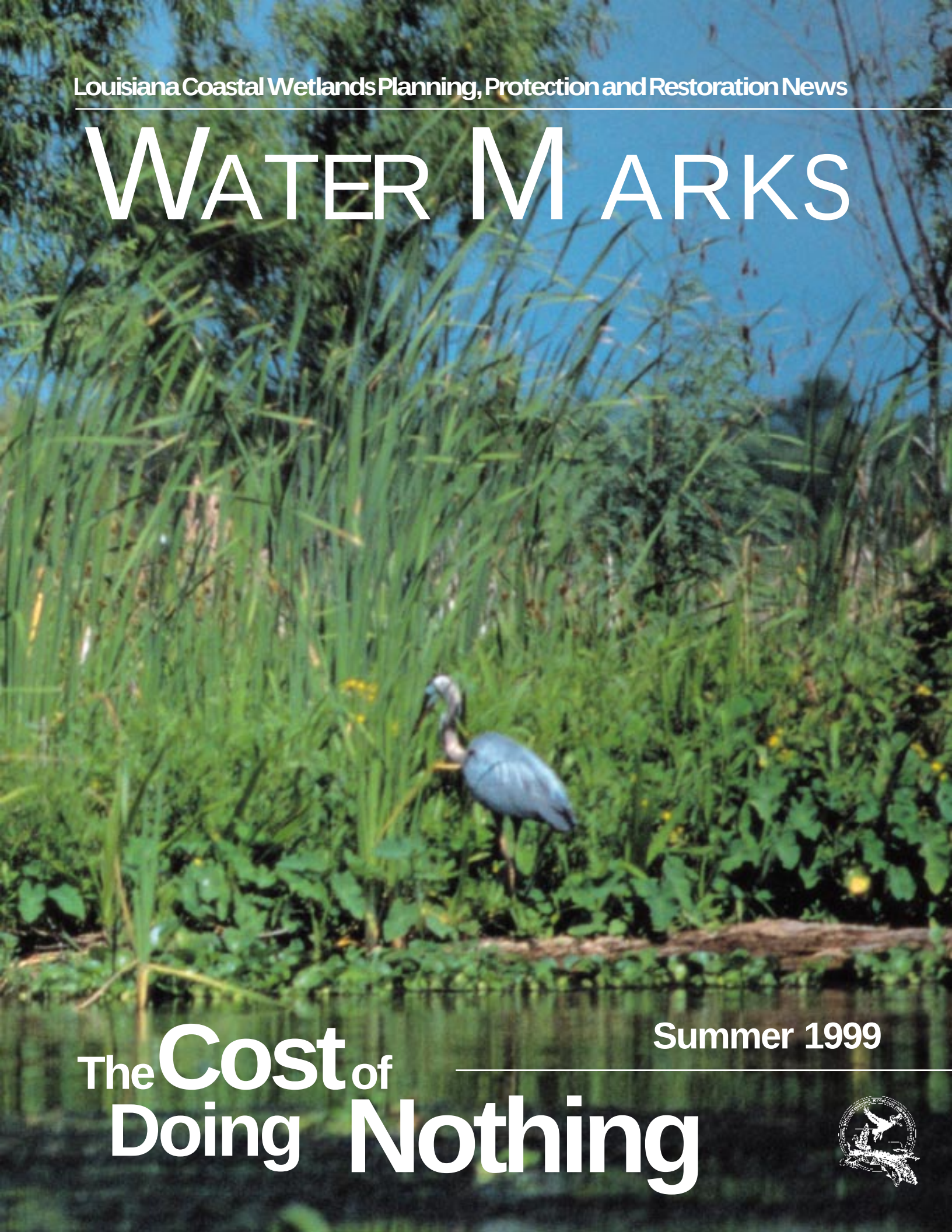
Louisiana Coastal Wetlands Planning, Protection and Restoration News

WATER MARKS



The Cost of Doing Nothing

Summer 1999

WATER MARKS

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WaterMarks is published quarterly 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 approximately $35 million annually for work in Louisiana. The state contributes 15 percent of the cost of project construction.

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About This Issue's Cover . . .
Herons are a common sight in Louisiana's coastal wetlands. (ACOE Photo)

Louisiana Coastal Wetlands Planning, Protection and Restoration News

In This Issue...

