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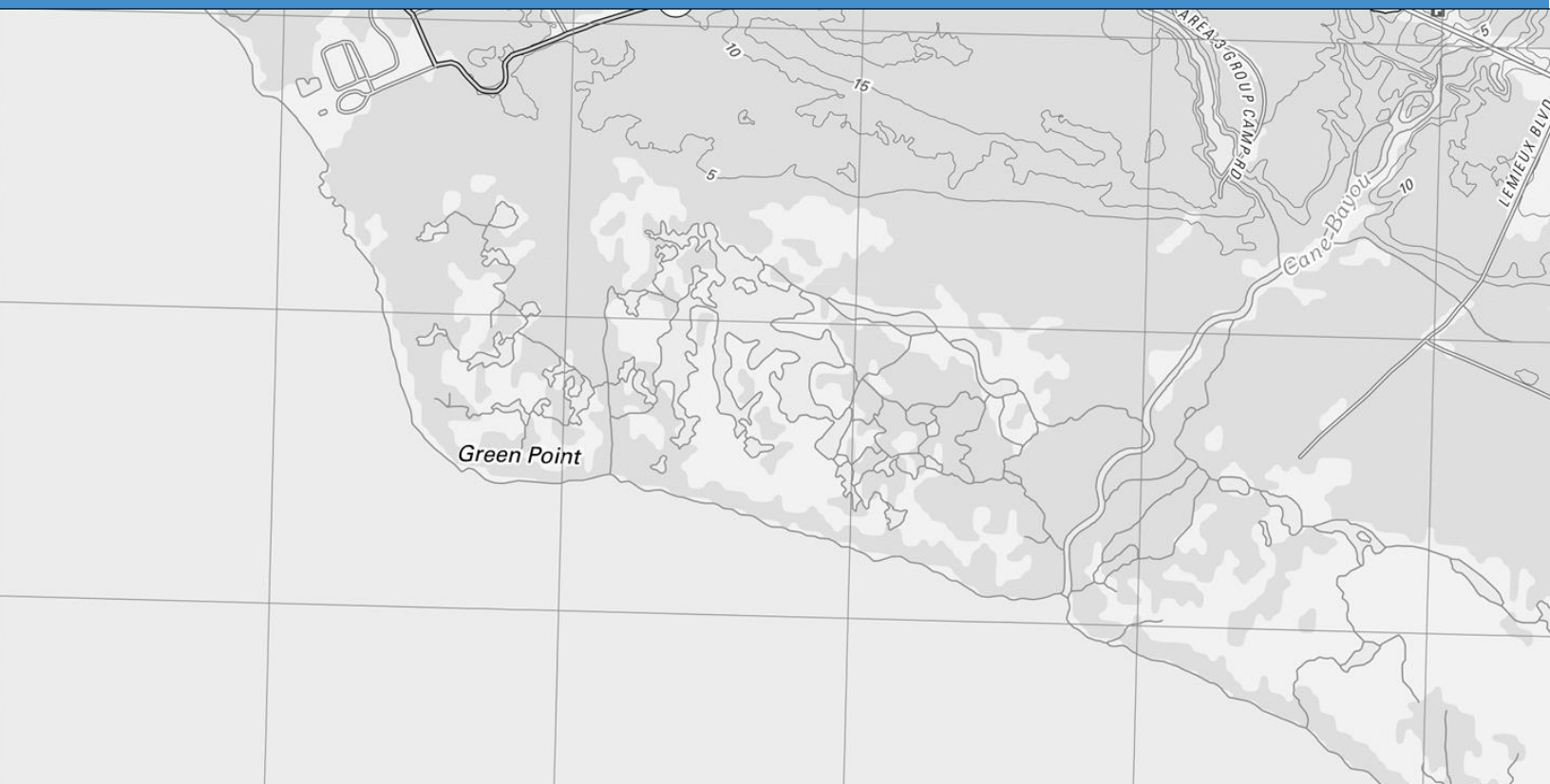
ST. TAMMANY PARISH GOVERNMENT

COASTAL MASTER PLAN

2016-2020



St. Tammany Parish, LA
A beautiful summer afternoon on Bayou Lacombe.

