COASTAL PROTECTION AND RESTORATION AUTHORITY

OCTOBER 16, 2024

Calcasieu-Sabine Large Scale Marsh and Hydrologic Restoration (CS-0087)

PROJECT OVERVIEW AND PROGRAM UPDATE

Project Overview and Background

CS-87 Project Scope

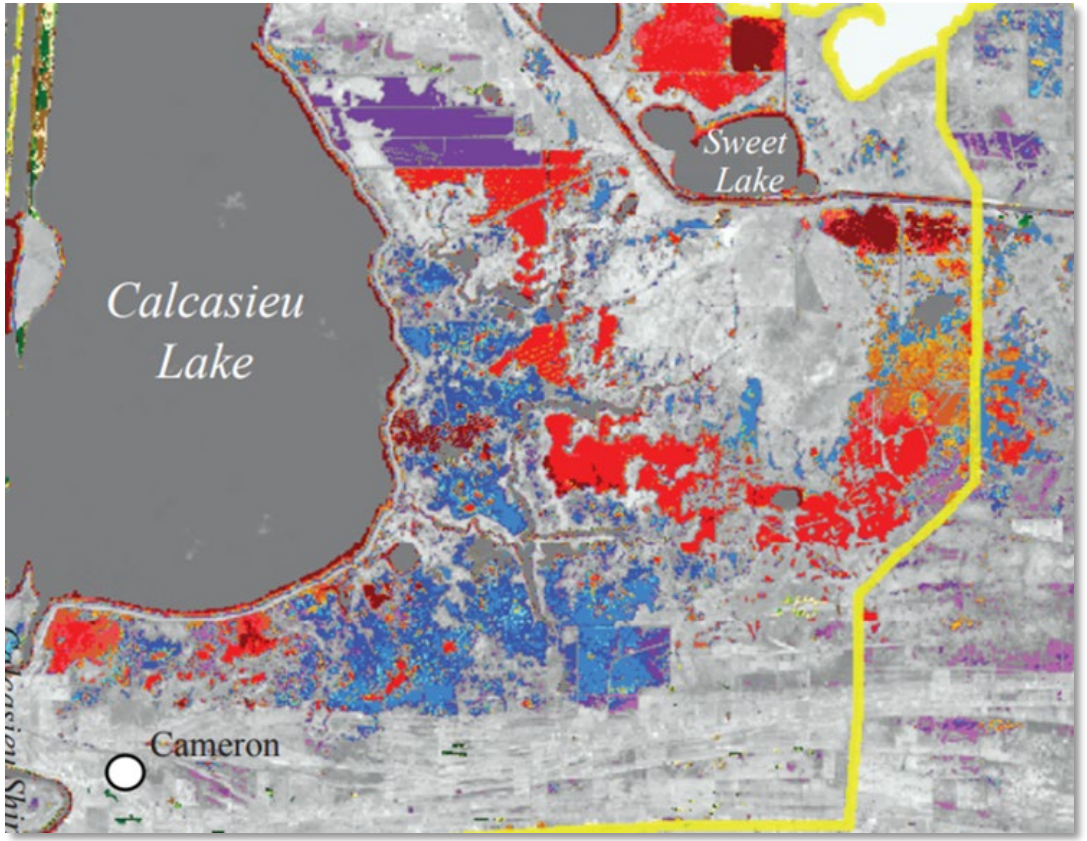
PROJECT GOAL: Reduce the rate of land loss in the Calcasieu Sabine Basin

PROJECT OBJECTIVES

- Reduce marsh stress from flood inundation through:
  - Improved drainage
  - Dredged sediment input
- Maintain marsh salinity levels achieved through existing CCW management practices

TWO MAIN PROJECT COMPONENTS

- Drainage structures with backflow prevention to improve marsh drainage
- Large-scale marsh creation & nourishment to increase elevation capital (~2,000 acres)

