2023 COASTAL MASTER PLAN

PROJECT FACT SHEETS

ATTACHMENT F2

REPORT: VERSION 05
DATE: APRIL 2023

COASTAL PROTECTION AND
RESTORATION AUTHORITY
150 TERRACE AVENUE
BATON ROUGE, LA 70802
WWW.COASTAL.LA.GOV

COASTAL PROTECTION AND RESTORATION AUTHORITY

This document was developed in support of the 2023 Coastal Master Plan being prepared by the Coastal Protection and Restoration Authority (CPRA). CPRA was established by the Louisiana Legislature in response to Hurricanes Katrina and Rita through Act 8 of the First Extraordinary Session of 2005. Act 8 of the First Extraordinary Session of 2005 expanded the membership, duties, and responsibilities of CPRA and charged the new authority to develop and implement a comprehensive coastal protection plan, consisting of a master plan (revised every six years) and annual plans. CPRA's mandate is to develop, implement, and enforce a comprehensive coastal protection and restoration master plan.

CITATION

Coastal Protection and Restoration Authority. (2023). 2023 Coastal Master Plan: Attachment F2: Project Fact Sheets. Version 5. (pp. 1-160). Baton Rouge, Louisiana: Coastal Protection and Restoration Authority.

LIST OF PROJECTS

Project Number	Project Name	Region	Project Type
014a	Central Wetlands Diversion	Pontchartrain	Diversions
029	Lake Pontchartrain Barrier	Pontchartrain	Structural Protection
032	Slidell Ring Levees	Pontchartrain	Structural Protection
035	Hopedale Marsh Creation	Pontchartrain	Marsh Creation
037e	New Orleans East Marsh Creation	Pontchartrain	Marsh Creation
040	Central Wetlands Marsh Creation	Pontchartrain	Marsh Creation
054	Bayou LaLoutre Ridge Restoration	Pontchartrain	Ridge Restoration
082	Upper Barataria Risk Reduction	Barataria	Structural Protection
083	Lafitte Ring Levee	Barataria	Structural Protection
090c	Large-Scale Barataria Marsh Creation	Barataria	Marsh Creation
110b	Morganza to the Gulf	Terrebonne	Structural Protection
111	Larose to Golden Meadow	Terrebonne	Structural Protection
113	Central Terrebonne Hydrologic Restoration	Terrebonne	Hydrologic Restoration
123	Belle Pass-Golden Meadow Marsh Creation	Terrebonne	Marsh Creation
125	North Terrebonne Bay Marsh Creation	Terrebonne	Marsh Creation
127	Bayou DeCade Ridge Restoration	Terrebonne	Ridge Restoration
130	Mauvais Bois Ridge Restoration	Terrebonne	Ridge Restoration
144	Amelia Levee Improvements	Terrebonne	Structural Protection
148	Franklin and Vicinity	Central Coast	Structural Protection
150	Iberia/St. Mary Upland Levee	Central Coast	Structural Protection
157c	East Rainey Marsh Creation	Central Coast	Marsh Creation
207	South Grand Chenier Marsh Creation	Chenier Plain	Marsh Creation
210	Mud Lake Marsh Creation	Chenier Plain	Marsh Creation

Project Number	Project Name	Region	Project Type
213	West Rainey Marsh Creation	Central Coast	Marsh Creation
216	Southeast Calcasieu Lake Marsh Creation	Chenier Plain	Marsh Creation
218	Cameron Meadows Marsh Creation	Chenier Plain	Marsh Creation
221	East Pecan Island Marsh Creation	Chenier Plain	Marsh Creation
224c	East Calcasieu Lake Marsh Creation	Chenier Plain	Marsh Creation
228	Calcasieu Ship Channel Marsh Creation	Chenier Plain	Marsh Creation
231	Cheniere au Tigre Ridge Restoration	Central Coast	Ridge Restoration
232	Pecan Island Ridge Restoration	Chenier Plain	Ridge Restoration
246	Sunrise Point Marsh Creation	Pontchartrain	Marsh Creation
247	Uhlan Bay Marsh Creation	Pontchartrain	Marsh Creation
248c	Pointe a la Hache and Carlisle Marsh Creation	Pontchartrain	Marsh Creation
249	Fritchie North Marsh Creation	Pontchartrain	Marsh Creation
250	Oak River to Delacroix Marsh Creation	Pontchartrain	Marsh Creation
251	Spanish Lake Marsh Creation	Pontchartrain	Marsh Creation
253	Tiger Ridge/Maple Knoll Marsh Creation	Pontchartrain	Marsh Creation
267	North Barataria Bay Marsh Creation	Barataria	Marsh Creation
286c	North Lake Mechant Marsh Creation - East	Terrebonne	Marsh Creation
286d	North Lake Mechant Marsh Creation - West	Terrebonne	Marsh Creation
292	Abbeville and Vicinity	Central Coast	Structural Protection
293c	Freshwater Bayou North Marsh Creation	Chenier Plain	Marsh Creation
296	Little Chenier Marsh Creation	Chenier Plain	Marsh Creation
298b	West Brown Lake Marsh Creation - North	Chenier Plain	Marsh Creation
298c	West Brown Lake Marsh Creation - South	Chenier Plain	Marsh Creation
300b	West Sabine Refuge Marsh Creation	Chenier Plain	Marsh Creation
300c	West Sabine Refuge Marsh Creation - Central	Chenier Plain	Marsh Creation
310	Three Mile Pass Marsh Creation and Hydrologic Restoration	Pontchartrain	Integrated Project
313	West Delacroix Marsh Creation	Pontchartrain	Marsh Creation
314	Belle Pass Island Marsh Creation	Pontchartrain	Marsh Creation

Project Number	Project Name	Region	Project Type
315	North and East Lake Lery Marsh Creation Project	Pontchartrain	Marsh Creation
316	Chandeleur Sound Island Restoration Projects	Pontchartrain	Marsh Creation
318	Tchefuncte River Restoration	Pontchartrain	Ridge Restoration
319	Braithwaite to White Ditch	Pontchartrain	Structural Protection
320	St James-Ascension Parishes Storm Surge Protection	Pontchartrain	Structural Protection
322	Freshwater Delivery to Western Barataria	Barataria	Diversions
325c	Lower Barataria Landbridge - East	Barataria	Landbridge
326b	Mid Barataria Landbridge - West	Barataria	Landbridge
329	Caminada Bay Marsh Creation and Fifi Island Ridge	Barataria	Integrated Project
330	East Bayou Lafourche Marsh Creation	Barataria	Marsh Creation
331b	Southeast Golden Meadow Marsh Creation - North and South	Barataria	Marsh Creation
331c	Southeast Golden Meadow Marsh Creation - Central	Barataria	Marsh Creation
334	Bayou L'Ours Ridge Restoration	Barataria	Ridge Restoration
335d	Eastern Terrebonne Landbridge - East	Terrebonne	Landbridge
335e	Eastern Terrebonne Landbridge - West and Central	Terrebonne	Landbridge
337	Fourleague Bay - Blue Hammock Bayou Marsh Creation	Terrebonne	Marsh Creation
339	West Terrebonne Marsh Creation Project	Terrebonne	Marsh Creation
340	Lower Bayou Petit Caillou Ridge Restoration	Terrebonne	Ridge Restoration
342	Western Terrebonne Hydrologic Restoration	Terrebonne	Hydrologic Restoration
344b	Central Coast Marsh Creation - Point Au Fer	Central Coast	Marsh Creation
346	Marsh Island Barrier Marsh Creation	Central Coast	Marsh Creation
347	Mermentau Basin Hydrologic Restoration	Chenier Plain	Hydrologic Restoration
349	Cameron-Creole to the Gulf Hydrologic Restoration	Chenier Plain	Hydrologic Restoration
361a	Upper Basin Diversion Program -	Pontchartrain	Diversions

Project Number	Project Name	Region	Project Type
	Pontchartrain		
361b	Upper Basin Diversion Program - Barataria	Barataria	Diversions
362	Atchafalaya Diversions	Terrebonne	Diversions

CENTRAL WETLANDS DIVERSION

PROJECT ID: 014A / IMPLEMENTATION PERIOD 2

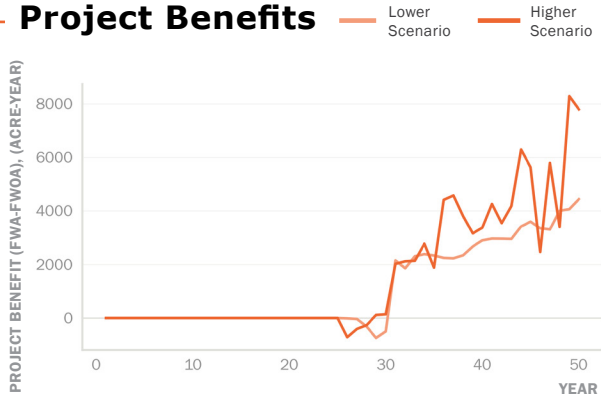
Project Location

St. Bernard Parish

Description

Diversion into Central Wetlands near Violet to provide sediment for emergent marsh creation and freshwater to sustain existing wetlands, 5,000 cfs capacity (modeled at a constant flow of 5,000 cfs, independent of the Mississippi River flow).

Project Benefits



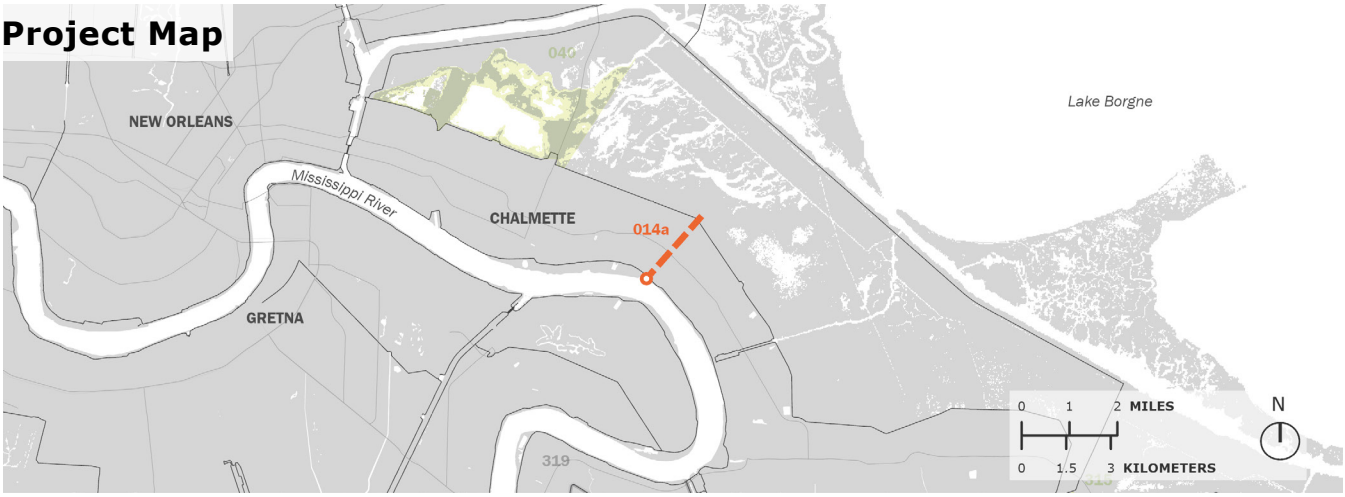
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	4.4K	8.3K	6.4K
Min. Annual Benefit (Acre)	-740	-710	-730
Years of Pos. / Neg. Benefit	20 / 5	22 / 3	21 / 4

Estimated Cost and Duration

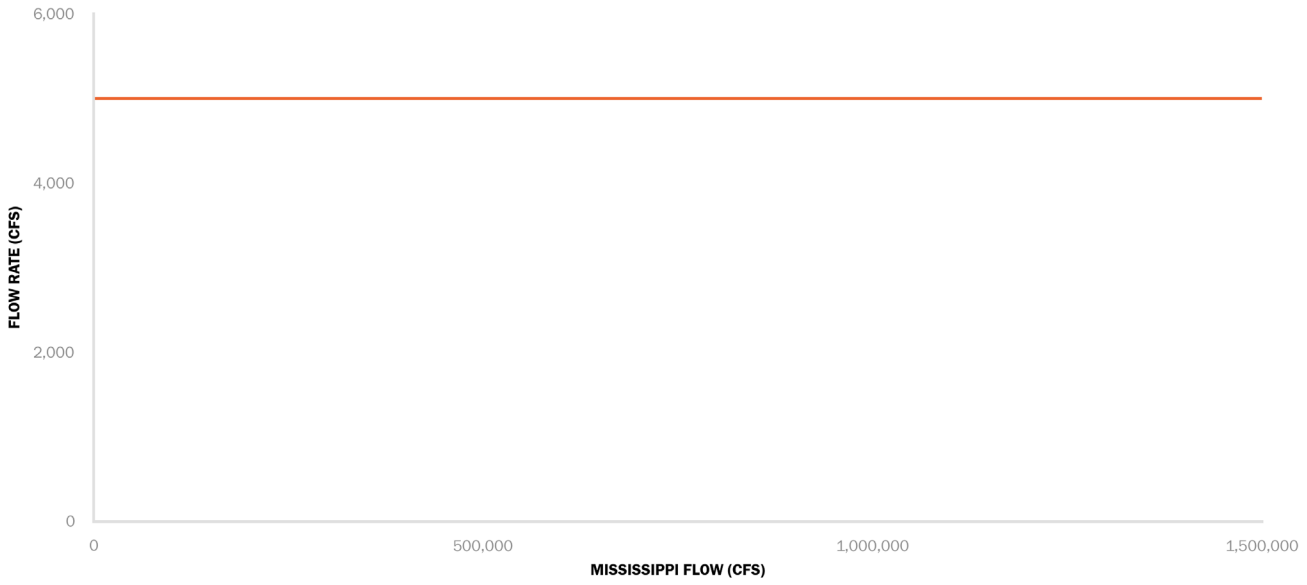
	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$18M - $21M	$220M - $260M	$3.8M - $4.6M	**$240M - $290M**
Duration	4	2	24	---

Project Map



Operational Regime

This operational regime curve demonstrates how the diversion will be operated under various flow conditions in the Mississippi River. This curve shows how the diversion is operated as a constant flowrate, regardless of what flow conditions are occurring in the Mississippi River.



LAKE PONTCHARTRAIN BARRIER

PROJECT ID: 029 / IMPLEMENTATION PERIOD 1

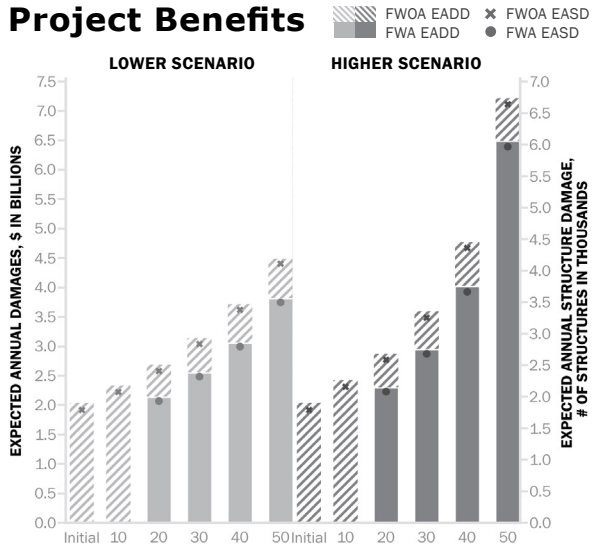
Project Location

Orleans Parish, St. Tammany Parish

Description

Construction of closure gates and weirs to an elevation of 2 feet NAVD88 across the passes at Chef Menteur and the Rigolets for storm surge risk reduction within the Lake Pontchartrain Basin.

Project Benefits



EADD and EASD are two different metrics used to measure risk. This graph shows the total risk without action (FWOA) and the remaining risk if the project is implemented (FWA). The difference is the project benefit.

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$130M - $200M	$1.7B - $2.6B	$63M - $96M	**$1.9B - $2.9B**
Duration	2	3	45	---

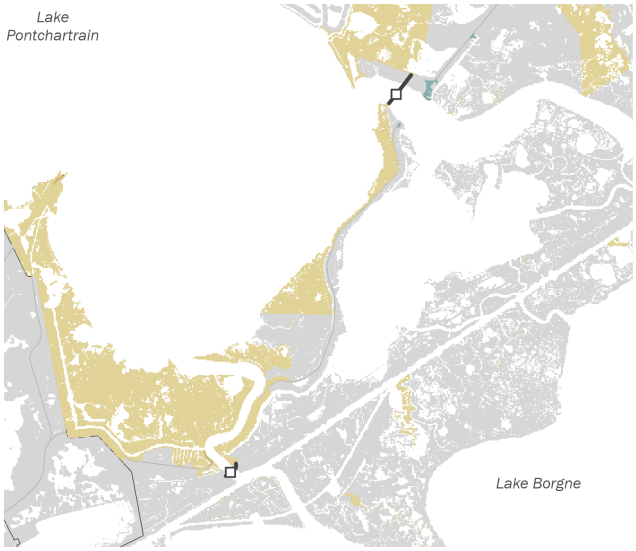
Project Map

Explanation of Project Benefits

Expected Annual Damage in dollars (EADD) and Expected Annual Structure Damage (EASD) are two metrics by which the impact of modeled storms and master plan risk reduction projects can be evaluated. The graphs show the reduction in damage, both EADD and EASD, provided by the Lake Pontchartrain Barrier structural risk reduction project at Year 20 for storms with varying Annual Exceedance Probability (AEP) as compared to damage without the project implemented. One goal of the master plan is to reduce storm surge-based flood risk, which varies based on location and over time. In order to select projects that reduce that risk, the master plan uses EADD and EASD as metrics that can be used in the evaluation of project performance.

1.2M **Estimated Current Population**

41% **Percentage of Population who are Low-to-Moderate Income**



Flood Depth Reduction with the master plan at Year 50

- ≤ -9 feet
- -9 to -6 feet
- -6 to -3 feet
- -3 to -1 feet
- +1 to +3 feet
- > +3 feet
- Structural Risk Reduction

Flood Risk In Project Area

Storm surge-based flooding is and will continue to be a risk for coastal Louisiana communities. The table below shows EADD and EASD for the project area now, and at years 20 and 50, both with and without the Lake Pontchartrain Barrier project implemented. Damage avoided because of the project is also provided.

	Initial Conditions	FWOA (YR20/50)	FWA (YR20/50)	Losses Avoided (YR20/50)
Lower Scenario				
EADD ($)	$2.B	$2.7B/$4.5B	$2.1B/$3.8B	$540M/$680M
EASD (#Structures)	1.8K	2.4K/4.1K	1.9K/3.5K	480/610
Higher Scenario				
EADD ($)	$2.B	$2.9B/$7.2B	$2.3B/$6.5B	$570M/$740M
EASD (#Structures)	1.8K	2.6K/6.6K	2.1K/6.0K	500/670

Assets and Exposure

Communities and individuals experience the impacts of storm surge in a variety of ways. While the master plan looks at damage in the project selection process, other considerations like impacts on residential structures, public services, and other assets are also important to understand. The Lake Pontchartrain Barrier project provides a barrier to storm surge that provides an increased level of protection for the assets shown below.

	Residences	Schools & Daycares	Hospitals	Nursing Homes	Emergency Services	Water Supply	Electrical Substations & Power Plants	Gas Stations
Total	71K	79	6	26	57	340	37	32
Protected	5.8K	39	4	20	22	110	6	16

SLIDELL RING LEVEES

PROJECT ID: 032 / IMPLEMENTATION PERIOD 1

Project Location

St. Tammany Parish

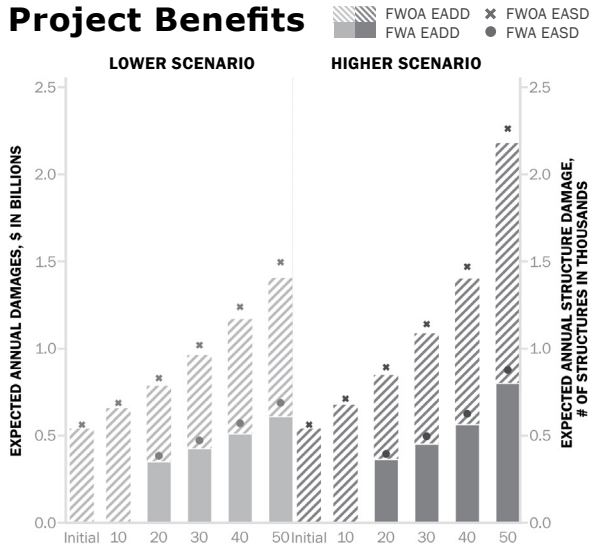
Description

Construction and improvement of a levee to an elevation between 13 to 17 feet NAVD88 around the City of Slidell. Project features approximately 76,000 feet of earthen levee, approximately 11,000 feet of T-wall, a 30-foot barge gate, a 180-foot barge gate, a 220-foot barge gate, a 20-foot stop log gate, and a 30-foot stop log gate.

Estimated Cost and Duration

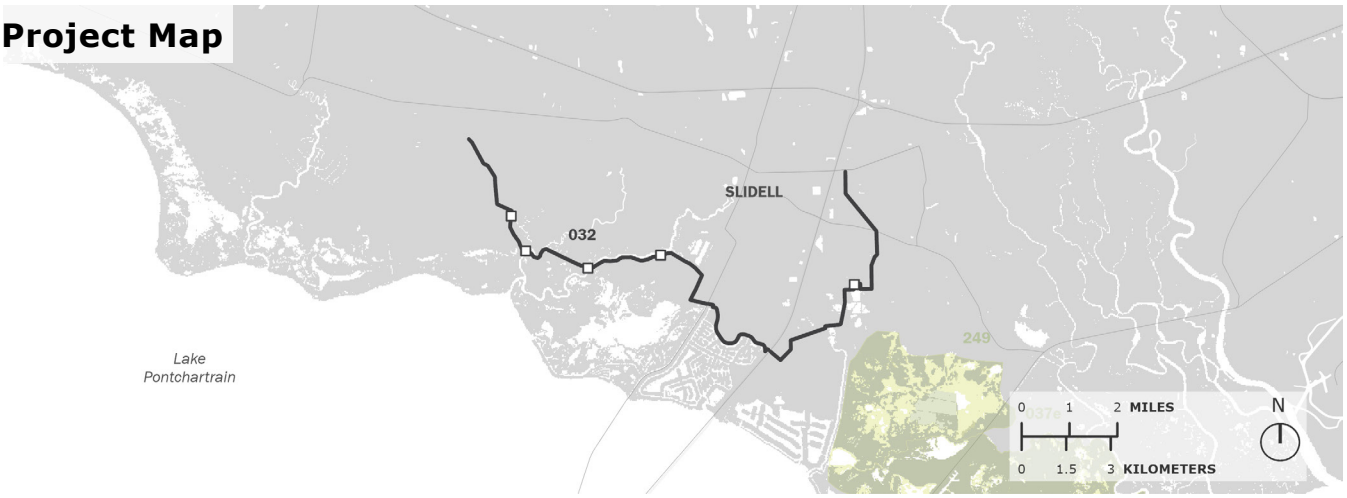
	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$26M - $31M	$340M - $400M	$22M - $27M	**$390M - $460M**
Duration	2	5	43	---

Project Benefits



EADD and EASD are two different metrics used to measure risk. This graph shows the total risk without action (FWOA) and the remaining risk if the project is implemented (FWA). The difference is the project benefit.

Project Map

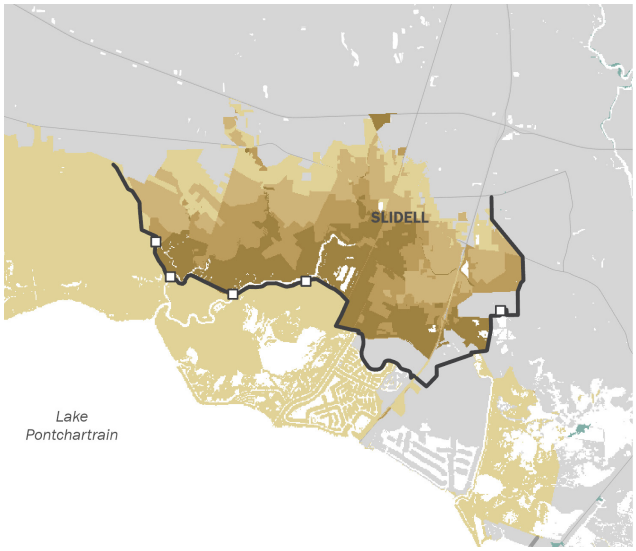


Explanation of Project Benefits

Expected Annual Damage in dollars (EADD) and Expected Annual Structure Damage (EASD) are two metrics by which the impact of modeled storms and master plan risk reduction projects can be evaluated. The graphs show the reduction in damage, both EADD and EASD, provided by the Slidell Ring Levees structural risk reduction project at Year 20 for storms with varying Annual Exceedance Probability (AEP) as compared to damage without the project implemented. One goal of the master plan is to reduce storm surge-based flood risk, which varies based on location and over time. In order to select projects that reduce that risk, the master plan uses EADD and EASD as metrics that can be used in the evaluation of project performance.

120K **Estimated Current Population**

39% **Percentage of Population who are Low-to-Moderate Income**



Flood Depth Reduction with the master plan at Year 50

- ≤ -9 feet
- -9 to -6 feet
- -6 to -3 feet
- -3 to -1 feet
- +1 to +3 feet
- > +3 feet
- Structural Risk Reduction

Flood Risk In Project Area

Storm surge-based flooding is and will continue to be a risk for coastal Louisiana communities. The table below shows EADD and EASD for the project area now, and at years 20 and 50, both with and without the Slidell Ring Levees project implemented. Damage avoided because of the project is also provided.

	Initial Conditions	FWOA (YR20/50)	FWA (YR20/50)	Losses Avoided (YR20/50)
Lower Scenario				
EADD ($)	$540M	$790M/$1.4B	$350M/$610M	$440M/$800M
EASD (#Structures)	560	830/1.5K	390/690	450/810
Higher Scenario				
EADD ($)	$540M	$850M/$2.2B	$360M/$800M	$490M/$1.4B
EASD (#Structures)	560	890/2.3K	400/880	500/1.4K

Assets and Exposure

Communities and individuals experience the impacts of storm surge in a variety of ways. While the master plan looks at damage in the project selection process, other considerations like impacts on residential structures, public services, and other assets are also important to understand. The Slidell Ring Levees project provides a barrier to storm surge that provides an increased level of protection for the assets shown below.

	Residences	Schools & Daycares	Hospitals	Nursing Homes	Emergency Services	Water Supply	Electrical Substations & Power Plants	Gas Stations
Total	16K	32	4	20	11	77	4	7
Protected	9.4K	28	3	17	9	49	2	5

HOPEDALE MARSH CREATION

PROJECT ID: 035 / IMPLEMENTATION PERIOD 2

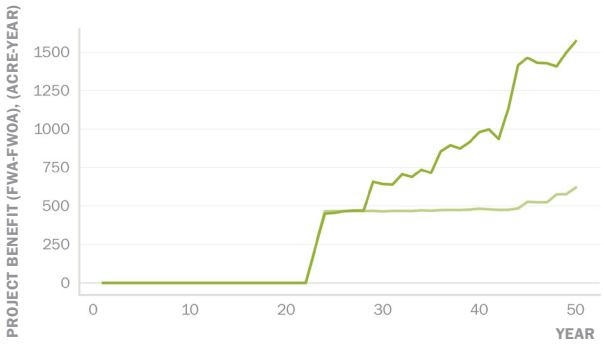
Project Location

St. Bernard Parish

Description

Creation of marsh within a footprint of approximately 1,900 acres in northern Breton Sound in the vicinity of Hopedale to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	620	1.6K	1.1K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	28 / 0	28 / 0	28 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$10M - $13M	$130M - $160M	$2.7M - $3.3M	**$140M - $170M**
Duration	2	2	26	---

Project Map

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NEW ORLEANS EAST MARSH CREATION

PROJECT ID: 037E / IMPLEMENTATION PERIOD 2

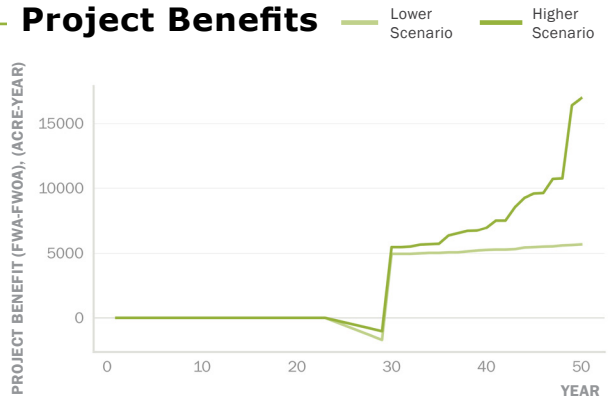
Project Location

Orleans Parish, St. Tammany Parish

Description

Creation of marsh within a footprint of approximately 29,000 acres in a portion of the New Orleans East Landbridge Marsh Creation project to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



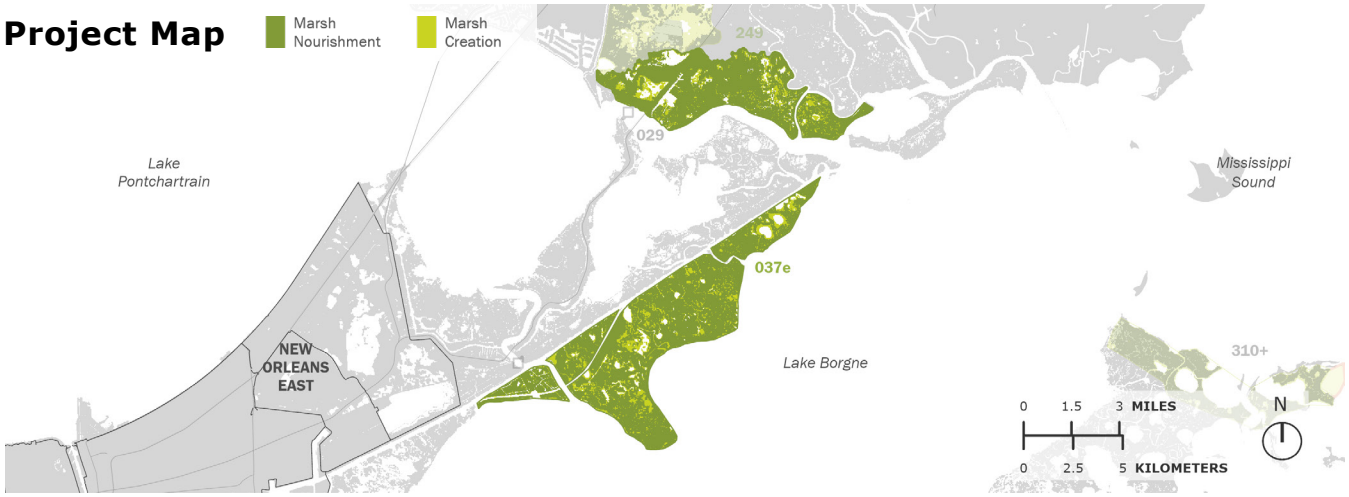
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	5.7K	17K	11K
Min. Annual Benefit (Acre)	-1.7K	-1.0K	-1.4K
Years of Pos. / Neg. Benefit	21 / 6	21 / 6	21 / 6

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$75M - $92M	$930M - $1.1B	$16M - $19M	**$1.B - $1.3B**
Duration	3	6	21	---

Project Map



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CENTRAL WETLANDS MARSH CREATION

PROJECT ID: 040 / IMPLEMENTATION PERIOD 1

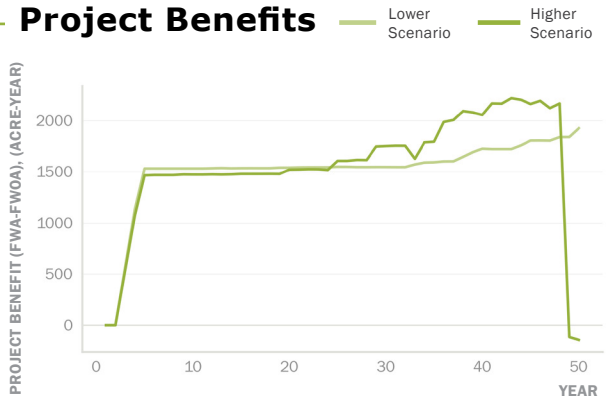
Project Location

Orleans Parish, St. Bernard Parish

Description

Creation of marsh within a footprint of approximately 3,800 acres in Central Wetlands near Bayou Bienvenue to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



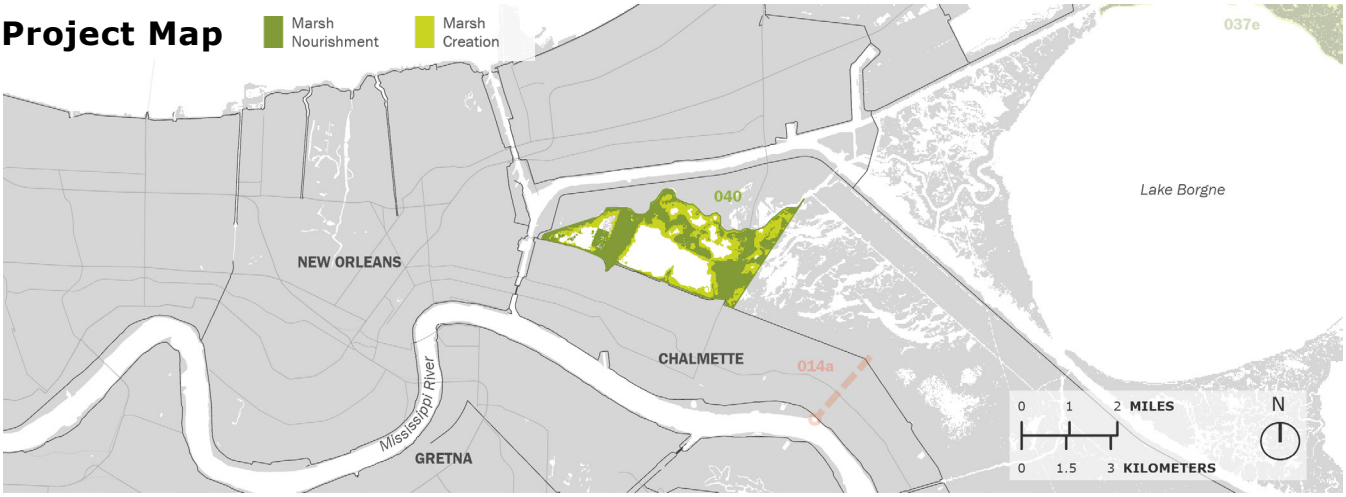
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	1.9K	2.2K	2.1K
Min. Annual Benefit (Acre)	0	-140	-72
Years of Pos. / Neg. Benefit	48 / 0	46 / 2	47 / 1

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$3.2M - $4.5M	$40M - $56M	$1.5M - $2.1M	**$45M - $63M**
Duration	2	2	46	---

Project Map



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BAYOU LALOUTRE RIDGE RESTORATION

PROJECT ID: 054 / IMPLEMENTATION PERIOD 2

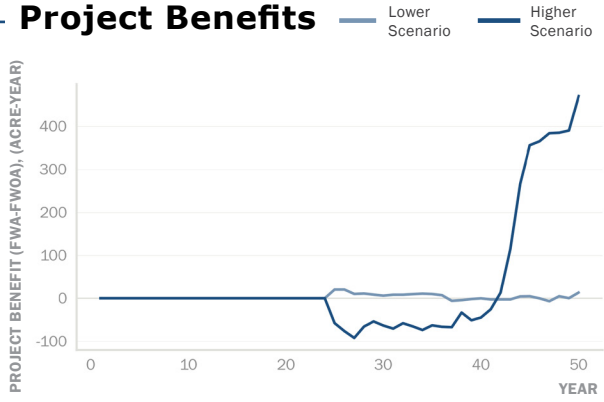
Project Location

St. Bernard Parish

Description

Restoration of approximately 110,000 feet of historic ridge along Bayou LaLoutre to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation.

Project Benefits



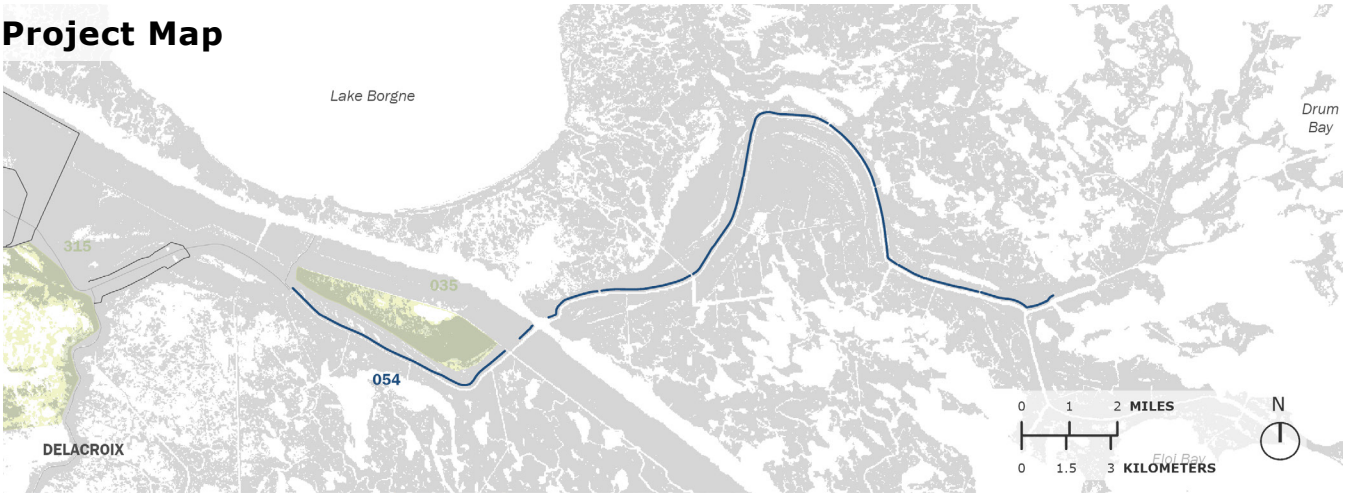
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	20	470	250
Min. Annual Benefit (Acre)	-7	-92	-50
Years of Pos. / Neg. Benefit	17 / 9	9 / 17	13 / 13

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$1.5M - $2.3M	$18M - $28M	$370K - $570K	**$20M - $31M**
Duration	2	3	25	---

Project Map



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UPPER BARATARIA RISK REDUCTION

PROJECT ID: 082 / IMPLEMENTATION PERIOD 1

Project Location

Jefferson Parish, Lafourche Parish, St. Charles Parish

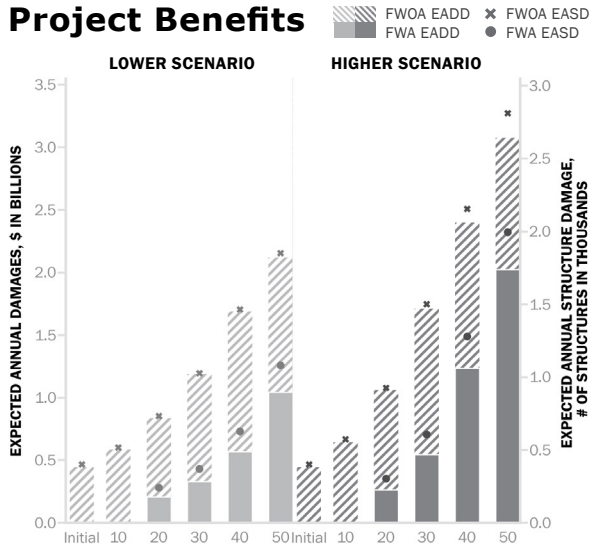
Description

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.

