

Mississippi Coastal Improvements Program WEDA, Eastern Chapter 14 October 2009

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Hurricane Katrina Approximate Track Monday August 29, 2005

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Economic Impact

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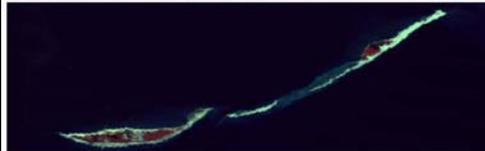


Cultural Impact
Beauvoir, historic home of
Jefferson Davis – Before, After
And Now



**Significant damage to
Coastal resources**

Ship Island Before and After Hurricane Katrina



Before: May 27, 2005



After: September 8, 2005



Katrina Destruction in Mississippi



- 238 deaths
- 27-foot surge (6 miles inland, 12 miles up rivers and tributaries)
- 65,380 homes damaged within 3 coastal counties
- 32,000 structures destroyed within ½ mile of coast
- Unemployment tripled
- Fishery landings decreased by 50% following the storm (2005 – 2006)
- Statewide forestry damage to 1.3 million acres

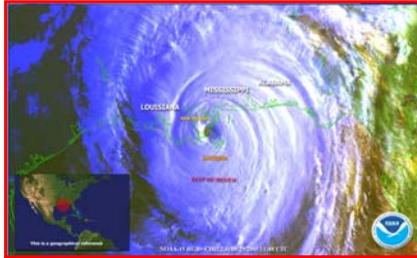


Bottom Line Up Front

- Coastal Mississippi is **twice as likely to be impacted** by a moderate to severe hurricane than the coast of Texas or the Florida panhandle
- Two of the **most severe storms** to hit the southern United States, Camille – 1969 and Katrina – 2005, **made landfall in Hancock County**
- Congressional authorization requires a **comprehensive plan** across multiple Corps mission areas
- Recommended Plan facilitates a ***resilient coast***
 - System-wide and integrated
 - Risk based plan formulation
 - Phased implementation
 - Implement critical issues first
 - Transition toward long term plan



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Mississippi Coastal Improvements Program



- P.L. 109-148, 30 December 2005
- Comprehensive Planning to Address
 - Hurricane and Storm Damage Reduction
 - Salt Water Intrusion
 - Shoreline Erosion
 - Fish and Wildlife Preservation
 - Other Water Related Resource Projects
- Cost Effective Projects in lieu of NED benefits
- No Incremental Benefit-Cost Analysis
- Report requirements
 - Interim Report within 6 months
 - Comprehensive Plan within 2 years
- Compatible with State Coastal Restoration Plan

collaboration is everything

Logos included:

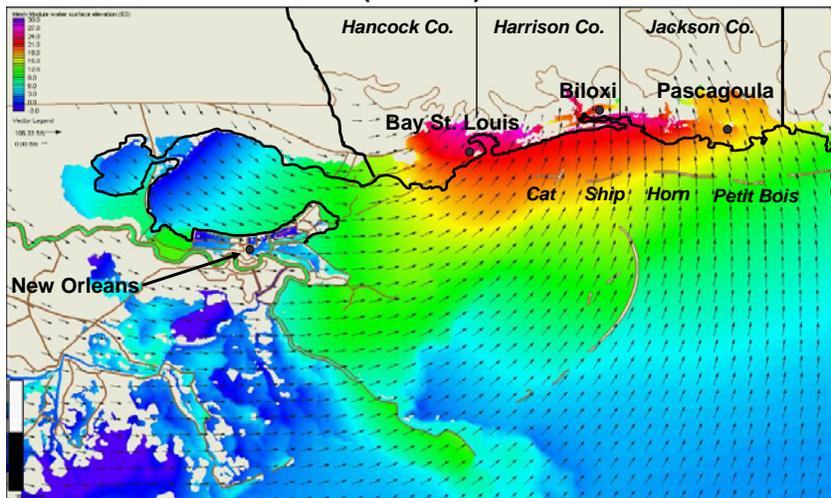
- NATIONAL PARK SERVICE
- US Army Corps of Engineers South Atlantic Division
- THE GREAT SEAL OF THE UNITED STATES OF AMERICA
- US Army Corps of Engineers Mobile District
- U.S. FISH & WILDLIFE SERVICE
- FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)
- NOAA
- USDA NRCS Natural Resources Conservation Service
- USGS science for a changing world
- MsCIP
- UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
- US Army Corps of Engineers Huntington District
- US Army Corps of Engineers Wilmington District
- U.S. ENVIRONMENTAL RESEARCH LABORATORY
- US Army Corps of Engineers Jacksonville District
- US Army Corps of Engineers Savannah District