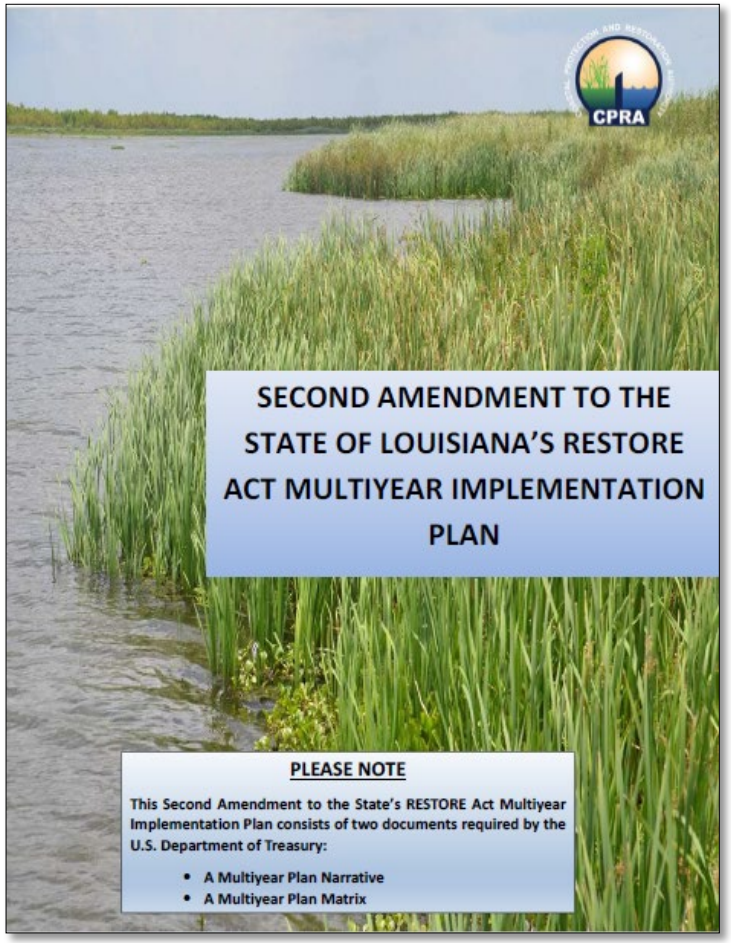


Source: Couvillion, B.R., Beck, Holly, Schoolmaster, Donald, and Fischer, Michelle, 2017, Land area change in coastal Louisiana 1932 to 2016: U.S. Geological Survey Scientific Investigations Map 3381, 16 p. pamphlet, https://doi.org/10.3133/sim3381.

Calcasieu-Sabine Large-Scale Marsh and Hydrologic Restoration Project (CS-87)

Funding Source: RESTORE Act Direct Component (Bucket 1)

- This project replaces the discontinued Calcasieu Ship Channel Salinity Control Measures Project
- Full $260.97M Bucket 1 allocation for Louisiana dedicated to this project
  - Engineering & Design
  - Permitting
  - Construction
  - Operations & Maintenance of Drainage Structures
  - Monitoring and Adaptive Management



