February 2005 Number 27

WaterMarks

Louisiana Coastal Wetlands Planning, Protection and Restoration News

The Breaux Act

LOUISIANA'S COASTAL LIFELINE

WaterMarks Interview: Former U.S. Senator John Breaux

Restoration Projects: From Vision to Reality

www.lacoast.gov

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Louisiana Coastal Wetlands Planning, Protection and Restoration News

WaterMarks is published three times a year by the Louisiana Coastal Wetlands Conservation and Restoration Task Force to communicate news and issues of interest related to the Coastal Wetlands Planning, Protection and Restoration Act of 1990. This legislation funds wetlands enhancement projects nationwide, designating an average $60 million annually for work in Louisiana. The state contributes 15 percent of the total cost of the project.

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About the Cover

The dredge California pumps sediment into West Bay, just above the mouth of the Mississippi River, from a channel it is cutting from the river to the bay, to create marsh. The channel will allow sediment from the river to flow naturally into the area to rebuild marsh.

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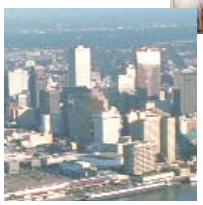

For more information about Louisiana's coastal wetlands and the efforts planned and under way to ensure their survival, check out these sites on the Web:

www.lacoast.gov **www.btnep.org** **www.saveLAwetlands.org**

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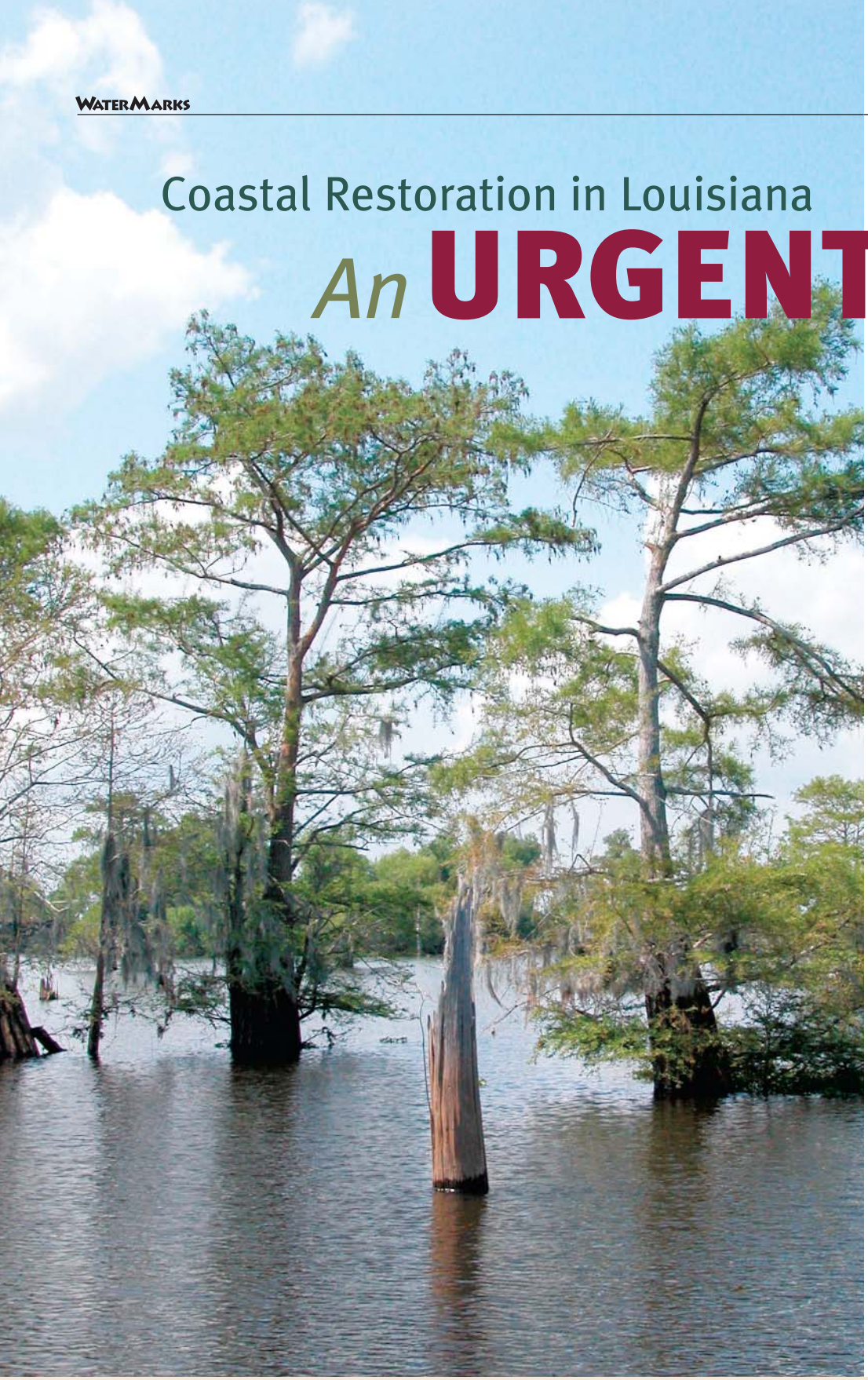
To receive *WaterMarks,* e-mail James.Addison@mvn.usace.army.mil
For current meetings, events, and other news concerning Louisiana's coastal wetlands, subscribe to the *Breaux Act Newsflash,* our e-mail newsletter, at:
www.lacoast.gov/newsletter.htm

Coastal Restoration in Louisiana

An URGENT Need



Bountiful coastal marshes, swamps, bayous and estuaries teeming with life, Louisiana's coastal wetlands are a cultural and economic treasure. Within Louisiana's 5,727 square miles of coastal wetlands, there exists:

- **more than half of the tidal marshes found in the lower 48 states**
- **oil and gas pipelines that deliver more than a quarter of the nation's energy supplies**
- **the world's largest port system**
- **fisheries that supply more than a quarter of the seafood consumed in the lower 48 states**

1989

JULY—Passage of Louisiana Act 6, establishing a trust fund for coastal restoration

1990

NOVEMBER—Passage of the Breaux Act

During the 20th century, coastal Louisiana lost 1,900 square miles of land, representing 1.2 million acres of an irreplaceable national resource. Just since 1956, more than 1,500 square miles of the wetlands on Louisiana's coast have vanished—a land area half again larger than the state of Rhode Island. Even now, coastal land continues to turn to water, and scientists forecast that, if we do not expand our efforts to slow the rate of loss, 2,400 square miles of Louisiana will be under water within 50 years—a third of the entire Louisiana coast.