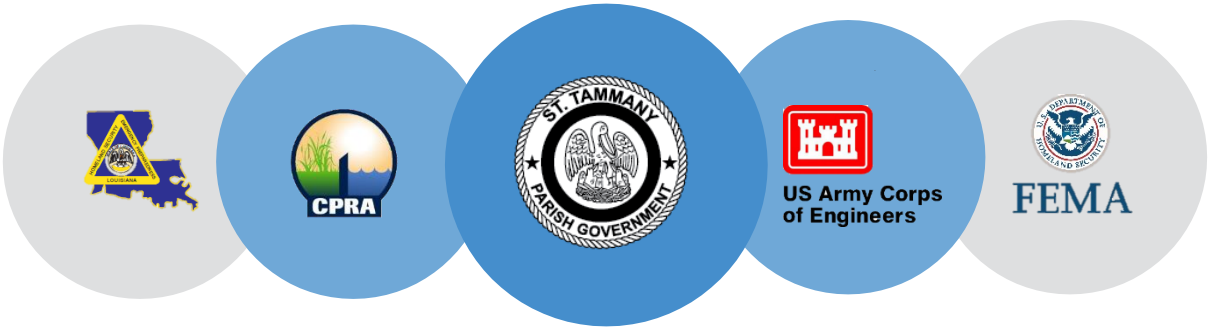
Contents

Our Coast. Our Future.

St. Tammany Parish Government is committed to the protection of its citizens and their property. The Parish's Coastal Master Plan is the collection of projects that will provide that protection for generations to come.

Parish Government realizes the impacts of Coastal Erosion in our parish and have been working aggressively over the past 5 years to identify, fund and construct coastal projects aimed at maintaining and improving our coastal environment. The Parish has taken steps to develop a holistic watershed approach to address water quality, riverine flooding, and coastal erosion. The future of this Parish depends on that determinative action.

Partners



Our Goal

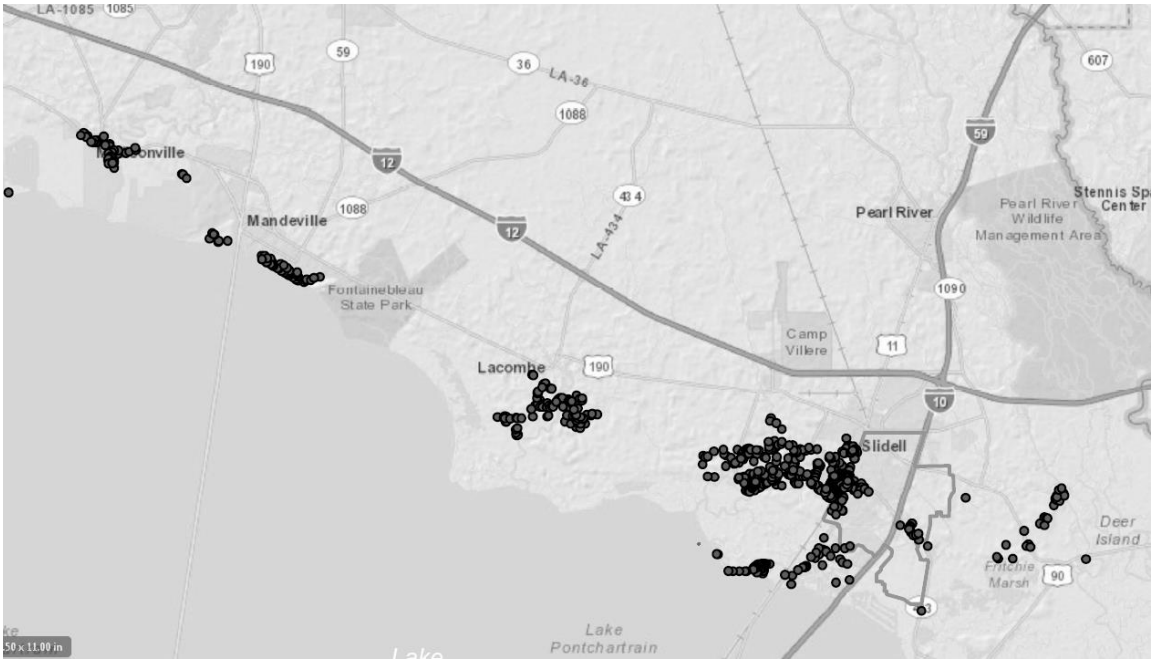
As part of its recovery from repetitive disasters over the past decade, St. Tammany Parish Government has invested significant local and disaster recovery dollars to assess the most impacted and distressed areas. Collectively, these efforts not only identified the focus areas, but provided the road map toward recovery and sustainability.

