



2029 COASTAL MASTER PLAN
COMMITTED TO OUR COAST

MASTER PLAN COMMUNITY CONVERSATIONS

CHENIER PLAIN

BRIAN LEZINA



APRIL 23, 2024

GENERAL OUTLINE

- Welcome + Introduction
- CPRA + The Master Plan
 - What is CPRA?
 - Our Work
 - Projects in the region
 - What is the Master Plan?
- Future Projections for a Changing Coast
 - Land change
 - Flood depths
 - Local and regional damage estimates



Established following the 2005 storm season, CPRA is the single state entity with authority to articulate a clear statement of priorities to achieve comprehensive coastal protection for Louisiana.

CPRA has a mandate to develop, implement, and enforce a comprehensive restoration and risk reduction coastal master plan. In 2023, the 4th update to the master plan was unanimously approved by the Louisiana Legislature.





OUR
HOMES



OUR
JOBS



OUR
CULTURE

2029 COASTAL MASTER PLAN PROCESS

A MULTI-STEP PROJECT PRIORITIZATION EFFORT

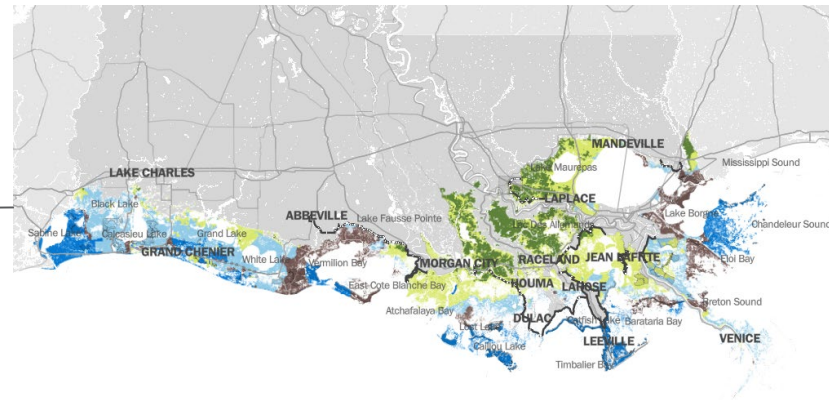
Identify Current & Future Coastal Challenges



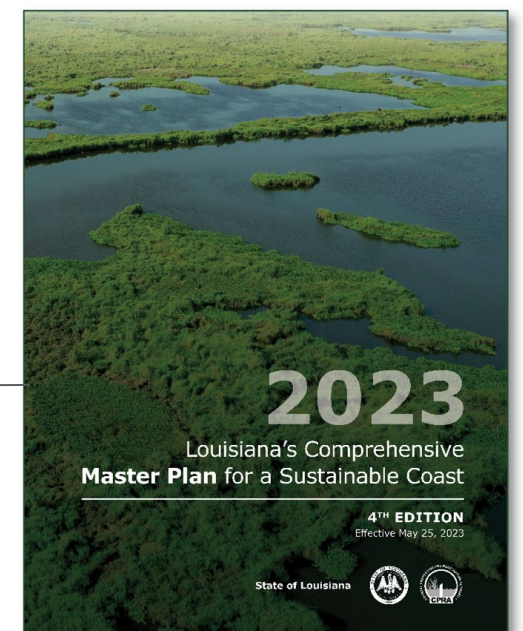
Develop Projects



Model, Refine & Select Projects



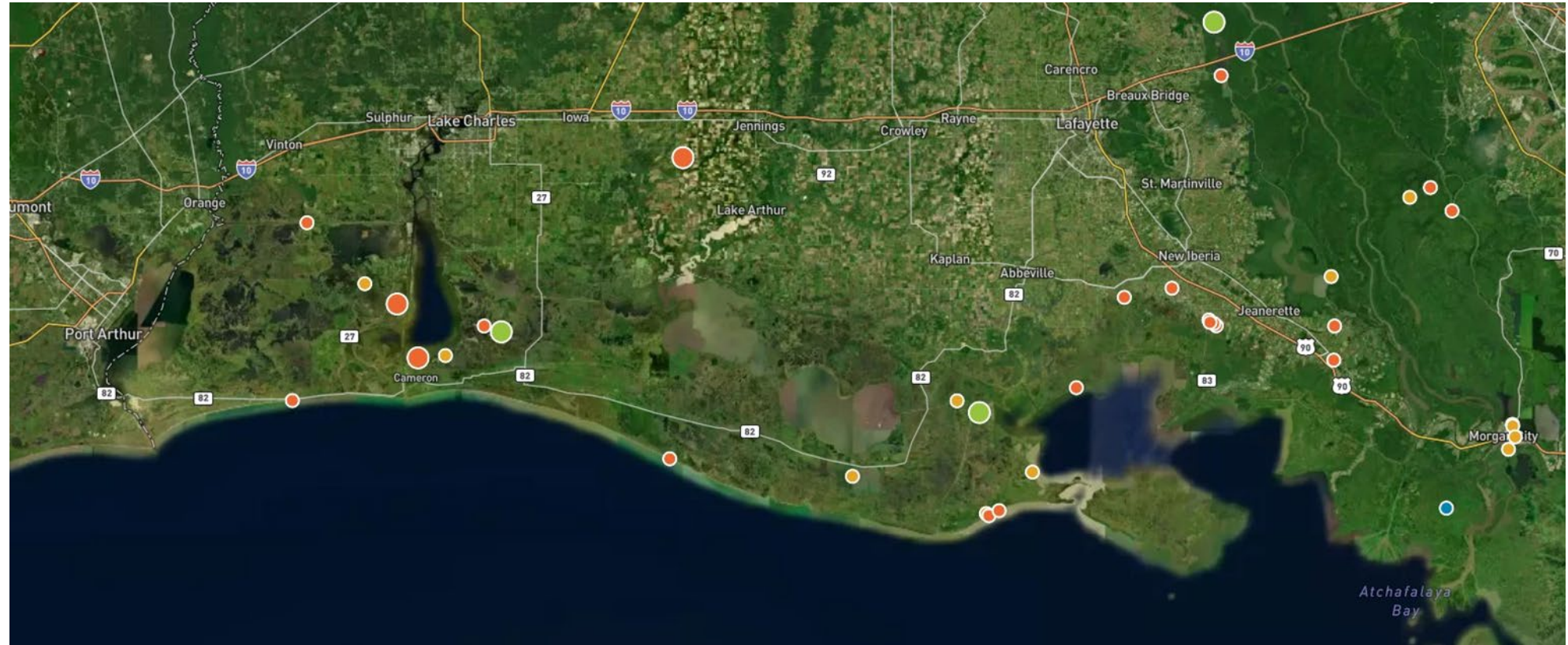
Draft Coastal Master Plan



OUR WORK

CPRA PROJECTS IN THE SOUTHWEST REGION (COMPLETED OR IN CONSTRUCTION/DESIGN)

- Total value of projects active in 2023-2024:
 - **\$496 million**
 - **+ \$3.39 billion** for Southwest Coastal nonstructural
- 32 Active Projects
 - In construction: 13
 - In engineering & design: 19



ACTIVE PROJECT TYPES INCLUDE:

Marsh creation

Ridges

Hydrologic restoration

Shoreline protection

Nonstructural

Flap gates

Boat launches

Education centers

Flood protection

Levee & drainage improvement

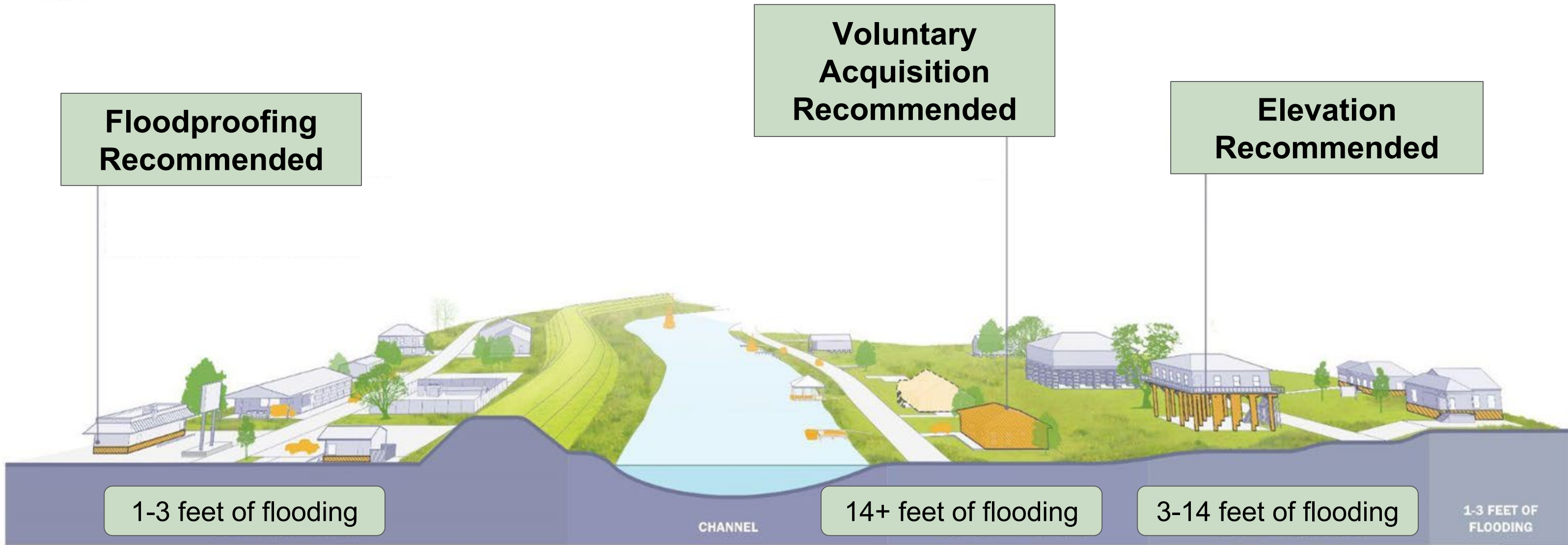
Lock & control

PROJECT TYPES

RISK REDUCTION



Nonstructural Risk Reduction



SOUTHWEST COASTAL LOUISIANA PROJECT, LA-0020

CENTRAL COAST & CHENIER PLAIN

Estimated Cost: \$3.3 Billion

- 3,961 total structures in Calcasieu, Cameron, and Vermilion Parishes
- Program is 100% voluntary
- No requirement to carry flood insurance after elevation
- No homeowner cost-share required

Status: Construction



PROJECT TYPES

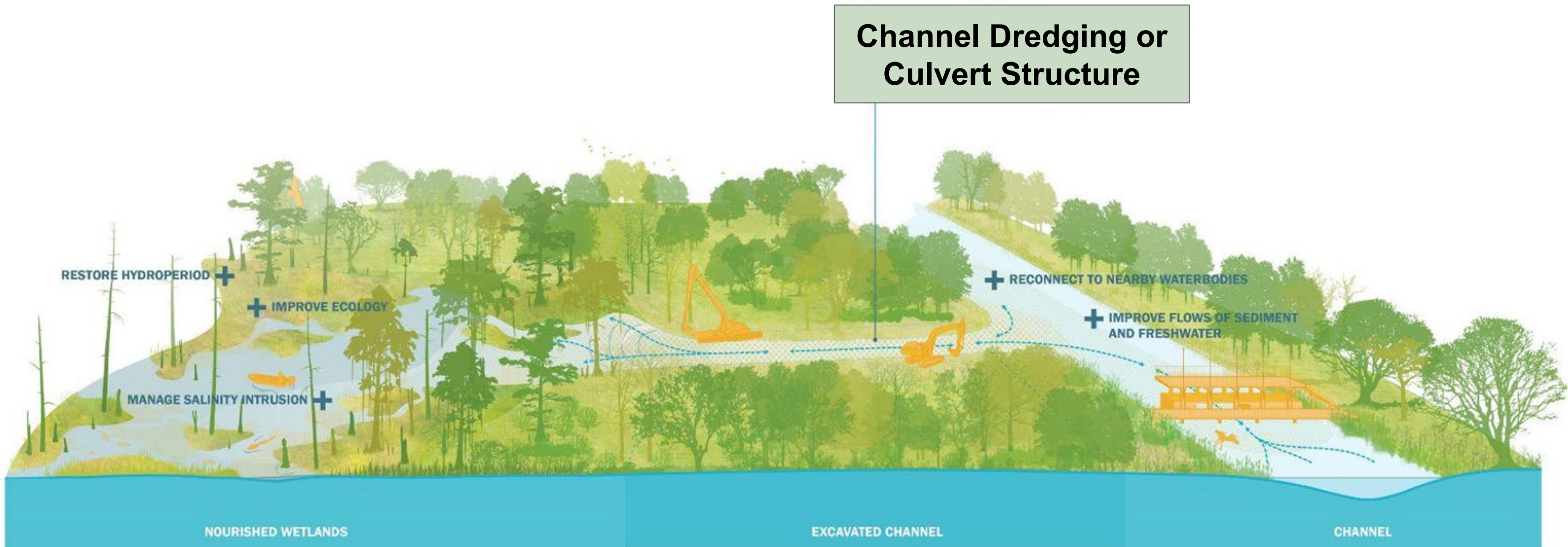
RESTORATION



Hydrologic Restoration

Benefits:

- Manage salinity intrusion
- Enable drainage
- Reconnect to nearby water bodies
- Improve flows of sediment and fresh water
- Improve ecology
- Restore hydroperiod



CAMERON-CREOLE FRESHWATER INTRODUCTION, CS-0049

CHENIER PLAIN

Estimated Cost: \$26.8 Million

- 218 acres of land benefitted
- Restore function, value and sustainability to ~22,247 acres of marsh and open water on the east side of Calcasieu Lake in Cameron Parish
- Improves hydrologic conditions by the introduction of freshwater input via conduit from GIWW



Status: OM&M

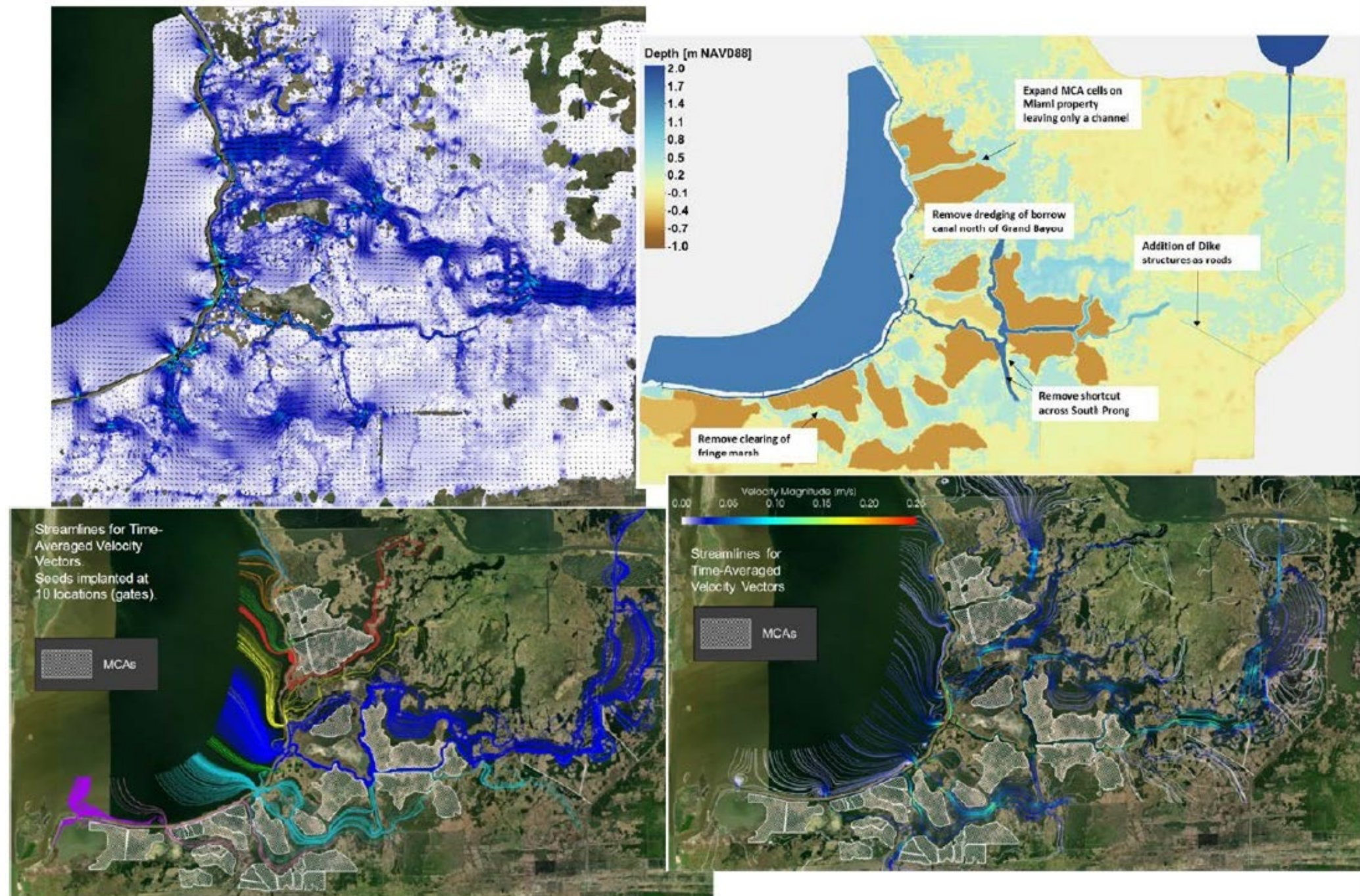
CALCASIEU-SABINE LARGE SCALE MARSH & HYDROLOGIC RESTORATION, CS-0087

CHENIER PLAIN

Estimated Cost: \$263.9 Million

- Large scale drainage improvements that reduce flooding stress and marsh degradation
- ~2,000 acres of marsh creation & nourishment
- 65,000 acres benefitted

