

Louisiana Coastal Protection and Restoration (LACPR)

Plan Development Strategy

Scientist / NGO Engagement
May 15, 2007



One Team: Communicating, Collaborating, Consensus



Talking Points

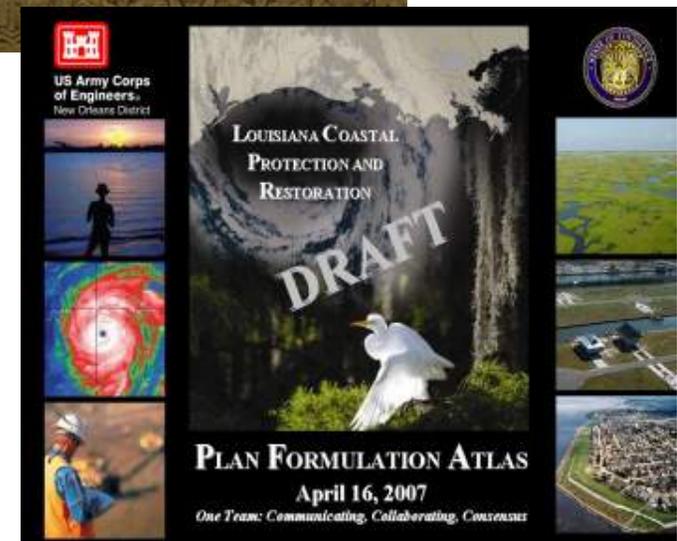
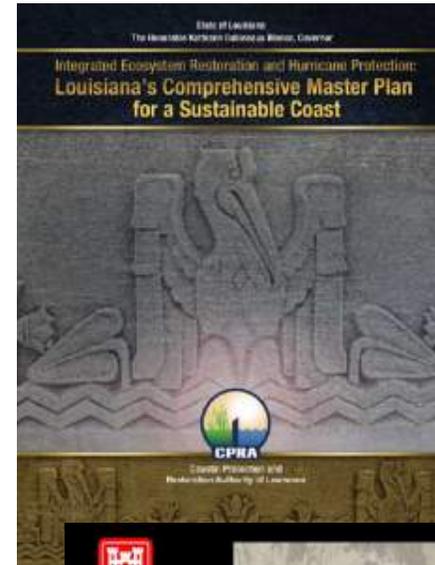
- State Master Plan / LACPR Collaboration
- How LACPR will build on State Master Plan
- Overview of LACPR Plan Formulation Atlas
 - What is it?
 - Why was it developed?
 - How will it be used?
- Joint Team Strategy – Development of Alternatives
- Path Forward



