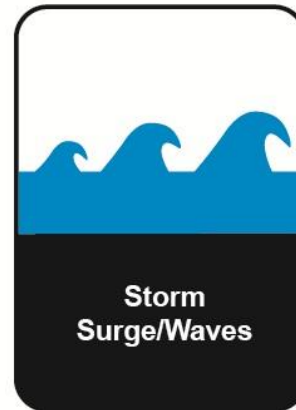
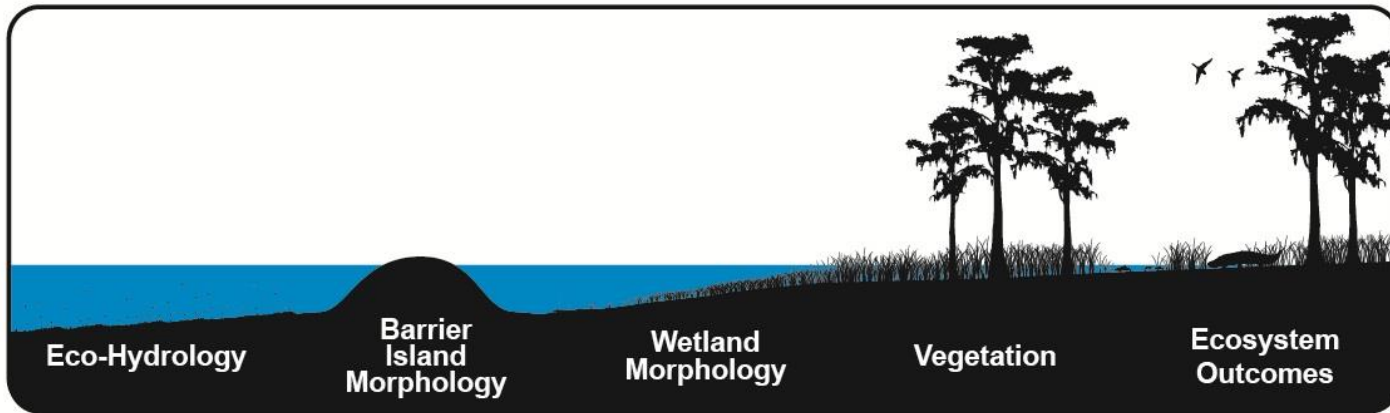