Estimated Cost and Duration

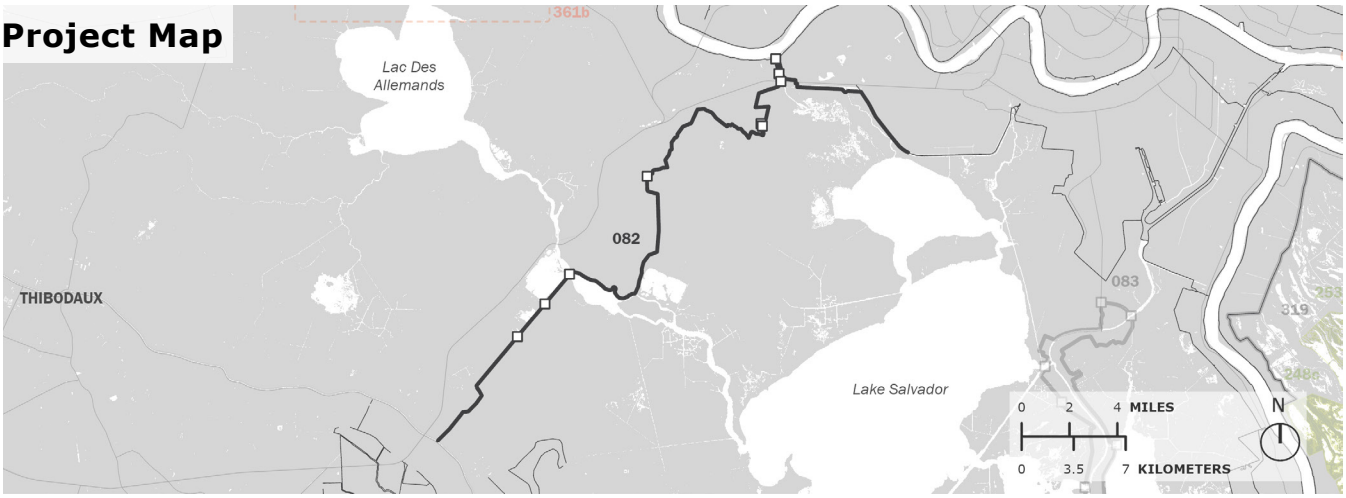
	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$31M - $38M	$390M - $480M	$38M - $47M	**$460M - $570M**
Duration	4	7	39	---

Project Benefits



EADD and EASD are two different metrics used to measure risk. This graph shows the total risk without action (FWOA) and the remaining risk if the project is implemented (FWA). The difference is the project benefit.

Project Map

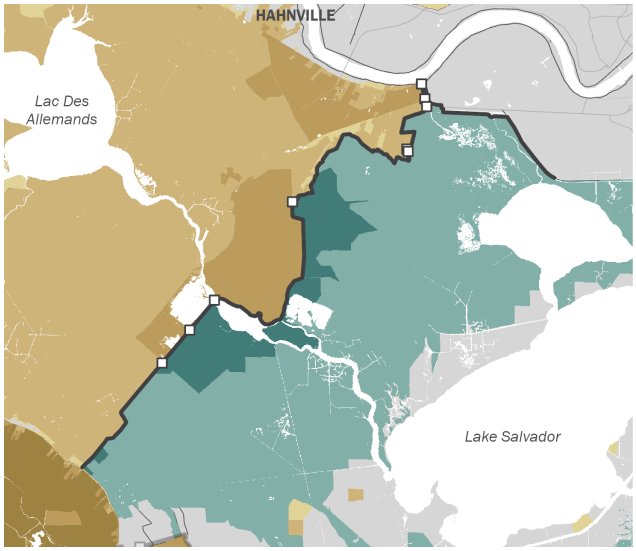


Explanation of Project Benefits

Expected Annual Damage in dollars (EADD) and Expected Annual Structure Damage (EASD) are two metrics by which the impact of modeled storms and master plan risk reduction projects can be evaluated. The graphs show the reduction in damage, both EADD and EASD, provided by the Upper Barataria Risk Reduction structural risk reduction project at Year 20 for storms with varying Annual Exceedance Probability (AEP) as compared to damage without the project implemented. One goal of the master plan is to reduce storm surge-based flood risk, which varies based on location and over time. In order to select projects that reduce that risk, the master plan uses EADD and EASD as metrics that can be used in the evaluation of project performance.

370K **Estimated Current Population**

43% **Percentage of Population who are Low-to-Moderate Income**



Flood Depth Reduction with the master plan at Year 50

- ≤ -9 feet
- -9 to -6 feet
- -6 to -3 feet
- -3 to -1 feet
- +1 to +3 feet
- > +3 feet
- Structural Risk Reduction

Flood Risk In Project Area

Storm surge-based flooding is and will continue to be a risk for coastal Louisiana communities. The table below shows EADD and EASD for the project area now, and at years 20 and 50, both with and without the Upper Barataria Risk Reduction project implemented. Damage avoided because of the project is also provided.

	Initial Conditions	FWOA (YR20/50)	FWA (YR20/50)	Losses Avoided (YR20/50)
Lower Scenario				
EADD ($)	$440M	$840M/$2.1B	$210M/$1.B	$630M/$1.1B
EASD (#Structures)	400	730/1.9K	240/1.1K	490/770
Higher Scenario				
EADD ($)	$440M	$1.1B/$3.1B	$260M/$2.B	$800M/$1.1B
EASD (#Structures)	400	930/2.8K	300/2.0K	620/810

Assets and Exposure

Communities and individuals experience the impacts of storm surge in a variety of ways. While the master plan looks at damage in the project selection process, other considerations like impacts on residential structures, public services, and other assets are also important to understand. The Upper Barataria Risk Reduction project provides a barrier to storm surge that provides an increased level of protection for the assets shown below.

	Residences	Schools & Daycares	Hospitals	Nursing Homes	Emergency Services	Water Supply	Electrical Substations & Power Plants	Gas Stations
Total	26K	26	2	11	29	3	13	12
Protected	4.4K	5	2	8	8	2	9	5

LAFITTE RING LEVEE

PROJECT ID: 083 / IMPLEMENTATION PERIOD 2

Project Location

Jefferson Parish

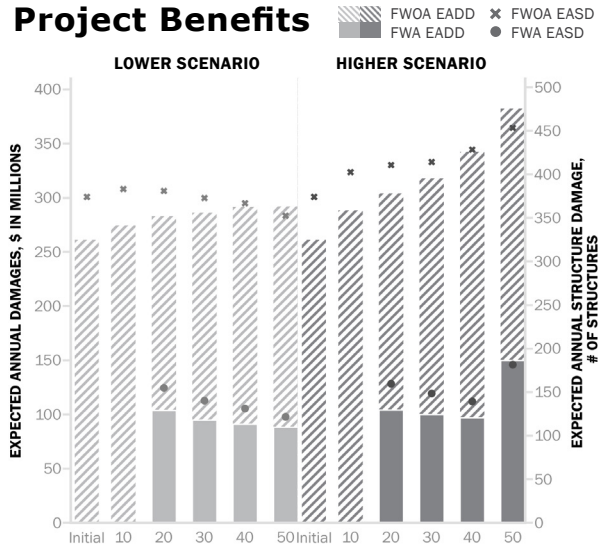
Description

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.

Estimated Cost and Duration

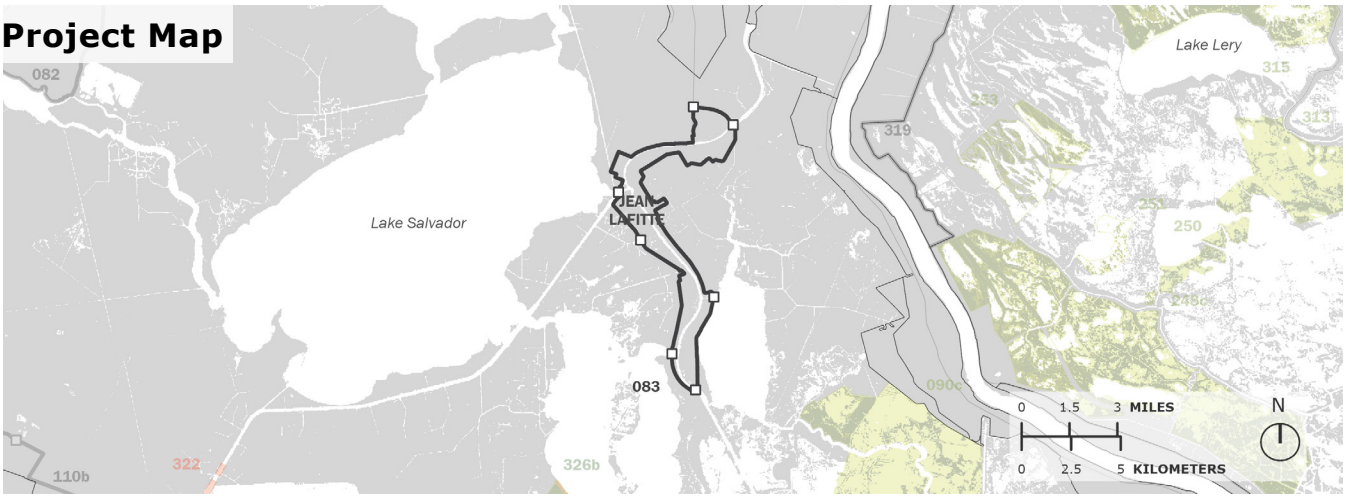
	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$84M - $100M	$1.1B - $1.4B	$22M - $26M	**$1.2B - $1.5B**
Duration	3	4	23	---

Project Benefits



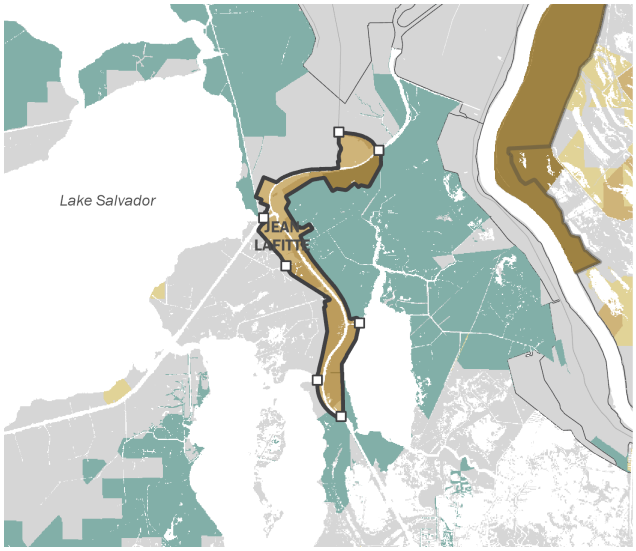
EADD and EASD are two different metrics used to measure risk. This graph shows the total risk without action (FWOA) and the remaining risk if the project is implemented (FWA). The difference is the project benefit.

Project Map



Explanation of Project Benefits

Expected Annual Damage in dollars (EADD) and Expected Annual Structure Damage (EASD) are two metrics by which the impact of modeled storms and master plan risk reduction projects can be evaluated. The graphs show the reduction in damage, both EADD and EASD, provided by the Lafitte Ring Levee structural risk reduction project at Year 20 for storms with varying Annual Exceedance Probability (AEP) as compared to damage without the project implemented. One goal of the master plan is to reduce storm surge-based flood risk, which varies based on location and over time. In order to select projects that reduce that risk, the master plan uses EADD and EASD as metrics that can be used in the evaluation of project performance.



Flood Depth Reduction with the master plan at Year 50

≤ -9 feet
-9 to -6 feet
-6 to -3 feet
-3 to -1 feet
+1 to +3 feet
> +3 feet
Structural Risk Reduction

200K **Estimated Current Population**

45% **Percentage of Population who are Low-to-Moderate Income**

Flood Risk In Project Area

Storm surge-based flooding is and will continue to be a risk for coastal Louisiana communities. The table below shows EADD and EASD for the project area now, and at years 20 and 50, both with and without the Lafitte Ring Levee project implemented. Damage avoided because of the project is also provided.

	Initial Conditions	FWOA (YR20/50)	FWA (YR20/50)	Losses Avoided (YR20/50)
Lower Scenario				
EADD ($)	$260M	$280M/$290M	$100M/$88M	$180M/$200M
EASD (#Structures)	370	380/350	160/120	230/230
Higher Scenario				
EADD ($)	$260M	$300M/$380M	$100M/$150M	$200M/$230M
EASD (#Structures)	370	410/450	160/180	250/270

Assets and Exposure

Communities and individuals experience the impacts of storm surge in a variety of ways. While the master plan looks at damage in the project selection process, other considerations like impacts on residential structures, public services, and other assets are also important to understand. The Lafitte Ring Levee project provides a barrier to storm surge that provides an increased level of protection for the assets shown below.

	Residences	Schools & Daycares	Hospitals	Nursing Homes	Emergency Services	Water Supply	Electrical Substations & Power Plants	Gas Stations
Total	8.5K	4	---	---	4	1	1	1
Protected	1.8K	---	---	---	---	---	---	---

LARGE-SCALE BARATARIA MARSH CREATION

PROJECT ID: 090C / IMPLEMENTATION PERIOD 2

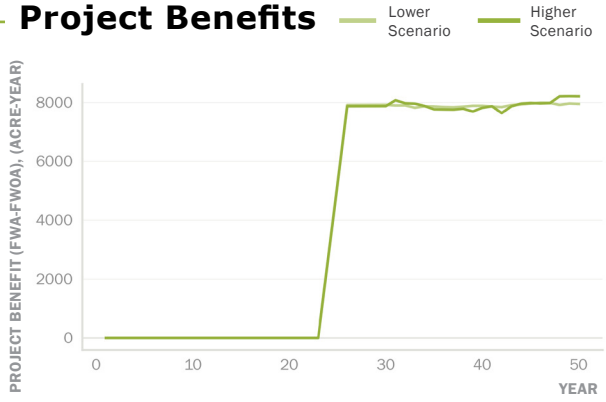
Project Location

Jefferson Parish, Plaquemines Parish

Description

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.

Project Benefits



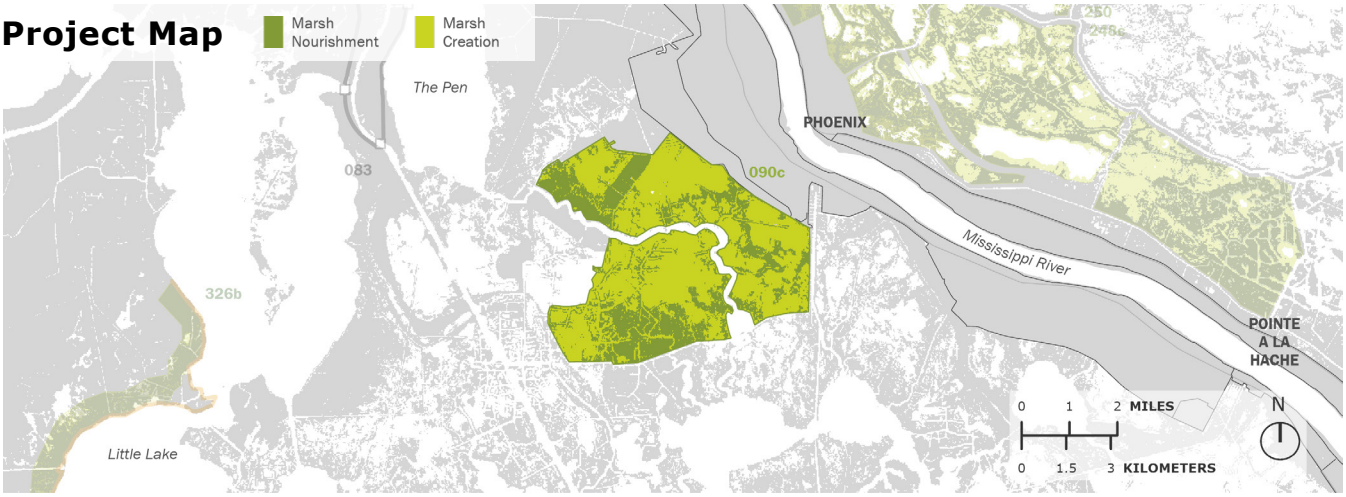
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	8.0K	8.2K	8.1K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	27 / 0	27 / 0	27 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$37M - $46M	$460M - $570M	$8.8M - $11M	**$500M - $630M**
Duration	3	3	24	---

Project Map



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MORGANZA TO THE GULF

PROJECT ID: 110B / IMPLEMENTATION PERIOD 1

Project Location

Lafourche Parish, Terrebonne Parish

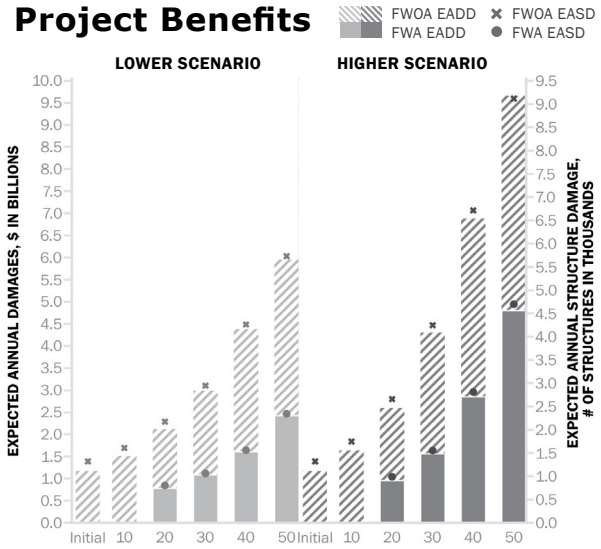
Description

Construction and improvement of a levee to an elevation between 13.5 and 19 feet NAVD88 around Houma and Terrebonne Ridge communities from Larose 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.

Estimated Cost and Duration

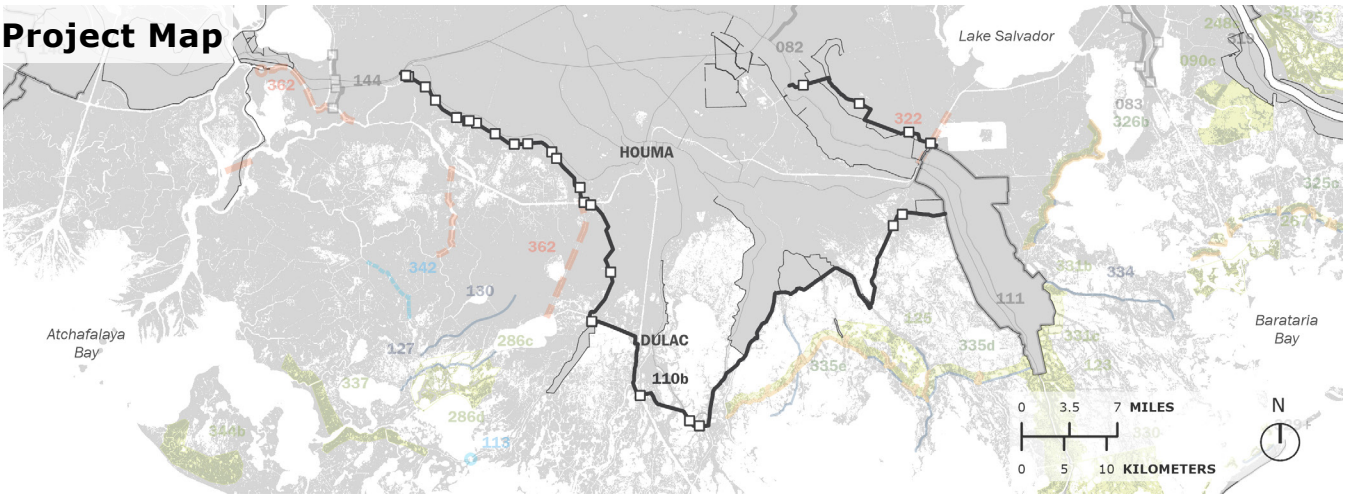
	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$250M - $310M	$3.B - $3.7B	$250M - $310M	**$3.5B - $4.3B**
Duration	4	10	36	---

Project Benefits



EADD and EASD are two different metrics used to measure risk. This graph shows the total risk without action (FWOA) and the remaining risk if the project is implemented (FWA). The difference is the project benefit.

Project Map

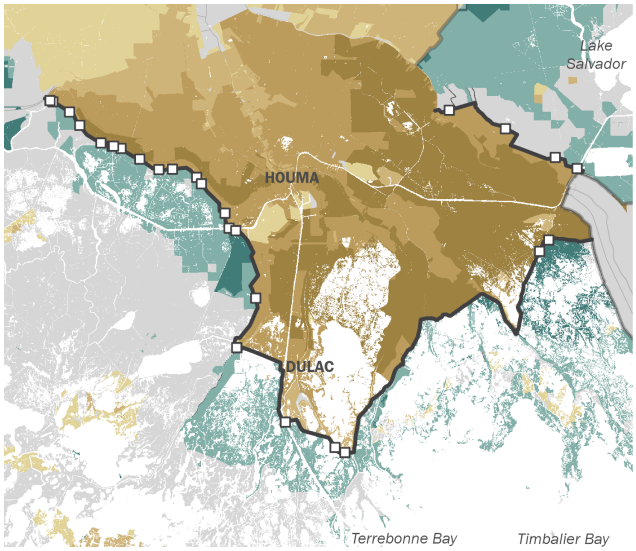


Explanation of Project Benefits

Expected Annual Damage in dollars (EADD) and Expected Annual Structure Damage (EASD) are two metrics by which the impact of modeled storms and master plan risk reduction projects can be evaluated. The graphs show the reduction in damage, both EADD and EASD, provided by the Morganza to the Gulf structural risk reduction project at Year 20 for storms with varying Annual Exceedance Probability (AEP) as compared to damage without the project implemented. One goal of the master plan is to reduce storm surge-based flood risk, which varies based on location and over time. In order to select projects that reduce that risk, the master plan uses EADD and EASD as metrics that can be used in the evaluation of project performance.

230K **Estimated Current Population**

38% **Percentage of Population who are Low-to-Moderate Income**



Flood Depth Reduction with the master plan at Year 50

- ≤ -9 feet
- -9 to -6 feet
- -6 to -3 feet
- -3 to -1 feet
- +1 to +3 feet
- > +3 feet
- Structural Risk Reduction

Flood Risk In Project Area

Storm surge-based flooding is and will continue to be a risk for coastal Louisiana communities. The table below shows EADD and EASD for the project area now, and at years 20 and 50, both with and without the Morganza to the Gulf project implemented. Damage avoided because of the project is also provided.

	Initial Conditions	FWOA (YR20/50)	FWA (YR20/50)	Losses Avoided (YR20/50)
Lower Scenario				
EADD ($)	$1.2B	$2.1B/$5.9B	$780M/$2.4B	$1.3B/$3.5B
EASD (#Structures)	1.3K	2.2K/5.7K	810/2.4K	1.4K/3.4K
Higher Scenario				
EADD ($)	$1.2B	$2.6B/$9.7B	$960M/$4.8B	$1.6B/$4.9B
EASD (#Structures)	1.3K	2.7K/9.1K	990/4.7K	1.7K/4.4K

Assets and Exposure

Communities and individuals experience the impacts of storm surge in a variety of ways. While the master plan looks at damage in the project selection process, other considerations like impacts on residential structures, public services, and other assets are also important to understand. The Morganza to the Gulf project provides a barrier to storm surge that provides an increased level of protection for the assets shown below.

	Residences	Schools & Daycares	Hospitals	Nursing Homes	Emergency Services	Water Supply	Electrical Substations & Power Plants	Gas Stations
Total	64K	98	8	45	97	3	28	50
Protected	24K	45	5	29	34	1	4	28

LAROSE TO GOLDEN MEADOW

PROJECT ID: 111 / IMPLEMENTATION PERIOD 2

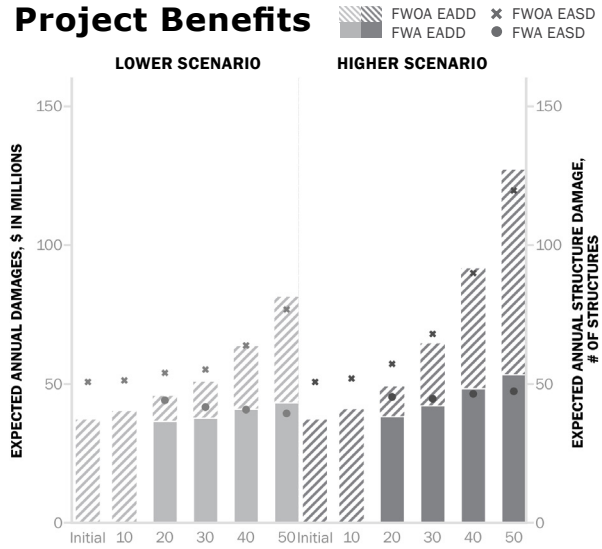
Project Location

Lafourche Parish

Description

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.

Project Benefits

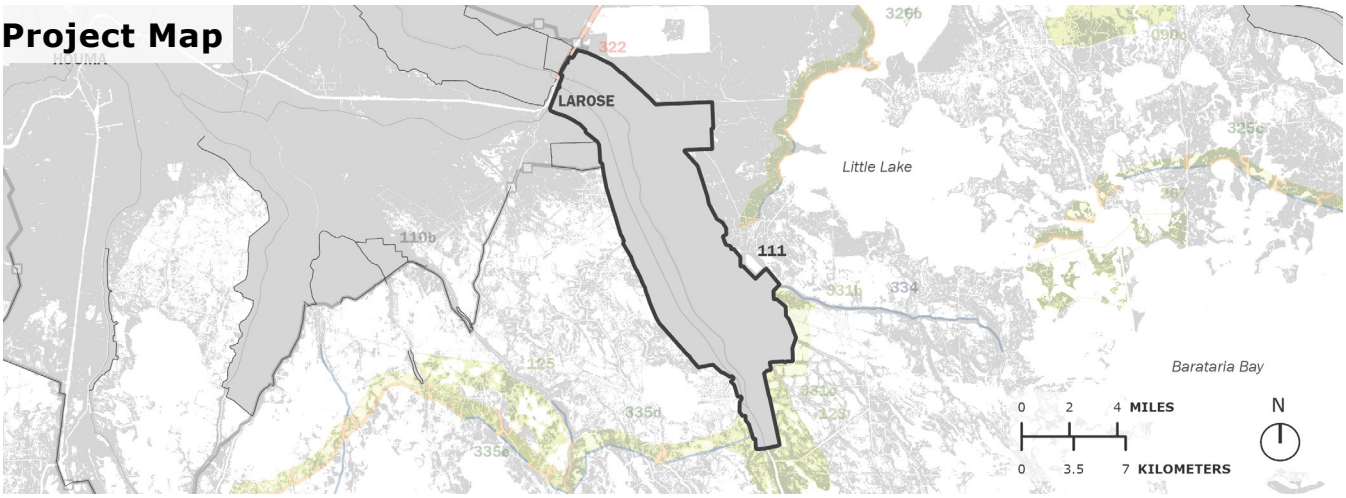


EADD and EASD are two different metrics used to measure risk. This graph shows the total risk without action (FWOA) and the remaining risk if the project is implemented (FWA). The difference is the project benefit.

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$32M - $38M	$420M - $500M	$3.3M - $4.1M	**$450M - $540M**
Duration	3	4	23	---

Project Map

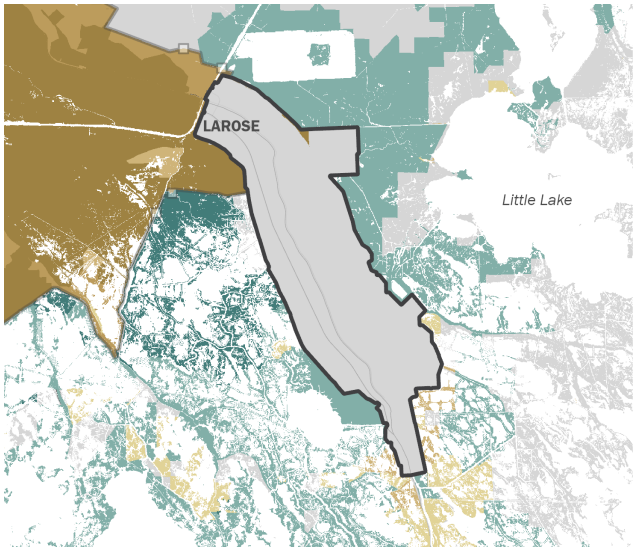


Explanation of Project Benefits

Expected Annual Damage in dollars (EADD) and Expected Annual Structure Damage (EASD) are two metrics by which the impact of modeled storms and master plan risk reduction projects can be evaluated. The graphs show the reduction in damage, both EADD and EASD, provided by the Larose to Golden Meadow structural risk reduction project at Year 20 for storms with varying Annual Exceedance Probability (AEP) as compared to damage without the project implemented. One goal of the master plan is to reduce storm surge-based flood risk, which varies based on location and over time. In order to select projects that reduce that risk, the master plan uses EADD and EASD as metrics that can be used in the evaluation of project performance.

31K **Estimated Current Population**

36% **Percentage of Population who are Low-to-Moderate Income**



Flood Depth Reduction with the master plan at Year 50

- ≤ -9 feet
- -9 to -6 feet
- -6 to -3 feet
- -3 to -1 feet
- +1 to +3 feet
- > +3 feet
- Structural Risk Reduction

Flood Risk In Project Area

Storm surge-based flooding is and will continue to be a risk for coastal Louisiana communities. The table below shows EADD and EASD for the project area now, and at years 20 and 50, both with and without the Larose to Golden Meadow project implemented. Damage avoided because of the project is also provided.

	Initial Conditions	FWOA (YR20/50)	FWA (YR20/50)	Losses Avoided (YR20/50)
Lower Scenario				
EADD ($)	$37M	$46M/$81M	$37M/$43M	$9.1M/$38M
EASD (#Structures)	51	54/77	44/39	10/37
Higher Scenario				
EADD ($)	$37M	$49M/$130M	$38M/$53M	$11M/$74M
EASD (#Structures)	51	57/120	45/47	12/72

Assets and Exposure

Communities and individuals experience the impacts of storm surge in a variety of ways. While the master plan looks at damage in the project selection process, other considerations like impacts on residential structures, public services, and other assets are also important to understand. The Larose to Golden Meadow project provides a barrier to storm surge that provides an increased level of protection for the assets shown below.

	Residences	Schools & Daycares	Hospitals	Nursing Homes	Emergency Services	Water Supply	Electrical Substations & Power Plants	Gas Stations
Total	3.5K	9	1	3	13	1	7	8
Protected	2.6K	9	1	3	12	---	3	6

CENTRAL TERREBONNE HYDROLOGIC RESTORATION

PROJECT ID: 113 / IMPLEMENTATION PERIOD 1

Project Location

Terrebonne Parish

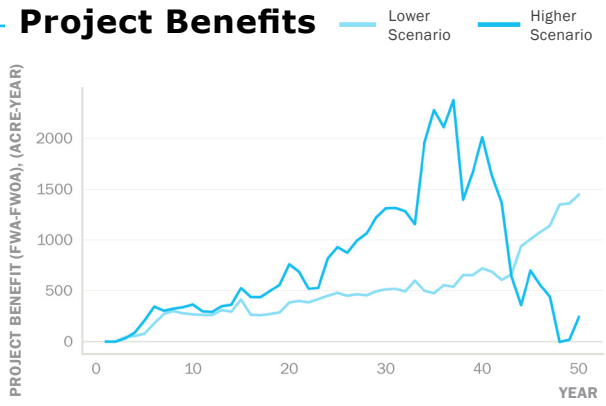
Description

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.

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$1.1M - $1.2M	$13M - $15M	$510K - $570K	**$15M - $17M**
Duration	1	1	48	---

Project Benefits



PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	1.4K	2.4K	1.9K
Min. Annual Benefit (Acre)	0	-3	-2
Years of Pos. / Neg. Benefit	48 / 0	47 / 1	48 / 1

Project Map

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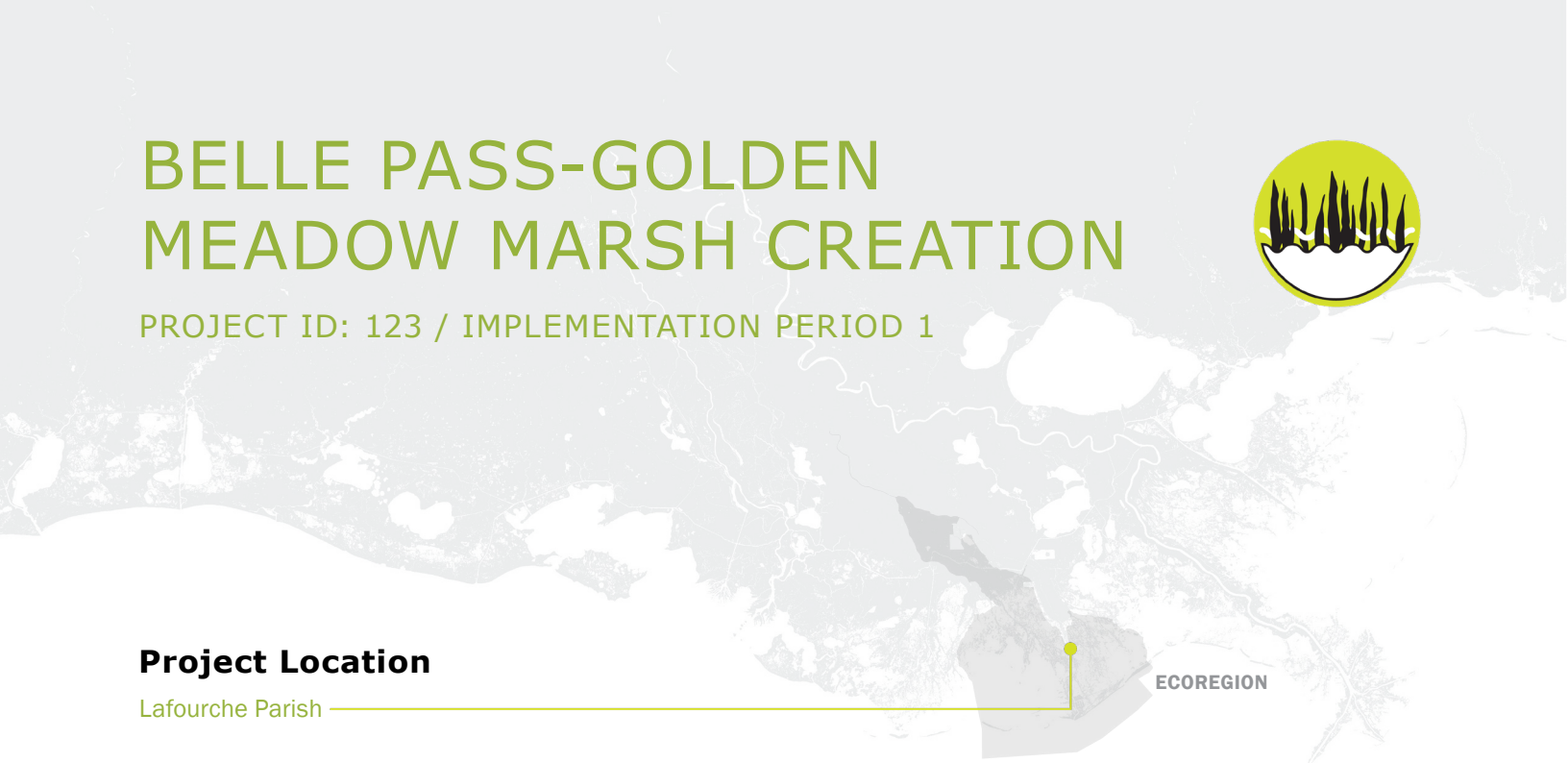
BELLE PASS-GOLDEN MEADOW MARSH CREATION

PROJECT ID: 123 / IMPLEMENTATION PERIOD 1

Project Location

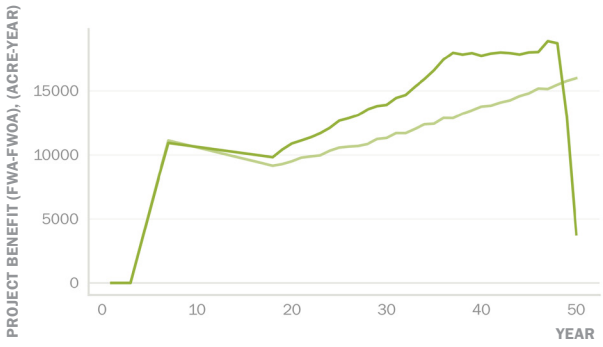
Lafourche Parish



Description

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.

Project Benefits



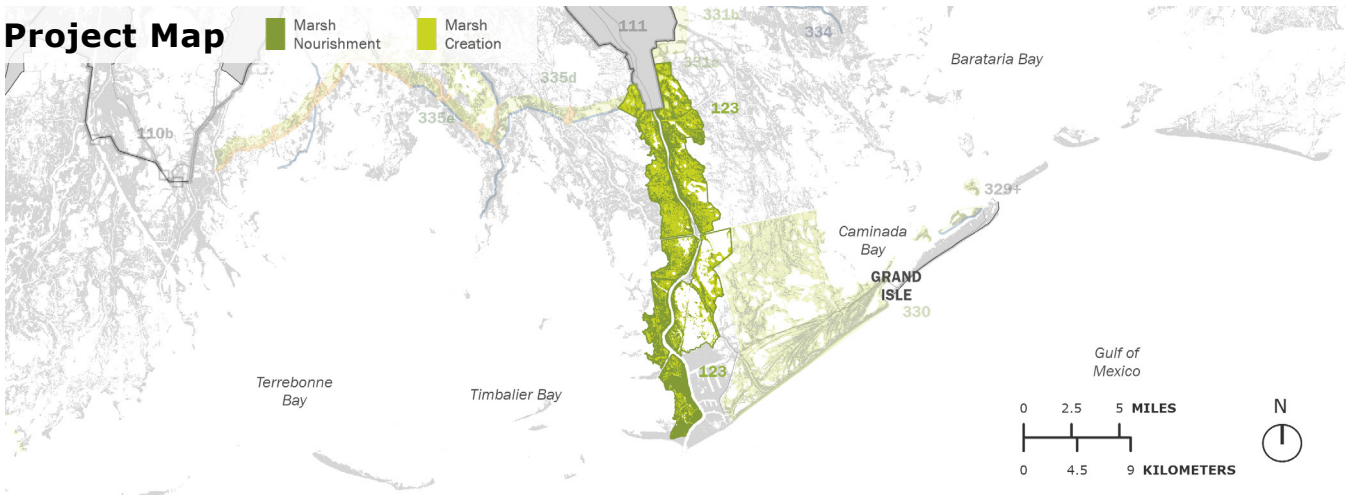
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	16K	19K	17K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	47 / 0	47 / 0	47 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$78M - $96M	$980M - $1.2B	$34M - $41M	**$1.1B - $1.3B**
Duration	3	4	43	---

Project Map



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NORTH TERREBONNE BAY MARSH CREATION

PROJECT ID: 125 / IMPLEMENTATION PERIOD 1

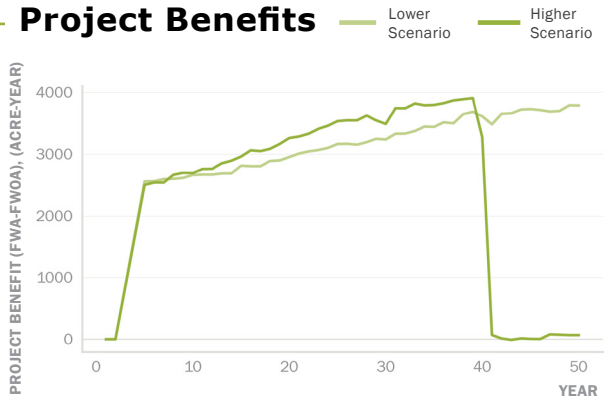
Project Location

Terrebonne Parish

Description

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.

