

# Mississippi Coastal Improvements Plan

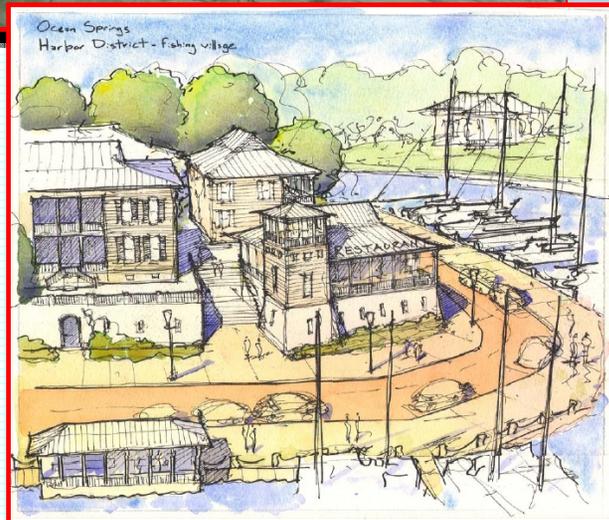


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# Authority Language



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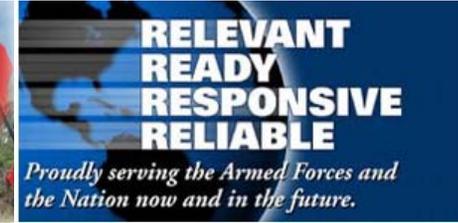
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- \$10 Million (GI funded) - DoD, Emergency Supplemental Appropriations
- Cost Effective Projects in lieu of NED
- No Incremental Benefit-Cost Analysis
- Hurricane and Storm Damage Reduction
- Salt Water Intrusion
- Shoreline Erosion
- Fish and Wildlife Preservation
- Other Water Related Resource Projects

# Project Goals



The US Army Corps of Engineers was charged by Congress with developing recommendations for comprehensive improvements to coastal Mississippi for:

- Hurricane storm damage reduction
- Prevention of saltwater intrusion
- Preservation of fish & wildlife
- Prevention of erosion
- Other related water resource purposes

# Congressional Authority

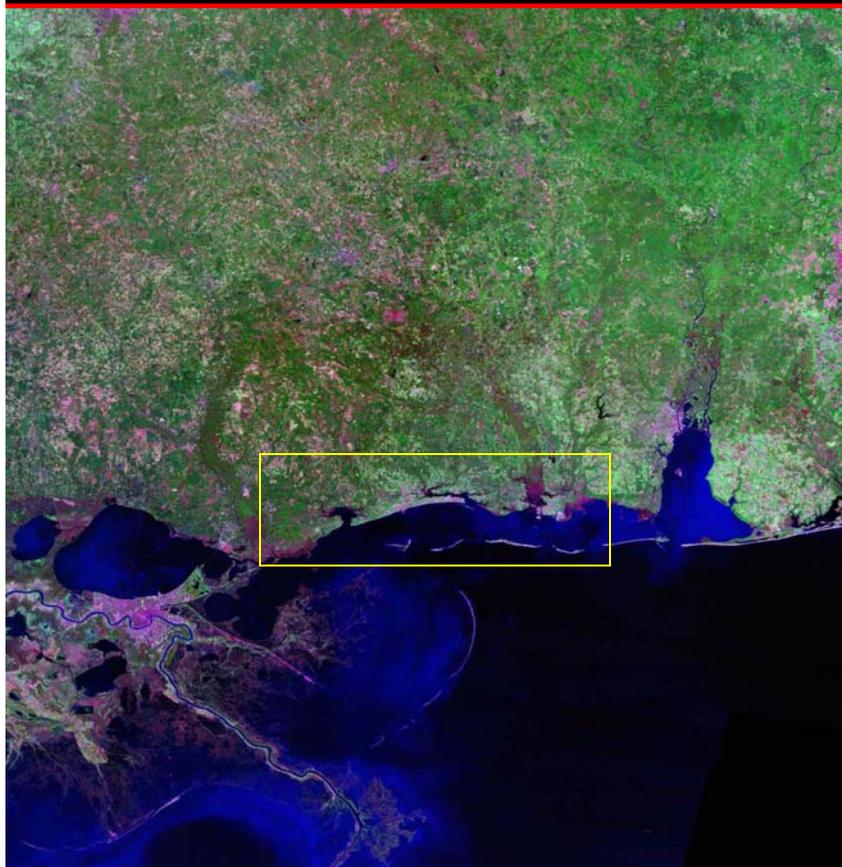


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**Coastal Mississippi**

- **Interim Report (6 month Report)**
  - **Jun 30, 06** – Initial Report Submission to Congress
  - Recommend Near-Term Improvements
  - Analysis Framework for Comprehensive Improvements
- **Final Report ( 24 month Report)**
  - **Dec 30, 07** – Final Report Submission to Congress
  - Plan for Comprehensive Improvements
- Reports submitted through Headquarters, US Army Corps of Engineers to Assistant Secretary of the Army to Congress

