Southwestern Division
"Pacesetters"

The Increasing Challenge of Maintaining Our Flood Infrastructure Safe and Reliable

For 15th Annual Transportation & Infrastructure Summit

Brigadier General Thomas W. Kula
Southwestern Division
U.S. Army Corps of Engineers

15 August 2012

US Army Corps of Engineers
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Southwestern Division

Major Mission Areas

Civil Works

Military Programs

International &
Interagency Service

Civil Works Mission Areas

Little Rock District's MV Ted Cook positions the Crane Barge Mike Hendricks at Dam 2 during the flood of 2011

Navigation (Inland)
2 major waterways
(GIWW and MKARNS)

Water Supply
- 8.4 million acre-feet of water storage
- Water control contracts = water for 39 million households

Sardis Dam, Oklahoma

Hydroelectric Power
- 18 power plants in 6 states produce 6.7 billion kw hours
- 87% of regional capacity, second in the Corps

Bull Shoals Powerhouse, Arkansas

Flood Damage Reduction
- 74 flood damage reduction lakes/reservoirs
- 33.22M acre-feet of flood storage
- 760 miles of local flood protection projects
- $85 B in cumulative flood damage prevention

Dallas Floodway

Recreation
- 20 percent of the Corps' total recreation projects located within the regional boundary
- 83 million visitors at 90 operating projects located in five states

Moonshine Beach, Table Rock Lake, Mo.

Navigation (Ports and Channels)
- 4 of the Nation's "Top Ten" ports
- 32 channels (15 deep draft, 17 shallow draft)
- More than 500 M tons of commerce annually

Houston Ship Channel

Regulatory (work in waters & wetlands)
- Over 5000 permit decisions annually
- Protection of waters & wetlands

Regulators examine soils on a wetland delineation field visit.

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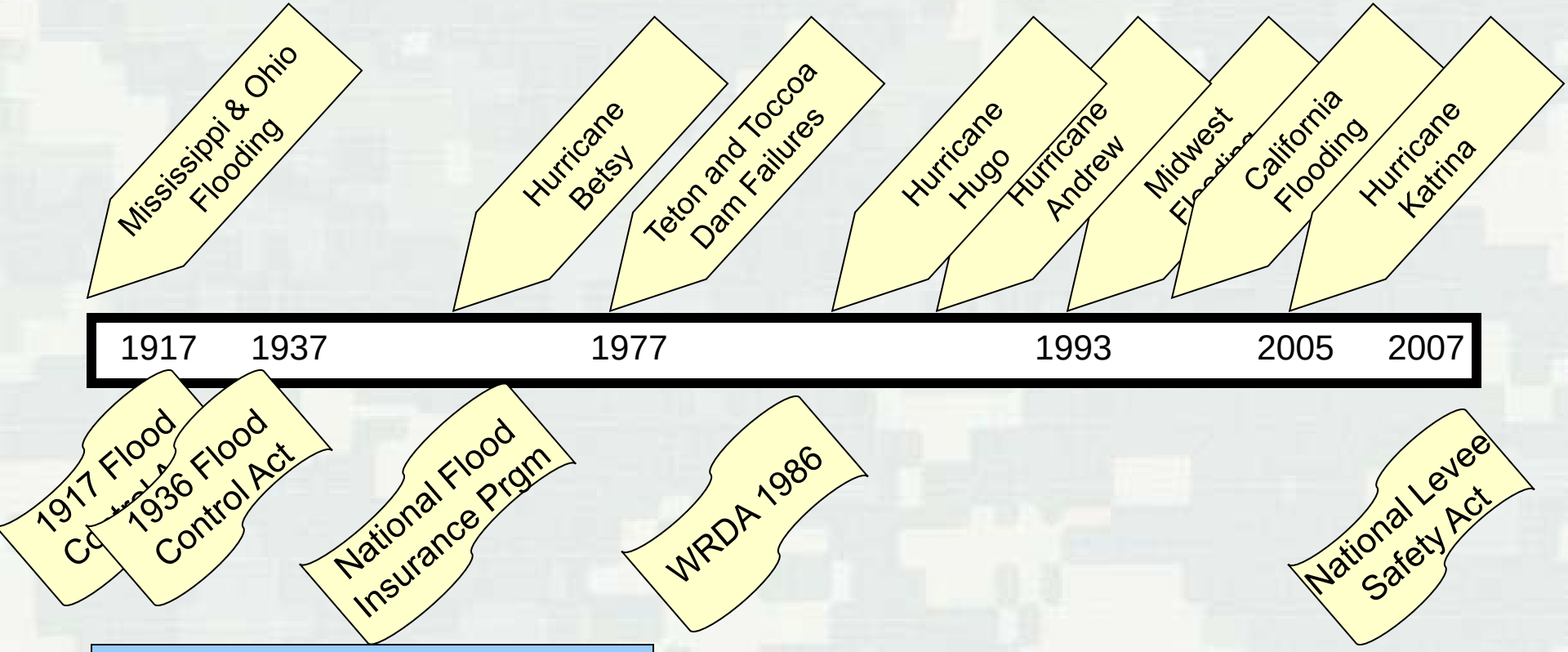
Mississippi
Alabama
Texas
Louisiana
Houston
Gulf of Mexico
10 km
N

