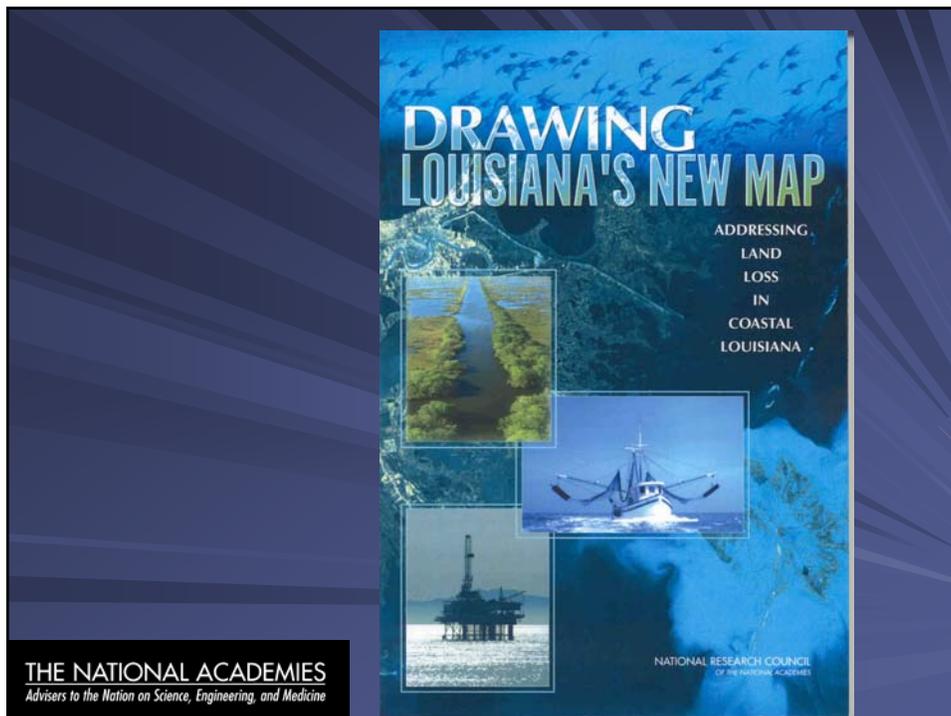


Drawing Coastal Louisiana's New Map

A report of the National Academies

Committee On the
Restoration and Protection of Coastal Louisiana

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The LCA Study

- Evolved From Coast 2050 (1998; 30 Years; \$ 13 Billion), and
- Ecosystem Restoration: Comprehensive Coastwide Ecosystem Restoration Study (Draft, 2003)

- LCA Plan (Nov. 2004):
 - 10 Years
 - \$ 2 Billion

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LCA STUDY

The overall goal of the *Louisiana Coastal Area (LCA), Louisiana—Ecosystem Restoration Study* is to:

“reverse the current trend of degradation of the coastal ecosystem”

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LCA STUDY (continued)

The activities identified in the LCA Study fall into three major categories:

- Construction of five restoration features
- Knowledge base development (S&T Program; Demonstration Projects; Adaptive Engineering and Management; and Beneficial Uses of Dredged Material)
- Series of additional feasibility studies

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STATEMENT OF TASK

This study will evaluate the near-term plan for the restoration of coastal Louisiana (released by the U.S. Army Corps of Engineers as the Draft Louisiana Coastal Area [LCA], Louisiana—Ecosystem Restoration Study in July 2004). Specifically, the committee will address the following questions:

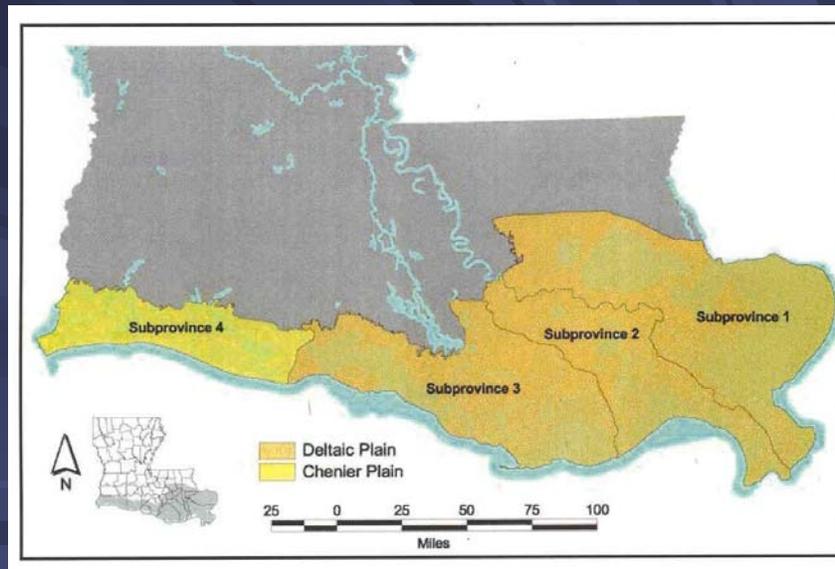
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STATEMENT OF TASK (continued)

- Strategies sound and appropriate?
- What major questions need to be answered to support implementation of the LCA Study? Are the proposed Science and Technology, Demonstration Project, and Adaptive Management programs appropriately structured to fill these information gaps?
- Contributions of LCA Plan to national and state economies?
- Is phased approach appropriate?