State Master Plan and LACPR Collaboration

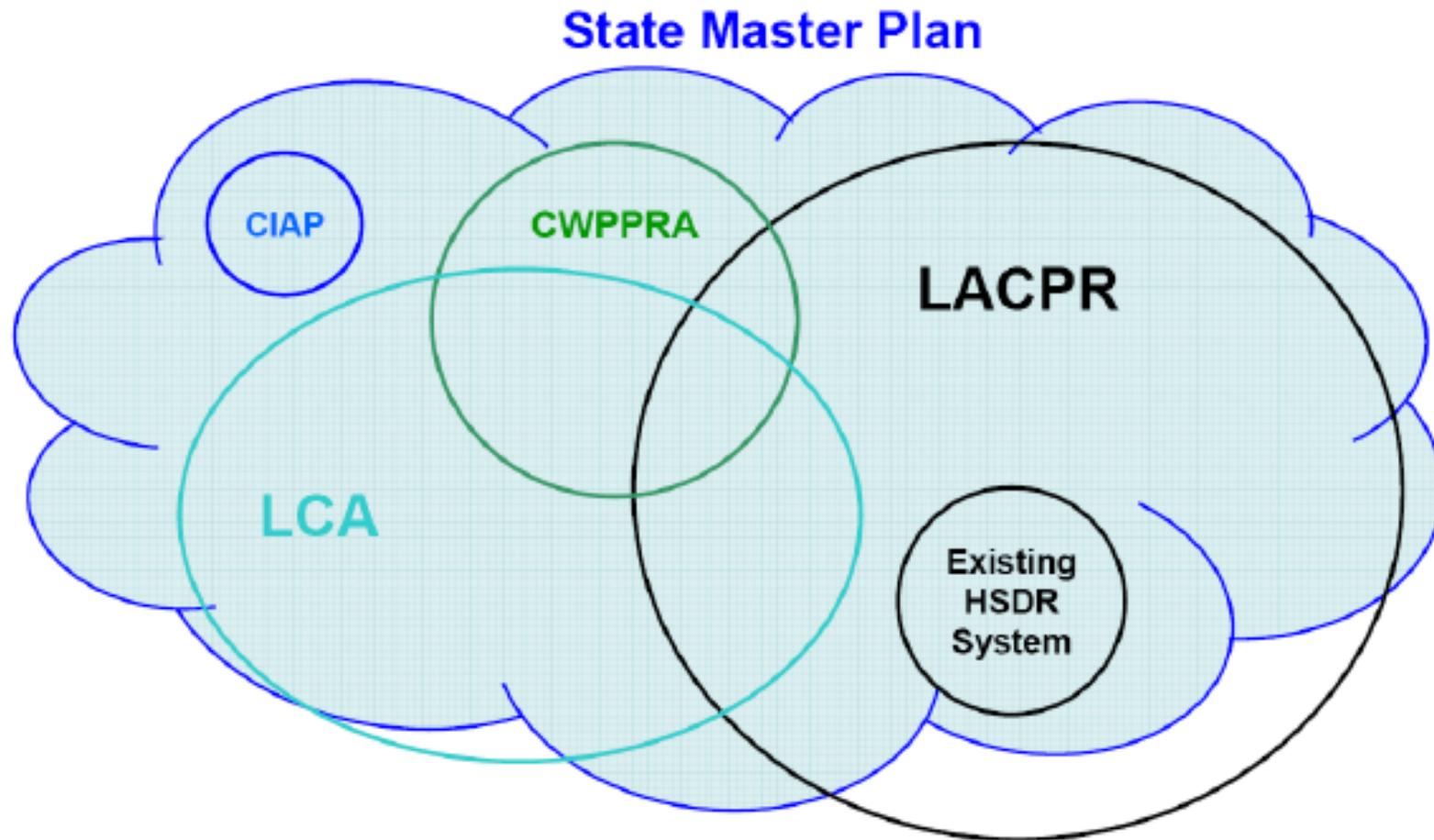


- The State Master Plan:
 - Provides the overarching vision of Louisiana coastal protection and restoration
 - Developed through significant participation by the public, stakeholders' views, and scientific and technical expert input
- LACPR and other Federal/State initiatives will provide a means for delivery of this vision.





Existing Coastal Protection and Restoration Activities





LACPR will...

- Build on State Master Plan by developing a wide array of strategically different alternatives
- Provide greater level of analysis for detailed evaluation and comparison of alternatives
- Address tradeoffs and multiple futures
- Continue process to vet development of alternatives through stakeholders & scientific community

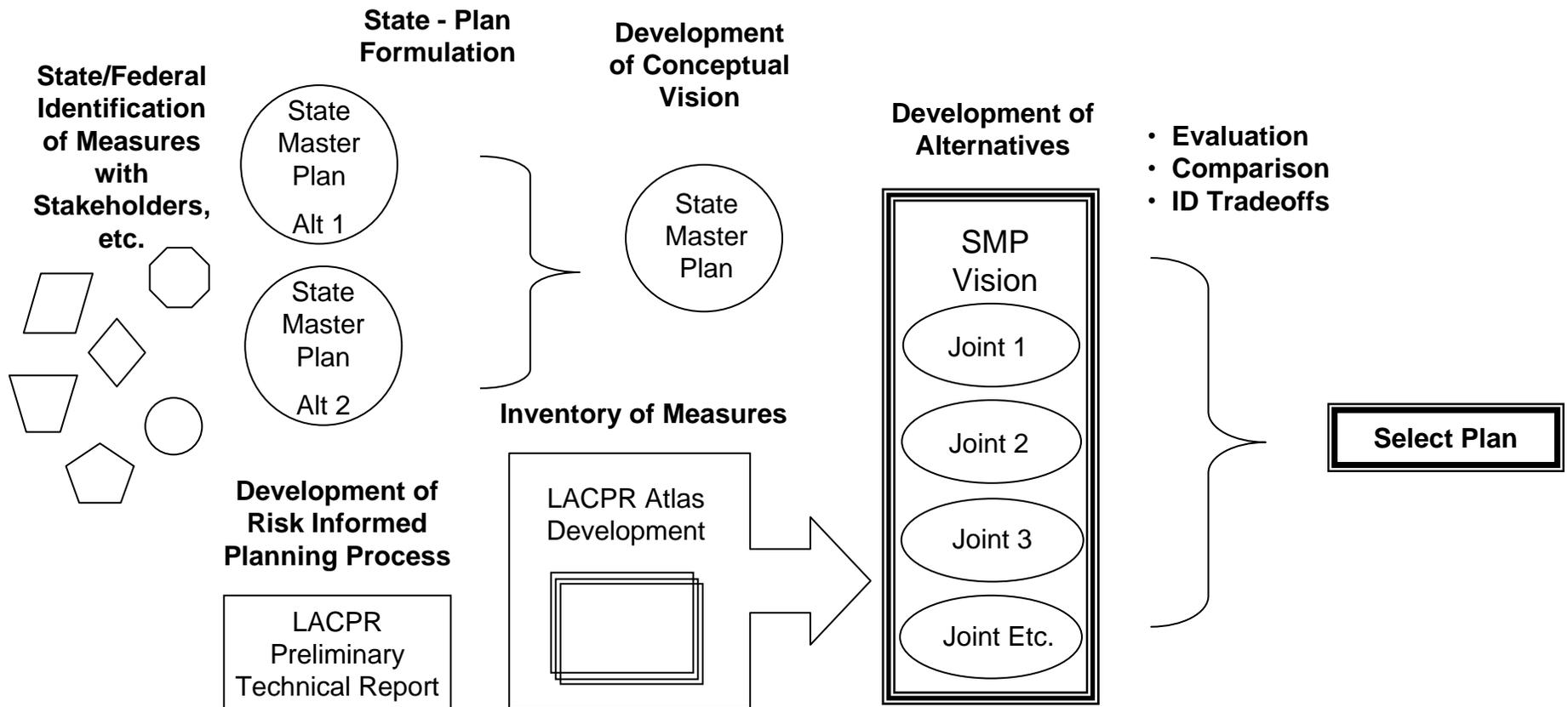


LACPR will...

- Meet Federal reporting requirements, and document plan development decisions
- Support Federal investment decision
- Define Federal level of participation in State's Vision
- Provide actionable report



