Explore more on CPRA's website. https://coastal.la.gov/our-plan/2023-coastal-master-plan/

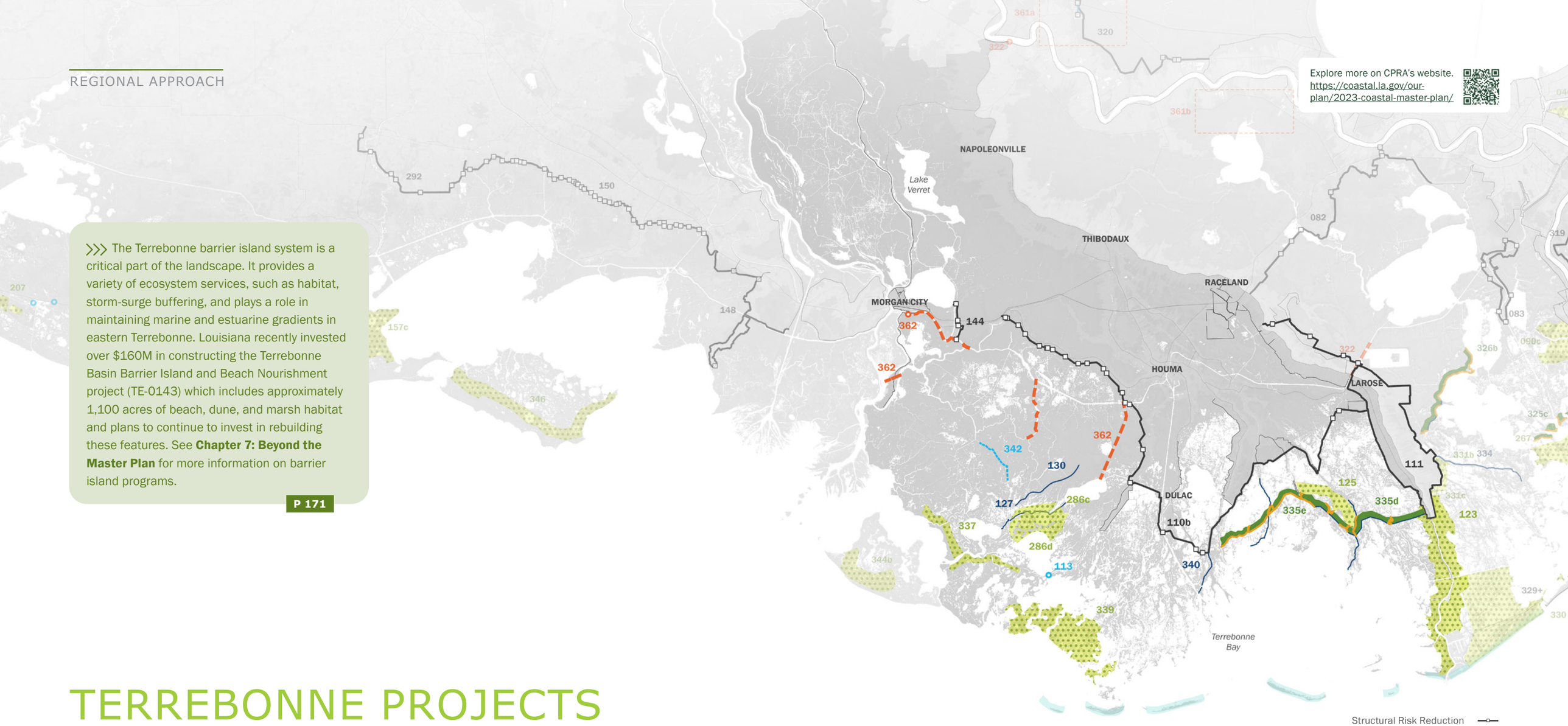
>>> The Terrebonne barrier island system is a critical part of the landscape. It provides a variety of ecosystem services, such as habitat, storm-surge buffering, and plays a role in maintaining marine and estuarine gradients in eastern Terrebonne. Louisiana recently invested over $160M in constructing the Terrebonne Basin Barrier Island and Beach Nourishment project (TE-0143) which includes approximately 1,100 acres of beach, dune, and marsh habitat and plans to continue to invest in rebuilding these features. See **Chapter 7: Beyond the Master Plan** for more information on barrier island programs.

P 171

TERREBONNE PROJECTS

REGIONAL 2023 PROJECTS MAP

For the 2023 Coastal Master Plan, 17 projects were selected for the Terrebonne region. These projects include a variety of restoration measures, such as marsh creation, riverine diversions, ridge restoration, and the cross-basin Eastern Terrebonne Landbridge project. The Central Terrebonne Hydrologic Restoration project was selected to prevent saltwater intrusion from Caillou Lake into Lake Mechant and support the ecosystems and habitat in the area. Several structural risk reduction projects were selected to reduce the impact of storm surge-based flooding to coastal communities across the region, such as Houma, Dulac, Larose, and Amelia. These projects, along with nonstructural risk reduction measures, can help reduce risk to residents and communities in the Terrebonne region.



Structural Risk Reduction
Ridge Restoration
Marsh Creation
Landbridge
Diversion
Hydrologic Restoration
Barrier Island Maintenance
Bank Stabilization

Map 6.11: Terrebonne 2023 Coastal Master Plan Projects.