# Focus Area

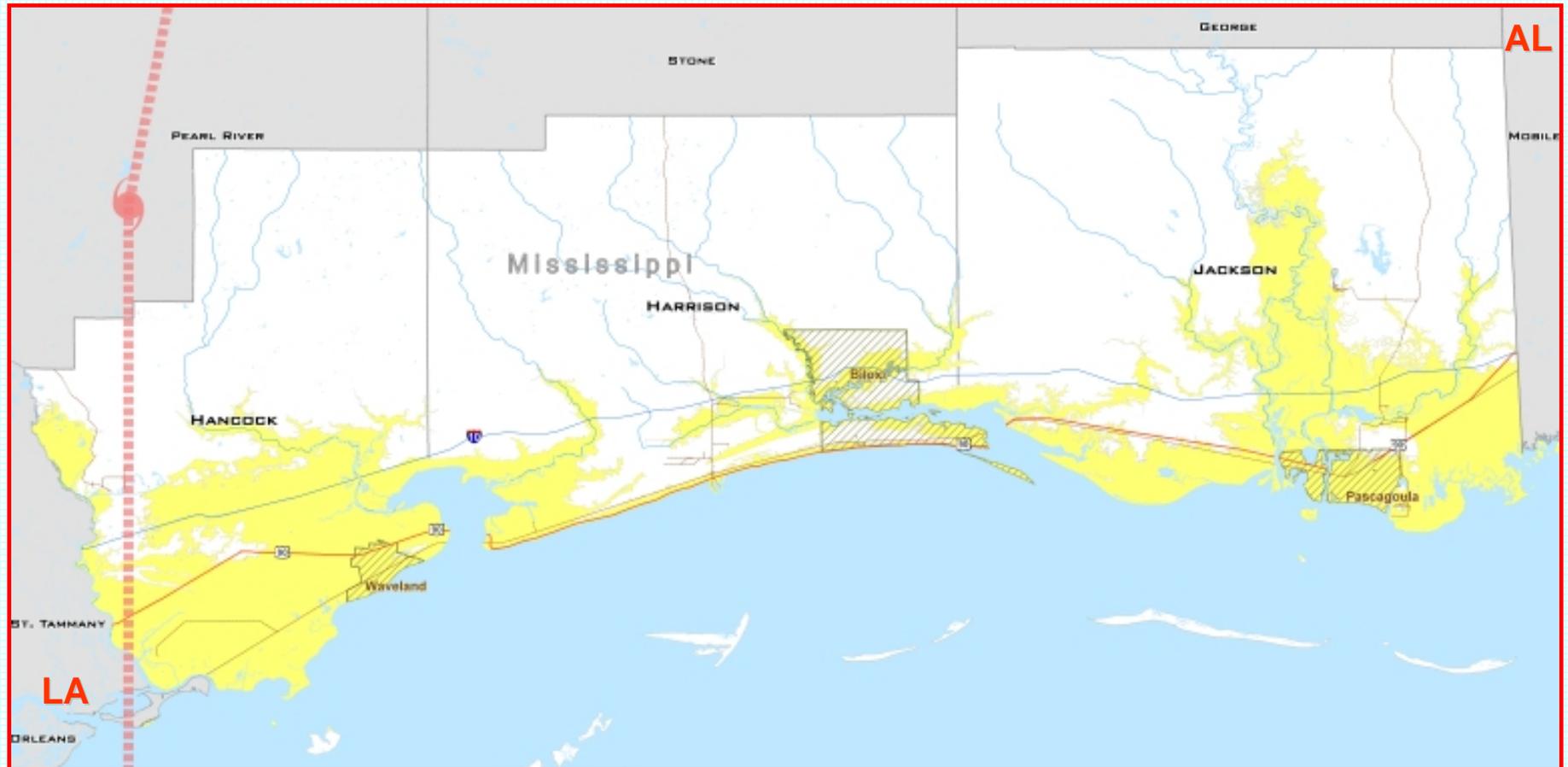


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# State's 7 Point Plan For Coastal Restoration

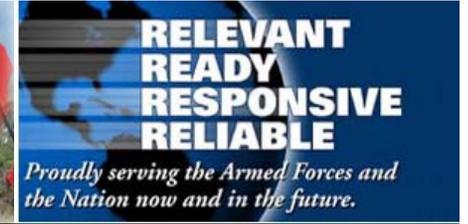


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- Implementation of breakwater structures for surge protection.
- Deer Island restoration to pre-1900 footprint.
- Barrier island restoration to pre-Camille conditions.
- Restoration of 10,000 acres of coastal marshes, beaches, and forests.
- Restoration of historical water flow to coastal watersheds, including diverting freshwater from LA.
- Submerged aquatic vegetation restoration.
- Oyster reef restoration and enhancement.