Accomplishments

St. Tammany Parish Government has invested approximately $100 million in disaster recovery towards drainage, sewerage and water, and economic revitalization projects. We have over 1000 acres of marsh creation projects currently in construction. We have also successfully lobbied the State Legislature and created the St. Tammany Parish Levee, Drainage and Conservation district to help move our Coastal Restoration efforts forward. We will continue to work closely with the Louisiana Coastal Protection and Restoration Agency (CPRA) and our Congressional Delegation to move our coastal plan forward, as well as fund projects that will protect St. Tammany Parish.

Home **Elevation**.

The goal of this project is to elevate all of the structures in St. Tammany parish's surge zone that would not be protected by the Slidell Ring levee, approximately 780 structures.



Project **Summary**

St. Tammany Parish borders Lake Pontchartrain along its entire southern border. The parish has 3,216 homes listed on FEMA's Repetitive and Severe Repetitive (RL/SRL) flooded structures list. Loss of floodplain storage, decreased conveyance capacity, sea level rise and subsidence are all factors leading to the repetitive flooding of some areas within the parish. In a recent study funded by CPRA, 903 homes were identified as being on the RL/SRL list and existing with the storm surge zone of St. Tammany Parish. Except for a small part of Slidell, a levee system along the southern border of the Parish is not practical or feasible, the only way to protect these structures is through elevation.

Project **Attributes**

Repetitive Loss &
Severe Repetitive Loss Structures

Total" 3,216
Surge Zone: 903
Target Elevation: FEMA Base Flood Elevation

Project **Specification**

St. Tammany Parish Elevation
Quantity: 903
Unit Cost: $200,000
Estimated Construction Cost: $180,600,000

West **Shoreline Protection**.

The West St. Tammany Shoreline Protection project is a 24,773 linear foot project located in St. Tammany Parish along the Lake Pontchartrain Shoreline.

Project **Summary**

The West St. Tammany Shoreline Protection project is a 24,773 linear foot project located in St. Tammany Parish along the Lake Pontchartrain Shoreline.

This project is located west of Mandeville and south of Madisonville. The marsh loss in this area has been relatively minimal, partly due to wetland assimilation project on the east side of the project location. However, the shoreline in this area has begun to deteriorate rapidly and several breaches exist today. These breaches provide direct connection between the fresher interior marshes and higher salinity waters of Lake Pontchartrain. These shoreline breaches should be filled and the remaining shoreline protected before accelerated marsh loss rate begin.