N 0 2 4 8 MILES

ID#	PROJECT NAME	DESCRIPTION	IP	COST
113	**Central Terrebonne Hydrologic Restoration**	Construction of a rock plug in Grand Pass with a 150- foot by 15-foot navigable section to prevent saltwater intrusion from Caillou Lake into Lake Mechant.	1	$ 16M
342	**Western Terrebonne Hydrologic Restoration**	Hydrologic restoration to reconnect freshwater flows from Bayou Penchant to southern Terrebonne marshes by re-establishing flow through Bayou Carencro. Dredging portions of Carencro Bayou and installing a weir at Superior Canal to increase flow to the southeast through Bayou Carencro. Cleanout canal and install one-way culverts south of Bayou Carencro to allow freshwater further south.	1	$ 22M
335d	**Eastern Terrebonne Landbridge - East**	Creation of marsh including filling areas deeper than 2.5 feet, from Bayou Pointe-aux-Chênes to the south Lafourche Levee near Catfish Lake. 30,000 feet of shoreline revetment to limit erosion in exposed areas and channel armoring to maintain channels at current dimensions at Bayou Pointe-aux-Chênes and Bayou Blue to reduce the tidal prism and to create new wetland habitat, restore degraded marsh, and reduce wave erosion. Restoration of approximately 44,000 feet of Bayou Pointe-aux-Chênes Ridge.	1	$ 460M
335e	**Eastern Terrebonne Landbridge - West and Central**	Creation of marsh including filling areas deeper than 2.5 feet, from Bayou Terrebonne to Bayou Pointe-aux-Chênes to reduce the tidal prism and to create new wetland habitat, restore degraded marsh, and reduce wave erosion. 130,000 feet of shoreline revetment to limit erosion in exposed areas and channel armoring to maintain channels at current dimensions to reduce the tidal prism and to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	2	$ 1.0B
123	**Belle Pass-Golden Meadow Marsh Creation**	Creation of marsh within a footprint of approximately 29,000 acres of northeast portion of marsh from Belle Pass to Golden Meadow to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	1	$ 1.2B
125	**North Terrebonne Bay Marsh Creation**	Creation of marsh within a footprint of approximately 6,200 acres south of Montegut between Bayou St. Jean Charles and Bayou Pointe-aux-Chênes to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	1	$ 210M
286c	**North Lake Mechant Marsh Creation - East**	Creation of marsh in Terrebonne Parish between Lake Decade and Lake Mechant to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	1	$ 250M
286d	**North Lake Mechant Marsh Creation - West**	Creation of marsh in Terrebonne Parish between Lake Decade and Lake Mechant to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	2	$ 230M
337	**Fourleague Bay - Blue Hammock Bayou Marsh Creation**	Creation of marsh within a footprint of approximately 6,900 acres along the northeast rim of Fourleague Bay and east along Blue Hammock Bayou to Bayou Dularge to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	1	$ 370M
339	**West Terrebonne Marsh Creation Project**	Creation of marsh within a footprint of approximately 22,000 acres in between Caillou Lake and Caillou Bay in western Terrebonne to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	1	$ 1.5B
127	**Bayou Decade Ridge Restoration**	Restoration of approximately 43,000 feet of historic ridge along Bayou Decade to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation.	1	$ 13M
130	**Mauvais Bois Ridge Restoration**	Restoration of approximately 43,000 feet of historic ridge at Mauvais Bois to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation.	1	$ 13M
340	**Lower Bayou Petit Caillou Ridge Restoration**	Restoration of approximately 24,000 feet of historic ridge with 3 armored navigable openings at the southernmost part of Morganza to the Gulf in Cocodrie, Louisiana to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation.	1	$ 3.3M
362	**Atchafalaya Diversions**	Two separate projects diverting water and sediment from the Atchafalaya River into the Penchant Basin and areas east were evaluated for the plan—Atchafalaya River Diversion (108) and Increase Atchafalaya Flow to Terrebonne (139b). Both provided similar benefits to the region but in combination would induce excessive flooding. The Increase Atchafalaya Flow to Terrebonne project is currently being engineered by CPRA (TE-110). CPRA will finalize engineering and pursue construction of the TE-110 project with the Atchafalaya River Diversion (108) project as a potential alternative.	1	$ 790M
110b	**Morganza to the Gulf**	Construction and improvement of a levee to an elevation between 13.5 and 19 feet NAVD88 around Houma and Terrebonne Ridge communities from Lockport to Humphreys Canal. Project features approximately 450,000 feet of earthen levee, approximately 22,000 feet of T-wall, four 30-foot barge gates, five 40-foot barge gates, a 56-foot barge gate, a 110-foot barge gate, a 180-foot barge gate, a 30-foot roller gate, two 40-foot roller gates, a 110-foot lock, and 12 sluice gates.	1	$ 3.9B
111	**Larose to Golden Meadow**	Improvements to a levee to an elevation between 12 and 21 feet NAVD88 within the Larose to Golden Meadow levee system. Project features approximately 250,000 feet of earthen levee and approximately 7,100 feet of T-wall.	2	$ 500M
144	**Amelia Levee Improvements**	Construction of a levee to an elevation of 18 feet NAVD88 along the GIWW between Lake Palourde and the Bayou Boeuf Lock near Amelia. Project features approximately 14,000 feet of earthen levee, approximately 15,000 feet of 8-foot T-wall, a 110-foot barge gate, a 150-foot barge gate, three 40-foot swing gates, a 40-foot roller gate and four vertical lift gates.	2	$ 840M

Figure 6.14: Terrebonne Project List.

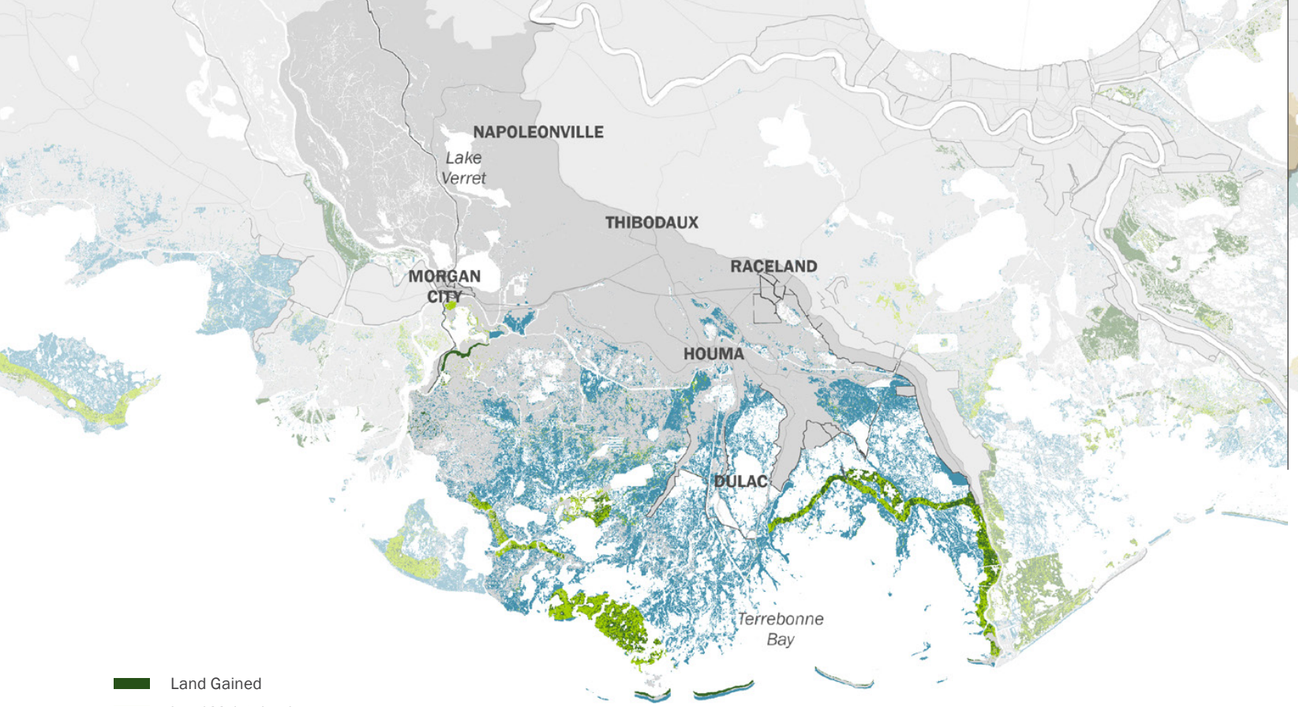
Image: Bayou Terrebonne Floodgate, 2016 (CPRA)

