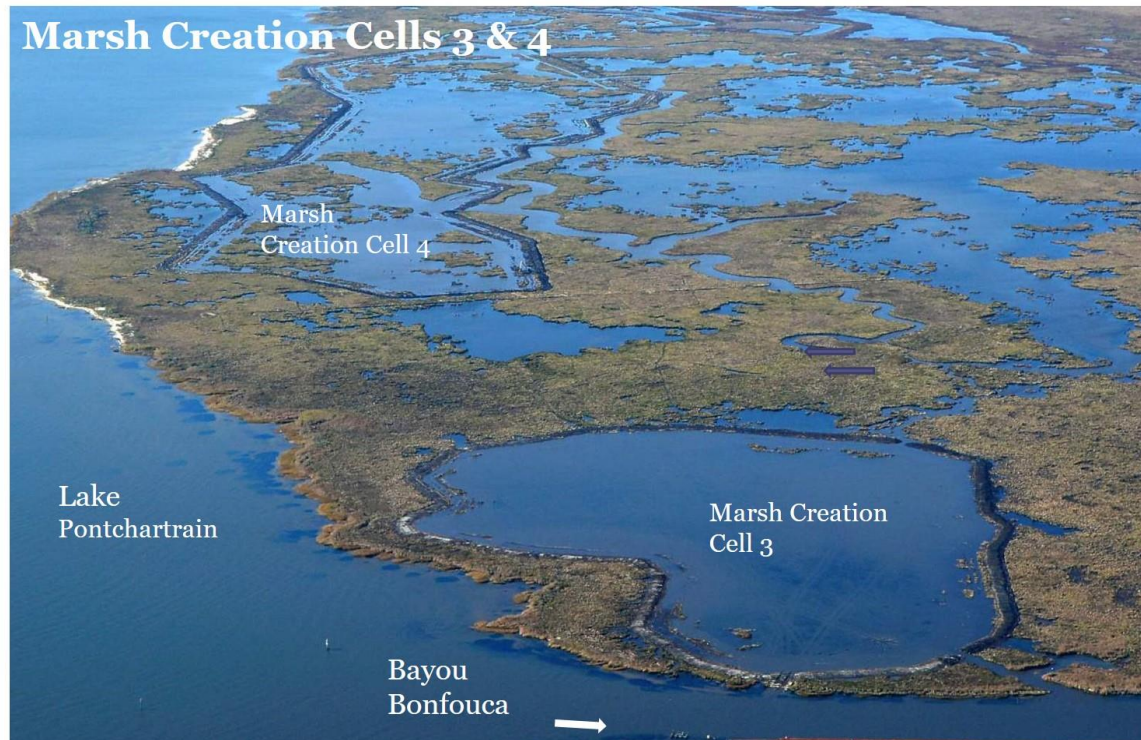


B.





C.



The series of photos in Figure 3 show each of the four marsh creation cells, including the expansion areas during the pumping process. A series of Google Earth images in Figure 3 show the complete project before (2/8/2017), during (1/24/2018), and after (4/20/2019) construction. Project construction was completed in May 2017. It was estimated that at least an extra 430 acres of marsh were created bringing the total to over 1,000 acres of marsh created. It was also estimated that over 700 extra acres of marsh were nourished. An unknown amount of deep open water (>1.5 feet deep) without submerged aquatic vegetation (SAV) coverage converted to shallow open water (<1.5 feet deep) which should support SAV. It should also be noted that an undetermined amount of uplands were created and then planted with Cypress, Live Oak and other bottomland hardwood species.

Figure 3. Marsh creation cells being filled with material from a hydraulic dredge; (a) marsh creation cell 1 with expansion, (b) marsh creation cell 2, (c) marsh creation cell 3 with expansion and, (d) marsh creation cell 4 with expansion.

