FRESHWATER AND FISHERIES

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OF THE GULF®
Mississippi Delta Plain
7000 years of sediment deposition
Land loss balanced by land gain
Since the mid-1930s, the total amount of lost land is over 5,000 km². Current average rate - loss of ~ 40 km² per year.
FLOOD CONTROL + NAVIGATION CHANNELS + 
OIL & GAS EXPLORATION + NATURAL 
DISTURBANCES + SEA LEVEL RISE + 
SUBSIDENCE... ........
MISSISSIPPI RIVER FLOOD CONTROL PLAN BELOW OLD RIVER

WEST
ATCHAFALAYA FLOODWAY
250,000 CFS

ATCHAFALAYA RIVER
650,000 CFS

ATCHAFALAYA BASIN FLOODWAY
1,500,000 CFS

OLD RIVER CONTROL

HAMBURG-SIMMESPORT
FUSE PLUG LEVEE

MANSURA

RED RIVER BACKWATER AREA

Upper Point Coupee Protected Area

Raccoouri-Old River Area

MORGANZA FLOODWAY
600,000 CFS

BATON ROUGE

GULF OF MEXICO

NEW ORLEANS

WAX LAKE OUTLET

GRAND LAKE

SIX MILE LAKE

LOWER ATCHAFALAYA RIVER

River levees stop current river sediment load getting to coastal wetlands

Building of new land is severely restricted
2 MILLION
PEOPLE LIVE IN
COASTAL
L.A.

20% OF THE NATION'S WATERBORNE COMMERCE

$7,000,000,000,000
COULD BE LOST FROM HIGHWAY 1 CLOSURE

LARGEST PORT COMPLEX IN THE WORLD

26% OF THE COMMERCIAL FISHERIES IN THE CONTINENTAL U.S.

5 MILLION MIGRATORY WATERFOWL DEPEND ON LOUISIANA HABITAT
RURAL vs. URBAN COMMUNITIES

Data Source: Derived from U.S. Census Bureau 2010 and 2013
NATURAL RESOURCE DEPENDENCE

Natural Resource Dependent
Degree of Vulnerability

- Low
- Medium Low
- Medium
- Medium High
- High

Data Source: Derived from U.S. Census Bureau 2010 and 2013
PREDICTED LAND CHANGE
FUTURE WITHOUT ACTION

Year 50 High Scenario
PREDICTED FLOOD DEPTHS
FUTURE WITHOUT ACTION
Year 50, Low Scenario, 100-Year Event

LOW / YEAR 50 / 100 YEAR FLOOD DEPTHS
FISHERIES ARE ESSENTIAL

- **Performance Measures**

  **Lands**
  - Land Area
  - Land Fragmentation
  - Vegetation Diversity
  - Inundation
  - Salinity

  **Water**
  - Fisheries Diversity
  - Bird Abundance

  **Wildlife & Fisheries**

**Landscapes**

**Communities**

**Flood Risk**
- Flood Risk
- Flood Insurance

**Economy**
- Income / Cost of Living
- Employment
- Commerce

**Culture**
- Population Diversity
- Education
- Recreation

Coastal Protection and Restoration Authority of Louisiana
0.8m sea level rise
High subsidence
KEYSTONE APPROACH: RECONNECTING THE RIVER

- Bayou Lafourche Diversion: 1,000 cfs maximum
- West Maurepas Diversion: 5,000 cfs maximum
- Central Wetland Diversion: 5,000 cfs maximum
- Upper-Breton Diversion: 250,000 cfs maximum
- Mid-Breton Diversion: 5,000 cfs maximum
- Lower Breton Diversion: 50,000 cfs maximum
- Atchafalaya River Diversion: 150,000 cfs maximum
- Increased Atchafalaya Flow: 20,000 cfs maximum
- Mid-Barataria Diversion: 50,000 / 250,000 cfs maximum
- Lower Barataria Diversion: 50,000 cfs maximum
2017 Coastal Master Plan Salinity Map
High Scenario, 001.DI.23, Year 20

SAL (ppt)
- 0.1 - 0.2
- 0.2 - 0.5
- 0.5 - 1.0
- 1.0 - 1.5
- 1.5 - 2.0
- 2.0 - 3.0
- 3.0 - 4.0
- 4.0 - 5.0
- 5.0 - 7.5
- 7.5 - 10.0
- 10.0 - 15.0
- 15.0 - 20.0
- 20.0 - 30.0
- 30+

Drum Bay
Elot Bay
Black Bay
Lake Lery
Jean Lafitte
Lake Salvador
Pointe a la Hache
Barataria
The Pen

CPRA
Coastal Protection and Restoration Authority of Louisiana
SHRIMP OR ALLIGATORS
JUVENILE BROWN SHRIMP BIOMASS

2017 Coastal Master Plan EwE Differences Map
High Scenario, Draft Master Plan, Year 50 - April

BJN Difference

-0.04+  0 - 0.005
-0.04 - 0.03  0.005 - 0.01
-0.03 - 0.02  0.01 - 0.02
-0.02 - 0.01  0.02 - 0.03
-0.01 - 0.005  0.03 - 0.04
-0.005 - 0  0.04+
CONCLUDING THOUGHTS

• Sustainable fisheries and communities depend on sustainable habitats
• Deltas are highly productive but very dynamic systems
• The future of Louisiana fisheries will be about managing transitions – before it is too late
THANK YOU

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