Public Engagement and Collaboration

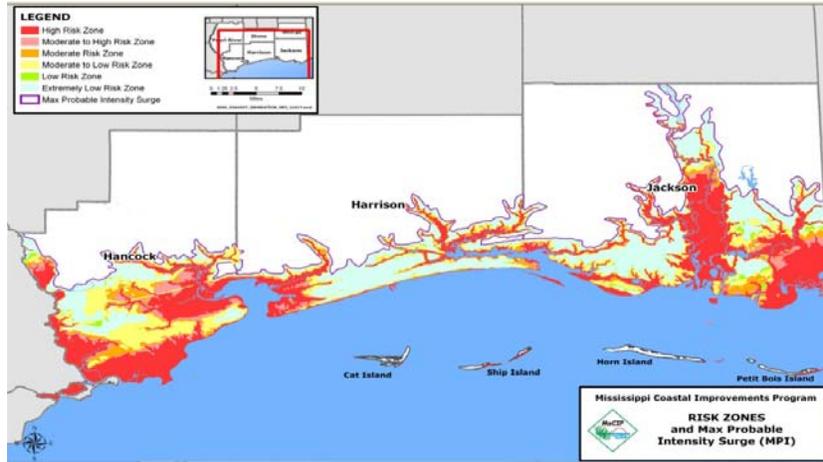


Storm Surge Model (ADCIRC)