This special issue of *WaterMarks* is devoted to the written testimony of Jack Caldwell, secretary of the Louisiana Department of Natural Resources, before the United States Senate Energy and Natural Resources Committee on January 27, 1999. The committee was considering federal legislation to increase Louisiana's share of oil and gas royalties for financing wetlands restoration. Caldwell emphasized the price of coastal restoration and the even greater cost of "doing nothing." He identified industries threatened by wetland loss and the impact of that loss on Louisiana and the nation as a whole.

Caldwell's testimony (in part) is reproduced in this issue of *WaterMarks* not for the purpose of supporting any federal legislation, but instead to increase public understanding of the problem of coastal land loss in Louisiana.

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

http://www.lacoast.gov
http://www.savelawetlands.org
http://www.btnep.org
http://www.crcl.org

The Cost of Doing Nothing...

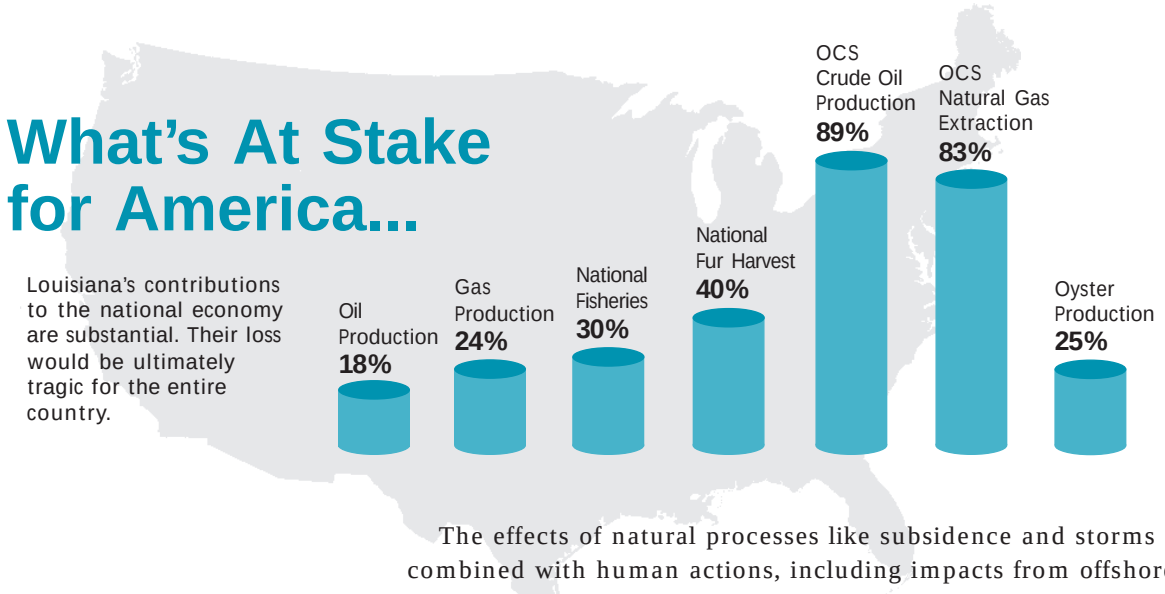
Louisiana's story is compelling. It's about an irreplaceable part of America's coast that is disappearing at a catastrophic rate. If the loss is not stopped and reversed, the very industry we discuss today will be at risk, along with the economy, infrastructure, wildlife habitat, fisheries, communities and unique culture of south Louisiana.

Louisiana's coastal wetlands represent 40 percent of all the salt marshes in the contiguous United States. During the past 50 years more than one thousand square miles have disappeared. During this decade, our coastal wetlands are being lost at the rate of 25 to 35 square miles a year, or the equivalent of a football field every 15 minutes. Even with current restoration efforts, we expect to lose almost one thousand more square miles by the year 2050. This dramatic loss represents 80 percent of all coastal wetland loss in the entire continental U.S.

continued on the following page...

How Much is 1,000 Square Miles?

If wetlands loss in Louisiana continues to go unchecked, the total amount of wetlands lost by 2050, set end to end in a one-foot wide strip, would reach from the Earth to the Moon and back 11 times.



The effects of natural processes like subsidence and storms combined with human actions, including impacts from offshore oil and gas exploration and development, have led to an ecosystem on the verge of collapse.