Project Benefits



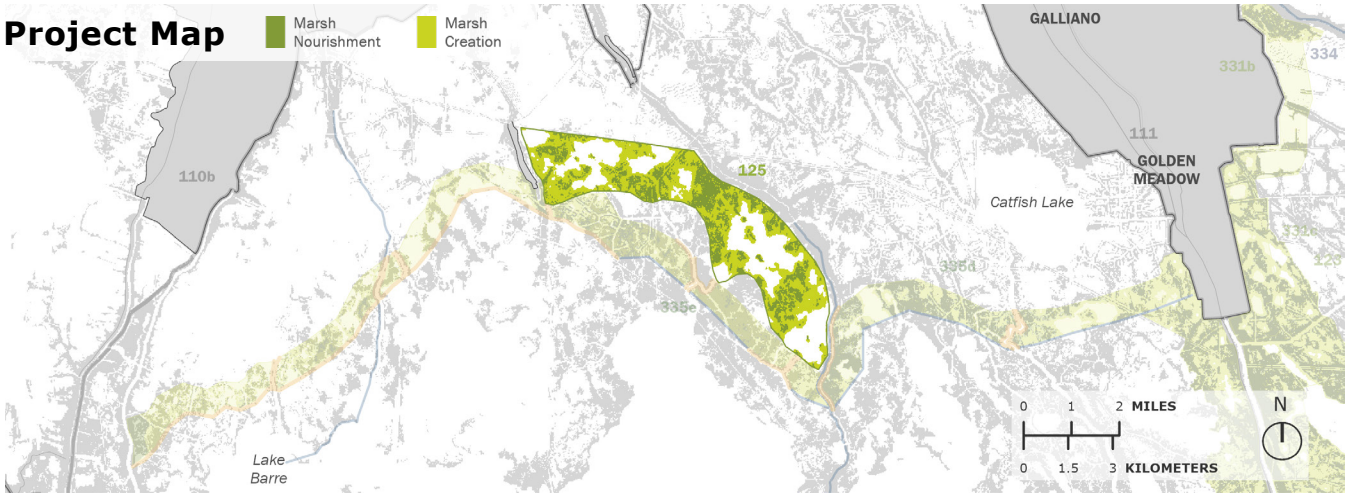
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	3.8K	3.9K	3.9K
Min. Annual Benefit (Acre)	0	-10	-5
Years of Pos. / Neg. Benefit	48 / 0	47 / 1	48 / 1

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$14M - $17M	$170M - $210M	$6.3M - $7.6M	**$190M - $240M**
Duration	2	3	45	---

Project Map



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BAYOU DECADE RIDGE RESTORATION

PROJECT ID: 127 / IMPLEMENTATION PERIOD 1

Project Location

Terrebonne Parish

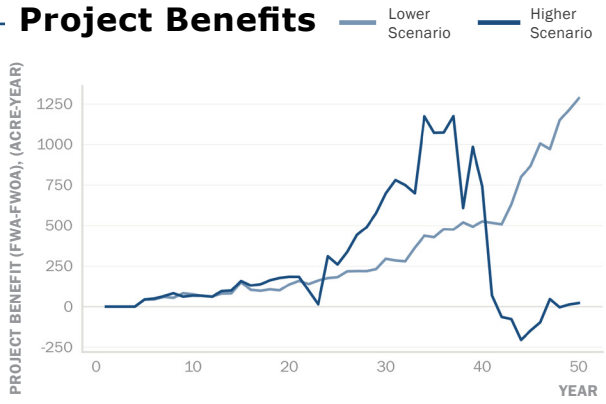
Description

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.

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$840K - $970K	$11M - $12M	$380K - $440K	**$12M - $14M**
Duration	2	3	45	---

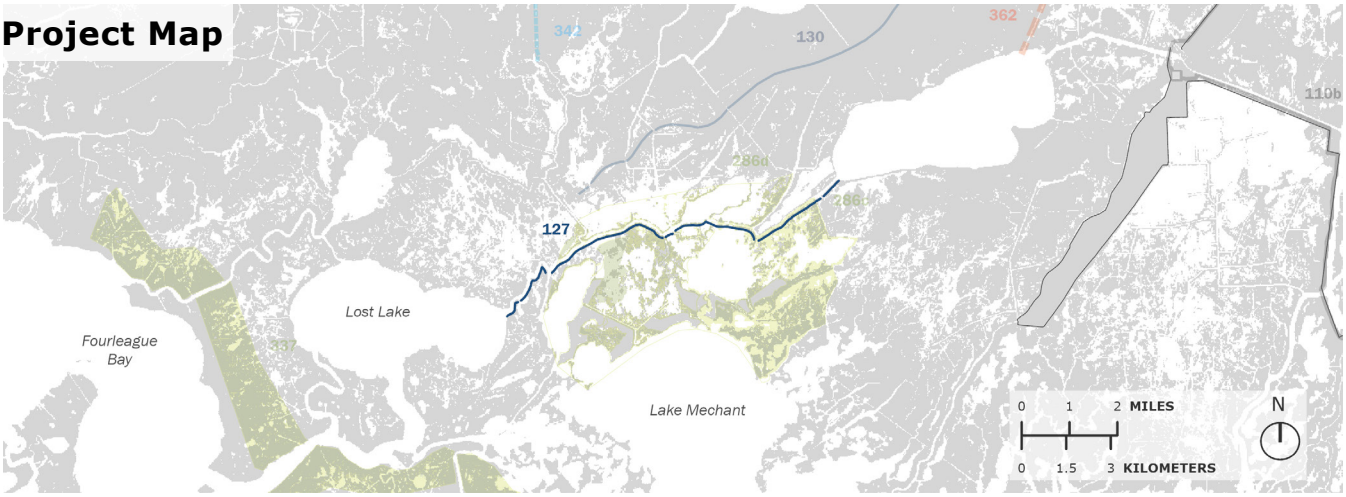
Project Benefits



PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	1.3K	1.2K	1.2K
Min. Annual Benefit (Acre)	0	-200	-100
Years of Pos. / Neg. Benefit	46 / 0	40 / 6	43 / 3

Project Map



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MAUVAIS BOIS RIDGE RESTORATION

PROJECT ID: 130 / IMPLEMENTATION PERIOD 1

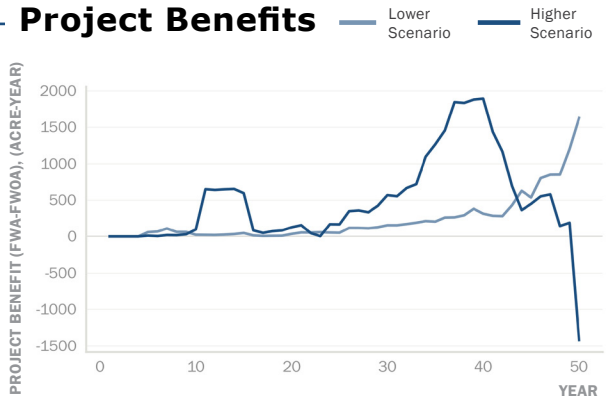
Project Location

Terrebonne Parish

Description

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.

Project Benefits



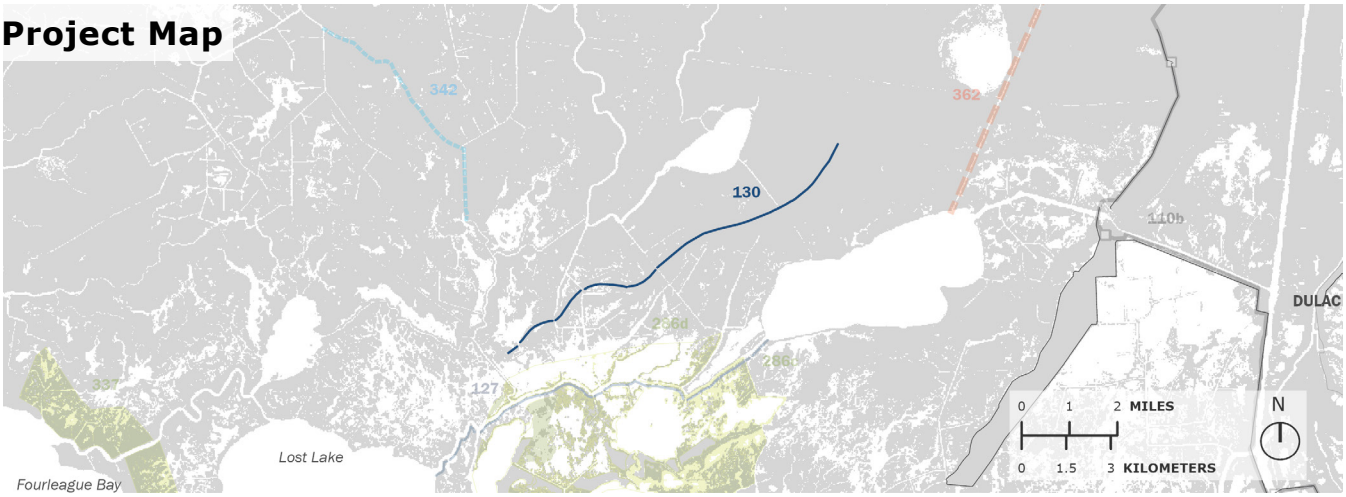
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	1.6K	1.9K	1.8K
Min. Annual Benefit (Acre)	0	-1.4K	-710
Years of Pos. / Neg. Benefit	46 / 0	45 / 1	46 / 1

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$700K - $1.1M	$8.8M - $14M	$320K - $490K	**$9.8M - $15M**
Duration	2	3	45	---

Project Map



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AMELIA LEVEE IMPROVEMENTS

PROJECT ID: 144 / IMPLEMENTATION PERIOD 2

Project Location

Assumption Parish, St. Mary Parish

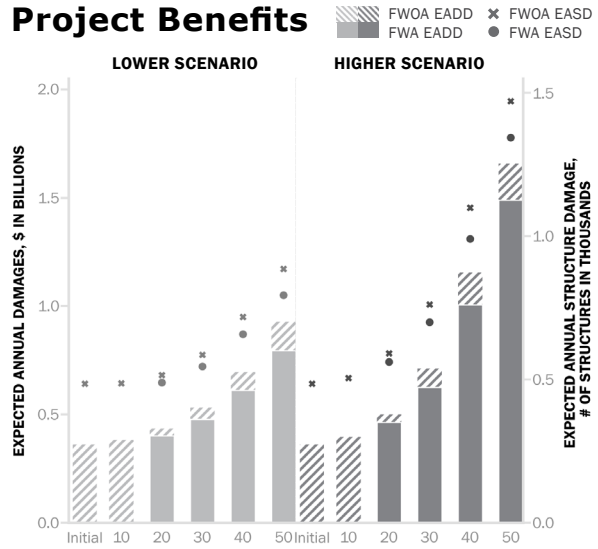
Description

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.

Estimated Cost and Duration

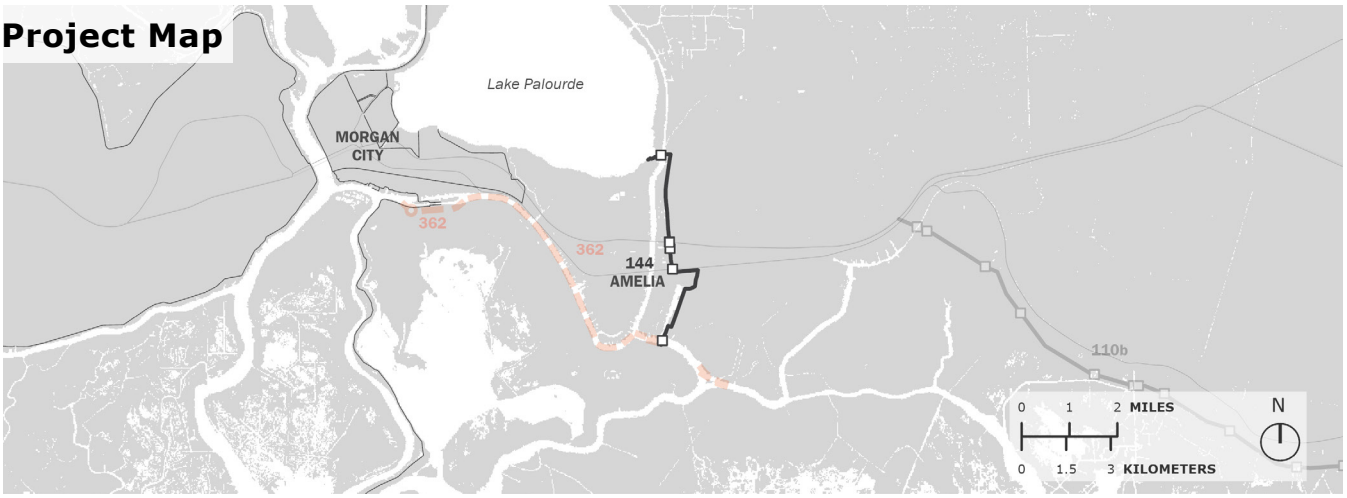
	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$49M - $67M	$630M - $880M	$22M - $29M	**$700M - $970M**
Duration	2	3	25	---

Project Benefits



EADD and EASD are two different metrics used to measure risk. This graph shows the total risk without action (FWOA) and the remaining risk if the project is implemented (FWA). The difference is the project benefit.

Project Map

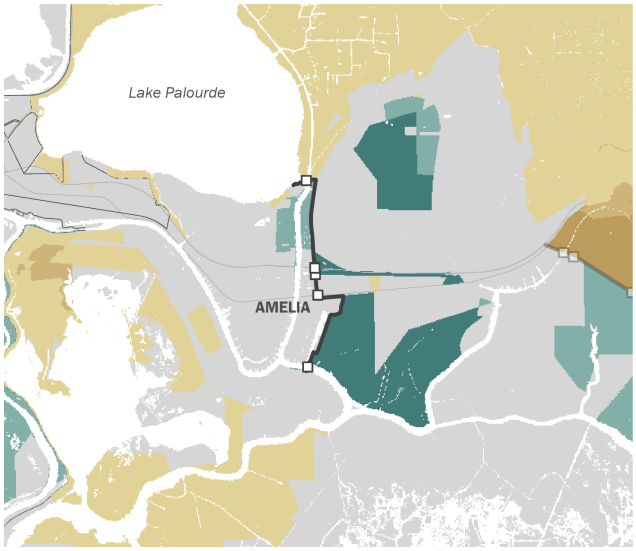


Explanation of Project Benefits

Expected Annual Damage in dollars (EADD) and Expected Annual Structure Damage (EASD) are two metrics by which the impact of modeled storms and master plan risk reduction projects can be evaluated. The graphs show the reduction in damage, both EADD and EASD, provided by the Amelia Levee Improvements structural risk reduction project at Year 20 for storms with varying Annual Exceedance Probability (AEP) as compared to damage without the project implemented. One goal of the master plan is to reduce storm surge-based flood risk, which varies based on location and over time. In order to select projects that reduce that risk, the master plan uses EADD and EASD as metrics that can be used in the evaluation of project performance.

97K **Estimated Current Population**

39% **Percentage of Population who are Low-to-Moderate Income**



Flood Depth Reduction with the master plan at Year 50

- ≤ -9 feet
- -9 to -6 feet
- -6 to -3 feet
- -3 to -1 feet
- +1 to +3 feet
- > +3 feet
- Structural Risk Reduction

Flood Risk In Project Area

Storm surge-based flooding is and will continue to be a risk for coastal Louisiana communities. The table below shows EADD and EASD for the project area now, and at years 20 and 50, both with and without the Amelia Levee Improvements project implemented. Damage avoided because of the project is also provided.

	Initial Conditions	FWOA (YR20/50)	FWA (YR20/50)	Losses Avoided (YR20/50)
Lower Scenario				
EADD ($)	$360M	$440M/$930M	$400M/$800M	$34M/$130M
EASD (#Structures)	490	520/890	490/800	27/91
Higher Scenario				
EADD ($)	$360M	$500M/$1.7B	$460M/$1.5B	$37M/$170M
EASD (#Structures)	490	590/1.5K	560/1.3K	30/130

Assets and Exposure

Communities and individuals experience the impacts of storm surge in a variety of ways. While the master plan looks at damage in the project selection process, other considerations like impacts on residential structures, public services, and other assets are also important to understand. The Amelia Levee Improvements project provides a barrier to storm surge that provides an increased level of protection for the assets shown below.

	Residences	Schools & Daycares	Hospitals	Nursing Homes	Emergency Services	Water Supply	Electrical Substations & Power Plants	Gas Stations
Total	16K	26	1	6	27	2	5	9
Protected	1.3K	4	---	2	1	---	---	---

FRANKLIN AND VICINITY

PROJECT ID: 148 / IMPLEMENTATION PERIOD 2

Project Location

St. Mary Parish

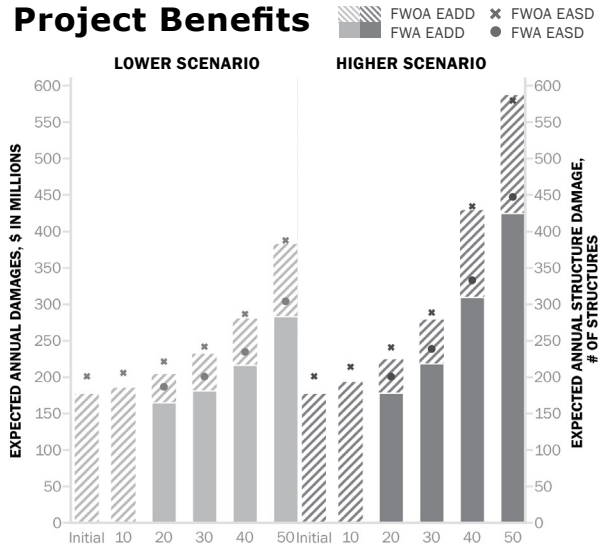
Description

Improvements of a levee to an elevation between 12 and 18 feet NAVD88 from the Wax Lake Outlet to the Charenton Canal as well as the Bayou Sale polder. Project features approximately 210,000 feet of earthen levee, approximately 4,800 feet of T-wall, a 30-foot roller gate and two sluice gates.

Estimated Cost and Duration

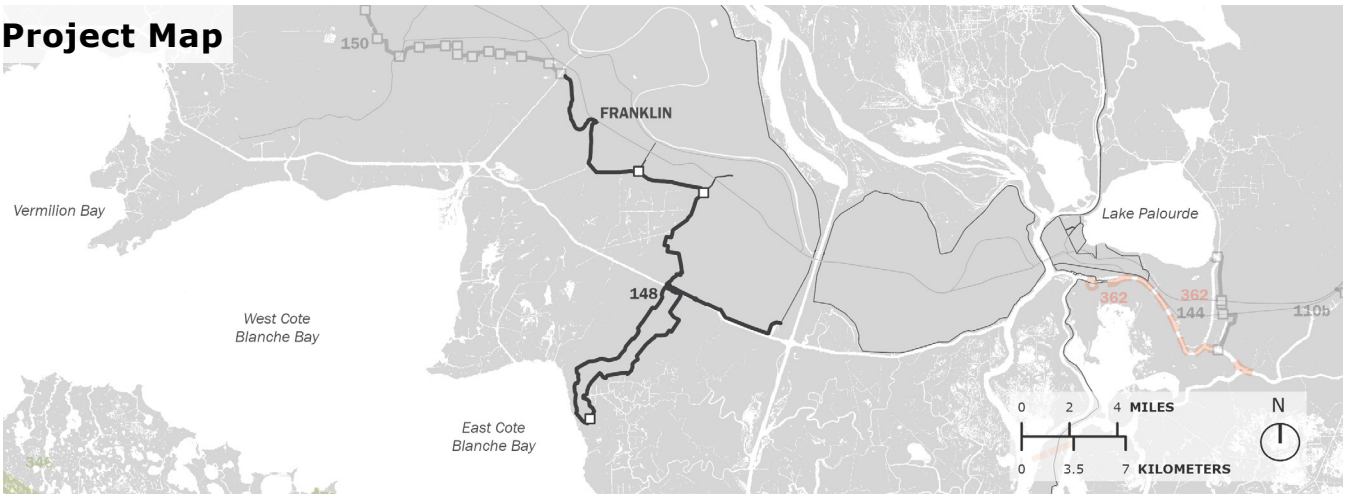
	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$20M - $23M	$250M - $300M	$8.7M - $11M	**$280M - $330M**
Duration	3	5	22	---

Project Benefits



EADD and EASD are two different metrics used to measure risk. This graph shows the total risk without action (FWOA) and the remaining risk if the project is implemented (FWA). The difference is the project benefit.

Project Map

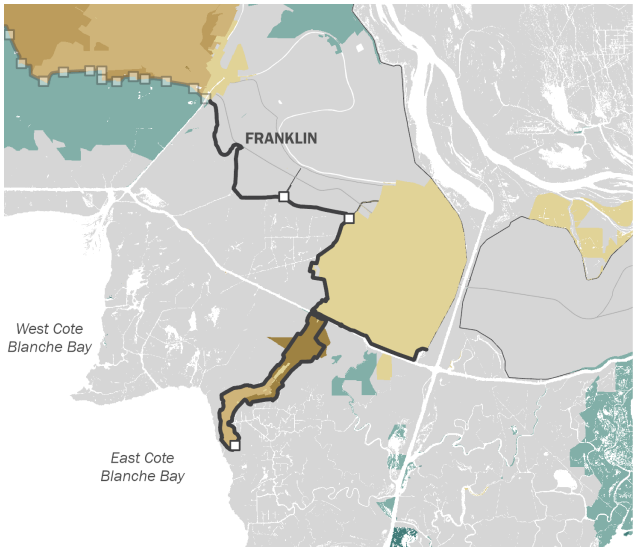


Explanation of Project Benefits

Expected Annual Damage in dollars (EADD) and Expected Annual Structure Damage (EASD) are two metrics by which the impact of modeled storms and master plan risk reduction projects can be evaluated. The graphs show the reduction in damage, both EADD and EASD, provided by the Franklin and Vicinity structural risk reduction project at Year 20 for storms with varying Annual Exceedance Probability (AEP) as compared to damage without the project implemented. One goal of the master plan is to reduce storm surge-based flood risk, which varies based on location and over time. In order to select projects that reduce that risk, the master plan uses EADD and EASD as metrics that can be used in the evaluation of project performance.

47K **Estimated Current Population**

39% **Percentage of Population who are Low-to-Moderate Income**



Flood Depth Reduction with the master plan at Year 50

- ≤ -9 feet
- -9 to -6 feet
- -6 to -3 feet
- -3 to -1 feet
- +1 to +3 feet
- > +3 feet
- Structural Risk Reduction

Flood Risk In Project Area

Storm surge-based flooding is and will continue to be a risk for coastal Louisiana communities. The table below shows EADD and EASD for the project area now, and at years 20 and 50, both with and without the Franklin and Vicinity project implemented. Damage avoided because of the project is also provided.

	Initial Conditions	FWOA (YR20/50)	FWA (YR20/50)	Losses Avoided (YR20/50)
Lower Scenario				
EADD ($)	$180M	$200M/$380M	$160M/$280M	$40M/$99M
EASD (#Structures)	200	220/390	190/300	34/83
Higher Scenario				
EADD ($)	$180M	$220M/$590M	$180M/$420M	$46M/$160M
EASD (#Structures)	200	240/580	200/450	41/130

Assets and Exposure

Communities and individuals experience the impacts of storm surge in a variety of ways. While the master plan looks at damage in the project selection process, other considerations like impacts on residential structures, public services, and other assets are also important to understand. The Franklin and Vicinity project provides a barrier to storm surge that provides an increased level of protection for the assets shown below.

	Residences	Schools & Daycares	Hospitals	Nursing Homes	Emergency Services	Water Supply	Electrical Substations & Power Plants	Gas Stations
Total	9.3K	21	1	7	17	21	10	9
Protected	84	1	---	---	1	1	1	1

IBERIA/ST. MARY UPLAND LEVEE

PROJECT ID: 150 / IMPLEMENTATION PERIOD 1

Project Location

Iberia Parish, St. Mary Parish, Vermilion Parish

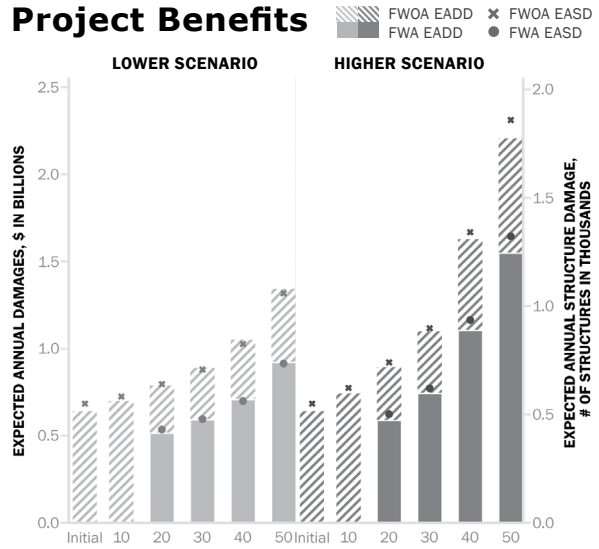
Description

Construction of a levee to an elevation between 15.5 to 20 feet NAVD88 in Iberia and St. Mary parishes between the Delcambre Canal and the Charenton Canal. Project features approximately 150,000 feet of earthen levee, approximately 15,000 feet of T-wall, five 30-foot barge gates, three 110-foot barge gates, four 40-foot roller gates, 27 sluice gates and seven pump stations.

Estimated Cost and Duration

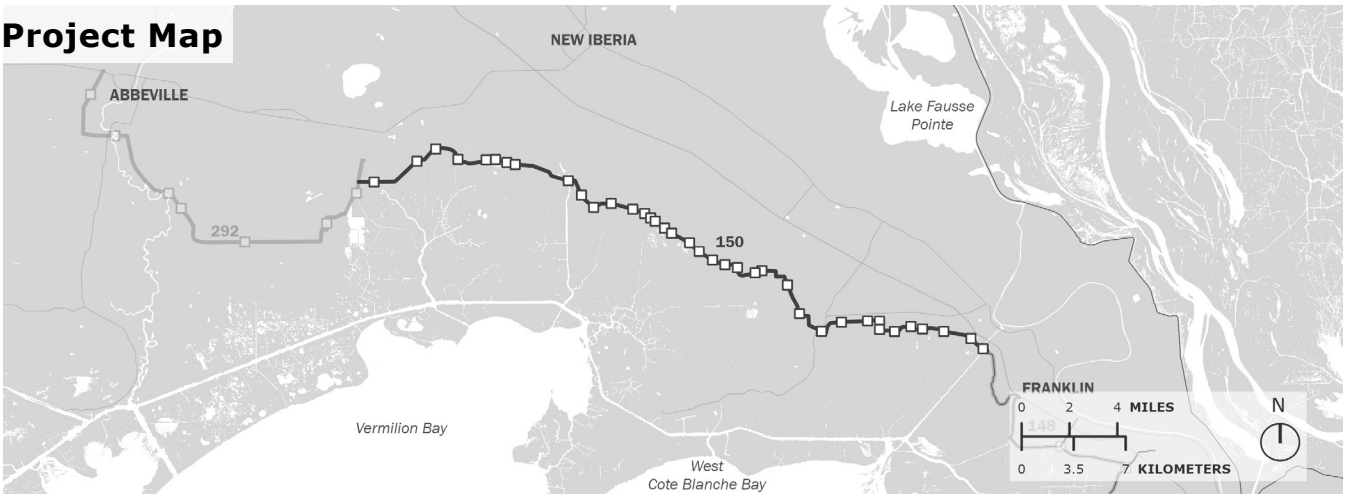
	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$91M - $120M	$1.1B - $1.5B	$270M - $330M	**$1.5B - $1.9B**
Duration	4	5	41	---

Project Benefits



EADD and EASD are two different metrics used to measure risk. This graph shows the total risk without action (FWOA) and the remaining risk if the project is implemented (FWA). The difference is the project benefit.

Project Map

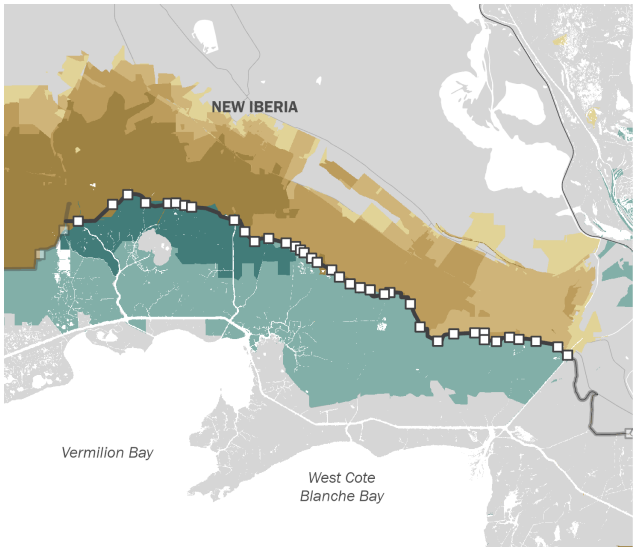


Explanation of Project Benefits

Expected Annual Damage in dollars (EADD) and Expected Annual Structure Damage (EASD) are two metrics by which the impact of modeled storms and master plan risk reduction projects can be evaluated. The graphs show the reduction in damage, both EADD and EASD, provided by the Iberia/St. Mary Upland Levee structural risk reduction project at Year 20 for storms with varying Annual Exceedance Probability (AEP) as compared to damage without the project implemented. One goal of the master plan is to reduce storm surge-based flood risk, which varies based on location and over time. In order to select projects that reduce that risk, the master plan uses EADD and EASD as metrics that can be used in the evaluation of project performance.

140K **Estimated Current Population**

40% **Percentage of Population who are Low-to-Moderate Income**



Flood Depth Reduction with the master plan at Year 50

- ≤ -9 feet
- -9 to -6 feet
- -6 to -3 feet
- -3 to -1 feet
- +1 to +3 feet
- > +3 feet
- Structural Risk Reduction

Flood Risk In Project Area

Storm surge-based flooding is and will continue to be a risk for coastal Louisiana communities. The table below shows EADD and EASD for the project area now, and at years 20 and 50, both with and without the Iberia/St. Mary Upland Levee project implemented. Damage avoided because of the project is also provided.

	Initial Conditions	FWOA (YR20/50)	FWA (YR20/50)	Losses Avoided (YR20/50)
Lower Scenario				
EADD ($)	$640M	$790M/$1.3B	$510M/$920M	$270M/$420M
EASD (#Structures)	550	640/1.1K	430/740	210/320
Higher Scenario				
EADD ($)	$640M	$890M/$2.2B	$590M/$1.5B	$310M/$660M
EASD (#Structures)	550	740/1.9K	500/1.3K	240/540

Assets and Exposure

Communities and individuals experience the impacts of storm surge in a variety of ways. While the master plan looks at damage in the project selection process, other considerations like impacts on residential structures, public services, and other assets are also important to understand. The Iberia/St. Mary Upland Levee project provides a barrier to storm surge that provides an increased level of protection for the assets shown below.

	Residences	Schools & Daycares	Hospitals	Nursing Homes	Emergency Services	Water Supply	Electrical Substations & Power Plants	Gas Stations
Total	34K	50	2	12	51	110	38	22
Protected	6.3K	37	2	9	23	43	16	14

EAST RAINEY MARSH CREATION

PROJECT ID: 157C / IMPLEMENTATION PERIOD 1

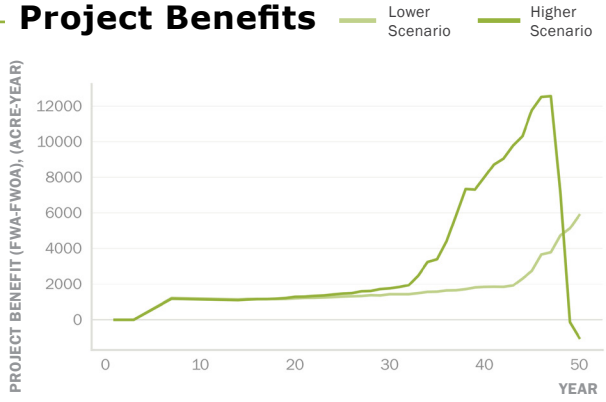
Project Location

Vermilion Parish

Description

Creation of marsh in the northern portion of marsh in the eastern portion of Rainey Marsh to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



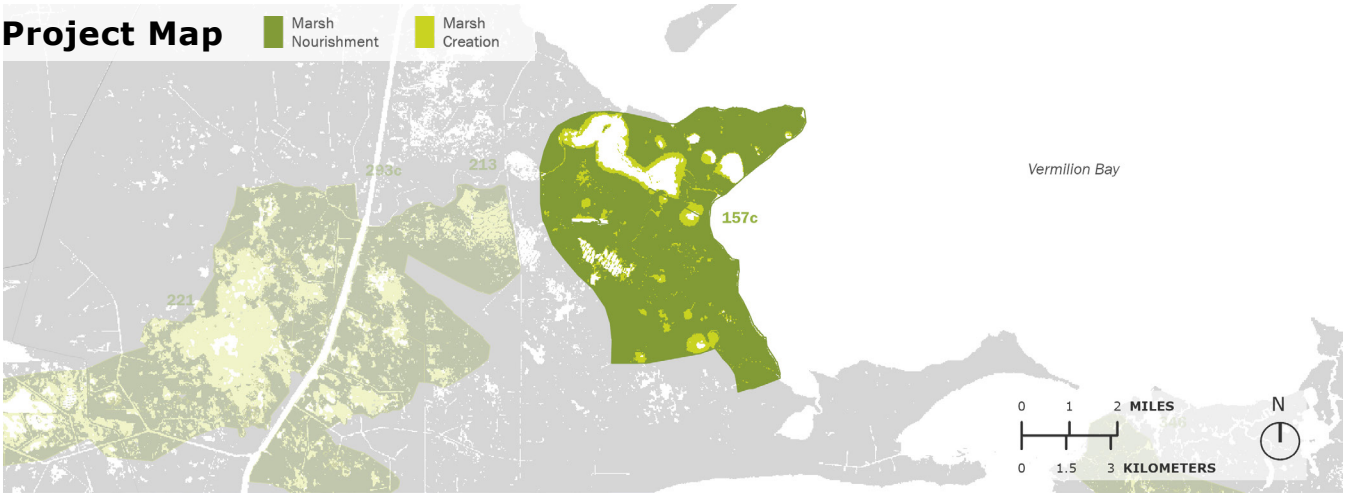
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	5.9K	13K	9.2K
Min. Annual Benefit (Acre)	0	-1.0K	-510
Years of Pos. / Neg. Benefit	47 / 0	45 / 2	46 / 1

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$23M - $30M	$280M - $370M	$9.7M - $13M	**$310M - $410M**
Duration	3	4	43	---

Project Map



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SOUTH GRAND CHENIER MARSH CREATION

PROJECT ID: 207 / IMPLEMENTATION PERIOD 1

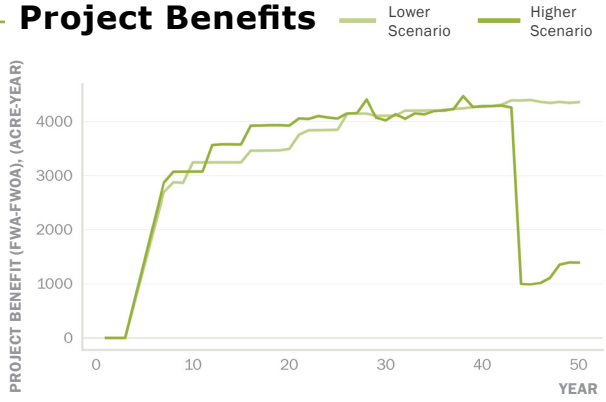
Project Location

Cameron Parish

Description

Creation of marsh within a footprint of approximately 6,900 acres south of Highway 82 near Grand Chenier to create new wetland habitat and restore degraded marsh.