EASTERN TERREBONNE LANDBRIDGE

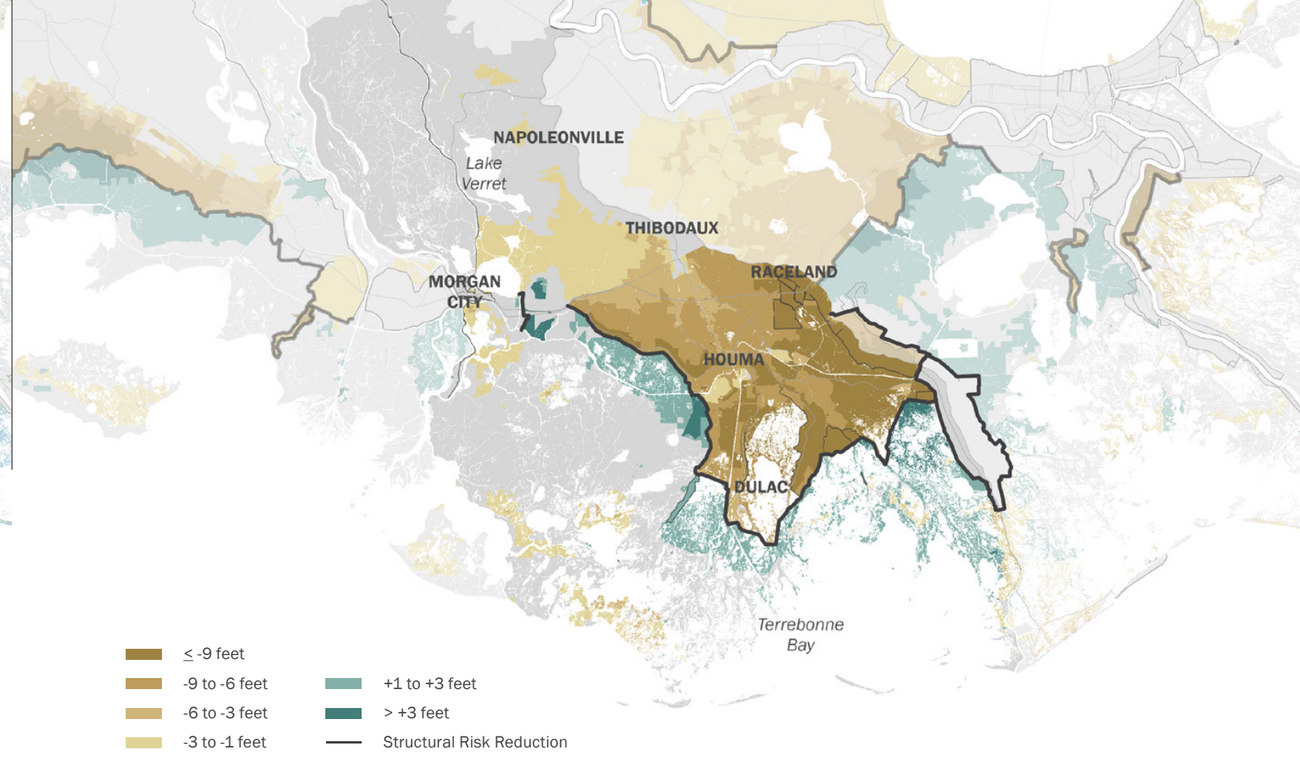
A newly selected project for the 2023 Coastal Master Plan, the Eastern Terrebonne Landbridge project extends across the eastern Terrebonne marshes and is planned to be built in phases over both implementation periods. In IP1, the eastern component from Bayou Lafourche to Bayou Pointe-aux-Chênes would be built, and in IP2, the western and central components from Bayou Pointe-aux-Chênes to Bayou Terrebonne would be built. The project will essentially fill all of the open water within the landbridge footprint with only a few bayous remaining open. This will limit water movement from Terrebonne Bay to the interior marshes, reducing salinity levels and land loss in some areas.

MORGANZA TO THE GULF

The Morganza to the Gulf project involves the construction and improvement of a levee around Houma and Terrebonne Ridge communities from Lockport to Humphreys Canal. It is selected in IP1 in the 2023 Coastal Master Plan as it provides extensive benefits. For example, this project will reduce EADD in Houma by more than $1.5 billion and reduce structural damage, equivalent to more than 1,500 structures at Year 50. Federal funding has only recently been provided, and progress on the system has been spearheaded by the Terrebonne Levee and Conservation District and CPRA using local and state funds. By building to USACE standards, the locally built portions of the system are seen as a contribution to the federal project. This approach can provide a model for moving ahead with a project while awaiting federal authorization and funding.



Map 6.12: Terrebonne, Land Change, Future With Action, Lower Scenario, Year 50.



Map 6.13: Terrebonne, Flood Depths Difference between FWA and FWOA, 1% Annual Exceedance Probability, Lower Scenario, Year 50.

REGIONAL PROJECT BENEFITS

With action, we build and maintain 58,000 acres of land in the lower environmental scenario and 17,000 acres in the higher scenario. Restoration is focused on maintaining key cross-basin landforms, including ridges, and the Eastern Terrebonne Landbridge provides both continuous marsh and some modulation of tidal flows. The Atchafalaya Diversion also brings freshwater into the Penchant Basin. In the lower scenario, these projects slow the rate of land loss and maintain a diversity of marsh types. Relatively high subsidence and increased sea level rise in the higher scenario result in dramatic loss of wetlands in the next 50 years, much of which occurs in the last two decades of the 50-year projections. Fresh marshes, including flotant, persist in the Penchant Basin where the Atchafalaya Diversion is successful in maintaining a more gradual estuarine gradient than to the east of the region.

Three structural risk reduction projects were selected in the Terrebonne region including upgrades to the Larose to Golden Meadow system, which spans the Terrebonne and Barataria regions. In total, the projects reduce future storm surge-based flood risk in the region by 63% at Year 50 under the lower scenario. These projects provide a $3.7 billion reduction in EADD in at Year 50 under the lower scenario and a $5.2 billion reduction in EADD at Year 50 under the higher scenario. Even with the implementation of these structural risk reduction projects, significant residual risk both outside and inside of the levee systems remains.

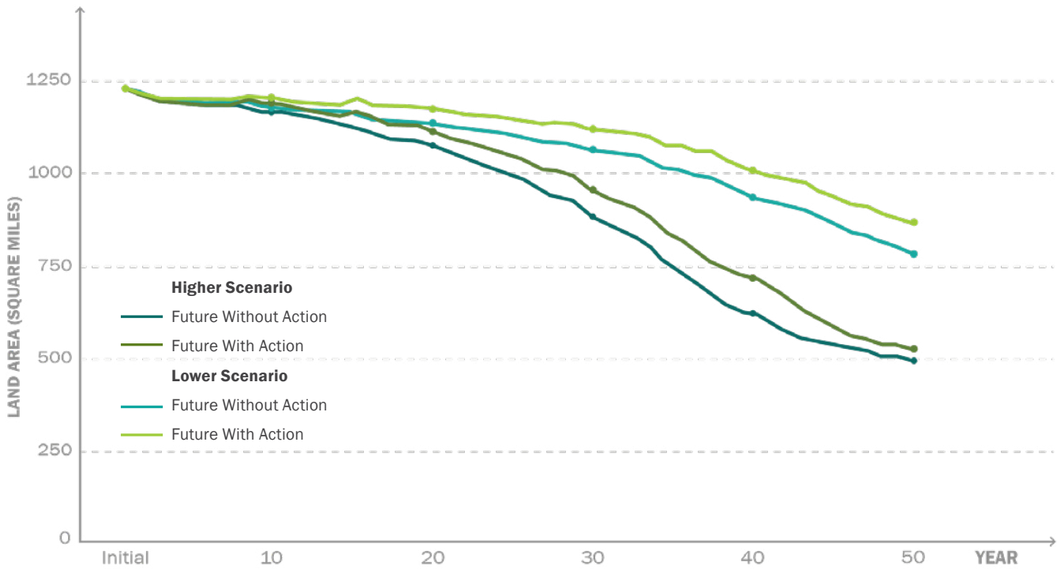


Figure 6.15: Terrebonne Land Area Over 50 years, Future With and Without Action, Higher and Lower Scenario.

