East Timbalier Island Restoration Project (TE-0118) and Terrebonne Basin Barrier Island & Beach Nourishment (TE-0143)  
November 29, 2018

Bureau of Ocean Energy Management (BOEM), Marine Minerals Program
Gulf of Mexico Offshore Sand Management Working Group
Since 2007...

$20 BILLION
SECURED FOR PROTECTION & RESTORATION PROJECTS IN 20 PARISHES

130 MILLION
CUBIC YARDS OF FILL UTILIZED

41,305 ACRES
OF LAND BENEFITED

297 MILES
OF LEVEE IMPROVEMENT

60 MILES
OF BARRIER ISLANDS & BERMS CONSTRUCTED OR UNDER CONSTRUCTION

Our Coast. Our Future.
Coastal Restoration in Louisiana Began in 1990’s

At that time big projects were:

• 5 miles of 30 inch dredge pipe, no booster pumps

• Create 100+ acres

• $ 20 M - One funding source

• Using Sand From Mississippi River & Ship Shoal were dreams.
2018:

• 22 miles of 30 inch dredge pipe

• $150 M+ projects

• Create 500+ acres per project

• Combining Projects for efficiency

• Multiple funding sources

• 6 projects sand out of MS River

• 3 projects sand Ship Shoal
TODAY’S DREAMS:

• $ 500 M Projects;

• Diversions;

• Basin-Wide Ecological Restoration;

• Increased Funding;

• ETC.

ARE TOMORROW’s REALITY

committed to our coast
Ship Shoal

• Ship Shoal reworked remnants of Maringouin delta complex/Mississippi River.
• Ship Shoal estimate 900 million cubic yards sand.
• Shea Penland advocated use of Ship Shoal sand for shoreline restoration.
• Clean sand grain size ranging 0.15 to 0.20mm.
East Timbalier Island Restoration Project (TE-0118) and Terrebonne Basin Barrier Island & Beach Nourishment (TE-0143)
In Louisiana, NFWF funds be allocated solely to barrier island restoration projects and river diversion projects along the Mississippi and Atchafalaya Rivers.
EAST TIMBALIER FOOT PRINT

NOTE:
1. ALL COORDINATES ARE NAD83, LOUISIANA STATE PLANE, U.S. SURVEY FEET.
2. AERIAL IMAGE FROM AERIAL SURVEY, 2015.
3. SAND FENCING SHALL BE INSTALLED ALONG THE ALLEYS AND FOR THE LENGTH OF THE DUNE.
4. SEE SHEET 34 FOR ALIGNMENT AND COORDINATE TABLES.
5. UPLAND CORRIDOR SHALL BE ALLOWED ONLY OVER UNIDENTIFIED SEDIMENT DEPOSITS.

LEGEND:
- BEACH CRESCENT
- FILL EXTENT
- DUNE CRESCENT
- CONTAINMENT DIKE ALIGNMENT
- BEACH/MARSH INTERFACE
- SETTLEMENT
- BEACH/DUNE FILL
- MARSH FILL

CONVEYANCE CORRIDORS
ACCESS CHANNEL
UPLAND ACCESS
CORRIDOR
WORK AREA
PROBABLE PIPELINE (YCS 2014)
PIPELINES

PREVIOUS 18 BARRIER ISLANDS: ~ 80 PIPELINES

EAST TIMBALIER: OVER 100 PIPELINES

committed to our coast
committed to our coast

NOTE:
1. ALL COORDINATES ARE NAD83, LOUISIANA STATE PLANE, U.S. SURVEY FEET.
2. AERIAL IMAGE FROM GOOGLE EARTH 2015.
PROJECT CONSTRUCTION NEEDS

1) PERMITS
2) BUDGET (SEDIMENT)
3) BUDGET ($$$)
4) LAND RIGHTS
Timeline of Breach Formation

