

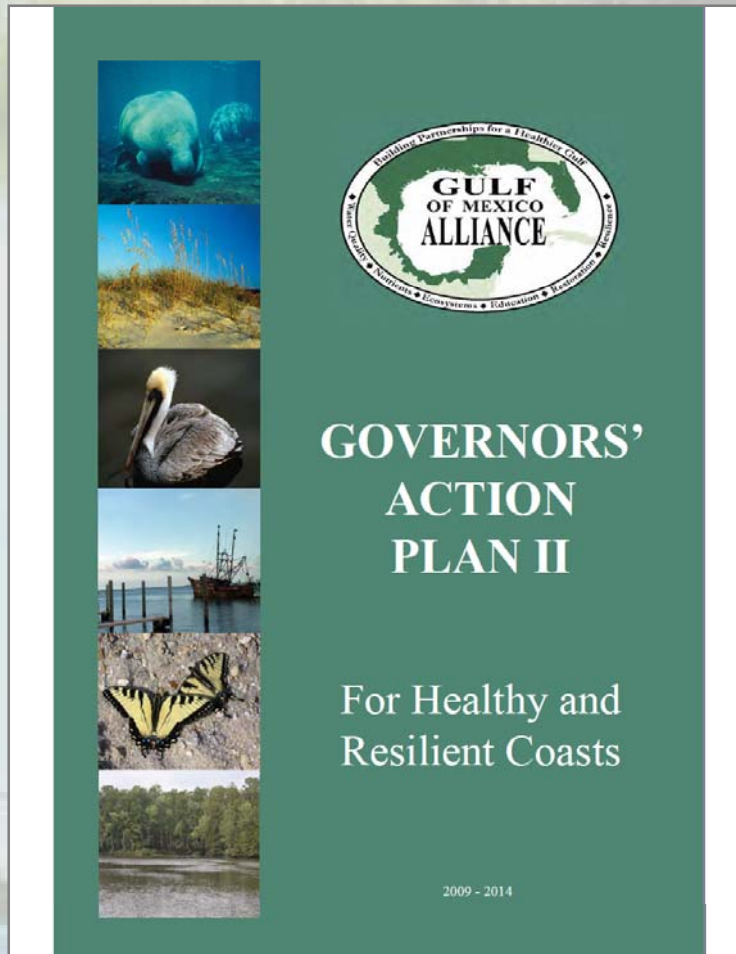
CNREP 2010  
New Orleans, LA

# **Towards a Resilient Coast and Resilient Communities**

Michèle Deshotels  
225.342.3051  
[michele.deshotels@la.gov](mailto:michele.deshotels@la.gov)

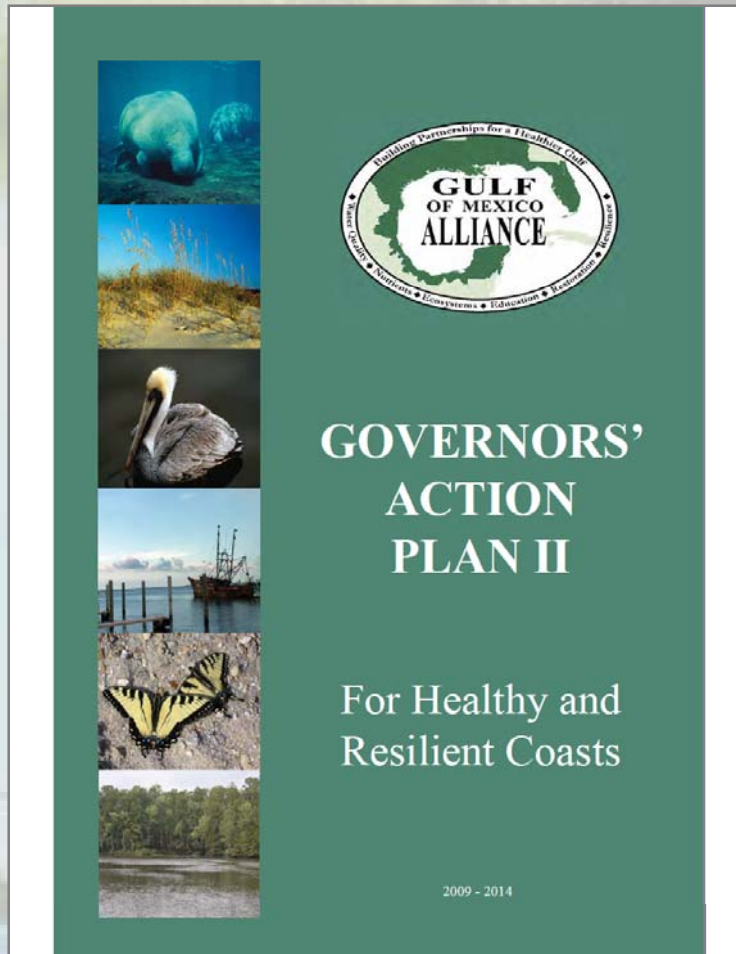


# What is Resiliency?

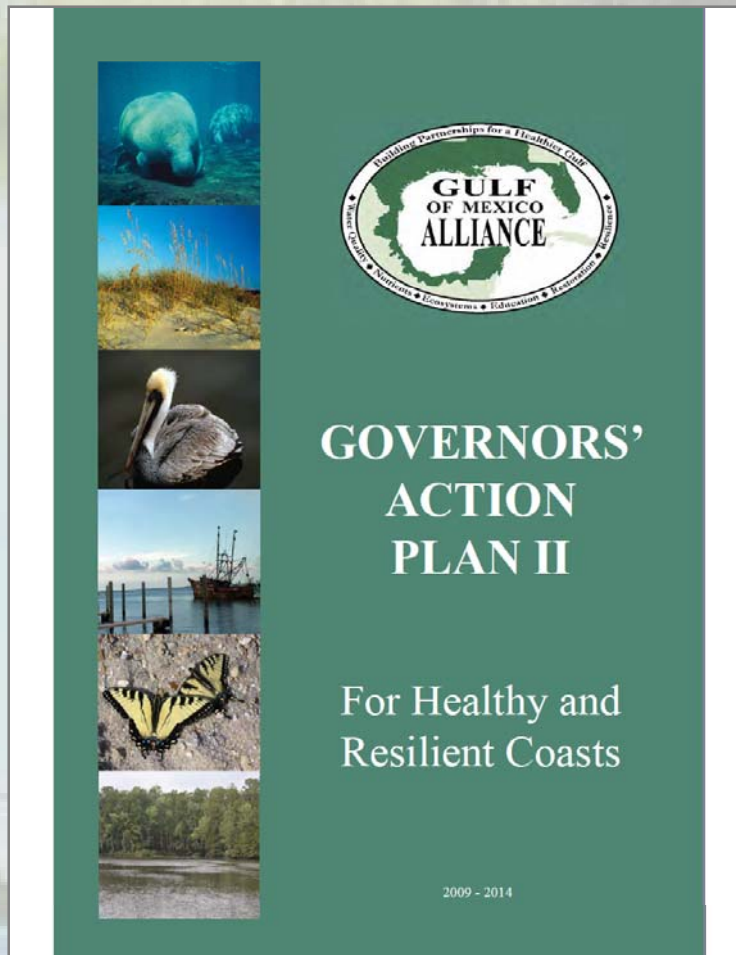


*“Resiliency is the capacity of human and natural/physical systems to adapt to and recover from change.”*