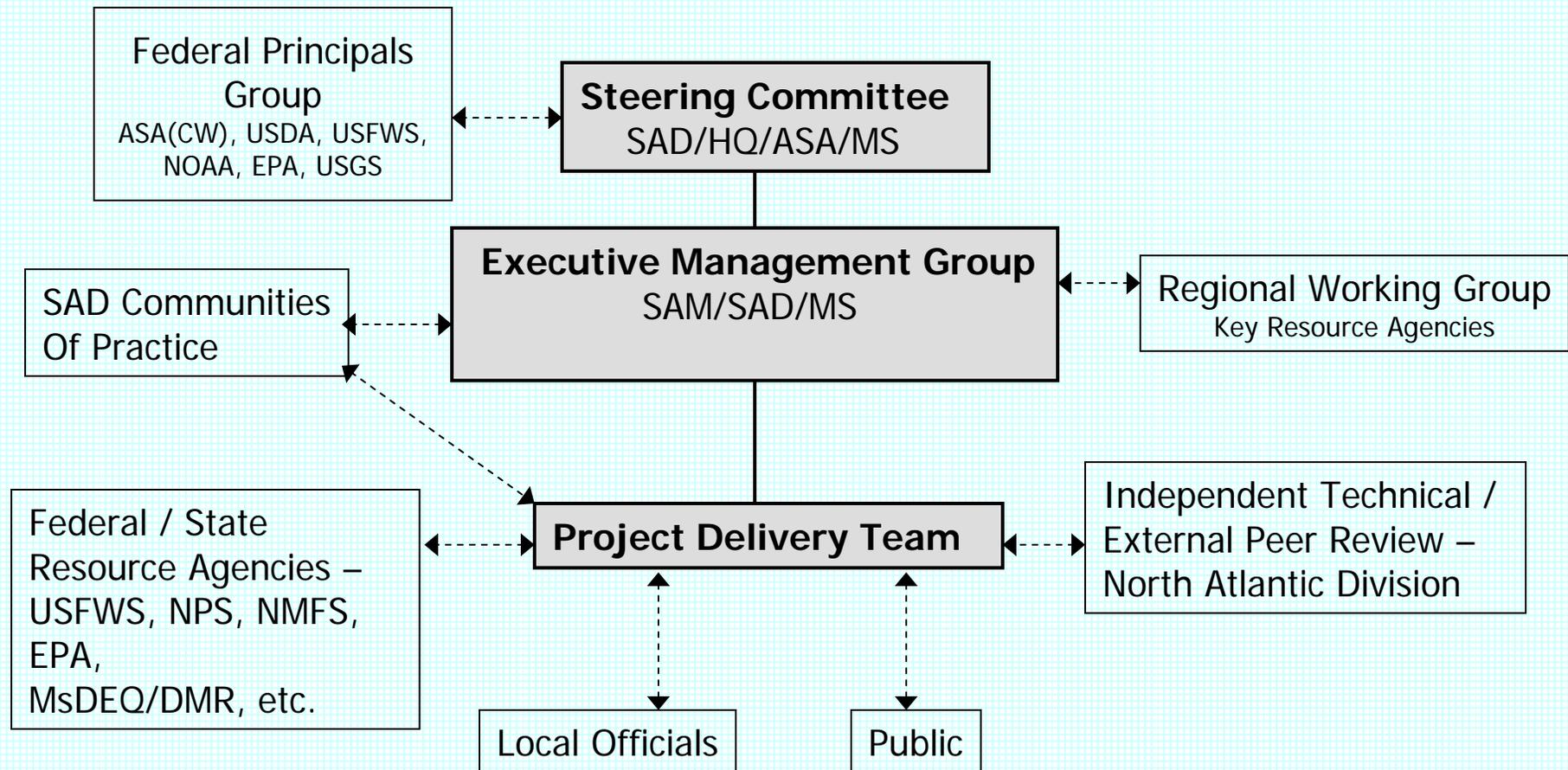
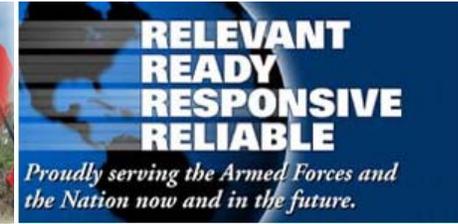
# A Collaborative Effort



- **Public, Agency & Regional Involvement**
  - A multi-step process
  - Regional Coordination: Meetings with Federal, State and Local Partners
  - Multiple Public Workshops
  - Webcasts & Project Web Site

<http://mscip.usace.army.mil>
- **Independent Technical Review and External Peer Review Teams**

# Organizational Structure



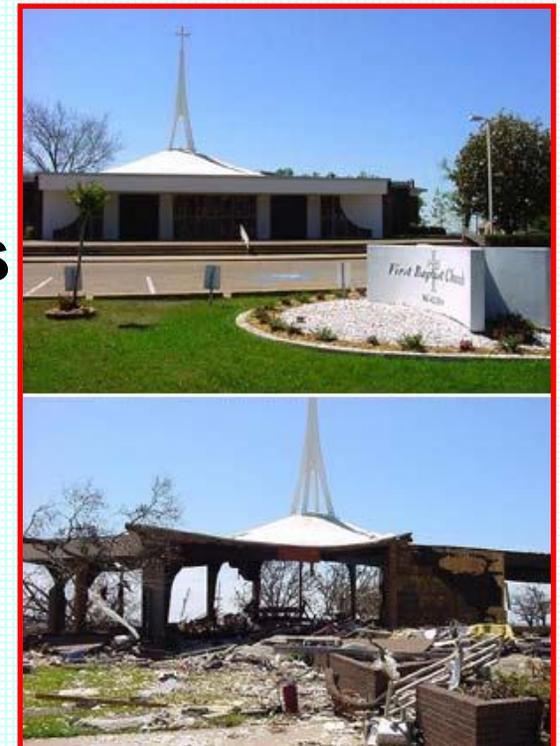
# Collaboration with LaCPR



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- Establishment of ITR Team
- Establishment of Peer Review Team
- ADCIRC Storm Model
- Public Involvement
- Dialogue Among PDT Members
  - District
  - Division
  - HQ
- Concurrent Report Timelines



# Regional and Public Workshops



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## 1st Regional Coordination Workshop