BARATARIA

Barataria lies on the west bank of the Mississippi River, reaching to Port Fourchon and includes the west bank of New Orleans and popular fishing destinations of Lafitte and Venice. Barataria Basin is separated from the Gulf by a string of barrier islands that includes Grand Isle. Known for its fishing communities, the region includes areas of focus for conservation and recreation including the Jean Lafitte National Historical Park and Preserve and the Salvador/Timken Wildlife Management Area.

Figure 6.16: Aerial View of the Barataria Region with the 2023 Coastal Master Plan Projects.

ABOUT BARATARIA

AN INTRODUCTION

Stretching from Bayou Lafourche to the Mississippi River, the Barataria region is home to vibrant communities and one of the nation's most productive estuaries. The region's swamps, marshes, and barrier islands provide numerous economic and recreational benefits, as well as protection for inland communities. Land loss, changing environmental conditions, and modifications to the region's hydrology threaten these important wetland ecosystems. Projects proposed in the 2023 Coastal Master Plan will help reverse these trends and complement projects already on-the-ground or under construction.

The Barataria Region includes portions of nine parishes: Assumption, Ascension, St. James, Lafourche, St. John the Baptist, St. Charles, Jefferson, Plaquemines, and Orleans. Extensive residential and commercial development can be found along the Mississippi River and Bayou Lafourche, as well as in the mid-basin along U.S. 90, and on the west bank of Orleans and Jefferson parishes. These include the communities of Des Allemands, Paradis, Luling, and Boutte. The communities of Lafitte, Barataria, Crown Point, and Grand Isle are more isolated and have strong ties to the ecology and natural resources of the basin. The region has experienced rapid growth and business development over the past several decades, especially in areas such as St. Charles and Jefferson parishes, and also boasts a rich cultural heritage associated with the many Indigenous communities of the area.

The region's ecosystem is characterized by extensive swamps in the upper basin and floating marshes near Lac des Allemands and Lake Salvador. Fresh marshes grade into intermediate, brackish, and salt marshes closer to the Gulf. Several remnant natural ridges are in the area, including Bayou L'Ours, while the lower part of the basin is rimmed with barrier islands. The region includes Lake Boeuf and Salvador/Timken Wildlife Management Areas, the Elmer's Island Wildlife Refuge, and the Barataria Unit of Jean Lafitte National Historical Park and Preserve.

As in many parts of the coast, natural resources and navigable waterways provide opportunities for economic growth and activity. Refineries, petrochemical plants, and granaries employ residents from across the region. Home to the Port of South Louisiana, the largest port by tonnage of cargo handled in the western hemisphere, and Port Fourchon, the Barataria region is instrumental in the transportation and transfer of goods between ships, barges, and trucks for distribution throughout the United States.

370K residents at risk from storm surge-based flooding

Includes Port Fourchon and Port of South Louisiana

60 projects completed since the 1990s

Home to the LDWF Fisheries Lab and Oyster Hatchery

Image: Pelicans on Queen Bess Island, 2020 (CPRA)

The waters and wetlands of Barataria Basin also support tremendous commercial and recreational fishing opportunities. Waterfowl hunting opportunities here have long been recognized as some of the best in the nation. In 2020, about 20% of total statewide shrimp landings were from the Barataria Basin. In that same year, the basin was responsible for nearly 44% of the statewide landings of oysters from private leases.

Changing environmental conditions are challenging the Barataria Region. Basin hydrology has been extensively altered since European settlement. The basin was isolated from the Mississippi River following the Great Flood of 1927, further limiting riverine inputs of sediment and freshwater to this region. Historic coastal storms impacting the region include Hurricane Betsy in 1965 and, more recently, Katrina (2005), Gustav and Ike (2008), Isaac (2012), and Ida (2021). Recent storm impacts have challenged several communities in the region, and recovery from flood and wind damage caused by Hurricane Ida is still underway in places like Grand Isle, Lafitte, and Ironton.

Since the 1990s, more than 60 restoration projects have been constructed in the Barataria Basin by local, state, and federal agencies; parishes; NGOs; and private companies. This represents more projects and more expenditures for restoration than in any other basin. Some of these projects were built to support navigation or reduce flood risk. Examples include the Naomi Freshwater Diversion (1992), the West Pointe a la Hache Freshwater Diversion (1992), and the Davis Pond Freshwater Diversion (2002). Others addressed barrier island or headland erosion and fragmentation, such as the massive Caminada Headland Beach and Dune Restoration and the Spanish Pass Increment of the Barataria Basin Ridge and Marsh Creation project. The Mid-Barataria Sediment Diversion, a first-of-its-kind restoration project, has the capability to create and sustain thousands of acres of wetlands in the region (See p.139 for more information on this project).

HURRICANE IDA

Hurricane Ida made landfall at Port Fourchon on August 29, 2021 as a strong Category 4 storm and caused immense wind and flood damage. Storm surge of up to 14 ft and sustained 140 mph winds caused the destruction of homes, businesses, and tens of thousands of acres of coastal wetlands. The storm was the greatest test of the completed HSDRRS system to date with storm surge impacts stretching from Jefferson Parish to St. Bernard Parish. Outside of the HSDRRS system, communities like Leeville, Lafitte, Grand Isle, Ironton, and many more suffered devastating storm surge impacts. Some of these communities will see future risk reduction through ongoing projects, such as the New Orleans to Venice project or the Lafitte Tidal Protection project. In south Lafourche, storm surge came within a few feet of overtopping the levees, but the communities of Larose, Cut Off, Galliano, and Golden Meadow were spared catastrophic flooding. To illustrate how land loss, sea level rise, and subsidence may lead to greater future flooding and damages, we modeled Hurricane Ida on both the existing and a future landscape, for both FWOA and with the full implementation of the 2023 Coastal Master Plan. The results for the area near Lafitte show an additional 3-4 ft of storm surge and an additional 2-4 ft of storm surge in the river parish communities for FWOA under the lower scenario. Areas near the Larose to Golden Meadow system would see an additional 3-5 ft of storm surge that would overtop the existing levee and cause extensive flooding and an estimated $1.6 billion in damage. The Larose to Golden Meadow project (111) included in the 2023 Coastal Master Plan would prevent levee overtopping and flooding within the polder.