# 2017 Model Improvement Plan

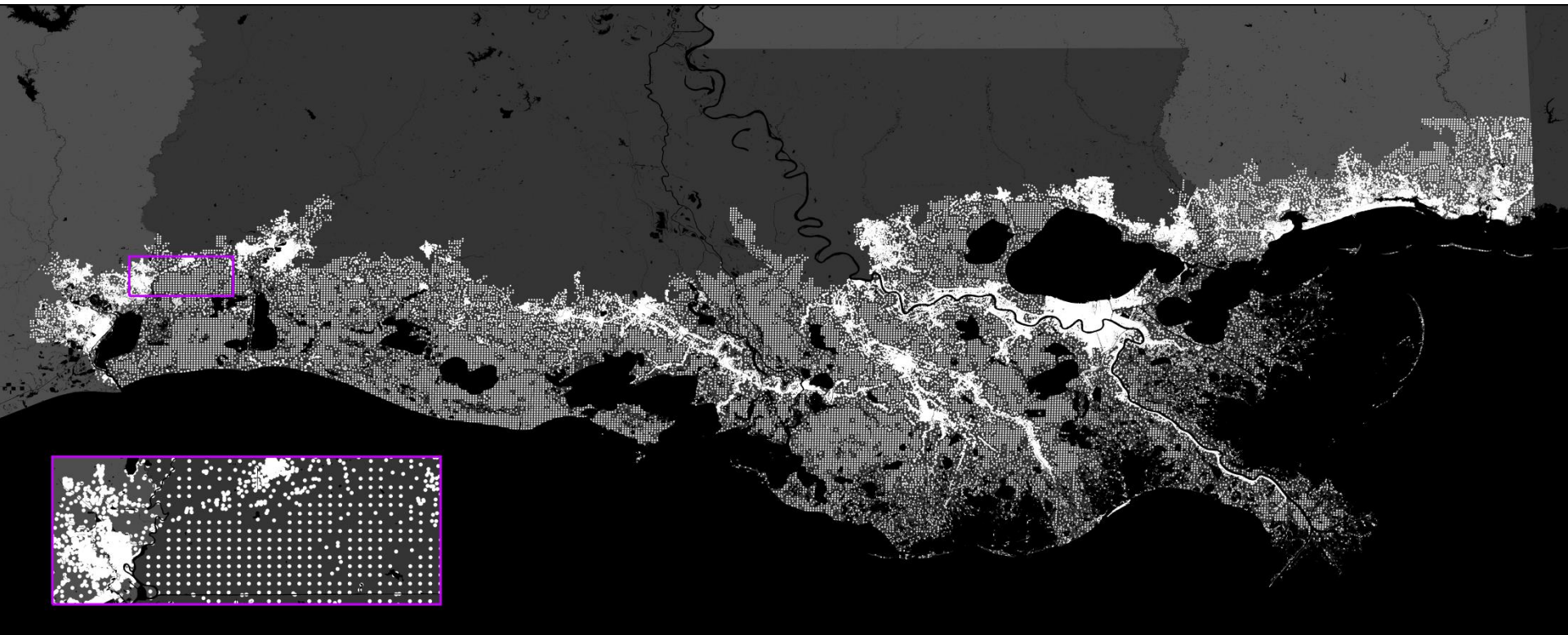
## *Integrated Compartment Models (ICMs)*



# Geospatial Improvements

## *Developing a New Spatial Unit*

- CLARA v2.0 includes ~114,000 grid points
  - Note: ~90K points in LA, ~14K in MS, ~10K in TX