- *Develop Project Principles*
- *Generate Coastal Options*

April 7

## 2nd Regional Coordination Workshop

- *Review Public Input*
- *Provide Preferred Options*

April 26

### Planning Team

- *Refine Input*
- *Assess Feasibility*
- *Develop Next Meeting*

## 1st Round Public Workshops

- *Provide Overview, Options and Principles*
- *Generate New Coastal Options*

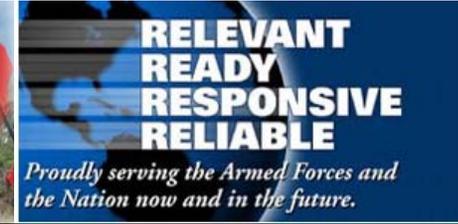
April 10, 11, 13 (Workshops)  
April 18 (Online)

## 2nd Round Public Workshops

*Gather Comments on Proposed Options*

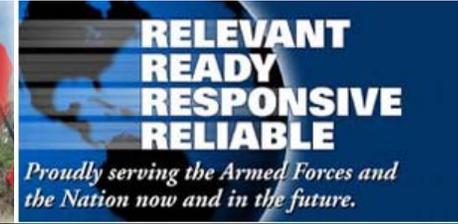
May 1, 2, 4  
May 3 (Online)

# Interim Report



## Interim Recommendations

# Overview of Draft Interim Recommendations



Over **180** problem areas identified to date. Anticipate **15** will be recommended for interim improvements.

## By Category:

- 7 Hurricane Storm Damage Reduction Projects
- 4 Flood Damage Reduction Projects
- 4 Ecosystem Restoration Projects

## By County:

- 7 Hancock County
- 3 Harrison County
- 5 Jackson County



# Interim Actions

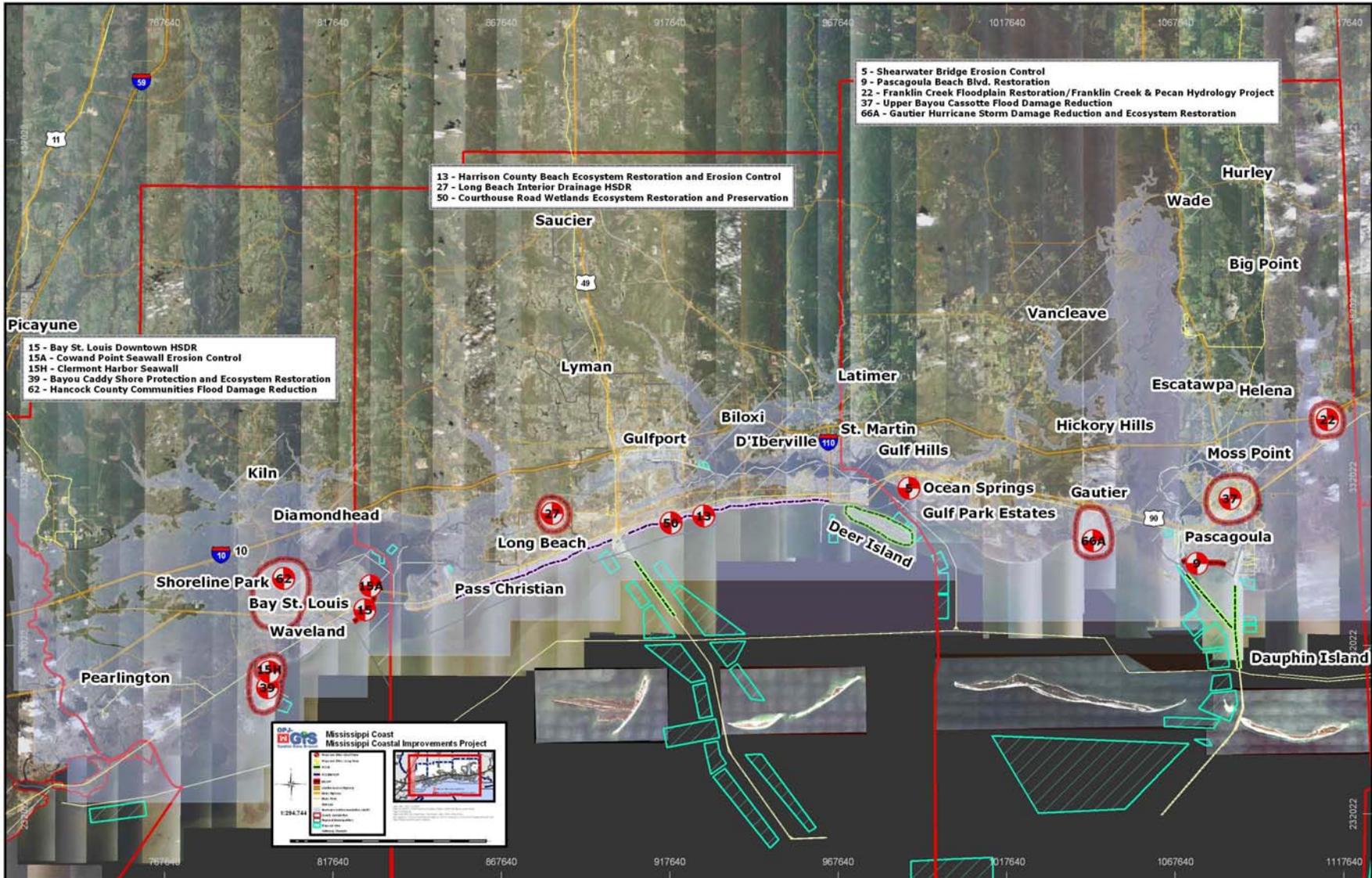


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13 - Harrison County Beach Ecosystem Restoration and Erosion Control  
27 - Long Beach Interior Drainage HSDR  
50 - Courthouse Road Wetlands Ecosystem Restoration and Preservation