Recognizing this, the citizens of Louisiana and former U.S. Sen. John Breaux took action in the 1980s. In 1989, the Louisiana legislature established funding for wetlands restoration and the majority of the citizens approved a constitutional amendment ensuring that funding was secure. Breaux then helped author and coordinate passage of the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA), commonly called the "Breaux Act." The Act is the realization of Breaux's vision of an integrated effort among government and scientific resources, private industry and concerned citizens, working as one, to preserve the coastal wetlands and rich aquatic ecosystem they support.

Breaux realized it was crucial to have reliable funding and all the players cooperating toward the common goals of wetland restoration. In speaking at a Coastal America Awards ceremony in August 2004, Breaux recalled, "Everybody was studying the problem but never really had the tools financially … to take the studies off the shelf, out of the libraries and begin to implement them …"

Equally important was his vision of the Breaux Act Task Force. The former senator remarked, "Because of the traditional turf battles we have in Washington when you're dealing with all the federal agencies, … each one of the agencies said they can do it better than the rest. And I understand that. … It's a degree of pride in the work they do. [However,] we created the task force, which I felt was the best way to combine the talents of all the agencies and all the departments … with the state of Louisiana participating as an equal partner, … a task force where truly everybody is in the lead."

Now, 14 years later, the Task Force has developed a complex restoration plan *(Coast 2050)*, authorized 131 projects, designed dozens of them and constructed and placed 66 in operation. Another 65 projects are either in design or construction phases. More than 50,000 acres of wetlands have been protected or restored to date compared to what would have been present if we did nothing. Since 1991, the Breaux Act has funneled $33 million to $62 million a year in federal funding to Louisiana coastal restoration projects.

While no one will dispute there is a very long way to go, vital information has been gathered and our understanding of coastal restoration has developed in ways that allow preservation to adapt, adjust and ultimately expand in new directions. **WM**

Although commercial and sports fishermen have watched Louisiana's wetlands decline, the Breaux Act program represents new hope for the coast and the fisheries it supports.