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The Four Subprovinces



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INFLUENCE of HURRICANES KATRINA AND RITA

The report was essentially complete, conclusions stand, only the context has truly changed—greater urgency being felt

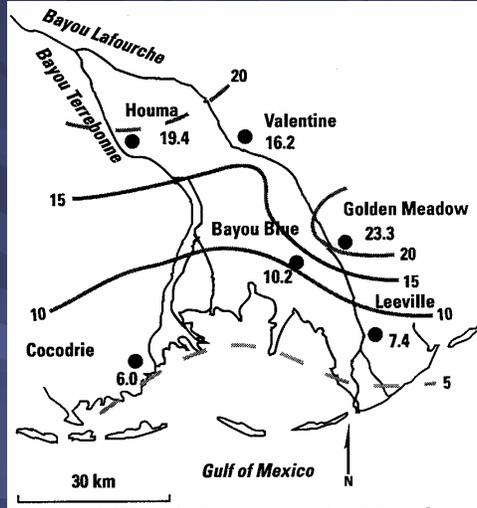
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The Bottom Line

The LCA Study should move forward (except MRGO) but only in conjunction with development of a comprehensive plan that addresses shortcomings identified in this report.

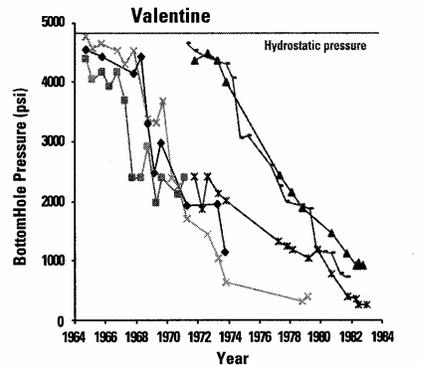
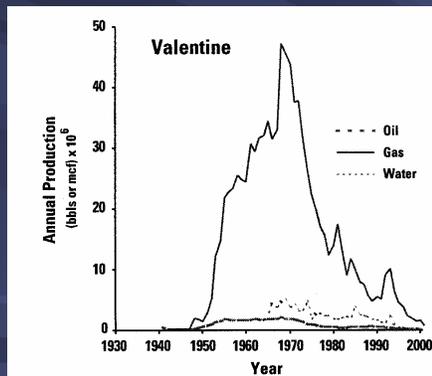
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Subsidence Rates (mm/year) Penland, et al (1988)



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Production and Bottom Hole Pressures, Valentine Field (Morton, et al 2002)

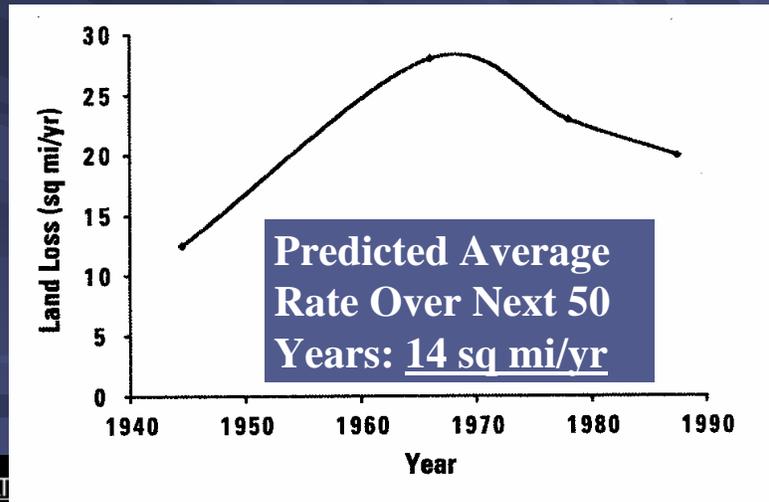


Oil, Gas, and Water Production
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Bottom Hole Pressures

Land Loss Rates (From Britsch and Dunbar, 1993)