Project Benefits



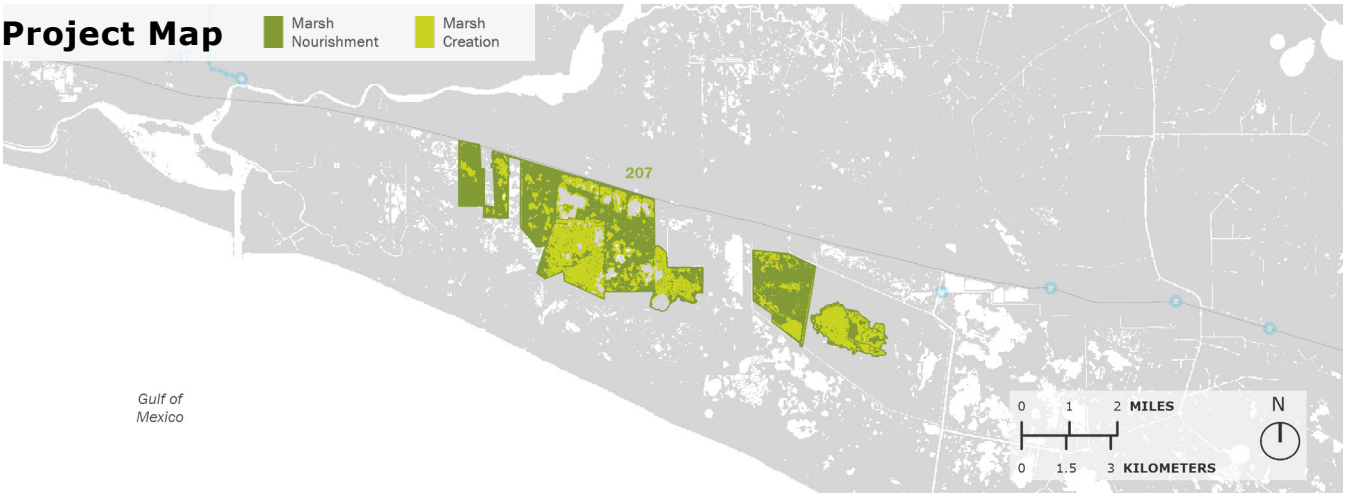
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	4.4K	4.5K	4.4K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	47 / 0	47 / 0	47 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$26M - $31M	$320M - $390M	$11M - $13M	**$360M - $440M**
Duration	3	4	43	---

Project Map



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MUD LAKE MARSH CREATION

PROJECT ID: 210 / IMPLEMENTATION PERIOD 1

ECOREGION

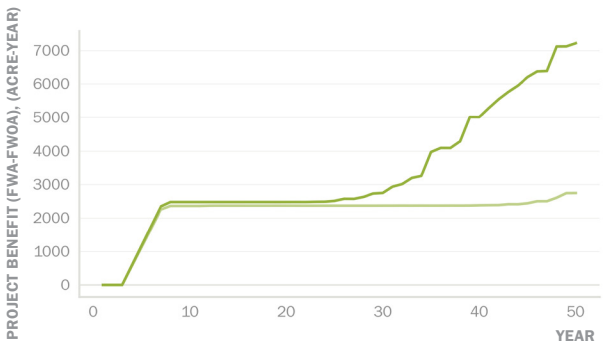
Project Location

Cameron Parish

Description

Creation of marsh within a footprint of approximately 8,100 acres at Mud Lake south of West Cove Calcasieu Lake to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



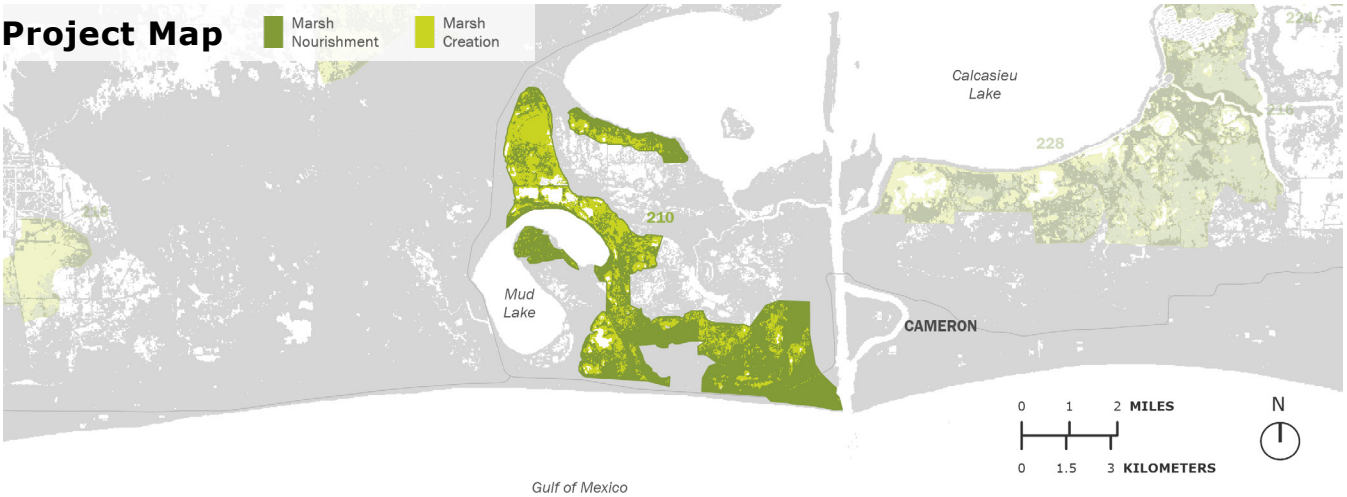
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	2.7K	7.2K	5.0K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	47 / 0	47 / 0	47 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$21M - $26M	$270M - $330M	$9.1M - $11M	**$300M - $360M**
Duration	3	4	43	---

Project Map



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WEST RAINEY MARSH CREATION

PROJECT ID: 213 / IMPLEMENTATION PERIOD 1

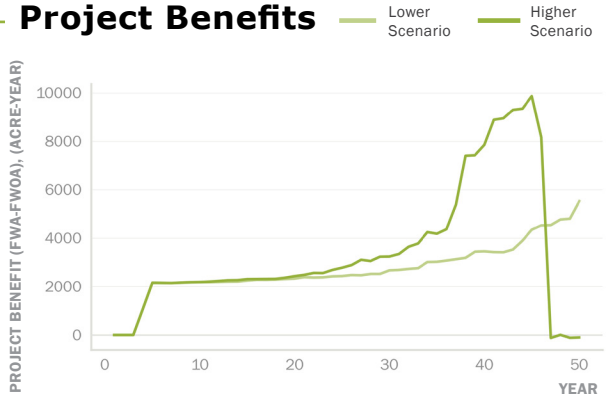
Project Location

Vermilion Parish

Description

Creation of marsh within a footprint of approximately 10,000 acres at Rainey Marsh near the southeast bank of the Freshwater Bayou Canal to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



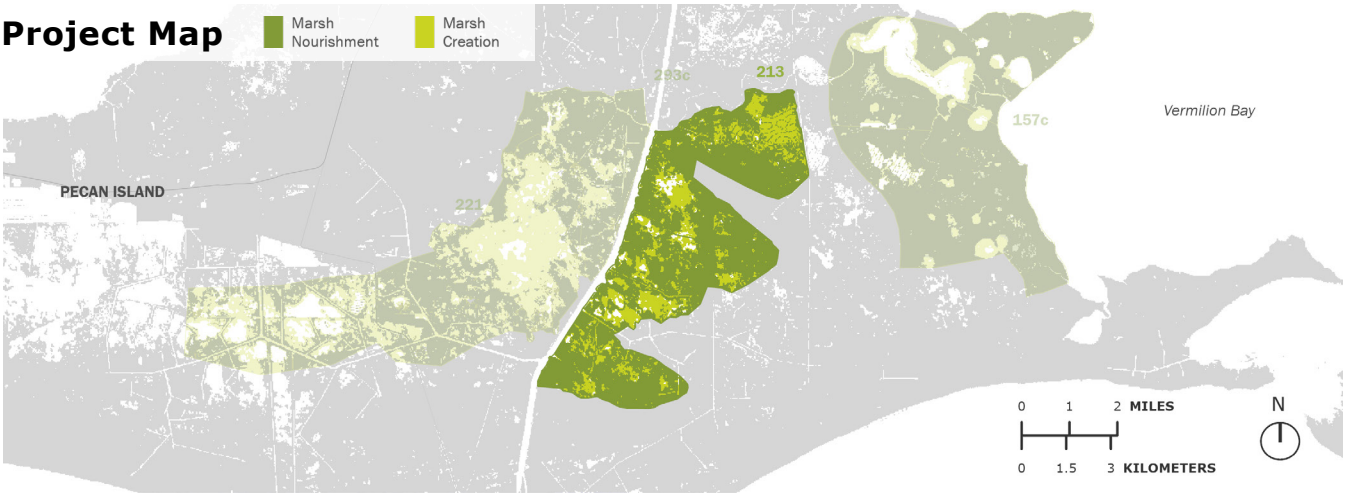
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	5.5K	9.9K	7.7K
Min. Annual Benefit (Acre)	0	-120	-61
Years of Pos. / Neg. Benefit	47 / 0	44 / 3	46 / 2

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$26M - $32M	$330M - $400M	$12M - $14M	**$360M - $450M**
Duration	3	2	45	---

Project Map



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SOUTHEAST CALCASIEU LAKE MARSH CREATION

PROJECT ID: 216 / IMPLEMENTATION PERIOD 2

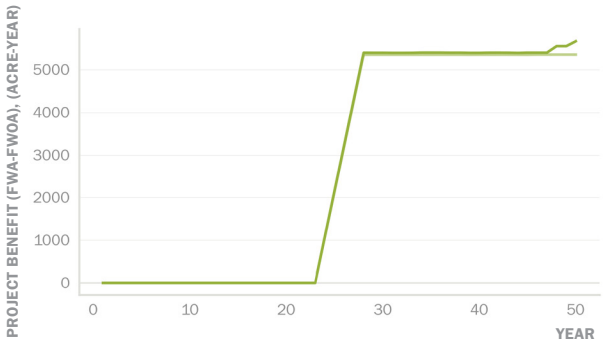
Project Location

Cameron Parish

Description

Creation of marsh within a footprint of approximately 9,200 acres southeast of Calcasieu Lake to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



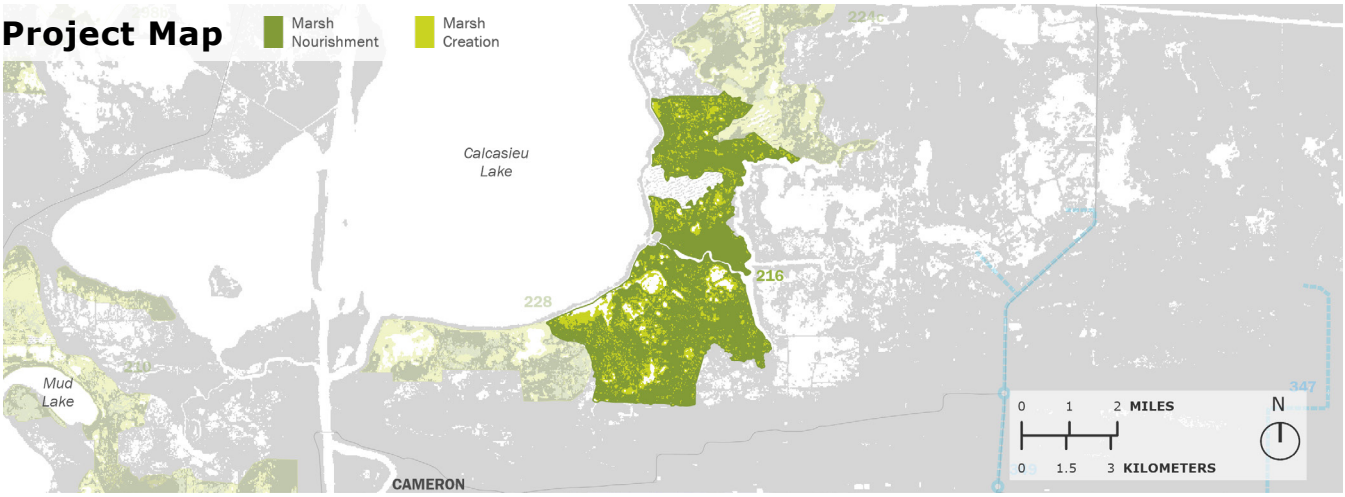
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	5.4K	5.7K	5.5K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	27 / 0	27 / 0	27 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$30M - $36M	$370M - $450M	$6.6M - $8.M	**$410M - $500M**
Duration	3	5	22	---

Project Map



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CAMERON MEADOWS MARSH CREATION

PROJECT ID: 218 / IMPLEMENTATION PERIOD 1

ECOREGION

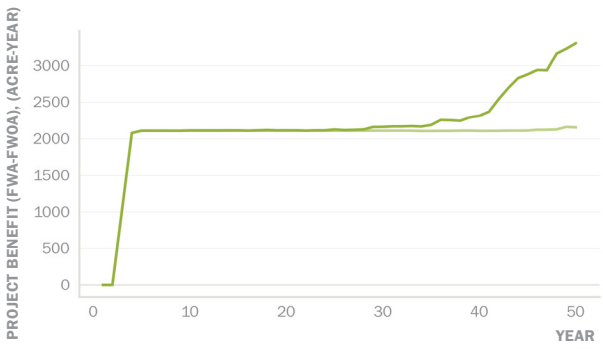
Project Location

Cameron Parish

Description

Creation of marsh within a footprint of approximately 3,700 acres at Cameron Meadows north of Johnsons Bayou to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



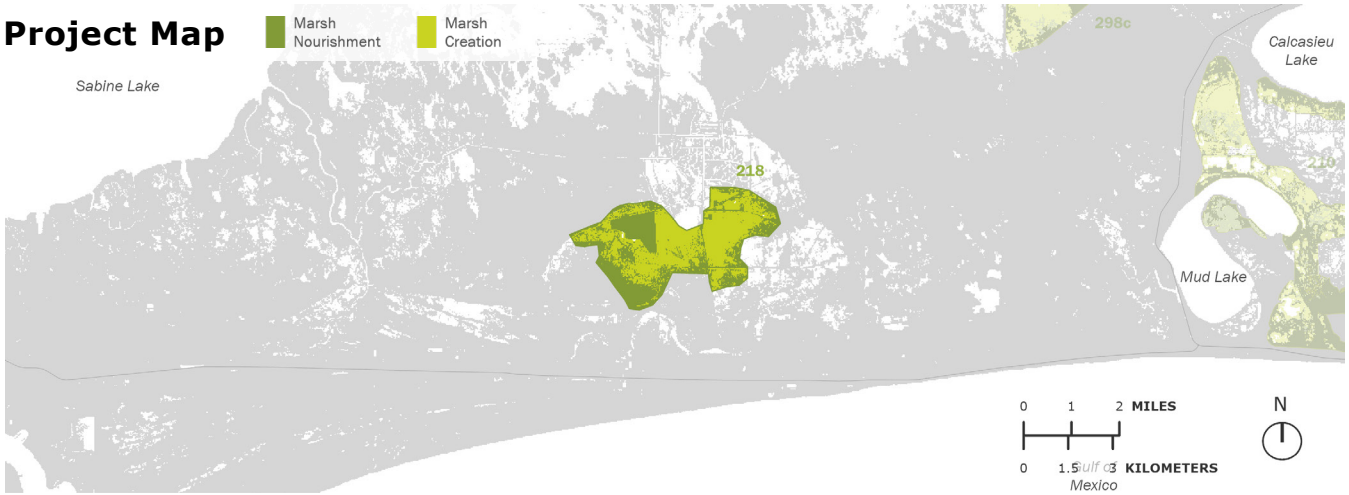
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	2.2K	3.3K	2.7K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	48 / 0	48 / 0	48 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$9.9M - $12M	$120M - $150M	$4.5M - $5.6M	**$140M - $170M**
Duration	2	2	46	---

Project Map



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EAST PECAN ISLAND MARSH CREATION

PROJECT ID: 221 / IMPLEMENTATION PERIOD 1

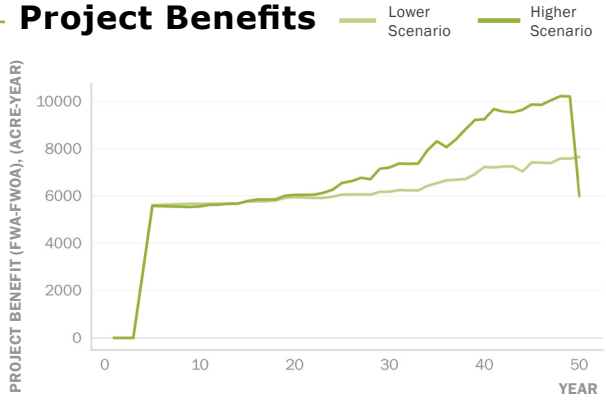
Project Location

Vermilion Parish

Description

Creation of marsh within a footprint of approximately 12,000 acres of the eastern portion of marsh between Pecan Island and the west bank of the Freshwater Bayou Canal to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



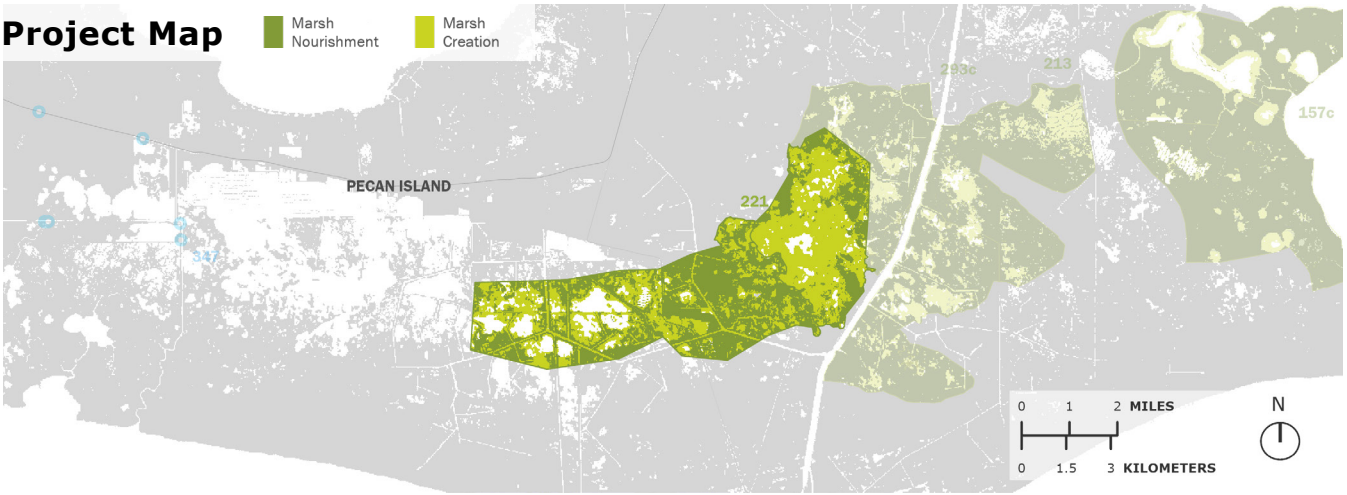
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	7.6K	10K	8.9K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	47 / 0	47 / 0	47 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$42M - $52M	$520M - $650M	$19M - $23M	**$580M - $720M**
Duration	3	2	45	---

Project Map



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EAST CALCASIEU LAKE MARSH CREATION

PROJECT ID: 224C / IMPLEMENTATION PERIOD 1

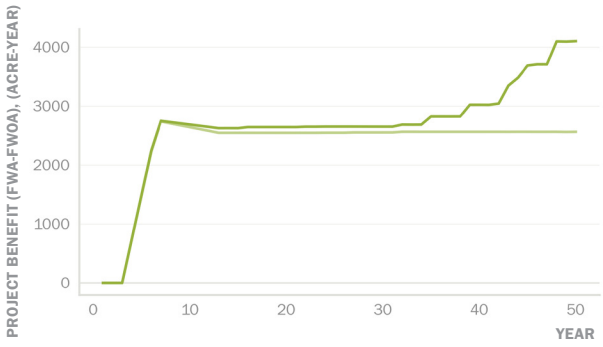
Project Location

Cameron Parish

Description

Creation of marsh in the western portion of marsh in the eastern Cameron-Creole watershed to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



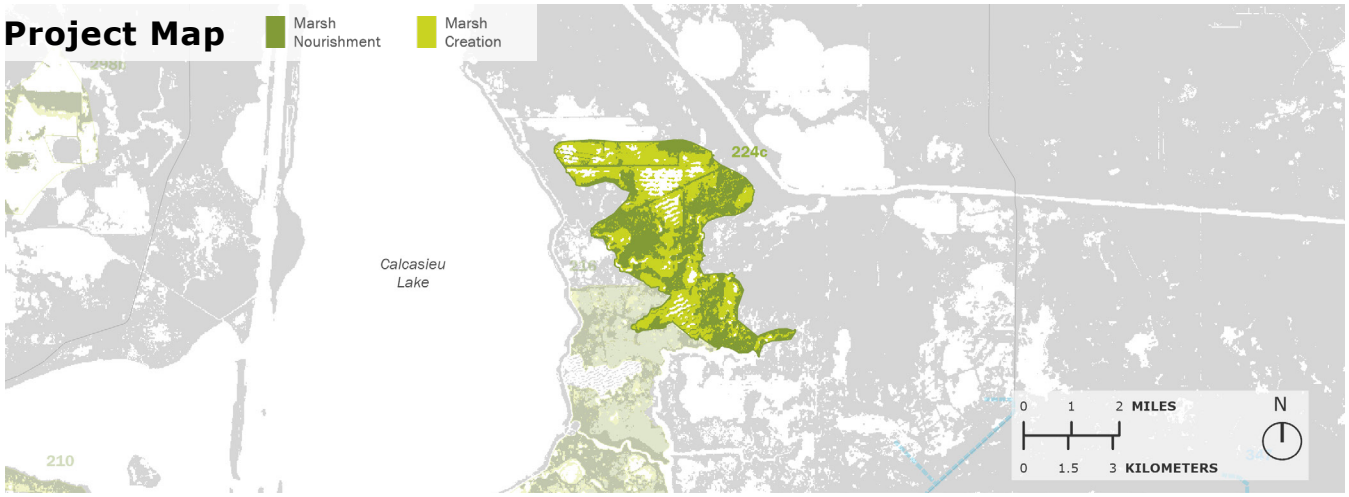
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	2.7K	4.1K	3.4K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	47 / 0	47 / 0	47 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$22M - $27M	$280M - $340M	$9.6M - $12M	**$310M - $380M**
Duration	3	4	43	---

Project Map



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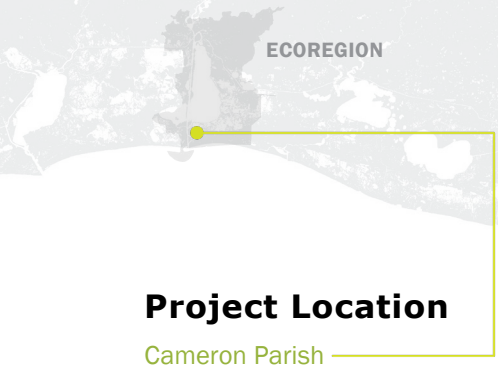
CALCASIEU SHIP CHANNEL MARSH CREATION

PROJECT ID: 228 / IMPLEMENTATION PERIOD 1



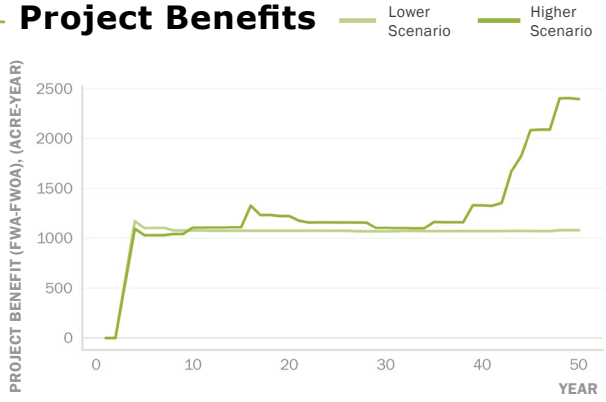
Project Location

Cameron Parish

Description

Creation of marsh within a footprint of approximately 3,200 acres south of Calcasieu Lake near Cameron to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



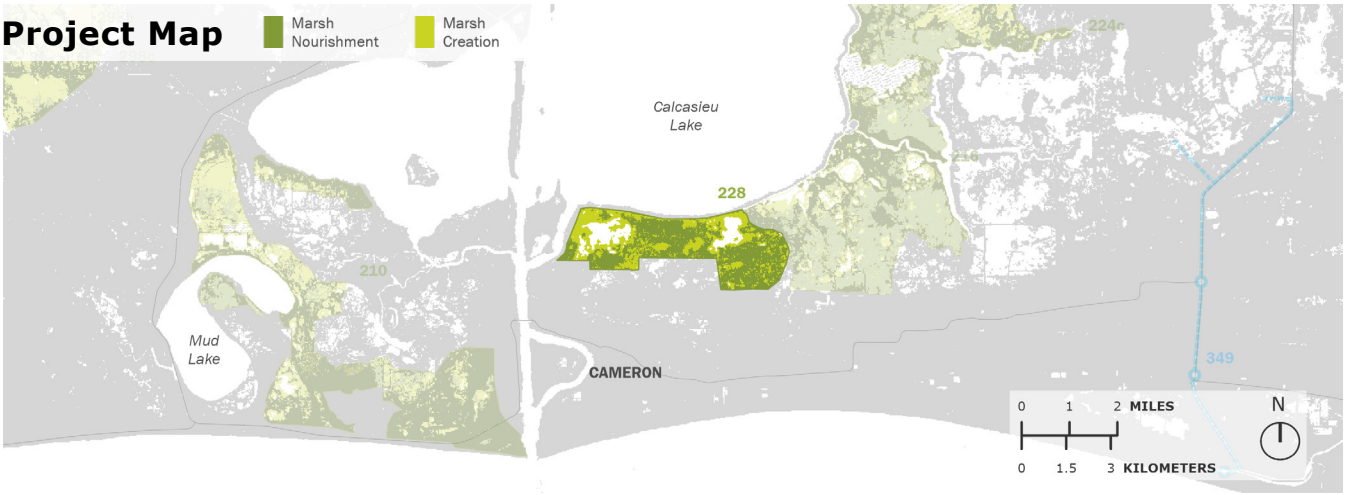
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	1.2K	2.4K	1.8K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	48 / 0	48 / 0	48 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$5.4M - $6.7M	$67M - $84M	$2.5M - $3.1M	**$75M - $93M**
Duration	2	2	46	---

Project Map



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CHENIERE AU TIGRE RIDGE RESTORATION

PROJECT ID: 231 / IMPLEMENTATION PERIOD 1

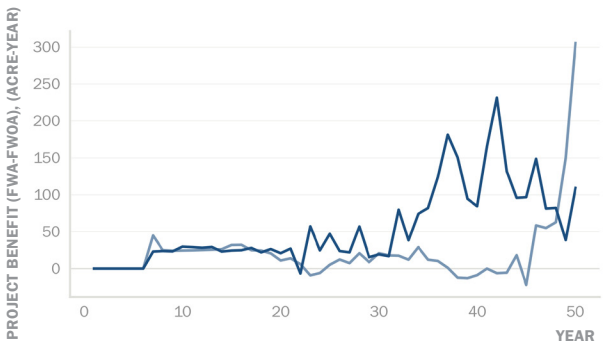
Project Location

Vermilion Parish

Description

Restoration of approximately 78,000 feet of Bill and Cheniere au Tigre Ridges to an elevation of 5 feet NAVD88 to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation.

Project Benefits



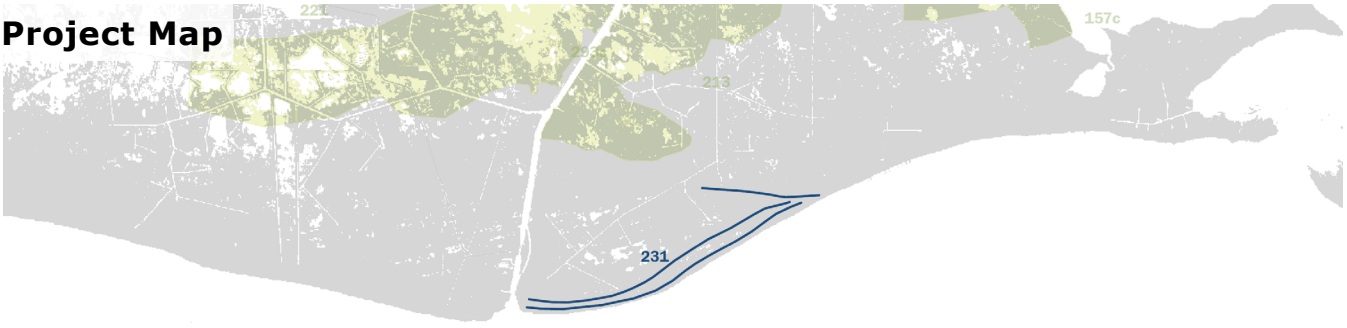
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	310	230	270
Min. Annual Benefit (Acre)	-22	-7	-15
Years of Pos. / Neg. Benefit	35 / 8	43 / 1	39 / 5

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$1.7M - $2.M	$21M - $25M	$740K - $860K	**$24M - $28M**
Duration	3	4	43	---

Project Map



Gulf of Mexico

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0 1.5 3 KILOMETERS
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PECAN ISLAND RIDGE RESTORATION

PROJECT ID: 232 / IMPLEMENTATION PERIOD 1

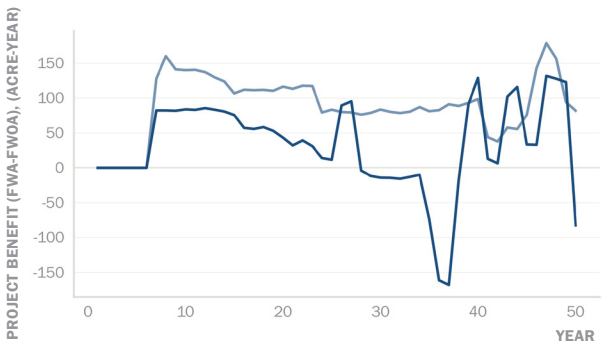
Project Location

Vermilion Parish

Description

Restoration of approximately 44,000 feet of historic ridge in Pecan Island to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation.

Project Benefits



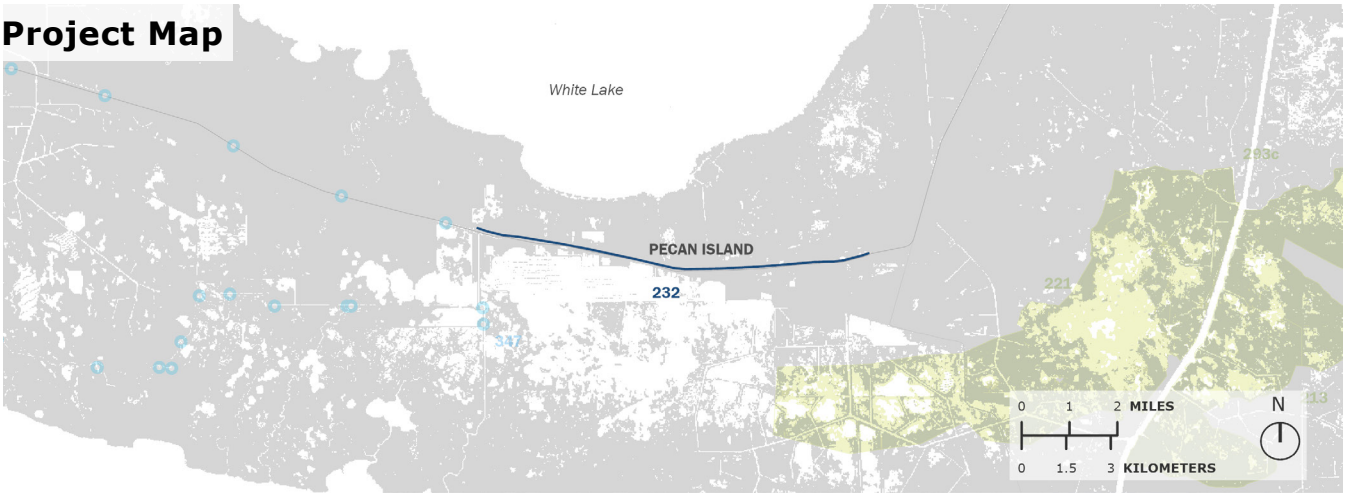
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	180	130	160
Min. Annual Benefit (Acre)	0	-170	-84
Years of Pos. / Neg. Benefit	44 / 0	32 / 12	38 / 6

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$1.3M - $1.6M	$17M - $20M	$580K - $680K	**$19M - $22M**
Duration	3	4	43	---

Project Map



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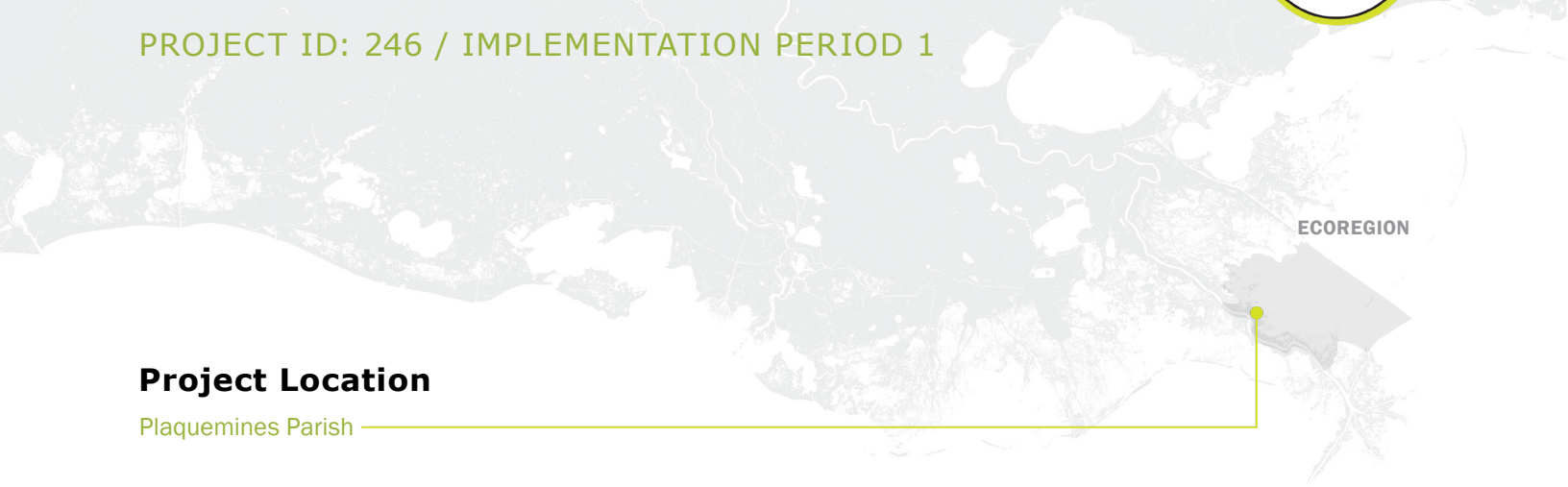
SUNRISE POINT MARSH CREATION

PROJECT ID: 246 / IMPLEMENTATION PERIOD 1



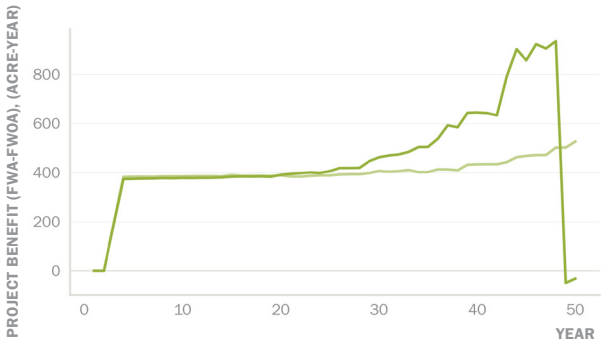
Project Location

Plaquemines Parish

Description

Creation of marsh within a footprint of approximately 2,200 acres on east bank of Plaquemines Parish around Auguste Bay to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



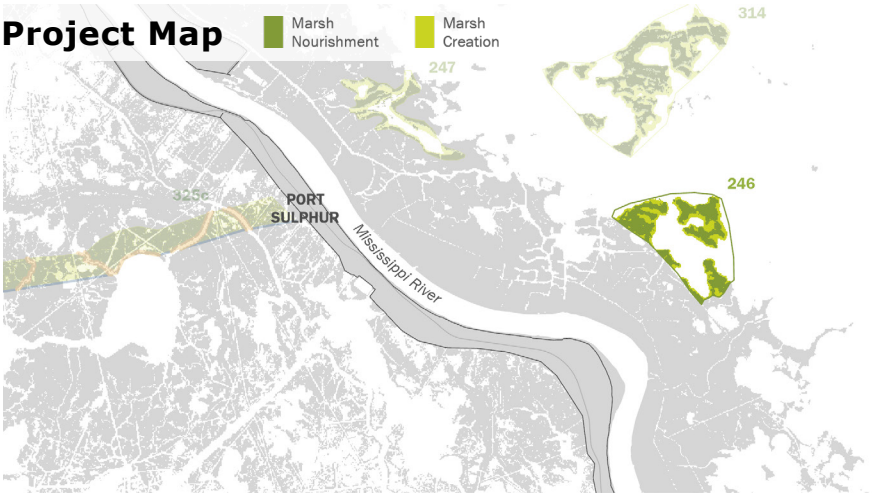
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	530	940	730
Min. Annual Benefit (Acre)	0	-49	-25
Years of Pos. / Neg. Benefit	48 / 0	46 / 2	47 / 1

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$3.M - $3.7M	$38M - $47M	$1.4M - $1.7M	**$42M - $52M**
Duration	2	2	46	---

Project Map



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UHLAN BAY MARSH CREATION

PROJECT ID: 247 / IMPLEMENTATION PERIOD 1

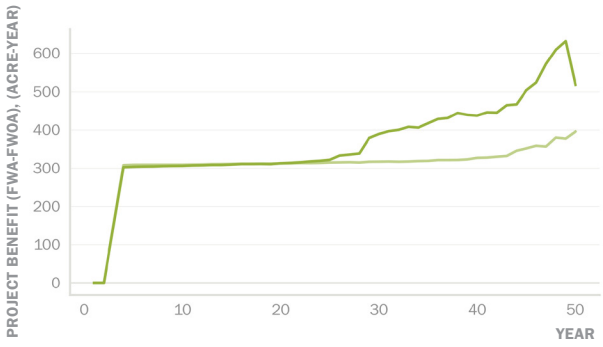
Project Location

Plaquemines Parish

Description

Creation of marsh within a footprint of approximately 960 acres on east bank of Plaquemines Parish around Uhlan Bay to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



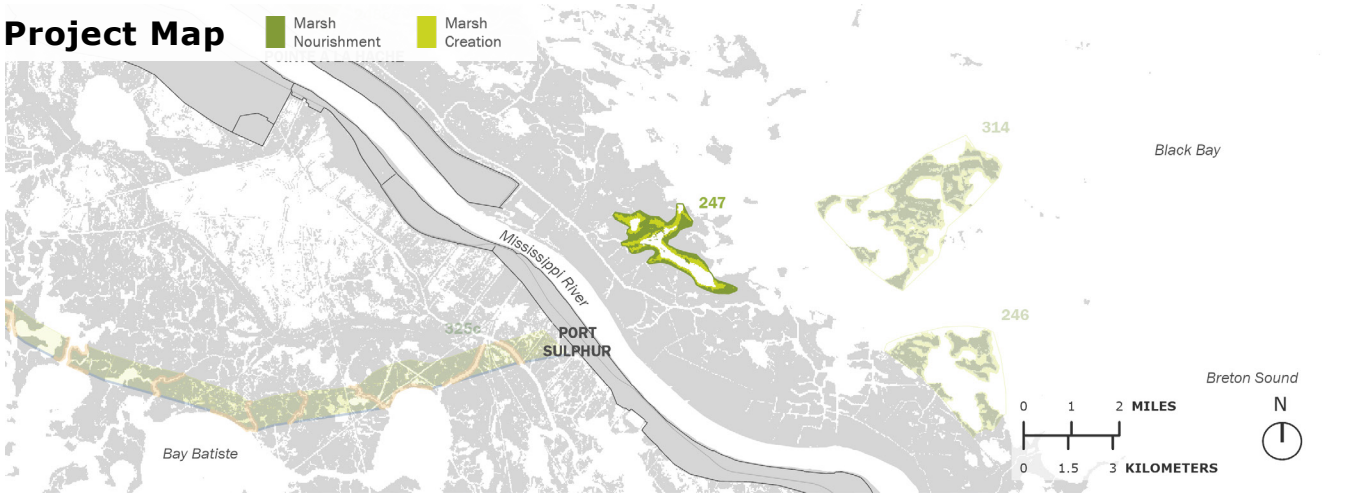
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	400	630	510
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	48 / 0	48 / 0	48 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$2.1M - $2.6M	$26M - $33M	$970K - $1.2M	**$30M - $37M**
Duration	2	2	46	---

Project Map



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POINTE A LA HACHE AND CARLISLE MARSH CREATION

PROJECT ID: 248C / IMPLEMENTATION PERIOD 1

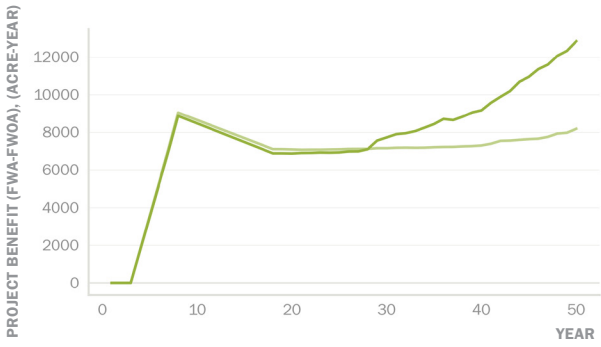
Project Location

Plaquemines Parish

Description

Creation of marsh along the east side of the Mississippi River from White Ditch to Bohemia to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



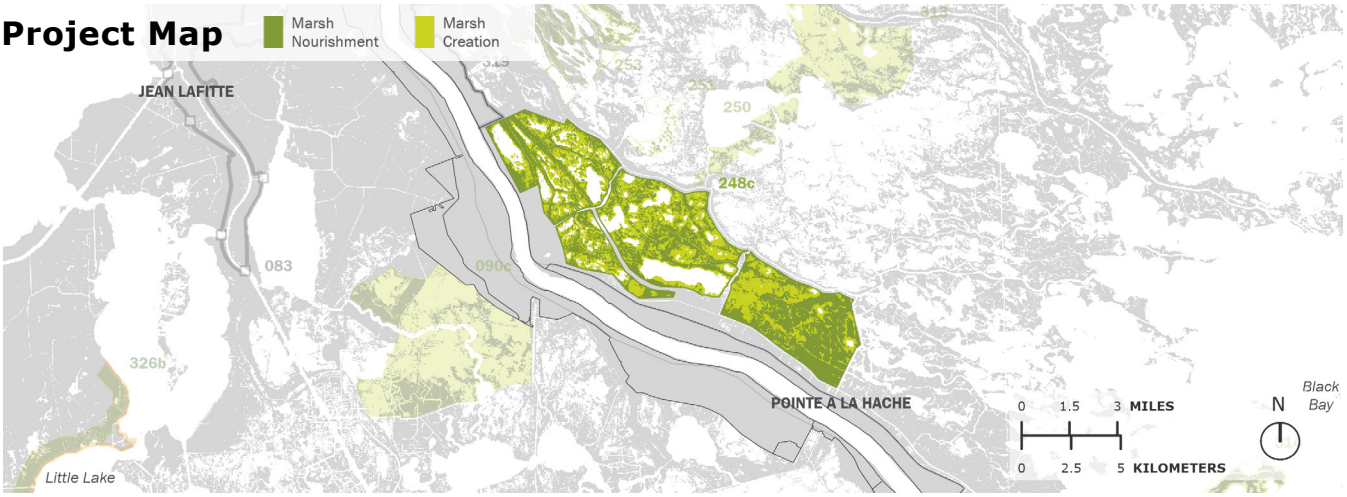
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	9.0K	13K	11K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	47 / 0	47 / 0	47 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$56M - $69M	$700M - $860M	$23M - $29M	**$780M - $960M**
Duration	3	5	42	---

Project Map



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FRITCHIE NORTH MARSH CREATION

PROJECT ID: 249 / IMPLEMENTATION PERIOD 1

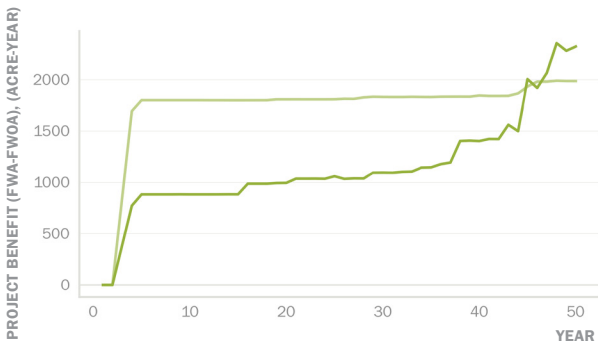
Project Location

St. Tammany Parish

Description

Creation of marsh within a footprint of approximately 4,400 acres in St. Tammany Parish along the eastern Lake Pontchartrain shoreline to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