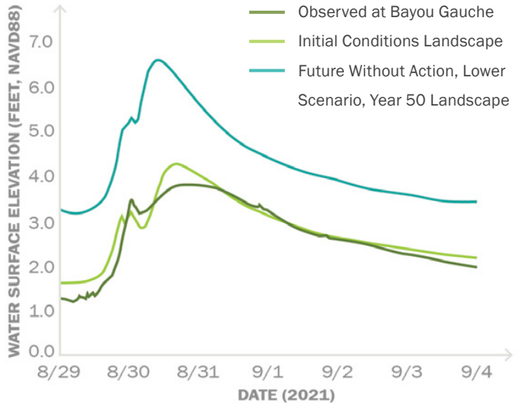


Figure 6.17: Hurricane Ida Storm Surge Simulations.

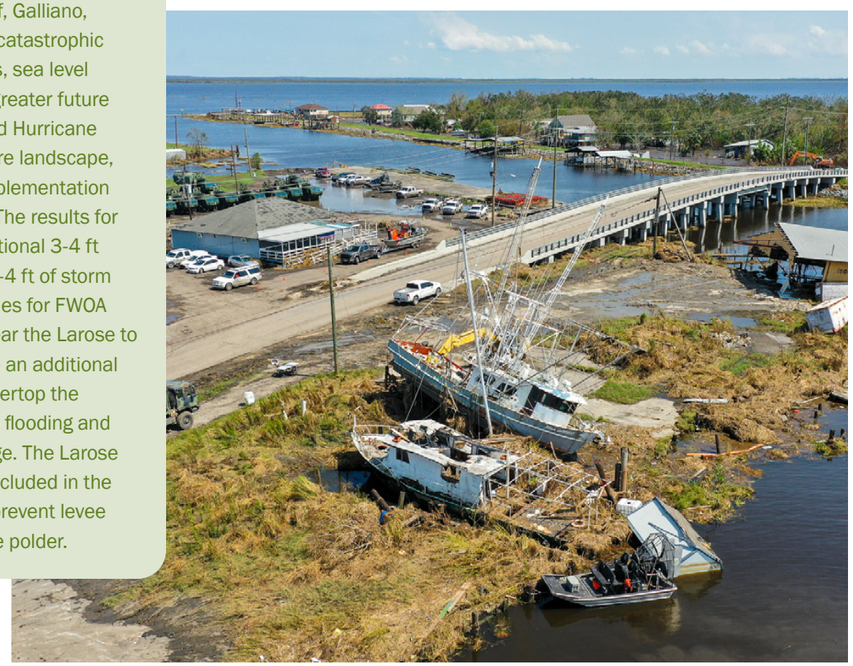
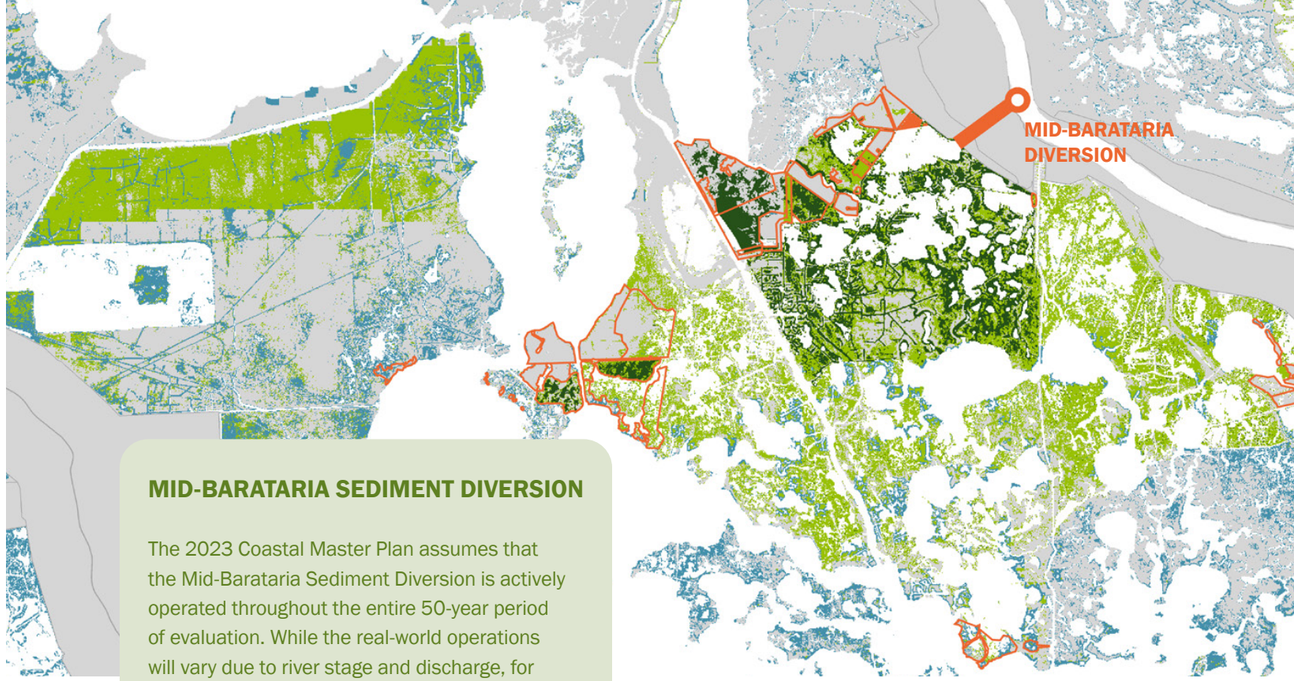


Image: Lafitte, Post Hurricane Ida, 2021 (CPRA)



Map 6.14: Mid-Barataria, Land Change between FWOA and FWOCFP, Year 50, Lower Scenario.

MID-BARATARIA SEDIMENT DIVERSION

The 2023 Coastal Master Plan assumes that the Mid-Barataria Sediment Diversion is actively operated throughout the entire 50-year period of evaluation. While the real-world operations will vary due to river stage and discharge, for modeling purposes, a single operational rule was followed for ICM simulations. When comparing FWOA against a FWOCFP, where the diversion is not active, one can see a large area of newly built wetlands in the immediate outfall of the diversion where river sediments deposit in open water bodies, eventually becoming land after approximately 20 years of operation. In addition to the newly built subaerial land, large portions of existing wetlands throughout the middle portions of Barataria Basin (i.e., areas northwest of Little Lake) are maintained into the future, whereas they are projected to be lost if the diversion were not active. The land is maintained due to a combination of suspended sediments nourishing the wetlands, increased organic matter accretion rates, and reduced salinities in these areas. It is important to keep in mind the sensitivity of these results to the exact operations of the diversion. Slight changes to the operational rules will impact the balance between sediment and freshwater delivery and inundation, which is one of many reasons why adaptively managing the operations will be critical to the long-term success of the project.