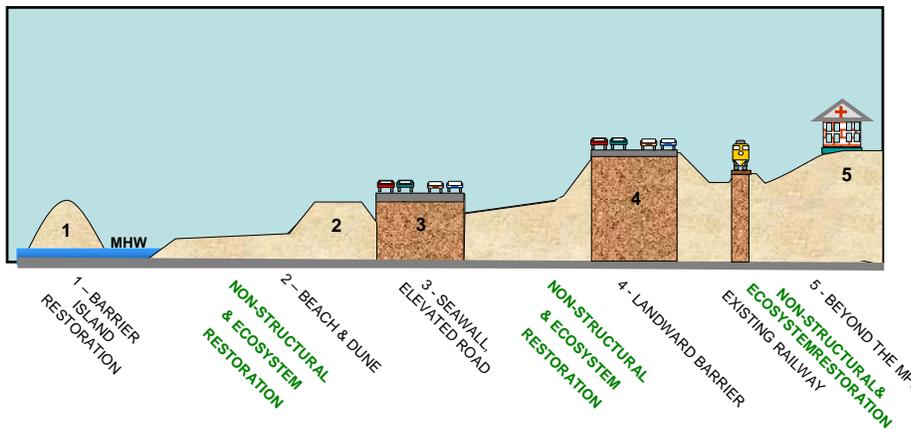


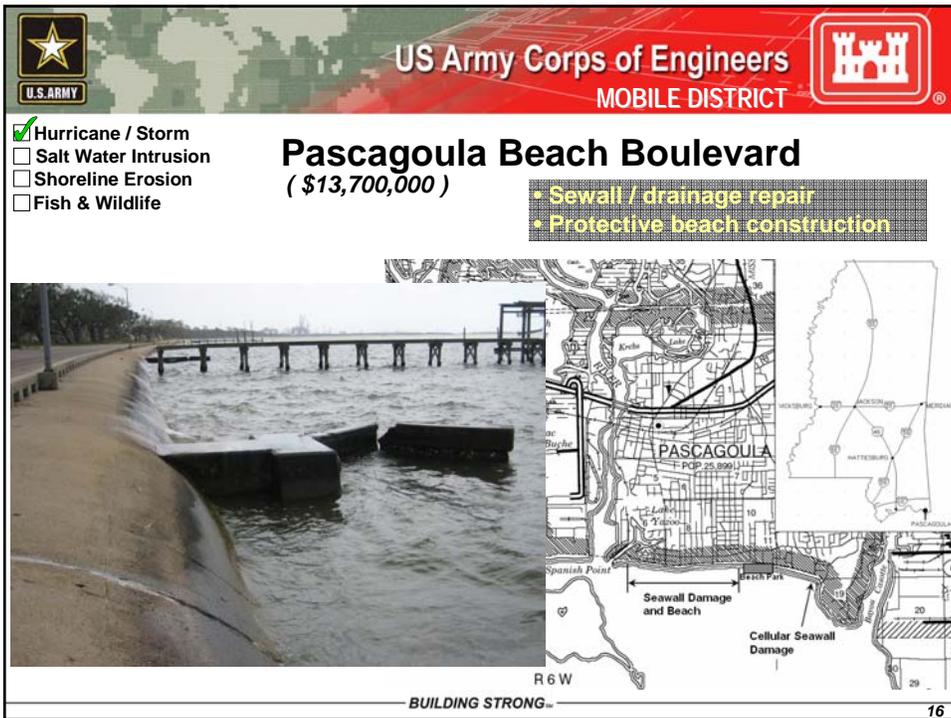
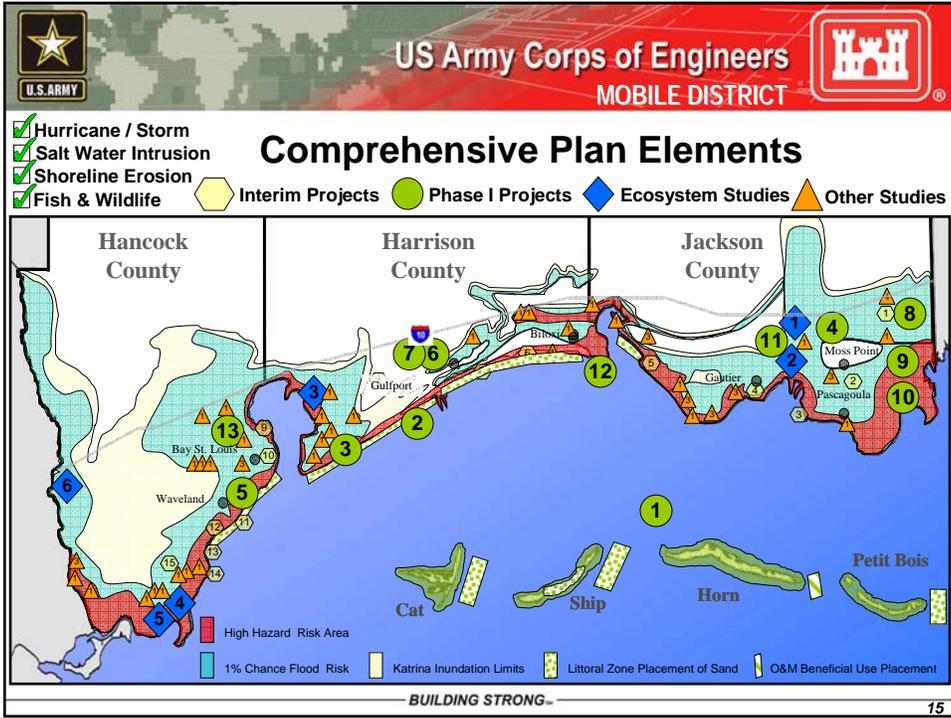


Risk Identification and Communication



Development of Lines of Defense Concept







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- Hurricane / Storm
- Salt Water Intrusion
- Shoreline Erosion
- Fish & Wildlife

(\$32,000,000)

Bay St Louis Seawall

- 6500' length of new construction
- Top elevation matches roadway



Downtown Bay St. Louis
Seawall



Bay St. Louis - South Beach Blvd - BEFORE



Bay St. Louis - South Beach Blvd - AFTER

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- Hurricane / Storm
- Salt Water Intrusion
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Franklin Creek Floodway Buyout and Ecosystem Restoration

(\$8,200,000)