5 - Shearwater Bridge Erosion Control  
9 - Pascagoula Beach Blvd. Restoration  
22 - Franklin Creek Floodplain Restoration/Franklin Creek & Pecan Hydrology Project  
37 - Upper Bayou Cassotte Flood Damage Reduction  
66A - Gautier Hurricane Storm Damage Reduction and Ecosystem Restoration

15 - Bay St. Louis Downtown HSDR  
15A - Cowand Point Seawall Erosion Control  
15H - Clermont Harbor Seawall  
39 - Bayou Caddy Shore Protection and Ecosystem Restoration  
62 - Hancock County Communities Flood Damage Reduction

Mississippi Coast Mississippi Coastal Improvements Project

1:294,744

Legend:

- Project Area
- Interim Action
- Other
- Water
- Land
- Marsh
- Wetland
- Beach
- Seawall
- Other Structure
- Other

# Hurricane and Storm Damage Reduction Projects



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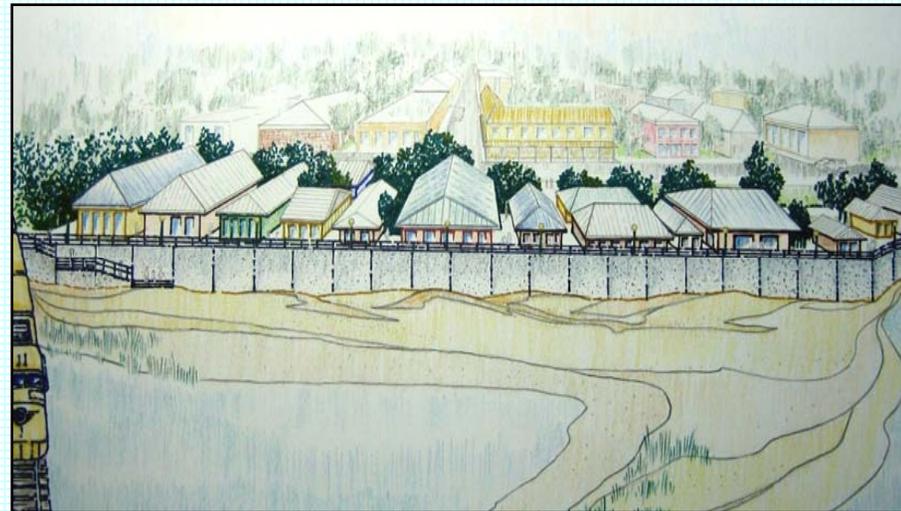
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Bay St. Louis - South Beach Blvd - BEFORE



Bay St. Louis - South Beach Blvd - AFTER



**Potential Improvement**

**Downtown Bay St. Louis**

# Flood Damage Reduction Projects



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**Hancock County Streams**



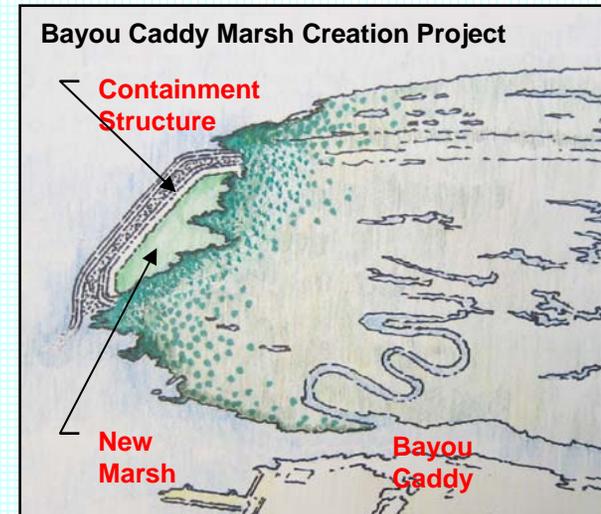
**Upper Bayou Casotte**

# Ecosystem Restoration Project



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**Potential Improvement**

**Bayou Caddy**

# Comprehensive Report



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# Comprehensive Improvements

# Comprehensive Improvements



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- The Authorization provides for design and analysis of comprehensive improvements.
- A variety of improvements are possible.
- Their scale may be large or small.
- Different measures provide different levels of protection. Multiple measures will be required.
- Measures providing multiple benefits are preferred.