Image: Coastal Marsh (Lindsey Janies)

Explore more on CPRA's website.
https://coastal.la.gov/our-plan/2023-coastal-master-plan/

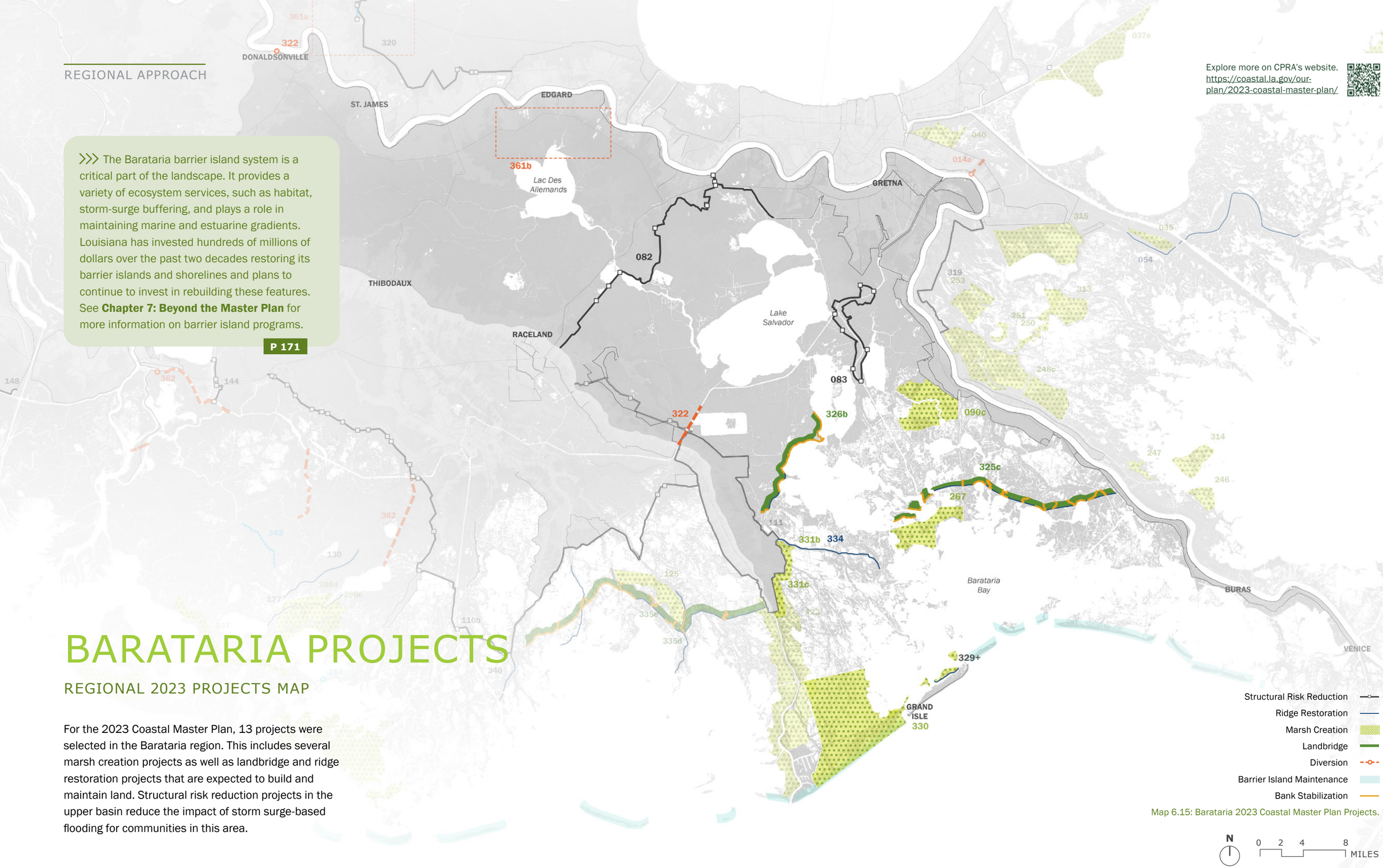
The Barataria barrier island system is a critical part of the landscape. It provides a variety of ecosystem services, such as habitat, storm-surge buffering, and plays a role in maintaining marine and estuarine gradients. Louisiana has invested hundreds of millions of dollars over the past two decades restoring its barrier islands and shorelines and plans to continue to invest in rebuilding these features. See **Chapter 7: Beyond the Master Plan** for more information on barrier island programs.

P 171

BARATARIA PROJECTS

REGIONAL 2023 PROJECTS MAP

For the 2023 Coastal Master Plan, 13 projects were selected in the Barataria region. This includes several marsh creation projects as well as landbridge and ridge restoration projects that are expected to build and maintain land. Structural risk reduction projects in the upper basin reduce the impact of storm surge-based flooding for communities in this area.



Structural Risk Reduction
Ridge Restoration
Marsh Creation
Landbridge
Diversion
Barrier Island Maintenance
Bank Stabilization

Map 6.15: Barataria 2023 Coastal Master Plan Projects.

N
0 2 4 8 MILES

ID#	PROJECT NAME	DESCRIPTION	IP	COST
329	**Caminada Bay Marsh Creation and Fifi Island Ridge**	Creation of marsh within a footprint of approximately 1,600 acres in Caminada Bay to create new wetland habitat, restore degraded marsh, and reduce wave erosion and approximately 14,000 feet of shoreline protection along Fifi Island to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation.	1	$ 78M
325c	**Lower Barataria Landbridge - East**	Creation of marsh within a footprint of approximately 6,900 acres including filling areas deeper than 2.5 feet, from Bayou Dogris to Port Sulphur. 130,000 feet of shoreline revetment to limit erosion in exposed areas and channel armoring to maintain channels at current dimensions at Wilkinson Canal, Wilkinson Bayou, Bay Chene Fleur, multiple channels north of Bay Batiste, Two Sisters Bayou, Socola Canal, and Grand Bayou to reduce the tidal prism and to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	2	$ 840M
326b	**Mid-Barataria Landbridge - West**	Creation of marsh within a footprint of approximately 3,800 acres including filling areas deeper than 2.5 feet, from Galliano to Bayou Perot. 63,000 feet of shoreline revetment to limit erosion in exposed areas and channel armoring to maintain channels at two canals in the Clovelly Oil Field to reduce the tidal prism and to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	2	$ 520M
090c	**Large-Scale Barataria Marsh Creation**	Creation of marsh within a footprint of approximately 15,000 acre in western portion of Large-Scale Barataria Marsh Creation project to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	2	$ 560M
267	**North Barataria Bay Marsh Creation**	Creation of marsh within a footprint of approximately 7,200 acres on western portion of Barataria Bay shoreline to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	2	$ 220M
330	**East Bayou Lafourche Marsh Creation**	Creation of marsh within a footprint of approximately 33,000 acres east of Bayou Lafourche and along the Caminada Headland to create new wetland habitat, restore degraded marsh, and reduce wave erosion.	1	$ 1.3B
331b	**Southeast Golden Meadow Marsh Creation - North and South**	Creation of marsh including filling areas deeper than 2.5 feet along the along portions of the South Lafourche levee alignment to create new wetland habitat and reduce wave energy on the levee system.	2	$ 270M
331c	**Southeast Golden Meadow Marsh Creation - Central**	Creation of marsh including filling areas deeper than 2.5 feet along the along portions of the South Lafourche levee alignment to create new wetland habitat and reduce wave energy on the levee system.	1	$ 100M
334	**Bayou L'Ours Ridge Restoration**	Restoration of approximately 54,000 feet of historic ridge along Bayou L'Ours to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation.	1	$ 9.5M
322	**Freshwater Delivery to Western Barataria**	Increase pump capacity from Mississippi River to Bayou Lafourche by 500 cfs. Dredge GIWW east of Larose to -20 feet to reduce salinity in western Barataria.	2	$ 120M
361b	**Upper Basin Diversion Program - Barataria**	Multiple freshwater and sediment diversions into the swamps of the Western Pontchartrain and Upper Barataria basins were modeled for inclusion in the plan. These projects showed complex interactions with other diversions assumed to be operating on the landscape. This program will evaluate how diversions into the upper basins could be operated in conjunction with currently planned diversions to maintain swamps and coastal marshes, sustain estuarine gradients, and aid in Mississippi River flood control. These studies will lead to the construction of one or more diversion features into Barataria or Maurepas basins.	1	$ 750M
082	**Upper Barataria Risk Reduction**	Construction and improvement of a levee to an elevation between 10.5 and 15 feet NAVD88 along Highway 90 between the West Bank and Larose. Project includes approximately 200,000 feet of earthen levee, approximately 4,100 feet of T-wall, a 250-foot barge gate, two 40-foot roller gates, six sluice gates, and pump station improvements.	1	$ 510M
083	**Lafitte Ring Levee**	Construction of a levee to an elevation of 16 feet NAVD88 around Lafitte. Project features include approximately 120,000 feet of earthen levee, approximately 30,000 feet of T-wall, two 30-foot barge gates, a 56-foot barge gate, three 150-foot barge gates, and a 40-foot roller gate.	2	$ 1.4B