# Why?

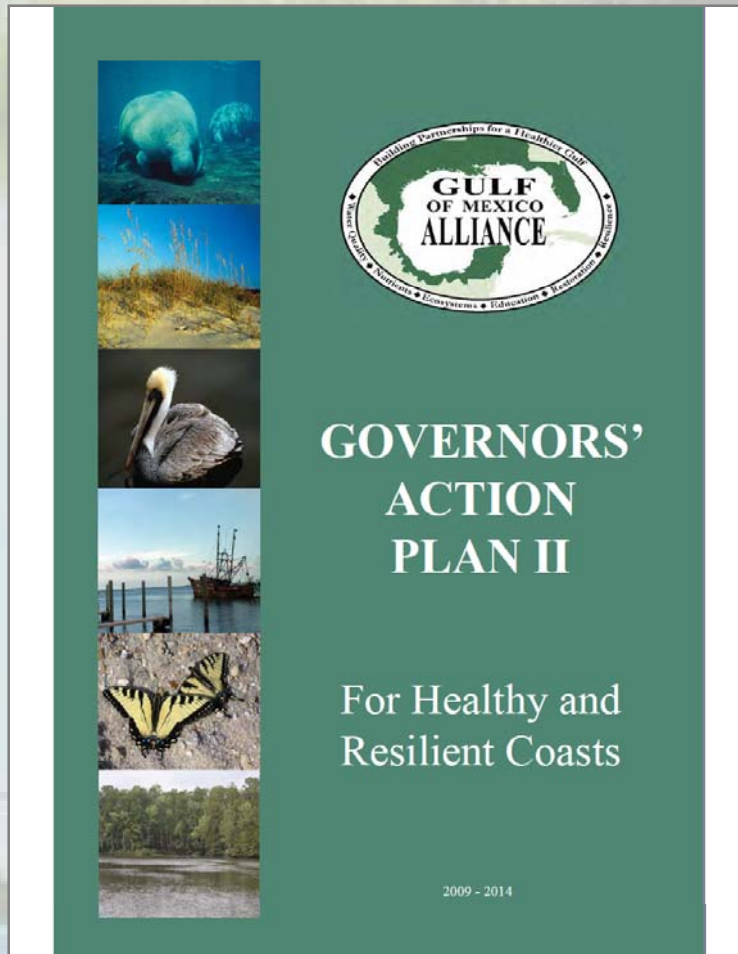


*“To continue to enjoy living and receiving the benefits these coastal areas have to offer, there is a need to make the natural, built, and social environments more resilient.”*



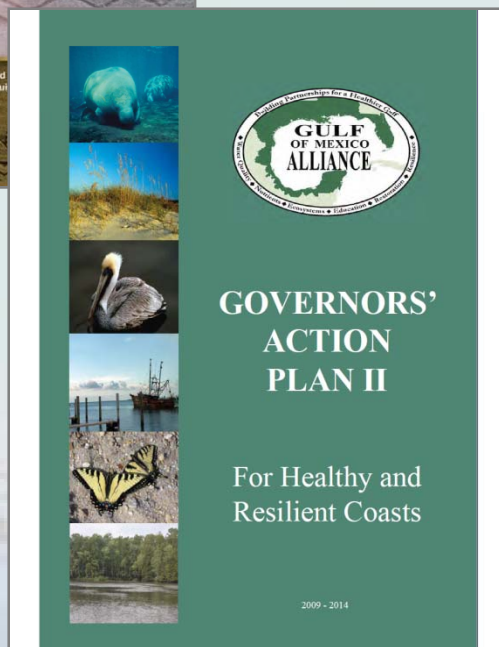
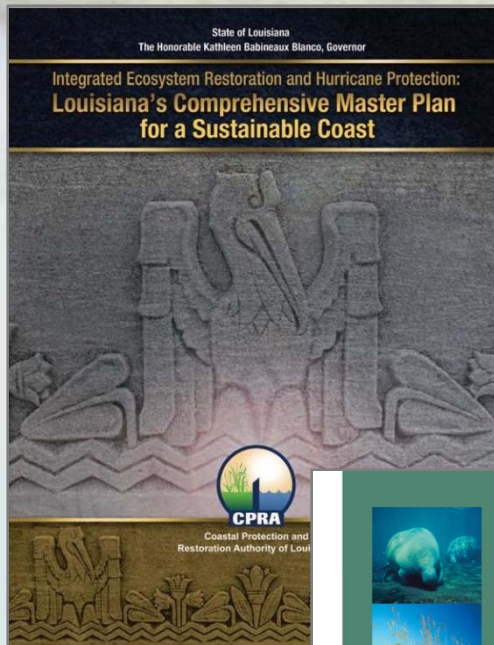
*“Building resiliency is an economic imperative for the Gulf region---individuals, businesses, communities, and ecosystems all need to be more resilient in order to sustain and grow the region’s economic prosperity.”*

# How?



*“Enhancing resilience requires adjustments to day-to-day living, as well as adjustments to processes of long-term settlement and development of coastal areas.”*





*"Louisiana's Comprehensive Master Plan for a Sustainable Coast captures this need for change, stating that '...wiser land use practices must govern the way we live in this dynamic landscape if we are to create safe communities that thrive over the long-term.'"*

State of Louisiana  
The Honorable Kathleen Babineaux Blanco, Governor

Integrated Ecosystem Restoration and Hurricane Protection:  
**Louisiana's Comprehensive Master Plan  
for a Sustainable Coast**



Coastal Protection and  
Restoration Authority of Louisiana

# Master Plan Recommendation

An adaptive management strategy underlies every aspect of what the program will accomplish in the coming years. This strategy uses a science and performance based process for assessing how the plan and its projects need to change over time so that the best available practices are consistently used. The use of adaptive management also presupposes strong engagement from citizens and other affected constituencies. Such engagement involves enhanced dialogue with a range of stakeholders, including landowners, fishers, and the navigation community, as well as scientific, engineering, and other technical experts.