Project **Attributes**

Area: 24,773 feet

Latitude 30.374163, Longitude -90.144885

Dike Elevation: 2.5' NAVD

Dike Top Width: 4'

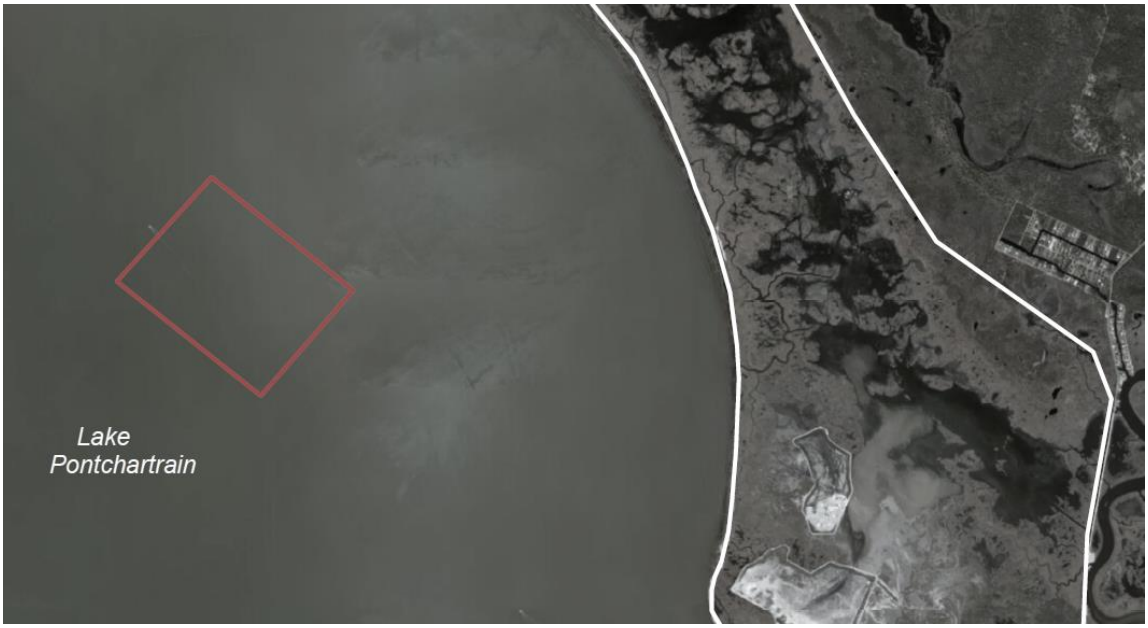
Rock: 94,988 Tons

Project **Specification**

Estimated Construction Cost	$9,549,792
Estimated Construction + Contingency	$11,937,240

Cane Bayou **Marsh Creation**.

The goal of this project is the restoration of 850 acres of low salinity marsh as well as the nourishment of 3,293 acres of stressed marsh using sediment that is hydraulically dredged from Lake Pontchartrain.



Project **Summary**

The Bayou Cane Marsh Creation project is a 4,117 acre marsh creation project located in St. Tammany Parish along the Lake Pontchartrain Shoreline. This project is located near Bayou Cane with most of the site being located on the Big Branch Marsh National Wildlife Refuge. The low salinity brackish marsh in this area was reasonably stable until Hurricane Katrina. Over the following decade this area has seen an increase in open water by nearly double, far exceeding the previous rate of deterioration. With an increase in tidal exchange due to small breaches in the shoreline and increased wind driven fetch, the rate of marsh loss is expected to continue. Sediment would be placed throughout the site to a height of +1.2 NAVD 88. Tidal creeks exist and would be maintained in order facilitate water exchange and fisheries access.

Project **Attributes**

Area: 4,117 Acres

Latitude 30.292398, Longitude -89.981120

Marsh Elevation: 1.2' NAVD

Borrow Source: Lake Pontchartrain

Fill Volume: 8,193,032 yd^3

Project **Specification**

Estimated Construction Cost	$53,526,175
Estimated Construction + Contingency	$66,907,719

Bayou Lacombe **Marsh Creation**.

The goal of this project is the restoration of 623 acres of low salinity marsh as well as the nourishment of 2,336 acres of stressed marsh using sediment that is hydraulically dredged from Lake Pontchartrain.