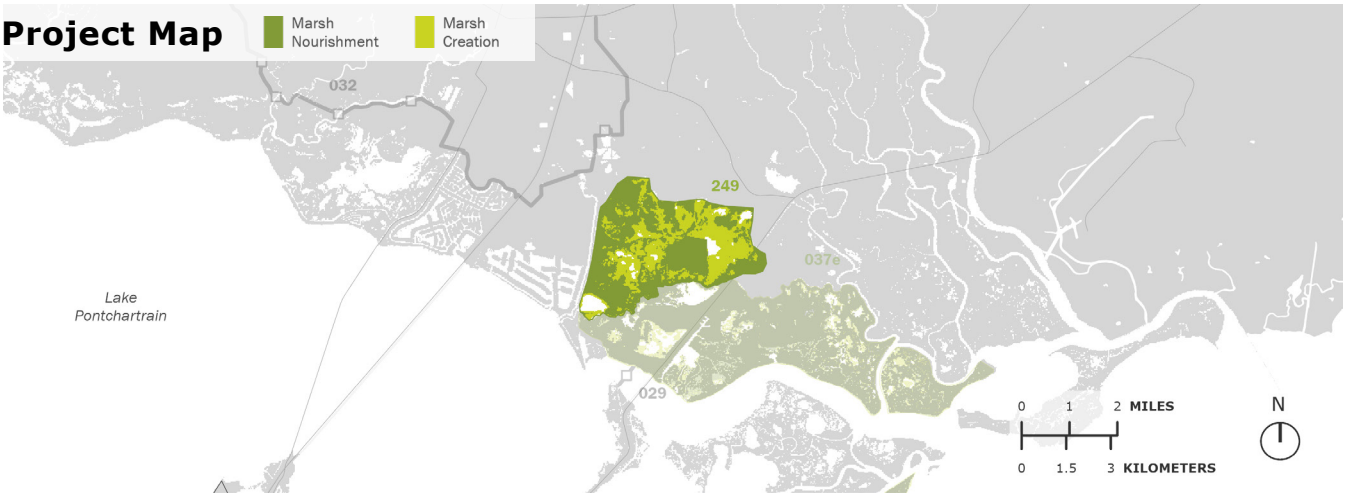
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	2.0K	2.4K	2.2K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	48 / 0	48 / 0	48 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$7.1M - $8.6M	$89M - $110M	$3.3M - $3.9M	**$99M - $120M**
Duration	2	2	46	---

Project Map



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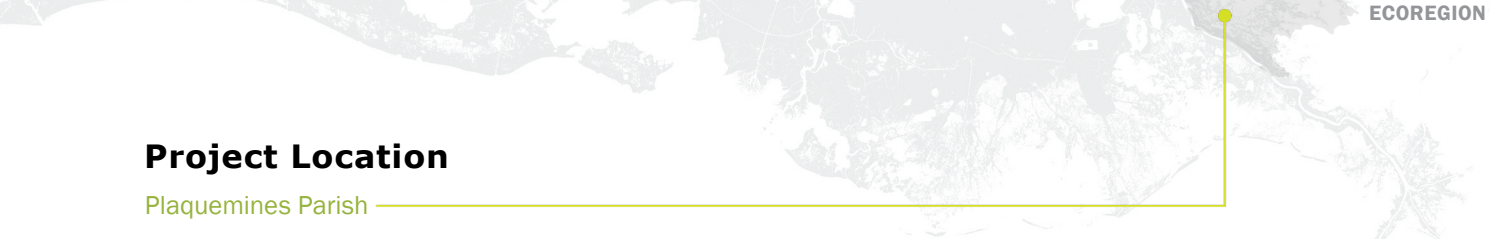
OAK RIVER TO DELACROIX MARSH CREATION

PROJECT ID: 250 / IMPLEMENTATION PERIOD 1



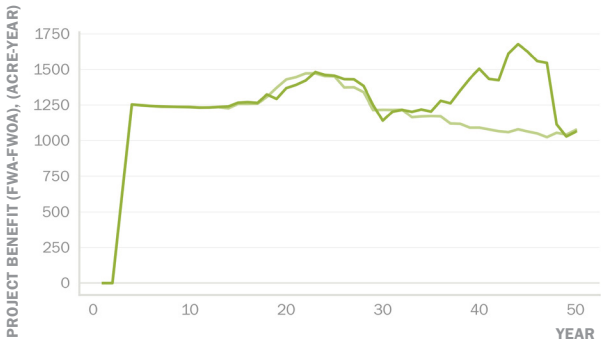
Project Location

Plaquemines Parish

Description

Creation of marsh within a footprint of approximately 2,400 acres in Plaquemines Parish between Grand Lake and Lake Lery to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



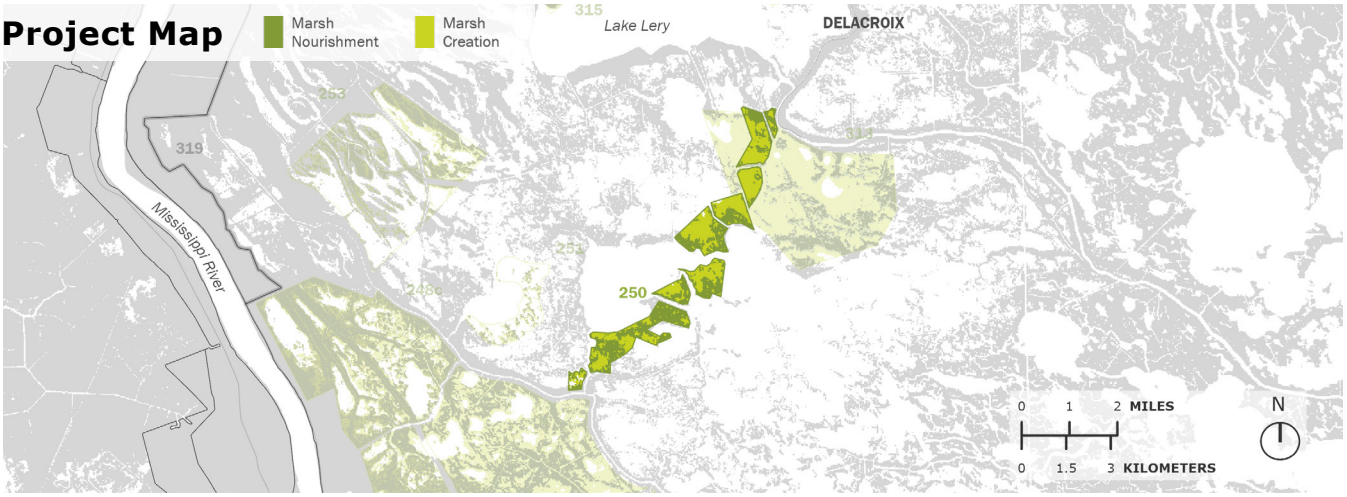
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	1.5K	1.7K	1.6K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	48 / 0	48 / 0	48 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$11M - $13M	$130M - $170M	$5.M - $6.1M	**$150M - $190M**
Duration	2	2	46	---

Project Map



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SPANISH LAKE MARSH CREATION

PROJECT ID: 251 / IMPLEMENTATION PERIOD 2

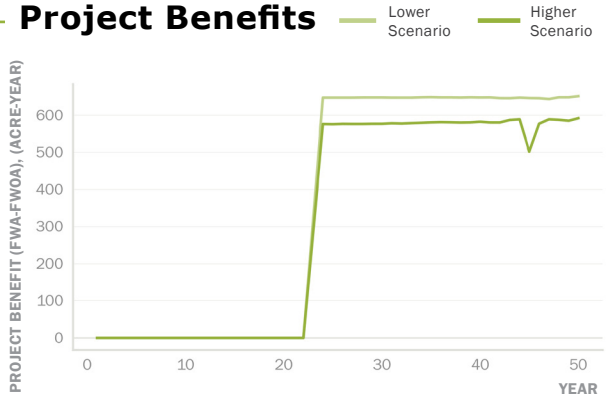
Project Location

Plaquemines Parish

Description

Creation of marsh within a footprint of approximately 840 acres in Plaquemines Parish along the eastern shore of Spanish Lake to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



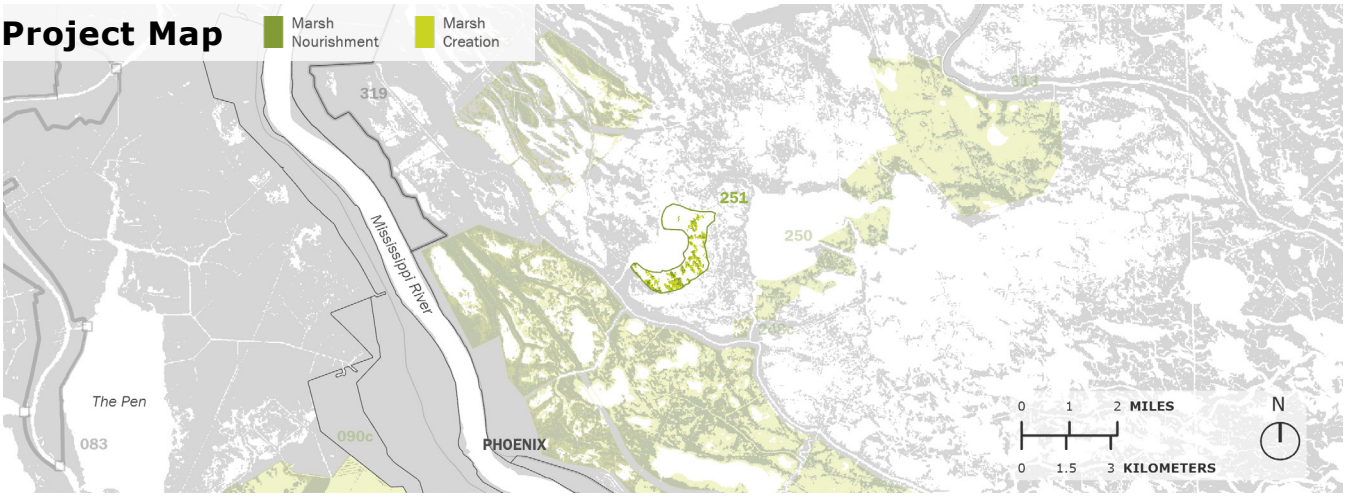
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	650	590	620
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	28 / 0	28 / 0	28 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$4.M - $4.9M	$50M - $61M	$1.M - $1.3M	**$55M - $67M**
Duration	2	2	26	---

Project Map



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TIGER RIDGE/MAPLE KNOLL MARSH CREATION

PROJECT ID: 253 / IMPLEMENTATION PERIOD 1

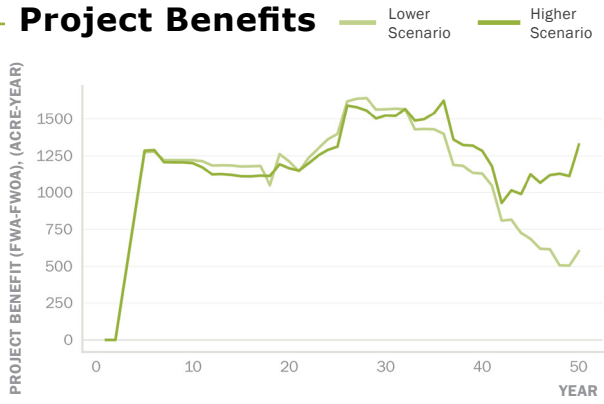
Project Location

Plaquemines Parish

Description

Creation of marsh within a footprint of approximately 4,700 acres in Plaquemines Parish near Tiger Ridge to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



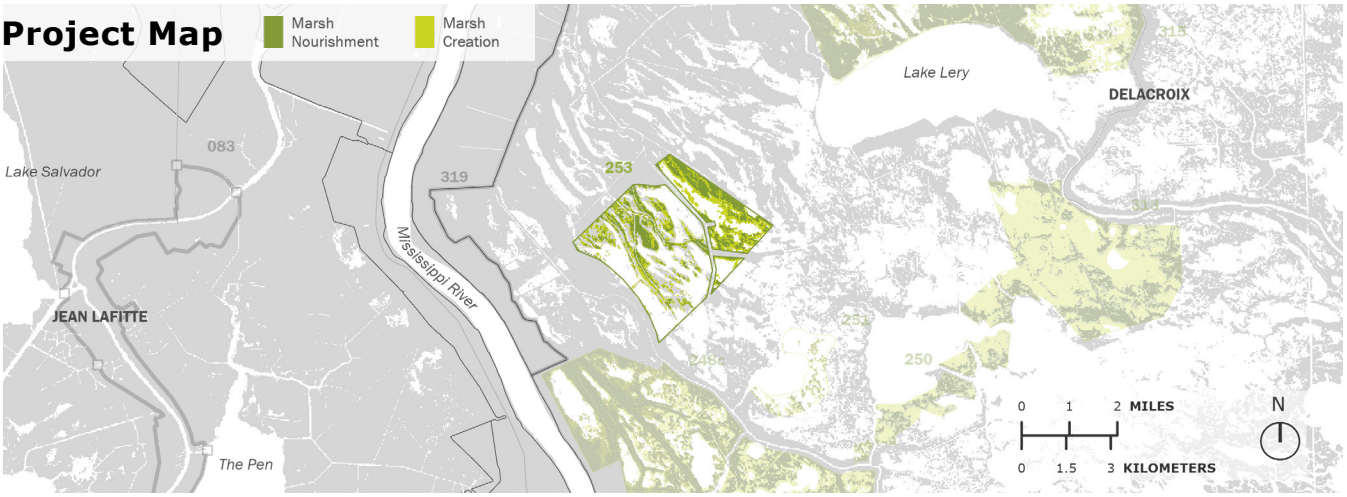
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	1.6K	1.6K	1.6K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	48 / 0	48 / 0	48 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$9.7M - $12M	$120M - $150M	$4.4M - $5.4M	**$140M - $170M**
Duration	2	3	45	---

Project Map



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NORTH BARATARIA BAY MARSH CREATION

PROJECT ID: 267 / IMPLEMENTATION PERIOD 2

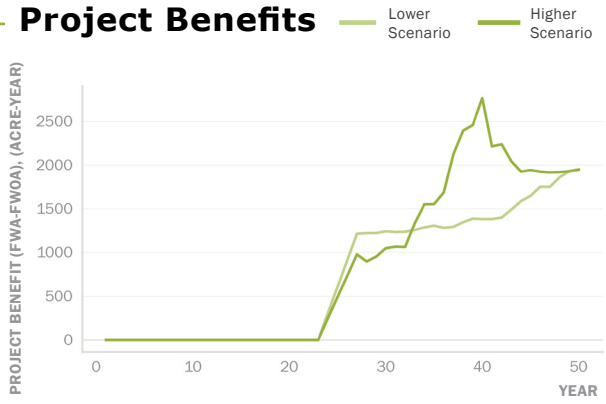
Project Location

Jefferson Parish, Lafourche Parish, Plaquemines Parish

Description

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.

Project Benefits



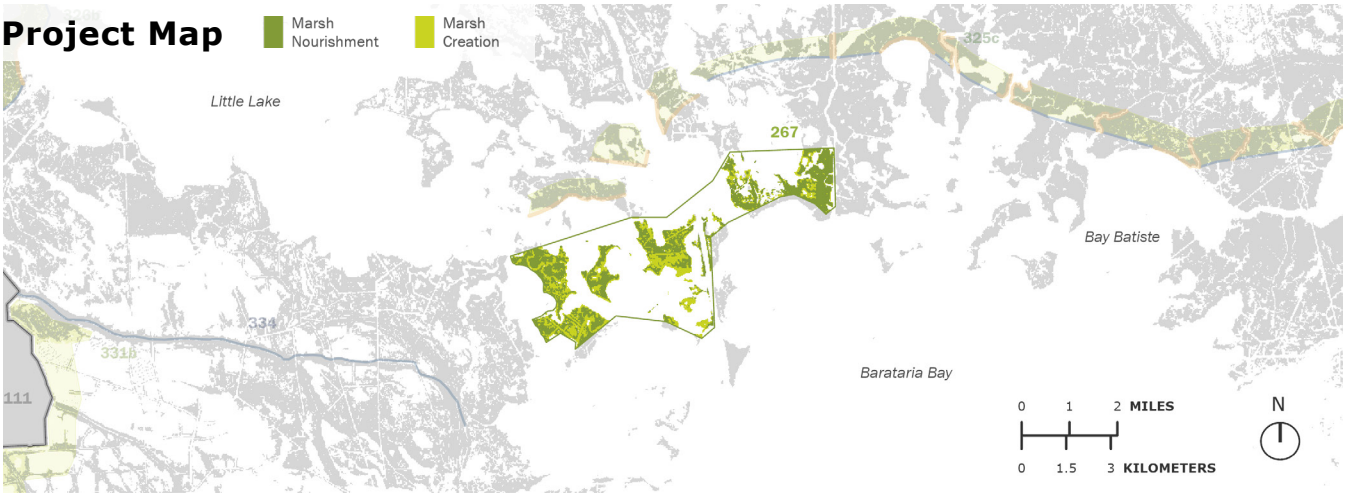
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	2.0K	2.8K	2.4K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	27 / 0	27 / 0	27 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$14M - $17M	$180M - $220M	$3.3M - $4.M	**$200M - $240M**
Duration	3	4	23	---

Project Map



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NORTH LAKE MECHANT MARSH CREATION - EAST

PROJECT ID: 286C / IMPLEMENTATION PERIOD 1

Project Location

Terrebonne Parish

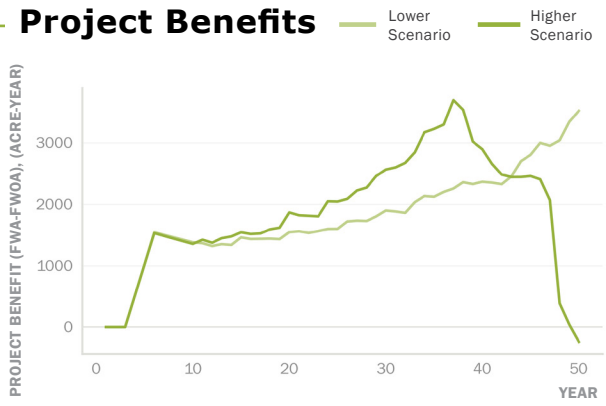
Description

Creation of marsh in Terrebonne Parish between Lake Decade and Lake Mechant to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$16M - $20M	$200M - $250M	$7.2M - $8.7M	**$230M - $280M**
Duration	3	3	44	---

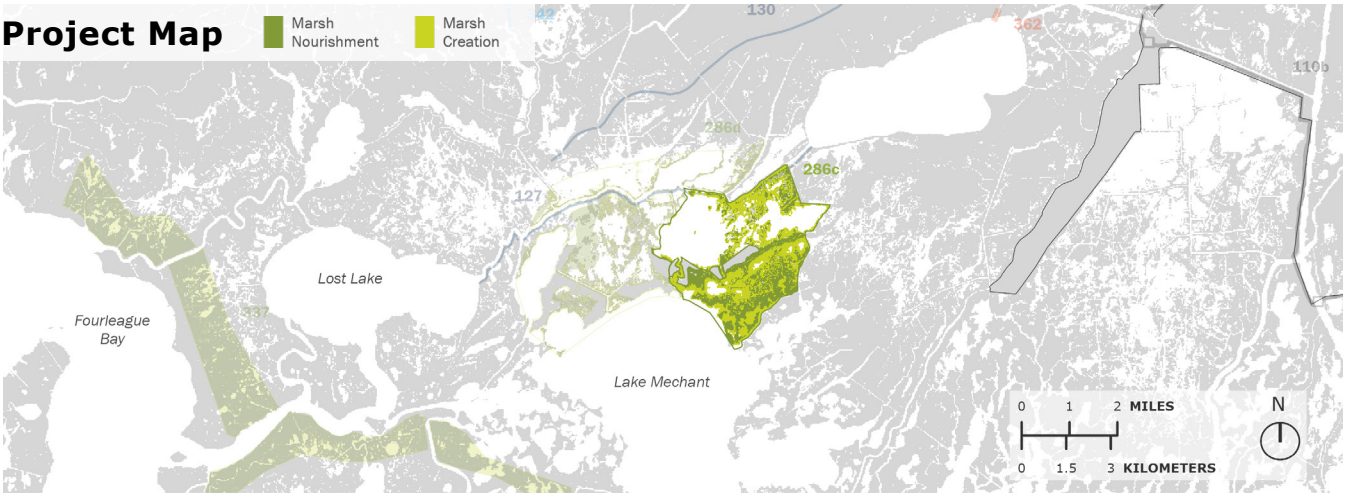
Project Benefits



PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	3.5K	3.7K	3.6K
Min. Annual Benefit (Acre)	0	-240	-120
Years of Pos. / Neg. Benefit	47 / 0	46 / 1	47 / 1

Project Map



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NORTH LAKE MECHANT MARSH CREATION - WEST

PROJECT ID: 286D / IMPLEMENTATION PERIOD 2

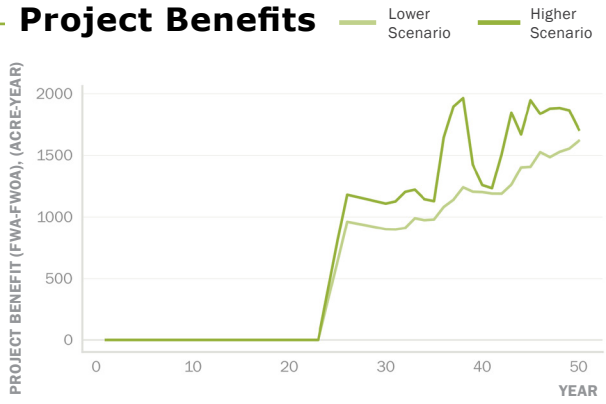
Project Location

Terrebonne Parish

Description

Creation of marsh in Terrebonne Parish between Lake Decade and Lake Mechant to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



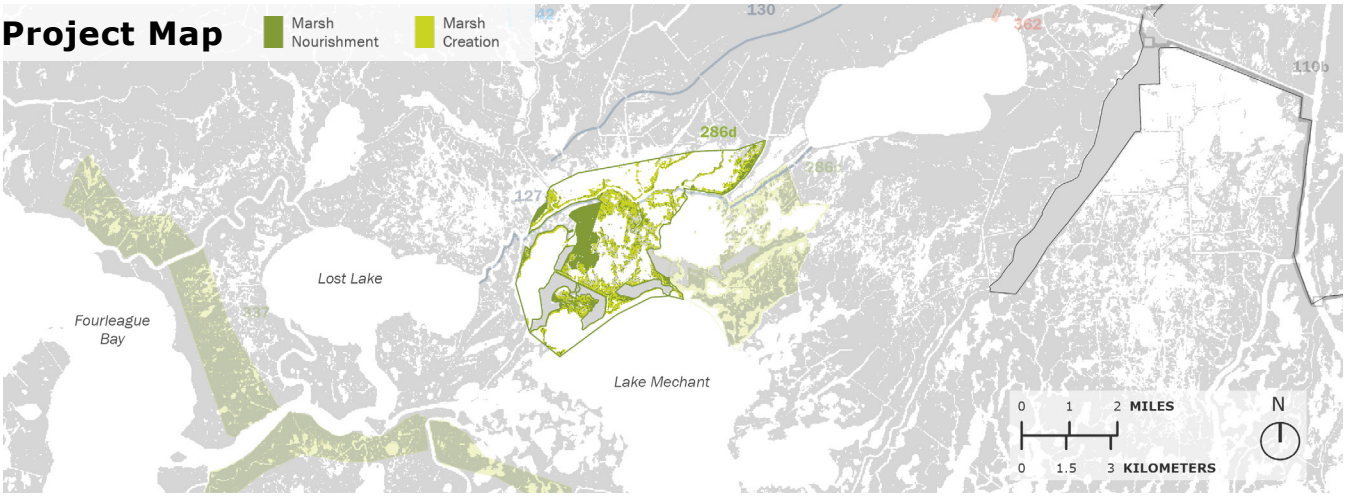
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	1.6K	2.0K	1.8K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	27 / 0	27 / 0	27 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$15M - $19M	$190M - $230M	$3.7M - $4.5M	**$210M - $260M**
Duration	3	3	24	---

Project Map



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ABBEVILLE AND VICINITY

PROJECT ID: 292 / IMPLEMENTATION PERIOD 2

Project Location

Iberia Parish, Vermilion Parish

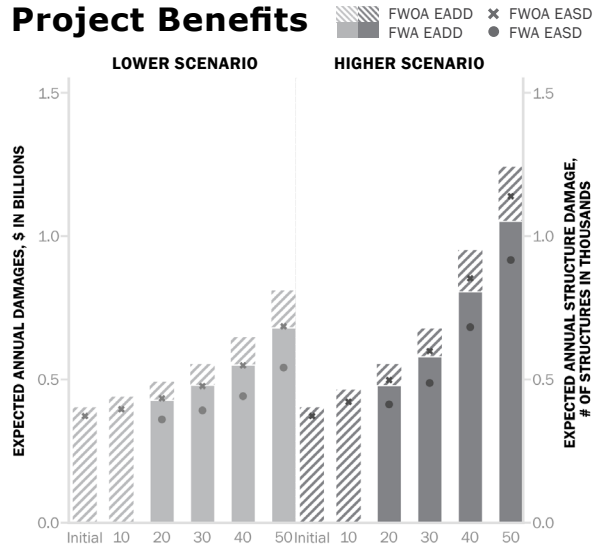
Description

Construction of a levee to an elevation between 15.5 and 20 feet NAVD88 in the area south of Delcambre, Erath, and Abbeville roughly following Highway 330. Project features approximately 100,000 feet of earthen levee, approximately 2,800 feet of T-wall, two 56-foot barge gates, two 20-foot stop log gates, two 30-foot stop log gates, and a sluice gate.

Estimated Cost and Duration

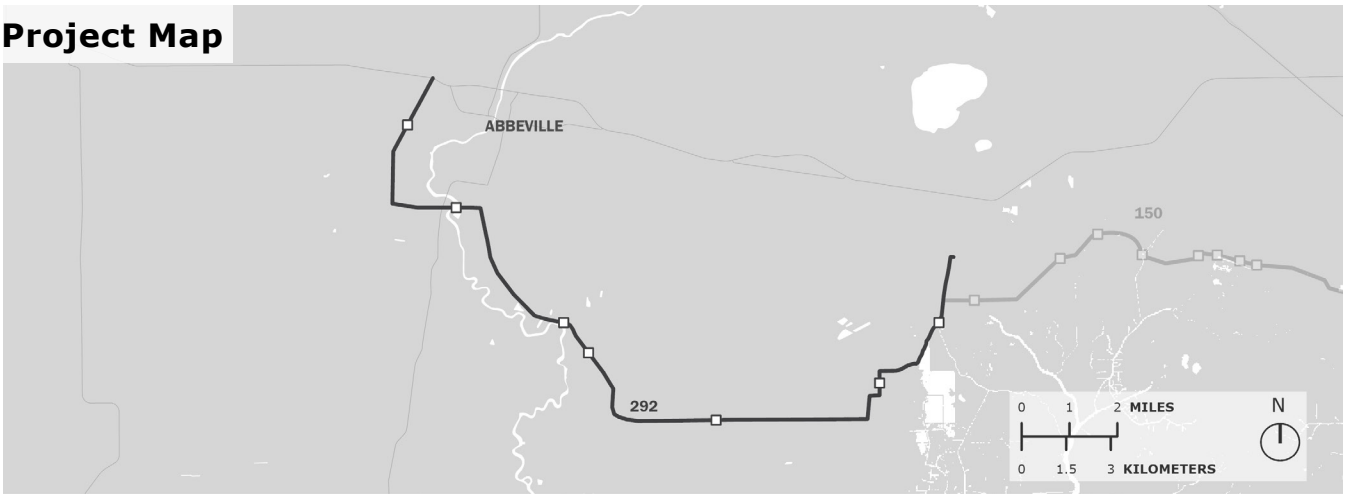
	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$37M - $44M	$500M - $600M	$18M - $22M	**$560M - $660M**
Duration	3	4	23	---

Project Benefits



EADD and EASD are two different metrics used to measure risk. This graph shows the total risk without action (FWOA) and the remaining risk if the project is implemented (FWA). The difference is the project benefit.

Project Map

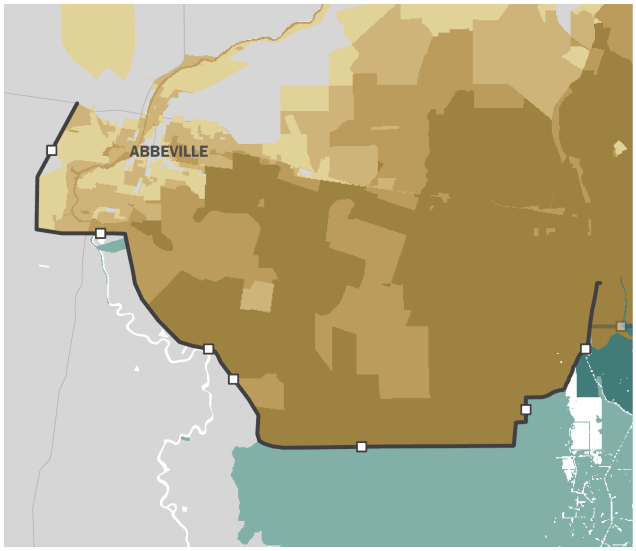


Explanation of Project Benefits

Expected Annual Damage in dollars (EADD) and Expected Annual Structure Damage (EASD) are two metrics by which the impact of modeled storms and master plan risk reduction projects can be evaluated. The graphs show the reduction in damage, both EADD and EASD, provided by the Abbeville and Vicinity structural risk reduction project at Year 20 for storms with varying Annual Exceedance Probability (AEP) as compared to damage without the project implemented. One goal of the master plan is to reduce storm surge-based flood risk, which varies based on location and over time. In order to select projects that reduce that risk, the master plan uses EADD and EASD as metrics that can be used in the evaluation of project performance.

52K **Estimated Current Population**

39% **Percentage of Population who are Low-to-Moderate Income**



Flood Depth Reduction with the master plan at Year 50

- ≤ -9 feet
- -9 to -6 feet
- -6 to -3 feet
- -3 to -1 feet
- +1 to +3 feet
- > +3 feet
- Structural Risk Reduction

Flood Risk In Project Area

Storm surge-based flooding is and will continue to be a risk for coastal Louisiana communities. The table below shows EADD and EASD for the project area now, and at years 20 and 50, both with and without the Abbeville and Vicinity project implemented. Damage avoided because of the project is also provided.

	Initial Conditions	FWOA (YR20/50)	FWA (YR20/50)	Losses Avoided (YR20/50)
Lower Scenario				
EADD ($)	$400M	$490M/$810M	$430M/$680M	$63M/$130M
EASD (#Structures)	370	440/690	360/540	73/150
Higher Scenario				
EADD ($)	$400M	$550M/$1.2B	$480M/$1.1B	$74M/$190M
EASD (#Structures)	370	500/1.1K	410/920	86/220

Assets and Exposure

Communities and individuals experience the impacts of storm surge in a variety of ways. While the master plan looks at damage in the project selection process, other considerations like impacts on residential structures, public services, and other assets are also important to understand. The Abbeville and Vicinity project provides a barrier to storm surge that provides an increased level of protection for the assets shown below.

	Residences	Schools & Daycares	Hospitals	Nursing Homes	Emergency Services	Water Supply	Electrical Substations & Power Plants	Gas Stations
Total	18K	24	1	5	15	56	27	8
Protected	4.2K	21	1	5	9	32	10	6

FRESHWATER BAYOU NORTH MARSH CREATION

PROJECT ID: 293C / IMPLEMENTATION PERIOD 1

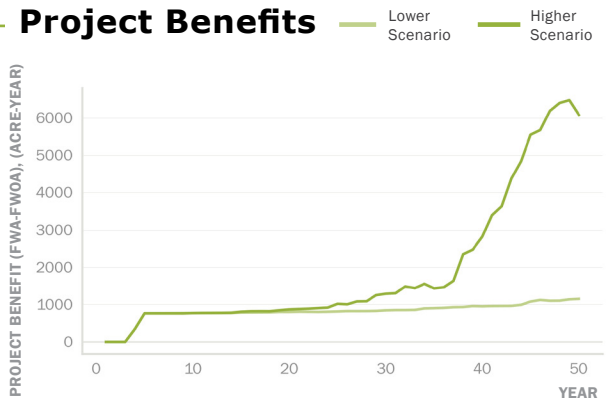
Project Location

Vermilion Parish

Description

Creation of marsh in the northern portion in Vermilion Parish west of Freshwater Bayou to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



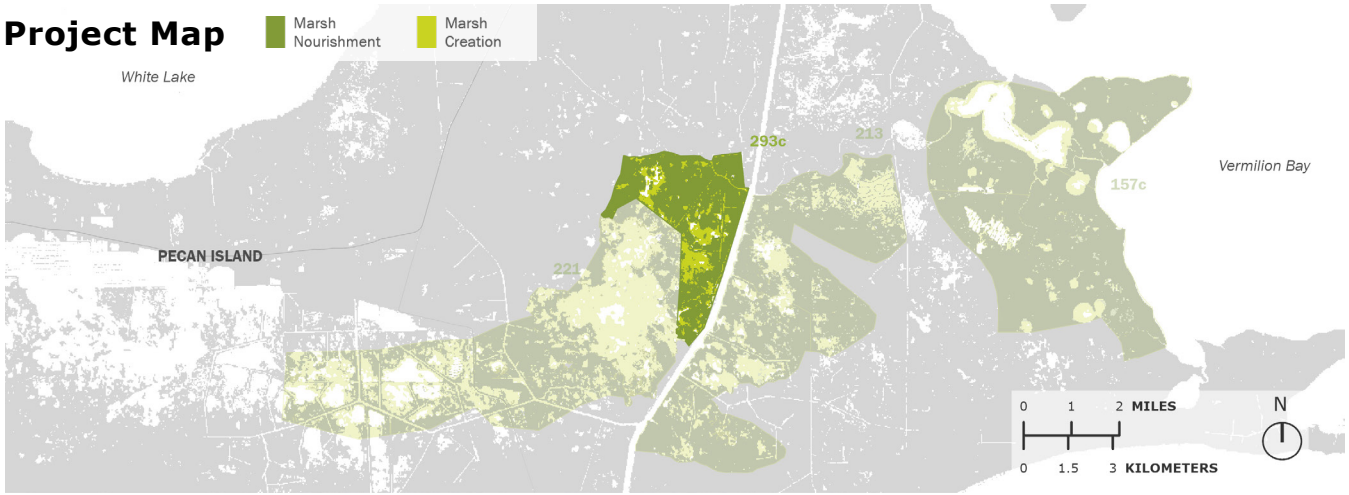
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	1.2K	6.5K	3.8K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	47 / 0	47 / 0	47 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$9.5M - $12M	$120M - $150M	$4.3M - $5.5M	**$130M - $170M**
Duration	3	2	45	---

Project Map



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LITTLE CHENIER MARSH CREATION

PROJECT ID: 296 / IMPLEMENTATION PERIOD 2

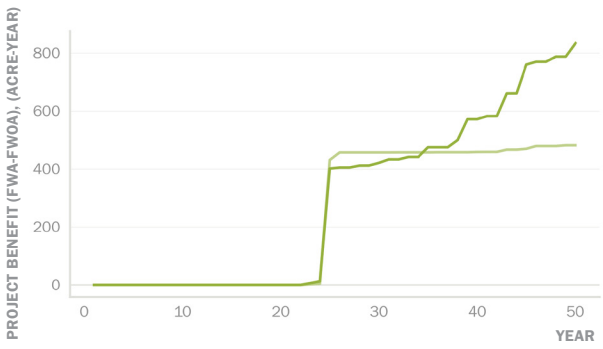
Project Location

Cameron Parish

Description

Creation of marsh within a footprint of approximately 1,100 acres in Cameron Parish south of Grand Lake to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



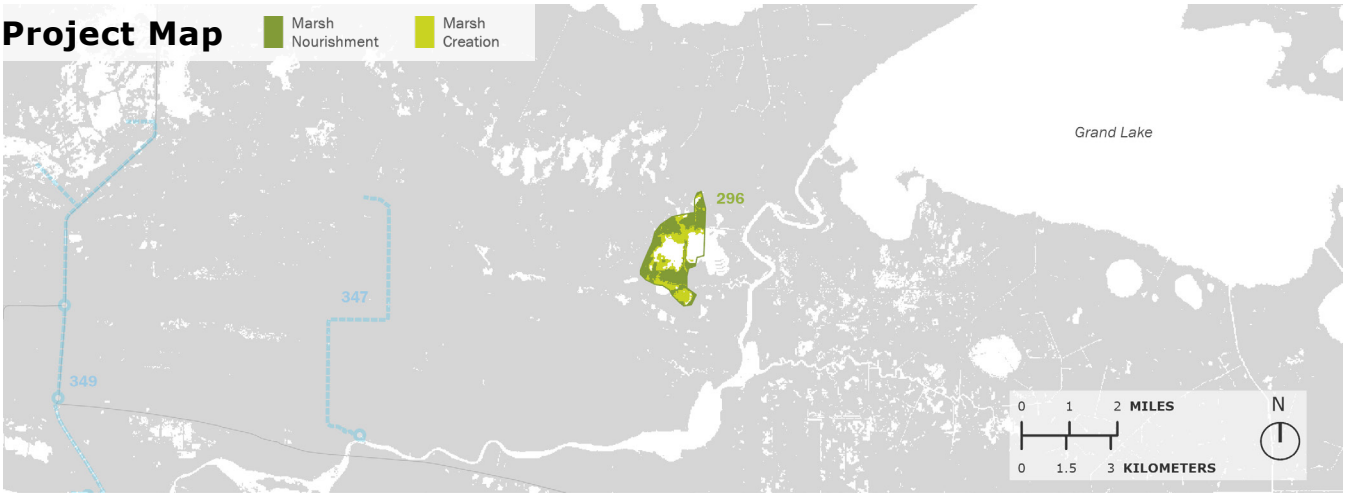
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	480	830	660
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	28 / 0	28 / 0	28 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$3.4M - $4.1M	$42M - $51M	$880K - $1.1M	**$46M - $57M**
Duration	2	2	26	---

Project Map



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WEST BROWN LAKE MARSH CREATION - NORTH

PROJECT ID: 298B / IMPLEMENTATION PERIOD 2

ECOREGION

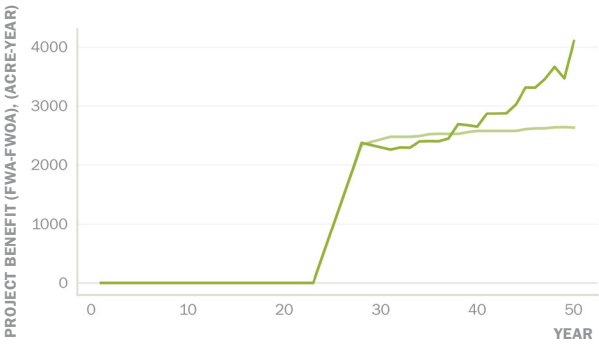
Project Location

Cameron Parish

Description

Creation of marsh in the eastern portion of marsh in Cameron Parish south of Black Lake to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



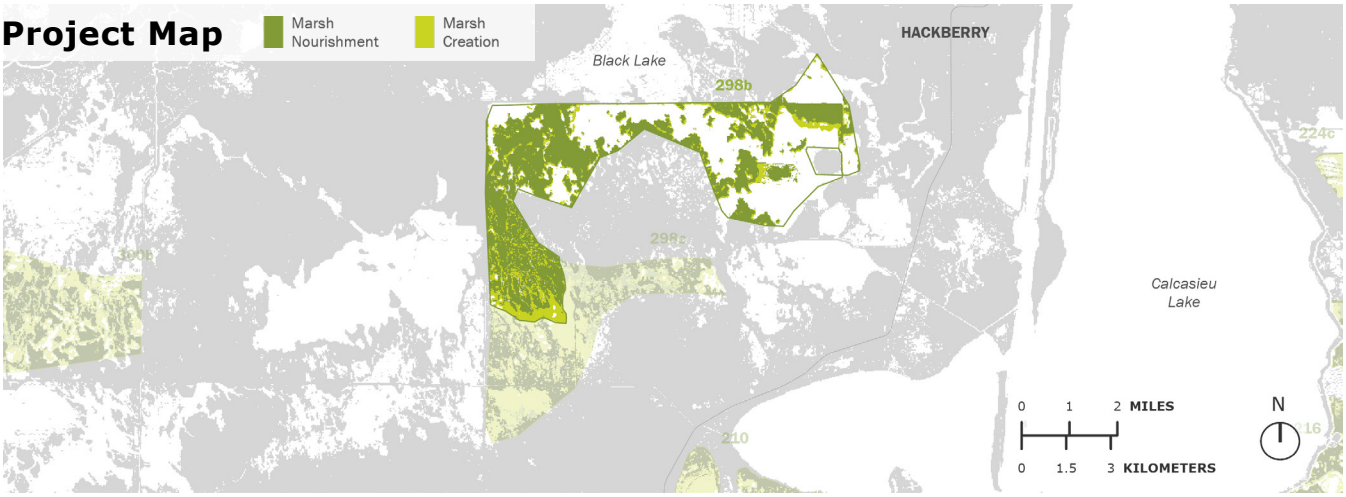
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	2.6K	4.1K	3.4K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	27 / 0	27 / 0	27 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$27M - $34M	$340M - $420M	$5.9M - $7.4M	**$370M - $460M**
Duration	3	5	22	---