# Hurricane Storm Surge

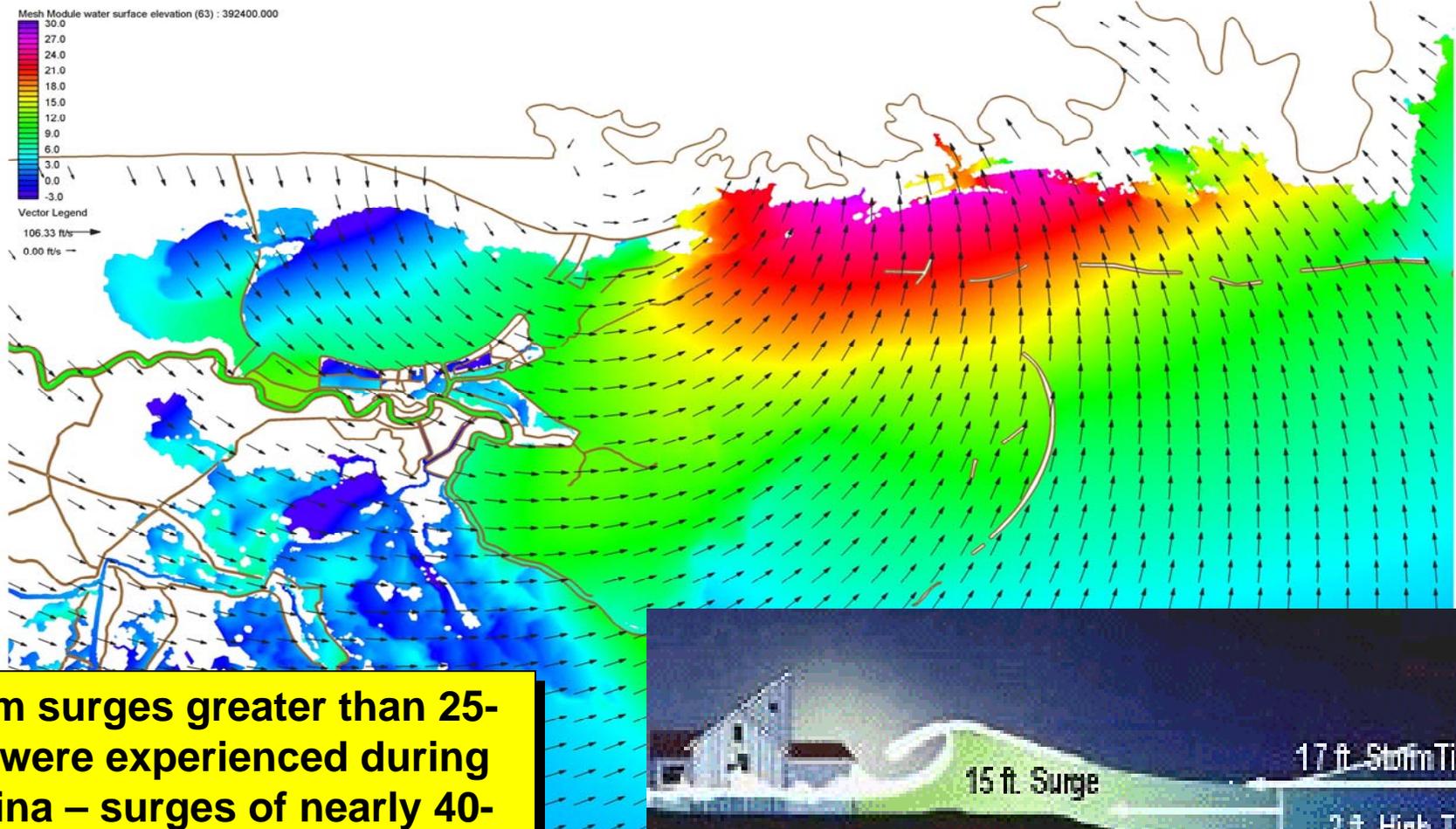


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**Storm surges greater than 25-feet were experienced during Katrina – surges of nearly 40-feet are possible for an extreme hurricane.**





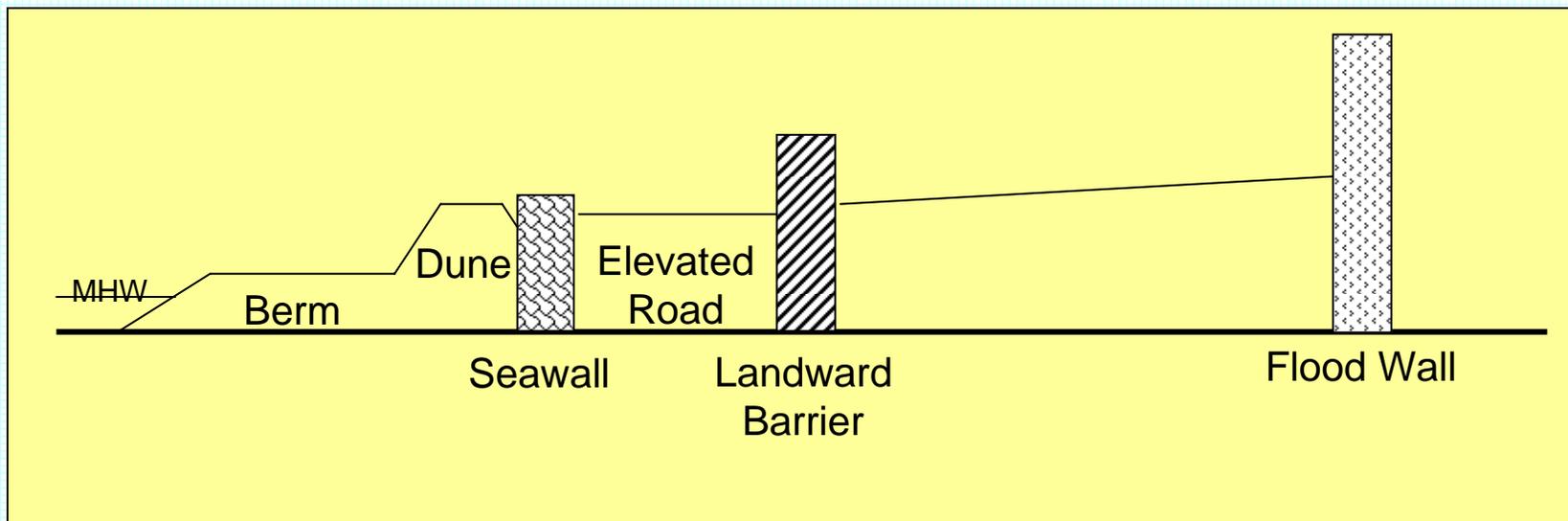
# Concept of Integrated “Lines of Protection”