We must also resolve important challenges, from scientific and technical uncertainties to institutional constraints. For example, we need better models so that we may better assess how to balance the many interests involved as we build flood protection systems, create marsh, and use multiple river diversions in the same estuarine basin. Changes in laws and policies are also needed to ensure successful implementation of the plan.

## Plan Recommendations for Removing Institutional Constraints

- Increase awareness and use of non-structural protection measures
- Improve land use planning, zoning, and permitting
- Develop fair and equitable processes for acquiring surface land rights
- Foster the sustainability of coastal forests
- Obtain dedicated funding for coastal protection and restoration
- Address challenges at the federal level

*“Improve land use planning, zoning, and permitting”*



Our Voice. Our Plan. Our Future.

# Louisiana Speaks Regional Plan

Vision and Strategies  
for Recovery and Growth  
in South Louisiana

May 2007



Louisiana Speaks is the long-term  
community planning initiative of the LRA

# Louisiana Speaks Recommendation



**Grow Smarter**  
Strategies to Develop and Invest Smarter

and land-classification efforts. At a minimum, the Index would address natural hazards, level of existing and planned transportation and utility infrastructure, and identified reinvestment need. The Index would provide a "one-stop" guide for state and local governments in locating infrastructure and permitting development. Local governments could also use the Index as a starting point for developing Comprehensive Plans and zoning codes.

**2.3 Develop Model Codes for Community Development.** Create model development and zoning codes for safe, walkable communities that address building massing and density, block standards, buffers, street design, parking, and fire and public-safety standards. Tailor these codes to the conditions of Louisiana, including addressing reinvestment in existing communities and development in coastal environments. These codes would be keyed to the Louisiana Location Index described above and would comprise a free resource for local land-use planning and regulation

**2.4 Require Permits for Development in Designated High-Risk Areas.** Require state permits for proposed private development and public projects in locations designated as high-risk areas by the Louisiana Location Index. This review would be coordinated with the existing CZM program of the DNR, and enhanced or augmented as appropriate (See "Grow Smarter," Action 1.6).

**2.5 Coordinate Planning for Large Economic Development Projects.** Major economic development projects and potential sites should be identified and planned cooperatively by LED and local and regional economic developers, with technical assistance from a State Planning Office (see "Think Regionally," Action 2.2) to ensure that adequate infrastructure capacity is either in place or can be put in place, and to plan for mitigation of environmental, stormwater, sewer, traffic, and other impacts.

**2.6 Build "Greener."** Educate developers, builders, the public, and local governments on the value of environmentally sustainable ("green") construction—including lower lifetime costs. Adopt, by legislation or executive order, a requirement that all new state buildings be built to LEED or other green standards, and encourage local governments and the private sector to do the same. Provide tax incentives for green construction. Use the *Louisiana Speaks Pattern Book* and *Planning Toolkit* as educational resources and introductions to green building techniques.



WWW.LOUISIANASPEAKS.ORG

64

- *“Develop Model Codes for Community Development”*
- *“Tailor these codes to the conditions of Louisiana, including addressing reinvestment in existing communities and development in coastal environments.”*

# State Recognizes Local Land Use Planning is Critical

- Essential first step to addressing community resiliency and sustainability



- Essential to support economic development



# Challenges for Parishes and Municipalities

- Staffing constraints
- Time-consuming
- Expensive
- Requires extensive public involvement

# Land Use Toolkit

## LOUISIANA LAND USE TOOLKIT



Beta 1.1  
4/13/2009





# Land Use Toolkit



- Natural resources ordinance component
- Natural hazards ordinance component



# Louisiana's Challenge

- Land use planning best practices need to be evaluated in the context of Louisiana's landscape and geography
- Need to take into account Louisiana's unique culture and heritage

# Landscape

- *The Mississippi River has the third largest drainage basin in the world, exceeded in size only by the watersheds of the Amazon and Congo Rivers.*
- *It drains 41 percent of the 48 contiguous states of the United States.*
- *The basin covers more than 1,245,000 square miles, and includes all or parts of 31 states and two Canadian provinces.*
- *Waters from as far east as New York and as far west as Montana contribute to flows in the lower river.*



Graphic courtesy USACE

From the U.S. Army Corps of Engineers  
<http://www.mvn.usace.army.mil/bcarre/missdrainage.asp>



## 1. Introduction

Louisiana coastal resources not only provide habitat for fish and wildlife, but also support:

- Five of the top 15 ports by cargo volume in the U.S.
- Largest bulk cargo port complex in the world.
- Highest production of domestic oil in the U.S.
- Greatest natural gas processing capacity in the U.S.
- Highest production of oysters, blue crabs, crawfish, and shrimp in the U.S.



Source: NASA

We live on the largest  
delta system in  
North America



# SMART GROWTH

## GUIDELINES FOR SUSTAINABLE



## DESIGN & DEVELOPMENT

A PROJECT OF THE U.S. ENVIRONMENTAL PROTECTION AGENCY  
SMART GROWTH IMPLEMENTATION ASSISTANCE PROGRAM &

THE CONNECTICUT CAPITOL REGION COUNCIL OF GOVERNMENTS

NOVEMBER 2009

JONATHAN ROSE COMPANIES LLC  
WALLACE ROBERTS AND TODD

November 2009



## PROSPEROUS SMART GROWTH LOCATIONS

### OBJECTIVES

### GUIDELINES

#### NATURAL RESOURCES PRESERVATION

Preserve and protect farmland, natural resources and habitat

Locate the development on a site that does not have:

- Wetlands, water bodies or land within 100 feet of these areas
- Prime agricultural soils
- Unique or prime forest soils
- Threatened or endangered species habitat
- Aquifer recharge areas

#### ENVIRONMENTALLY SENSITIVE AREAS PROTECTION

Protect environmentally sensitive areas

Locate the development on land that does not have:

- Steep slopes greater than 15%
- 100-year floodplains
- Highly erodible soils

Enhance and protect the ecology of natural systems

Establish a mandatory no-development buffer at wetlands, floodplains, lakes, rivers, and estuaries

***Smart Growth Guidelines for Sustainable Design and Development***  
EPA and Connecticut Capitol Region Council of Governments  
November, 2009.