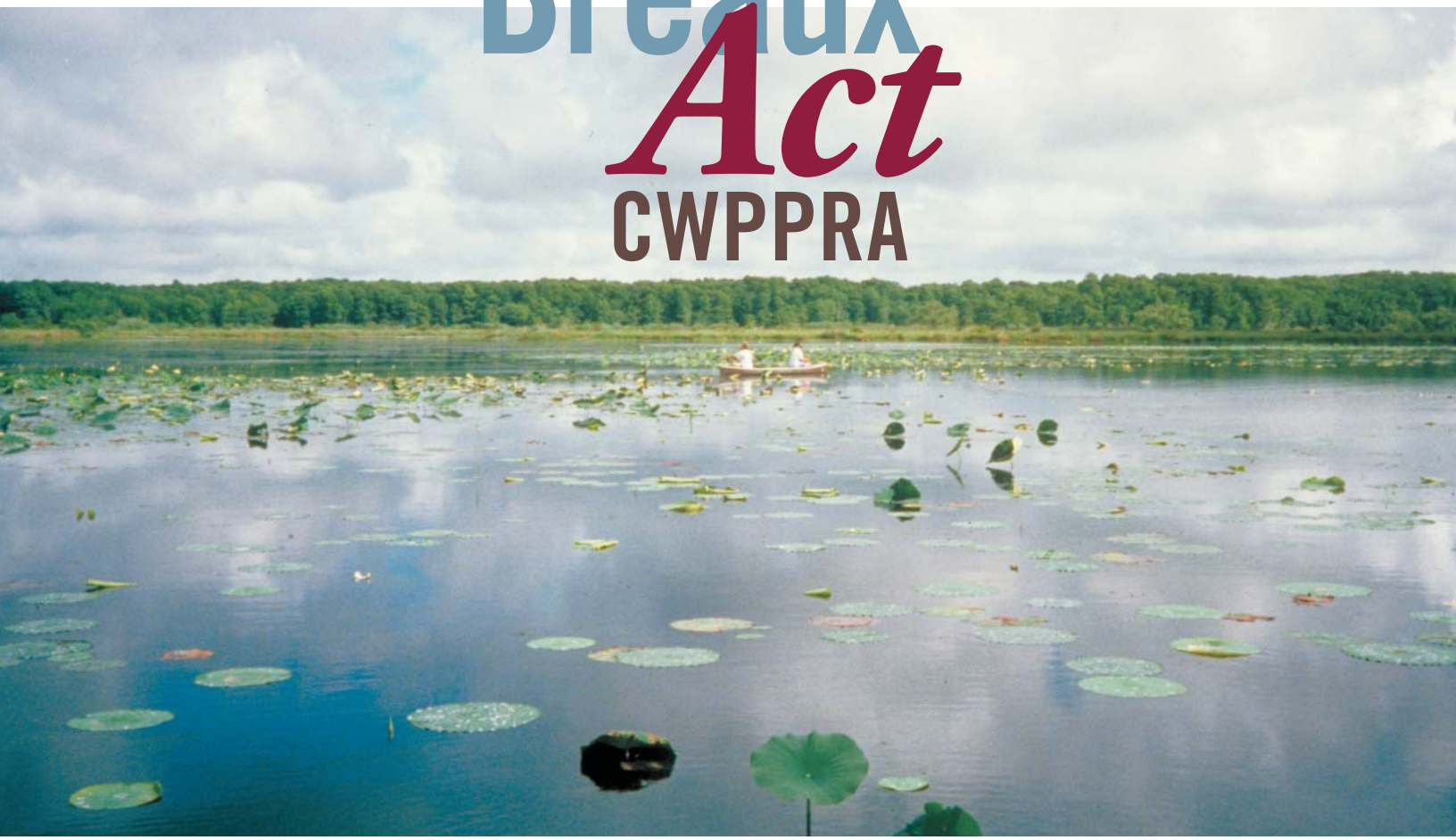
1991

JANUARY—First meeting of CWPPRA Task Force

FEBRUARY—Caernarvon Freshwater Diversion begins operations

OCTOBER—Approval of Priority Project List #1

The Breaux Act CWPPRA



"We say we're going to use it, fish it, hunt, farm it. But we're [also] going to preserve it," Breaux once said. And the citizens of his state responded. In 1986, Louisiana church groups began holding forums to discuss the coastal crisis. Then in 1989, the Coalition to Restore Coastal Louisiana and several local coastal zone advisory boards began holding meetings to discuss the problem.

1992

OCTOBER—
Priority Project List #2 approved with 15 restoration projects

Prompted by these efforts and rising public concern, the state took an unprecedented step by forming a multi-agency coastal restoration authority supported by an oil and gas revenue trust fund. Known as Act 6, the state legislation formed a template for the forthcoming federal legislation, calling for a task force of state agencies and an annual plan for proposed projects.

Bill Good, former administrator of the Louisiana Department of Natural Resources, Coastal Restoration Division, said, "In terms of technology, science and the overall learning curve, we are light years ahead now from where we were then. It was very exciting to watch it all unfold."

Also in 1989, the state's commitment was voiced when an overwhelming majority of Louisiana's citizens passed a constitutional amendment ensuring funding for the effort. That same year, Louisiana experts spoke ardently on coastal land loss before the U.S. Senate Committee on Energy and Natural Resources.

While the rest of the country took little notice, local momentum grew and Louisianans spoke out about the crisis they saw developing around them. An enormous and complex task lay ahead, and Breaux took up the challenge by co-sponsoring federal legislation to forge a vital partnership between the state and five federal agencies.

Breaux succeeded in attaching his legislation to a bill that was likely to pass, and on November 29, 1990, the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA) was signed into law by former President George H.W. Bush as a section of the "Nonindigenous Aquatic Nuisance Prevention and Control Act."

The Breaux Act, as it quickly became known, reflected the senator's foresight in establishing dependable funding. The landmark legislation is tied to a continuing trust fund, the Aquatic Resources Trust Fund, drawn from small-engine fuel taxes. While the Breaux Act provides annual funding, it does not guarantee construction funds for each project on

Outreach & Education

Stakeholders, community organizations, government agencies and the general public are continually apprised of the Breaux Act program to preserve the coast through frequent communications and outreach activities. These include the publication *WaterMarks,* the Web site www.lacoast.gov, a speaker's bureau, the email newsletter *Breaux Act Newsflash,* frequent media contacts, free education materials and teacher workshops. For further information, or to receive the *Newsflash,* contact Gabrielle Bodin, Outreach Coordinator, CWPPRA, at (337) 266-8623, or email: Gabrielle_Bodin@usgs.gov

Mandates of the Breaux Act

- Create a Task Force including the secretaries of the Army, Interior, Agriculture and Commerce, the Administrator of EPA and the Governor of Louisiana
- Submit a Priority Project List each year
- Submit a status report to Congress every three years
- Include demonstration projects
- Produce a state coastal restoration plan that includes:
  - *a goal of achieving no net loss of wetlands from development*
  - *designation of a single state agency responsible for implementation and enforcement*
  - *means to account for wetland gains and losses*
  - *assurance that the state will have adequate personnel, funding and authority to implement the plan*
  - *public education activities*
  - *encourage use of technology by developers to reduce impacts on wetlands*
  - *review of ways to assist landowners in wetland protection*
- Study the feasibility of increasing flow and sediment from the Mississippi River to the Atchafalaya River
- Contributed costs as 75 percent federal/ 25 percent state until the submission of a comprehensive coastal restoration plan, after which the allocation is 85 federal, 15 percent state
- Allow for up to 10 percent of the state share to be in the form of in-kind contributions such as land, easements or rights-of-way

1993

APRIL—Breaux Act Task Force signs first cost-sharing agreements with the LA Department of Natural Resources

NOVEMBER—Breaux Act Task Force submits Louisiana Coastal Wetlands Restoration Plan, the state's first comprehensive restoration plan, to Congress

the annual Priority Project List.

Still, coastal restoration and preservation activities can proceed without the inherent risks associated with the annual federal appropriations process.

