Process to Achieve Higher Levels of Risk Reduction

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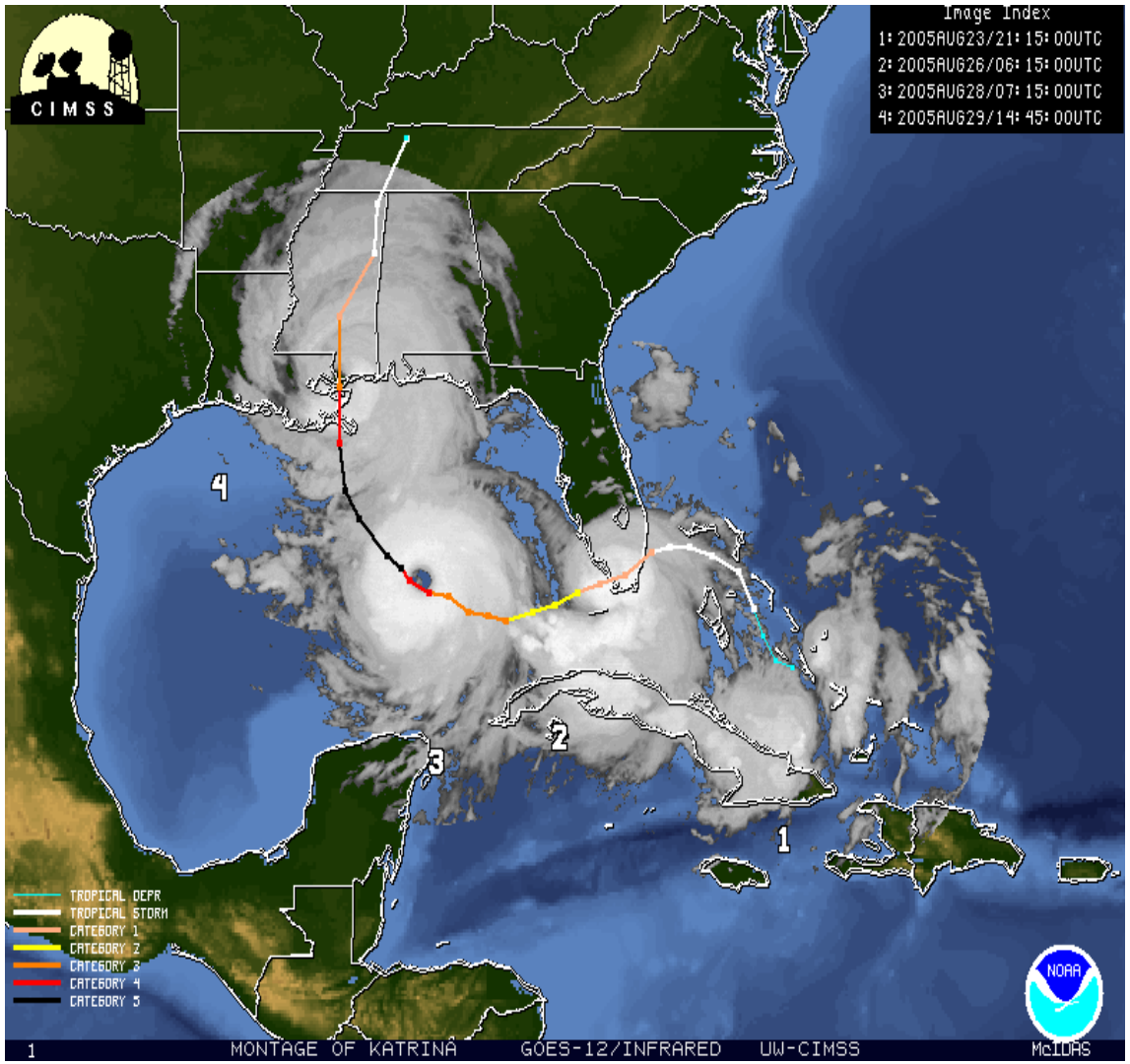
Importance of Coastal Louisiana

- Production & distribution infrastructure supplies U.S. with 27% of its oil and over 26% of its natural gas
- 2 of the top 5 ports in the world in total trade
- Coastal wetlands reduce storm damage costs
- Home to 70% of Mississippi River Valley's migratory waterfowl
- Home to 35% of U.S. commercial fisheries