## PROSPEROUS SMART GROWTH LOCATIONS

### OBJECTIVES

### GUIDELINES

#### NATURAL RESOURCES PRESERVATION

Preserve and protect farmland, natural resources and habitat

- **Locate the development on a site that does not have:**
- Wetlands, water bodies or land within 100 feet of these areas
  - **Prime agricultural soils**
  - Unique or prime forest soils
  - Threatened or endangered species habitat
  - Aquifer recharge areas

#### ENVIRONMENTALLY SENSITIVE AREAS PROTECTION

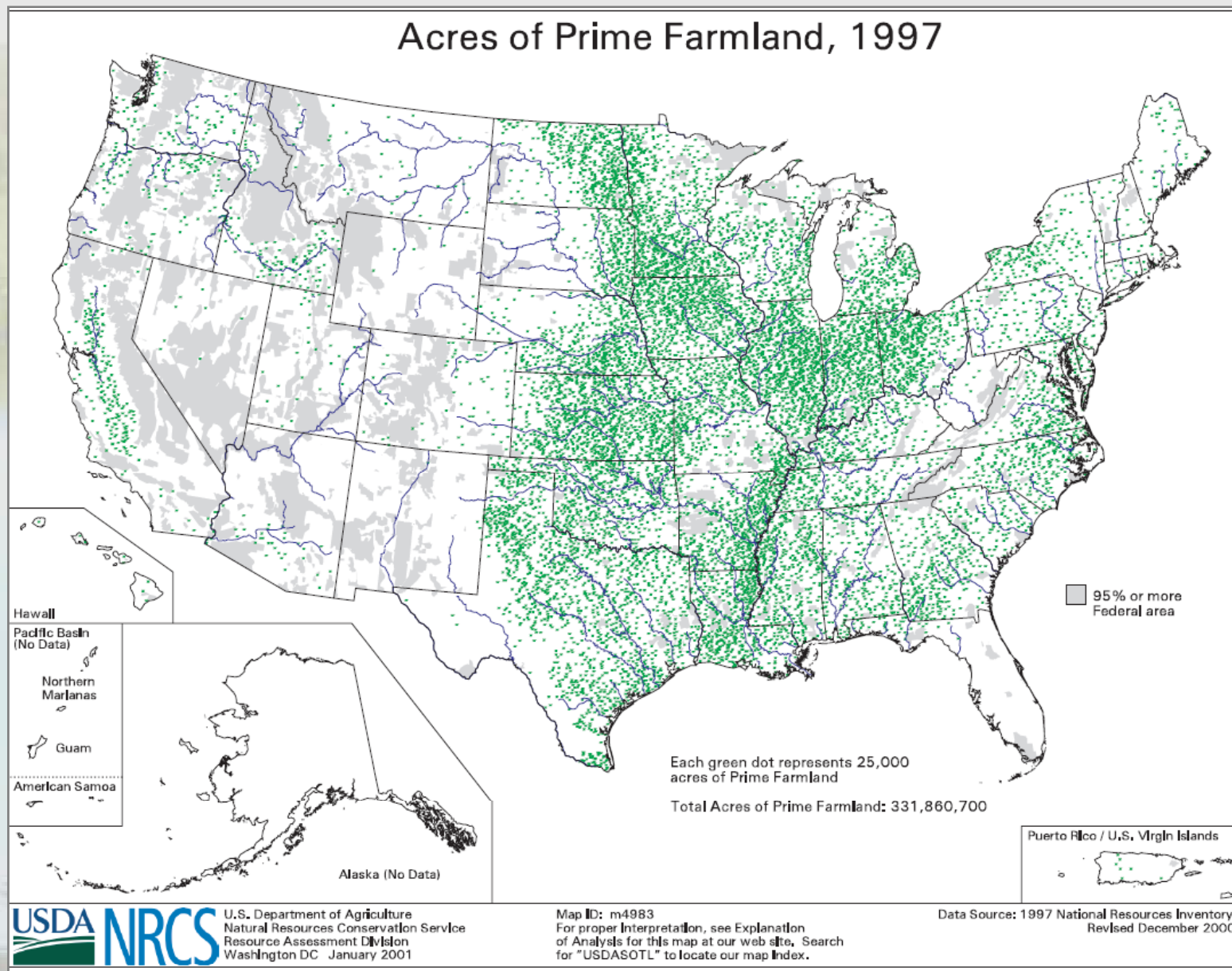
Protect environmentally sensitive areas

- Locate the development on land that does not have:
- Steep slopes greater than 15%
  - 100-year floodplains
  - Highly erodible soils

Enhance and protect the ecology of natural systems

Establish a mandatory no-development buffer at wetlands, floodplains, lakes, rivers, and estuaries

***Smart Growth Guidelines for Sustainable Design and Development***  
EPA and Connecticut Capitol Region Council of Governments  
November, 2009.



### Prime Farmland 1997:

Connecticut	307 acres	(6%)
Louisiana	12,188 acres	(28%)

## PROSPEROUS SMART GROWTH LOCATIONS

OBJECTIVES	GUIDELINES
NATURAL RESOURCES PRESERVATION	
Preserve and protect farmland, natural resources and habitat	Locate the development on a site that does not have: <ul style="list-style-type: none"><li>- Wetlands, water bodies or land within 100 feet of these areas</li><li>- Prime agricultural soils</li><li>- Unique or prime forest soils</li><li>- Threatened or endangered species habitat</li><li>- Aquifer recharge areas</li></ul>
ENVIRONMENTALLY SENSITIVE AREAS PROTECTION	
Protect environmentally sensitive areas	Locate the development on land that does not have: <ul style="list-style-type: none"><li>- Steep slopes greater than 15%</li><li>- 100-year floodplains</li><li>- Highly erodible soils</li></ul>
Enhance and protect the ecology of natural systems	Establish a mandatory no-development buffer at wetlands, floodplains, lakes, rivers, and estuaries

***Smart Growth Guidelines for Sustainable Design and Development***  
EPA and Connecticut Capitol Region Council of Governments  
November, 2009.