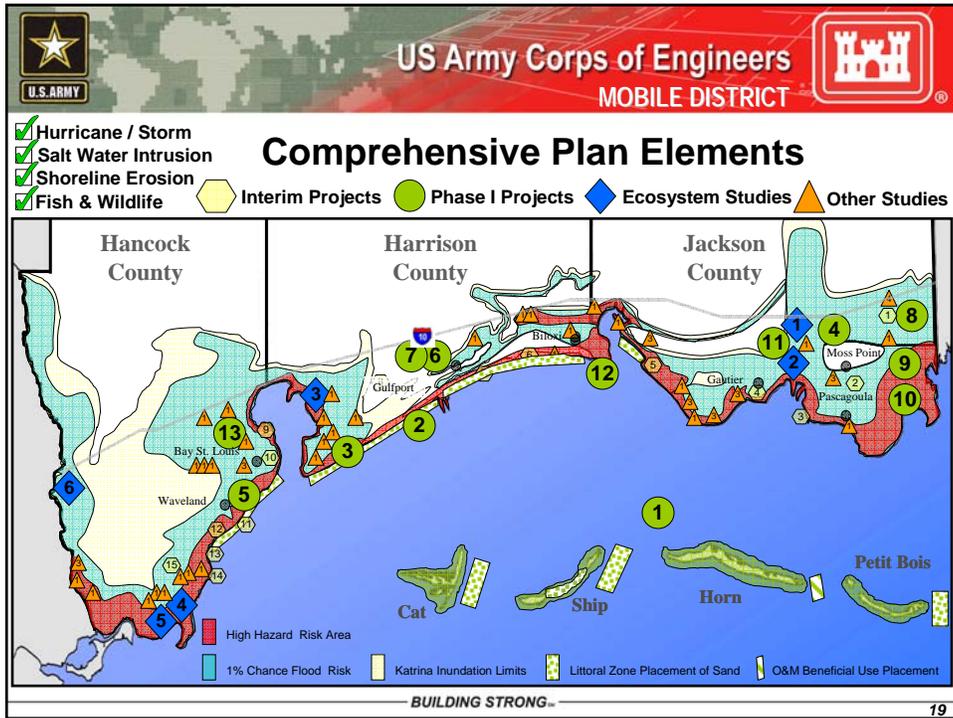


Interim Buyout Area




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Mississippi Coastal Improvements Program Cost Sharing (October 2008 Price Level)

Phase I Recommended Plan Element	Total First Cost	Federal Cost	Non-Federal Cost
Phase I High Hazard Area Risk Reduction Plan	\$407,860,000	\$265,110,000	\$142,750,000
Waveland Floodproofing	\$4,450,000	\$2,890,000	\$1,560,000
Forrest Heights Levee	\$14,070,000	\$9,150,000	\$4,920,000
Turkey Creek Ecosystem Restoration	\$6,840,000	\$4,450,000	\$2,390,000
Dantzler Ecosystem Restoration	\$2,210,000	\$1,440,000	\$770,000
Franklin Creek Ecosystem Restoration	\$1,860,000	\$1,210,000	\$650,000
Bayou Cumbest Ecosystem Restoration & Hurricane Storm Damage Reduction	\$25,530,000	\$16,590,000	\$8,940,000
Admiral Island Ecosystem Restoration	\$21,810,000	\$14,180,000	\$7,630,000
Deer Island ecosystem Restoration	\$21,520,000	\$13,990,000	\$7,530,000
Submerged Aquatic Vegetation Pilot Program	\$900,000	\$590,000	\$310,000
Coastwide Beach and Dune Ecosystem Restoration	\$23,320,000	\$15,160,000	\$8,160,000
Comprehensive Barrier Island Restoration	\$479,710,000	\$311,810,000	\$167,900,000
Total MsCIP Authorization Request	\$1,010,080,000	\$656,550,000	\$353,530,000

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Phase I Comprehensive Plan Expected Performance