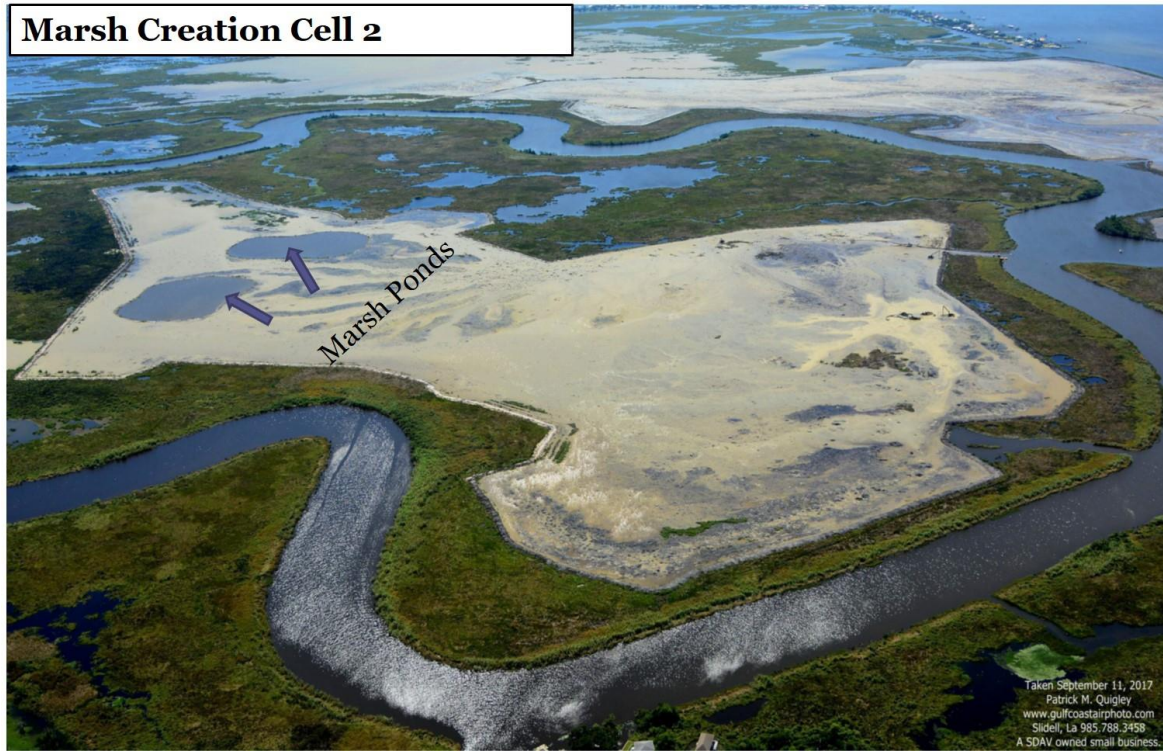
A.





B.

### Marsh Creation Cell 2



C.



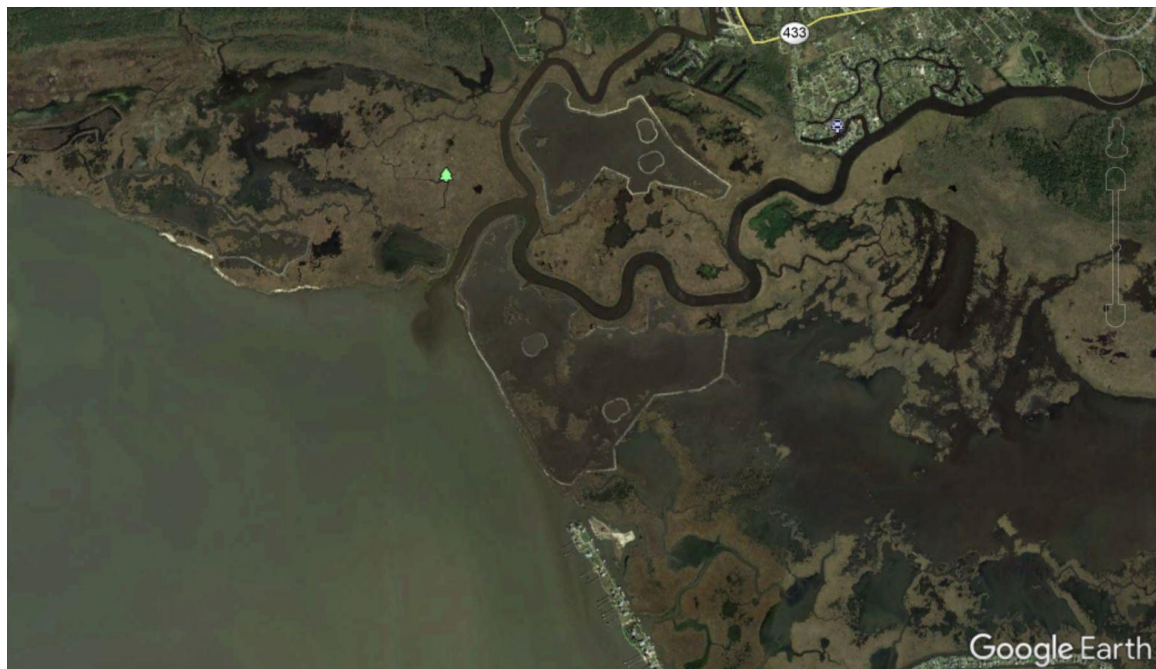
D.