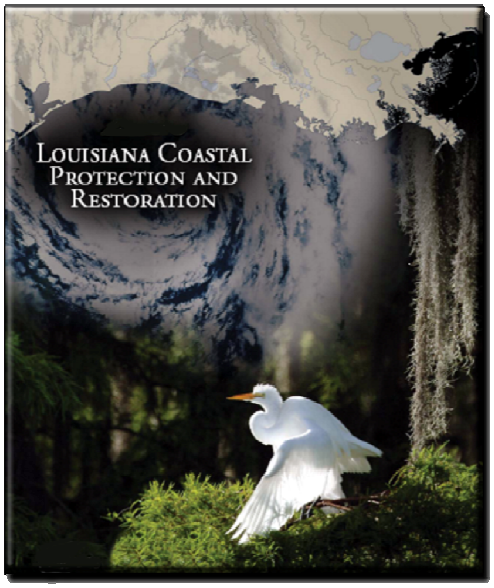
Hurricane Katrina

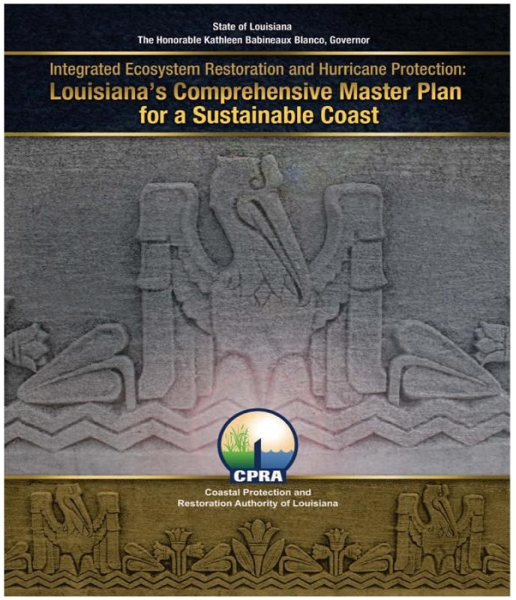


- ***<u>One of America's largest natural disasters</u>***
- Category 5 strength less than 12 hours before landfall
- *127 MPH wind at Louisiana landfall*
- Peak water level of <u>28</u> feet along Mississippi coast, <u>21</u> feet in Louisiana. (<u>Highest</u> storm surge <u>ever</u> measured on U.S. coast)
- <u>Highest</u> significant measured wave in Gulf of Mexico or Atlantic Ocean