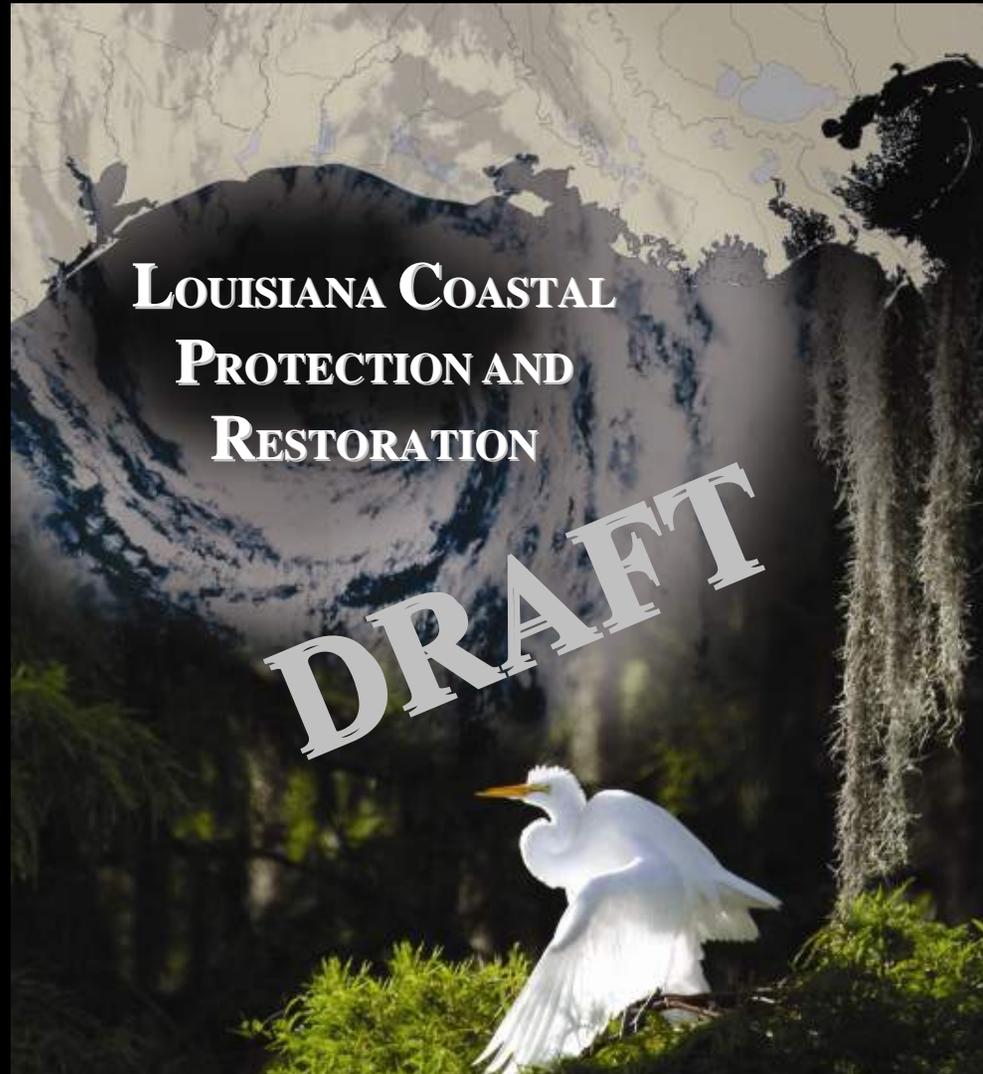
Joint Team Strategy



One Team: Communicating, Collaborating, Consensus



**US Army Corps
of Engineers®**
New Orleans District



LOUISIANA COASTAL PROTECTION AND RESTORATION

DRAFT

PLAN FORMULATION ATLAS

April 16, 2007

One Team: Communicating, Collaborating, Consensus





LACPR Plan Formulation Atlas

What?



- Background information
- Plan formulation considerations
- Inventories coastal protection and restoration measures being considered
 - Sustainable Coastal Landscape Features
 - Nonstructural measures, and
 - Structural measures and alignments.



LACPR Plan Formulation Atlas

What?



- Presents an array of measures identified based on the State Master Plan and extensive joint Federal/State stakeholder involvement efforts
- Summarizes LACPR planning process.



Why?

- The atlas was developed to inventory measures that can be combined to implement the State's vision by:
 - Further development and refinement of the State's range of measures required for Federal support and to assure delivery of an actionable report
 - Cataloguing measures based on partner and stakeholder collaboration.
 - Seeking local preferences and identifying Federal interest to maximize Federal participation.



How?

- The joint Federal/State LACPR planning team, in coordination with stakeholders, non-governmental organizations, resource agencies, scientists and technical experts will:
 - Sort through measures/options identified in the atlas.
 - Identify an array of alternatives to be evaluated.
 - Make comparisons to identify tradeoffs, using a risk-informed planning process.