Success Through Cooperation

The Breaux Act Task Force consists of five federal agencies and the state of Louisiana, which acts as local sponsor for restoration projects. The U.S. Army Corps of Engineers chairs the Task Force and manages project accounting, but otherwise the five agencies are equal in representation and duties. The Task Force members are:

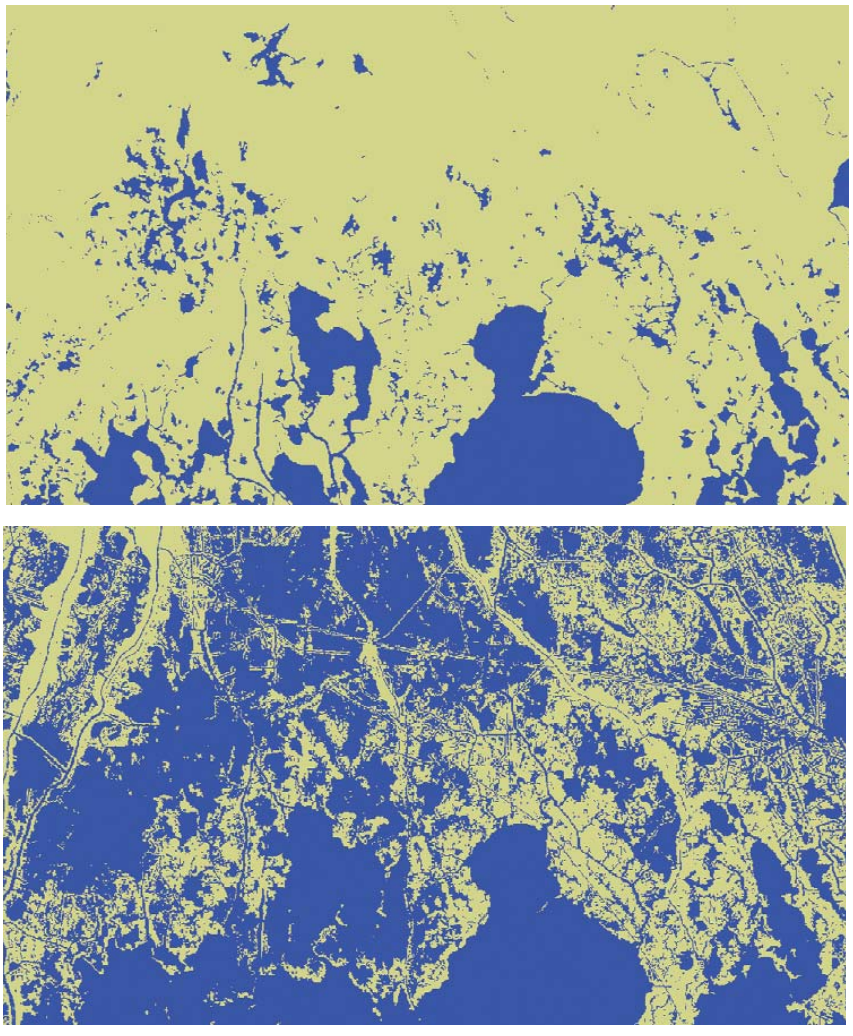
- U.S. Fish and Wildlife Service (U.S. Department of Interior)
- Natural Resources Conservation Service (U.S. Department of Agriculture)
- National Marine Fisheries Service (U.S. Department of Commerce)
- U.S. Environmental Protection Agency
- U.S. Army Corps of Engineers (U.S. Department of the Army)
- State of Louisiana

Through working committees and constant contact with outside experts, coastal stakeholders and the general public, the Task Force formulates projects to be added to the yearly Priority Project List.

As Breaux once remarked, "We're in a race against the clock. We cannot save every acre of land, but we can sustain the value of this remarkable landscape—understanding that such a complex problem requires a comprehensive solution." **WM**

Coastal America Award

The Breaux Act Task Force, its associated committees and 19 coastal parishes received the Coastal America 2004 Partnership Award in August 2004. Presented on behalf of the President and the 12 federal departments that comprise the Coastal America Partnership, it recognized the Task Force's partnerships in restoring and protecting the coastal wetlands of Louisiana.



Images Courtesy of USGS

Land Mass, Terrebonne area, 1932 (top) and 2000 (bottom).

1994

MARCH—First project (West Hackberry Vegetative Planting Demonstration) completed

1995

JUNE—First issue of *WaterMarks* published

Interview with Former U.S. Senator

John Breaux

For more than 30 years, John Breaux has served the nation and the state of Louisiana in the U.S. Congress, first as a representative and then as a senator. In January 2005, he retired from the Senate to continue his service to this country as the vice-chair of President Bush's new federal tax reform panel.

WaterMarks: Senator, you have been a strong leader in the fight to preserve and protect coastal Louisiana. What got you interested and involved in this crisis back in the late 1980s?

Breaux: I became involved because I have lived in the wetlands and grew up there. My home was 25 miles from the gulf and I did not want to see it become a shorefront property. I didn't want to see Shreveport in northern Louisiana become a coastal city. I have hunted and fished in the wetlands and I knew that it was vitally important to see that the coast of Louisiana was saved, for me, for all Louisianans and for the entire country.

WaterMarks: What were the major obstacles in getting the CWPPRA legislation, now known as the Breaux Act, passed in 1990?

Breaux: At that time, my biggest problem was trying to convince the members of Congress that this was a national problem, that this was America's problem. I needed to explain that Louisiana's coast accepts the drainage from two-thirds of the United States and, while the necessary levees constructed upstream have prevented floods, they have also contributed to problems downstream. I didn't want them to say "Go fix your own problem." I needed to help them understand that this was everyone's concern.

1996

AUGUST—Breaux Act goes online at www.lacoast.gov

SUMMER—CWPPRA Task Force shifts emphasis to "big picture" projects, with at least two-thirds of annual funding dedicated to projects affecting major portions of the coastal basins

WaterMarks: So, from the very beginning, you have recognized the loss of Louisiana's coastal wetlands as a problem of national significance. Do you think that this message is getting out to the American people?

BREAUX: The American people are beginning to be aware of this. You know that everyone thinks of the Everglades as a national treasure. We need to show that the Louisiana wetlands are just as important. I am pleased to see that information campaigns, such as the America's WETLAND effort, are getting the message out and people are beginning to realize that wetlands loss in Louisiana affects us all.

WaterMarks: With more than 60 projects constructed and more than 60 in the planning stages, do you feel we can celebrate what's already been done to solve this immense problem?