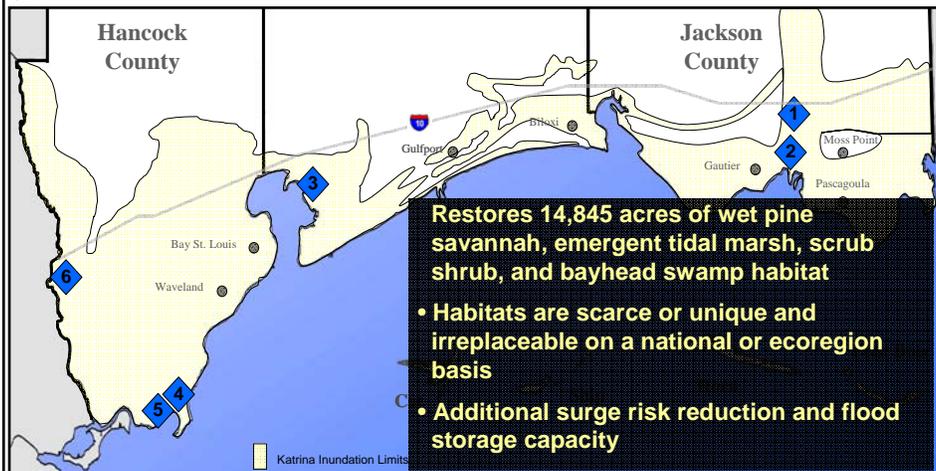
Barrier Islands	\$20M annual damages avoided, \$43M annual fishery losses avoided, 1,150 acres restored, 4,900 jobs created
Phase I HARP	2,000 parcels removed, 4 municipal structures relocated or elevated, \$33M average annual damages, up to 5,080 jobs created
Waveland	25 residential structures elevated, 54 jobs created
Forrest Heights	\$100K average annual damages reduced, 193 jobs created
Beach and Dune	60 miles of dune restoration, 208 jobs created
Turkey Creek	689 acres wet pine savannah, incidental flood storage capacity