Historic Perspective




Flood of 1990 was a 35-year flood event

Levee Safety Risk Framework

Shared Risk Management Responsibility

" Driving Down the Risk "

Risk

Initial Risk

Outreach	Federal / State / Local
Natural Storage	Federal / State / Local
Structural	Federal / State / Local
Non – Structural	Federal / State / Local
Contingency Plans	Federal / State / Local / Individual
Building Codes	State / Local
Zoning	Local
Insurance	Individual / NFIP

Residual Risk

All Stakeholders contribute to reducing risk !

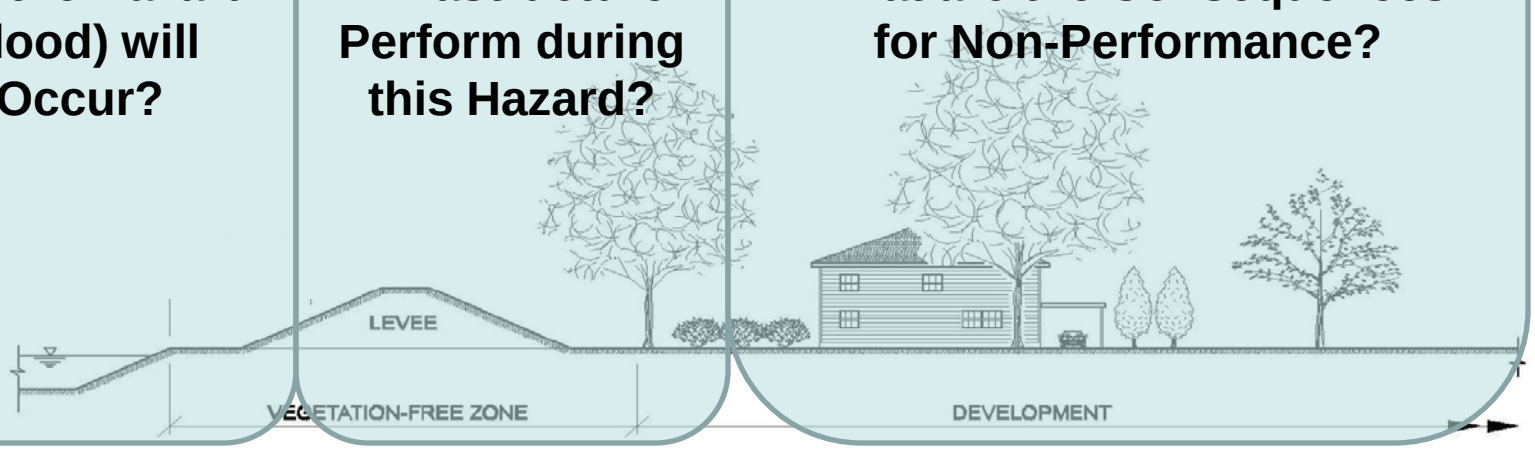
Levee System :

Loss of life is of paramount concern. Economic and environmental losses are also important.

How Likely is it that the Hazard (flood) will Occur?