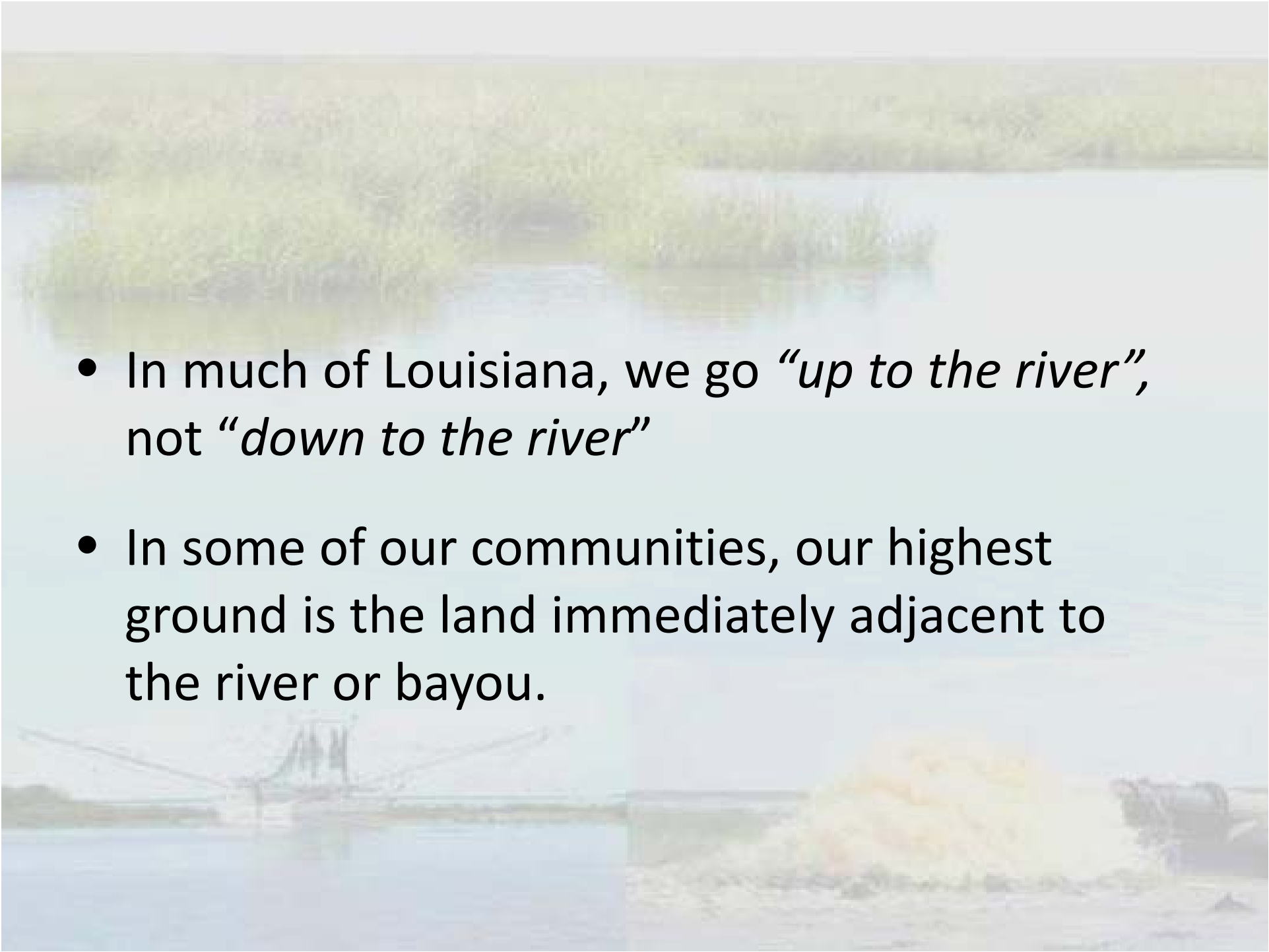


## PROSPEROUS SMART GROWTH LOCATIONS

OBJECTIVES	GUIDELINES
NATURAL RESOURCES PRESERVATION	
Preserve and protect farmland, natural resources and habitat	Locate the development on a site that does not have: <ul style="list-style-type: none"><li>- Wetlands, water bodies or land within 100 feet of these areas</li><li>- Prime agricultural soils</li><li>- Unique or prime forest soils</li><li>- Threatened or endangered species habitat</li><li>- Aquifer recharge areas</li></ul>
ENVIRONMENTALLY SENSITIVE AREAS PROTECTION	
Protect environmentally sensitive areas	Locate the development on land that does not have: <ul style="list-style-type: none"><li>- Steep slopes greater than 15%</li><li>- 100-year floodplains</li><li>- Highly erodible soils</li></ul>
Enhance and protect the ecology of natural systems	Establish a mandatory no-development buffer at wetlands, floodplains, lakes, rivers, and estuaries

***Smart Growth Guidelines for Sustainable Design and Development***  
EPA and Connecticut Capitol Region Council of Governments  
November, 2009.



- 
- In much of Louisiana, we go *“up to the river”*, not *“down to the river”*
  - In some of our communities, our highest ground is the land immediately adjacent to the river or bayou.

# Trees

Not Just Beautification, Shade, & Drought Tolerance,

Beautify streets with trees and green infrastructure practices

Encourage the use of green infrastructure practices as standard practice for roads and public rights-of-way. For example, provide street trees on both sides of streets between the street and sidewalk. Use appropriate (drought tolerant) tree species and ensure the trees have the correct soils and root and growth space to thrive

***Smart Growth Guidelines for Sustainable Design and Development***  
EPA and Connecticut Capitol Region Council of Governments  
November, 2009.

# Trees

## But Also Wind & Rain

### Wind and Trees: Surveys of Tree Damage in the Florida Panhandle after Hurricanes Erin and Opal<sup>1</sup>

Mary L. Duryea<sup>2</sup>

*Hurricanes Erin and Opal swept across the Florida Panhandle in 1995 bringing with them sustained winds of 85 and 125 mph. In two surveys immediately following the hurricanes, 25 neighborhoods were inventoried for tree damage. This circular summarizes the results of our surveys and ranks the wind resistance of the North Florida tree species in these communities.*

*Hurricane-susceptible communities should consider wind resistance as one of their criteria in tree species selection.*

#### Introduction

When hurricanes strike land, along with damage to property such as houses, power lines, and commercial buildings, they may cause damage to trees in the urban forest. Yet, sometimes a fallen tree may be side-by-side with one which is standing and appears unaffected by the winds. This varied wind resistance by different trees may be due to many factors such as tree age, size, health, and species.

In 1995 two hurricanes impacted the Florida Panhandle. The first, on August 3, was Erin, a slow-moving hurricane which struck the Pensacola

area with sustained winds of 85 mph. Two months later, on October 4, Opal moved through the Ft. Walton Beach area more quickly and had sustained winds of 125 mph. Three days after each hurricane we surveyed the damage to trees in neighborhoods where the eye of the hurricane had passed.

#### Methods

After Hurricane Erin, 12 neighborhoods in the Pensacola area--and after Hurricane Opal--10 neighborhoods near Ft. Walton Beach were inventoried for tree damage (Figure 1).

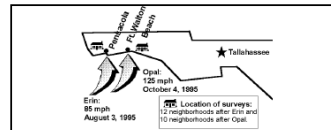


Figure 1.

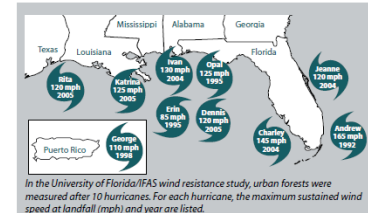
All trees along the neighborhood transects were observed and the following information was recorded: 1) Has the tree fallen? 2) If the tree fell,

1. This document is Circular 1183, one of a series of the School of Forest Resources and Conservation, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Published: May, 1997. Reviewed September 2006. Please visit the EDIS Web site at <http://edis.ifas.ufl.edu>.
2. Mary L. Duryea, Ph.D., forest resource extension specialist, School of Forest Resources and Conservation, Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, 32611.