Project Map



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WEST BROWN LAKE MARSH CREATION - SOUTH

PROJECT ID: 298C / IMPLEMENTATION PERIOD 1

ECOREGION

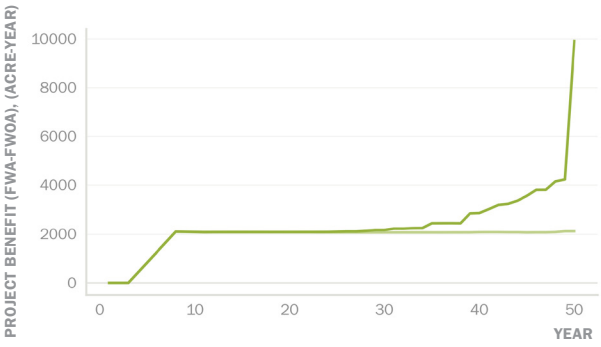
Project Location

Cameron Parish

Description

Creation of marsh in the eastern portion of marsh in Cameron Parish south of Black Lake to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



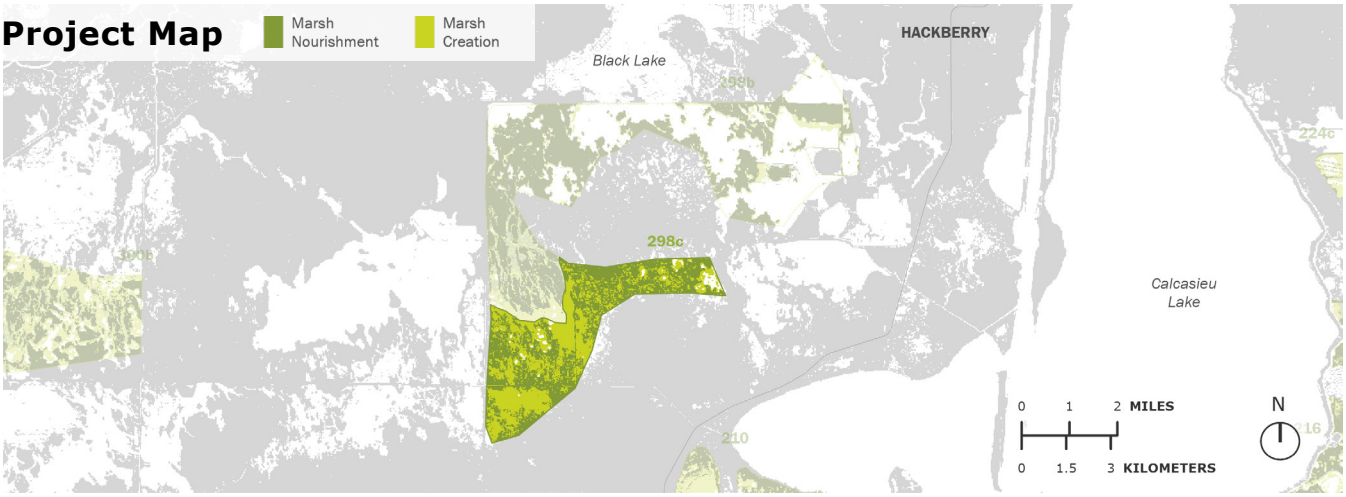
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	2.1K	9.9K	6.0K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	47 / 0	47 / 0	47 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$15M - $19M	$190M - $240M	$6.5M - $7.9M	**$210M - $260M**
Duration	3	5	42	---

Project Map



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WEST SABINE REFUGE MARSH CREATION

PROJECT ID: 300B / IMPLEMENTATION PERIOD 2

ECOREGION

Project Location

Cameron Parish

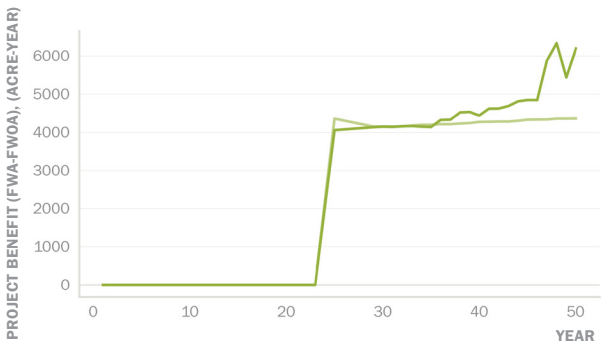
Description

Creation of marsh in the western portion of marsh in Cameron Parish east of Sabine Lake to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$42M - $51M	$520M - $640M	$10M - $13M	**$580M - $700M**
Duration	3	2	25	---

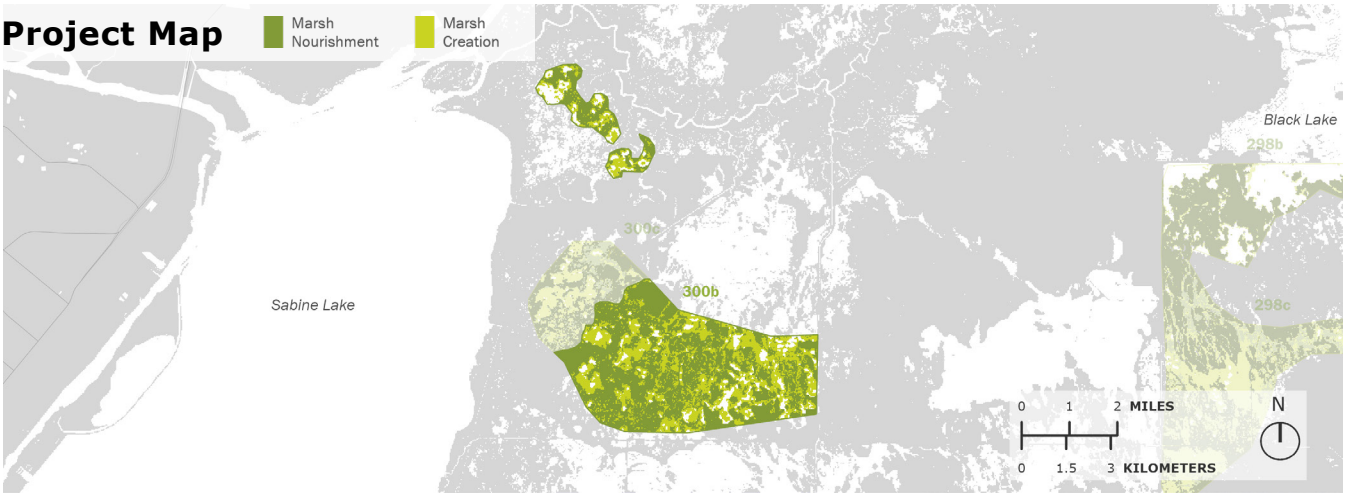
Project Benefits



PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	4.4K	6.3K	5.3K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	27 / 0	27 / 0	27 / 0

Project Map



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WEST SABINE REFUGE MARSH CREATION - CENTRAL

PROJECT ID: 300C / IMPLEMENTATION PERIOD 1

ECOREGION

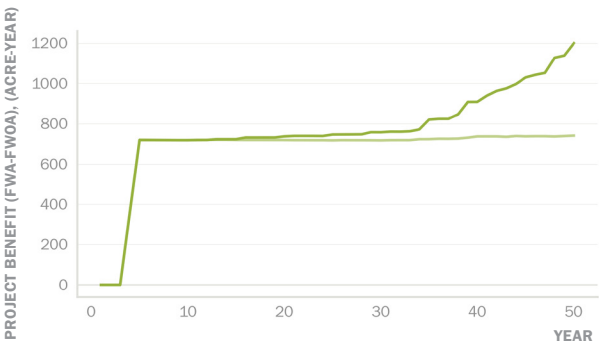
Project Location

Cameron Parish

Description

Creation of marsh in the western portion of marsh in Cameron Parish east of Sabine Lake to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



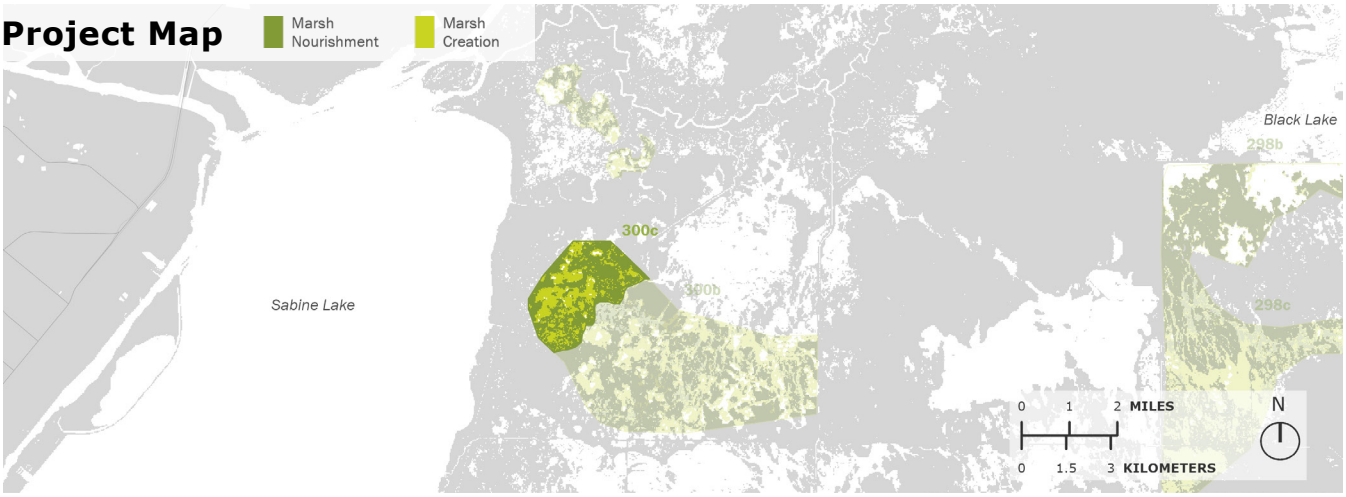
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	740	1.2K	970
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	47 / 0	47 / 0	47 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$8.3M - $10M	$100M - $130M	$3.7M - $4.6M	**$120M - $140M**
Duration	3	2	45	---

Project Map



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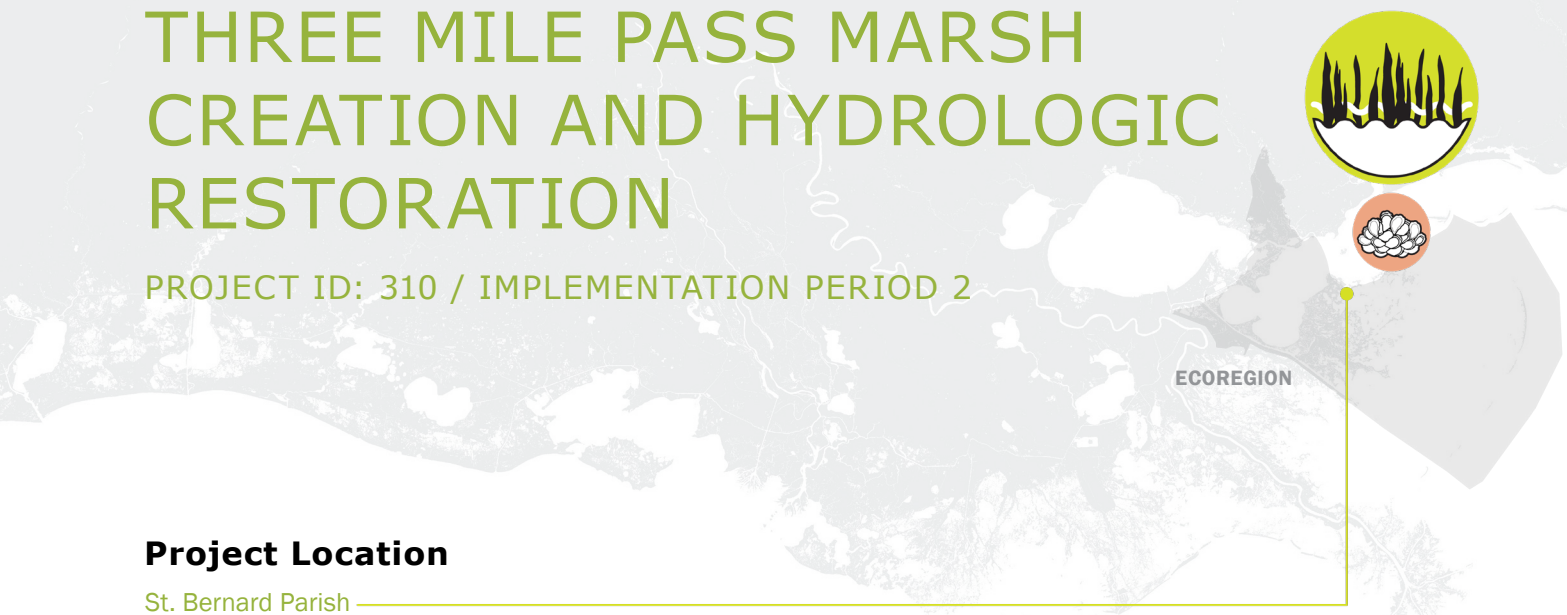
THREE MILE PASS MARSH CREATION AND HYDROLOGIC RESTORATION

PROJECT ID: 310 / IMPLEMENTATION PERIOD 2



Project Location

St. Bernard Parish

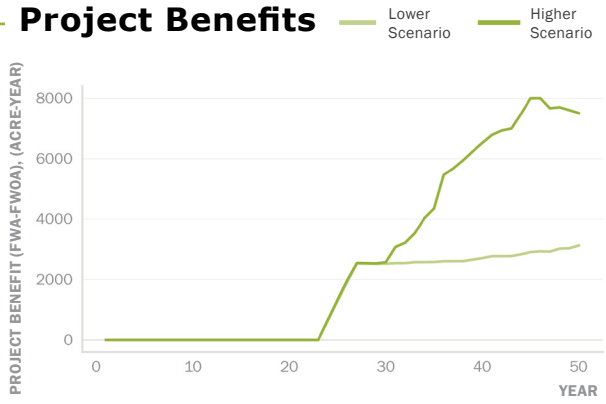
Description

Creation of marsh within a footprint of approximately 11,000 acres including a 660 acre footprint filling areas deeper than 2.5 feet to create new wetland habitat and restore degraded marsh in Malheureaux Point and Grand Pass. 20,000 feet of oyster reef creation along the created marsh in Three Mile Bay to reduce hydrologic connectivity between Mississippi and the interior of the Biloxi Marsh Complex.

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$37M - $46M	$460M - $580M	$8.5M - $11M	**$510M - $640M**
Duration	3	4	23	---

Project Benefits



PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	3.1K	8.0K	5.6K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	27 / 0	27 / 0	27 / 0

Project Map

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WEST DELACROIX MARSH CREATION

PROJECT ID: 313 / IMPLEMENTATION PERIOD 1

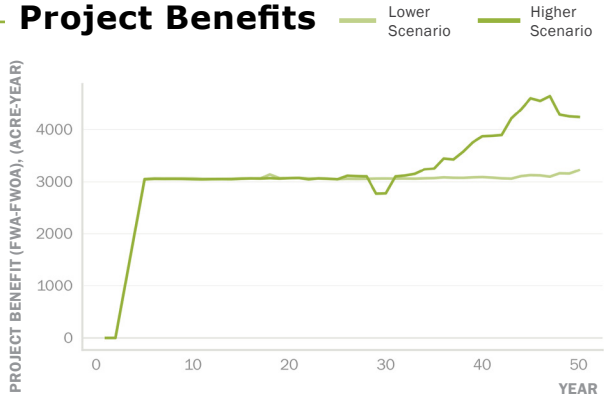
Project Location

Plaquemines Parish

Description

Creation of marsh within a footprint of approximately 5,100 acres south and west of Delacroix Island to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



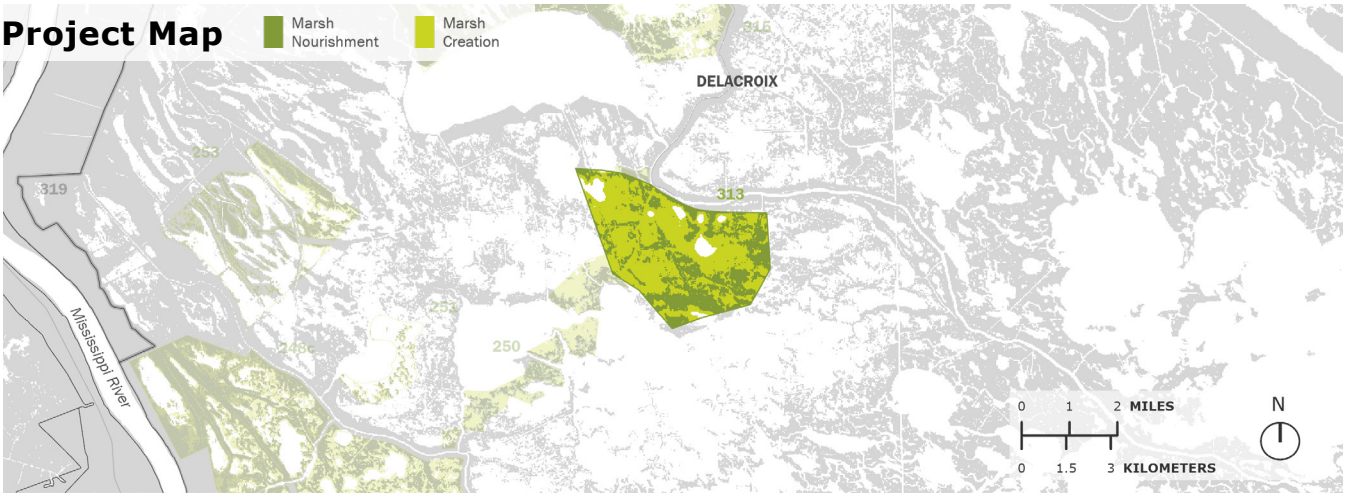
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	3.2K	4.6K	3.9K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	48 / 0	48 / 0	48 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$25M - $31M	$320M - $390M	$11M - $14M	**$360M - $430M**
Duration	2	3	45	---

Project Map



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BELLE PASS ISLAND MARSH CREATION

PROJECT ID: 314 / IMPLEMENTATION PERIOD 1

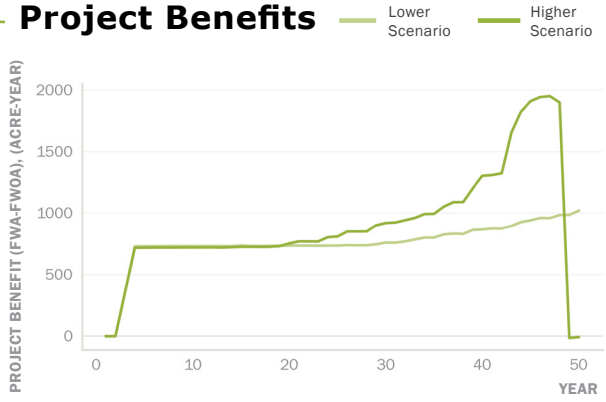
Project Location

Plaquemines Parish

Description

Creation of marsh within a footprint of approximately 3,800 acres on Belle Pass Island near Bohemia to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



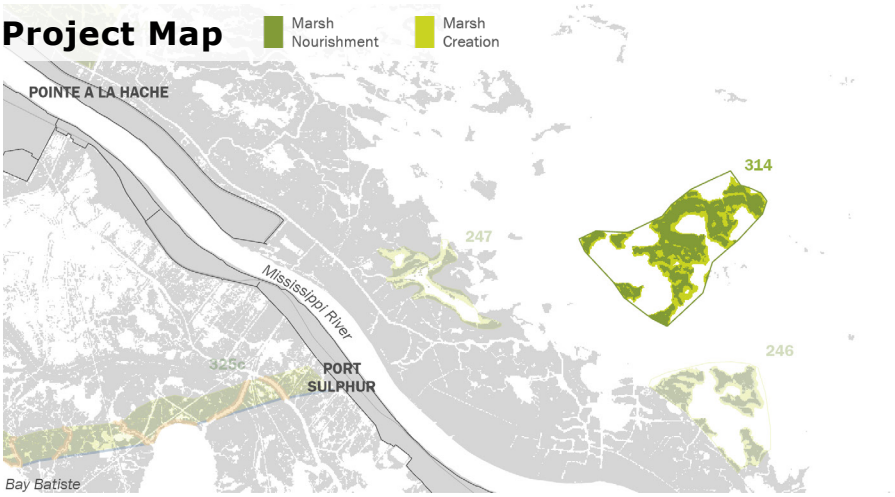
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	1.0K	2.0K	1.5K
Min. Annual Benefit (Acre)	0	-14	-7
Years of Pos. / Neg. Benefit	48 / 0	46 / 2	47 / 1

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$6.5M - $7.9M	$81M - $99M	$3.M - $3.6M	**$90M - $110M**
Duration	2	2	46	---

Project Map



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NORTH AND EAST LAKE LERY MARSH CREATION

PROJECT ID: 315 / IMPLEMENTATION PERIOD 2

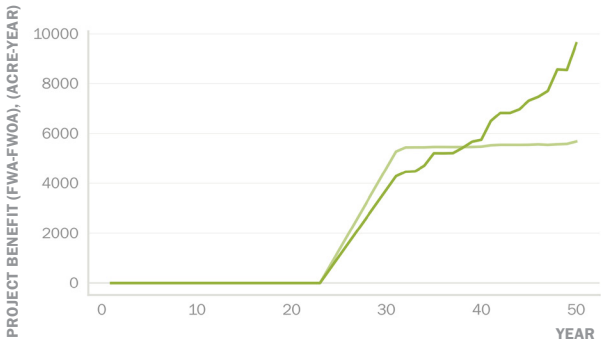
Project Location

St. Bernard Parish

Description

Creation of marsh within a footprint of approximately 14,000 acres in north and east Lake Lery to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



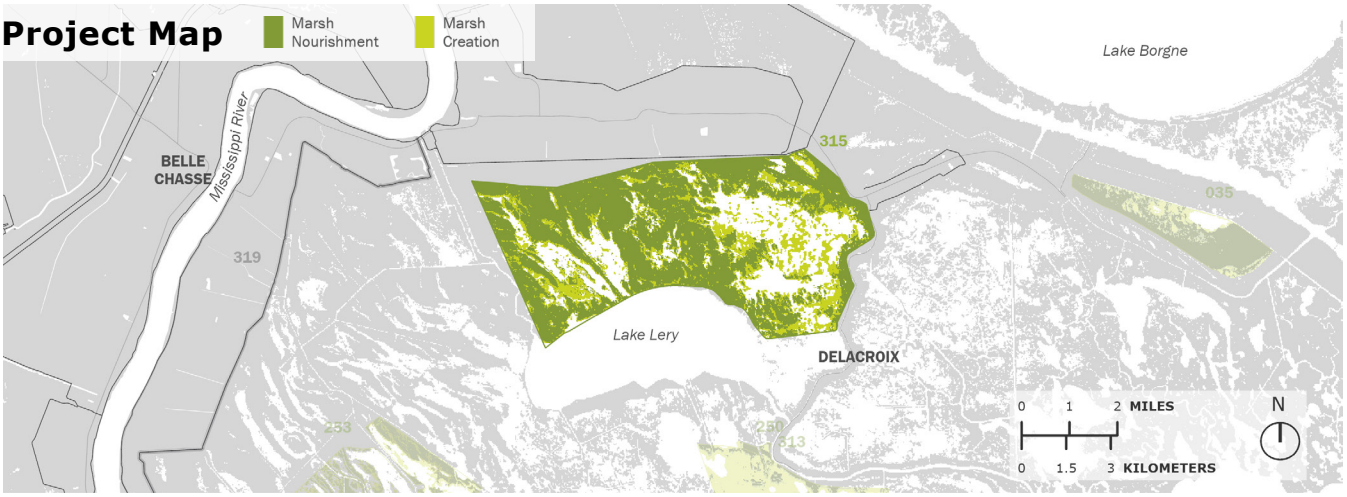
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	5.7K	9.6K	7.6K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	27 / 0	27 / 0	27 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$59M - $71M	$730M - $890M	$11M - $14M	**$800M - $980M**
Duration	3	8	19	---

Project Map



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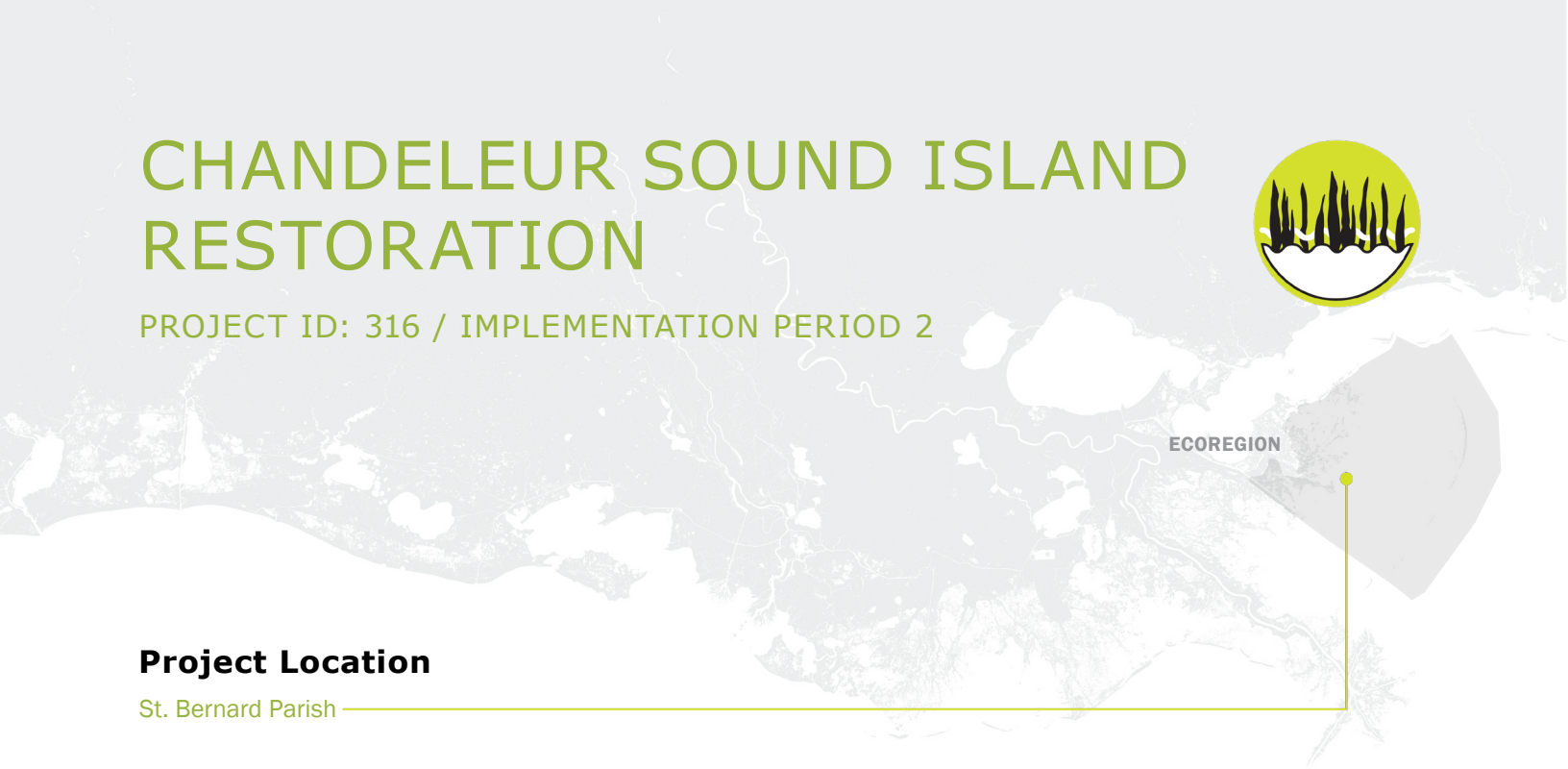
CHANDELEUR SOUND ISLAND RESTORATION

PROJECT ID: 316 / IMPLEMENTATION PERIOD 2



Project Location

St. Bernard Parish

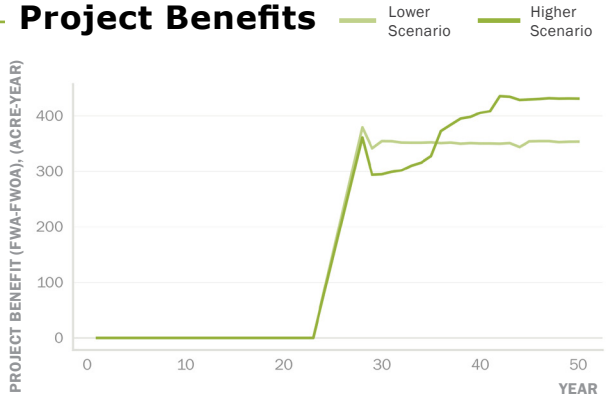
Description

Creation of marsh within a footprint of approximately 940 acres in the eastern Biloxi Marsh Complex to create new wetland habitat, restore degraded marsh, and reduce wave erosion on Comfort Island, Mitchell Island, Martin Island, and Brush Island.

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$3.8M - $4.6M	$47M - $58M	$830K - $1.M	**$52M - $63M**
Duration	3	5	22	---

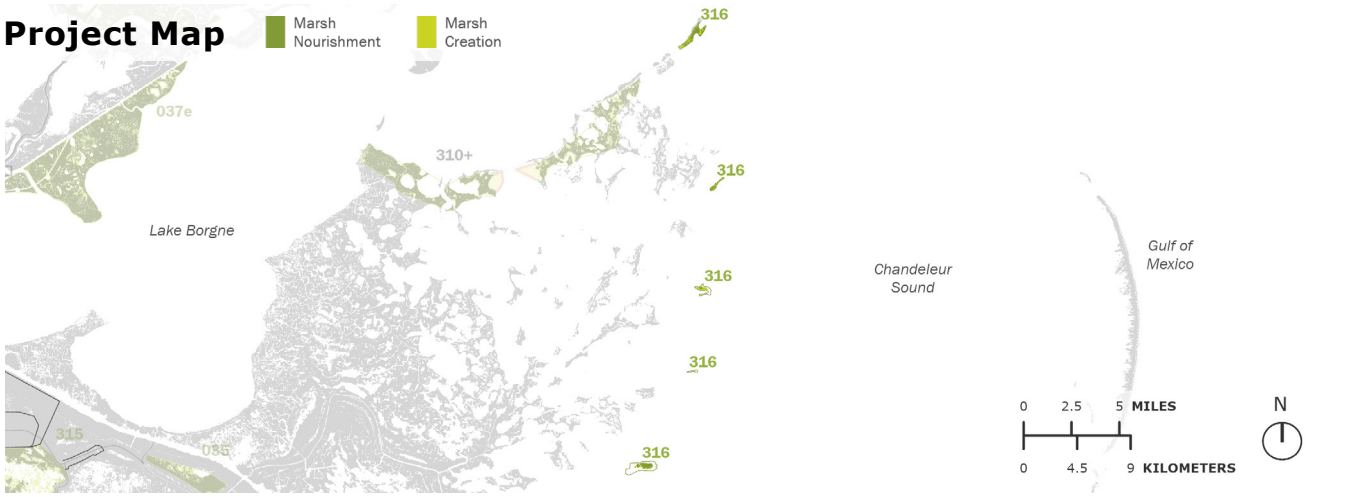
Project Benefits



PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	380	440	410
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	27 / 0	27 / 0	27 / 0

Project Map



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TCHEFUNCTE RIVER RESTORATION

PROJECT ID: 318 / IMPLEMENTATION PERIOD 1

ECOREGION

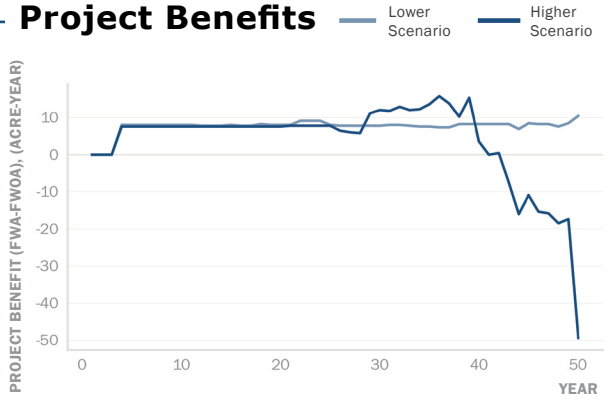
Project Location

St. Tammany Parish

Description

Restoration of approximately 3,600 feet of historic ridge at the mouth of the Tchefuncte River to provide coastal upland habitat, restore natural hydrology, and provide wave and storm surge attenuation.

Project Benefits



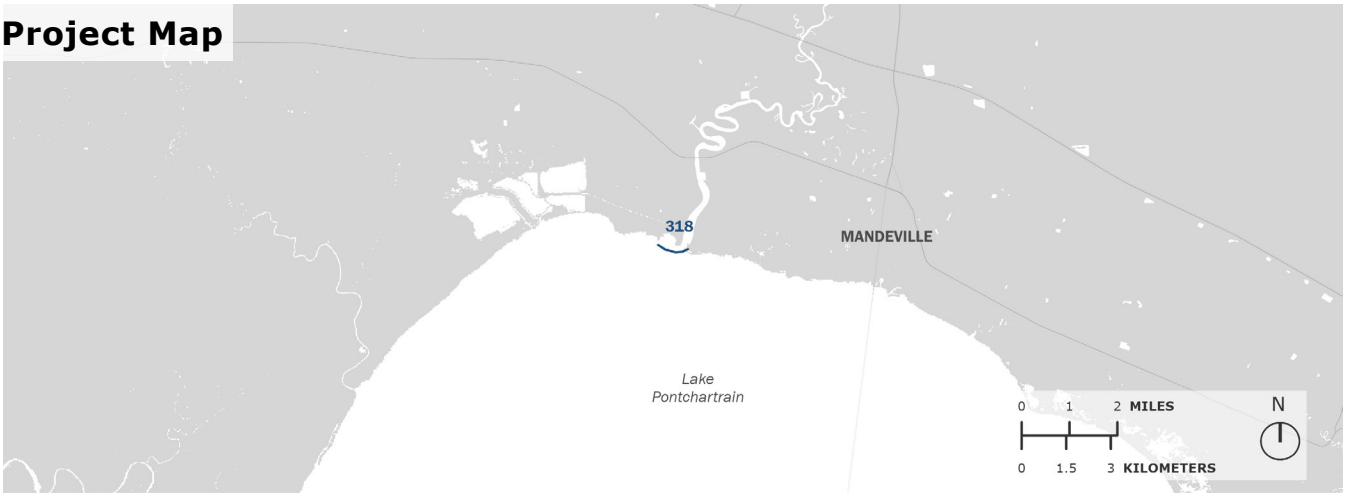
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	10	16	13
Min. Annual Benefit (Acre)	0	-49	-25
Years of Pos. / Neg. Benefit	47 / 0	38 / 8	43 / 4

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$130K - $150K	$1.6M - $1.8M	$59K - $68K	**$1.8M - $2.1M**
Duration	2	2	46	---

Project Map



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BRAITHWAITE TO WHITE DITCH

PROJECT ID: 319 / IMPLEMENTATION PERIOD 1

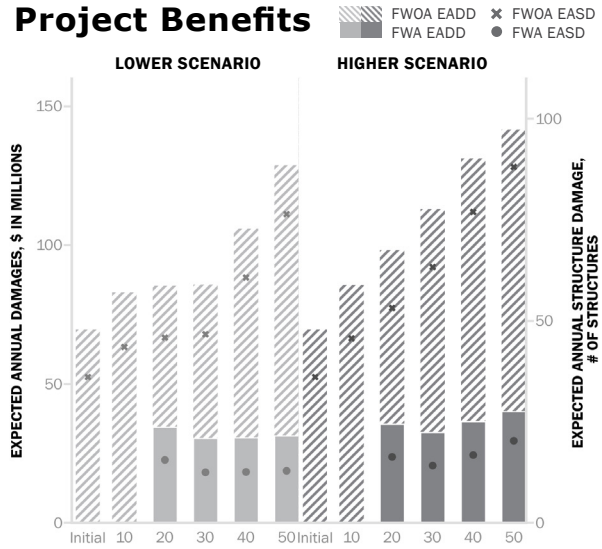
Project Location

Plaquemines Parish

Description

Improvements of a levee to an elevation of 15 feet NAVD88 between Braithwaite and White Ditch. Project features approximately 94,000 feet of earthen levee and approximately 280 feet of T-wall.

Project Benefits

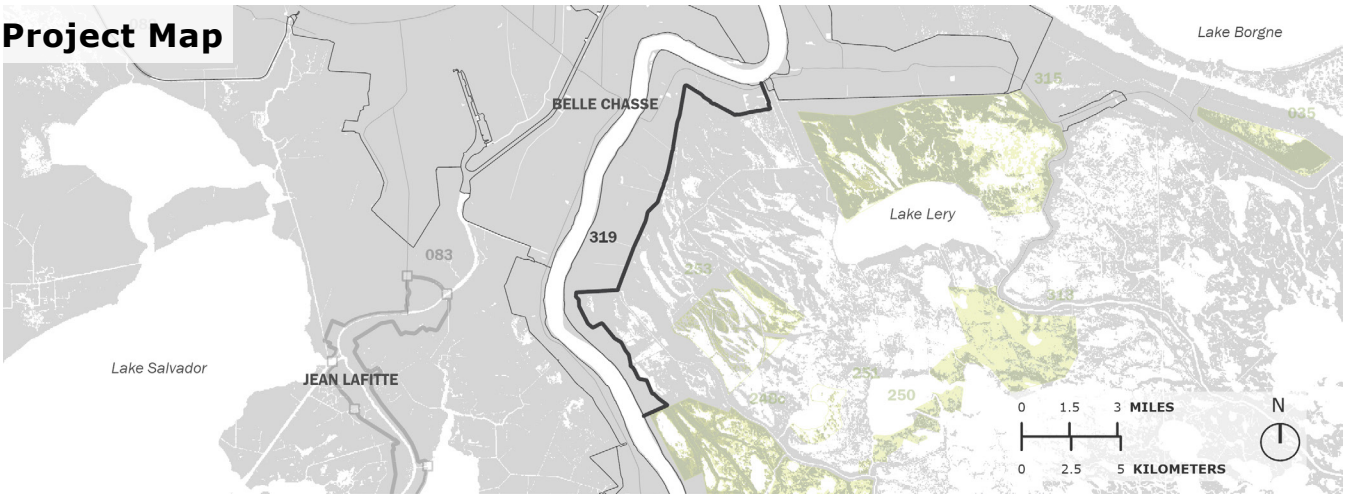


EADD and EASD are two different metrics used to measure risk. This graph shows the total risk without action (FWOA) and the remaining risk if the project is implemented (FWA). The difference is the project benefit.

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$29M - $35M	$360M - $440M	$7.6M - $9.3M	**$400M - $480M**
Duration	2	2	46	---

Project Map

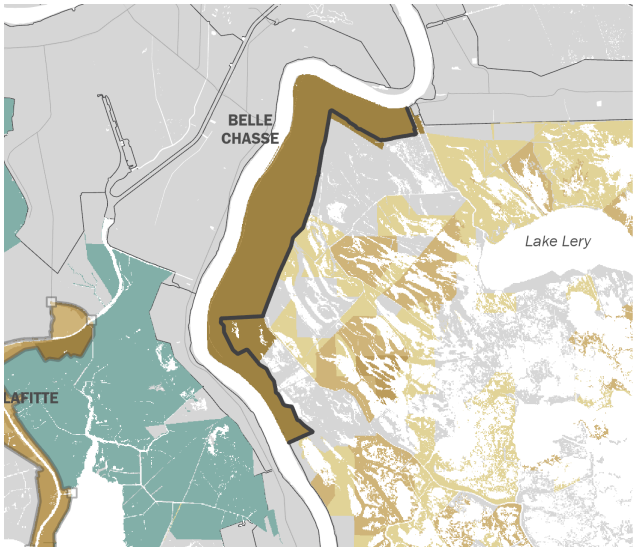


Explanation of Project Benefits

Expected Annual Damage in dollars (EADD) and Expected Annual Structure Damage (EASD) are two metrics by which the impact of modeled storms and master plan risk reduction projects can be evaluated. The graphs show the reduction in damage, both EADD and EASD, provided by the Braithwaite to White Ditch structural risk reduction project at Year 20 for storms with varying Annual Exceedance Probability (AEP) as compared to damage without the project implemented. One goal of the master plan is to reduce storm surge-based flood risk, which varies based on location and over time. In order to select projects that reduce that risk, the master plan uses EADD and EASD as metrics that can be used in the evaluation of project performance.