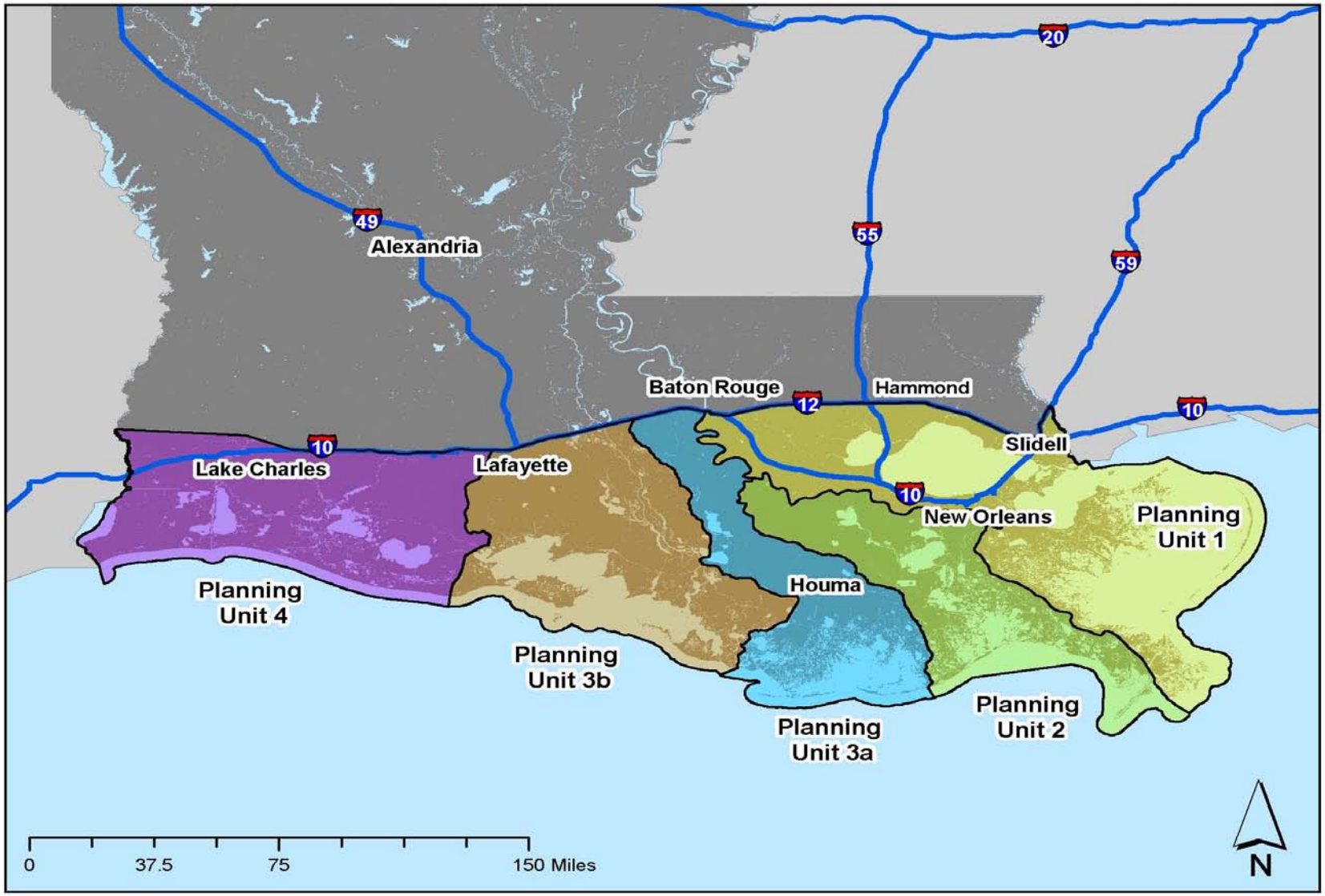
LaCPR Congressional Direction

- Comprehensive hurricane protection analysis and design
- Full range of flood control, coastal restoration, and hurricane protection measures
- Storm surge equivalent to a “Cat 5” hurricane
- Exclusive of normal policy considerations
- Close collaboration with state of Louisiana and their Master Plan
- Reports on component areas for authorization as soon as practicable



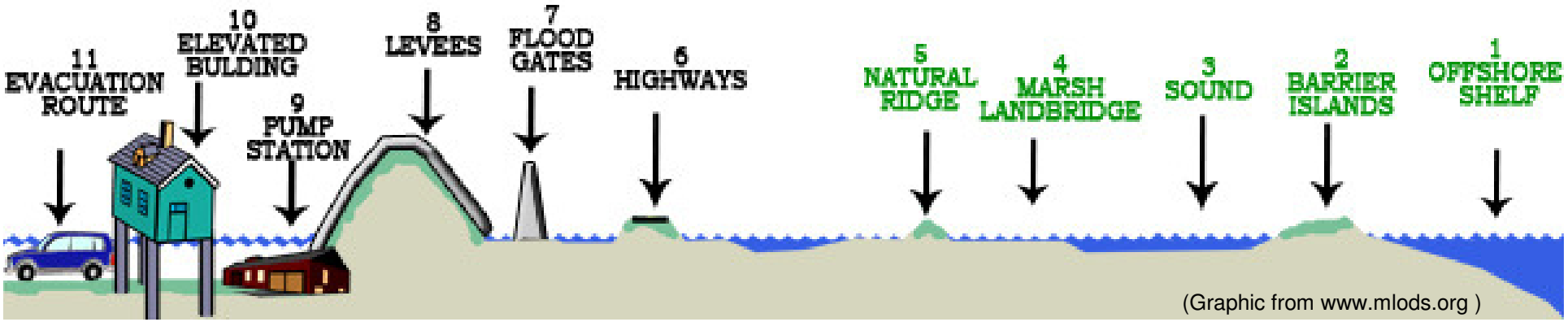


LaCPR Study Area



Formulation Strategy

Multiple Lines of Defense Approach



Elements include:

Coastal restoration/protection

Structural measures

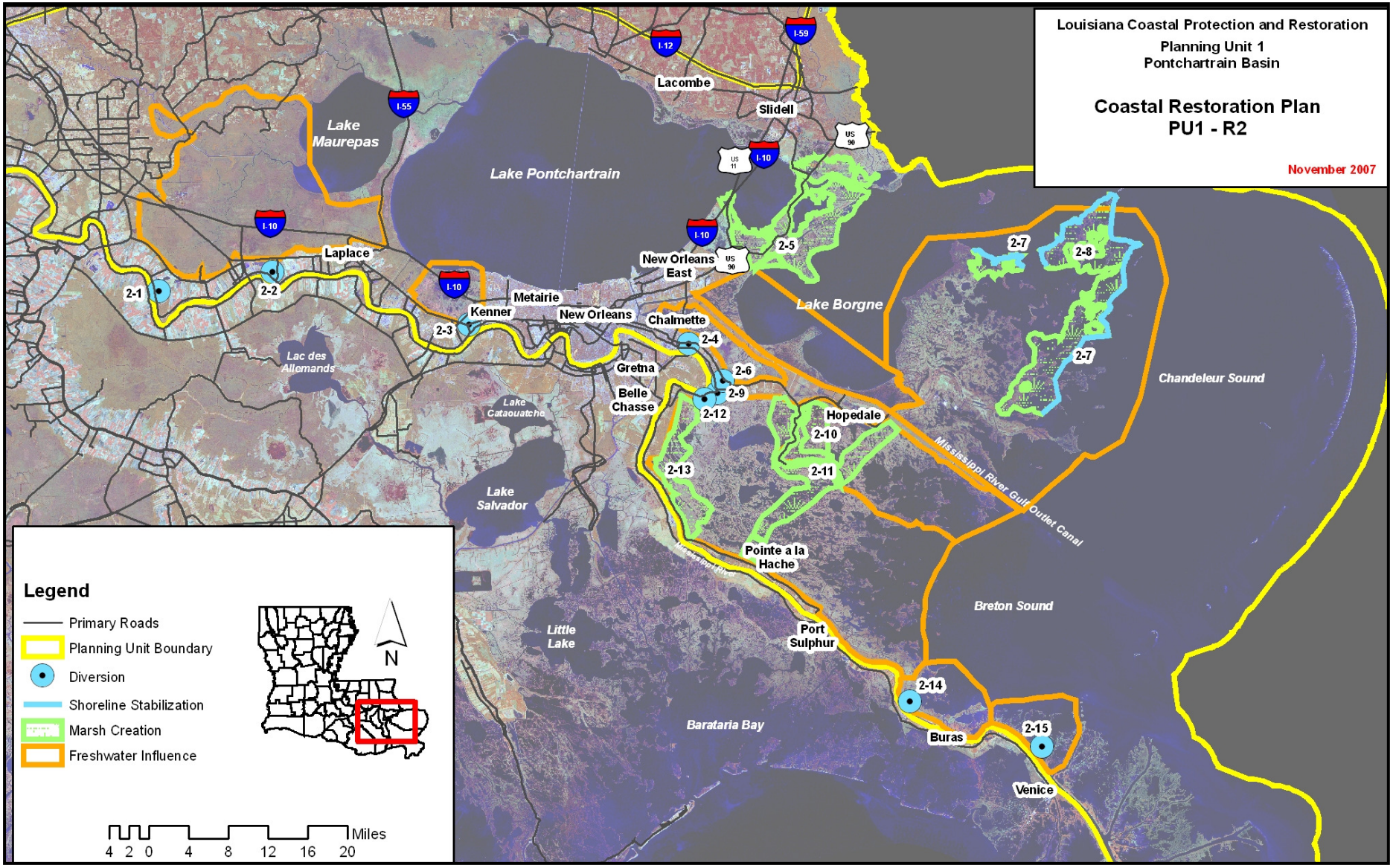
Non-structural features

LACPR Report Contains

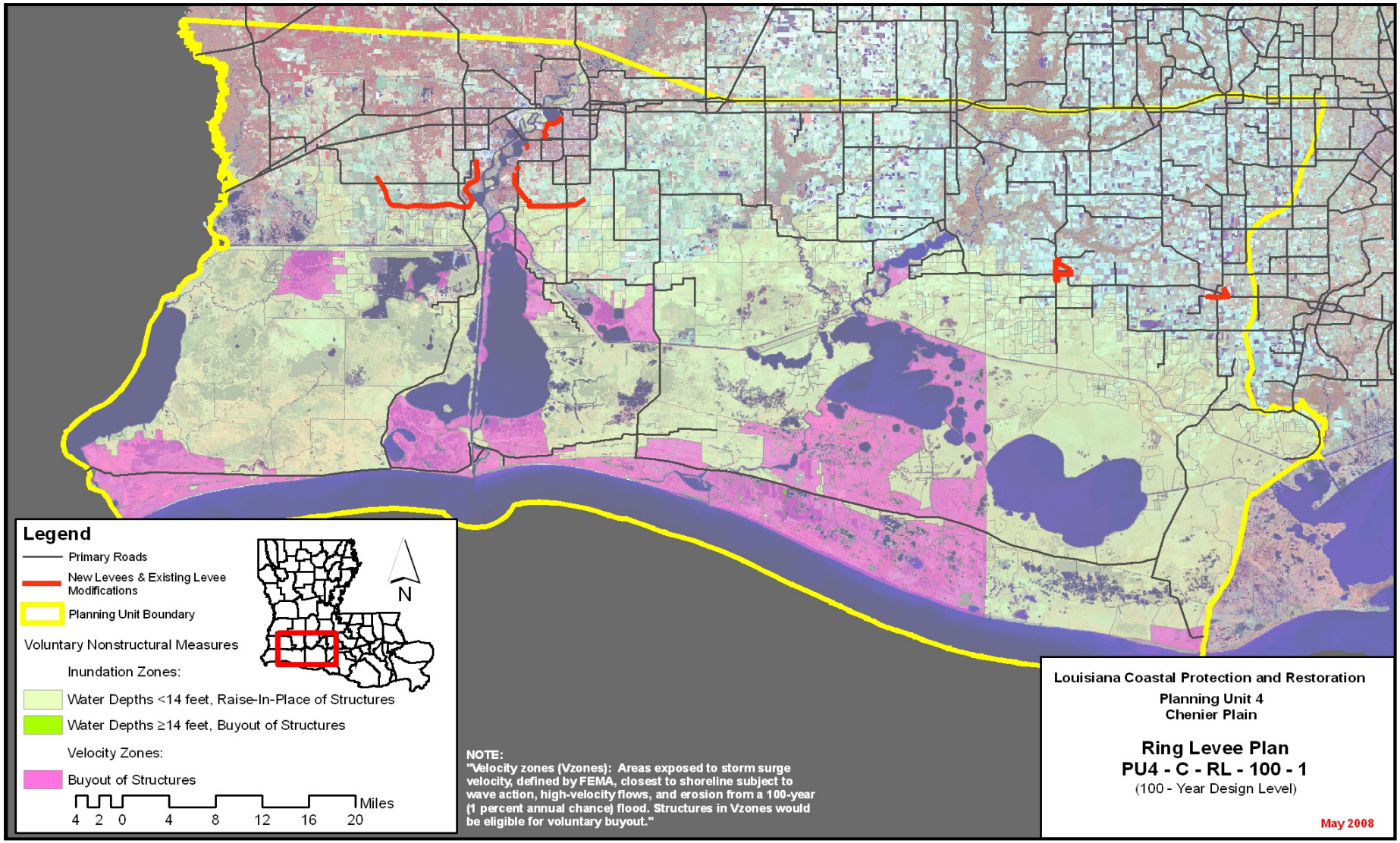
- A final array of **viable alternative plans** to increase levels of risk reduction.

- A discussion of potential coastwide plan combinations.