The Institute of Food and Agricultural Sciences (IFAS) is an Equal Opportunity Institution authorized to provide research, educational information and other services only to individuals and institutions that function with non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, marital status, national origin, political opinions or affiliations. U.S. Department of Agriculture, Cooperative Extension Service, University of Florida, IFAS, Florida A & M University Cooperative Extension Program, and Boards of County Commissioners Cooperating, Larry Arrington, Dean

## Wind Resistant Tree Species

These wind resistant tree lists were developed from research of ten hurricanes which struck the Southeast U.S. Coastal Plain, South Florida and Puerto Rico between 1992 and 2005. In addition, a survey of arborists, scientists and urban foresters contributed information to rank wind resistance. The recommended tree species are divided into the Southeast U.S. Coastal Plain region (which includes USDA hardiness zones 8 and 9) and Tropical and Subtropical regions (including USDA hardiness zones 10 and 11).



In the University of Florida/IFAS wind resistance study, urban forests were measured after 10 hurricanes. For each hurricane, the maximum sustained wind speed at landfall (mph) and year are listed.

### U.S. Southeast Coastal Plain

American hophornbeam, *Ostrya virginiana*  
Baldcypress, *Taxodium distichum*  
Beech, blue, *Carpinus caroliniana*  
Chickasaw plum, *Prunus angustifolia*  
Common persimmon, *Diospyros virginiana*  
Crape myrtle, *Lagerstroemia indica*  
Dogwood, *Cornus florida*  
Fringe tree, *Chionanthus virginicus*  
Hickory, Florida scrub, *Carya floridana*  
Hickory, mockernut, *Carya tomentosa*  
Hickory, pignut, *Carya glabra*  
Holly, American, *Ilex opaca*  
Holly, dahoon, *Ilex cassine*  
Holly, yaupon, *Ilex vomitoria*  
Inkberry, *Ilex glabra*  
Magnolia, saucer, *Magnolia x soulangeana*  
Magnolia, southern, *Magnolia grandiflora*  
Magnolia, sweetbay, *Magnolia virginiana*  
Maple, Florida sugar, *Acer saccharum* subsp. *floridanum*  
Maple, Japanese, *Acer palmatum*  
Oak, live, *Quercus virginiana*  
Oak, myrtle, *Quercus myrtilifolia*  
Oak, post, *Quercus stellata*  
Oak, sand live, *Quercus geminata*  
Oak, shumard, *Quercus shumardii*  
Oak, swamp chestnut, *Quercus michauxii*  
Oak, turkey, *Quercus laevis*  
Podocarpus, *Podocarpus* spp.  
Pondcypress, *Taxodium ascendens*  
Redbud, *Cercis canadensis*  
River birch, *Betula nigra*  
Sparkleberry, *Vaccinium arboreum*  
Sweetgum, *Liquidambar styraciflua*  
Tupelo, black, *Nyssa sylvatica*  
Tupelo, water, *Nyssa aquatica*  
White ash, *Fraxinus americana*  
Winged elm, *Ulmus alata*

### Palms

Cabbage, *Sabal palmetto*  
Date, Canary Island, *Phoenix canariensis*  
Date, *Phoenix dactylifera*  
Pindo, *Butia capitata*

### Tropical and Subtropical

Baldcypress, *Taxodium distichum*  
Buttonwood, *Conocarpus erectus*  
Cocoplum, *Chrysobalanus icaco*  
Crape myrtle, *Lagerstroemia indica*  
False tamarind, *Lysiloma latiliquium*  
Geiger tree, *Cordia sebestena*  
Gumbo limbo, *Bursera simaruba*  
Hickory, Florida scrub, *Carya floridana*  
Holly, dahoon, *Ilex cassine*  
Ironwood, *Krugiodendron ferreum*  
Lignumvitae, *Guaicum sanctum*  
Lychee, *Litchi chinensis*  
Magnolia, southern, *Magnolia grandiflora*  
Magnolia, sweetbay, *Magnolia virginiana*  
Mahogany, *Sterea mahagani*  
Mastic tree, *Sideroxylon foetidissimum*  
Oak, live, *Quercus virginiana*  
Oak, sand live, *Quercus geminata*  
Paradise tree, *Simarouba glauca*  
Pigeon plum, *Coccoloba diversifolia*  
Podocarpus, *Podocarpus* spp.  
Pondapple, *Annona glabra*  
Pondcypress, *Taxodium ascendens*  
Satinleaf, *Chrysophyllum oliviforme*  
Sea grape, *Coccoloba uvifera*  
Stopper, boxleaf, *Eugenia foetida*  
Stopper, redberry, *Eugenia confusa*  
Stopper, white, *Eugenia axillaris*  
Sweetgum, *Liquidambar styraciflua*  
Tupelo, black, *Nyssa sylvatica*

### Palms

Alexander, *Pyrosperma elegans*  
Areca, *Dypsis lutescens*  
Bottle, *Hyophorbe lageniculis*  
Blue lantan, *Lantana loddigesii*  
Cabbage, *Sabal palmetto*  
Chinese fan, *Livingstonia chinensis*<sup>\*</sup>  
Coconut, *Cocos nucifera*  
Date, Canary Island, *Phoenix canariensis*  
Date, *Phoenix dactylifera*  
Date, pygmy, *Phoenix roebelenii*  
Fishtail, *Caryota mitis*  
Florida silver, *Coccothrinax argentea*  
Manila, *Adonia merrillii*  
Pindo, *Butia capitata*  
Royal, *Roystonea elata*  
Spindle, *Hyophorbe verschaffeltii*  
Thatch, key, *Thrinax morrisii*  
Thatch, Florida, *Thrinax radiata*  
Triangle, *Dypsis decaryi*