- CLARA 2017 grid points



Coastal Protection and  
Restoration Authority of Louisiana

# Socio-Economic Analyses

Karim Belhadjali | CPRA

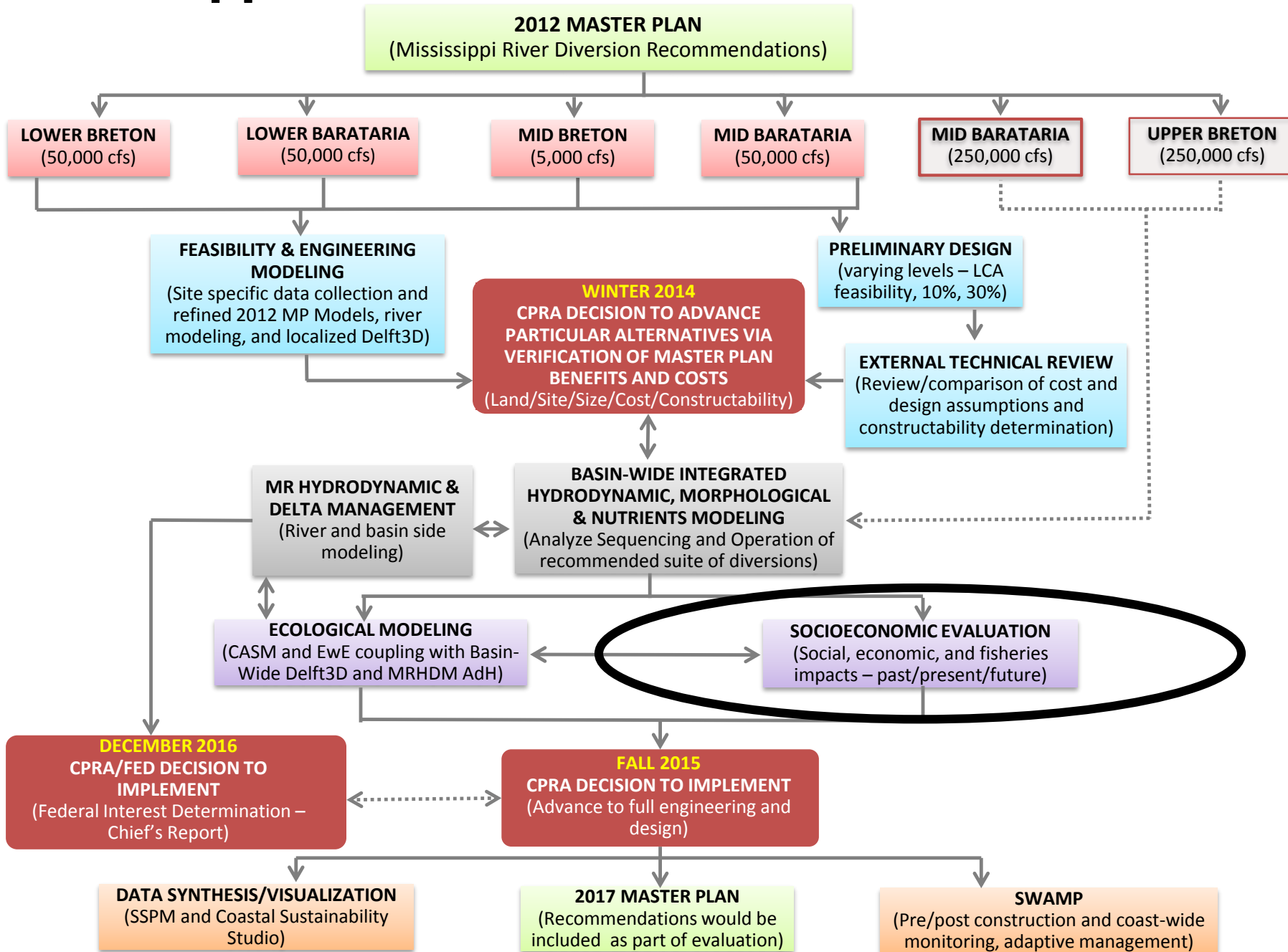
February 12, 2015



committed to our coast

# Mississippi River Sediment Diversions: Process

DIVERSIONS ADVISORY PANEL, DIVERSIONS SUB-COMMITTEE & PUBLIC ENGAGEMENT

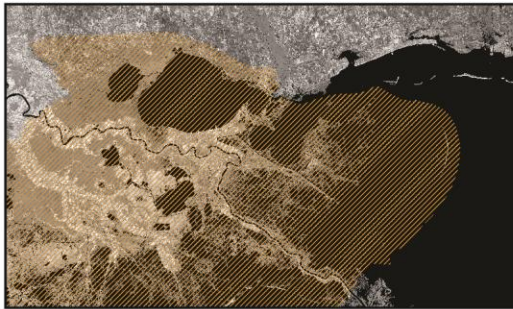


# BASINWIDE SOCIO-ECONOMIC ANALYSIS

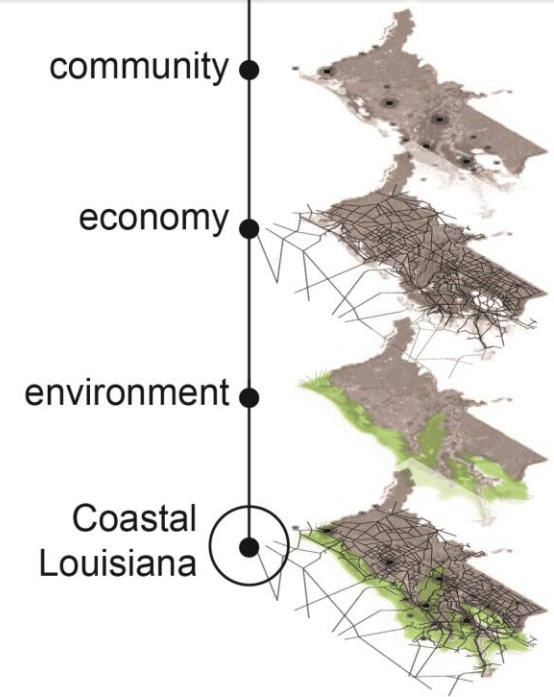
[Past - Present - Future]