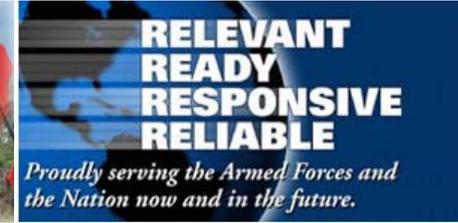
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- Multiple lines – combination of natural and structural features
- Increasing levels of protection from off-shore to in-shore
- Integrated with re-building plan
- Integrated with FEMA Base Flood Elevations



# FEMA Advisory Elevations



County, Flood Source	1 Percent Annual Chance Stillwater Elevation (ft NGVD)	Ground Elevation Corresponding to Inland Limit of V Zone (ft NGVD)	Ground Elevation Corresponding to Inland Limit of Coastal A Zone (ft NGVD*)
Jackson, Gulf of Mexico	14	10	12
Jackson, Back Bay	12	8	10
Harrison, Gulf of Mexico	18	14	16
Harrison, Back Bay	16	12	14
Hancock, Gulf of Mexico	20	16	18
Hancock, Back Bay	18	14	16

**New FEMA “ABFE’s” upwards to 30-feet on open coast and 27-feet in Back Bay areas of Hancock County**



# Barrier Islands



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**Protect main coast line  
from damaging waves**



**Low-Medium  
Surge  
Reduction**

# Offshore Breakwaters



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**Low  
Surge  
Reduction**

**Reduce waves and  
coastal erosion**



# Wetlands/Marshes



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**Low  
Surge  
Reduction**

**Environmental  
benefits as well as  
coastal erosion  
protection**



# Beach & Dune Systems



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**Medium  
Surge  
Reduction**

**Addition of dunes provides higher levels of protection from  
storm surge and coastal erosion to existing beaches**

# Sea Walls

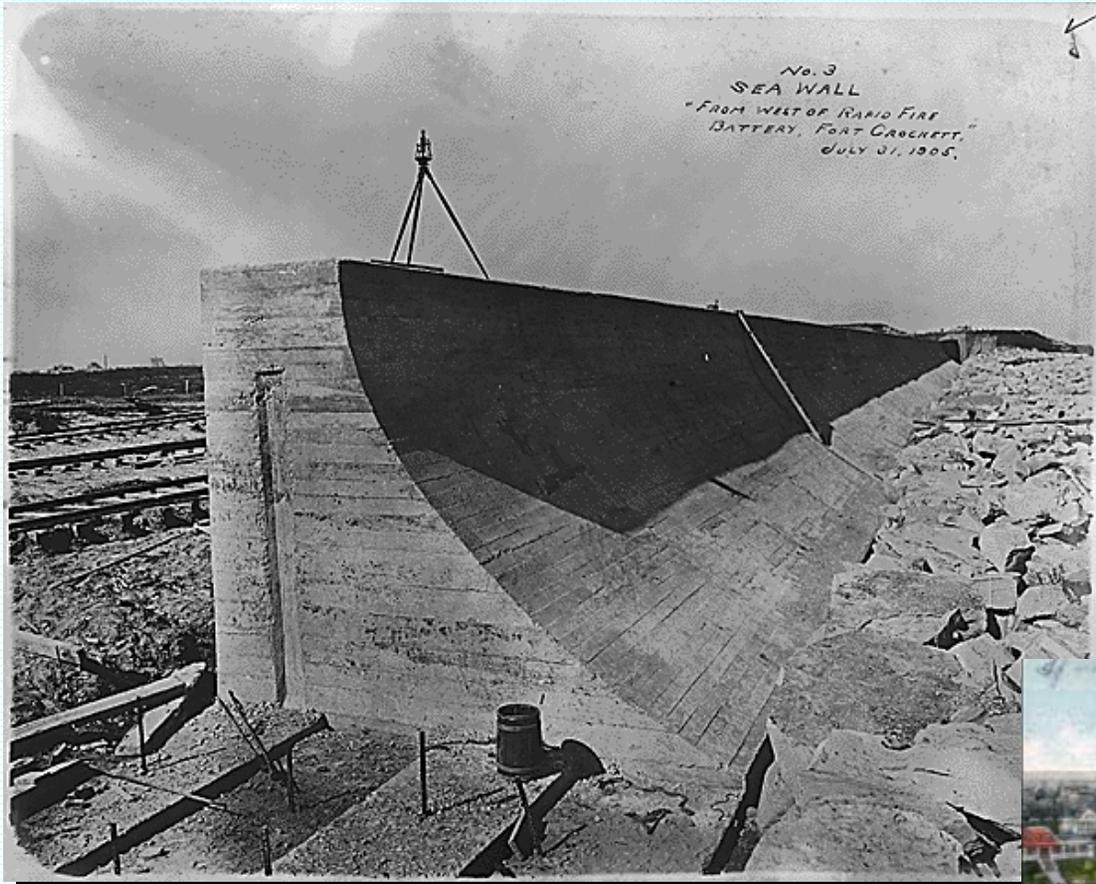


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**High  
Surge  
Reduction**