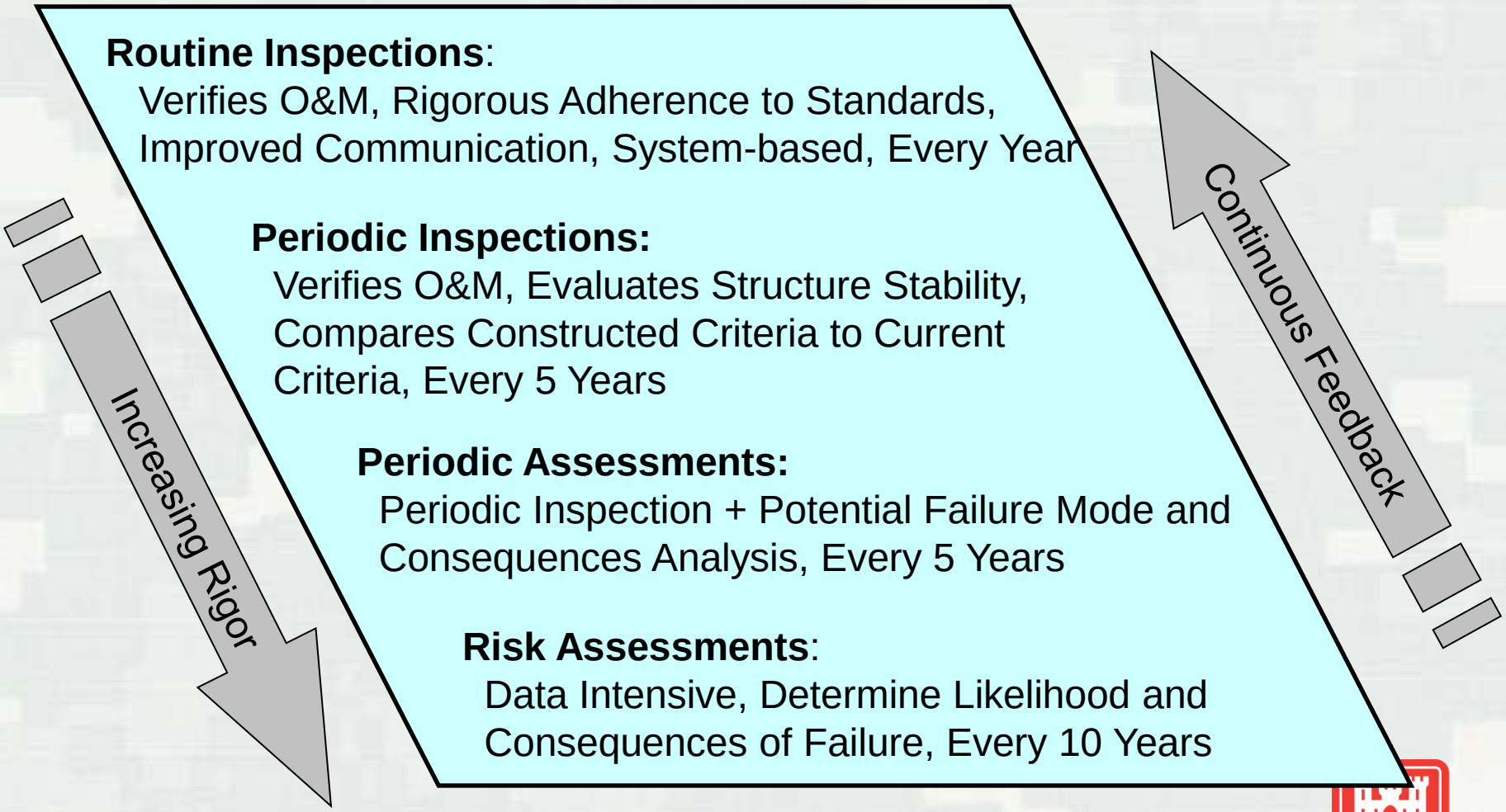
How Will the Infrastructure Perform during this Hazard?

What are the Consequences for Non-Performance?



The Corps Risk Framework

Inspection Program



Fort Worth Floodway PI#10 – Inspection Summary

- Strong logistics, communication and dedication by all inspection personnel made the field inspection a complete success.
  - Total Inspected Levee Length ~ **22 miles**
  - Total Inspected Floodwall Length ~ **600 foot**
  - Total Inspected Levee Closure ~ **1**
  - Total Inspected Utility Closure ~ **18**
  - Total Inspected Drainage Structures ~ **28**
  - Total Inspected Channel Length ~ >**30 miles**
  - Total Rated Inspection Points ~ **>800**
  - Total Photographs Taken ~ >**3,200**

Fort Worth Floodway PI#10 – Inspection Data
GPS Photos include Watermark with Identifying Information

USACE Inspection Project

System Designation

Photo ID (Camera # & System)