Status: Engineering & Design;
Construction to begin in 2025



PROJECT TYPES

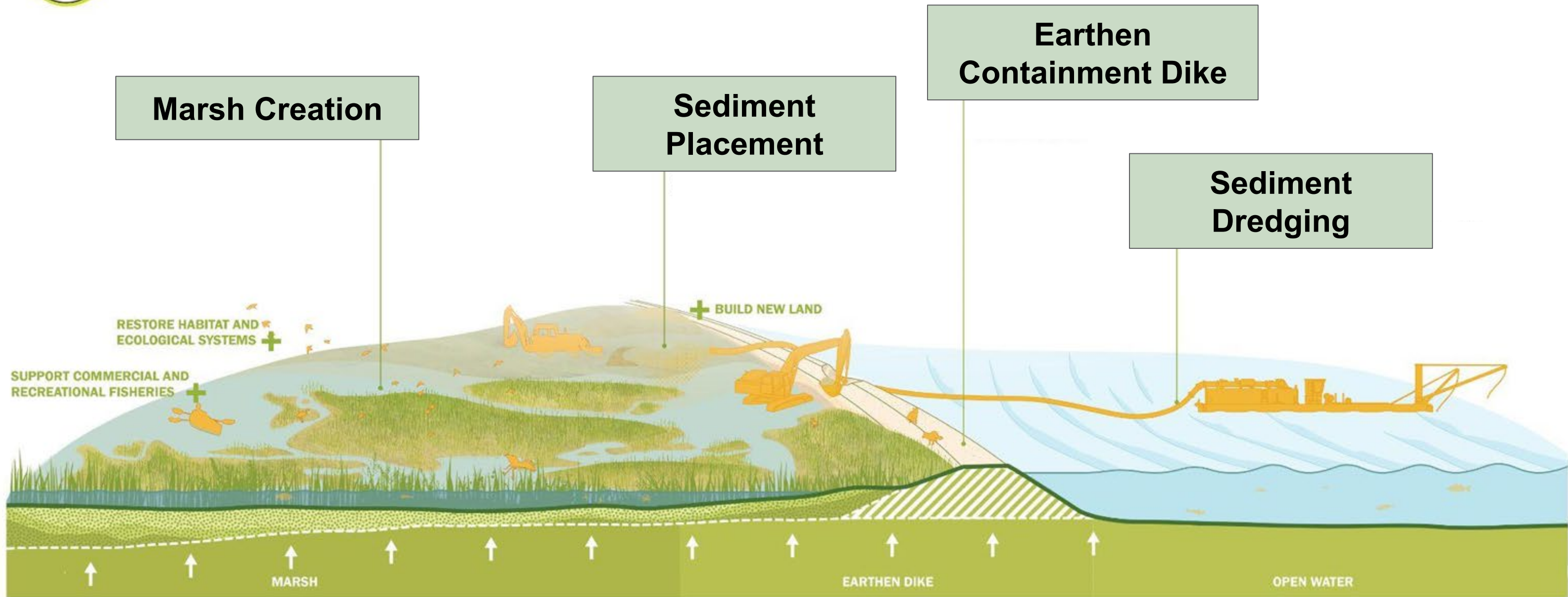
RESTORATION



Marsh Creation

Benefits:

- Restore habitat and ecological systems
- Support new fisheries
- Build new land
- Dampen tropical storm intensity



LONG POINT BAYOU MARSH CREATION, CS-0085

CHENIER PLAIN

Estimated Cost: \$16.7 million

- Creating/Nourishing ~395 acres of emergent brackish marsh south of Hackberry
- Beneficial use of sediment dredged for Calcasieu Ship Channel maintenance
- Status: Construction



CAMERON MEADOWS MARSH CREATION AND TERRACING, CS-0066

CHENIER PLAIN

Estimated Cost: \$32.1 Million

- Restored 334 acres of marsh in Johnson Bayou using Gulf of Mexico sediment resource
- 18 acres of earthen terraces
- 30,000+ linear feet of canal cleanout to re-establish drainage patterns
- Status:OM&M



DRONE PHOTO TAKEN MAY 18, 2022

ROCKEFELLER SHORELINE, ME-0018, ME-0037, ME-0035

CHENIER PLAIN

Estimated Cost: \$59.5 Million

- >256 Acres of Land Benefitted
- Almost 9 miles of encapsulated lightweight aggregate breakwater structures
- Gaps between breakwaters facilitate material and organism linkages



Status:

- ME-0035 - in construction
- ME-0037 - completed
- ME-0018 - OM&M

MASTER PLAN PROCESS

WHAT IS THE COASTAL MASTER PLAN?

SCIENCE-BASED, STAKEHOLDER INFORMED

- Prioritization effort
 - How can the state spend its money most cost-effectively over the next 50 years to reduce storm surge-based flood risk and restore and maintain coastal wetlands?
- Developed through a process that ensures adaptive management
 - Required by law to be updated every 6 years
- Built on world class science and engineering
- Advances a comprehensive and integrated approach to restoration and risk reduction
- Incorporates extensive public input and review
- Illustrates how people and communities will experience a changing coast to allow preparation and adaptation into the future.



2029 COASTAL MASTER PLAN PROCESS

A MULTI-STEP PROJECT PRIORITIZATION EFFORT

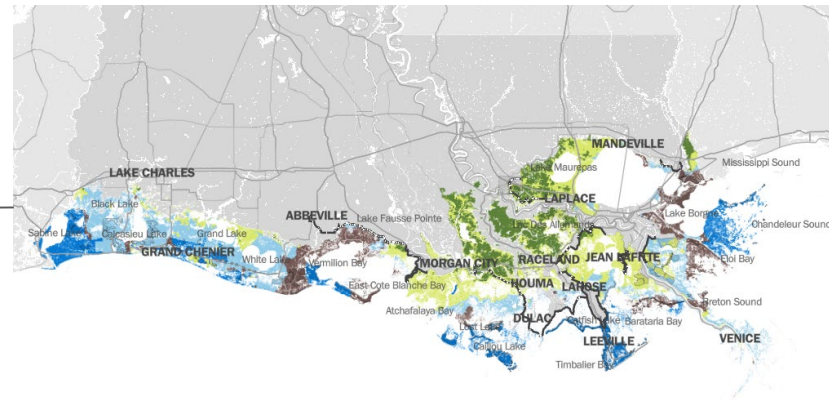
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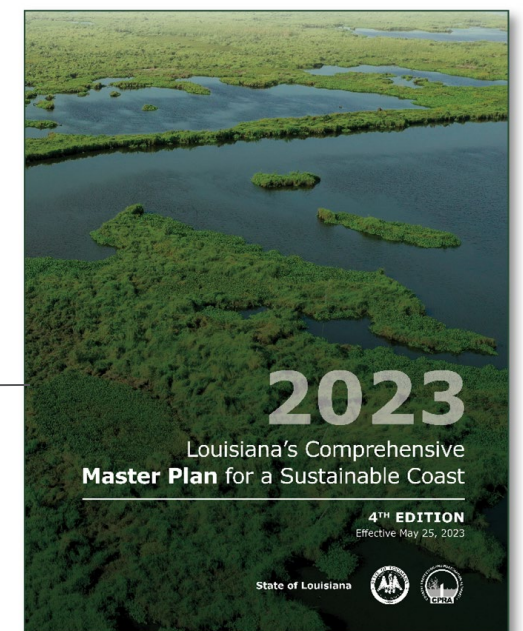
Develop Projects



Model, Refine & Select Projects











Draft Coastal Master Plan



**FUTURE PROJECTIONS
OF A
CHANGING COAST**

ENVIRONMENTAL SCENARIOS + FLOODING

- MP23 scenarios were developed by varying values for environmental drivers in the landscape model

	CLIMATE DRIVERS						OTHER DRIVERS	
								
	SEA LEVEL RISE (SLR)	AVG. STORM INTENSITY	PRECIPITATION	TRIBUTARY FLOW	EVAPO-TRANSPIRATION	TEMPERATURE	SUBSIDENCE	MISSISSIPPI RIVER HYDROLOGY
HIGHER SCENARIO	+2.5 FT by Year 50	+10% over 50 years		Covary with SLR curve			Higher rates, by ecoregion	Moderate change
LOWER SCENARIO	+1.6 FT by Year 50	+5% over 50 years		Covary with SLR curve			Lower rates, by ecoregion	Moderate change