Bayou Cumbest	110 acres tidal wetland, 38 acres scrub/shrub, incidental surge risk reduction
Dantzler	385 acres wet pine savannah, incidental flood storage capacity
Admiral Island	62 acres tidal wetland, 61 acres scrub/shrub, incidental flood storage capacity
Franklin Creek	149 acres wet pine savannah, incidental flood storage capacity
SAV Pilot	5 acres submerged aquatic vegetation
Deer Island	400 acres of critical island habitats restored

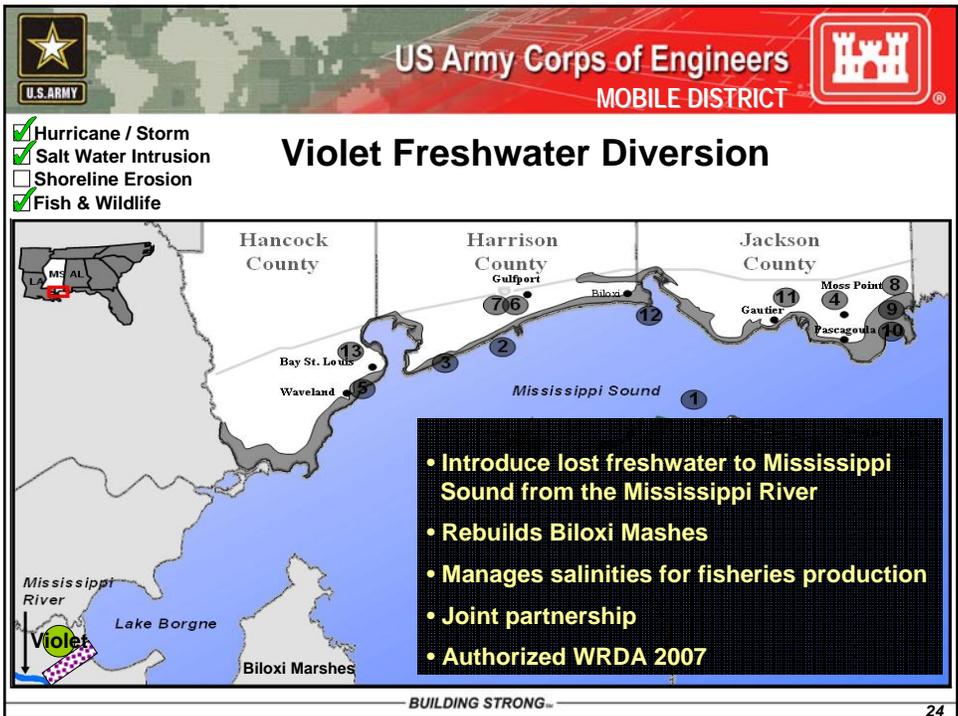
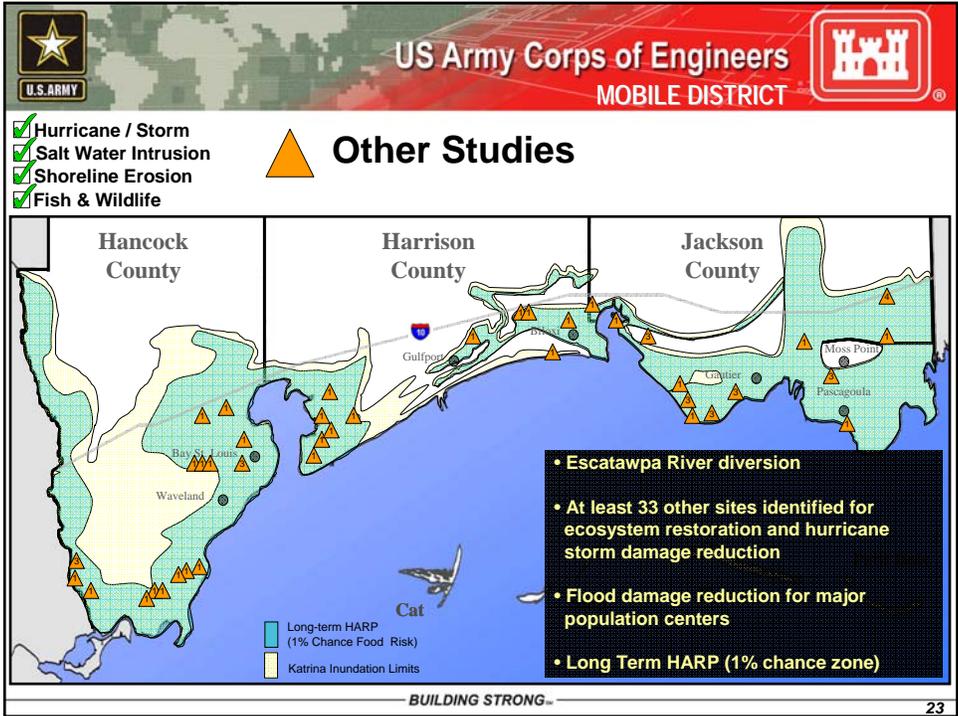