600 **Estimated Current Population**

41% **Percentage of Population who are Low-to-Moderate Income**



Flood Depth Reduction with the master plan at Year 50

- ≤ -9 feet
- -9 to -6 feet
- -6 to -3 feet
- -3 to -1 feet
- +1 to +3 feet
- > +3 feet
- Structural Risk Reduction

Flood Risk In Project Area

Storm surge-based flooding is and will continue to be a risk for coastal Louisiana communities. The table below shows EADD and EASD for the project area now, and at years 20 and 50, both with and without the Braithwaite to White Ditch project implemented. Damage avoided because of the project is also provided.

	Initial Conditions	FWOA (YR20/50)	FWA (YR20/50)	Losses Avoided (YR20/50)
Lower Scenario				
EADD ($)	$70M	$85M/$130M	$34M/$31M	$51M/$97M
EASD (#Structures)	36	46/76	16/13	30/64
Higher Scenario				
EADD ($)	$70M	$98M/$140M	$36M/$40M	$63M/$100M
EASD (#Structures)	36	53/88	16/20	37/68

Assets and Exposure

Communities and individuals experience the impacts of storm surge in a variety of ways. While the master plan looks at damage in the project selection process, other considerations like impacts on residential structures, public services, and other assets are also important to understand. The Braithwaite to White Ditch project provides a barrier to storm surge that provides an increased level of protection for the assets shown below.

	Residences	Schools & Daycares	Hospitals	Nursing Homes	Emergency Services	Water Supply	Electrical Substations & Power Plants	Gas Stations
Total	710	---	---	---	2	1	6	---
Protected	79	---	---	---	---	---	1	---

ST JAMES-ASCENSION PARISHES STORM SURGE PROTECTION

PROJECT ID: 320 /
IMPLEMENTATION PERIOD 2

Project Location

Ascension Parish, St. James Parish, St. John the Baptist Parish

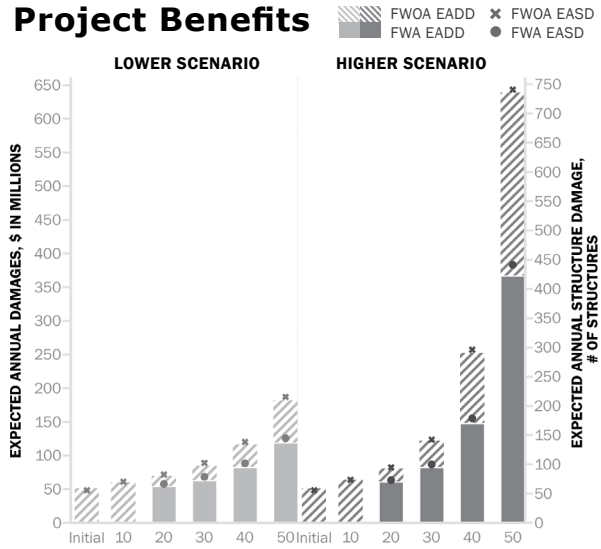
Description

Construction of a levee to an elevation of 16 feet NAVD88 protecting areas between Geismer and Gramercy. Project features approximately 140,000 feet of earthen levee, approximately 6,800 feet of T-wall, a 40-foot roller gate, two 40-foot roller gates, four sluice gates, a one-way culvert for the Panama Canal Connector, and four pump stations.

Estimated Cost and Duration

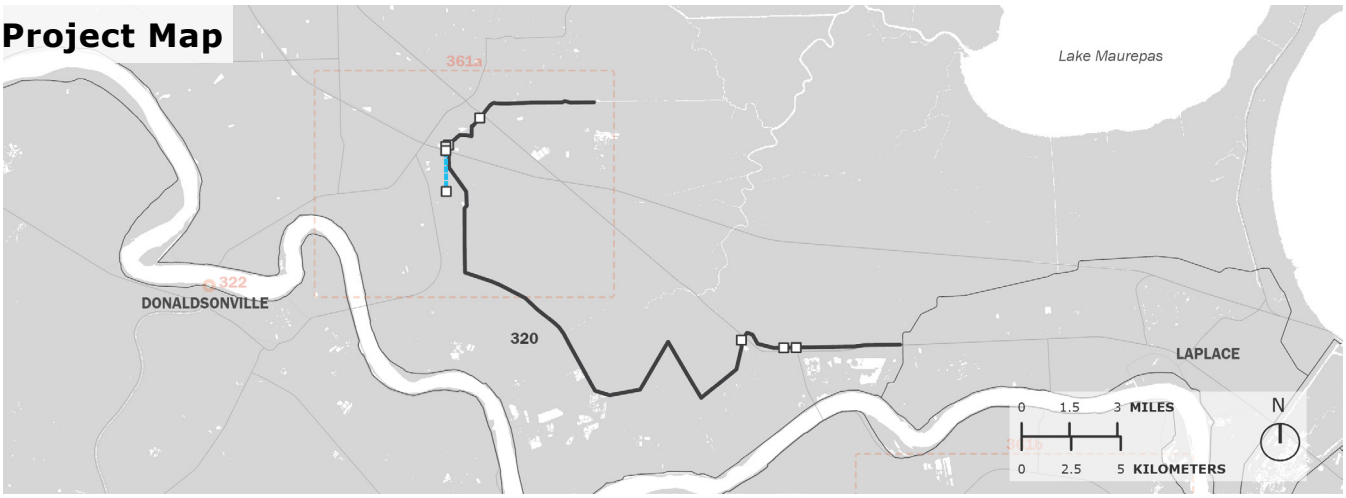
	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$42M - $54M	$550M - $700M	$54M - $66M	**$650M - $820M**
Duration	4	5	21	---

Project Benefits



EADD and EASD are two different metrics used to measure risk. This graph shows the total risk without action (FWOA) and the remaining risk if the project is implemented (FWA). The difference is the project benefit.

Project Map

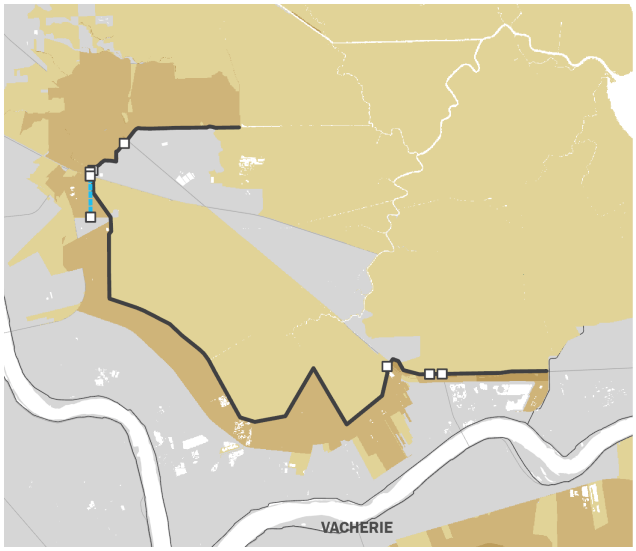


Explanation of Project Benefits

Expected Annual Damage in dollars (EADD) and Expected Annual Structure Damage (EASD) are two metrics by which the impact of modeled storms and master plan risk reduction projects can be evaluated. The graphs show the reduction in damage, both EADD and EASD, provided by the St James-Ascension Parishes Storm Surge Protection structural risk reduction project at Year 20 for storms with varying Annual Exceedance Probability (AEP) as compared to damage without the project implemented. One goal of the master plan is to reduce storm surge-based flood risk, which varies based on location and over time. In order to select projects that reduce that risk, the master plan uses EADD and EASD as metrics that can be used in the evaluation of project performance.

170K **Estimated Current Population**

34% **Percentage of Population who are Low-to-Moderate Income**



Flood Depth Reduction with the master plan at Year 50

- ≤ -9 feet
- -9 to -6 feet
- -6 to -3 feet
- -3 to -1 feet
- +1 to +3 feet
- > +3 feet
- Structural Risk Reduction

Flood Risk In Project Area

Storm surge-based flooding is and will continue to be a risk for coastal Louisiana communities. The table below shows EADD and EASD for the project area now, and at years 20 and 50, both with and without the St James-Ascension Parishes Storm Surge Protection project implemented. Damage avoided because of the project is also provided.

	Initial Conditions	FWOA (YR20/50)	FWA (YR20/50)	Losses Avoided (YR20/50)
Lower Scenario				
EADD ($)	$52M	$70M/$180M	$54M/$120M	$16M/$63M
EASD (#Structures)	56	83/220	67/150	16/71
Higher Scenario				
EADD ($)	$52M	$81M/$640M	$61M/$370M	$20M/$270M
EASD (#Structures)	56	95/740	73/440	21/300

Assets and Exposure

Communities and individuals experience the impacts of storm surge in a variety of ways. While the master plan looks at damage in the project selection process, other considerations like impacts on residential structures, public services, and other assets are also important to understand. The St James-Ascension Parishes Storm Surge Protection project provides a barrier to storm surge that provides an increased level of protection for the assets shown below.

	Residences	Schools & Daycares	Hospitals	Nursing Homes	Emergency Services	Water Supply	Electrical Substations & Power Plants	Gas Stations
Total	12K	11	2	1	10	69	5	14
Protected	2.6K	7	1	---	7	29	3	8

FRESHWATER DELIVERY TO WESTERN BARATARIA

PROJECT ID: 322 / IMPLEMENTATION PERIOD 2

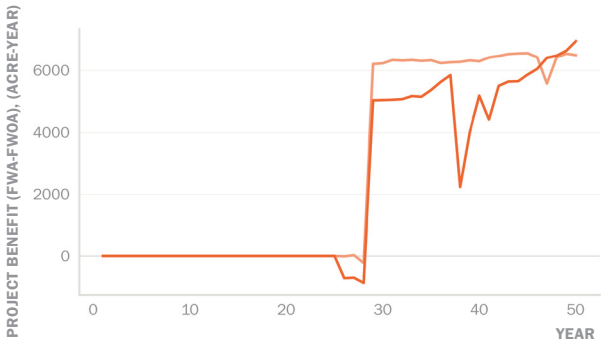
Project Location

Ascension Parish, Lafourche Parish

Description

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.

Project Benefits



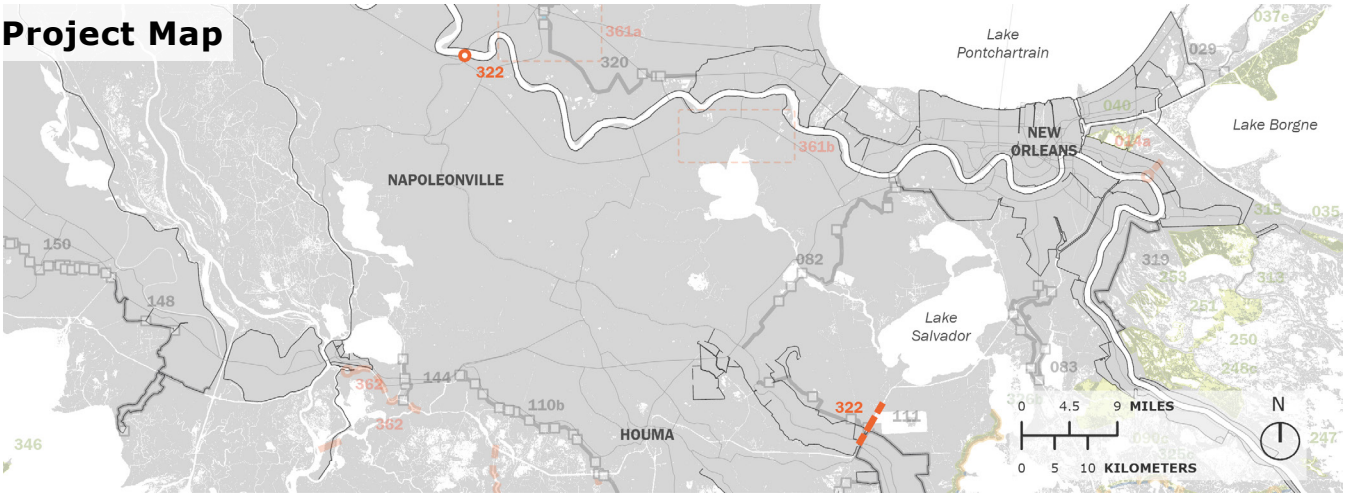
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	6.6K	7.0K	6.8K
Min. Annual Benefit (Acre)	-230	-870	-550
Years of Pos. / Neg. Benefit	23 / 2	22 / 3	23 / 3

Estimated Cost and Duration

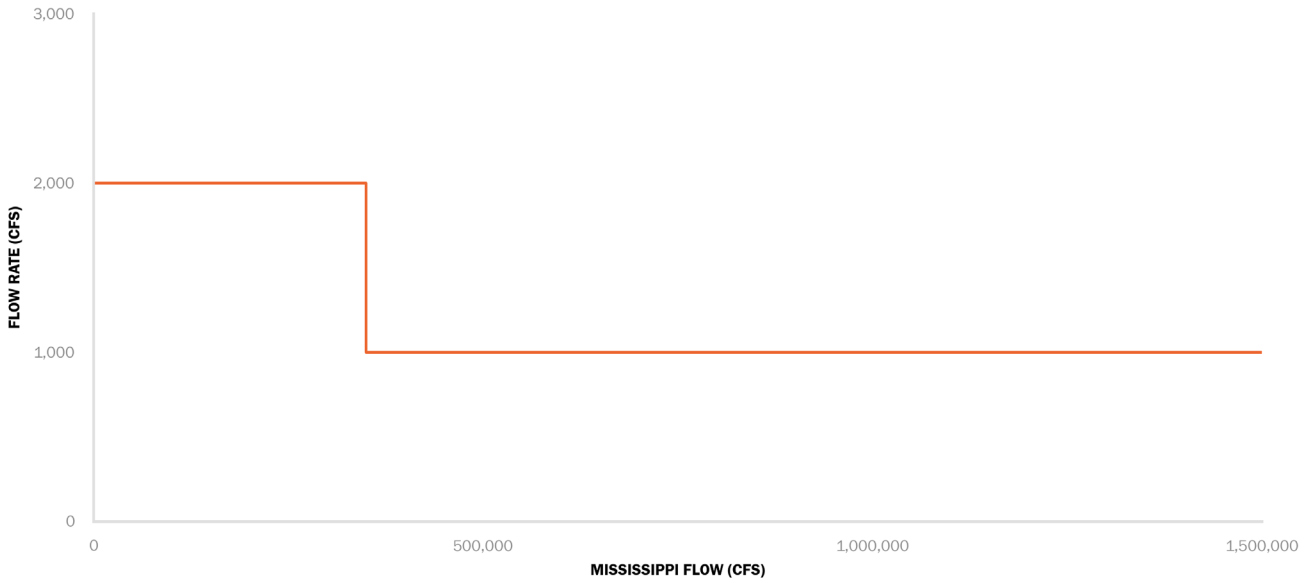
	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$8.M - $9.2M	$100M - $120M	$4.8M - $5.6M	**$110M - $130M**
Duration	4	2	24	---

Project Map



Operational Regime

This operational regime curve demonstrates how the diversion will be operated under various flow conditions in the Mississippi River. This curve shows how the diversion is operated as a function of what flow is occurring in the Mississippi River. When the Mississippi River is under low flow conditions, this diversion would be operated at a baseflow rate. As the flow in the Mississippi River increases with the spring floods, the diversion will see decreased flow until discharge rates fall.



LOWER BARATARIA LANDBRIDGE - EAST

PROJECT ID: 325C / IMPLEMENTATION PERIOD 2

ECOREGION

Project Location

Jefferson Parish, Plaquemines Parish

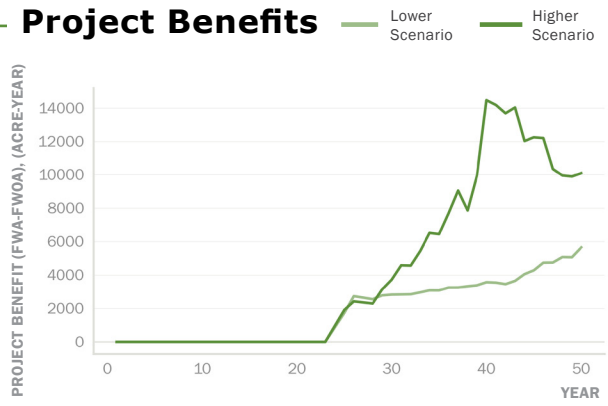
Description

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.

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$51M - $63M	$640M - $790M	$69M - $80M	**$760M - $940M**
Duration	3	3	24	---

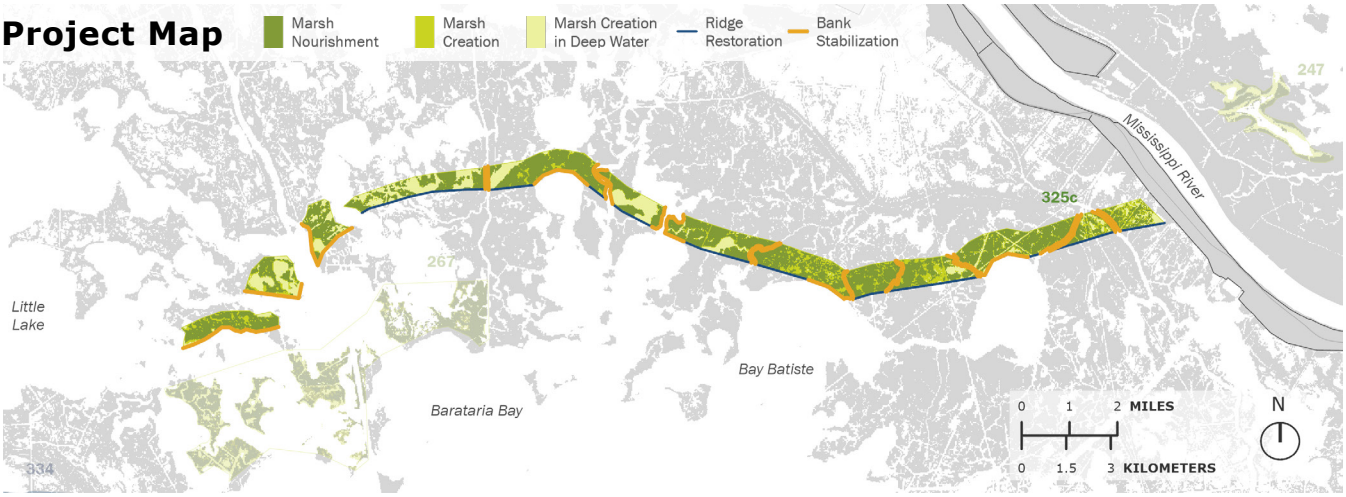
Project Benefits



PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	5.7K	14K	10K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	27 / 0	27 / 0	27 / 0

Project Map



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MID-BARATARIA LANDBRIDGE - WEST

PROJECT ID: 326B / IMPLEMENTATION PERIOD 2

Project Location

Lafourche Parish

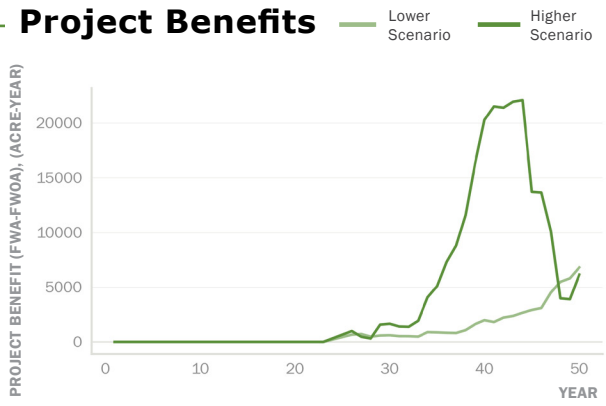
Description

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.

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$32M - $39M	$400M - $490M	$34M - $40M	**$470M - $570M**
Duration	3	3	24	---

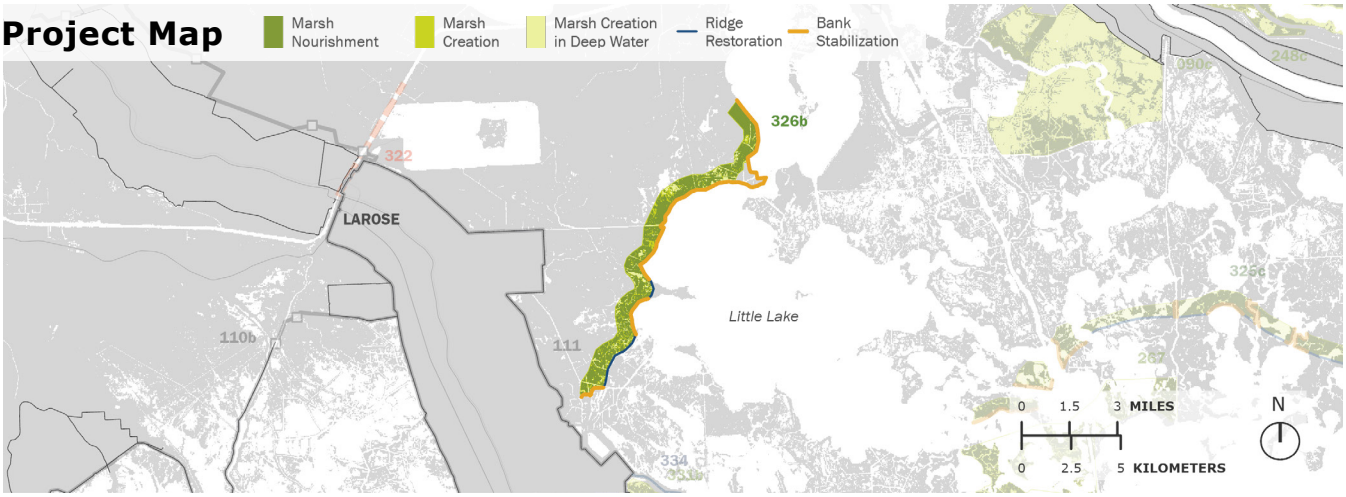
Project Benefits



PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	6.8K	22K	14K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	27 / 0	27 / 0	27 / 0

Project Map



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CAMINADA BAY MARSH CREATION AND FIFI ISLAND RIDGE

PROJECT ID: 329 / IMPLEMENTATION PERIOD 1

Project Location

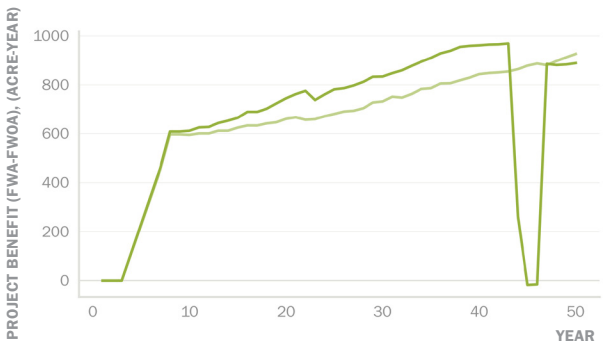
Jefferson Parish, Lafourche Parish

ECOREGION

Description

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.

Project Benefits



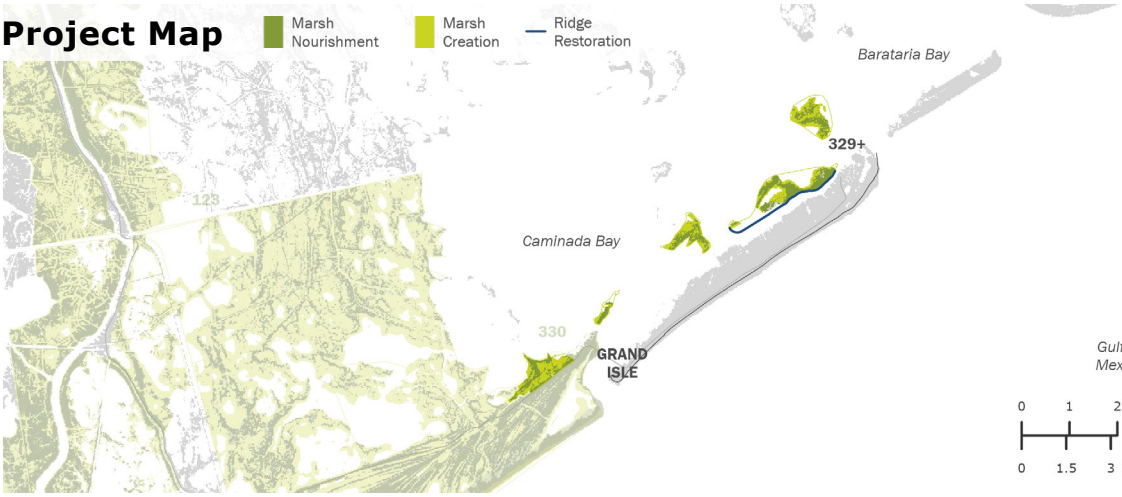
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	930	970	950
Min. Annual Benefit (Acre)	0	-18	-9
Years of Pos. / Neg. Benefit	47 / 0	45 / 2	46 / 1

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$5.1M - $6.2M	$64M - $77M	$2.1M - $2.6M	**$71M - $86M**
Duration	3	5	42	---

Project Map



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EAST BAYOU LAFOURCHE MARSH CREATION

PROJECT ID: 330 / IMPLEMENTATION PERIOD 1

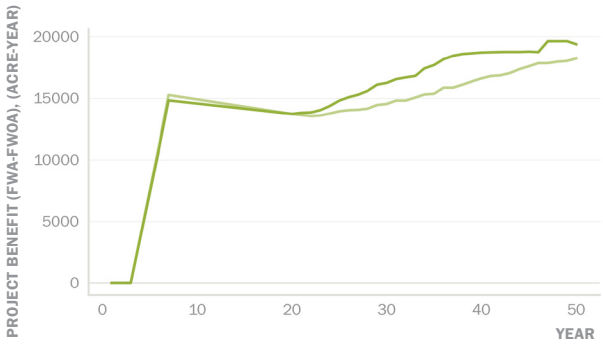
Project Location

Jefferson Parish, Lafourche Parish

Description

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.

Project Benefits



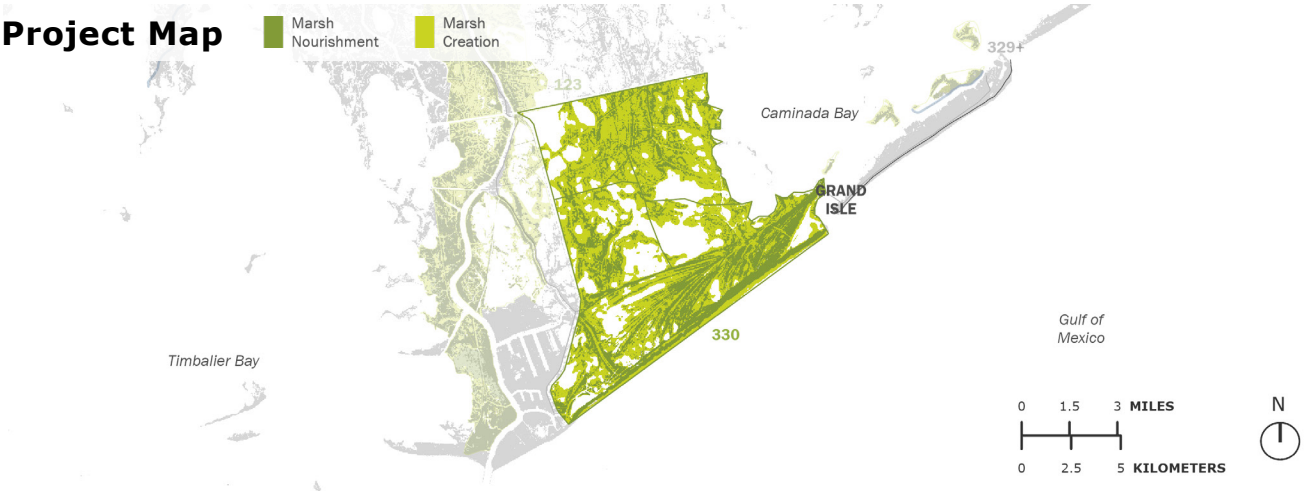
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	18K	20K	19K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	47 / 0	47 / 0	47 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$82M - $100M	$1.B - $1.3B	$35M - $43M	**$1.1B - $1.4B**
Duration	3	4	43	---

Project Map



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SOUTHEAST GOLDEN MEADOW MARSH CREATION - NORTH AND SOUTH

PROJECT ID: 331B / IMPLEMENTATION PERIOD 2

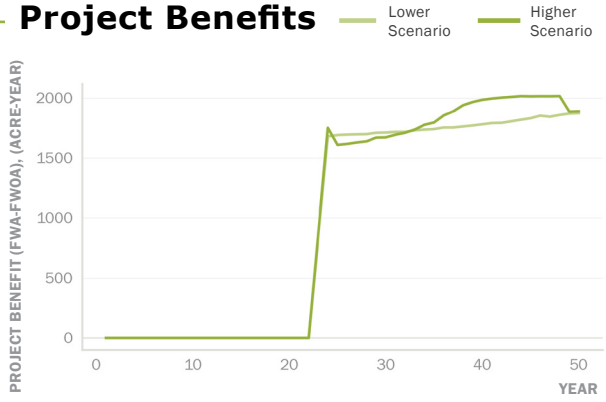
Project Location

Lafourche Parish

Description

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.

Project Benefits



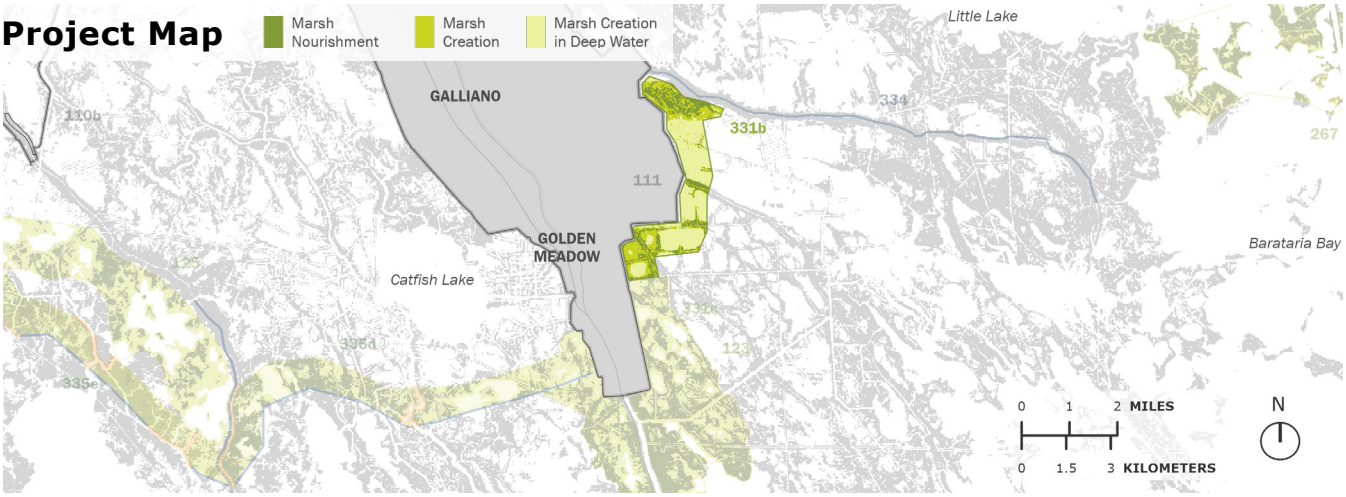
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	1.9K	2.0K	1.9K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	28 / 0	28 / 0	28 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$18M - $21M	$220M - $270M	$4.6M - $5.6M	**$240M - $290M**
Duration	2	2	26	---

Project Map



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SOUTHEAST GOLDEN MEADOW MARSH CREATION - CENTRAL

PROJECT ID: 331C / IMPLEMENTATION PERIOD 1

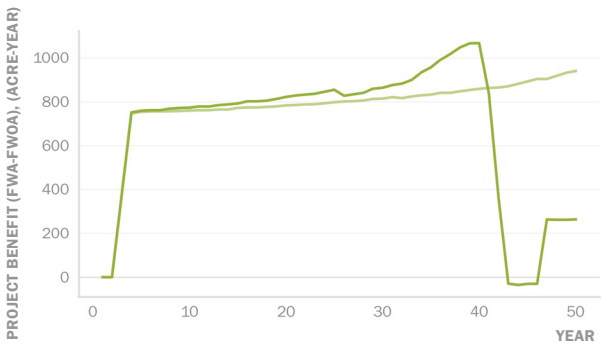
Project Location

Lafourche Parish

Description

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.

Project Benefits



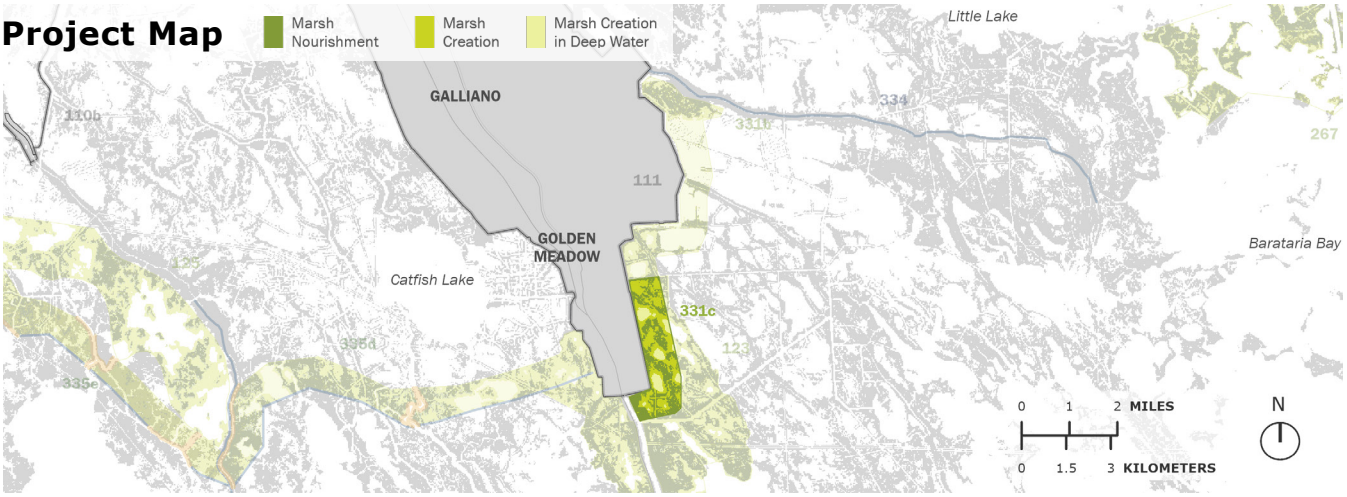
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	940	1.1K	1.0K
Min. Annual Benefit (Acre)	0	-35	-18
Years of Pos. / Neg. Benefit	48 / 0	44 / 4	46 / 2

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$6.7M - $8.1M	$83M - $100M	$3.1M - $3.7M	**$93M - $110M**
Duration	2	2	46	---

Project Map



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BAYOU L'OURS RIDGE RESTORATION

PROJECT ID: 334 / IMPLEMENTATION PERIOD 1

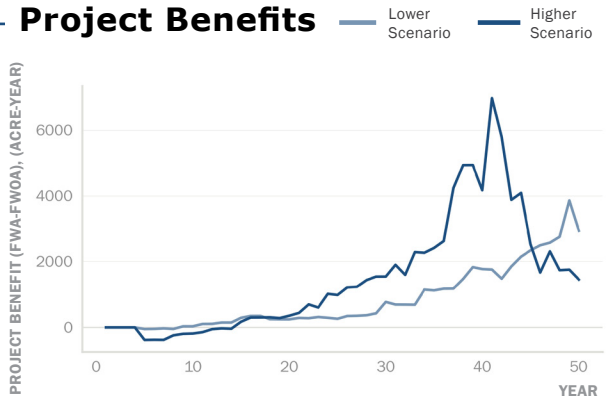
Project Location

Lafourche Parish

Description

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.

Project Benefits



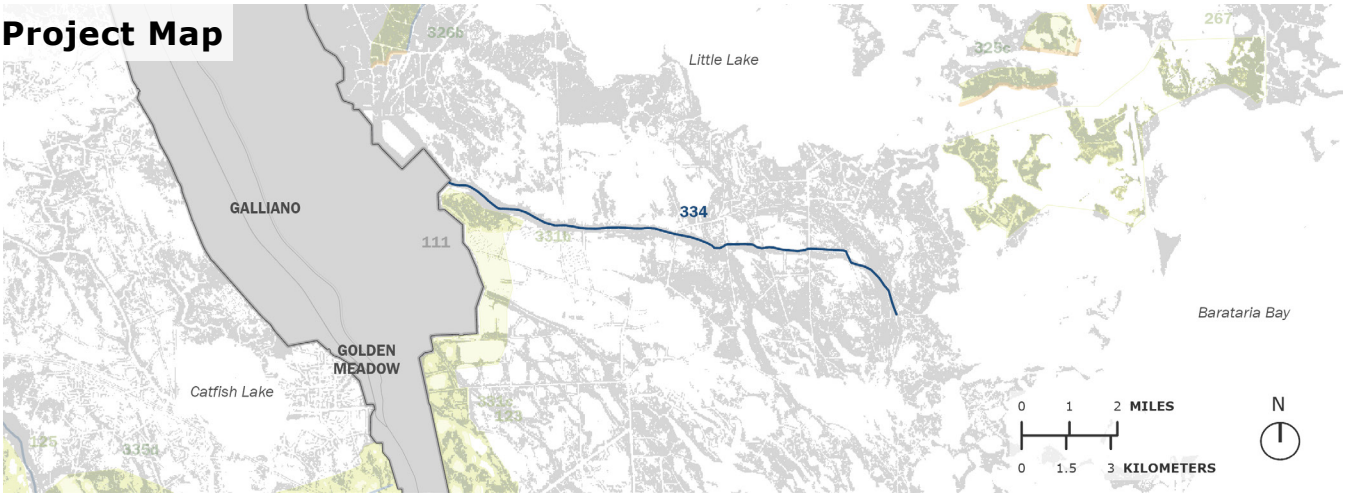
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	3.9K	7.0K	5.4K
Min. Annual Benefit (Acre)	-49	-380	-210
Years of Pos. / Neg. Benefit	42 / 4	36 / 10	39 / 7

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$630K - $730K	$7.9M - $9.1M	$290K - $330K	**$8.9M - $10M**
Duration	2	3	45	---

Project Map



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EASTERN TERREBONNE LANDBRIDGE - EAST

PROJECT ID: 335D / IMPLEMENTATION PERIOD 1

Project Location

Lafourche Parish, Terrebonne Parish

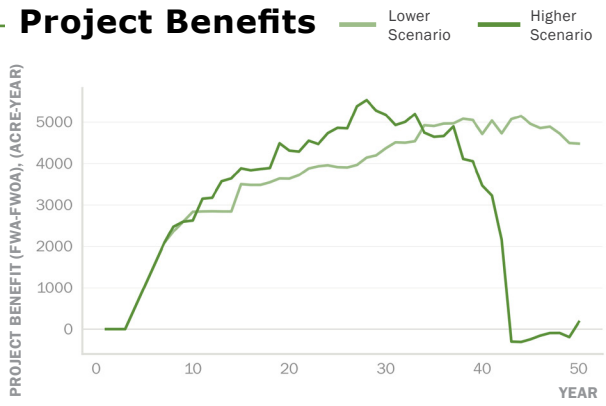
Description

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.