America is losing much more than acreage. Louisiana's coastal wetlands contribute 28 percent to the total volume of U.S. fisheries, provide winter habitat for one-half to two-thirds of the Mississippi Flyway waterfowl population and for many threatened and endangered species, the nursery ground for fish and shellfish for much of the nation's seafood consumption, and 40 percent of the nation's fur harvest. They provide for 400 million tons each year of waterborne commerce, and support and protect the multi-billion dollar a year oil and gas industry. Our coastal wetlands are home to more than two million people and serve as their buffer from hurricanes and storms.

Louisiana's coastal wetlands contribute 28 percent to the total volume of U.S. fisheries.

Louisiana Offshore Oil and Gas Activity

Eighteen percent of U.S. oil production originates in, is transported through, or is processed in Louisiana coastal wetlands with a value of $6.3 billion a year. Almost 24 percent of U.S. natural gas production originates in or is processed in Louisiana's coastal wetlands with a value of $10.3 billion a year.

Louisiana's OCS (outer continental shelf) territory is the most extensively developed and matured OCS territory in the United States. It has produced 88.8 percent of the crude oil and condensate and 83.2 percent of the natural gas extracted from all federal OCS territories from the beginning of oil and gas exploration and development in the U.S. through the end of 1996.

As of December 1998, Louisiana offshore leases totaled 5,363, with more than 27 million acres under lease, 130 active drilling rigs, 4,489 producing oil wells and 3,813 producing gas wells.

Our latest annual production data for 1997 shows that 353,846,995 barrels of oil and 3,881,352,353 MCF (thousand cubic feet) of natural gas were produced. Between January and July 1998, oil production was at 227,282,332 barrels, with gas at 2,281,832,468 MCF.

Secretary Caldwell's testimony continued...

As of October 1998, there were 3,439 platforms in the Gulf off Louisiana's coast.

In 1997, oil and gas production was valued at a combined total of $18.6 billion, with federal royalties totaling $2.9 billion.

Recently, the oil and gas industry has rebounded from a downturn in the 1980s. The main reasons are the discovery of oil and gas in deepwater fields of the central Gulf of Mexico, deepwater royalty tax relief, and new and improved technology used to extract oil from the deepwater Gulf.

Industry leaders are expressing a new optimism, and the frantic pace of drilling is breaking old records. The deepwater Gulf of Mexico has emerged as the country's most significant oil and gas province, and some estimates say within the next four to five years as much as 30 percent of the country's total domestic output will originate from the Gulf of Mexico.

Market analysts predict this intense level of exploration could last 10 years. The success of Louisiana's oil and gas industry contributes billions to the state and national economies every year. Offshore companies paid about $2.4 billion to vendors and contractors in 165 Louisiana communities in 1992 alone. Nearly 4,000 vendors serve offshore operations and employ 55,000 people, and more than 30,000 are employed offshore.

Louisiana's oil and gas industry has made multi-billion dollar investments in oil exploration throughout the coastal wetlands.

What's Causing the Problem?

Several factors contribute to Louisiana's burgeoning wetlands problem. Some of the most prominent are explained briefly below.

Levees

Levees confine the Mississippi River to its current path, preventing the annual spring flooding that deposited invaluable sediment and nutrients to wetlands.

Channeling

Over the last 200 years, industry and residents alike have cut numerous channels and canals through the wetlands for transportation and oil exploration. These channels provide a ready pathway for tidal exchange and the movement of unnatural water patterns, ultimately increasing erosion and wetlands demise.

Rising Sea Level

A world-wide rise in sea level has been occurring for the last several decades. While this is a natural planetary process, the problem is exacerbated by the heavy amount of channeling in coastal Louisiana. With more channels, salt water has more avenues for invasion.

Saltwater Intrusion

The result of rising sea level and channeling is saltwater intrusion. Freshwater and brackish coastal wetlands are very complicated ecosystems. The intrusion of foreign substances, like too much salt water, can offset the balance and rapidly destroy wetlands.

Subsidence

Subsidence is a natural process of ground settling. In wetlands systems, subsidence is typically offset by the accumulation of new sediments during spring floodings. But because spring flooding no longer occurs, new sediments don't accumulate, and subsidence gains the advantage.

Barrier Island Loss

Louisiana's barrier islands are the first line of defense against hurricanes and tropical storms. As they have degraded over time, their protective nature has grown weaker. Additionally, the islands are key habitat for several wildlife species.

The United States depends on the oil and gas shipped through and produced in Louisiana's coastal zone.

Port Fourchon is the geographic and economic center of offshore drilling efforts along the Louisiana Gulf Coast. More than $700 million in public and private investments have been made in the complex, and the port will provide support to 75 percent of the deep-water drilling prospects in the Gulf. Its tonnage has increased 275 percent in the last five years, and it is anticipated to double again within two years. It handled more than 30 million tons of cargo in 1996.