**GOALS:** *Further analyze the potential effects to communities, fisheries, and the economy from continued land loss and the implementation of sediment diversion projects recommended in the 2012 Coastal Master Plan.*

**SCALE:**



Regional



**TIMEFRAME:**

2014 Summer      Fall      2015 Winter      Spring      Summer      Fall      2016 Winter



# The Historic Coastal Atlas

[past-present]

- Documents socio-economic trends in coastal Louisiana (1950- 2010).
- Examine **past trends** (1950-2010) at parish level.
- Examine **current trends** (1990-2010) at census block level.



Scale: Coastal Louisiana

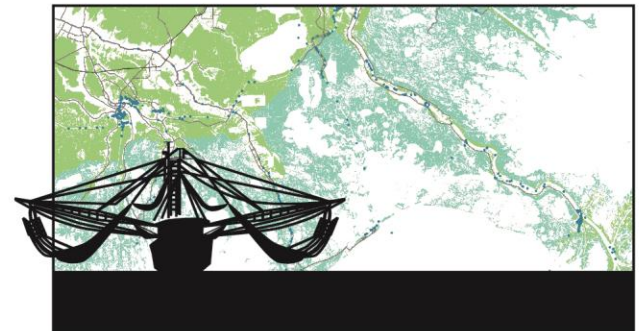
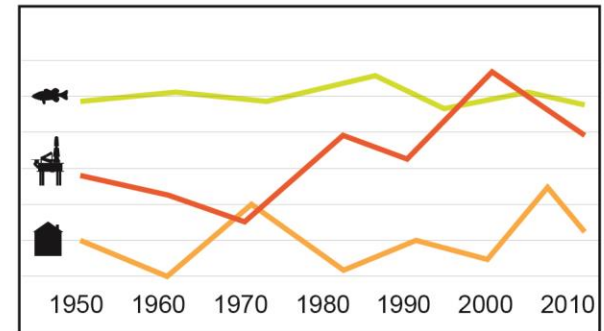
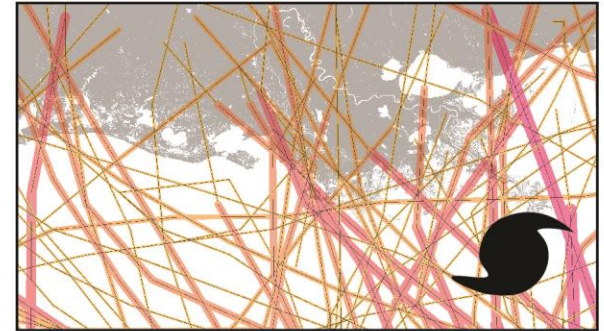


THE WATER INSTITUTE  
OF THE GULF

## Areas Investigated:

- **Storm/flood events** affecting coastal parishes (1950-2010)
- **Long-term shifts-** industry, fisheries, agriculture, housing values, and jobs
- **Population and employment-** past trends including demographic analysis such as race, population density, elderly
- **Recovery factors-** population return, percent of vacant homes, and unemployment rates

## Long-Term Shifts in Population and Socio-Economic Trends



# Commercial Fishing in LA

[past-present]

- Summarize **historic patterns of areas fished** (1999-2013).
- Summarize **geographic patterns in landings and land-based operations** of commercial fishers across coast.
- Analyze and synthesize **relationship** between place of business and area fished, and determine any changes over time.



## Long-Term Trends Between Areas Fished and Places of Business

### Areas Investigated:

- **Trip Tickets**- LDWF trip tickets for broad species groups (crab, oyster, shrimp, freshwater/ saltwater finfish).
- **Landing Data**- coastwide or higher level of detail if possible.
- **Additional Fishing Data**- include additional data on commercial fishing licenses and boat registrations.
- **Land Based Operations**- at parish or higher level of detail if possible.