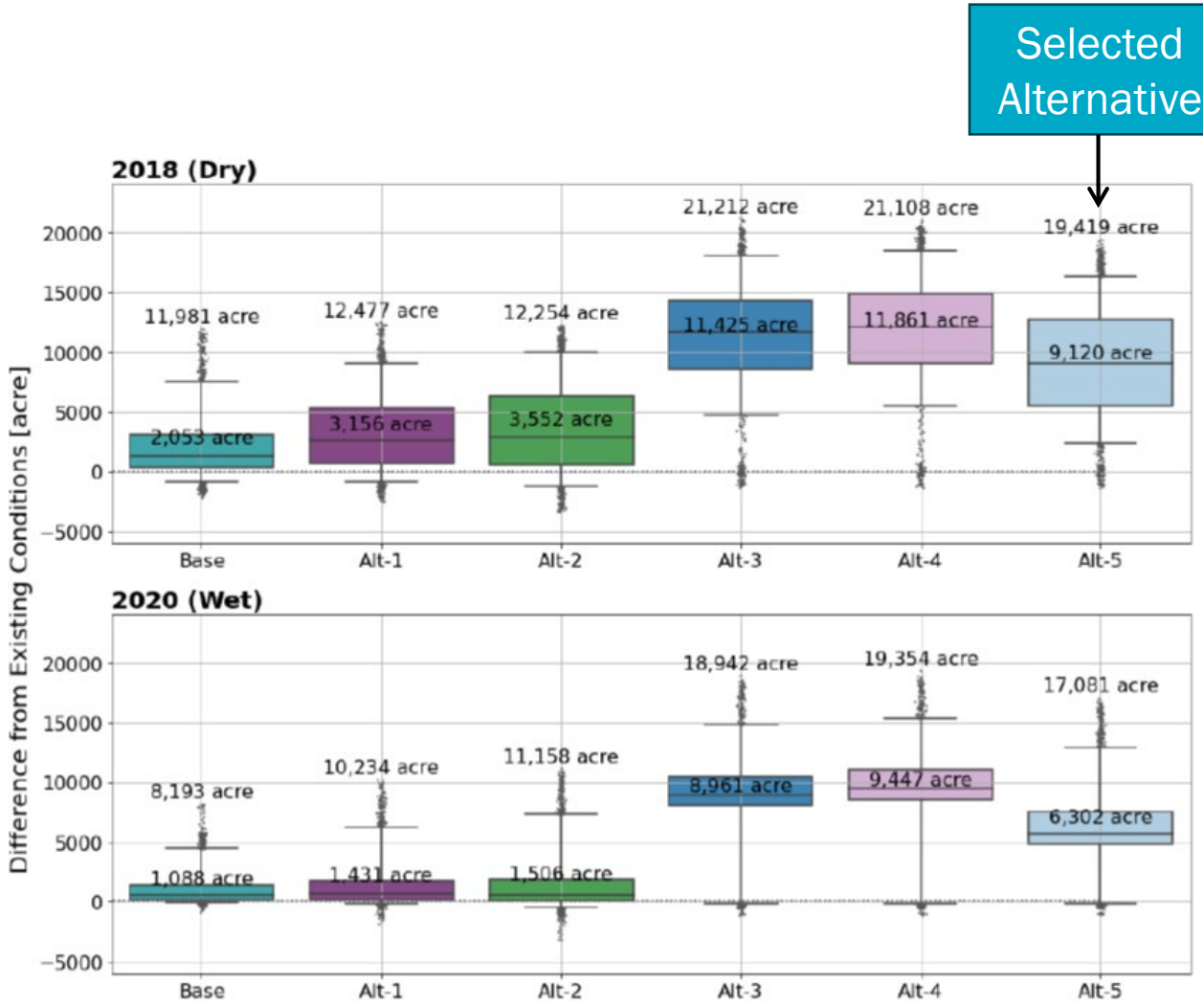
Design Optimization

Regional Modeling – Project Benefits

Water level reductions in the marsh

- Average 1.9 inches
- Peak reduction of 17 inches after a high-water event

Increased total marsh area not under flood stress



Hourly Area Below Upper Target Water Level
Change from Existing Conditions

The box represents 25th, median, and 75th percentile values and whiskers represent 5th and 95th percentile limits.