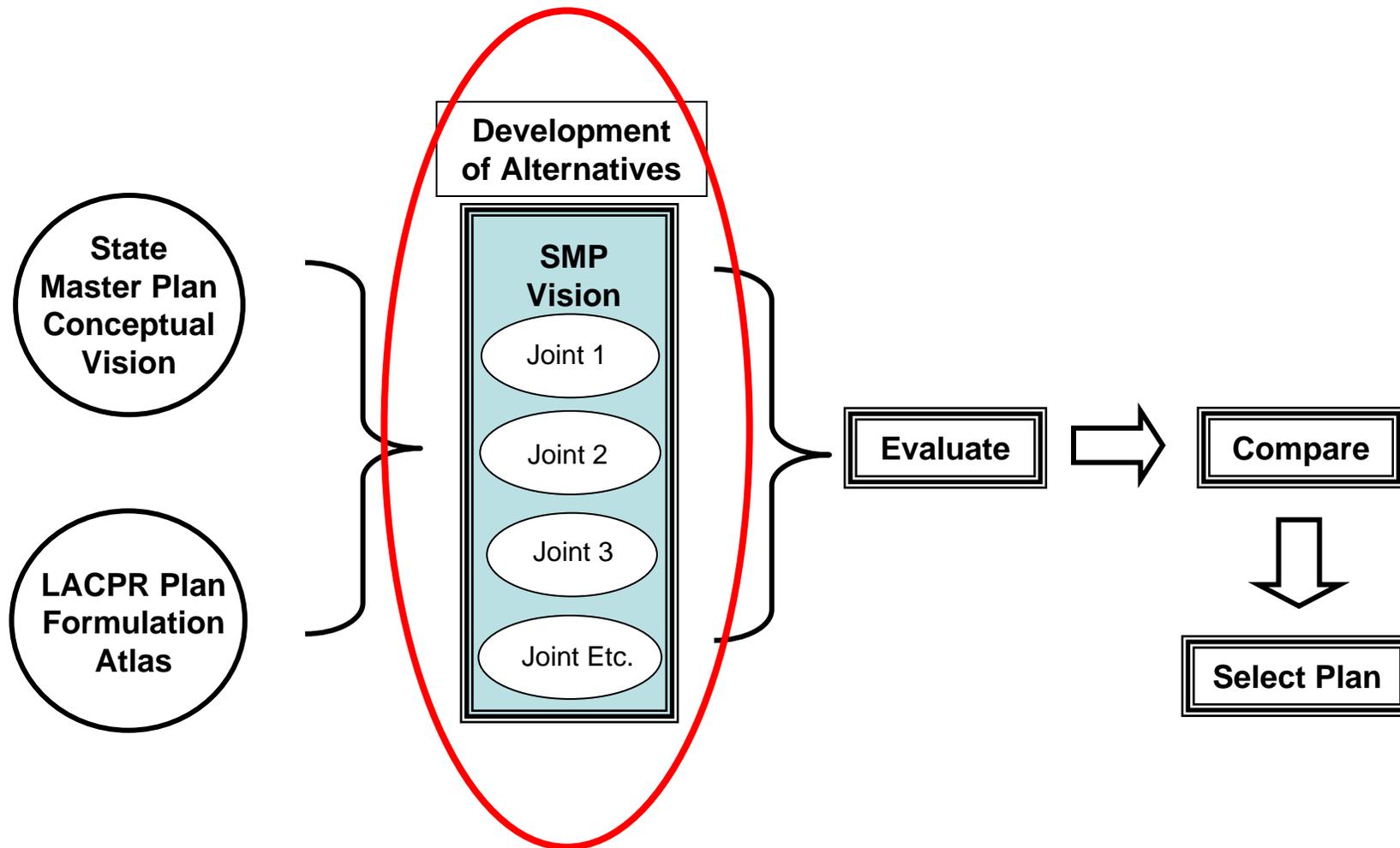
Draft PF Atlas Contents



- Introduction
 - Project area, authority, planning process, coordination, comparison between State Master Plan and LACPR, etc.
- Planning Area and Base Maps
 - PUs, population, existing and baseline conditions
 - Surge/Risk maps (to be developed)
- By Planning Unit
 - Population, coastal features, nonstructural measures, structural alignments
- Hydro-modeling grids
- Summary
 - Considerations by type of measure
 - Miscellaneous measures identified by others



Joint Team Strategy Plan Development



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Development of Alternatives



- Three concurrent plan development-refinement activities ongoing:
 - Sustainable Coastal Landscape Features (Habitat Evaluation Team)
 - Nonstructural measures (Non-Structural Flood Proofing Committee)
 - Structural measures and alignments
- Considerations from each will be integrated to develop array of alternatives for evaluation & comparison