**Protect developed areas  
from storm surges**



# Surge Barriers



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**Closed during storms to prevent  
storm surge from entering  
coastal inlets and bays**



**High  
Surge  
Reduction**

# Surge Barriers

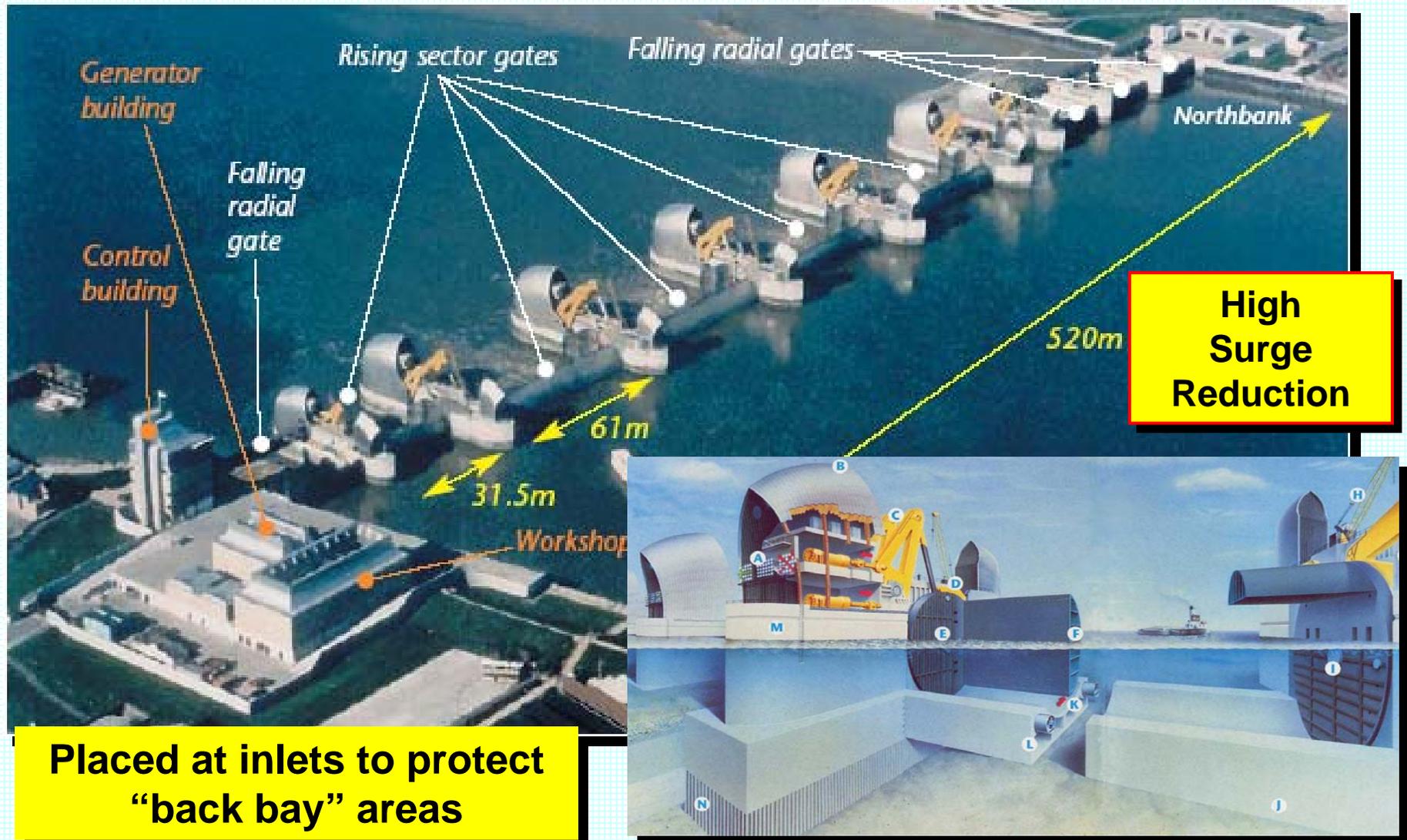


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# Levees



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**High  
Surge  
Reduction**

**Block storm surges from moving inland**

# Independent Technical Review and External Peer Review



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- **Independent Technical Review**
  - Conducted by NAD – Center of Expertise for Hurricane and Storm Damage Reduction
  - Philadelphia District has lead
  - Review team supplemented with ERDC and other Corps Districts
  - Coordinated with Louisiana Coastal Protection and Restoration Project
- **External Peer Review**
  - Coordinated by NAD – Center of Expertise for Hurricane and Storm Damage Reduction
  - Baltimore District has lead
  - Contract with Technical Experts
  - Coordinated with Louisiana Coastal Protection and Restoration Project

# Summary



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- **Unique opportunity for Mississippi and the Corps**
- **Opportunity to implement near term projects to help in immediate recovery actions – while developing comprehensive plan**
- **High level of regional and public participation**
- **On track with interim report**