Project Features

A. Lake Rim Drainage

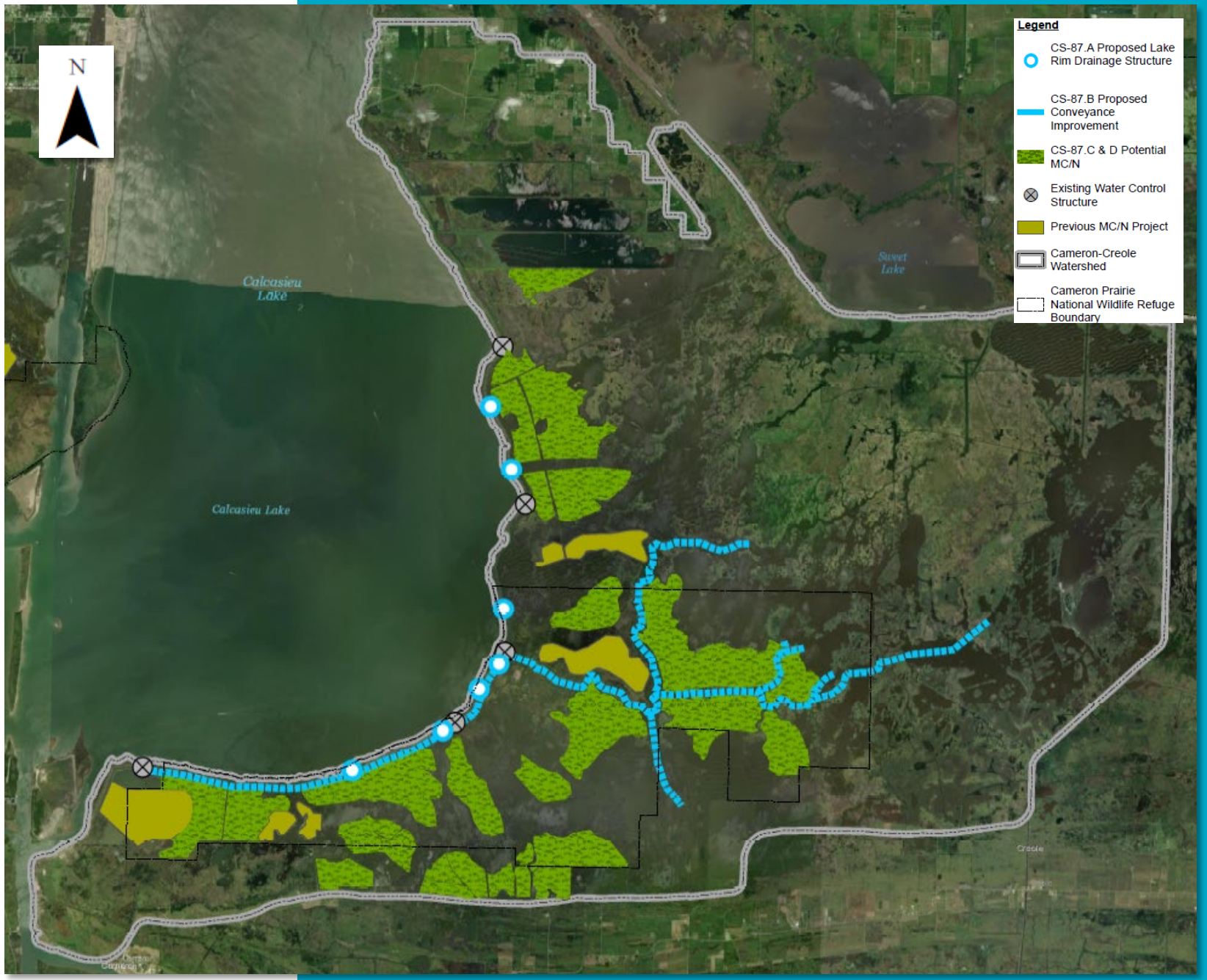
- Seven (7) proposed gravity drainage structures with backflow prevention

B. Conveyance

- Up to 18 miles of channel improvements
  - Improve drainage from back of the marsh to the Lake Rim
  - Focused on dredging of historic bayous

C. Marsh Creation

- Over 2,000 of 7,000 proposed acres to be built through CS-87
  - Using dredged material from channel improvements and CSC