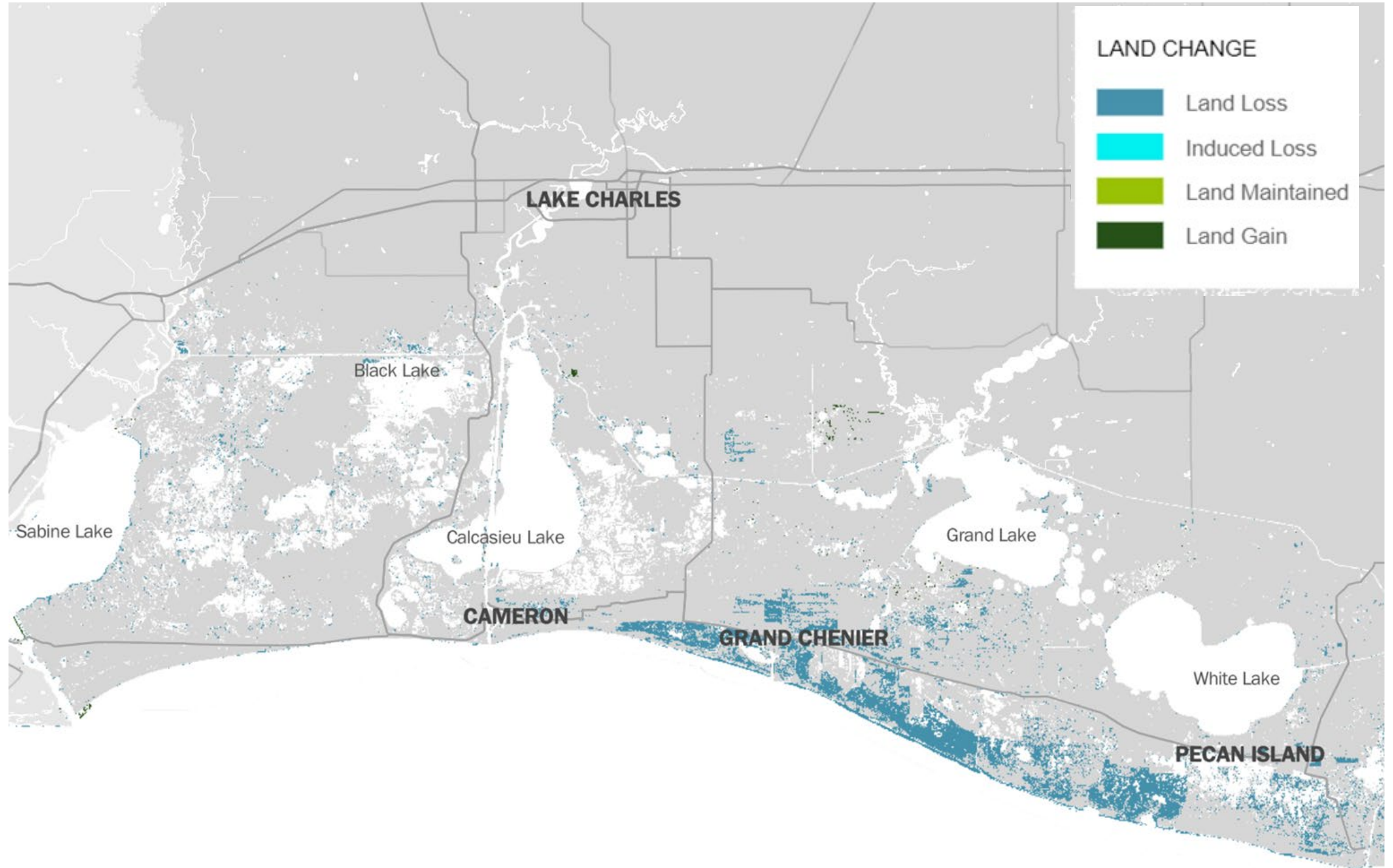
- Master Plan is tasked to respond to coastal land loss and threats from **storm surge-based** flooding - flooding generated by a hurricane or tropical storm