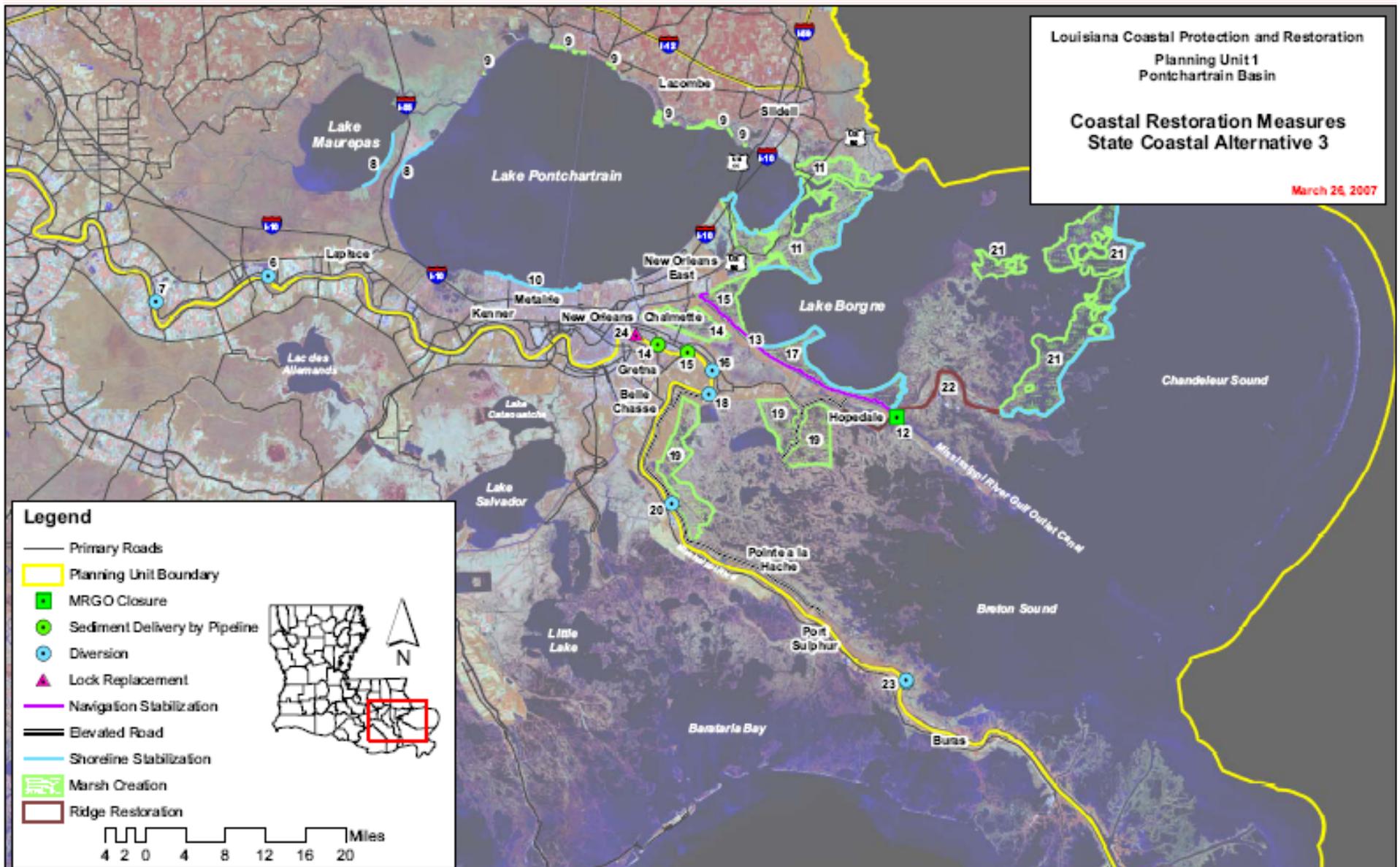


Example Process

Development of Alternatives – PU 1

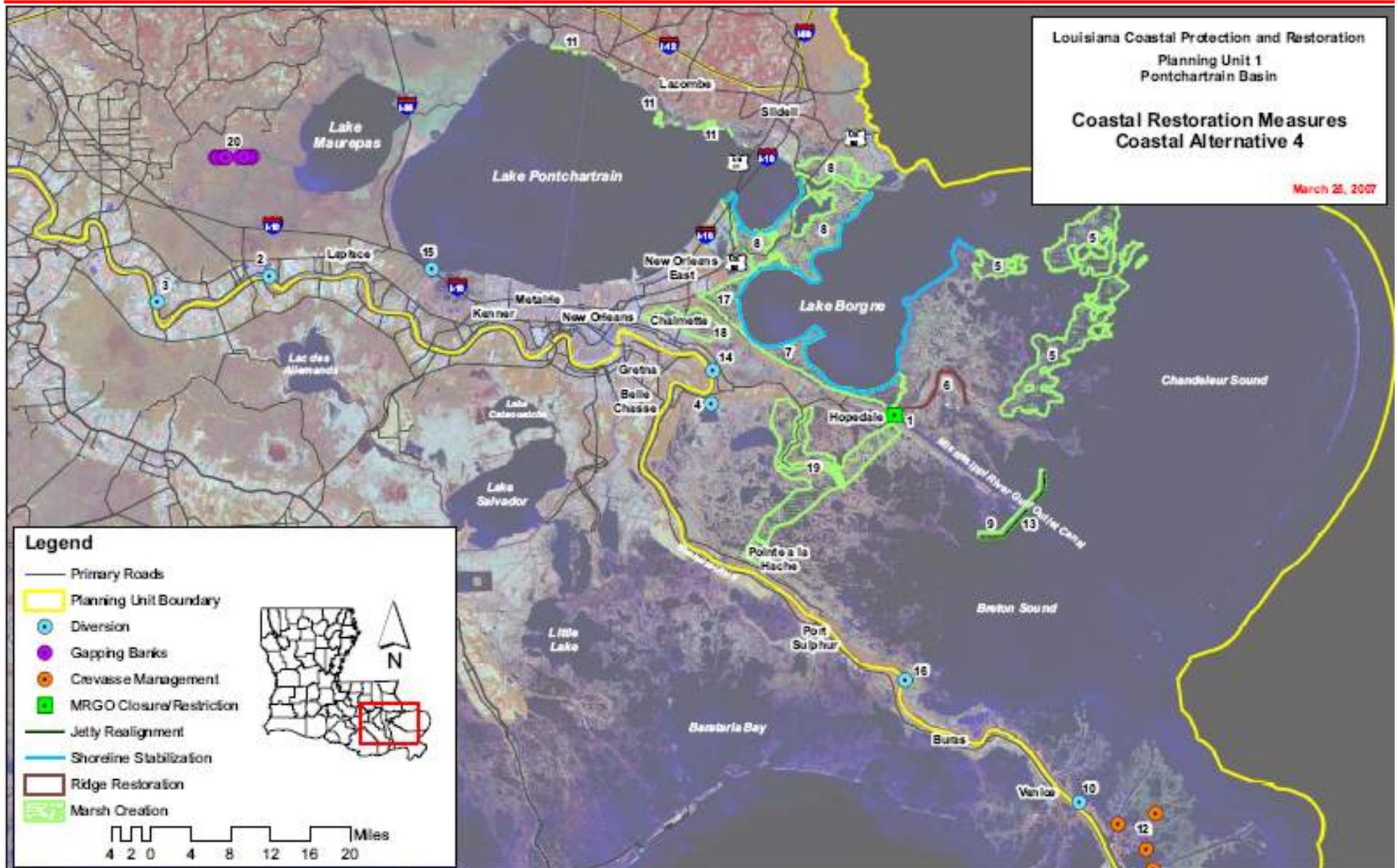


Coastal – State Master Plan





Coastal – HET Alt #4





Comparison – Alt # 4 to SMP



Code On Map	Measure Description	Measure Type	Alt 1	Alt 2	Alt 3
1	Close MRGO at Bayou LaLoutre Ridge	To be determined	X	X	X
2	Diversion at Hope Canal (~1,000 cfs)	Diversion	X	X	X
3	Diversion at Convent/Blind River (~1,000 cfs)	Diversion	X	X	X
4	Modification at Caernarvon Diversion (~200,000cfs in State Plans and ~15,000 cfs in Alt. 4)	Diversion	X	X	X
5	Maintain and restore Biloxi Landbridge and Barrier Reefs—North and South	Marsh Creation/Shoreline Stabilization	X	X	X
6	Restore Bayou LaLoutre Ridge	Ridge Restoration	X	X	X
7	Maintain Lake Borgne Landbridge	Marsh Creation/Shoreline Stabilization	X	X	X
8	Maintain critical marsh shorelines and ridges of the East Orleans landbridge	Marsh Creation/Shoreline Stabilization		X	X
9	Marsh Creation/Protection at MRGO Jetties	Marsh Creation			
10	Benney's Bay Sediment Diversion (~20,000 cfs)	Sediment Diversion	X	X	
11	St. Tammany Marsh Restoration and Shoreline Protection with Dredge Material and Vegetative Planting	Marsh Creation/Shoreline Protection		X	X
12	Maintenance of existing crevasses and construction of new crevasses	Crevasse Management	X	X	
13	MRGO Jetty Realignment	Jetty Realignment			
14	Construct the Violet Freshwater Diversion to Maintain Target Salinity in LA and MS (~1,000 cfs in State Alt.2 and ~15,000 cfs in Alt. 4)	Diversion		X	X
15	LaBranch/Bonnet Carré Diversion	Diversion			
16	Bayou Lamoque Diversion	Diversion			X
17	Sediment Delivery via Pipe to Golden Triangle	Sediment Delivery via Pipeline/Marsh Creation	X		X
