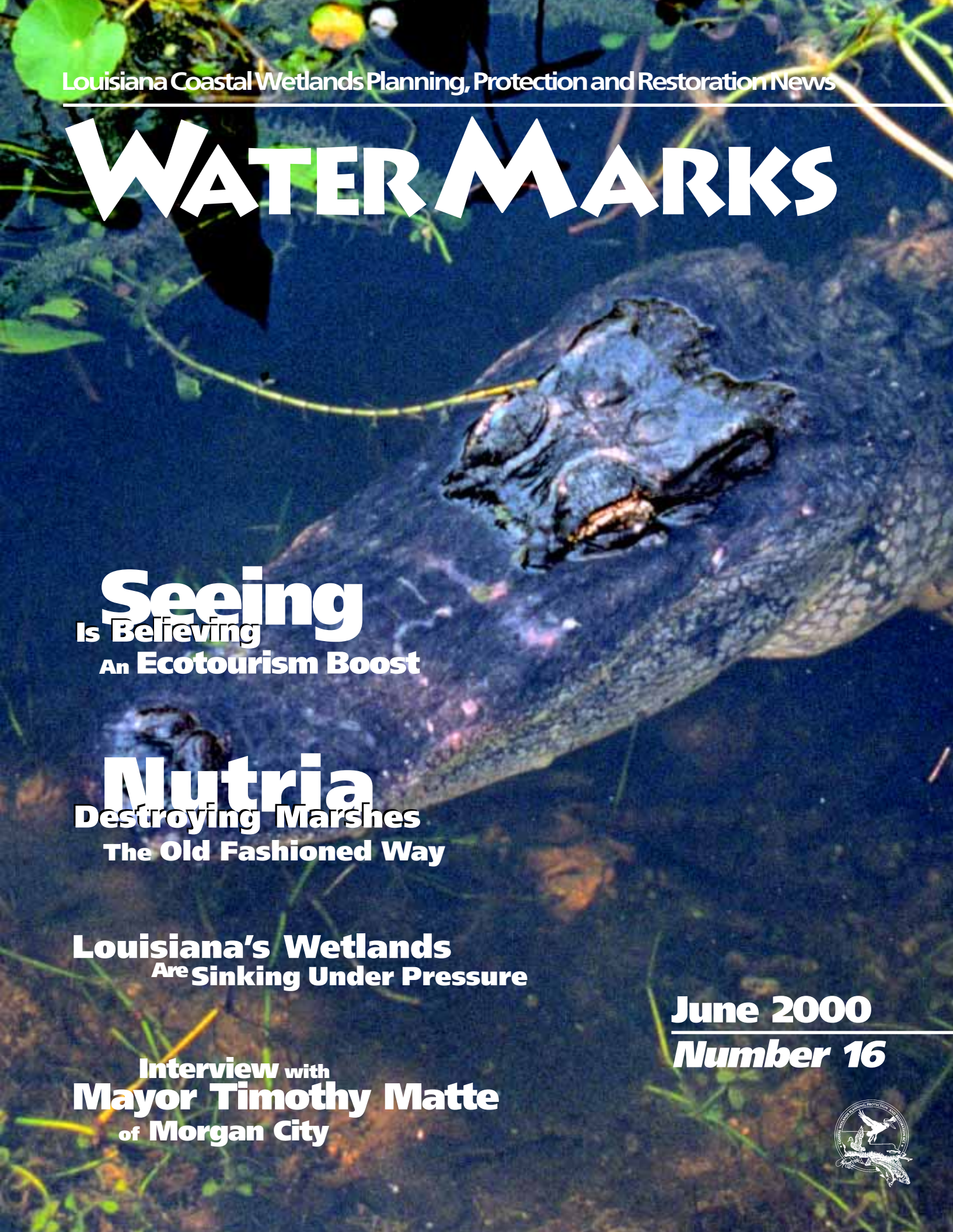
Louisiana Coastal Wetlands Planning, Protection and Restoration News

WaterMarks



Seeing Is Believing
An Ecotourism Boost

Nutria
Destroying Marshes
The Old Fashioned Way

Louisiana's Wetlands
Are Sinking Under Pressure

Interview with Mayor Timothy Matte
of Morgan City

June 2000
Number 16

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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 . . .