Example Viable Alternative Plan – PU1



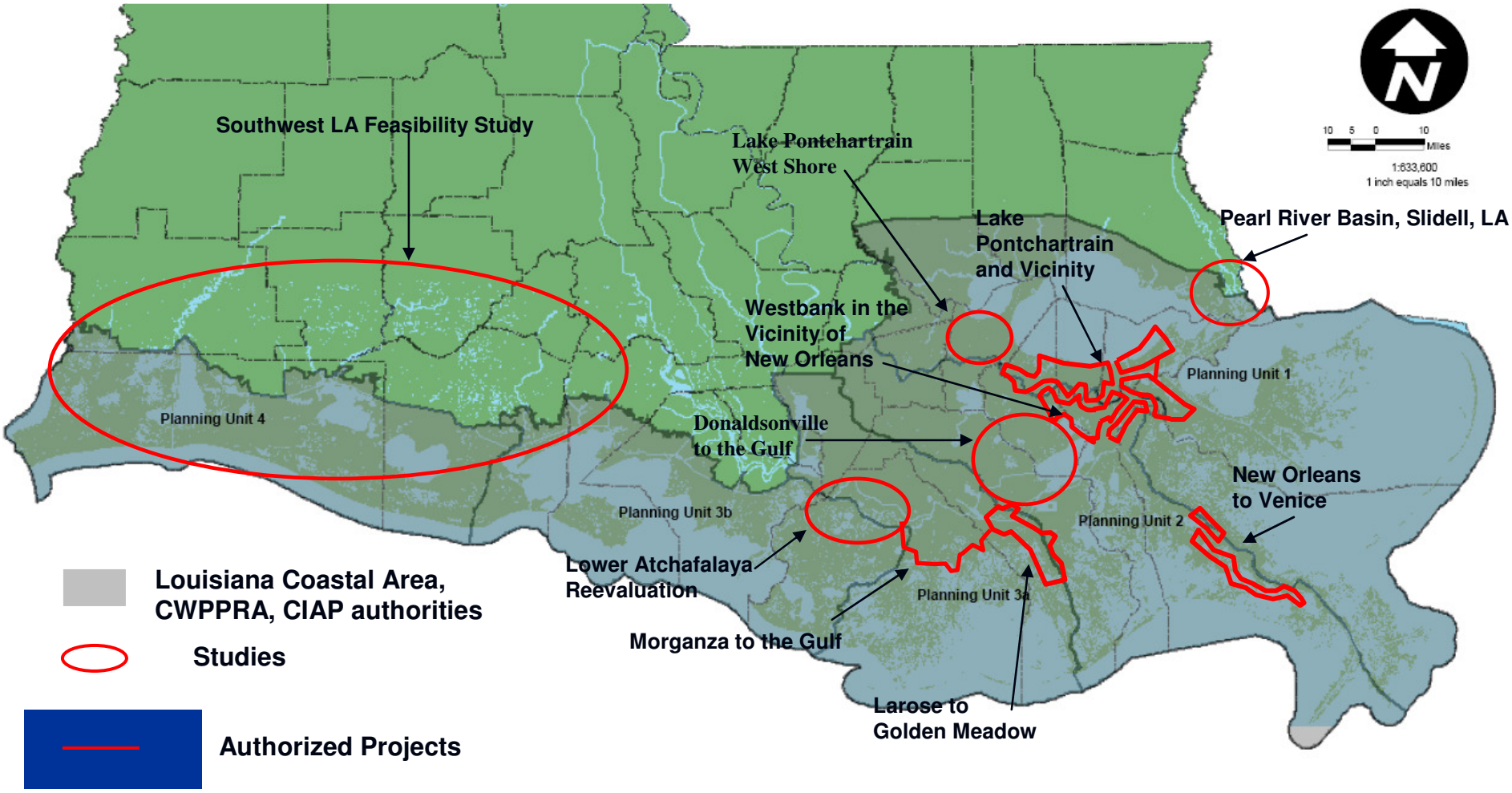
Example Viable Alternative Plan – PU4



LACPR Report Contains (Con't)

- Breakdown of actions to be pursued through existing authorities and actions requiring further study.
- Process to pursue implementation through **existing authorities**, if an applicable one exists.
  - For example, coastal restoration opportunities could be pursued under LCA, CWPPRA, etc through post-authorization changes.
  - Hurricane and Storm Damage Risk Reduction System (options could be pursued under current Hurricane and Storm Damage Risk Reduction System authorizations (WBV, LPV, Donaldsonville to the Gulf, Larose to Golden Meadow, Morganza, etc).
- For some options where no existing authority exists, new authorization from Congress would be needed.

LACPR - Existing Project and Study Authorities



Tradeoffs within a Risk Informed Decision Framework

- A multiple lines of defense strategy has advantages over single strategy approaches.
- Structural measures are not always the best solution.
- Nonstructural measures are a key component for risk reduction.
- Relocation of all residents out of the floodplain is not a viable option.
- Individual and community decisions will play a strong role in determining future risks to both life and property.
- Adequate sediment resources are available to implement proposed no net loss coastal restoration plans but acquiring those resources involves tradeoffs.
- Holistic changes in management of the lower Mississippi River and tributaries may be required.
- Regional tradeoffs must be considered.

Example of Tradeoffs

“Structural” vs. “Nonstuctural”

Structural: Restrict water flow to accommodate human activity.

Nonstructural: Modify human activity to accommodate likely water flow.

