

RESTORE-ING THE GULF COAST: IMPLEMENTING RESTORE ACT AND NRDA PROJECTS IN COASTAL LOUISIANA

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February 8, 2018
FSBPA 31st National Conference on Beach
Preservation Technology



OUTLINE

- Louisiana's disappearing coastline
- NRDA and RESTORE Act
- Implementing NRDA projects
 - Shell Island West Restoration
 - Chenier Ronquille Barrier Island Restoration
- Implementing RESTORE Act projects
 - Golden Triangle Marsh Creation

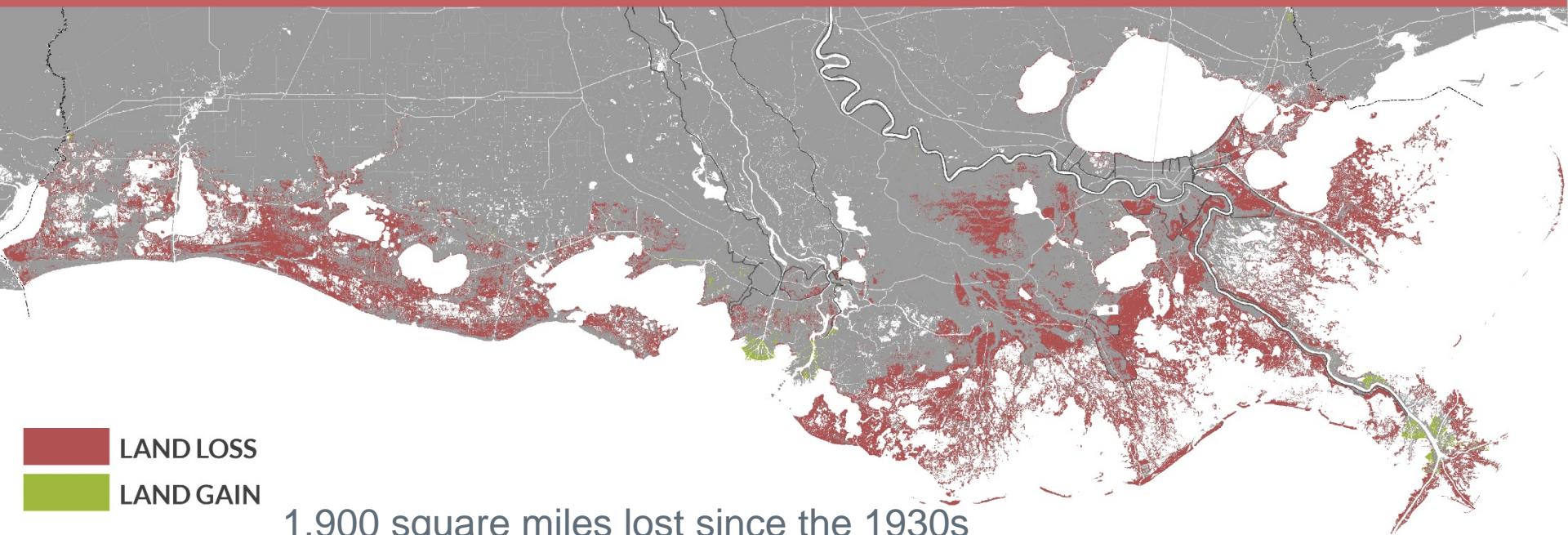


LOUISIANA'S COASTAL CRISIS

Causes

- Mississippi River channelization
- Sea level rise
- Subsidence
- Storms

FUTURE WITHOUT ACTION | YEAR 50 | MEDIUM SCENARIO



1,900 square miles lost since the 1930s

Up to 4,120 square miles to be lost in the next 50 years

Credit: Louisiana Coastal Protection and Restoration Authority

LOUISIANA'S COASTAL CRISIS

- People
- Fisheries and bird habitat
- Commerce



- Over \$120 billion in domestic goods and services pass through LA ports annually, as well as \$36 billion internationally
- Infrastructure supports 90% of the nation's OCS oil and gas

NRDA RESTORATION AND RESTORE ACT – DEEPWATER HORIZON OIL SPILL

Natural Resource Damage Assessment (NRDA)