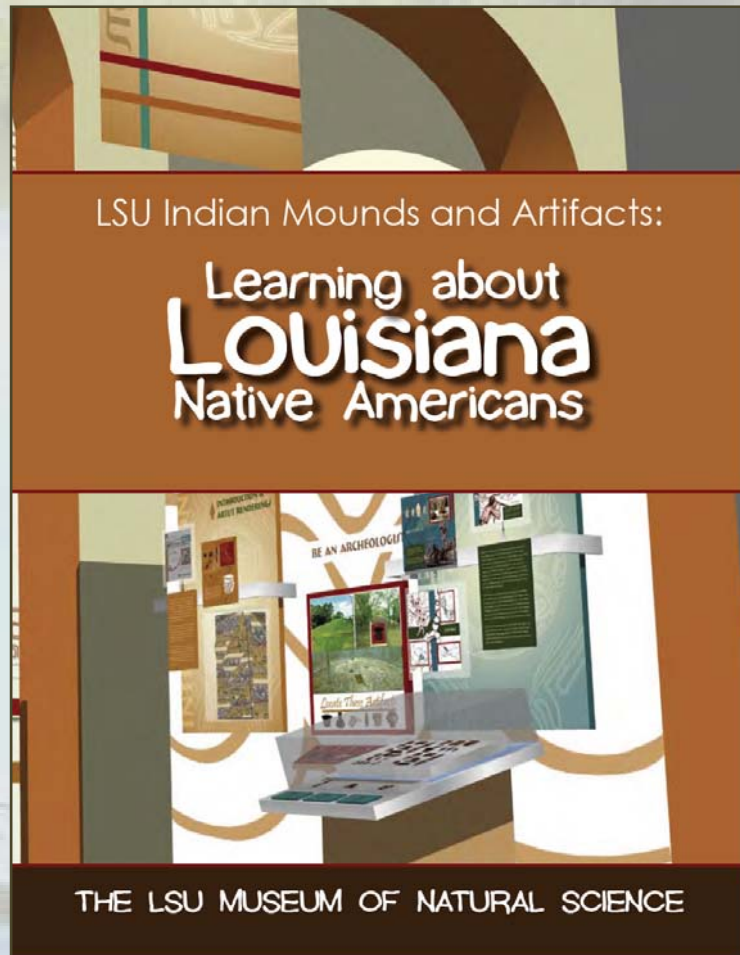
<sup>\*</sup> Caution: manage to prevent escape (as recommended by IFAS <http://plants.ifas.ufl.edu/assessment.html>)

We present these lists with the caveat that no tree is perfectly wind-proof and that many other factors contribute to wind resistance including soil conditions, wind intensity, previous cultural practices, tree health and age. These lists do not include all trees that could be wind resistant. They list those species encountered during our studies in large enough numbers to run statistical comparisons.

# Filtering Best Practices Through Louisiana's Landscape

- Does not mean not using best practices from elsewhere
- It means applying critical thought processes to determine what the best practice is trying to achieve:
  - How do we preserve and make best use of Louisiana's valuable prime farmland?
  - How do we preserve green space in Louisiana communities?
  - How do we choose the most resilient trees for Louisiana's most critical situations, taking into account after storm access?

# Louisiana's Culture and Heritage



- *“Less than three decades ago, no one believed mounds were built 5,000 years ago in North America.”*

Rebecca Saunders,  
LSU archaeology professor,  
associate curator, LSU Museum of Natural Sciences

*The Advocate*  
Byline : Jordan Blum  
Apr 16, 2009



# Louisiana's Culture and Heritage

Louisiana is home to hundreds of prehistoric Native American mounds that are among the oldest on the continent:

- Monte Sano Mounds- 7,000 years old
- Frenchman's Bend Mounds- 5,500 years old
- Watson Brake Mounds- 5,500 years old
- LSU Mounds- 5,000 years old
- Banana Bayou- 5,000 years old

For comparison, Stonehenge's initial ditch was dug 5,000 years ago.

# Louisiana's Culture and Heritage



- T.R. Kidder, mounds researcher and anthropology professor at Washington University in St. Louis, has described Louisiana as *“New York, London and Tokyo all rolled into one”* for North America prior to 1,000 B.C.

*The Advocate*

Byline : Jordan Blum

Apr 16, 2009

# Louisiana's Culture and Heritage



photo courtesy LA CRT

*“First and foremost, we have to say that this is a human tragedy that...has a potential to be the largest cultural tragedy in the history of this country. Because New Orleans is unlike any other city in this country or, indeed, in the world. Fifty percent of the city consists of 20 historic districts containing 37,000 historic structures. There is no greater concentration of historic structures anywhere else in the country.”*

Richard Moe, President  
National Trust for Historic Preservation,  
CNN interview, October 4, 2005

# Louisiana's Culture and Heritage

*“Louisiana’s way of life is unique in the nation and should be nurtured...People say, ‘They shouldn’t have built a city there...’ It was fine there. It was well-protected. It made a lot of sense to build a city there. ... While they were there, they built a culture that was as sophisticated as any culture in the world.”*

*“There’s nobody who goes to an ‘Oregon restaurant’ to listen to ‘Ohio music.’”*

James Carville

*The Advocate*

Byline: Carl Redman

May 9, 2010 - Page: 7B

# The Project

Cooperative Endeavor between CPRA and CPEX:



- Natural resources ordinance component
- Natural hazards ordinance component



# Project Phases

- Phase 1 – Research, Synthesis
- Phase 2 – Analysis of Potential Solutions
- Phase 3 – Test Ideas with the Public
- Phase 4 – Design and Create Best Practices Manual and Toolkit
- Phase 5 – Community Outreach and Education

# Phase 1 – Research and Synthesis

- Stakeholder Interviews and Focus Groups:
  - Parishes Against Coastal Erosion
  - Louisiana Municipal Association
  - Business and Community Leaders
  - Non-governmental organizations
  - Developers, scientists, engineers, planners and architects

# Phase 1 – Research and Synthesis



Catalog Louisiana's  
historic and modern  
adaptation strategies to  
coastal challenges

Catalog international best  
practices by geography

photos by Stijn Koole  
Bosch-Slabbers

# Phase 1 – Research and Synthesis



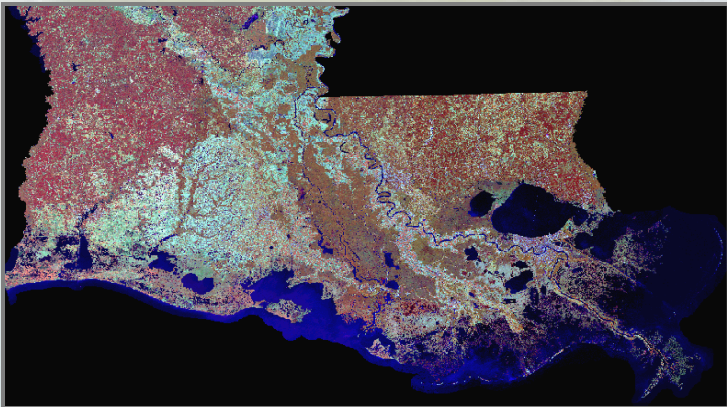
- Establish an advisory committee including a range of stakeholders:
  - Scientists
  - Academic experts
  - Community leaders
  - Practitioners
  - Planners

photos by Glen Bolen  
Fregonese Associates



# Phase 2 – Analyze Feasibility and Potential Solutions

- Develop a Matrix by Type of Geography
  - Variety of Louisiana landscapes will inform the inventory for the matrix
  - Analyze Feasibility of Best Practices in Each Sub-Region