BREAUX: Yes, we can celebrate! Compared to when we started, we have 100 percent more on the ground than we used to have. It used to be that people would ask "Where are the results? Is this just another study?" Now Louisianans are seeing real physical projects and not just studies on a library shelf. We can point to areas that are being saved and marshes and barrier islands that are being restored.

WaterMarks: Do you think the Breaux Act has established an adequate foundation for future coastal restoration efforts?

BREAUX: Yes, definitely. The Breaux Act is a strong beginning and a good foundation for the future. The act provides for the years to come because we have a plan for funding. We don't have to hold our breaths and worry and wonder if this can go forward each year—we know it will.

WaterMarks: In your view, what are the primary economic issues in the continuing struggle to save our coastal wetlands?

BREAUX: Since the beginning, we have always had the same issues. Put very simply, they are "Who is going to pay for this?" and "How do you pay for this?" Our struggle is to identify the sources of revenue and the means to obtain the funds. Without funds, all the planning and research studies can't help us.

WaterMarks: Over the last 14 years, the Breaux Act Task Force has learned a great deal about different ways to save coastal Louisiana. Do you view new technologies, such as shown in the demonstration projects, as key components in future efforts to protect and restore the wetlands?

BREAUX: I definitely believe in the worth of the demonstration projects. They show us better ways to save and restore the wetlands on a small scale until their results can be expanded into larger projects. We have to keep learning how to do this job better and better—the new technologies will help us with that.

WaterMarks: Innovative, but complicated, solutions and engineering are currently outpacing the available funds for some Breaux Act projects. Do you see this as a continuing problem?

BREAUX: Unfortunately, yes. It goes back to what I said before. We know what needs to be done, but how do we pay for it?

WaterMarks: What do you see as the next indispensable step in moving forward with the Breaux Act?

BREAUX: In my opinion, the most indispensable step is finding a new source of reliable revenue and I am pleased to see that Senator Landrieu of Louisiana is dedicated to this effort. Also, the U.S. Commission on Ocean Policy listed this as one of their key recommendations and I hope that will underscore the importance of funding in saving the coastlands.

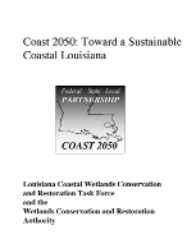
WaterMarks: Senator, you should be justifiably proud of your accomplishments associated with the Breaux Act. Now that you have retired from the U.S. Senate, what role do you expect to play in this cause?

BREAUX: I expect to remain active, because I want to see that this infant we've brought to life continues to be nourished and continues to grow. I also want to make sure that everyone in America recognizes that Louisiana's wetlands are important to all Americans.

1997

JANUARY—CWPPRA program submits first Program Evaluation Report to Congress

NOVEMBER—State's Coastal Wetlands Conservation Plan approved, reducing state cost share from 25 percent to 15 percent



1998

DECEMBER—*Coast 2050* published

East Timbalier Island
Photo by: NOAA

Restoration Projects: From VISION to REALITY

Over the last 14 years, the process of selecting and implementing coastal projects has been revised to make it more efficient, cost-effective and rigorous. Only those projects that show a strong chance of having a significant effect on the wetlands make it to the annual Priority Project List. Currently, the following steps typically lead to a project getting selected for the list.

1. Planning Teams of parish and local officials, and stakeholders from each of the coast's four regions hold public meetings and select one potential project per drainage basin, except for the Terrebonne and Barataria basins, which may have two on account of extreme losses in those areas. No more than 11 make the nomination list. One of the five federal agencies is designated the lead agency for each nominated project, responsible for defining potential designs and benefits, and assisting in preparing fact sheets and maps.

   Informal conferences between lead agencies, parishes, landowners and other individuals are held. The lead agency develops a brief project description, and the Engineering and Environmental workgroups study potential benefits and estimated costs. The Technical Committee selects six projects for detailed assessment by the Engineering, Environmental and Economic workgroups.
2. The Environmental and Engineering workgroups and the Academic Advisory Group refine project features and establish area boundaries.
3. The lead agency completes an Information Sheet, a preliminary Wetland Value Assessment and preliminary cost estimate.
4. Using the Wetland Value Assessment and design and cost estimates, the Environmental and Engineering workgroups evaluate the benefits and costs of the potential projects and develop prioritization scores.
5. The Technical Committee holds two public hearings to present information and solicit comments.
6. The Technical Committee selects up to four projects to recommend to the Task Force for inclusion on the annual Priority Project List.
7. The Task Force selects up to four projects for the annual Priority Project List.

1999

MAY—Section 905(b) Analysis Louisiana Coastal Area published, a Reconnaissance Report by the U.S. Army Corps of Engineers

Project Implementation

Once a project makes the Priority Project List and receives funding, the actual work begins. Each project moves through the phases of planning and construction as it becomes part of the restoration network to save coastal Louisiana.

PHASE 1
Engineering and Design

This phase produces detailed plans necessary for construction:

- engineering and design, including surveys, geotechnical evaluations, hydraulic and hydrological investigations, and modeling
- real estate requirements, including land and oyster-lease ownership investigations
- environmental compliance and a preliminary cultural resources assessment
- permitting
- project management plan
- monitoring plan
- plans for operation, maintenance and replacement

PHASE 2
Construction and Monitoring

If the project passes its final design review and is selected by the Task Force for Phase 2 approval, bids for construction are sought and a contract is awarded. The construction phase requires effective project management to oversee the specifications of the contract. During and after construction, the local ecosystems are monitored for changes due to project operations. The project is operated as planned with maintenance, performance monitoring and repairs taking place over the 20-year project life.

Demonstration Projects

Demonstration projects are designed to be practical evaluations of new technologies not commonly used in coastal Louisiana. They are not tied to the usual planning criteria, nor are they expected to have a project life of 20 years as other projects do. Their lifespan continues only until the new technology is sufficiently evaluated.