- Outer Coast Restoration Project (BP Settlement)
- Restore beach, dune, and marsh habitats to help compensate spill-related injuries to habitats and species
- Projects include:
 - Caillou Lake Headlands Barrier Island Restoration
 - Chenier Ronquille Barrier Island Restoration
 - North Breton Island Restoration
 - Shell Island Barrier Restoration

NRDA RESTORATION AND RESTORE ACT – DEEPWATER HORIZON OIL SPILL

RESTORE Act

- Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act
- Clean Water Act Penalties
- Louisiana Projects:
 - Bayou Dularge Ridge, Marsh, and Hydraulic Restoration
 - Biloxi Marsh Living Shoreline
 - Golden Triangle Marsh Creation Project
 - Mississippi River Reintroduction into Maurepas Swamp
 - West Grand Terre Beach Nourishment and Stabilization

NRDA AND RESTORE ACT

Louisiana Master Plan Program
provides planning groundwork

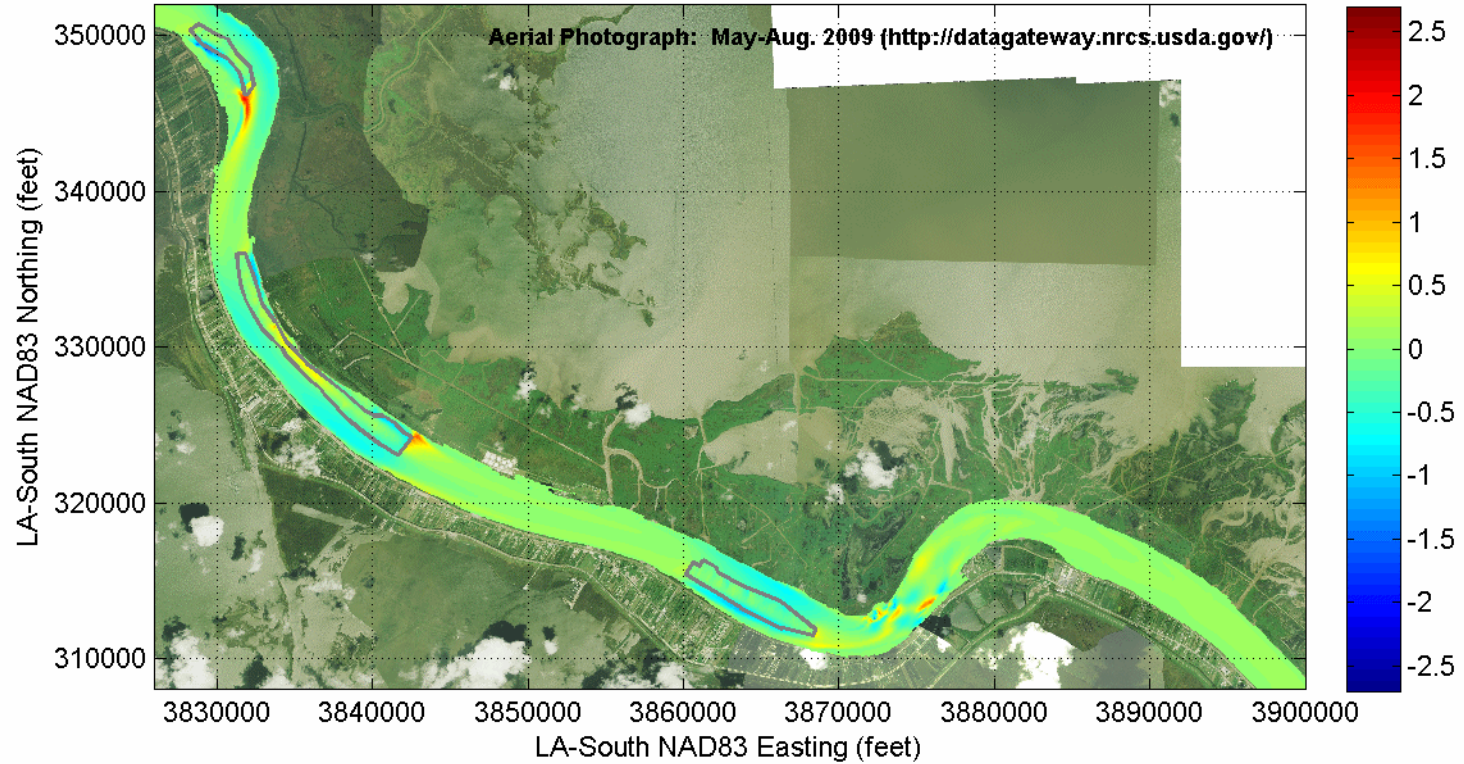


SHELL ISLAND RESTORATION PROJECT



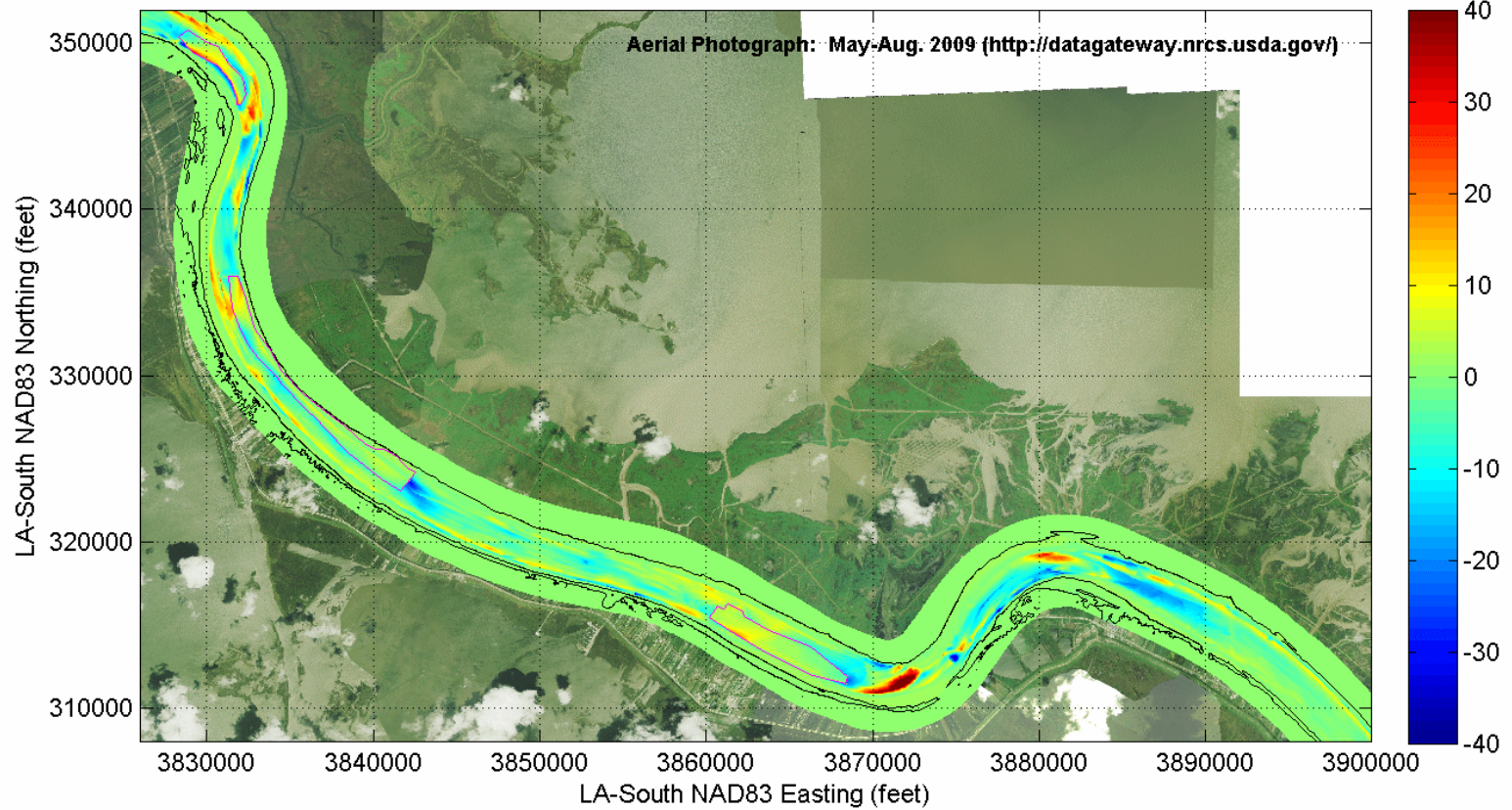
SHELL ISLAND RESTORATION

Change in Current Speed (feet/s) at Year 0 Given Fully Excavated Scenario, Borrow Areas A,B,E Only