October 7, 2013
October 31, 2016
Causes of Breach

• Regressive Barrier Island System
  • Transition from detachment to submergence

• Impacts from oil and gas infrastructure
  • Access channel dredging

• Existing Coastal Structures
  • Belle Pass Jetties
  • East Timbalier Breakwaters

• Winter and tropical storm systems

ULTIMATE CAUSE IS THE LACK OF SEDIMENT!
BREACH IN EAST TIMBALIER

Approximately 2.3 mcy lost
Or
44% of Island lost since 2015
RECOMMENDED OPTION

• West Belle Pass Headland

• Terrebonne Basin Barrier Island and Beach Nourishment (Trinity and Timbalier Islands)
• Nourishment of 3 sites using ~10 MCY
  • 8 MCY from Ship Shoal/South Pelto
  • 2 MCY from state waters
  • 1,310-acre footprint
Timeline

Construction funding: Oct 2018
Final EA/FONSI: Spring 2019
BOEM lease: Summer 2019
Land Rights: Spring 2019
Bid Package: Summer 2019

• Construction duration ~24 months

committed to our coast
Why these islands? Why now?

- Breach Criteria and Classification (Technical Memo, CEC, 2015)
  - Raccoon to Scofield Island
Why these islands? Why now?

- Criteria for breach potential:
  - Min. island width (200 ft)
  - Min. width to Updrift length ≤ 3%
  - Up and downdrift length : total length ≥ 27%
  - Min. island density ≤ 350 cf/f
Why these islands? Why now?

• 2015 Recommendations:
  • Trinity East, Timbalier, West Grand Terre, and Grand Pierre
  • Re-evaluate every four years
committed to our coast
All Habitats: 410 acres

Beach: +5.0’ elev.
Dune: +7.5’ elev.
Marsh: +3.0’ elev.
Timbalier Island

Nov 2018
All Habitats: 348 acres

Beach: + 4.5' elev.
Marsh: + 2.0' elev.
Beach: 207 acres, + 5.0’ elev.

NOTES:
1. ALL COORDINATES ARE NAD83, LOUISIANA STATE PLANE, U.S. SURVEY FEET.
2. AERIAL IMAGE REFERENCE: ©2016 MICROSOFT CORPORATION.COROS® DIGITALGLOBE CONES (2016) DISTRIBUTION AIRBUS DS, BING.
3. SAND FENCING SHALL BE INSTALLED ALONG THE ALIGNMENT AND FOR THE LENGTH OF THE FILL.
4. SEE SHEET 34 FOR ALIGNMENT AND COORDINATE TABLES.
5. UPLAND ACCESS CORRIDOR SHALL BE ALLOWED ONLY OVER UNVEGETATED SEGMENTS OF ISLAND.
6. FILL EXTENTS ARE APPROXIMATE AND WILL VARY DUE TO BARRIER ISLAND DYNAMICS. LIMIT OF FILL SHALL BE FIELD ADJUSTED AT TIME OF CONSTRUCTION.

LEGEND
- - - - ACCESS CHANNEL
- - UPLAND ACCESS CORRIDOR
     WORK AREA
- - OYSTER LEASE (LDWF, 2018)
- - PROBABLE PIPELINE (CMD 2010, BOEM, 2007)

3,000’ 1,500’ 0’ 3,000’

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TERREBONNE BASIN BARRIER ISLAND AND BEACH NOURISHMENT
TRINITY-EAST ISLAND NOURISHMENT AREA PLAN VIEW

STATE PROJECT NUMBER: TE-143
DATE: APRIL 2018
PROJECT NUMBER: SHEET 10 OF 38
committed to our coast
Monitoring and Adaptive Management

- Topography/bathymetry
- Borrow area surveys (Y2 and Y4)
- Vegetation Surveys
- Habitat Mapping
- Shoreline Position Surveys
- Sediment Characteristics
- Benthic Surveys
- Wintering Bird Surveys
Barrier Island Renourishment Program

Systematic approach to categorizing, prioritizing, selecting, and funding future projects

- Develop framework
- Formalize structured decision making process
- Prepare action plan