Project **Summary**

The Bayou Lacombe Marsh Creation project is a 3,114 acre marsh creation project located in St. Tammany Parish along the Lake Pontchartrain Shoreline. This project is located near Bayou Lacombe with much of the site being located on the Big Branch Marsh National Wildlife Refuge. The low salinity brackish marsh in this area was reasonably stable until Hurricane Katrina. Over the following decade this area has seen an increase in open water by nearly double, far exceeding the previous rate of deterioration. With an increase in tidal exchange due increased land loss and increased wind driven fetch, the rate of marsh loss is expected to continue. Sediment would be placed throughout the site to a height of +1.2 NAVD 88. Tidal creeks exist and would be maintained in order facilitate water exchange and fisheries access.

Project **Attributes**

Area: 3,114 Acres

Latitude 30.261683, Longitude -89.938037

Dike Elevation: 2.5' NAVD

Borrow Source: Lake Pontchartrain

Fill Volume: 6,441,922 yd^3

Project **Specification**

Estimated Construction Cost	$41,257,058
Estimated Construction + Contingency	$51,571,323

Faciane Canal **Marsh Creation**.

The goal of this project is the restoration of 1,997 acres of low salinity marsh as well as the nourishment of 630 acres of stressed marsh using sediment that is hydraulically dredged from Lake Pontchartrain.

Project **Summary**

The Faciane Canal Marsh Creation project is a 2,853 acre marsh creation project located in St. Tammany Parish along the Lake Pontchartrain Shoreline. This project is located near Bayou Bonfouca with most of the site being located on the Big Branch Marsh National Wildlife Refuge. The low salinity brackish marsh in this area was reasonably stable until Hurricane Katrina. Over the following decade this area has seen an increase in open water by nearly double, far exceeding the previous rate of deterioration. With an increase in tidal exchange due to small breaches in the shoreline and increased wind driven fetch, the rate of marsh loss is expected to continue. Sediment would be placed throughout the site to a height of +1.2 NAVD 88. Tidal creeks exist and would be maintained in order facilitate water exchange and fisheries access.

Project **Attributes**

Area: 2853 Acres

Latitude 30.2424, Longitude -89.825230

Dike Elevation: 1.2' NAVD

Borrow Source: Lake Pontchartrain

Fill Volume: 9,199,670 yd^3

Project **Specification**

Estimated Construction Cost	$ 59,377,743
Estimated Construction + Contingency	$ 74,222,179

South Slidell **Levee Protection**.

The goal of this project is the completion of the multiple levee segments and ultimately connect the segments into a significant storm surge protection project.

Project **Summary**

St Tammany Parish Government (STPG) and the US Army Corp of Engineers (USACE) have developed a levee plan concept to protect all of south Slidell (east and west of I-10). The levee plan would first require the preparation of the extensive USACE Slidell levee Protection 533d report that would set the stage for contractual documents for the SELA Program. The Parish has received $2 million in funding from CPRA to begin design of Levee segments 6 and 7. The next steps are to perform a study to determine the most practical alignment from the Lakeshore Estates Ring Levee to high ground near US 190 Business and to complete (as requested by the Corps of Engineers) 404 permitting on all remaining projects in the proposed levee plan. Work shall include preliminary cost estimates of proposed alignments, approximate environmental impacts such as wetlands and endangered species, utility impacts, permanent traffic impacts, estimated property costs, and impacts to property owners. Types of levees and other flood control structures proposed shall be identified and conform to USACE and FEMA guidelines. Impacts and construction costs including all related costs such as property acquisition and permitting shall be balanced. The design storm shall be a 100 year surge event. The Parish completed levee construction of Segment 1, 2B, 3A, 3B, 4, and 5 utilizing $4 million of State Capital Outlay funding and $1.25 million of local tax revenue. Although it will not protect residents from a category 5 storm, it is expected to reduce tidal surge produced by a 100 year storm event.