Figure 6.18: Barataria Project List.

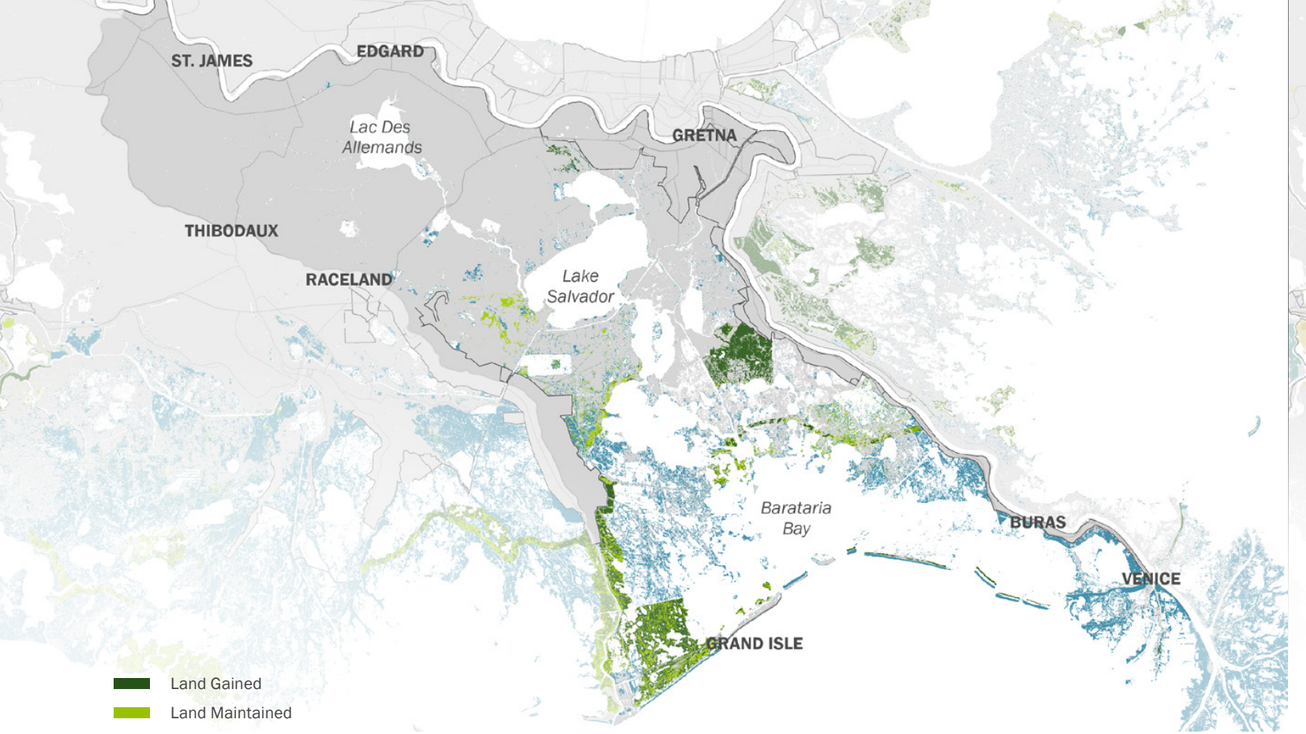
Image: Davis Pond Freshwater Diversion, 2019 (CPRA)