SHELL ISLAND RESTORATION

Erosion (-feet) & Deposition (+feet), Years 0-7 Given Fully Excavated Scenario, Borrow Areas A,B,E Only



SHELL ISLAND RESTORATION PROJECT



SHELL ISLAND RESTORATION PROJECT

Components:

- Emergency Berm (2010)
- Shell Island East Berm to Barrier (2013)
- Shell Island West NRDA (2016-2017)



Construction:

- Over 5 miles of barrier shoreline restored
- 9.3 million cubic yards of fill material dredged
 - Mississippi River borrow area (beach and dune)
 - Gulf of Mexico borrow area (back-barrier marsh)
- 1031 acres of habitat restored
- Approximate \$116,000,000 construction cost

SHELL ISLAND RESTORATION PROJECT – EAST LOBE



SHELL ISLAND RESTORATION PROJECT – EAST LOBE



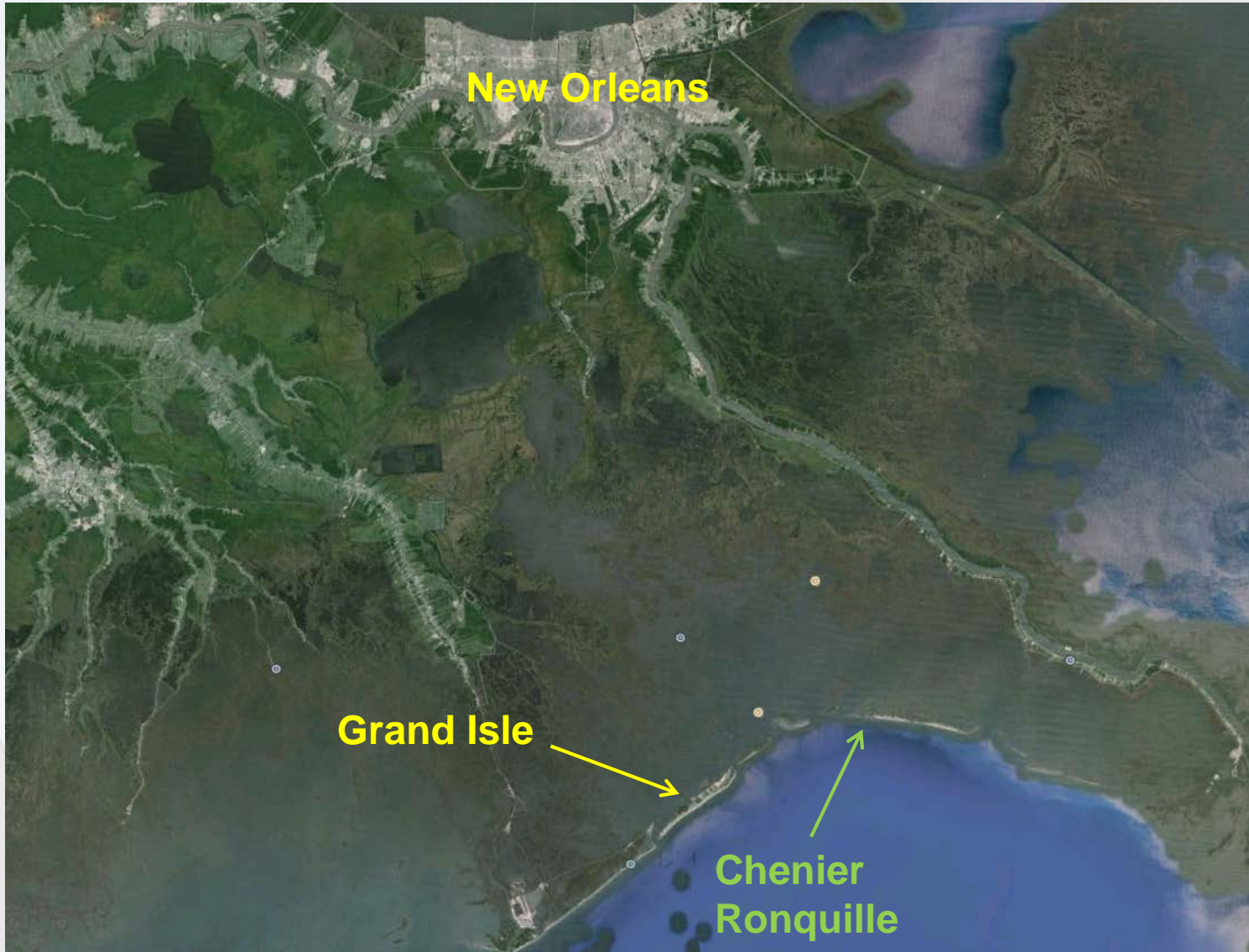
Credit: Louisiana Coastal Protection and Restoration Authority