CHENIER PLAIN REGION

PROJECTED FUTURE LAND CHANGE

Future Without Action, Year 50 -

Projected land change without Coastal Master Plan projects on the landscape



2023 COASTAL MASTER PLAN FUTURE WITHOUT ACTION

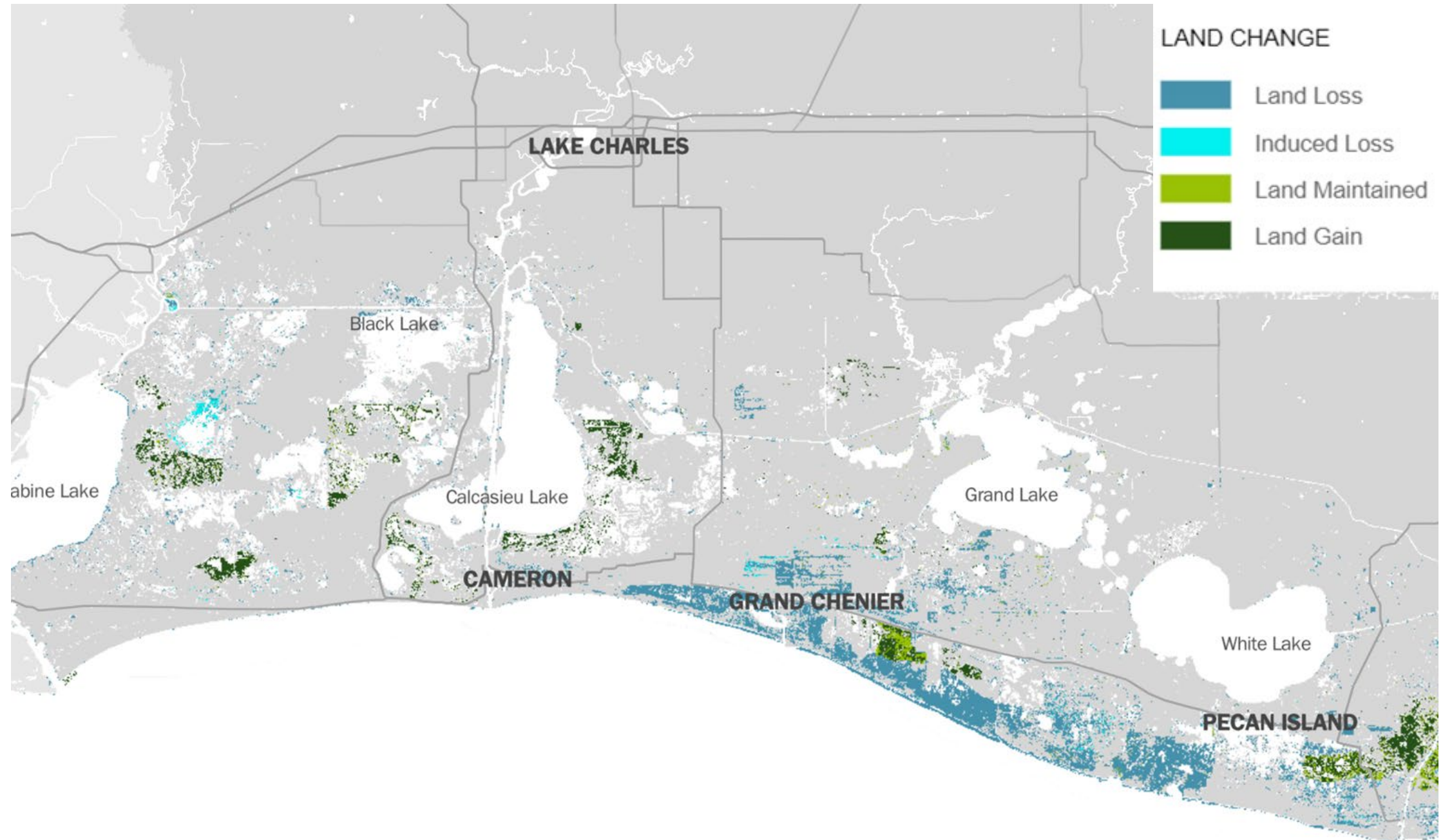
LAND CHANGE FROM INITIAL CONDITIONS - YEAR 50
LOWER ENVIRONMENTAL SCENARIO

CHENIER PLAIN REGION

PROJECTED FUTURE LAND CHANGE

Future With Action,
Year 50 -

Projected land
change with Coastal
Master Plan
projects on the
landscape



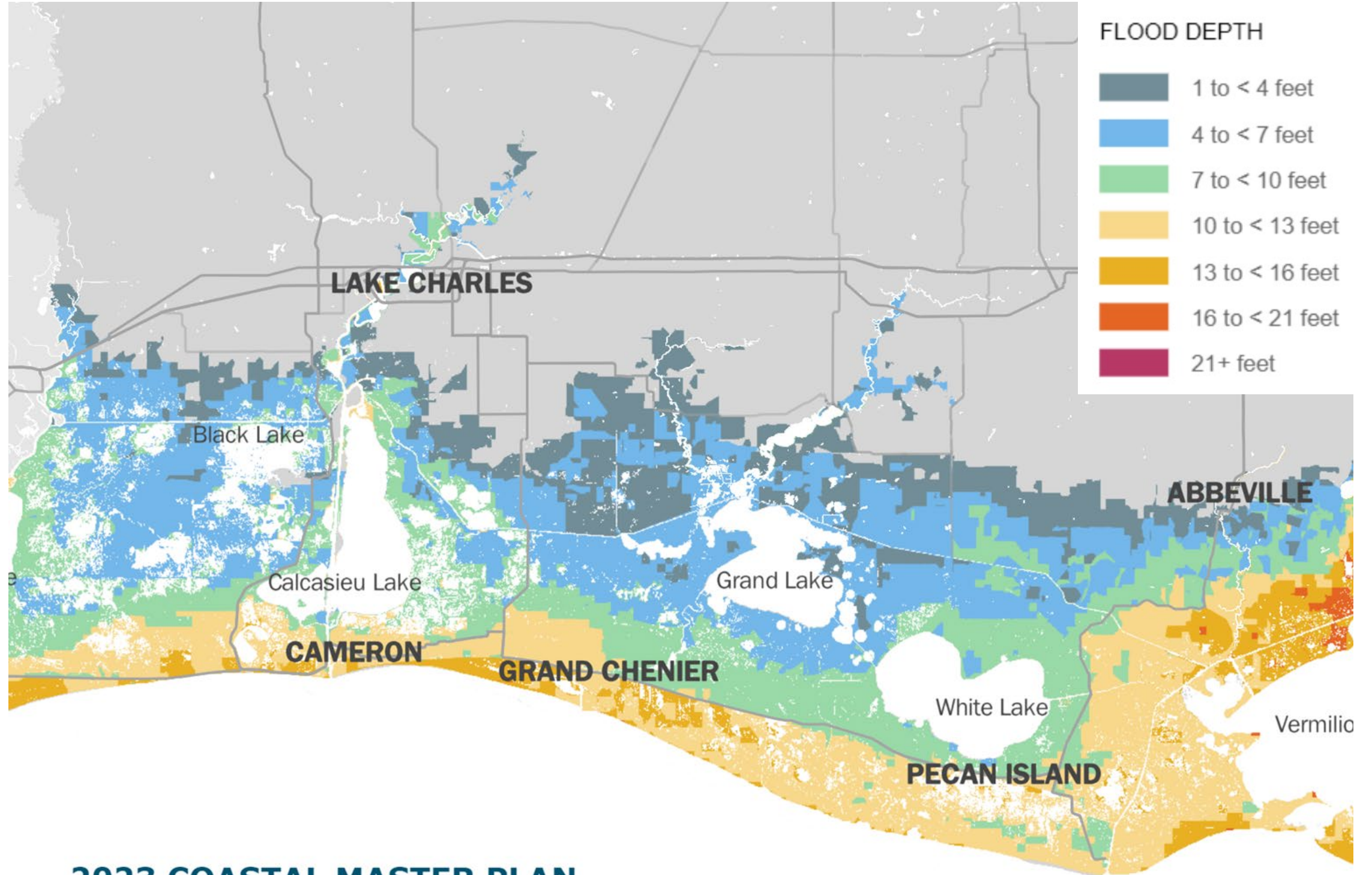
2023 COASTAL MASTER PLAN FUTURE WITH MASTER PLAN

LAND CHANGE FROM INITIAL CONDITIONS - YEAR 50
LOWER ENVIRONMENTAL SCENARIO

CHENIER PLAIN REGION

PROJECTED STORM SURGE-BASED FLOOD DEPTHS

Flood depths projected with a 1% probability of occurrence (100-year flood) in Future Without Action



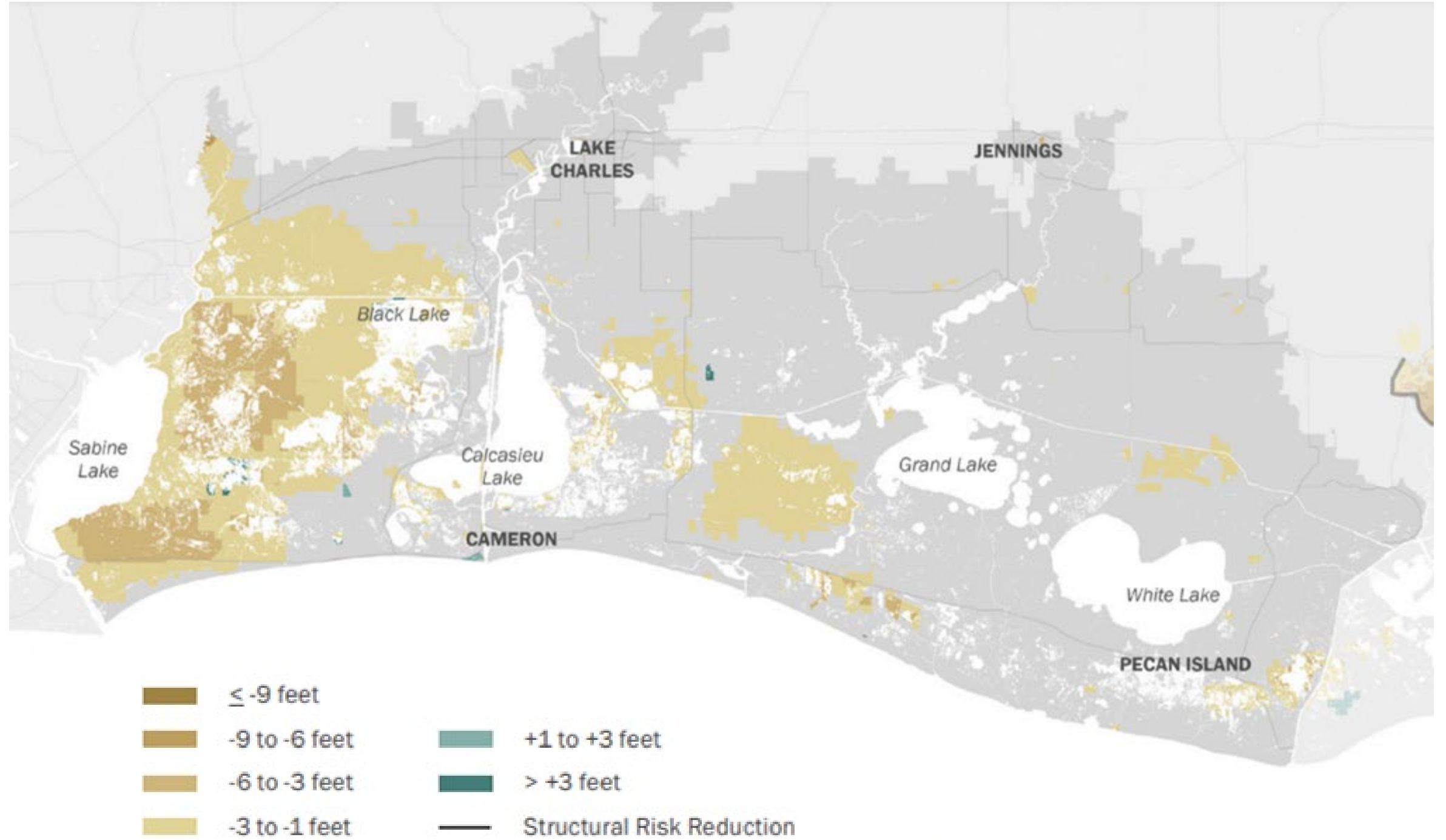
2023 COASTAL MASTER PLAN FUTURE WITHOUT ACTION

FLOOD DEPTH - YEAR 0
LOWER ENVIRONMENTAL SCENARIO

CHENIER PLAIN REGION

PROJECTED FLOOD DEPTHS

100-Year flood depth difference between Future With Action and Future Without Action