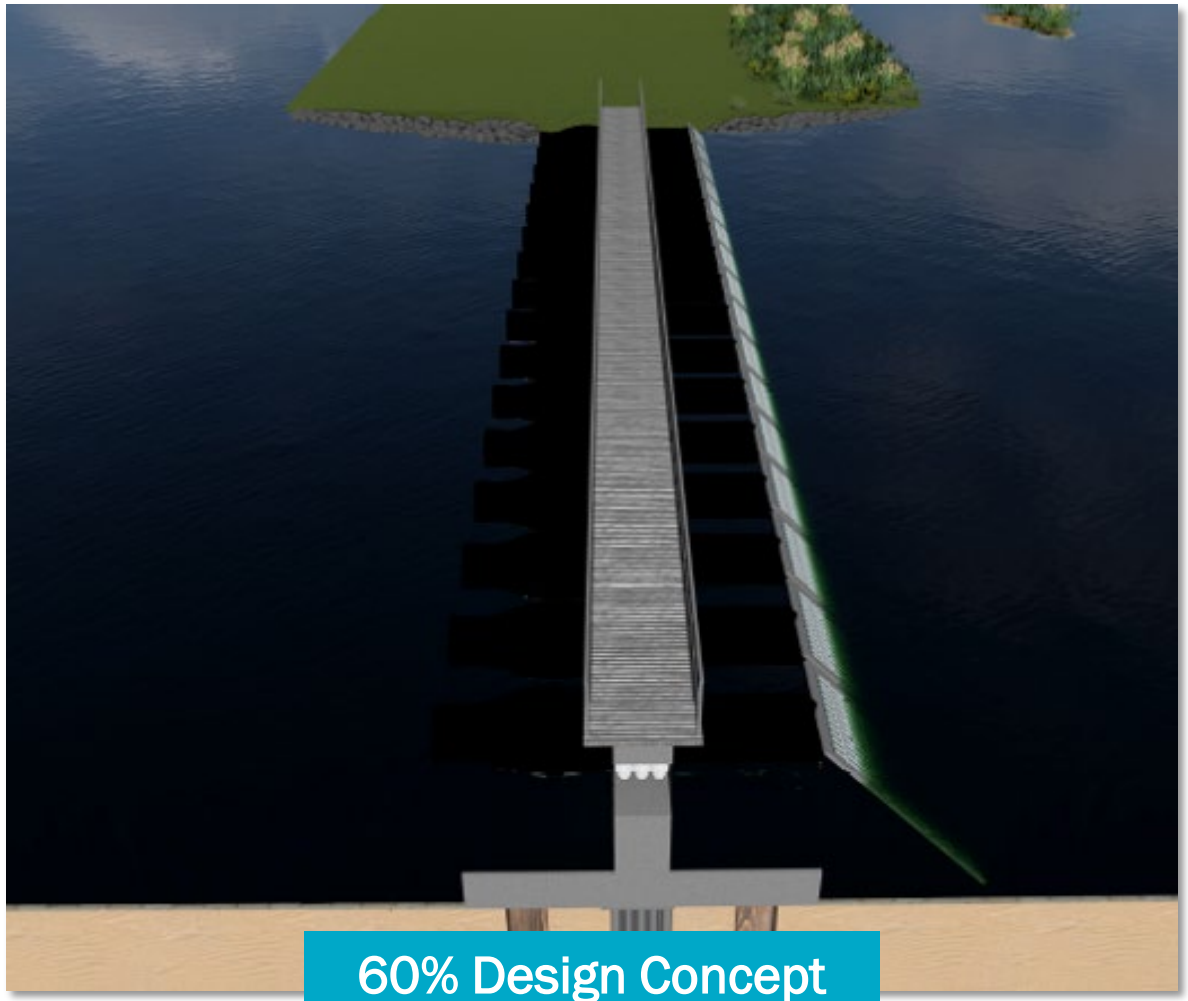


Program Features

Lake-Rim Drainage Structures

JPA Submittal & 30% Design Complete

- Seven (7) Multiple barrel structures with inline check valves for backflow prevention
- The total structure capacities (with additional capacity for redundancy/ resiliency) includes 159 – 60” diameter culverts
- 60% Design will be completed later this month and bids advertised early 2025