SHELL ISLAND RESTORATION PROJECT – WEST LOBE



Credit: Louisiana Coastal Protection and Restoration Authority

CHENIER RONQUILLE BARRIER ISLAND RESTORATION PROJECT - NRDA



Google Earth, 2015

CHENIER RONQUILLE BARRIER ISLAND RESTORATION PROJECT - NRDA

- Over 1.5 miles of barrier shoreline restored
- 3 million cubic yards of fill material dredged (Gulf of Mexico borrow areas)
- 518 acres of habitat restored
- Approximate \$27,600,000 construction cost



CHENIER RONQUILLE BARRIER ISLAND RESTORATION PROJECT - NRDA



Credit: National Marine Fisheries Service

CHENIER RONQUILLE BARRIER ISLAND RESTORATION PROJECT - NRDA



Credit: National Marine Fisheries Service

GOLDEN TRIANGLE MARSH RESTORATION PROJECT- RESTORE ACT

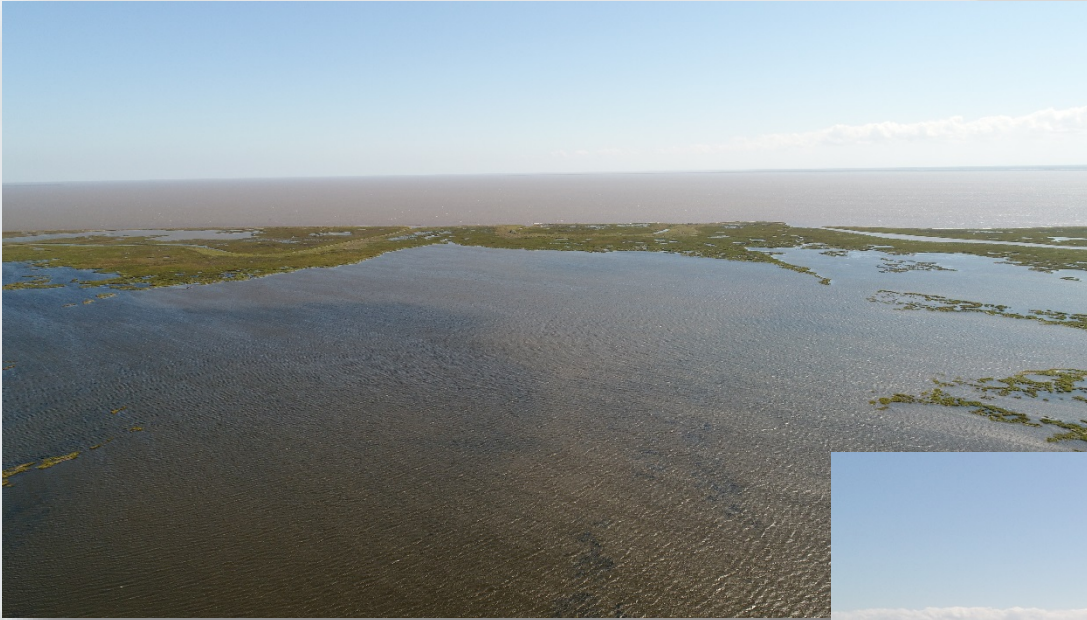
- Objective: to restore and protect wetland, fish, and wildlife habitat and help maintain landscape integrity and enhance community resilience.
- RESTORE Plan: 600 acres
- Proposed funding for RESTORE construction: \$50,000,000



Source: <http://mississippiriverdelta.org/>



GOLDEN TRIANGLE MARSH RESTORATION PROJECT- RESTORE ACT



ACKNOWLEDGEMENTS

- Louisiana Coastal Protection and Restoration Authority
- NOAA Restoration

- Aptim Team:
 - Dave Swigler, PE
 - Andy Wycklendt, PE
 - Julien Devisse, PE
 - Chris Paul, EI
 - Adam Priest, EI
 - John Darnall



THANK YOU!