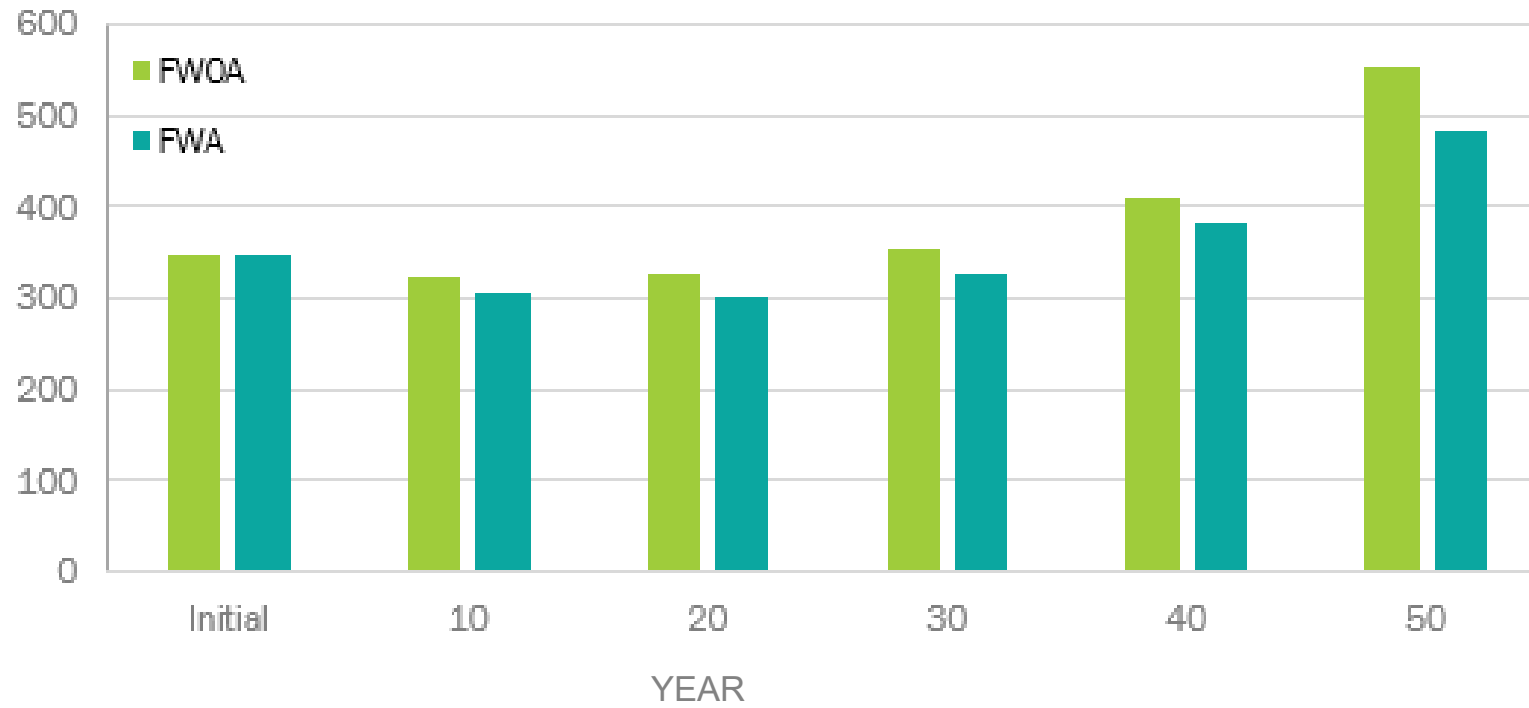


Map 6.5: Chenier Plain, Flood Depths Difference between FWA and FWOA, 1% Annual Exceedance Probability, Lower Scenario, Year 50.