18	Sediment delivery by pipeline @ Central Wetlands (includes the New Orleans Sewerage and Water Board wastewater to wetlands project)	Sediment Delivery via Pipeline/Marsh Creation	X		X
19	Maintain Breton Basin Landbridge	Marsh Creation	X		X
20	Amite Diversion Canal Gapping	Gapping Banks	X	X	



Coastal Landscape Model Grids



East Grid Planning
Units 1, 2, 3a

West Grid Planning
Units 3a, 3b, 4

- Baseline Conditions
(Existing Landscape)
- Degraded Landscape
Year 2050
- Improved Landscape
(Coastal Alt 4)





Example Process



Development of Alternatives – PU 1

- Coastal Landscape Features
 - State Alt #3 and HET Alt #4 - **Refinements**
 - Multi-criteria assessment to prioritize/rank coastal features
 - Assessment of relative constraints of water and sediment resources
 - Develop 4 strategies (combinations) based on resource constraints
 - Through MCDA process – select 1 coastal alternative to combine w/multiple structural and non-structural alternatives
 - Hydro modeling - **Refinements / Tradeoffs**



Non-Structural Measures



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Non-Structural Concepts

Universal Application



- Collaboration with local, State and Federal Agencies
- Incentive programs
- Technical Assistance/information workshops on implementation of non-structural measures
- Ringwalls/berms surrounding private property
- Flood proofing Critical Facilities/Economic Assets



Non-Structural Measures – PU1



- Buyouts in areas of deep flooding $> 13/15$ ft
- Raise-in-Place in areas of flooding $< \text{or} = 13/15$ ft
- Ringwalls/Berms
- Wet- and Dry- Flood proof for shallow, low velocity flooding
- Relocation to flood-free sites
- Cluster structures in flood free areas