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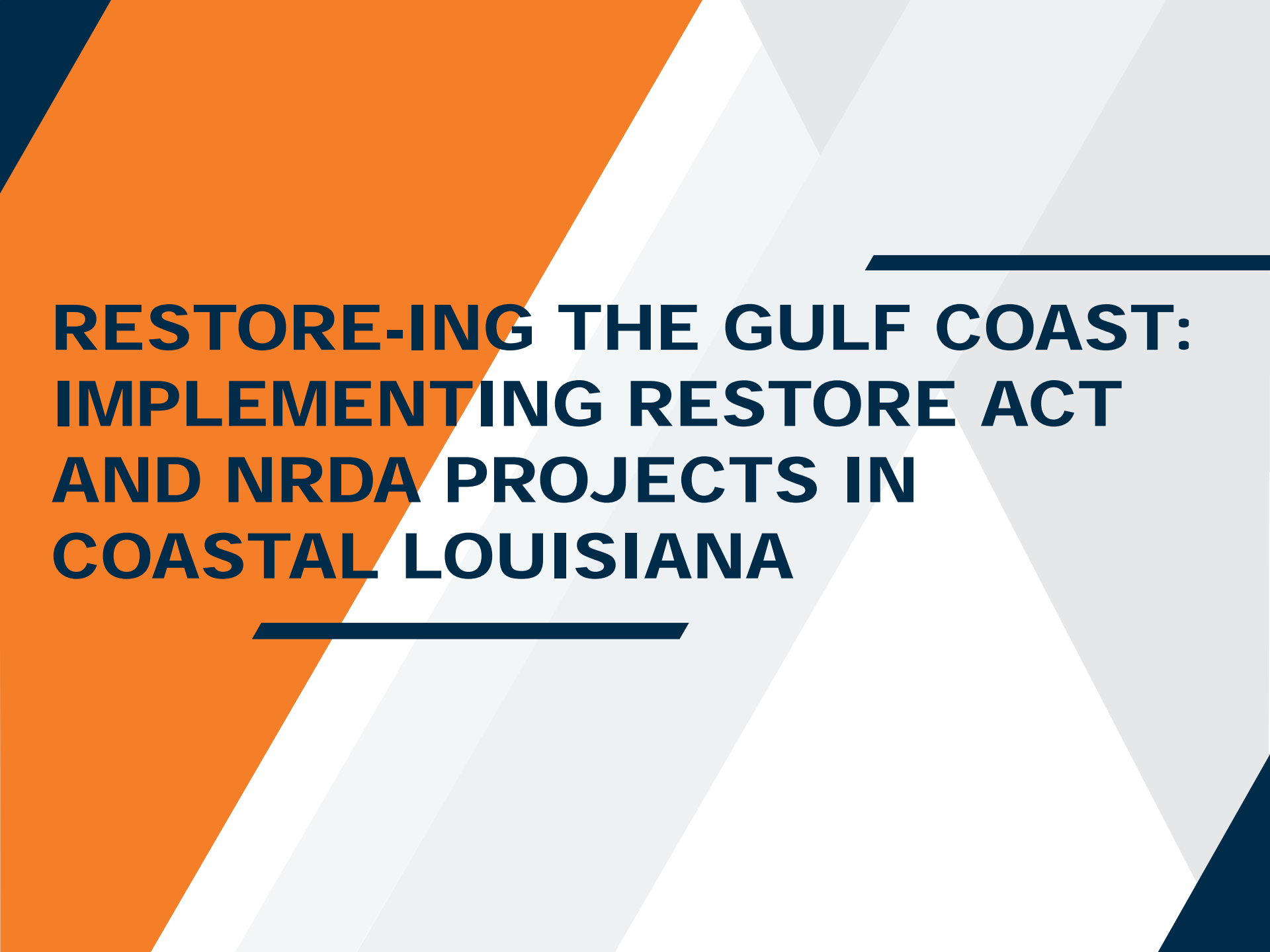
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