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FINDINGS

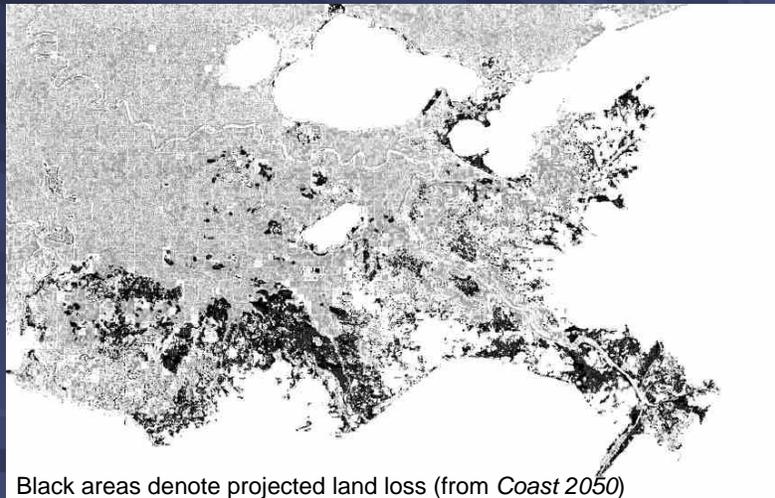
- The LCA Study Is Multifaceted – Much More than an Engineering Project, Involves Economic, Environmental, Cultural, and Social Dimensions.
- Should Emphasize Bolder, Longer Term Projects With Greater Capability to Deliver Large Quantities of Sediments Efficiently ...Constrained by Need to Bring to Construction in 10 Years
- Under-recognized the Role of Stakeholders in Limiting Options

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- Where are we going?
- How should the MAP OF COASTAL LOUISIANA look in 2050?

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LOUISIANA IN 2050 WITHOUT INTERVENTION



Black areas denote projected land loss (from *Coast 2050*)

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RECOMMENDATION

Draw new map with heavy stakeholder participation. It should reflect conscious decisions about:

- the distribution of natural and agricultural resources (e.g., fisheries, croplands),
- which infrastructure should be protected (urban areas, oil and gas terminals), and
- where and what types of human habitation are desirable.

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FINDINGS AND RECOMMENDATIONS

- Comprehensive plan called for will differ from LCA Study in significant ways.
- Near-term decisions will probably focus on what is to be kept and what should be changed from both the LCA Study and the draft LCA Comprehensive Study.
- Develop a comprehensive master restoration plan that shows how to get there.
- Integrate levee construction and wetland restoration

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RECOMMENDATION

Some actions proposed in the LCA Study are reasonable and should move ahead (with modification).

- 5 projects
- Science and Technology Program (S&T Program)
- Demonstration Projects
- Adaptive Engineering and Management

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THE FIVE PROJECTS

- MRGO environmental restoration features
- Small diversion at Hope Canal
- Barataria Basin barrier shoreline restoration
- Small Bayou Lafourche reintroduction
- Medium diversion with dedicated dredging at Myrtle Grove

Given lack of clear endpoint, these are probably a reasonable place to start (except MRGO restoration features).

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OTHER ELEMENTS OF THE LCA STUDY

- S&T Program—Includes efforts needed to support development of a comprehensive plan and more complex projects and will provide essential information for the trade offs.
- Demonstration Projects—In addition to providing proof of concept, they should be seen as opportunity to demonstrate synergistic effects.
- AEAM—Provides conduit for information gained through S&T Program, Demonstration Projects, and experience.

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To request a copy of OSB report,
contact
Jodi Bostrom at
jbostrom@nas.edu

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The Three Questions Posed by EPA Science Board

Question 1:

Provide an overview of planned U. S. Army Corps of Engineers coastal restoration activities in Louisiana, such as diversion of river flow through marshes, which might have an impact on the Gulf of Mexico.

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The Three Questions Posed by EPA Science Board

Question 1:

Provide an overview of planned U. S. Army Corps of Engineers coastal restoration activities in Louisiana, such as diversion of river flow through marshes, which might have an impact on the Gulf of Mexico.

At the present time, plans are in a state of flux, both at the state and federal levels. The good news is that at all levels, the approach is to recognize the role of wetlands in reduction of storm effects and to integrate wetland restoration with repair and upgrade of levees.

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The Three Questions Posed by EPA Science Board

Question 2:

Comment on the findings of the National Research Council Ocean Studies Board concerning proposed coastal restoration activities in Louisiana that might have an impact on hypoxia in the Gulf of Mexico.

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The Three Questions Posed by EPA Science Board

Question 2:

Comment on the findings of the National Research Council Ocean Studies Board concerning proposed coastal restoration activities in Louisiana that might have an impact on hypoxia in the Gulf of Mexico.

If efforts are successful in arresting or reversing wetland losses and if the Mississippi River water is routed routinely through these wetlands, the hypoxia will be reduced.

How much reduction is impossible to determine.

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The Three Questions Posed by EPA Science Board

Question 3:

Is the Corps of Engineers giving serious consideration to the idea of a major diversion between New Orleans and Head of Passes? If so, what do you consider to be the likely impact on hypoxia on the shelf?

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The Three Questions Posed by EPA Science Board

Question 3:

Is the Corps of Engineers giving serious consideration to the idea of a major diversion between New Orleans and Head of Passes? If so, what do you consider to be the likely impact on hypoxia on the shelf?

The trend seems to be away from serious consideration of a large scale diversion of the Mississippi River. This appears to be in recognition of the (very real) concerns of losing Stakeholder support.

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QUESTIONS?

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