Project **Specification**

Estimated Construction Cost	$ 70,450,000

Fritchie North **Marsh Creation**.

The goal of this project is the restoration of 2,417 acres of marsh as well as the nourishment of 1,997 acres of stressed marsh using sediment that is hydraulically dredged from Lake Pontchartrain.

Project **Summary**

The Fritchie North Marsh Creation project is a 4,395 acre marsh creation project located in St. Tammany Parish along the Lake Pontchartrain Shoreline. This project is located near Salt Bayou with most of the site being located on the Big Branch Marsh National Wildlife Refuge. The low salinity brackish marsh in this area was reasonably stable until Hurricane Katrina. Over the following decade this area has seen an increase in open water by nearly double, far exceeding the previous rate of deterioration. With an increase in tidal exchange due increased land loss and increased wind driven fetch, the rate of marsh loss is expected to continue. Sediment would be placed throughout the site to a height of +1.2 NAVD 88. Tidal creeks exist and would be maintained in order facilitate water exchange and fisheries access.

Project **Attributes**

Area: 4,395 Acres

Latitude 30.213152, Longitude -89.708031

Dike Elevation: 1.2' NAVD

Borrow Source: Lake Pontchartrain

Fill Volume: 13,169,017 yd^3

Project **Specification**

Estimated Construction Cost	$83,284,979
Estimated Construction + Contingency	$104,106,224

Fritchie **Hydrologic Restoration**.

The goal of this project is find ways to improve the hydraulics of Fritchie Marsh in order to improve flow through the marsh and decrease salinity levels.

Project **Summary**

The Fritchie Marsh is an intermediate to brackish marsh near Slidell, LA. It is approximately 6,291 acres in size and bound to the east by highway 90, to the south and west by highway 434 and to the north by Doubloon Bayou. The Fritchie has lost a significant amount of marsh land over the past 20 years, with approximately 14.6% acres lost as a result of Hurricane Katrina. The Fritchie Marsh has sustained significant changes in flow patterns since the construction of Highway 90 which has aided in the degradation of the marsh. Several projects are being undertaken by St. Tammany Parish, CWPPRA and the USACE to restore the structural marsh. This would be accomplished by improving the way water discharges from the W-14 which enters the Fritchie Marsh. In order to support the goals of the Coastal Wetland Planning Protection and Restoration Authority (CWPPRA) PO-06 project which installed the weir in the W-14 Canal, the flow of water through the marsh would be modeled. After the current condition model design and calibration is complete then multiple flow options would be run to determine how best

Project **Attributes**

Area: >8,000 Acres

Latitude 30.2177, Longitude -89.70304

Dike Elevation: 1.2' NAVD

Borrow Source: Lake Pontchartrain

Fill Volume: 13,169,017 yd^3

Project **Specification**

Estimated Construction Cost	$4,818,000

Guste Island **Marsh Creation**.

The goal of this project is the restoration of 651 acres of marsh as well as the nourishment of 34 acres of stressed marsh using hydraulically dredged sediment from Lake Pontchartrain.

Project **Summary**

The Guste Island Marsh Creation project is a 685 acre marsh creation project located in St. Tammany Parish along the Lake Pontchartrain Shoreline. This project is located near Guste Island. The low salinity brackish marsh became impounded over 20 years ago and marsh loss was severe. During that time this area become almost all open water. With an increase in tidal exchange due increased land loss and increased wind driven fetch, land located north of this site is deteriorating quickly. Sediment would be placed throughout the site to a height of +1.2 NAVD 88.

Tidal creeks would be constructed in order facilitate water exchange and fisheries access. Containment dikes would be gapped and/or degraded when practical.

Project **Attributes**

Area: 685 Acres

Latitude 30.386698, Longitude -90.220022

Dike Elevation: 1.2' NAVD

Borrow Source: Lake Pontchartrain

Fill Volume: 2,713,378 yd^3

Project **Specification**

Estimated Construction Cost	$27,804,634

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