Example Process

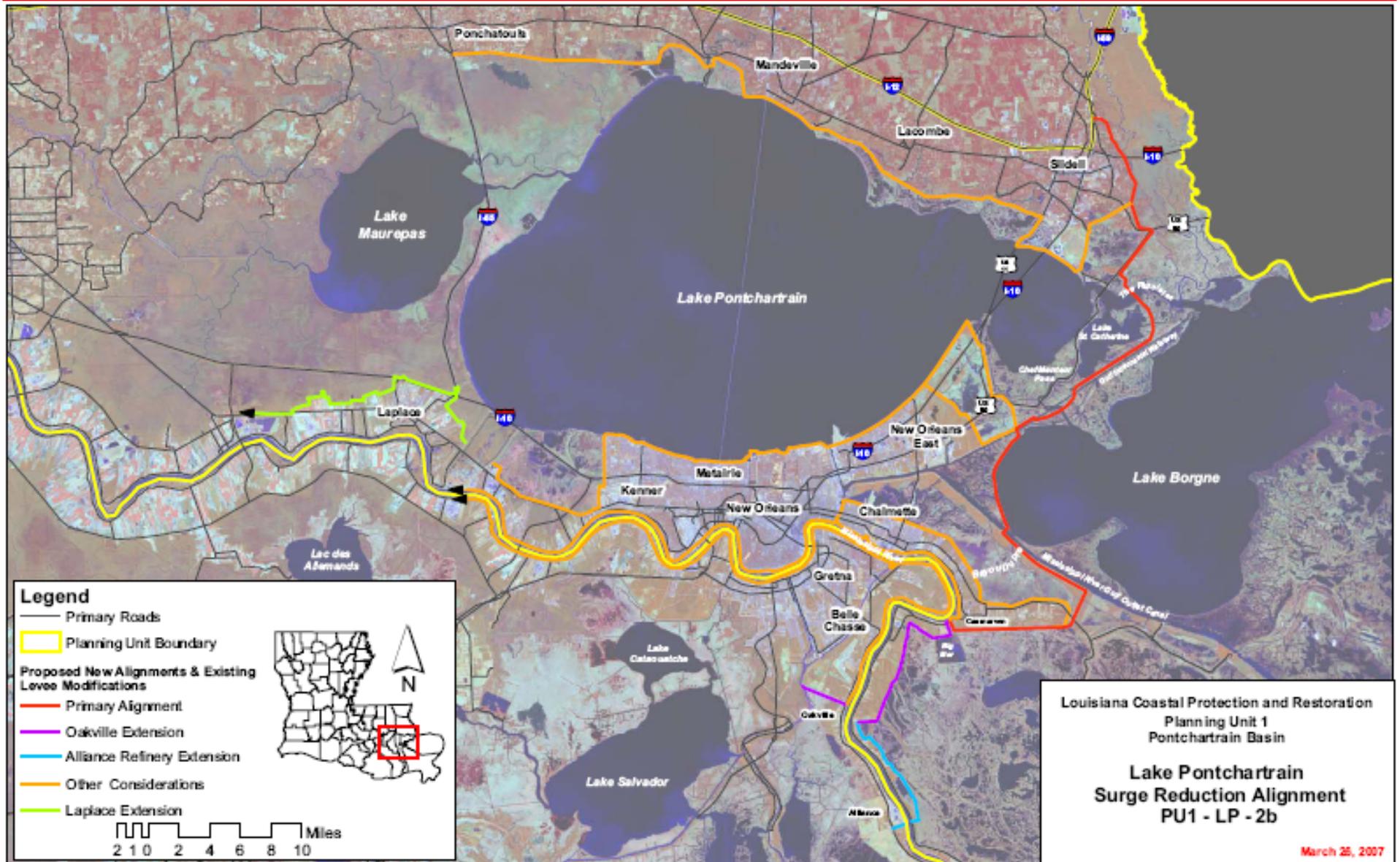
Development of Alternatives – PU 1



- Non-Structural
 - **Refinement / Tradeoffs**
 - Formulate plans based on decision criteria
 - Identify pilot/demonstration projects where nonstructural measures can be implemented in near term
 - Cost Estimates - Huntington District support