A good example of a recent demonstration project is the Mandalay Bank Protection Demonstration, sponsored by the U.S. Fish and Wildlife Service. This project was constructed just west of Houma in Terrebonne Parish, along the banks of the Gulf Intracoastal Waterway (GIWW). The wakes of vessels cause erosion of the banks, forming bay-like areas along the waterway. The project is intended to develop new low-cost techniques for protecting and restoring the easily erodible organic soils. Intact banks and breakthroughs have been treated to determine the cost effectiveness of various approaches. **WM**

The Breaux Act program helps to restore the Pecan Island marsh by constructing earthen terraces and planting vegetation, trapping sediment and retarding wave erosion.

Adaptive Management

"It is common sense to take a method and try it. If it fails, admit it frankly and try another. But above all, try something."
—Franklin Delano Roosevelt

The Breaux Act federal partners and state of Louisiana have learned by doing. A vast collective knowledge now exists to be applied to the problem of coastal wetlands loss. When a project underperformed, lessons learned were examined and used to make that project or others better. This approach was recently formalized as "adaptive management," a common sense process of observing, learning and changing methods in a repeated cycle until a project works the best way possible.

2000

FEBRUARY— Work starts on Louisiana Coastal Area Ecosystem Restoration Study (LCA)

NOVEMBER— Breaux Act renewed until 2009

2001

AUGUST— Governor's Coastal Summit convenes

Fourteen Years of Coastal Progress

Since the Breaux Act inception in 1990, 131 coastal projects have been authorized to protect and restore Louisiana's coastal wetlands. Of the 66 projects completed, some have worked better than others, but each has contributed to a base of knowledge about what works, laying a foundation for the future. Five significant projects, each by a different federal lead agency, are featured here as examples.

Pecan Island Terracing — (project types 6, 7 and 8)

Lead Agencies: NMFS, LDNR
Location: Southwestern Vermilion Parish
Status: Completed September 2003
Problems: This formerly healthy marsh was surrounded by dikes and drained in the 1950s. Subsequently, the soil subsided one to two feet. Recently, perimeter levees were lost and the area was converted into a shallow open-water lake with a net loss of habitat.
Restoration Strategy: Convert the open water back to vegetative marsh by creating earthen terraces, which are planted with marsh vegetation. By reducing wave action and turbidity, submerged aquatic growth will be promoted.
Goal: Create/Restore 383 acres and protect 59 acres.
Accomplishments: A total of 198,700 linear feet of earthen terrace have been constructed and planted and are now protecting the adjacent marshes, while promoting their expansion.

West Bay Sediment Diversion — (project types 1 and 6)

Lead Agencies: COE, LDNR
Location: West bank of the Mississippi River, above Head of Passes in Plaquemines Parish
Status: Completed 20,000 cubic-foot-per-second channel November 2003; expand to 50,000 cfs in 2006
Problems: Marshes in the West Bay area have been and are subsiding and converting to open water at a very rapid rate due to a lack of sediment and freshwater input.
Restoration Strategy: Construct a conveyance channel for large-scale diversion of sediments carried by fresh water from the Mississippi River into West Bay.
Goal: Create, nourish and maintain 9,831 acres of fresh to intermediate marsh in the West Bay area.
Accomplishments: Diversion channel carries fresh water and sediments into West Bay at an average flow rate of 20,000 cfs. More than 200 acres of new wetlands were created with 1.6 million cubic yards of material dredged during construction.

Replace Three Sabine Refuge Water Control Structures — (project types 2 and 3)

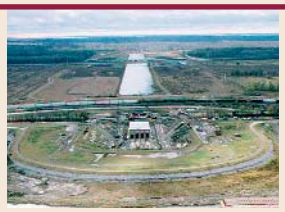
Lead Agencies: USFWS, LDNR
Location: Cameron Parish, nine miles south of Hackberry
Status: Construction completed in 2000 and 2001. As of December 2004, with the exception of one bay on each of two structures, the project is fully operational.
Problems: The existing water control structures at the Hog Island Gully, West Cove and Headquarters canals were inadequate to discharge excess water or deter saltwater intrusion—actions necessary to counteract hydrology changes, erosion and hurricane damage in the area. The structural deficiencies were contributing to the ongoing deterioration of thousands of acres of marsh due to saltwater intrusion and the waterlogging of marsh vegetation. Much of the marsh

2002

MARCH— The Corps and state begin work on the Louisiana Coastal Area-Comprehensive Coastwide Ecosystem Restoration Study

SUMMER— The Breaux Act conducts the first cycle of Adaptive Management Review

JULY— Davis Pond Freshwater Diversion begins operations



area, classified as fresh-to-intermediate in 1949, had become brackish-to-saline by 1999 and exposed to erosion by large expanses of open water, which had replaced the vegetation.
Restoration Strategy: Replace the inadequate control structures with new structures, which have substantially greater volume and management capacity.
Goal: Maintain intermediate and brackish vegetation communities and increase submerged vegetation over 953 acres.
Accomplishments: Water salinity has decreased up to 75 percent within the project area and, while data are still being analyzed, the positive benefits of increased submerged vegetation are clearly indicated. Water levels relative to the marsh surface have also been stabilized.