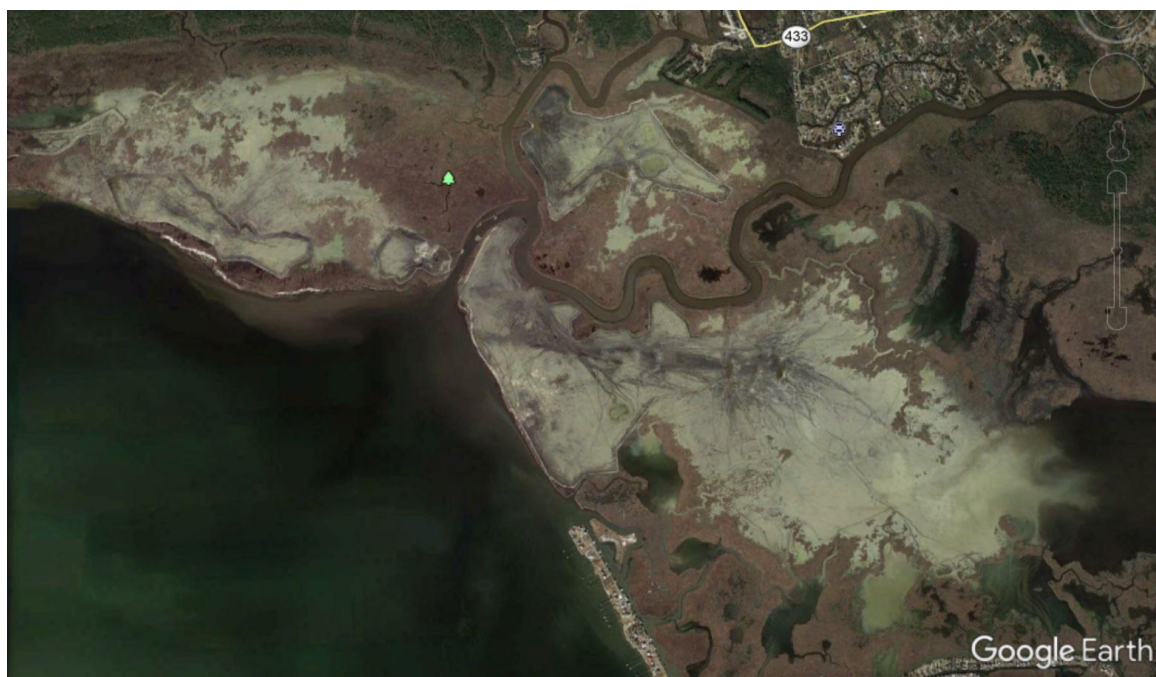
Figure 4. A series of Google Earth images depicting PO-104 during construction; (a) after construction of containment dikes, but before pumping in material (2/8/2017), (b) material being pumped into project area, including expansion (1/24/2018); and (c) area after project completion (4/20/2019).



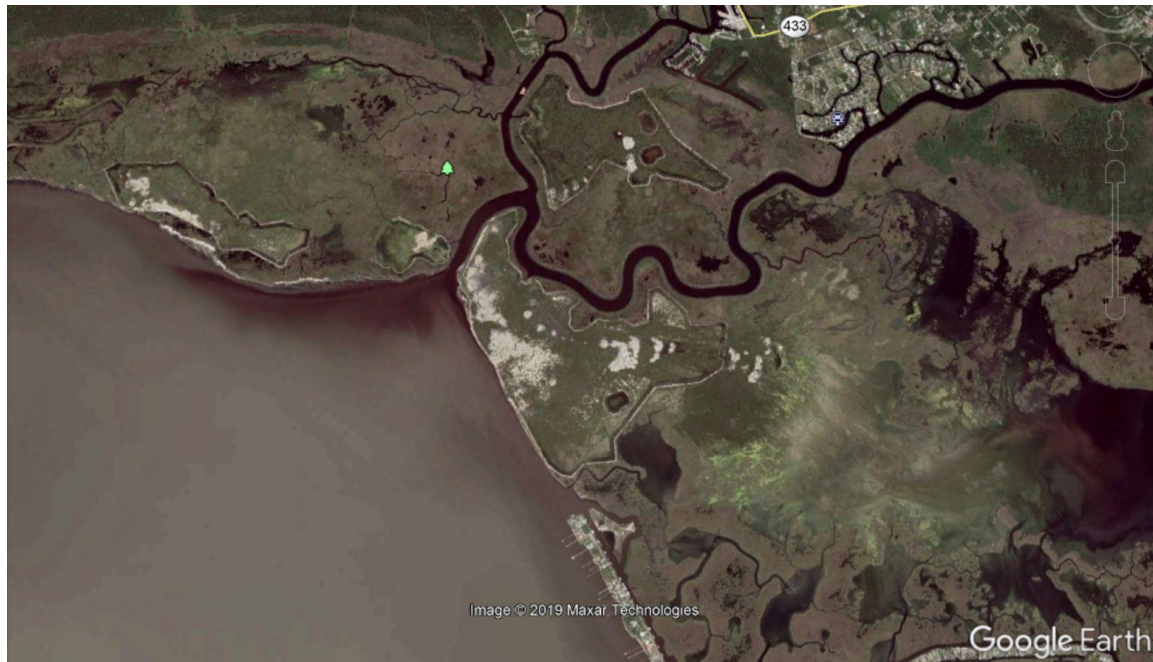
A.



B.



C.



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