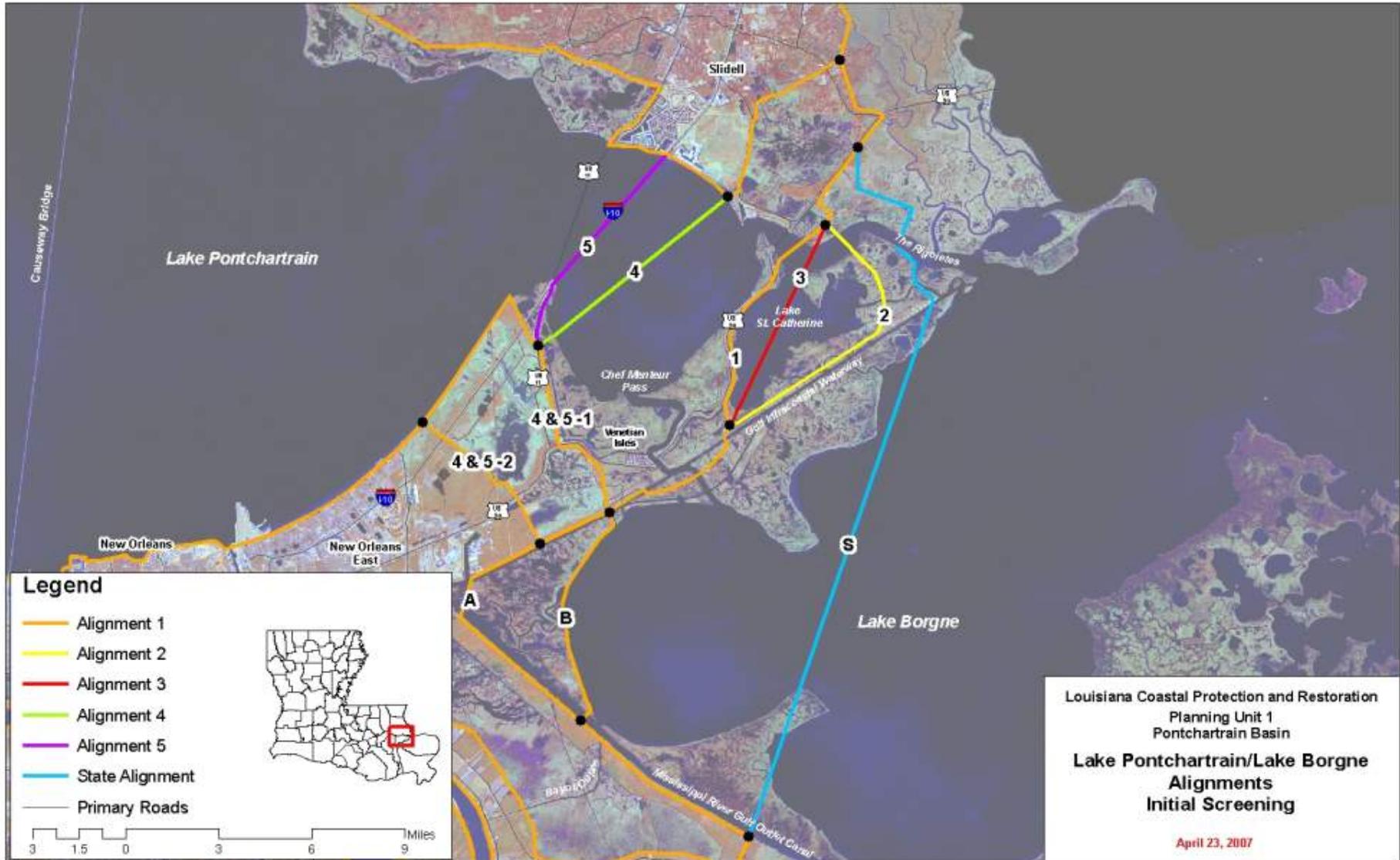


Surge Reduction Alignment PU1-LP-2b



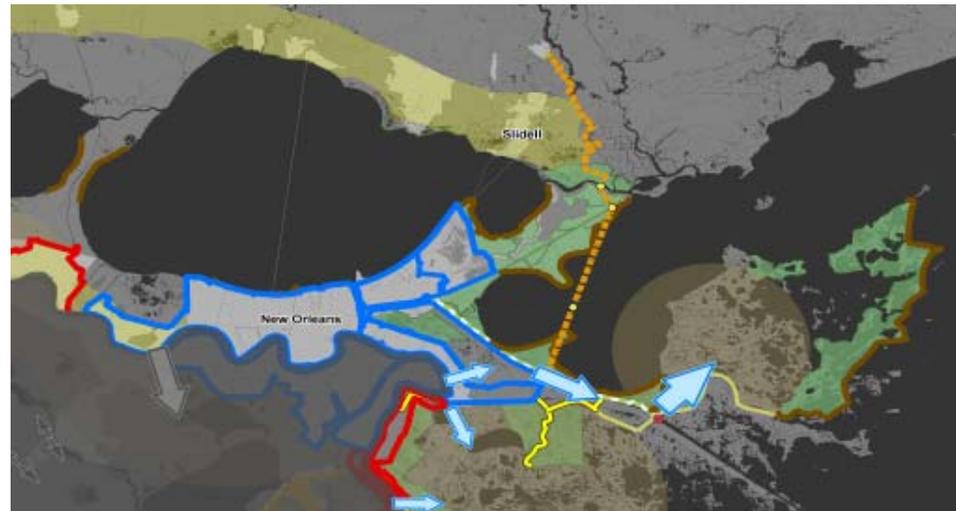


Surge Reduction Alignments



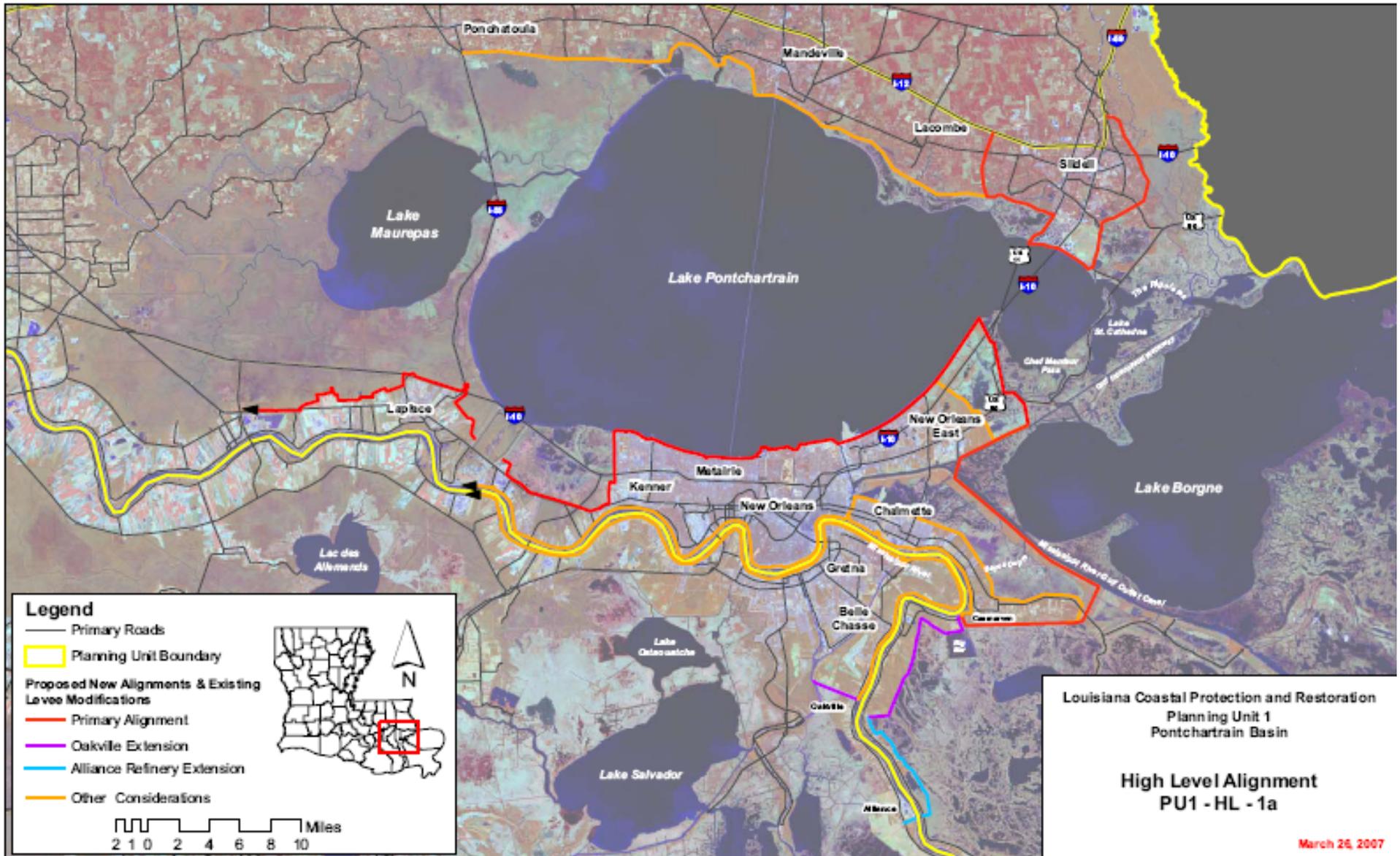


State Master Plan Alignments PU-1





High Level Alignment PU1-HL-1a





Example Process

Development of Alternatives – PU 1



- Structural Measures and Alignments
 - 6 Surge Barrier Alignments - **Refinement**
 - Open / Closed Tidal Passes
 - Non-overtopping Structure/ Weir Structure
 - 3 Golden Triangle Alignments - **Refinement**
 - 2 Primary Alignments (Surge Reduction vs. High Level) - **Tradeoff Analysis**



Comprehensive Alternatives



- Combine measures to develop strategically different alternatives (*e.g., refined State Master Plan, non-structural/coastal features alternative; CAT “5” alternative; environmental preferred alternative*)
- Evaluate based on defined metrics
- Evaluate based on multiple future w/o project conditions
- Compare (MCDA or Cost Effective Analysis)



What's Next?



- Refine the State Master Plan through a greater level of analysis
- Develop array of comprehensive protection and restoration alternatives for detailed evaluation, comparison, and tradeoff analysis
- Meet Federal reporting requirements
- Identify Federal Interest
- Support/justify Federal Investment
- Provide for development of an actionable report



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