Raccoon Island Shoreline Protection/Marsh Creation — (project type 5)

Lead Agencies: NRCS, LDNR
Location: The western-most island of the Isles Dernieres barrier island chain in Terrebonne Parish
Status: Demonstration project completed in 1997. Construction for project expansion to begin in June 2005.
Problems: The Isle Dernieres barrier island chain has experienced some of the highest erosion rates of any coastal region in the world. Raccoon Island's shorelines have retreated, threatening one of the most productive bird habitats on the Gulf Coast.
Restoration Strategy: Reduce shoreline erosion rates by placing segmented rock breakwaters on the gulf side of the island and create additional island habitat with dredged sediments.
Goal: Reduce shoreline erosion by protecting this 150-acre barrier island from waves generated in the Gulf of Mexico.
Accomplishments: The demonstration project involved placing eight 300-foot-long breakwaters in the gulf, 300 feet out from the shoreline. While the goal was to reduce erosion, in fact, the end result was the expanse between the breakwaters and the island shoreline filled in with accreted material, growing the island and reversing the erosion rate. Additionally, a previously unseen, bonus phenomenon occurred—deposits of material also occurred on the gulf side of the breakwaters.

Isles Dernieres Restoration — East and Trinity Islands — (project type 5)

Lead Agencies: EPA, LDNR
Location: Terrebonne Parish, south of Cocodrie
Status: Completed June 1999
Problems: East, Trinity and Raccoon islands comprise three of the five islands in the Isles Dernieres barrier islands chain. Without restoration, East Island was expected to be gone by 1998 and Trinity by 2007. Both islands protect interior wetlands and serve as habitat for waterfowl and other migratory species.
Restoration Strategy: Construct temporary dikes in the bay behind the islands. Then create sloping elevated dune and marsh platforms by filling the area between the island's dunes and dikes with sediment dredged from Lake Pelto.
Goal: Restore East and Trinity islands.
Accomplishments: About seven and a half miles have been restored. East Island was expanded by 300 acres and Trinity by 500. Both islands now have dune elevations of eight feet, new vegetative plantings and sand fencing. **WM**

Definitions of Project Types

1. Water and Sediment Diversion— Diversions allow fresh water from the Mississippi or Atchafalaya rivers to be re-introduced through wetland areas. The flows provide the wetlands with a new source of sediment and nutrients and combat saltwater intrusion.

2. Outfall Management—Employed in conjunction with diversion projects, outfall management regulates water levels and flows, increasing the dispersion and retention time of fresh water, nutrients and sediment.

3. Hydrologic Restoration—This type of project reverts human-altered and troublesome drainage patterns toward more natural drainage patterns.

4. Shoreline Protection—Shoreline protection projects are designed to reduce or halt shoreline erosion.

5. Barrier Island Restoration—Designed to protect and restore barrier islands, this project type employs a variety of techniques, such as depositing dredged material to increase an island's size, placing rock breakwaters to reduce wave erosion, and placing sand-trapping fences and vegetative plantings to build and stabilize beaches and dunes.

6. Dredged Material Marsh Creation—Projects of this nature utilize dredged material, placing it in deteriorated wetlands or open water so that marsh plants will grow and form new marsh.

7. Sediment and Nutrient Trapping—Sediment and nutrient trapping is achieved by constructing or placing structures designed to slow water flow and promote the buildup of sediment.

8. Vegetative Planting—Used both separately and in conjunction with other project types, various kinds of marsh vegetation are planted to hold sediments together and stabilize soil.

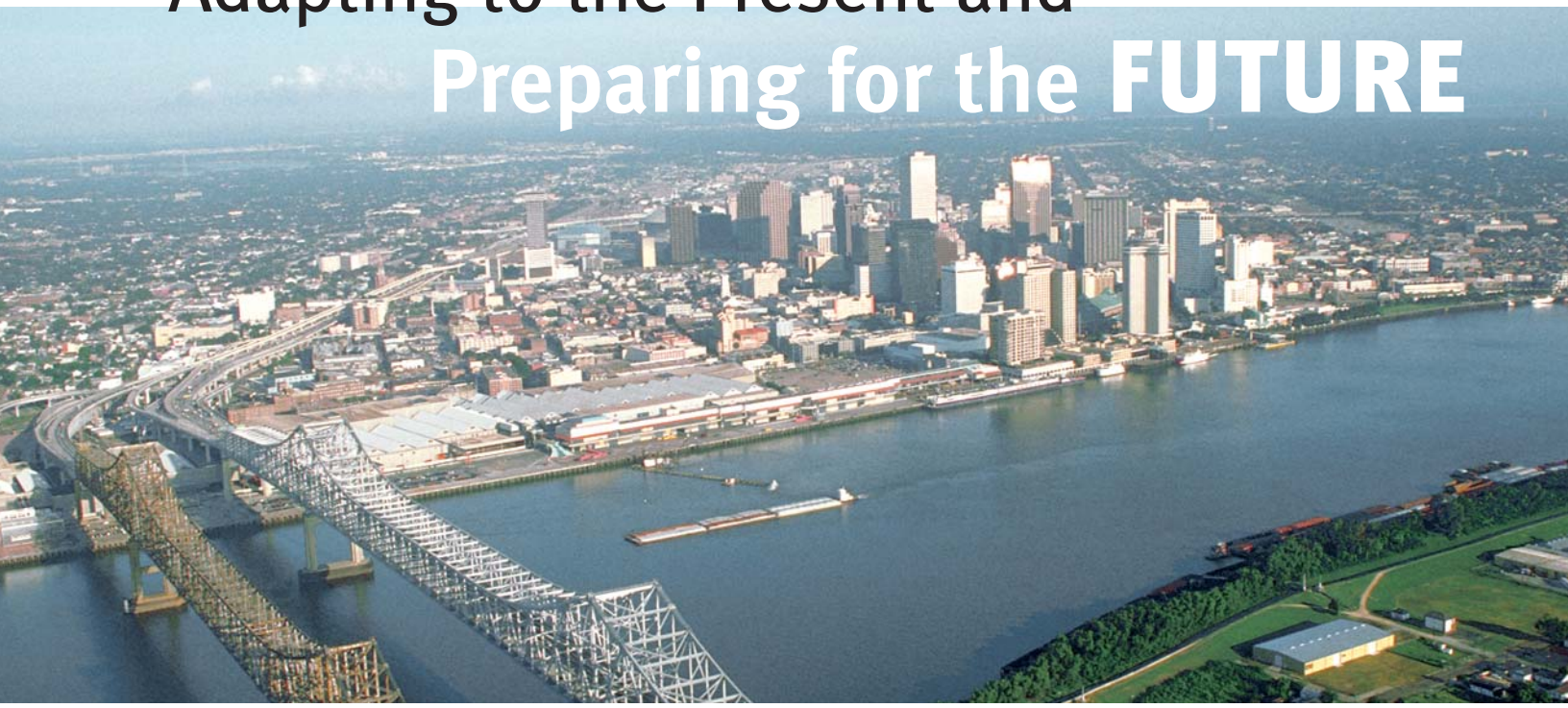
Many restoration projects employ two or more restoration techniques.