60% Design Concept

Lake-Rim Drainage Structures

60% Design Concept

Lake Side

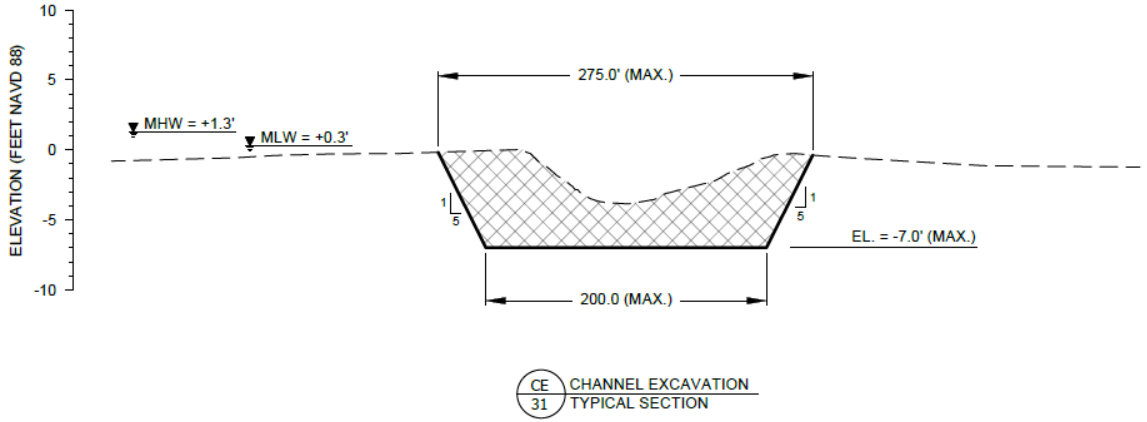
Marsh Side

Conveyance Improvements

Initial Data Collection & JPA Submittal Complete

Excavation of over 18 miles of channels within the CCW to increase conveyance capacity to the lake rim drainage structures and beneficial re-use of material for large-scale marsh creation and nourishment.

- Permitting
  - Included borrow canal dredging in LRD permit
  - Grand Bayou, North & South prong to be permitted separately
- Data Collection
  - Phase 1 data collection (geotechnical and survey) complete
- Engineering & Design Ongoing
  - Refining placement areas

