Future of the Hurricane Protection System

Presented by Marti Lucore, PMP
EXISTING PROJECTS
Current Situation

Levee systems take decades to build. There are 2 primary reasons for this:

(1) Settling & compaction of earthen levee construction requires 4 to 5 years between lifts

(2) Limited money appropriated by Congress – could build faster if larger amounts were appropriated each fiscal year.
Future Work on Existing Levee Systems

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete authorized system</td>
<td>$544,460,000</td>
</tr>
<tr>
<td>Rebuild existing system to design height</td>
<td>$339,285,000</td>
</tr>
<tr>
<td>Federal Flood Control Works Rehab</td>
<td>$2,000,000</td>
</tr>
<tr>
<td>Non-Federal Levees and Pump Station Rehab</td>
<td>$155,000,000</td>
</tr>
<tr>
<td><strong>Total - 3rd Supplemental</strong></td>
<td><strong>$496,285,000</strong></td>
</tr>
</tbody>
</table>
## Future Work on Existing Levee Systems (cont.)

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outfall Canal Closures and Pump Stations</td>
<td>$530,000,000</td>
</tr>
<tr>
<td>Improvements to IHNC (Gated Structures)</td>
<td>$350,000,000</td>
</tr>
<tr>
<td>Armoring of Levees and Floodwalls</td>
<td>$170,000,000</td>
</tr>
<tr>
<td>Reinforce or Replace Floodwalls</td>
<td>$1,584,000,000</td>
</tr>
<tr>
<td>Non-Fed Pump Station - Storm Proofing Pump Station</td>
<td>$250,000,000</td>
</tr>
<tr>
<td>Incorporate non-Fed Levees in Plaquemines Parish</td>
<td>$215,000,000</td>
</tr>
<tr>
<td>Non-Fed Levees (Terrebonne Parish)</td>
<td>$30,024,000</td>
</tr>
<tr>
<td>Total - 4th Supplemental</td>
<td>$3,129,024,000</td>
</tr>
</tbody>
</table>
PLANNED PROJECTS
Existing Hurricane Protection Projects and Studies
New Hurricane Protection Projects

Morganza to the Gulf

- The Morganza to the Gulf Hurricane Protection Project is located in south central Louisiana. It has completed the study phase and has been approved by the Chief of Engineers. This project is currently awaiting Congressional authorization.

- The total cost for this project is estimated at $886,700,000

- The project incorporates environmental features into the design.
Existing Hurricane Protection Projects and Studies

- MISSISSIPPI RIVER LEVEES
- EAST ATCHAFALAYA BASIN PROTECTION LEVEE
- MORGAN CITY & VICINITY HURRICANE PROTECTION
- LOWER ATCHAFALAYA BASIN RE-EVALUATION STUDY
- MORGANZA TO THE GULF OF MEXICO FEASIBILITY STUDY
- DONALDSONVILLE TO THE GULF OF MEXICO FEASIBILITY STUDY
- LA ROSE TO GOLDEN MEADOW HURRICANE PROTECTION
- WEST BANK & VICINITY, NEW ORLEANS HURRICANE PROTECTION
- WEST SHORE LAKE PONTCHARTRAIN FEASIBILITY STUDY
- LAKE PONTCHARTRAIN & VICINITY HURRICANE PROTECTION
- LAKE BORNE
- LAKE BORNE E.R.
- M.R.G.O.
- NEW ORLEANS TO VENICE HURRICANE PROTECTION
- NEW ORLEANS TO VENICE LEREUSSITE TO ST. JUDE P.A.C. STUDY
- MISSISSIPPI RIVER LEVEES
- Hurrican Protection
- Feasibility Studies
- MR&T Project

Locations:
- Morgan City
- Dulac
- Houma
- Laplace
- New Orleans
- Chalmette
- Golden Meadow
- Venice
- New Orleans East
- Slidell
- Empire
- Golden Meadow
- Venice
- Point a la Hache
New Hurricane Protection Projects
Donaldsonville to the Gulf

• The Donaldsonville to the Gulf Hurricane Protection Project is located in southeast Louisiana. It is currently in the study phase and expected to be completed in September 2007.

• The total construction cost for this project is estimated at $500,000,000.

• The project incorporates interior drainage and ecosystem restoration features into the design.
Donaldsonville, LA to the Gulf of Mexico
Possible Hurricane Levee Alignments

Donaldsonville

Laplace

Thibodaux

St. James Parish

Des Allemands

Lafourche Parish

St. John Parish

Larose to Golden Meadow Hurricane Protection

Luling

Larose

Jefferson Parish

Lake Cataouatche

Lake Salvador

Lafourche Parish

Bayou Lafourche

Hwy 90

Pipeline Canal

GIWW

Existing Hurricane Protection Levee

West Bank & Vicinity Hurricane Protection

Metairie
Existing Hurricane Protection Projects and Studies
New Hurricane Protection Projects
West Shore Lake Pontchartrain

• The West Shore Lake Pontchartrain Hurricane Protection Project is located in southeast Louisiana. It is currently in the study phase and expected to be completed in September 2007.

• The total construction cost for this project is estimated at $140,000,000.

• The study is trying to identify the alignment with the least environmental impacts.
West Shore Lake Pontchartrain, LA
Possible Hurricane Levee Alignments
LOUISIANA COASTAL PROTECTION AND RESTORATION
Louisiana Coastal Protection aan Restoration (LaCPR)

This is a relatively new study that will investigate providing higher level hurricane protection for the entire coast of Louisiana.

While this study has been fast tracked in the aftermath of Katrina, the timeframe for completing a comprehensive study is expected to take at least two years.
Planning Units*

* Further divided into sub-units for better resolution as investigation progresses
Importance of LA Coast to the Nation

- Louisiana is a “working coast"
  - Strategic energy production and delivery corridor
  - Waterborne commerce gateway to the world
  - Vibrant commercial fisheries production grounds
  - Coastal ecosystem with diverse fish and wildlife

- Coastal restoration is integral to hurricane protection of Louisiana’s “working coast”

- Unaddressed risk to coastal Louisiana equates to risk of disrupted goods and services to Nation
Approach

- Multiple lines of defense strategy
  - Coastal restoration/protection
  - Structural measures
  - Non-structural features
- Describes need for using risk reduction decision framework
- Characterizes hurricane threat and engineering design challenges
Expected Results

- Preliminary Cost Estimates to provide protection to the entire Louisiana coast are around $200 billion.

- Likely recommendation of the study will not include the entire coast.