Scale: Coastal Louisiana

# Economics of Coastal Land Loss

[future without action]

- Monitizes the direct, indirect, and induced economic costs of storms and coastal erosion in Louisiana.
- Explores far-reaching fiscal impact on the State of Louisiana, other states, and the nation.
- Sums the value of economic activities and replacement costs of infrastructure that will be affected by coastal land loss or increased storm risk.
- Quantifies impacts in terms of output, employment, and wages.

LSU



## Impacts of Land Loss & Flood Risk on Communities & Resources

### Areas Investigated:

#### Homes & Businesses

- Housing stock
- Historic districts
- Private businesses
- Shopping centers

#### Institutions

- Schools
- Hospitals
- Community facilities
- Government & military

#### Fisheries Habitat

- Coastal fishing/ harvesting areas
- Offshore fisheries habitat areas

#### Ecosystem Services

- Freshwater availability
- Flood control
- Carbon sequestration
- Wildlife habitat
- Clean Water Act credits

#### Infrastructure

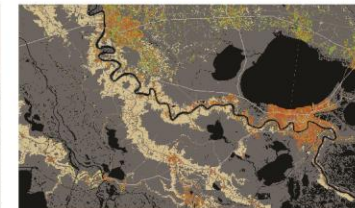
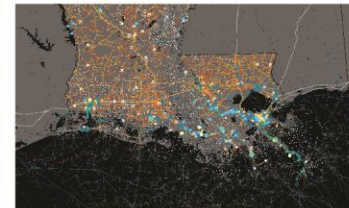
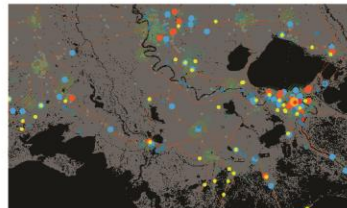
- Transportation
- Water / wastewater / drainage
- Oil & gas (on/off shore, extraction, production, transportation)
- Gasoline prices

#### Recreation

- Recreational fishing
- Tourism / eco-tourism
- National / state parks
- Historic sites

#### Future Growth

- Currently undeveloped land suitable for future homes & businesses



Scale: Coastal Louisiana, Gulf, & Nation



# Diversion Modeling

[future with projects]

- Examines sediment diversion impacts on land building and fisheries.
- Compares a “Future Without Action” to a “Future With Projects” over next 50 years.
- Investigate impacts on land building and maintenance, flood risk, fisheries’ abundance and distribution, and other coastal habitats.