More than 6,000 people currently depend on the port as an avenue to and from offshore facilities, and more than 13,000 people depend on it for jobs, supplies, facilities and as a hurricane evacuation hub to safer locations north of the coast. Most of the major and independent oil and gas companies operating in the Gulf have a presence at Port Fourchon. On any given day, more than 1,000 trucks are unloaded and loaded there, and pipe yards, shipyards, platform

Situated right on the Gulf Coast, Port Fourchon is exposed to the worst that hurricanes and tropical storms can muster. Continued wetlands loss in the area will only increase the potential for damage.

construction facilities, service bases and barge terminals within the immediate service area of the port are working at or near capacity.

Less than 20 miles southeast of Port Fourchon is the Louisiana Offshore Oil Port (LOOP), built by a group of major oil and pipeline companies. It serves as the central unloading and distribution port for all incoming supertankers to the Gulf region. The supertankers offload crude oil into LOOP's offshore pipeline continuously. The oil is then piped north to Lafourche Parish where it is stored and piped to markets all over the country.

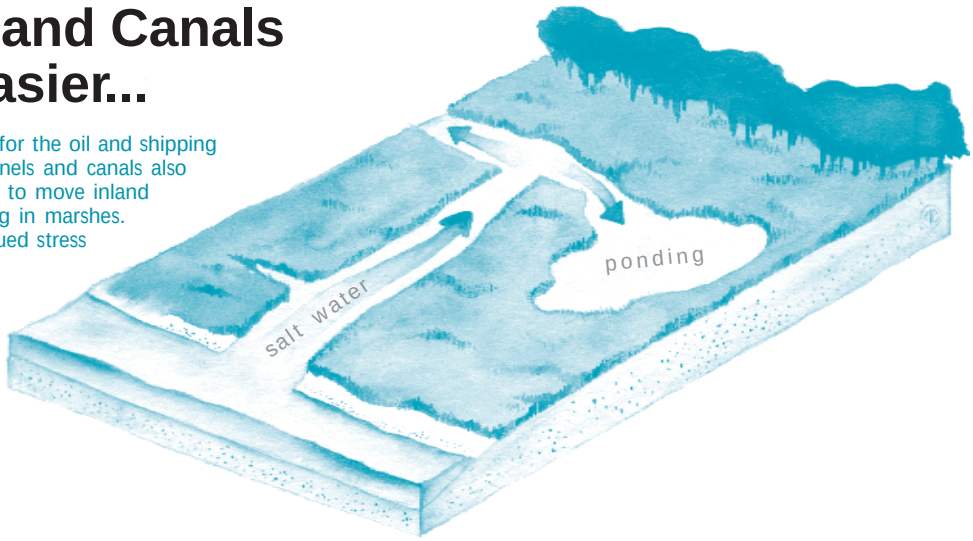
The Oil and Gas Industry — Impacts Come Full Circle

Secretary Caldwell's testimony continued...

The United States depends on the oil and gas shipped through and produced in Louisiana's coastal zone. Wetlands and barrier islands protect the billions of dollars worth of infrastructure that supports

Channels and Canals Make It Easier...

While they improve access for the oil and shipping industries, man-made channels and canals also make it easy for salt water to move inland and increase water ponding in marshes. In the long run, the continued stress of all this water increases erosion and the eventual loss of marsh vegetation.



the industry from wave and storm damage and is an integral part of the nation's energy system. The industrial uses associated with offshore exploration and production, pipelines, and canal developments have directly and indirectly contributed to marsh destruction, putting the industry itself at risk.

Navigation channels and canals dredged for oil and gas extraction have dramatically altered the hydrology of the coastal area. North-south channels and canals have brought salt water into fresh marshes, killing vegetation and habitat. East-west canals have impeded sheetflow, ponding the water on the marsh and leading to stress and eventual loss. Canals have also increased tidal processes that impact the marsh by increasing erosion. Channel deepening has caused saltwater intrusion, endangering the potable water supply of much of the coastal region.

As of 1997, there were more than 20,000 miles of pipelines in federal offshore lands and thousands more inland. They all make landfall on Louisiana's barrier islands and wetland shorelines. The barriers are the first line of defense against combined wind and water forces of a hurricane, and they serve as anchor points for pipelines originating offshore. These islands protect the wetland habitants from an offshore oil spill and are critical in protecting the state's wetland-oriented oil and gas facilities and thousands of jobs directly and indirectly tied to the industry.