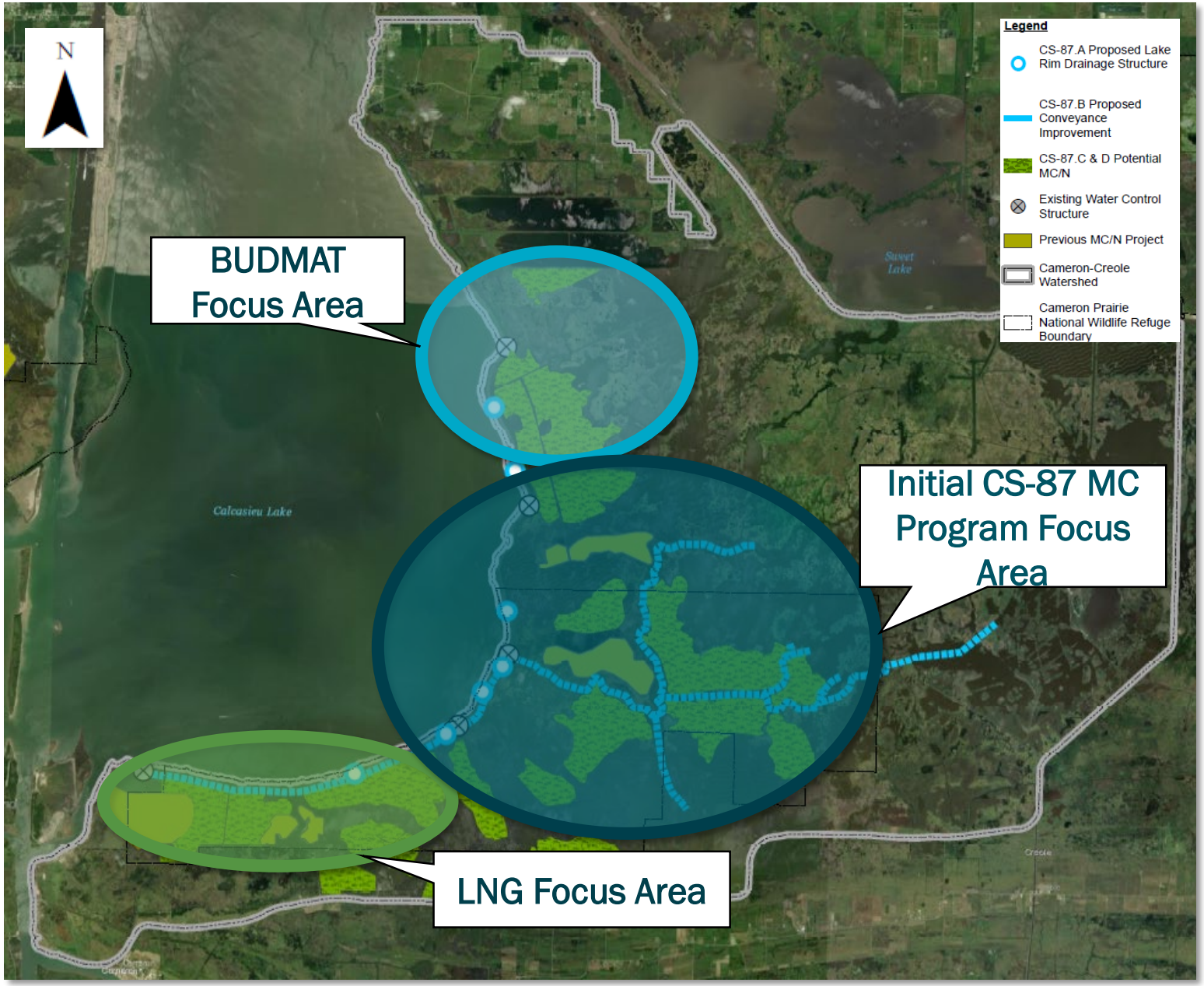


Marsh Creation & Nourishment

Fill Placement Area Groupings

Large-scale marsh creation and nourishment (over 2,000 acres) throughout the CCW.

- BUDMAT
- CS-0087 without BUDMAT
- Available to LNGs



Multiple Project Tracks for Efficiency

Milestone	Lake-Rim Drainage	MC/N with Conveyance Channel Borrow	MC/N with BUDMAT
Design Optimization	July 2022	July 2022	
15% Design	Fall 2023	Late 2023	
★ JPA Submittal	Early 2024	Early 2025	
★ 30% Design	Mid 2024	Early 2025	
90% Design	Late 2024	Mid 2025	2025
Advertise for Bids	Early 2025	Late 2025	Fed FY 26 or FY 28

★ Current Project Phase

NEEL-SCHAFFER Solutions you can build upon

MOTT MACDONALD

HDR

THE WATER INSTITUTE

GEOENGINEERS

Next Steps

Next Steps

Lake-Rim Drainage

- **JPA Submitted** for all 7 LRD structures
- HDR Team continuing 60% Design (anticipated October 2024)

Conveyance Improvements & MC/N

- **JPA Submitted – southern borrow canal cleanout included in LRD JPA**
- CPRA conducting detailed design

BUDMAT

- DIR in development (expected May 2025), TSP approved Dec. 2023
- Field data collection ongoing