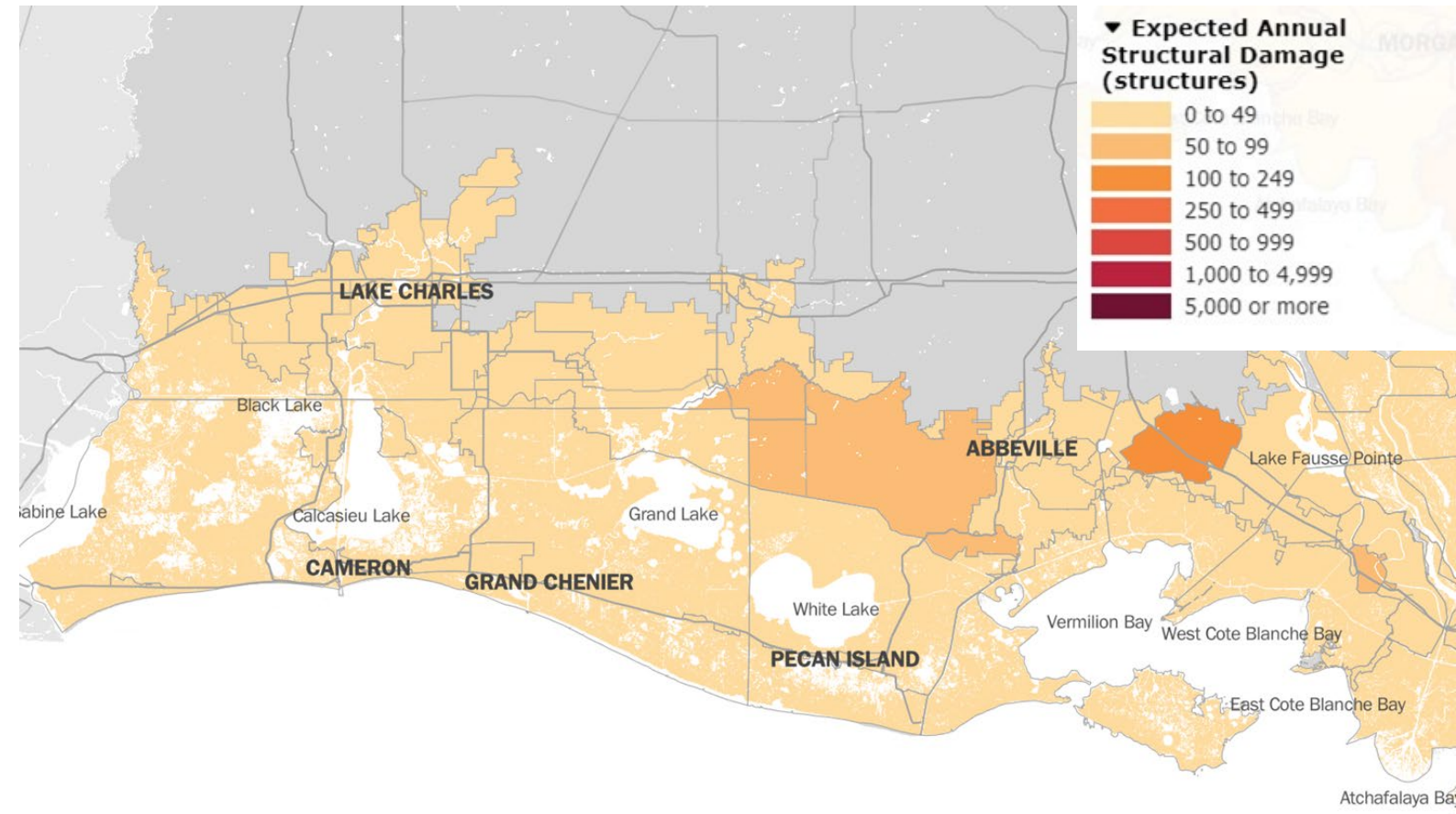
CHENIER PLAIN REGION

PROJECTED FUTURE DAMAGES FROM TROPICAL EVENTS

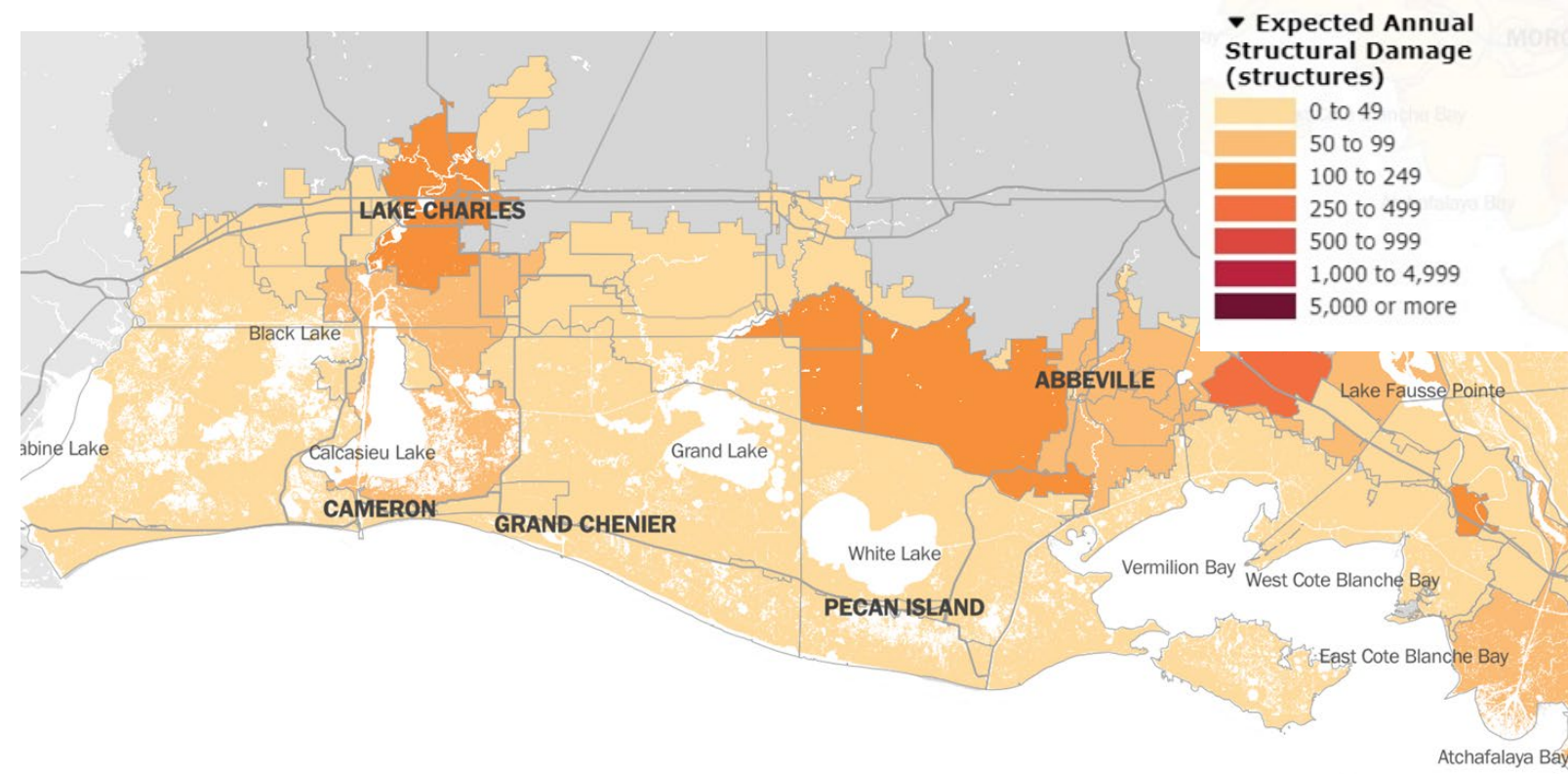
Expected Annual Damage, Structural Equivalents: Lower Scenario



*Note: Areas showing damage are based on existing structures as of that year; later years may have fewer structures remaining on the landscape, which is reflected in the magnitude of damages.



Damages of Structures (EASD) - FWOA, Lower Scenario, Year 0



Damages of Structures (EASD) - FWOA, Lower Scenario, Year 50

EXPERIENCING COASTAL CHANGE

CAMERON HIGH TIDE FLOODING - CAMERON EVACUATION LINK, LA-27

FUTURE WITHOUT ACTION, CHENIER PLAIN

- Currently floods less than 5% of days
- Future Without Action:
 - In 25 years, projected to flood ~5% of days
 - In 50 years, projected to flood ~52% of days

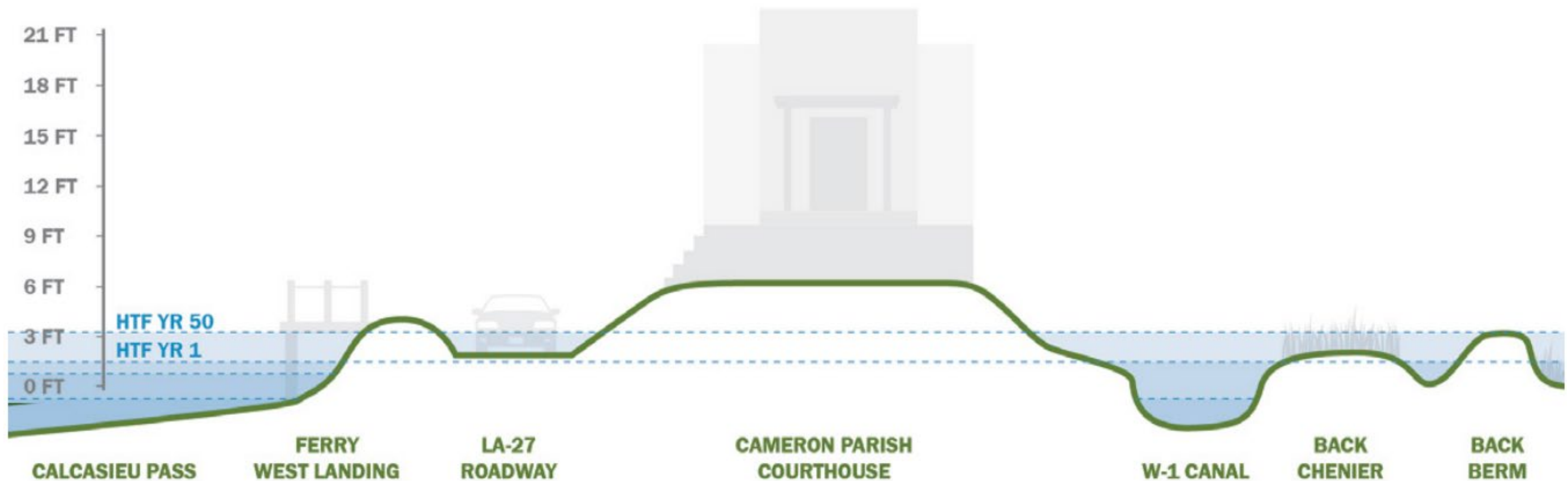


Figure 6.3: Representative High Tide Flooding (HTF) Elevations for the Town of Cameron at Year 1 and 50 in the Lower Scenario.

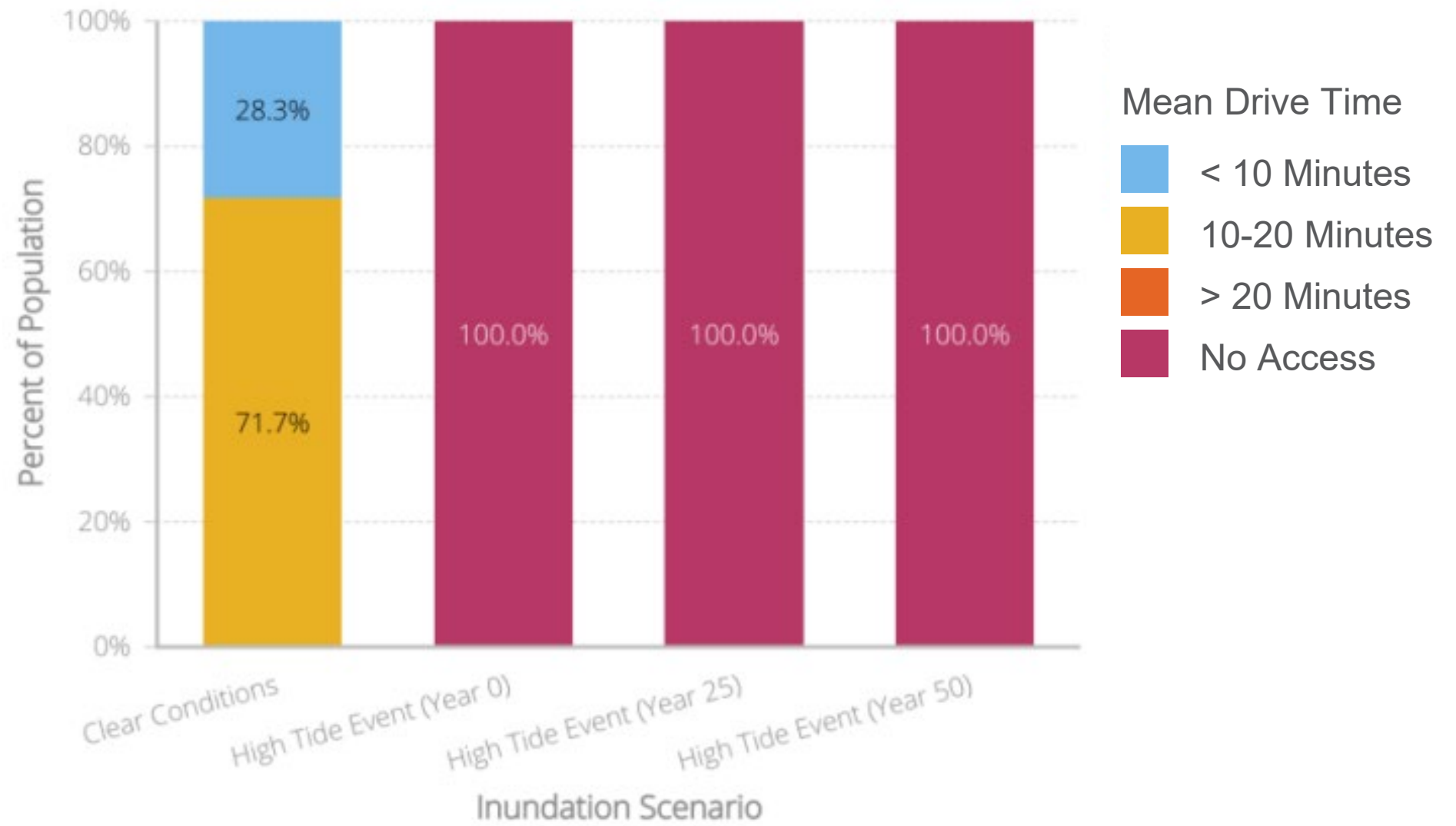
CAMERON HIGH TIDE FLOODING

FUTURE WITHOUT ACTION, CHENIER PLAIN

Drive time access to nearest Louisiana Emergency Response Network Tier 1 hospital by % of population