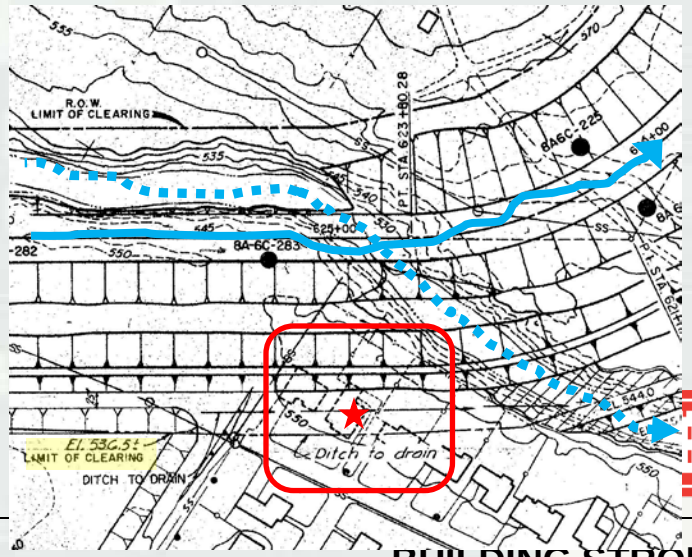
Inspection Rated Item

GPS Coordinates

Date Stamp

Fort Worth Floodway PI#10 – White Settlement Levee
Levee Embankment : Encroachments

- Located around RS 625+00.
- The design plans indicate that this residence should have been cleared.
- This building is identified in the 1970 USACE O&M Manual.
- The potential performance impacts may necessitate a critical *U* rating.
- *U* or *M* rating will require mitigation.



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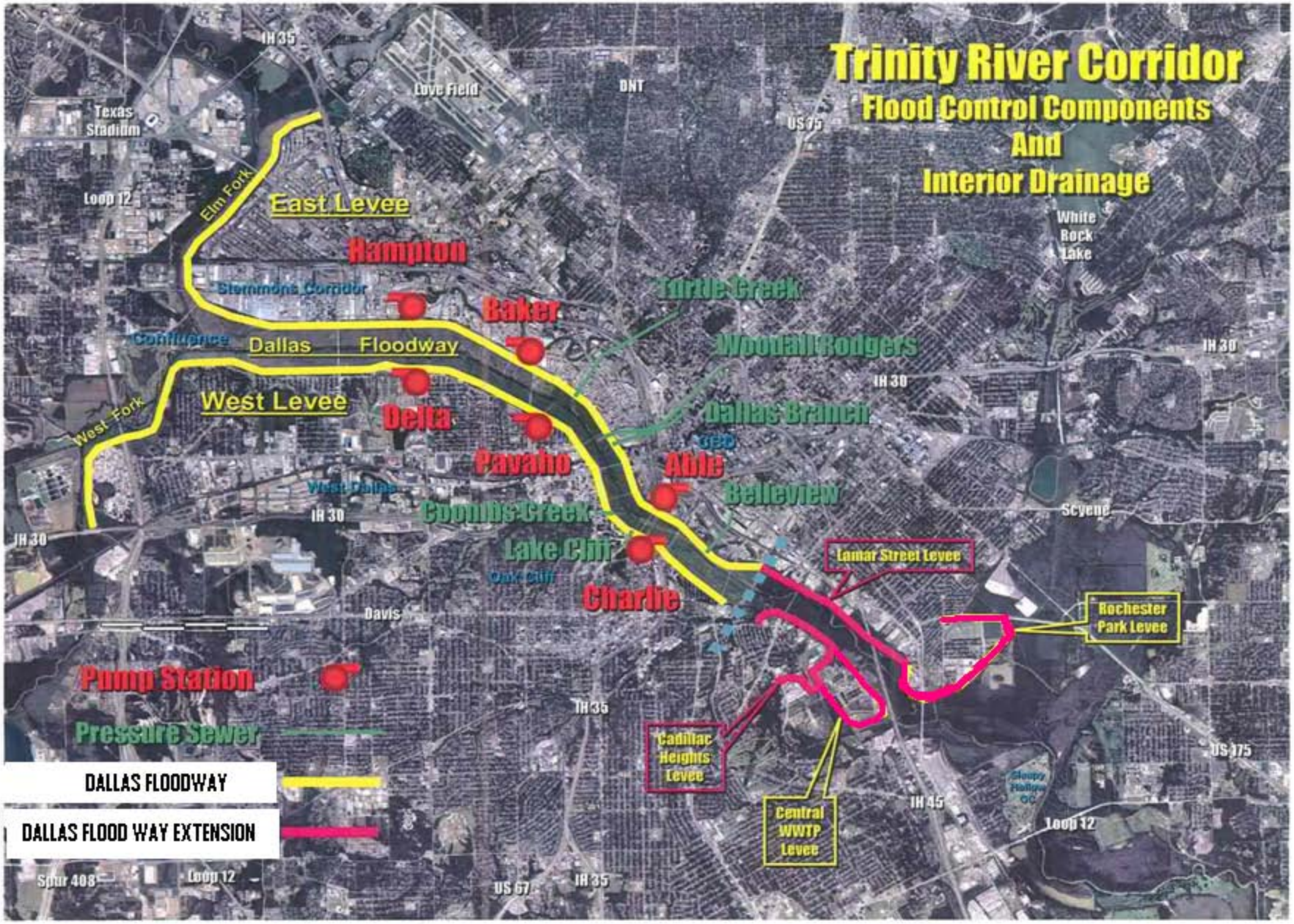
Trinity River Corridor
Flood Control Components
And
Interior Drainage
IH 35
Love Field
DNT
US 75
Texas Stadium
Loop 12
Elm Fork
East Levee
Hampton
Stemmons Corridor
Baker
Confluence
Dallas Floodway
Turtle Creek
Woodall Rodgers
IH 30
White Rock Lake
West Fork
West Levee
Delta
Dallas Branch
Pavaho
Able
Belleview
West Dallas
IH 30
Coombs Creek
Lake Cliff
Oak Cliff
Charlie
Lamar Street Levee
Scyene
Rochester Park Levee
Davis
Pump Station
Pressure Sewer
IH 35
Cadillac Heights Levee
Central WWTP Levee
IH 45
US 175
Loop 12
Spur 408
US 67
DALLAS FLOODWAY
DALLAS FLOOD WAY EXTENSION