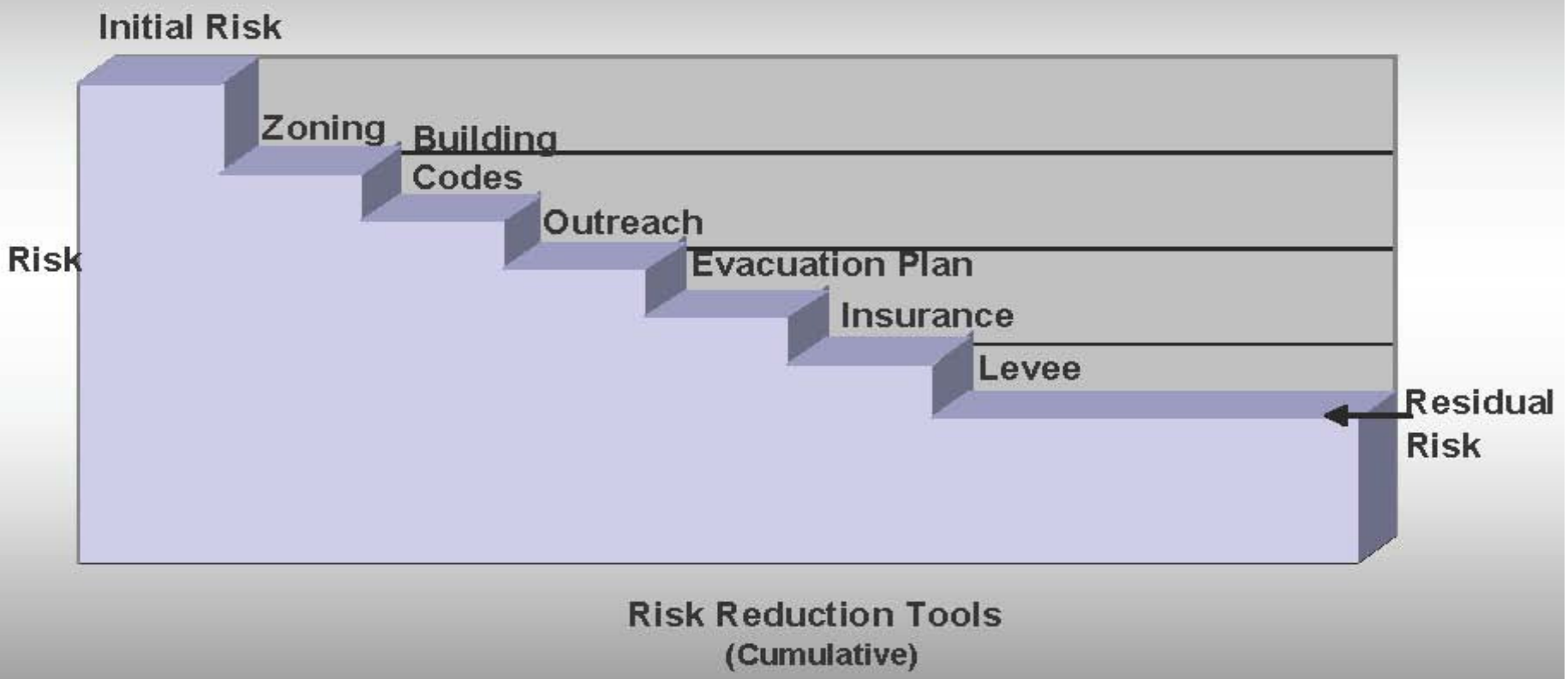
Not always an either/or proposition – Many flood risk management programs include structural and nonstructural features.

Grand Forks, ND and East Grand Forks, MN
Flood Damage Reduction Project

Shared Flood Risk Management

US Army Corps of Engineers

FLOOD RISK MANAGEMENT: BUYING DOWN RISK



All stakeholders contribute to reducing risk!

Challenges

- Lack of or minimal positive benefit cost ratios following National Economic Development (NED) benefit evaluation.
- Agreement on the trade-offs.
- Require additional discussions with all including the administration.

What Can We Do Now?

- Move on Existing Authorities such as LCA
  - WRDA 2007 authorized:
    - 5 critical near-term features
    - 10 additional features
    - Beneficial Use of Dredged Materials
    - Investigations of modifications to existing structures

Future Steps

- Additional discussions and decisions on trade-off of risks

- Only way there is through successful collaboration

- National impact is significant