Access to Nearest LERN Tier 1 Hospital

Cameron, Louisiana



Data Source: Louisiana Department of Health

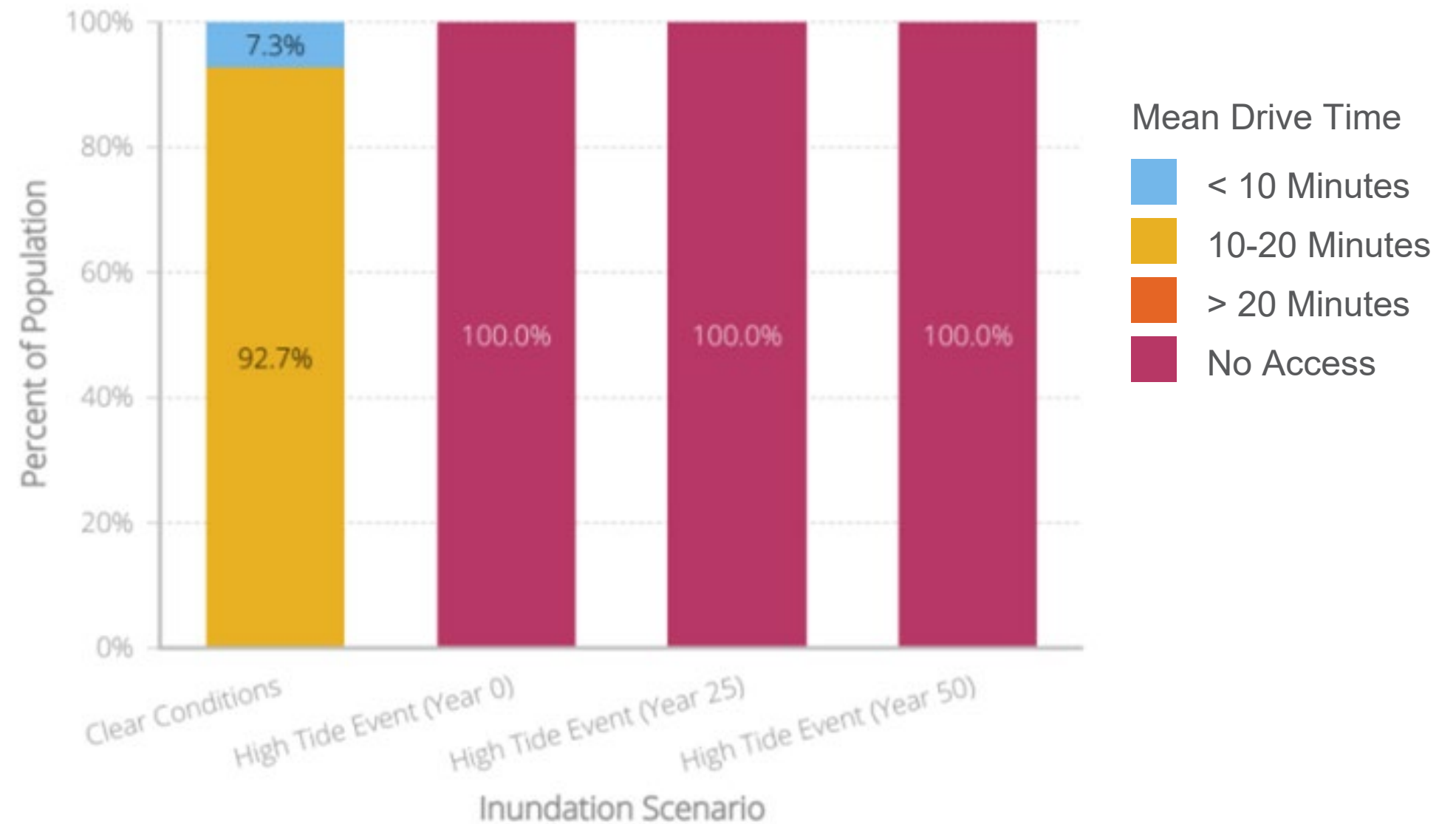
CAMERON HIGH TIDE FLOODING

FUTURE WITHOUT ACTION, CHENIER PLAIN

Drive time access to nearest grocery store by % of population

Access to Nearest Grocery Store

Cameron, Louisiana

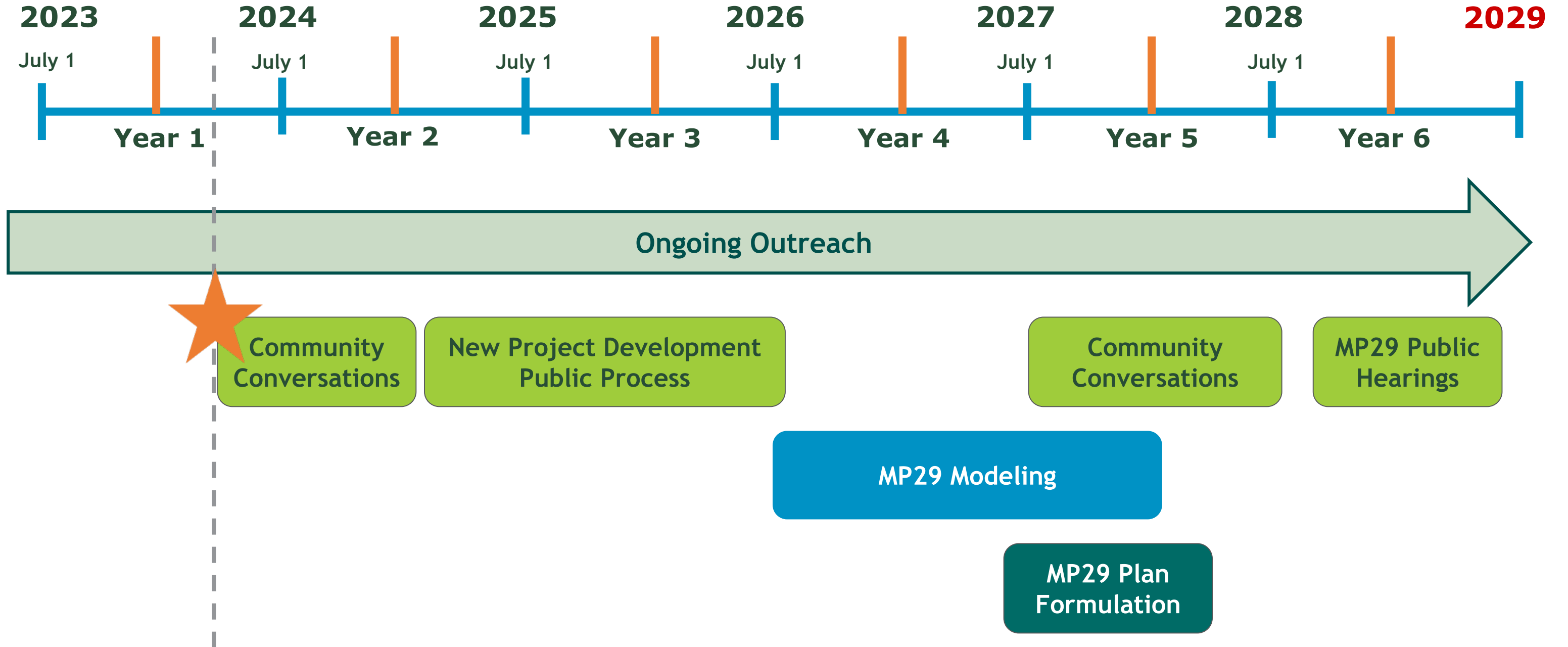


STAY INVOLVED

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2029 COASTAL MASTER PLAN TIMELINE

DEVELOPING THE MASTER PLAN FRAMEWORK



UPCOMING COMMUNITY CONVERSATIONS

- Next MP29 Community Conversations roadshow in early 2025
- Focus on New Project Development + the public solicitation process
- Plan to do small group discussions and workshop projects concepts on maps to address community members' concerns and goals



DISCUSSION

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SMALL GROUP TABLE DISCUSSION

- What are the most important coastal issues for you and your community, now and into the future?
- What sorts of environmental changes and resulting challenges have you seen in your community over the years?

Identify Current & Future Coastal Challenges



THANK YOU!

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