Coastal Texas Ecosystem Protection & Restoration

o Texas coast at significant risk of damages to public safety, property, and ecological resources from storms, sea level rise and other coastal hazards.

- 18 counties home to 26% of state's population
- 4 of Nation's top 10 ports located in Texas
- Two-thirds of nation's petrochemicals produced along the Texas coast
- 64% of Texas coast is eroding at average rate of 5.9 feet/year with some areas losing 30 feet/year

o Study integrates: programmatic plans for flood damage reduction; storm damage protection; ecosystem restoration; risk reduction measures for damages to public safety, property and environmental resources from storms and erosion

o Plan would provide: Basis for informed decision-making by the Federal government and non-Federal sponsors

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Questions?

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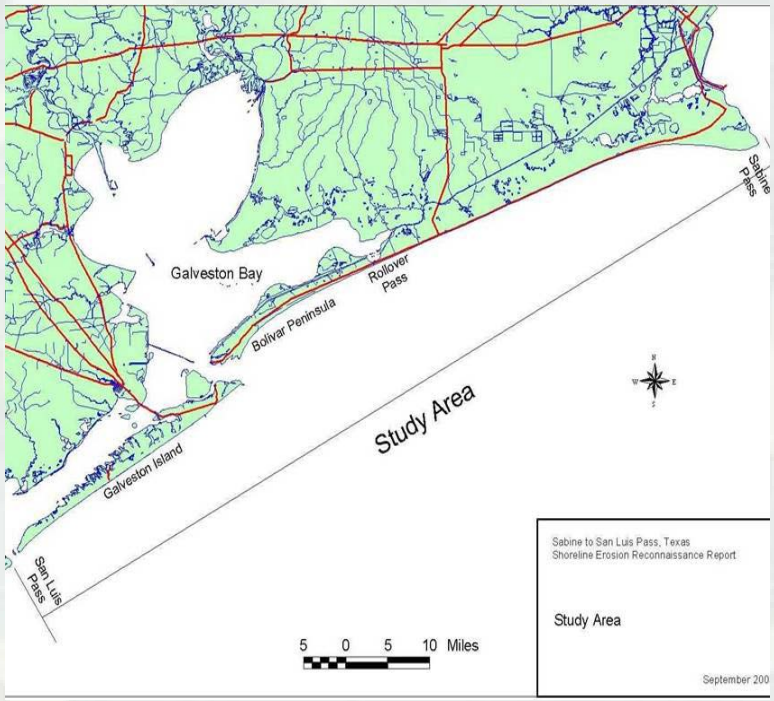
Sabine Pass to Galveston Bay, TX

- Post - Hurricane Ike - SEP 2008: the study area was assessed; determined that the entire area was significantly altered both physically and economically
- Initiated a 100% Fed cost re-scoping effort to expand study area to a six County region in Southeast Texas
- Four regional scoping meetings scheduled for late February and early March 2012; collect input from the public, resource agencies and other stakeholders



- Culmination of re-scoping will result in a new Project Management Plan (PMP) and Feasibility Cost Sharing Agreement (FCSA) with new non-Federal Sponsor – the Texas General Land Office (GLO)
- An executed FCSA is scheduled for October 2012
- Re-initiation of feasibility will commence in October 2012