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$28M - $35M	$350M - $440M	$35M - $42M	**$420M - $510M**
Duration	3	4	43	---

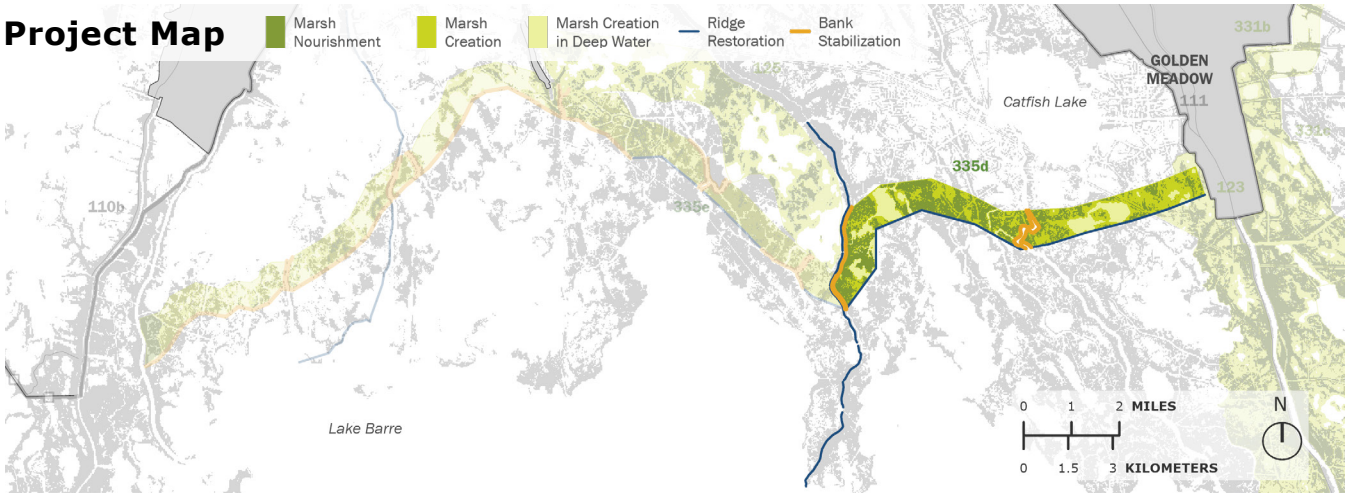
Project Benefits



PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	5.1K	5.5K	5.3K
Min. Annual Benefit (Acre)	0	-310	-150
Years of Pos. / Neg. Benefit	47 / 0	40 / 7	44 / 4

Project Map



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EASTERN TERREBONNE LANDBRIDGE - WEST AND CENTRAL

PROJECT ID: 335E / IMPLEMENTATION PERIOD 2

Project Location

Lafourche Parish, Terrebonne Parish

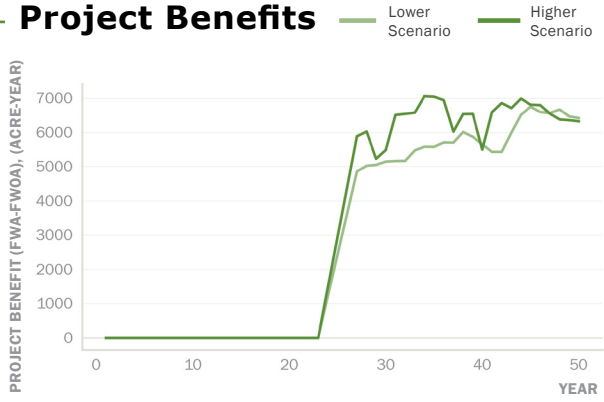
Description

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.

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$65M - $80M	$810M - $990M	$67M - $78M	**$950M - $1.2B**
Duration	3	4	23	---

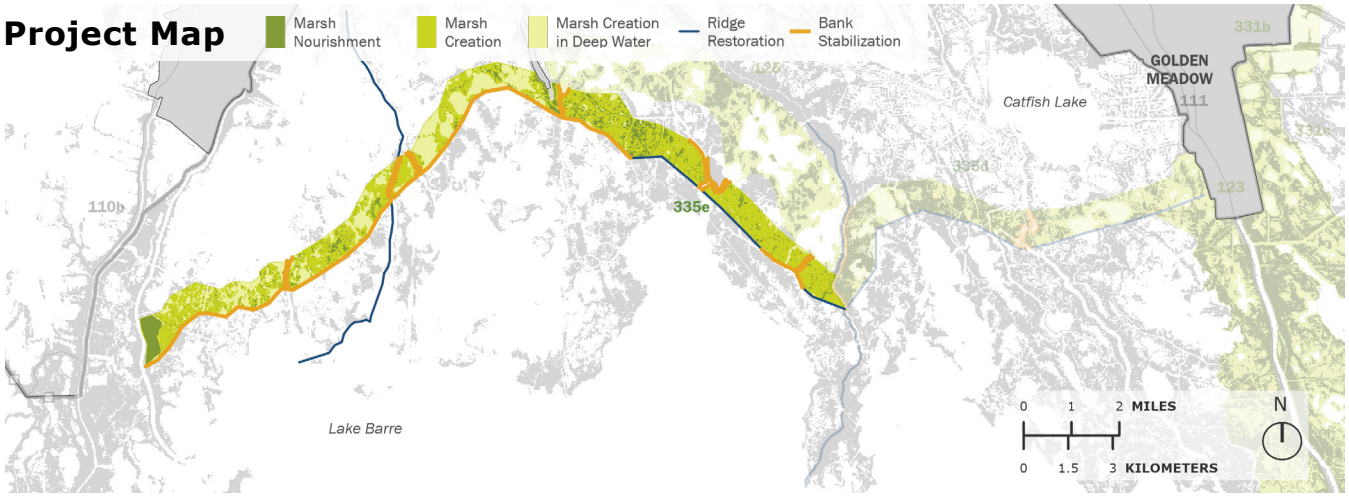
Project Benefits



PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	6.7K	7.1K	6.9K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	27 / 0	27 / 0	27 / 0

Project Map



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FOURLEAGUE BAY - BLUE HAMMOCK BAYOU MARSH CREATION

PROJECT ID: 337 / IMPLEMENTATION PERIOD 1

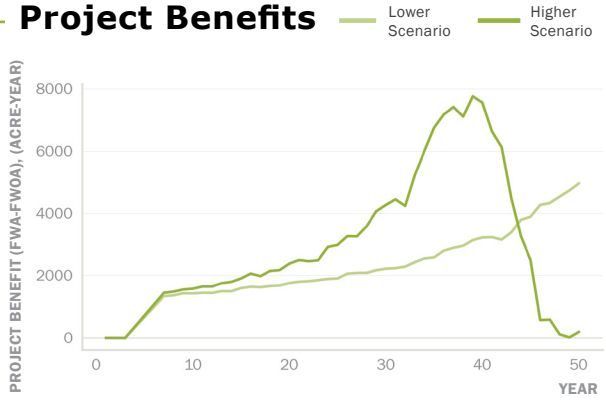
Project Location

Terrebonne Parish

Description

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.

Project Benefits



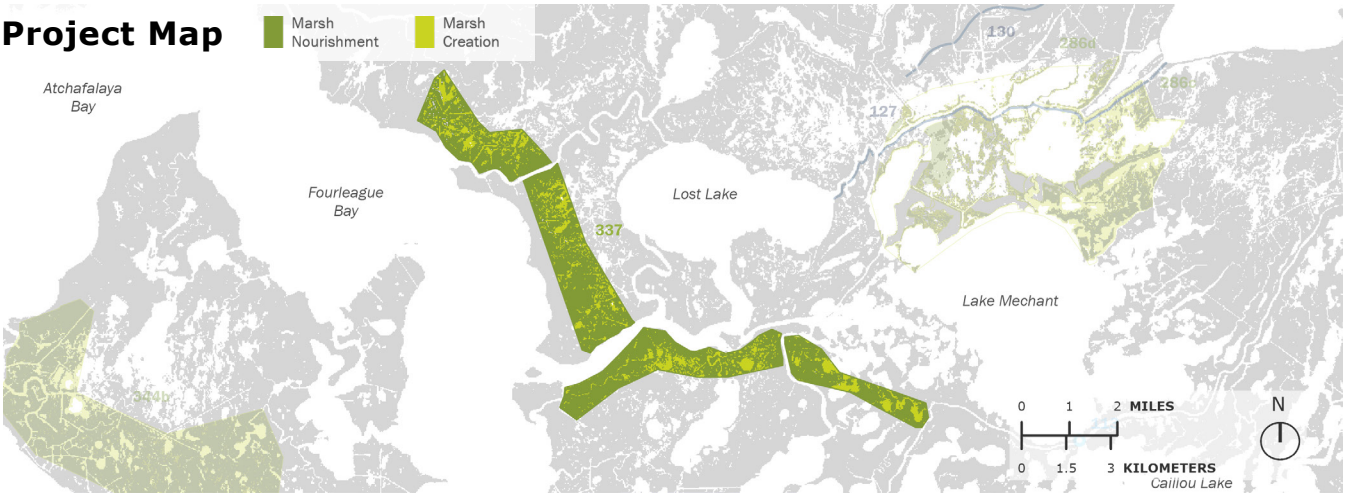
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	5.0K	7.8K	6.4K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	47 / 0	47 / 0	47 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$24M - $30M	$300M - $370M	$10M - $13M	**$340M - $420M**
Duration	3	4	43	---

Project Map



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WEST TERREBONNE MARSH CREATION

PROJECT ID: 339 / IMPLEMENTATION PERIOD 1

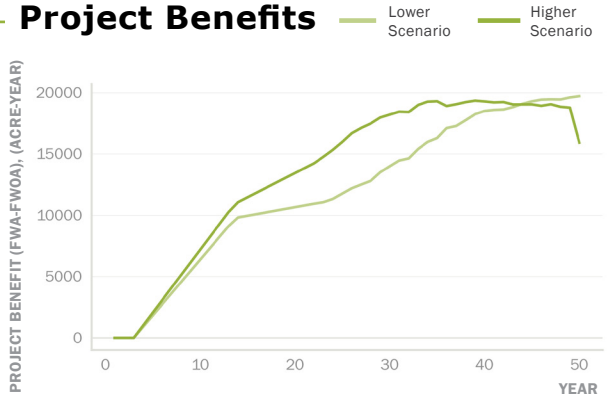
Project Location

Terrebonne Parish

Description

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.

Project Benefits



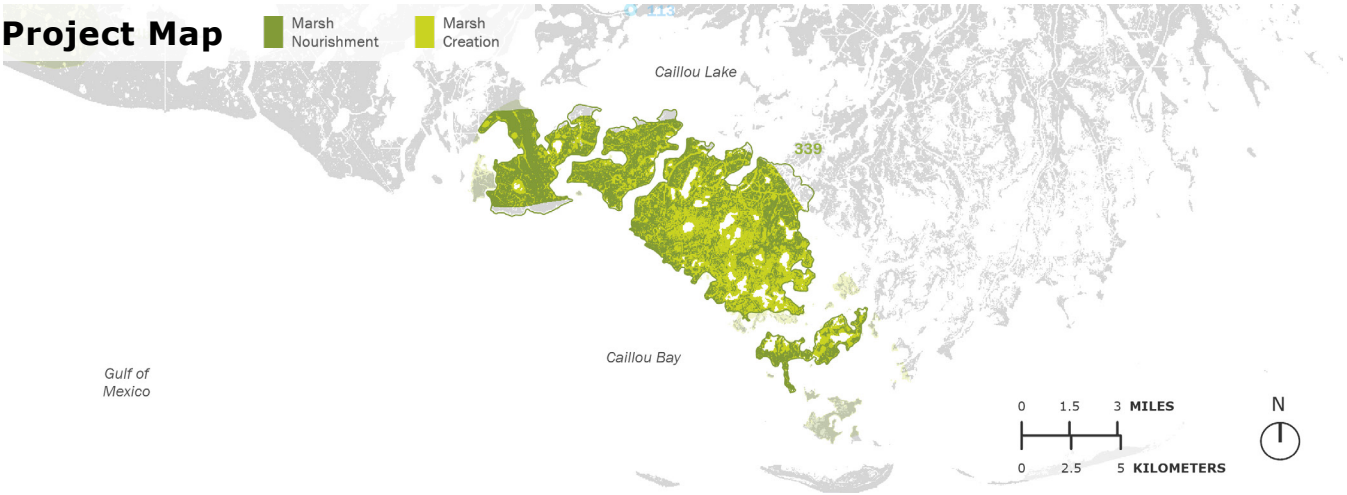
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	20K	19K	20K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	47 / 0	47 / 0	47 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$96M - $120M	$1.2B - $1.5B	$35M - $43M	**$1.3B - $1.6B**
Duration	3	11	36	---

Project Map



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LOWER BAYOU PETIT CAILLOU RIDGE RESTORATION

PROJECT ID: 340 / IMPLEMENTATION PERIOD 1

Project Location

Terrebonne Parish

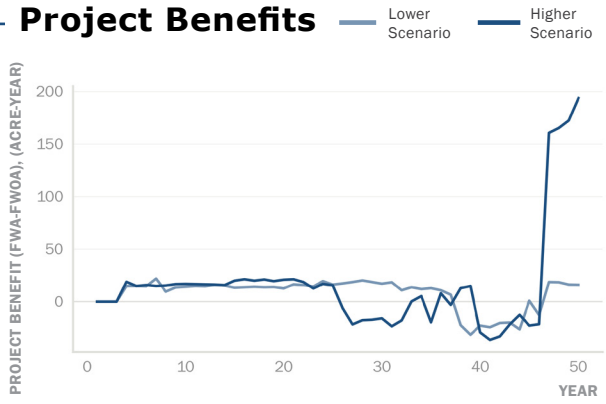
Description

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.

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$220K - $250K	$2.7M - $3.2M	$100K - $120K	**$3.1M - $3.5M**
Duration	2	2	46	---

Project Benefits



PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	22	190	110
Min. Annual Benefit (Acre)	-31	-36	-34
Years of Pos. / Neg. Benefit	39 / 8	31 / 16	35 / 12

Project Map

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WESTERN TERREBONNE HYDROLOGIC RESTORATION

PROJECT ID: 342 / IMPLEMENTATION PERIOD 1

Project Location

Terrebonne Parish

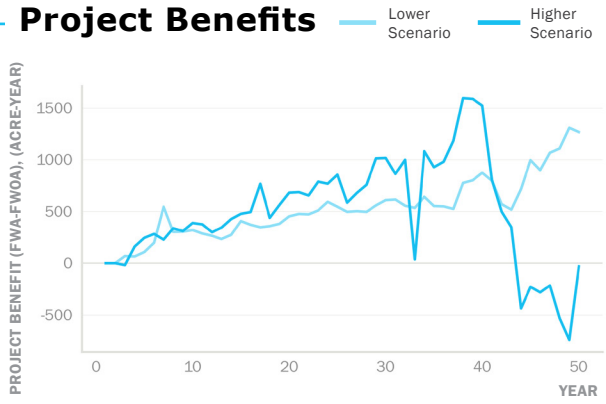
Description

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.

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$1.5M - $1.7M	$18M - $21M	$690K - $800K	**$20M - $24M**
Duration	2	1	47	---

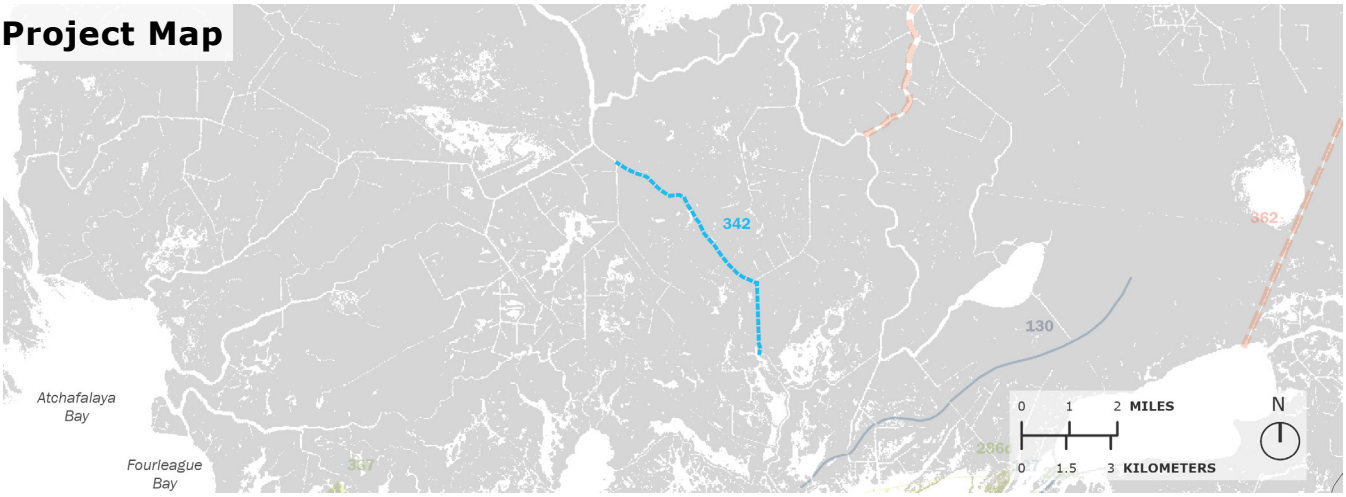
Project Benefits



PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	1.3K	1.6K	1.5K
Min. Annual Benefit (Acre)	0	-740	-370
Years of Pos. / Neg. Benefit	48 / 0	40 / 8	44 / 4

Project Map



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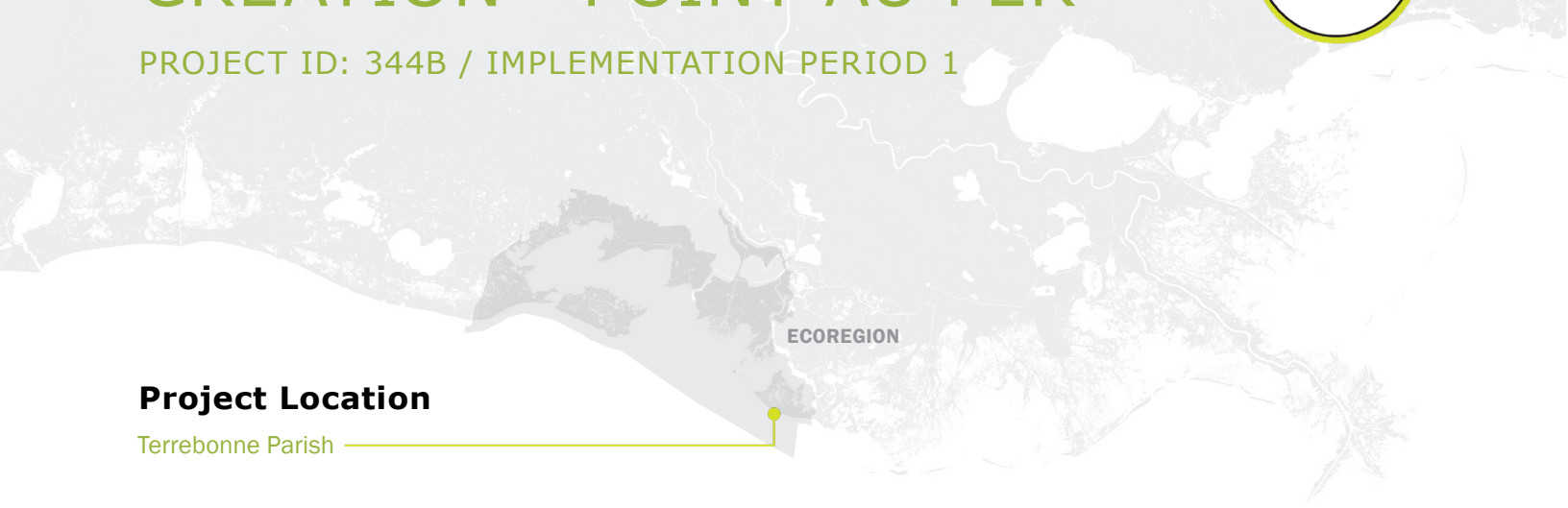
CENTRAL COAST MARSH CREATION - POINT AU FER

PROJECT ID: 344B / IMPLEMENTATION PERIOD 1



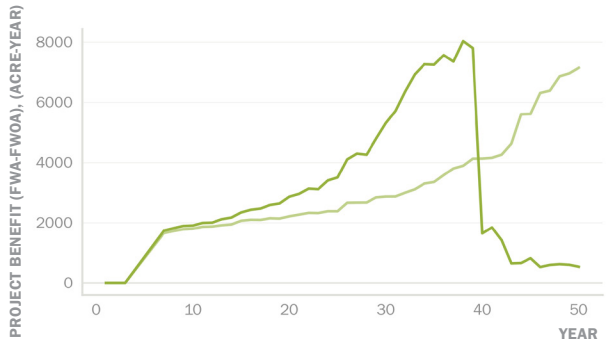
Project Location

Terrebonne Parish

Description

Creation of marsh within a footprint of approximately 8,200 acres on Point Au Fer Island to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



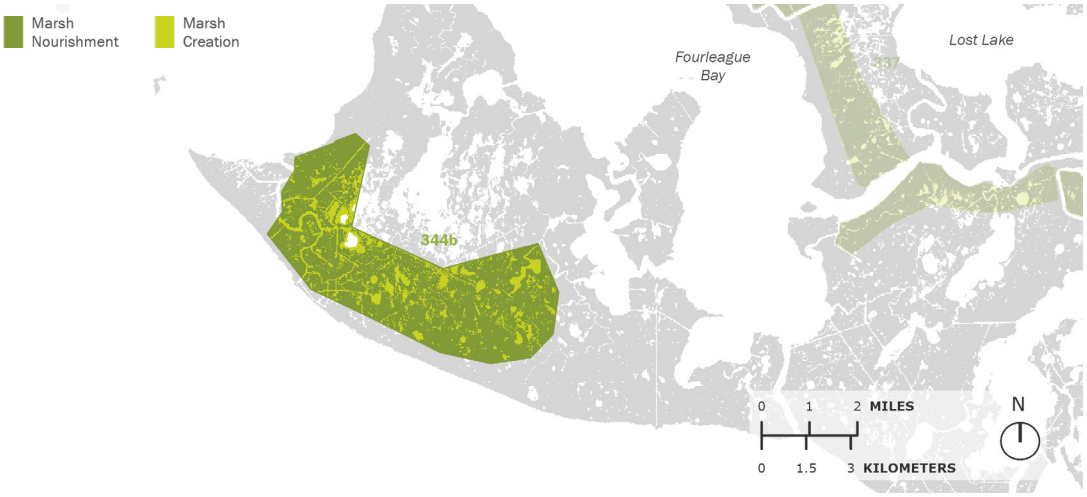
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	7.1K	8.0K	7.6K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	47 / 0	47 / 0	47 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$17M - $22M	$220M - $270M	$7.5M - $9.4M	**$240M - $300M**
Duration	3	4	43	---

Project Map



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MARSH ISLAND BARRIER MARSH CREATION

PROJECT ID: 346 / IMPLEMENTATION PERIOD 1

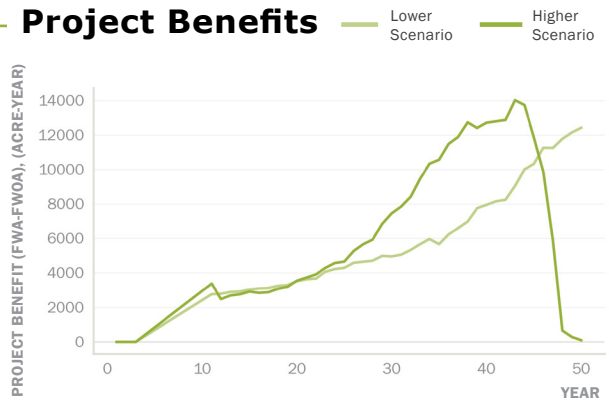
Project Location

Iberia Parish

Description

Creation of marsh within a footprint of approximately 16,000 acres on Marsh Island to create new wetland habitat, restore degraded marsh, and reduce wave erosion.

Project Benefits



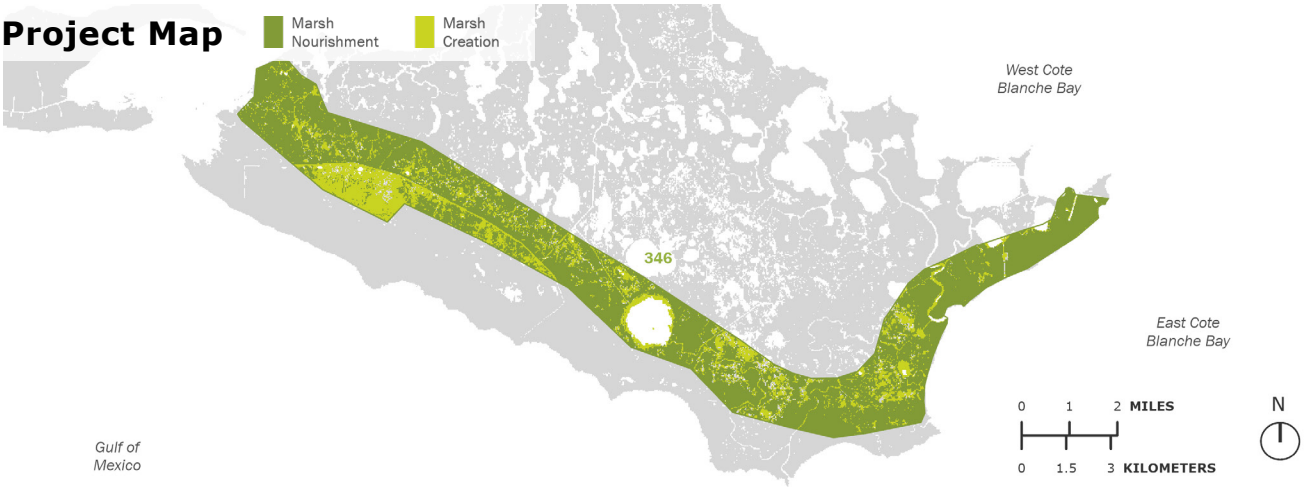
PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	12K	14K	13K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	47 / 0	47 / 0	47 / 0

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$46M - $57M	$580M - $720M	$18M - $22M	**$640M - $800M**
Duration	3	8	39	---

Project Map



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MERMENTAU BASIN HYDROLOGIC RESTORATION

PROJECT ID: 347 / IMPLEMENTATION PERIOD 1

Project Location

Cameron Parish, Vermilion Parish

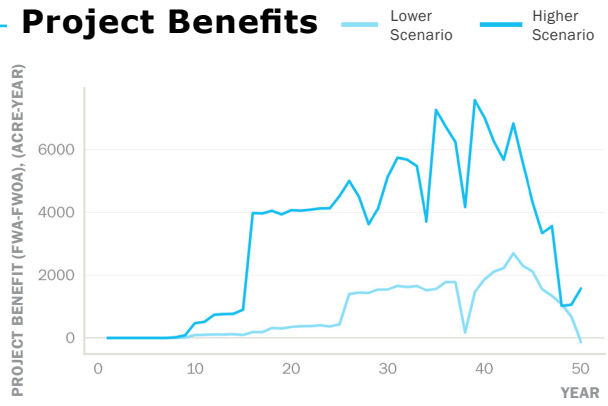
Description

A series of hydrologic features to facilitate drainage from the upper Mermentau Basin to the Gulf of Mexico. Kings Bayou: Channel dredging and cleanout in Little Chenier Canal and Kings Bayou, improving three road crossings, and increasing drainage capacity to the Mermentau River at the Kings Bayou Control Structures. Flap gated culverts under Highway 82 and on the south and west boundaries of the Rockefeller management area to move water south across Highway 82.

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$8.7M - $10M	$110M - $130M	$3.7M - $4.3M	**$120M - $140M**
Duration	3	5	42	---

Project Benefits



PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	2.7K	7.6K	5.1K
Min. Annual Benefit (Acre)	-130	0	-64
Years of Pos. / Neg. Benefit	42 / 1	43 / 0	43 / 1

Project Map

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CAMERON-CREOLE TO THE GULF HYDROLOGIC RESTORATION

PROJECT ID: 349 / IMPLEMENTATION PERIOD 1

Project Location

Cameron Parish

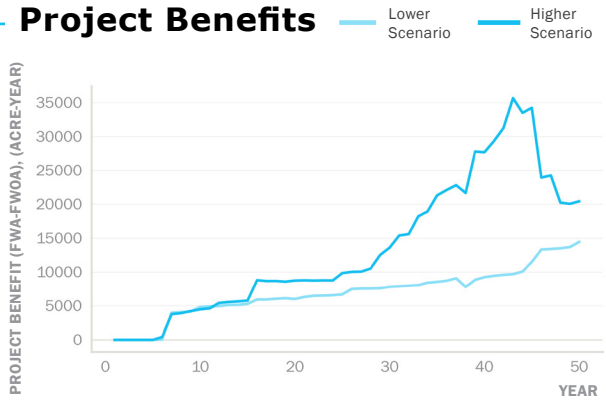
Description

Hydrologic restoration increasing the capacity for drainage from the Cameron-Creole Watershed to the Gulf of Mexico through Creole Canal. Dredging and cleanout of Creole Canal; increasing cross-section at two road crossings; Construction of a receiving pond in the western end of the Mermentau River; installing a 750 cfs pump station from the receiving pond to the Gulf to maintain the receiving pond stage at mean low water.

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$3.2M - $4.2M	$40M - $53M	$8.3M - $10M	**$51M - $67M**
Duration	2	3	45	---

Project Benefits



PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	14K	36K	25K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	45 / 1	45 / 1	45 / 1

Project Map

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UPPER BASIN DIVERSION PROGRAM - PONTCHARTRAIN

PROJECT ID: 361A / IMPLEMENTATION PERIOD 1

Project Location

Ascension Parish

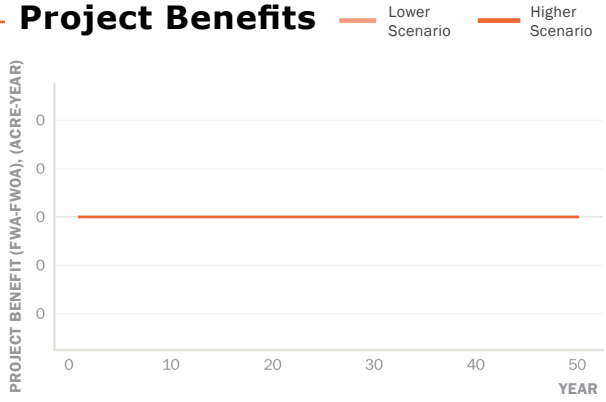
Description

Multiple freshwater and sediment diversions into the swamps of the Western Pontchartrain and Upper Barataria basins were modeled for inclusion in the plan and will lead to the construction of one or more diversion features into Barataria or Maurepas basins. 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.

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$590M - $920M	---	---	**$590M - $920M**
Duration	5	0	45	---

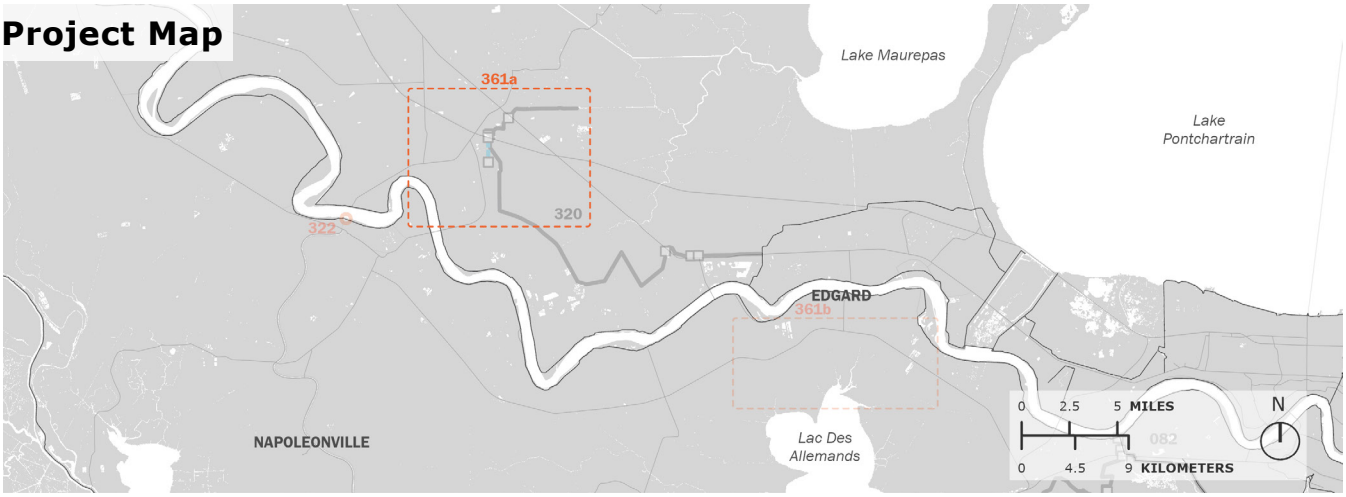
Project Benefits



PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	0	0	0
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	0 / 0	0 / 0	0 / 0

Project Map



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UPPER BASIN DIVERSION PROGRAM - BARATARIA

PROJECT ID: 361B / IMPLEMENTATION PERIOD 1

Project Location

St Charles Parish, St. John the Baptist Parish

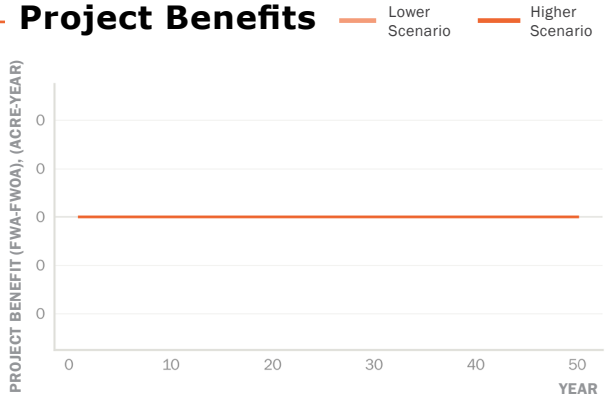
Description

Multiple freshwater and sediment diversions into the swamps of the Western Pontchartrain and Upper Barataria basins were modeled for inclusion in the plan and will lead to the construction of one or more diversion features into Barataria or Maurepas basins. 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.

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$590M - $920M	---	---	**$590M - $920M**
Duration	5	0	45	---

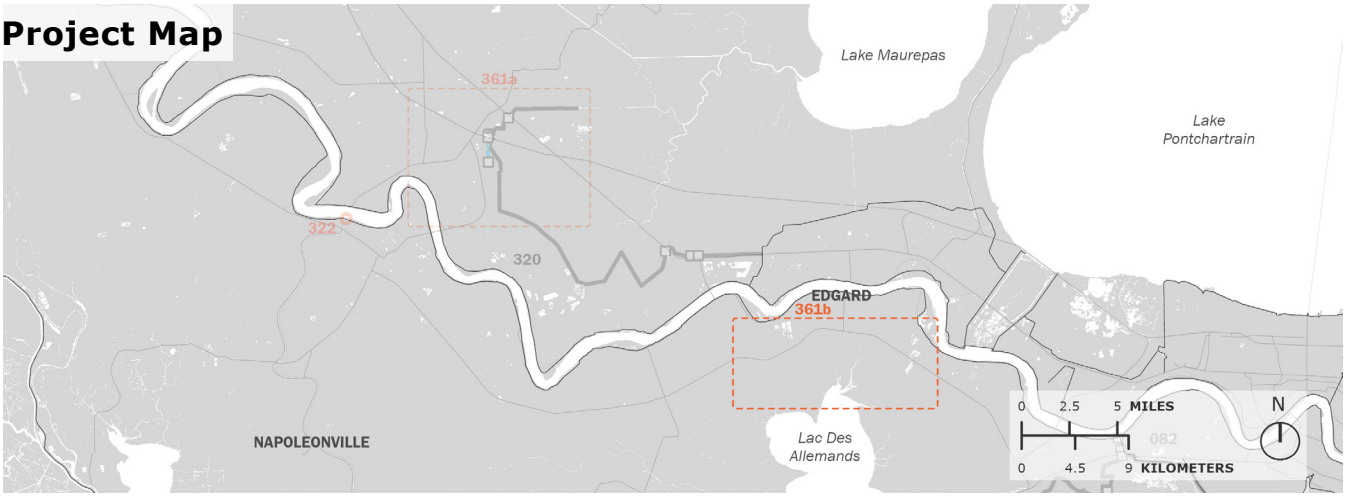
Project Benefits



PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	0	0	0
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	0 / 0	0 / 0	0 / 0

Project Map



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ATCHAFALAYA DIVERSIONS

PROJECT ID: 362 / IMPLEMENTATION PERIOD 1

Project Location

Assumption Parish, St. Mary Parish, Terrebonne Parish

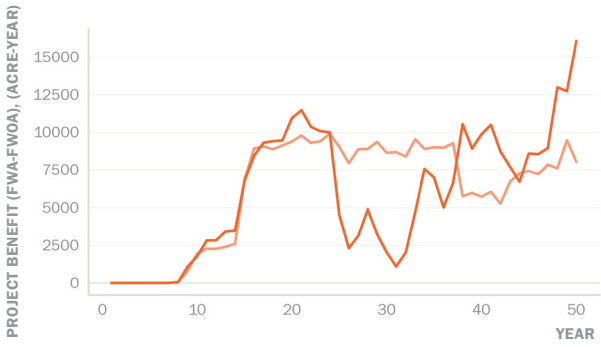
Description

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 together would induce excessive flooding.

Estimated Cost and Duration

	Planning, Engineering & Design	Construction	Operations, Maintenance & Monitoring	**Total**
Cost	$52M - $61M	$650M - $760M	$22M - $26M	**$720M - $850M**
Duration	5	3	42	---

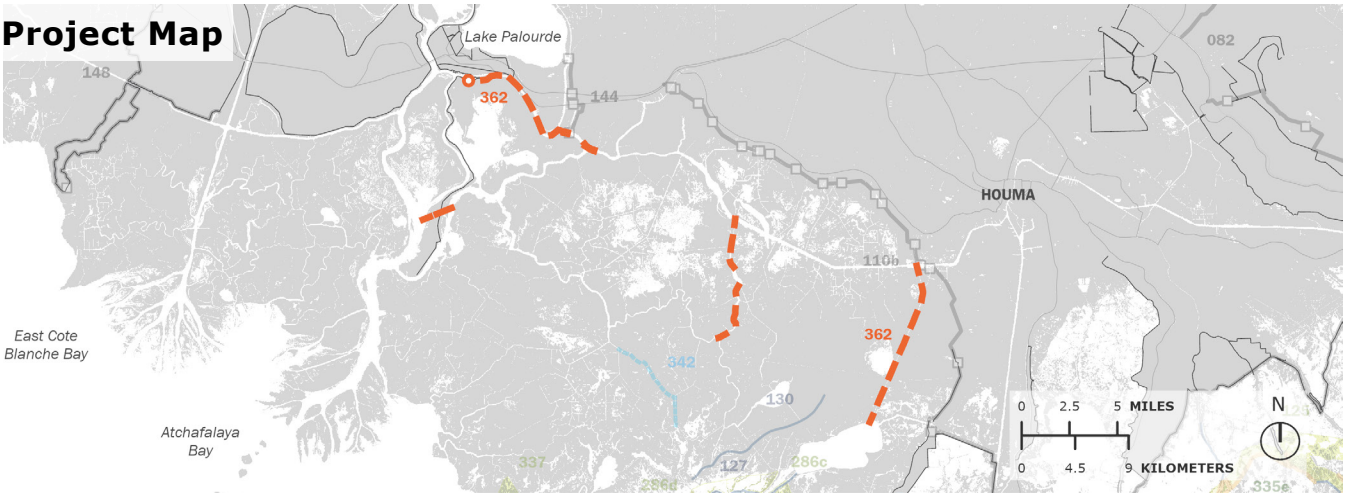
Project Benefits



PROJECT BENEFITS TABLE

	Lower Scenario	Higher Scenario	Average
Max. Annual Benefit (Acre)	9.9K	16K	13K
Min. Annual Benefit (Acre)	0	0	0
Years of Pos. / Neg. Benefit	43 / 0	43 / 0	43 / 0

Project Map



Operational Regime

This operational regime curve demonstrates how the diversion will be operated under various flow conditions in the Mississippi River. This curve shows how the diversion is operated as a constant flowrate, regardless of what flow conditions are occurring in the Mississippi River.