WATER & SALINITY LEVELS



LAND BUILDING



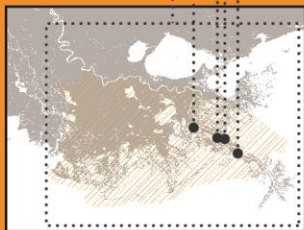
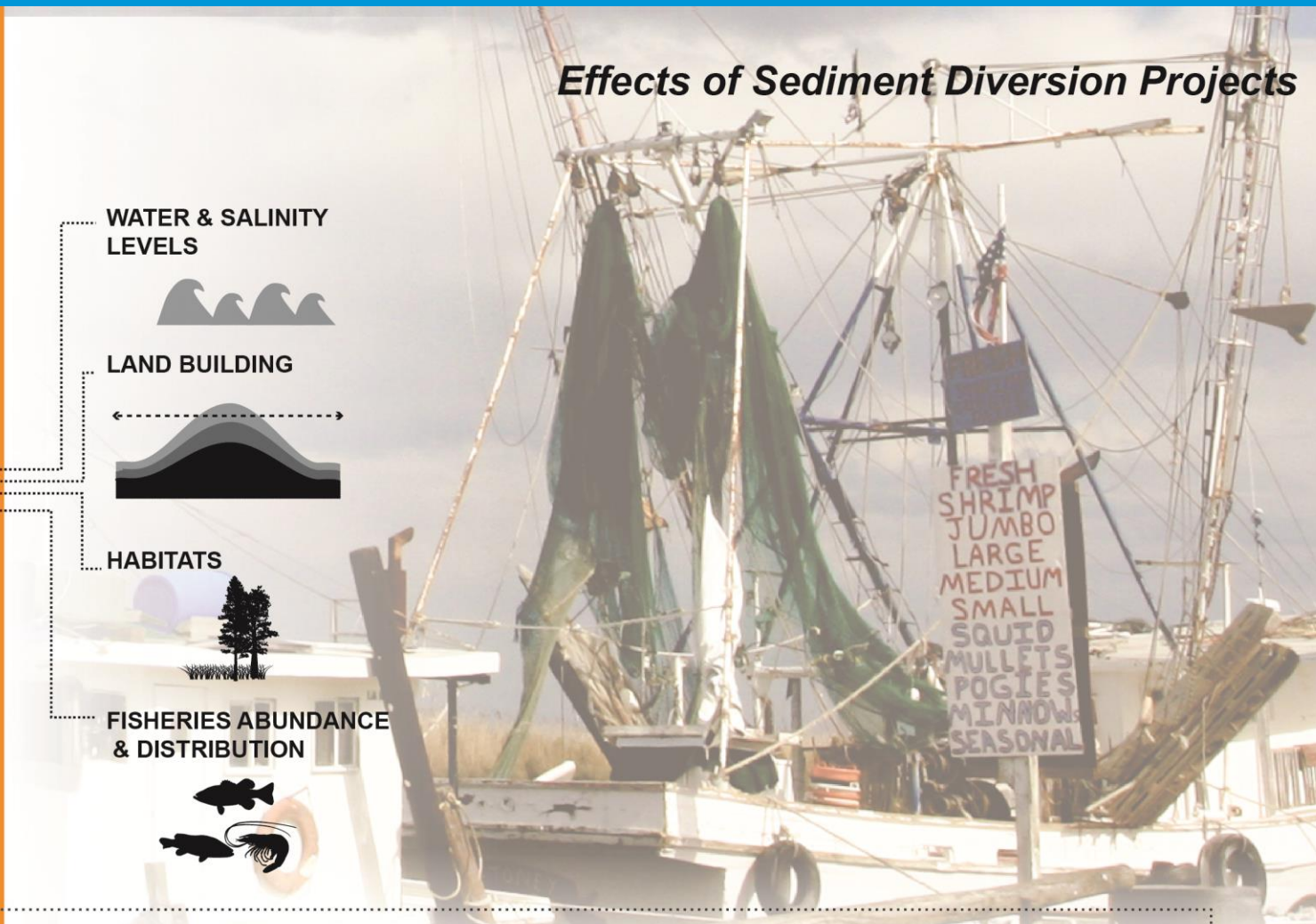
HABITATS



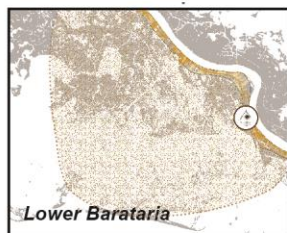
FISHERIES ABUNDANCE & DISTRIBUTION



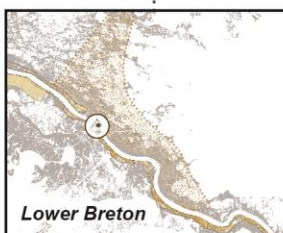
## Effects of Sediment Diversion Projects



Scale: Local



Lower Barataria



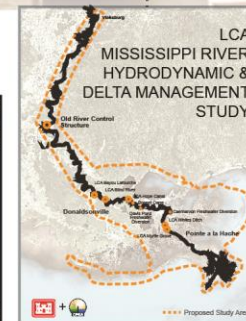
Lower Breton



Mid-Barataria



Mid-Breton



LCA  
MISSISSIPPI RIVER  
HYDRODYNAMIC &  
DELTA MANAGEMENT  
STUDY

Proposed Study Area

# Basinwide Socio-Economic Analysis Overview of Tasks