If the barrier islands erode entirely, as expected in the next 50 years, platforms, pipelines and wells will be damaged in increasing numbers. More than 58 percent of the region's wells are located in coastal parishes. Most of them are more than 50 years old and were not designed to withstand the conditions of open water they could face in the next 50 years. More than 30,000 wells are at risk within the 20-parish coastal area. Wells that were on land only a few years ago

Oil rigs and barge-mounted drilling hardware rely on navigation canals cut through the wetlands to reach their drilling sites. Unfortunately, these canals are also contributing to wetlands degradation.

The state's wetlands and barrier islands protect Louisiana's internationally important port system.

are now surrounded by water, a situation hazardous to boat traffic and an environmental liability to habitat and fisheries.

Workers, equipment, supplies and transportation facilities that accompany the rapid growth of the offshore oil and gas industry depend on land-based facilities. Roads, housing, water, acreage for new business locations and expansions of existing businesses, waste disposal facilities and other infrastructure facilities will be needed in localized areas along the Louisiana coast. Existing land-based infrastructure is already heavily overburdened and needs expansion and improvement, requiring extensive financial infusions from state and local governments. For example, Louisiana's only highway leading to Port Fourchon is on the verge of crumbling under the strain of the thousands of trucks that travel on it each week. It will cost about $266 million to make the highway safe and fully useable.

LOOP also depends on onshore infrastructure protected by wetlands. Without this protection, America will lose an essential trade and navigation center that would affect commerce throughout the world.

Other Impacts From Coastal Wetland Loss

Secretary Caldwell's testimony continued...

Louisiana ranks first in the nation in total shipping tonnage, handling more than 450 million tons of cargo a year through its deep-draft ports of New Orleans, Baton Rouge, Lake Charles, South Louisiana, Plaquemines Parish and St. Bernard. The ports between Baton Rouge and New Orleans are the largest by tonnage carried in the world and serve the entire eastern part of the country.

National Shipping Tied to Louisiana Ports

At the foot of the Mississippi's 19,000-mile river system lie the six deep-water ports of southern Louisiana. These outlets to the world handle more than 450 million tons of cargo annually — much of it in exports from industry and agriculture throughout the nation. Continued wetlands loss will ultimately expose several of these ports to open water, rendering them vulnerable to severe damage from hurricanes and tropical storms. Losing these ports would paralyze not only Louisiana but also the rest of the nation.

The state's wetlands and barrier islands protect this internationally important port system, as well as navigation channels, waterways and anchorages from winds and waves. At present land loss rates, more than 155 miles of waterways will be exposed to open water in 50 years, leaving this key port system at risk and businesses throughout the nation losing preferred links to European and Pacific Rim markets.

Because of our coastal marshes and barrier islands, Louisiana's commercial and recreational fisheries are among the most abundant in America, providing 25 to 35 percent of the nation's total catch. Louisiana is first in the annual harvest of oysters, crabs and menhaden, and is a top producer of shrimp. Some of the best recreational saltwater fishing in North America exists off Louisiana's coast. The reason for this abundance is that our coastal marshes provide the nursery for young fish and shellfish.

The long-term impacts of wetland loss relate to many species of fish and shellfish that depend on these habitats, translating into economic losses that affect the entire region and the nation. Nearly all Louisiana commercial species use the marsh at some stage of their life cycle, and fisheries loss will be proportional to marsh loss. By the year 2050, the annual loss of commercial fisheries will be nearly $550 million. For recreational fisheries, the total loss will be close to $200 million a year.

Louisiana's coastal wetlands provide a diverse habitat for many wildlife communities. The wetlands provide life cycle needs for resident species and wintering habitat for migratory waterfowl and other birds. Land loss and habitat change by the year 2050 will affect the nation's wildlife population. Sea birds, wading birds and shore birds are expected to decrease, along with raptors and woodland birds. Alligators and furbearers will decrease in certain areas of the coast, as will the abundance of ducks and geese.

Louisiana's cities and coastal communities are at great risk as the wetlands and barrier islands disappear, leaving people with no buffer from storm surges and the force of high winds. Miles of hurricane protection levees will be exposed to open water conditions, forcing widespread relocation and abandonment of coastal communities.