UPPER BASIN DIVERSION PROGRAM

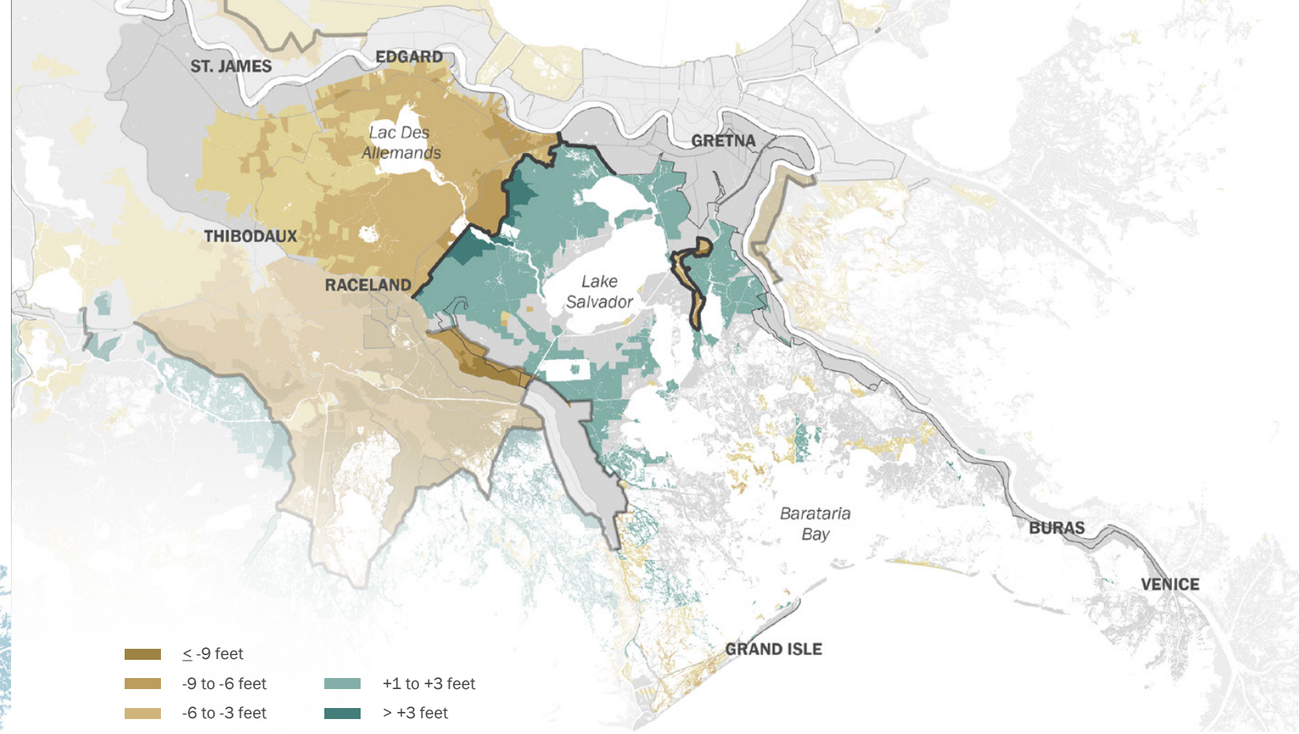
Modeling for the 2023 Coastal Master Plan made the assumption that the Mid-Barataria Sediment Diversion, Mid-Breton Sediment Diversion, and the River Reintroduction into Maurepas Swamp project would be implemented in the early years of the 50-year period, in addition to the freshwater diversions already constructed. Many of the additional diversion projects that had been effective as individual projects in building or maintaining land in the 2017 Coastal Master Plan showed mixed landscape results when interacting with other diversions. The combined effects of the additional diversion projects and those already assumed to be operational resulted in excessive water levels in the basin. These results highlight the need for basin wide management of diversions. Additional evaluations suggest that upper basin diversions could play an important role in maintaining swamps and coastal marshes, estuarine gradients, and in Mississippi River flood control. CPRA is proposing to further evaluate these projects and support USACE in their Lower Mississippi River Comprehensive Management Study to identify suitable locations for the construction of additional diversions. By continuing to evaluate a systems approach to operating multiple diversions, we can further maximize utilization of sediment, freshwater, and nutrient resources of the Mississippi River to protect and restore a larger footprint of the coastal ecosystem.

UPPER BARATARIA RISK REDUCTION

This project includes construction and improvement of a levee along U.S. 90 between the West Bank and Larose, with a barge gate on Bayou des Allemands. Under the lower scenario, at Year 50, the project reduces flood depths by more than 5 ft in the Paradis, Luling, and Boutte areas of St. Charles Parish for the 1% AEP, and results in localized increases in flooding south of the levee. The result is a reduction in EADD of more than $37 billion under the lower scenario and $42 billion in the higher scenario over the 50 year planning horizon. USACE recently issued their Upper Barataria Basin Chief's Report with their tentatively selected plan (TSP) which differs slightly from the features evaluated here. CPRA is committed to working with USACE and the Lafourche Basin Levee District (LBLD) to implement the Upper Barataria Risk Reduction project as described in the TSP.



Map 6.16: Barataria, Land Change, Future With Action, Lower Scenario, Year 50.



Map 6.17: Barataria, Flood Depths Difference between FWA and FWOA, 1% Annual Exceedance Probability, Lower Scenario, Year 50.

REGIONAL PROJECT BENEFITS

With action, we build and maintain 53,000 acres of land in the lower environmental scenario and 31,000 acres in the higher scenario. Restoration includes cross-basin landbridges, central basin marsh creation areas, restored ridges, and ensuring wetlands are more robust between the Larose to Golden Meadow levee and the Gulf. Many of these projects work in concert with the Mid-Barataria Sediment Diversion, included in FWOA, to maintain extensive marsh areas in the lower scenario. In the higher scenario, increased sea level rise and higher rates of subsidence result in higher land loss. There is extensive loss in the southeast portion of the region and on the western side, south of the GIWW, especially in 30-50 years. However, there is little change in the upper basin and extensive areas of swamp, flotant, fresh and intermediate marshes remain.

Three structural risk reduction projects were selected in the Barataria region, including upgrades to the Larose to Golden Meadow system which spans the Terrebonne and Barataria regions. In total, these projects reduce future surge-based flood risk in the region by 64% at Year 50 under the lower scenario. These projects provide a $2.0 billion reduction in EADD at Year 50.

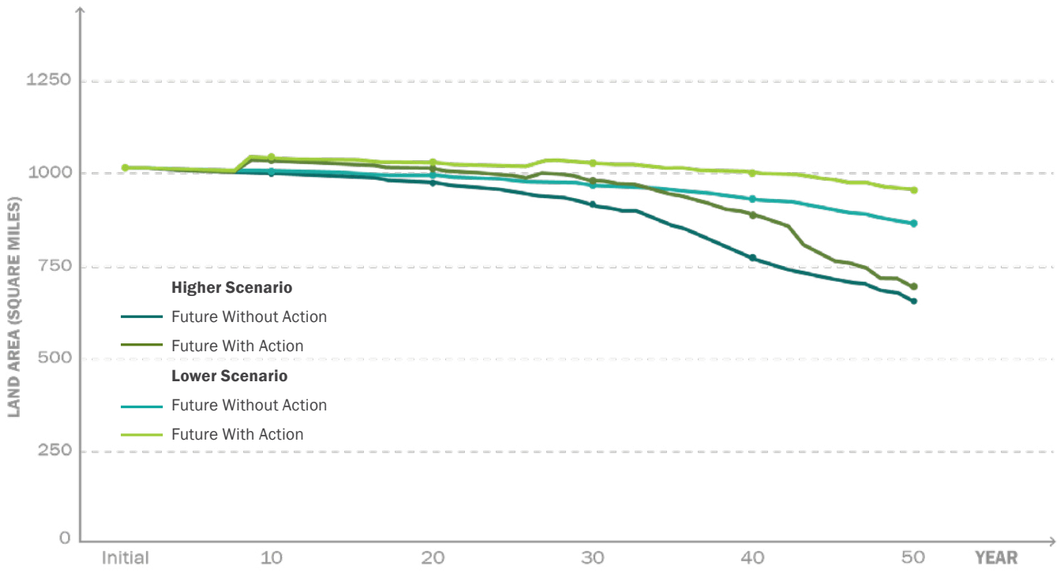


Figure 6.19: Barataria Land Area Over 50 years, Future With and Without Action, Higher and Lower Scenario.

PONTCHARTRAIN / BRETON

The Pontchartrain/Breton region reaches from the east bank of the Mississippi River to the Mississippi border and includes New Orleans, Mandeville, and Slidell. The region also includes Lakes Pontchartrain and Borgne as well as the Bird's Foot Delta of the Mississippi River. The region is surrounded by the Breton and Chandeleur sounds, which are separated from the Gulf by a string of barrier islands, including the Chandeleur Islands, part of the Breton National Wildlife Refuge.

Figure 6.20: Aerial View of the Pontchartrain/Breton Region with the 2023 Coastal Master Plan Projects.