2003

AUGUST—Breaux Act Task Force adopts the Coastwide Reference Monitoring System

NOVEMBER—Largest project to date, West Bay Sediment Diversion project completed

Adapting to the Present and Preparing for the FUTURE



Over the past decade we have learned that projects that mimic or restore natural water flow and sediment delivery bring the best economic, social and environmental benefits to the coast. But coastal planners also realize that involving land and lease-owners early in the planning process is all-important. Government must have a strong sensitivity to their needs while negotiating for the greatest benefit to the state, the wetlands and the citizens who make a living on the coast. To this end, budgets are included for the administrative costs incurred in acquiring appropriate land rights for projects and, despite occasional controversy, the Task Force has managed to reach appropriate agreements. The goal is to protect and restore the wetlands with the least social and economic disruption for Louisianans.

2004

AUGUST—Breaux Act Task Force and 19 parish partners receive Coastal America 2004 Partnership Award

DECEMBER—Breaux Act renewed until 2019

Future Projects

There are currently 65 projects in various stages of planning and design. Of those, one of the most ambitious is the river re-introduction at Bayou LaFourche, approved in October 2001. Once a major distributary of the Mississippi, the bayou now carries only 1/20th of 1 percent of the river's flow—a mere average of 200 cubic feet per second. This project will employ pumps and siphons to re-introduce nutrient-rich river water from the Mississippi into the bayou—revitalizing nearly 85,000 acres of wetlands. Dredging will remove over 6 million cubic yards of sediment from the bayou and a sand trap will reduce the need for dredging in the future. Five additional monitoring stations will be added between Donaldsonville and Lockport.

Wes McQuiddy of the U.S. Environmental Protection Agency said this project "exemplifies CWPPRA's endorsement of re-introduction projects as a viable restoration tool. Much progress has been made on the Bayou Lafourche project, and I would say that it has undergone more rigorous planning than any other CWPPRA project to date."

Ecosystem Strategies

Three comprehensive coastal restoration plans are direct outgrowths of CWPPRA. The first, a 1993 *Comprehensive Restoration Plan,* outlined the first blueprint of projects by basin. This was followed by *Coast 2050: Toward a Sustainable Coastal Louisiana,* produced in 1998 with the cooperation of the public, local governments, stakeholders and Task Force members. *Coast 2050*, which was supported by all 19 coastal parishes, identifies the restoration strategies that offer the best restorative or protective solutions to wetlands loss within the nine hydrologic basins of the four coastal regions.

A third plan saw its beginnings in 2000 as the U.S. Army Corps of Engineers and state of Louisiana initiated feasibility reports to translate the Coast 2050 strategies into projects for each basin. At that time a series of feasibility reports over 10 years was envisioned.

Instead, that changed to a strategy of producing a single, in-depth feasibility study for the entire coast, and in March 2002 an interagency team was formed to develop the Louisiana Coastal Area (LCA) Comprehensive Coastwide Ecosystem Restoration Study. It would include a preliminary LCA report and draft environmental impact statement identifying seven alternatives for building sustainable coastwide ecosystems.

Early in 2004, the Administration directed that the LCA focus on identifying only the most critical ecological needs and proposing a "near-term" program of highly cost-effective projects to address those needs.

In November 2004 the Louisiana Coastal Area Ecosystem Restoration Study was released for public comment. The study, which outlines $1.9 billion in major, near-term projects, programmatic elements such as science and technology and beneficial use of dredged material, as well as additional longer range studies, will next be submitted to Congress for approval and funding. If authorized in a Water Resources Development Act, the normal course for civil works, the cost would be shared 65 percent federal funds, 35 percent state funds, for implementation of restoration projects, splitting the estimated cost, $1.28 billion in federal funds, $712 million in state funds.

Where Next for the Breaux Act?

In December 2004 Congress approved and President Bush signed a spending bill extending the Breaux Act through Sept. 30, 2019. Breaux, patriarch of the program, spearheaded the extension before retiring from the Senate.

The Breaux Act will therefore continue to provide funding, and based on estimated forecasts, the annual allocations could average $60 million in the coming years.

Besides the extension, the new law removes the spending cap on the Breaux Act's three programs: Louisiana Coastal Wetlands Restoration Projects, National Coastal Wetlands Conservation Projects, and North American Wetlands Conservation Program.

"The Breaux Act has a solid track record for executing effective coastal restoration projects in Louisiana," said Col. Peter Rowan, New Orleans district engineer for the U.S. Army Corps of Engineers and chair of the Breaux Act Task Force. "Through this program we have begun the long process of reversing the loss of land, marsh and critical habitat. With extension of the Act, the Task Force has the opportunity to continue the program in concert with the restoration opportunities outlined in the LCA Near-Term Plan." **WM**

2005

JANUARY—State of Louisiana and U.S. Army Corps of Engineers sign partnership agreement for LCA, Louisiana Coastal Area Ecosystem Restoration Study

Vermilion Bay Sediment Traps
Photo by: NOAA

WaterMarks

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