Wetlands create friction and reduce high winds when hurricanes hit. They also absorb hurricane storm surges. Scientists estimate that every 2.7 miles of wetlands absorbs one foot of storm surge. The 3.5 million acres of wetlands that line Louisiana's coast today have storm protection values of $728 million to $3.1 billion.

The recent strike of Hurricane Georges, just a few miles east, brought home just how devastating a direct hit to New Orleans would be. The potential loss of life and property is incomprehensible, and the threat of disaster was not lost on the city's residents. Bumper-to-bumper traffic snaked out of the city north and west for

Herons (top) and roseate spoonbills are just two of the many species that inhabit Louisiana's coastal marshes. Loss of this precious habitat could lead to the long-term demise of a wide variety of coastal wildlife.

Louisiana's cities and coastal communities are at great risk as the wetlands and barrier islands disappear, leaving people with no buffer from storm surges and the force of high winds.

hours as more than one million people evacuated the Crescent City. Hotel space was scarce as far north as Memphis.

With the loss of barrier islands and wetlands over the next 50 years, New Orleans will be a Gulf Coast city and will lose its wetland buffer that now protects it from many effects of flooding. Hurricanes will pose the greatest threat, since New Orleans sits on a sloping continental shelf that makes it extremely vulnerable to storm surges.

More than two million people in inland south Louisiana will be subject to more severe and frequent flooding than ever before. Coastal communities will become shorefront towns, and the economic and cultural costs of relocation are estimated in the billions of dollars.

We expect an increase in homeowner and commercial insurance rates by 20 percent.

We expect an increase in homeowner and commercial insurance rates by 20 percent in some cases. Insurance coverage for wind damage may be discontinued, deductibles will increase by 20 percent by next year, and large insurance companies will stop issuing new policies in the coastal zone.

South Louisiana's unique culture is a national treasure, and the very fabric of its distinct way of life is being eroded with the coast at great intangible cost to the nation and the world.

Secretary Caldwell's testimony continued...

Coast 2050: A Vision of the Future

Louisiana began work in earnest to restore its coast in 1989 with the passage of Act 6 and in 1990 with passage of the Breaux Act, or CWPPRA (The Coastal Wetlands Planning Protection and Restora-

tion Act). Since then, more than 80 restoration projects have been initiated or completed. We have gained the technical know-how, and, by working with our federal partners, we are cementing long-term partnerships as we build projects together.

During the past 18 months, the Coast 2050 Plan was developed in partnership with the public. It is a technically sound strategic plan to sustain Louisiana's coastal resources and to provide an integrated multiple-use approach to ecosystem management.

Coast 2050 has received unanimous approval from all 20 Louisiana coastal parishes, the federal Breaux Act (CWPPRA) Task Force, the State Wetlands Authority and various environmental organizations, including the Coalition to Save Coastal Louisiana. This approval is unprecedented.

The main strategies of the plan are watershed structural repair, such as restoration of ridges and barrier islands, and watershed management, such as river diversions and improved drainage. In making recommendations, the process did not view the number of coastal wetland acres saved as the only priority, but considered other resources as well, such as roads, levees, fish and wildlife resources, and public safety and navigation, in making recommendations.

The Breaux Act (CWPPRA) Task Force, the State Wetlands Authority and the Department of Natural Resources Coastal Zone Management Authority will establish it as a unifying strategic plan of action. It will become the CWPPRA restoration plan and Louisiana's overall strategic coastal plan. Proposed projects will be measured against the strategies in the Coast 2050 Plan before being approved.

In one way or another, everyone in the nation will feel the enormous loss of land along Louisiana's coast, and current restoration efforts will only prevent 22 percent of the land loss projected to occur within the next 50 years. However, we know that a comprehensive restoration program, using the Coast 2050 Plan as a guide, could restore and maintain more than 90 percent of the coastal land existing today.

The price tag is $14 billion to construct more than 500 projects that would be needed, but the price of infrastructure alone that would be lost is more than $150 billion.

Louisiana and America cannot afford to wait. ❍

Some of the information in this testimony was taken from the preliminary final draft of *Coast 2050: Toward a Sustainable Coastal Louisiana;* the final draft of *No Time to Lose*, a report by the Coalition to Restore Coastal Louisiana; and reports written by Dr. Donald W. Davis, administrator, Louisiana Applied Oil Spill Research and Development Program.

The 2050 Approach...

Using the Coast 2050 Plan as a guide, we could restore and maintain more than 90 percent of the coastal land existing today.

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