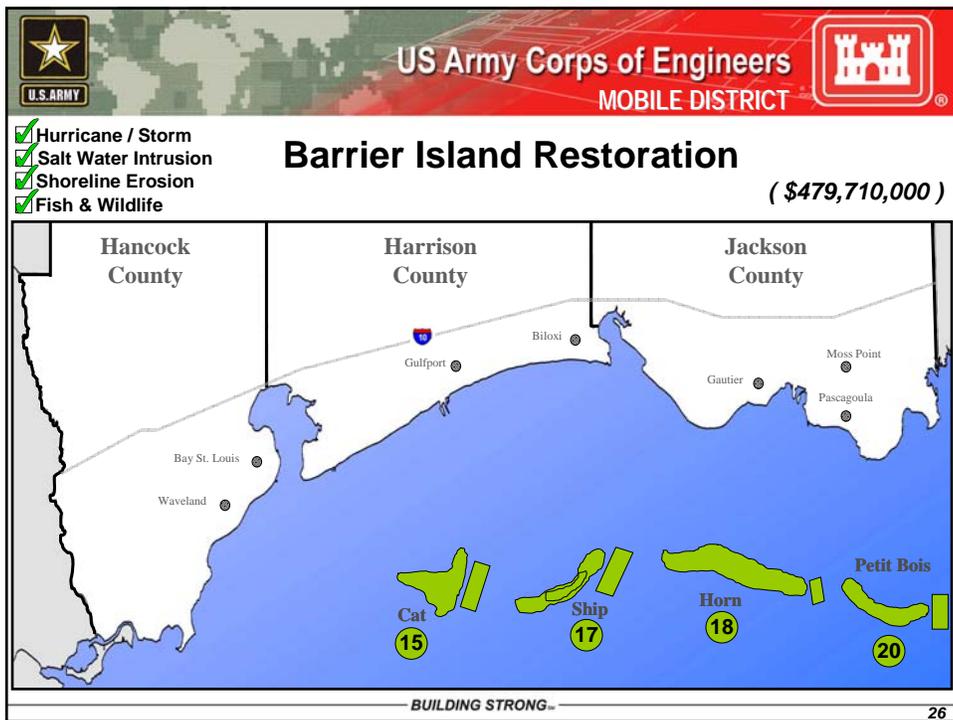
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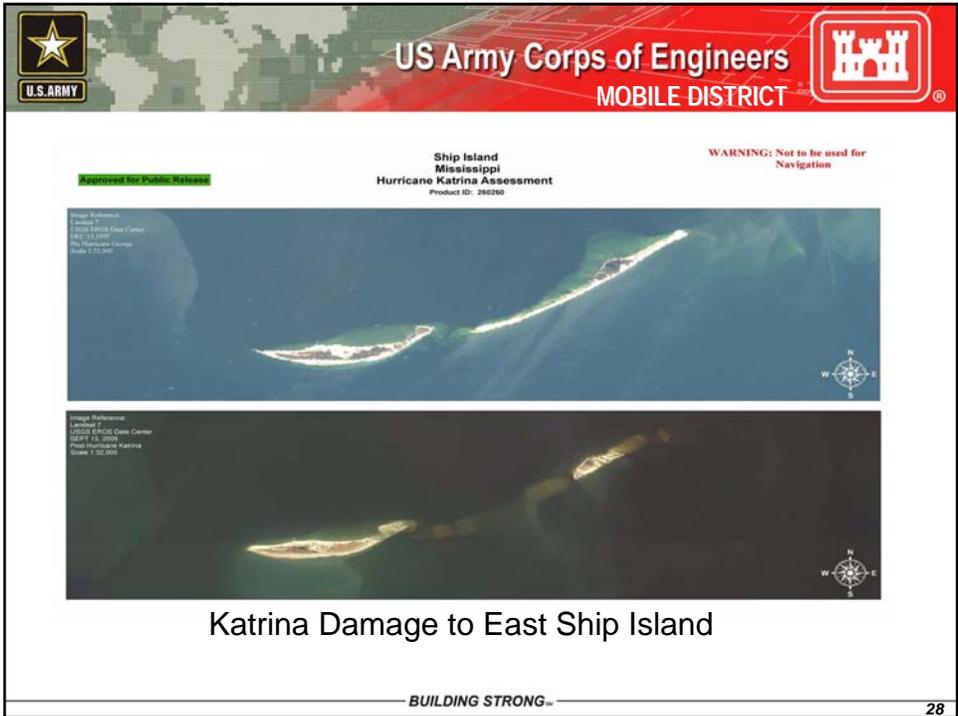
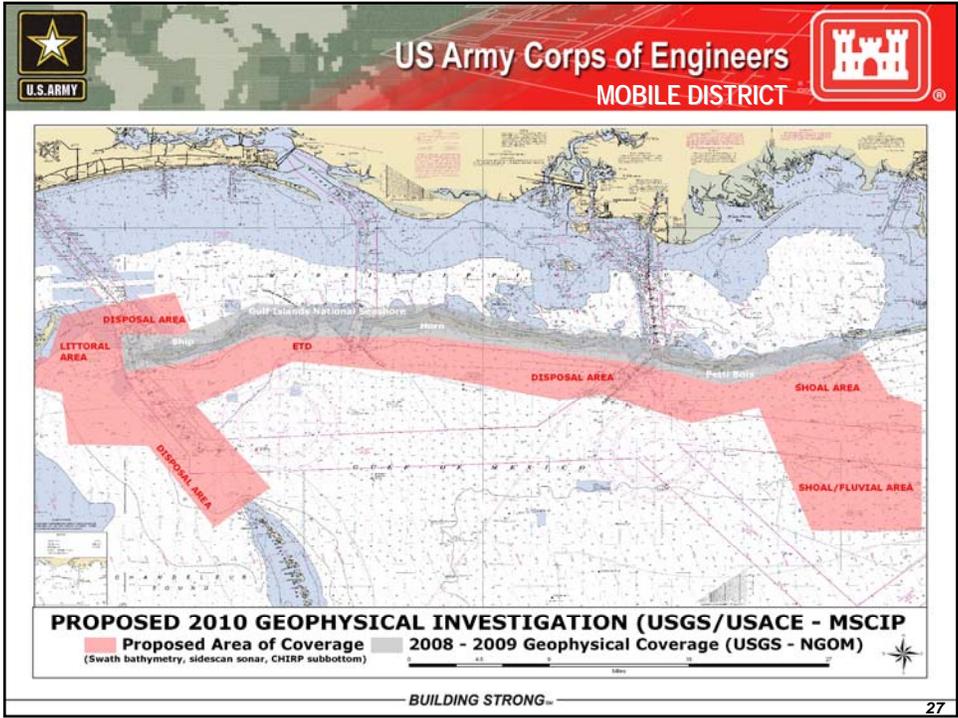


Ecosystem Restoration Studies











Joining East and West Ship Islands Together
Again with Littoral Zones Placement



From Now



To the Future