# Products – Prototypes

- Use prototypes to evaluate the physical and financial feasibility of different coastal development decisions
- Development prototypes will be designed to test:
  - ✓ Market Feasibility
  - ✓ Environmental Impacts
  - ✓ Cultural Appropriateness



# Coastal Louisiana

Main Street (2 Story)

## Building Summary

Lot area (sf)	20,000	sf
Lot area (acres)	0	acre(s)
Height	2	stories
Usable FAR	1.01	
Residential units/acre	24	/acre
Avg. unit size (sf)	950	
Employees/acre	12	/acre

## Financial Summary

Average unit sale price	N/A	
Average cost/sf	N/A	
Average unit rent	\$ 997.50	/month
Average rent (\$/month)	\$ 1.05	/sf
Retail rent (\$/year)	\$ 18.00	/sf (triple net)
Office rent (\$/year)	N/A	/sf (triple net)
Estimated land value	\$25	/sf
Estimated land value	\$500,000	
Total project costs	\$2,660,127	

## Parking and Open Space Summary

Residential parking/unit	1.50	
Retail parking/sf	2.00	
Office parking/sf	N/A	
Total parking spaces	31	
Open space (%)	10%	

## Construction Costs

### Parking Construction

Surface	\$ 3,000	/space
Structured (abc)	\$ 20,000	/space
Underground	\$ 55,000	/space
Transfer	\$ 20,000	/space

### Building Construction\*

Retail/sf	\$80	/sf
Retail	\$80	/sf
Office	\$80	/sf

\* Includes building hard costs and \$25/sf tenant improvement allowance (commercial)

## % Total Lot Area

Category	Percentage
Building footprint	61%
Landscaping or open space	10%
Parking area next to building	2%
Unused or flexible space	27%

- Building footprint
- Landscaping or open space
- Parking area next to building
- Unused or flexible space



illustrations courtesy  
Fregonese Associates

# Phase 3 – Test Ideas With the Public



- Public workshops will include exercises where participants choose from a menu of possible development practices that encourage and support resilient communities

# Phase 4 – Design and Create Best Practices Manual and Toolkit

- The manual will include:
  - Historic overview and geomorphology
  - Assessment of risk in study area
  - Evaluation of threats posed by natural hazards
  - Decision tree that graphically guides users through an analysis of common problems and solutions
  - FAQ
  - Appendix of traditional and modern approaches and practices

# Product – Implementation

- Two coastal communities will be selected for implementation of the natural resources and natural hazards ordinances.
- As part of the implementation, the consultant team, along with a Technical Advisory Committee established by the community, will perform technical review of manual information and data, providing direct feedback into the final Manual and Toolkit.

# Product – Manual

- Attractive, easy to use print ready manual partnered with an interactive website including video
- Use concepts that have been tested and selected by stakeholders
- Will include:
  - clear visuals, artistic renderings, concise descriptions, ordinances and strategies for the reconstruction and future development of the region

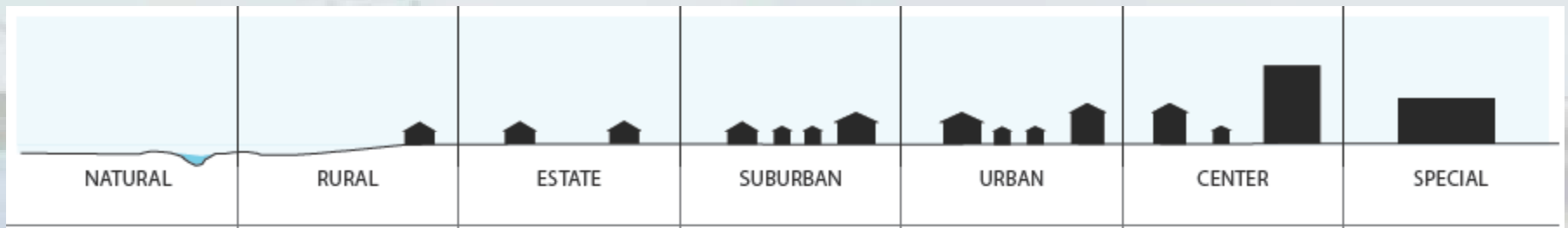


illustration from *Louisiana Land Use Toolkit*



# Phase 5: Community Outreach and Education

- Active outreach including advertisements, flyers, posters, interviews and press releases
- Workshops for elected and appointed officials
- Open houses

# Project Schedule


- 10 months – DRAFT Best Practice Manual
- 13 months – DRAFT Model Regulations
- 17 months – Direct Implementation
- 19 months – FINAL Best Practice Manual
- 20 months – Educational Workshops
- 24 months – FINAL Model Regulations

# New Challenge



- *Deepwater Horizon* Gulf of Mexico oil spill, or “*déshonneur*”

photo taken May 19, 2010  
courtesy of Governor Jindal's office



## *Oil Spill's 'Fisheries Failure' May Signal End of Coastal Towns*

*"I was gone three years, five months, 10 days and 12 hours and I came back because this is my home," he said, with tears in his eyes. "This makes Katrina look like a birthday party."*

Joe Melton,  
crabber from Reggio, Louisiana

Bloomberg. Com  
Byline: Aaron Kuriloff  
April 30, 2010

[http://www.bloomberg.com/apps/news?pid=email\\_en&sid=arVrjo0djH.Y](http://www.bloomberg.com/apps/news?pid=email_en&sid=arVrjo0djH.Y)

## *Louisiana Fishermen Contemplate Livelihoods Forever Changed by Gulf Oil Spill*

*"I don't know nothing else. I can make a boat dance, and that's it. This oil is the one thing where there's no recovering. If we lose the fish and the land, there's no building back. This whole way of life is going. This whole generation is lost. I'm 55 years old, and I might not fish again."*

Johnny Nunez,  
shrimper, fishing guide from Shell Beach, Louisiana

*Washington Post*  
Byline: Eli Saslow  
May 4, 2010

[http://www.washingtonpost.com/wp-dyn/content/article/2010/05/03/AR2010050304585.html?wpisrc=nl\\_headline](http://www.washingtonpost.com/wp-dyn/content/article/2010/05/03/AR2010050304585.html?wpisrc=nl_headline)



## *Cleanup Daunting in Barataria Pass*

*“ ‘It’s probably going to destroy this community,’ Belle Toups said, adding that Grand Isle depends on fishing and tourism.... ‘They can clean the beach, that’s no problem,’ Lou Toups said. However, if the oil gets into the marsh, that’s going to be impossible to clean, he said.*

*‘It’s going to be far-reaching that’s for sure,’ Belle Toups said.”*

*The Advocate*  
Byline: Amy Wold  
May 24, 2010

# Discussion/ Questions?