Once threatened, the alligator is now frequently seen in Louisiana wetlands. (DNR Photos)

Louisiana Coastal Wetlands Planning, Protection and Restoration News

In This Issue...

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

Icon Legend

CWPPRA engineers rely on four basic techniques when creating, protecting or restoring coastal wetlands. In issues of *WaterMarks*, the techniques used in each project are identified by the icons explained below.

Vegetative
Vegetative techniques replace plant life lost through water ponding, erosion and saltwater intrusion.

Structural
Structural techniques use natural and man-made materials to protect existing wetlands subject to erosion or subsidence.

Sedimentary
Sedimentary techniques mimic the natural process of accretion (wetland building) by using diverted or dredged sediments.

Hydrologic
Hydrologic techniques increase or decrease the amount of water flowing into or out of wetlands, returning water flows to more natural patterns.

Seeing Is Believing

Louisiana Office of State Parks

Ecotourism Boosts Awareness of Wetlands Loss

Ecotourism, the sometimes serious, often serendipitous search for an experience of nature, has become the rising star of the travel industry. Once limited to the elite and the offbeat, over 23 million Americans now seek opportunities that put them in touch with the pristine parts of our world.

"It's about immersing yourself in nature, studying and admiring plants and animal life for their own sake and in their own environment," says Bo Boehringer, communications director for the Louisiana Office of State Parks. For some, that might mean hiking, canoeing or rafting, while for others, it's cross-country skiing or visiting a specially designed ecotourism preserve like Louisiana's Tickfaw State Park.

Driving all of these activities is the desire for a deeper, more fulfilling connection with the natural world. According to Boehringer, "As Americans become disenchanted with spending their money on more and more things, they turn to nature for experiences that are enduring." Moreover, they're doing so at a remarkable pace. For example:

- Ecotourism is increasing at a rate of 10 to 15 percent a year, the largest jump among all outdoor recreational activities.
- Americans now spend $10 billion annually on trips specifically to watch wildlife.
- Thirty million American adults take a trip of 100 miles or more to visit a national park every year.
- According to a 1998 survey, 48 percent of Americans who take a trip, regardless of destination, will participate in a nature-based activity.

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"Ecotourism is increasing at a rate of 10 to 15 percent a year."

Seeing Is Believing

Ecotourism Boosts Awareness of Wetlands Loss

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This skyrocketing interest in ecotourism also boosts the hopes of Louisianans working to preserve and restore the state's coastal wetlands. They believe that more and more Americans will see for themselves the meaning of 30 square miles of annual coastal wetlands loss.

Chicagoans, for example, who experience Louisiana's coastal wetlands firsthand may acquire a visceral understanding of the gravity of the habitat loss to egrets, herons, ibis and other waterfowl. They may also recognize that the Mississippi River that runs through their state is the same river that feeds and replenishes the marshes of the Atchafalaya, Barataria and Terrebonne basins. And if this connection is made, many Louisianans are confident that the nation will be ready to support federal funding at levels that can truly address the state's problem of coastal wetlands loss. ❍

Louisiana Office of State Parks

Nutria
Destroying Marshes
The Old Fashioned Way

Louisiana Department of Wildlife and Fisheries

In the waters of Louisiana coastal marshes, chisel-toothed creatures the size of small dogs swim, eat and multiply. They number in the millions and threaten the existence of the state's wetlands. Commonly called "nutria," the spread of these South American natives has been devastating.

Imported to Louisiana from Argentina in the 1930s, nutria were raised domestically for several years. Whether they escaped or were intentionally released remains unknown. But, by one means or another, they entered Louisiana's marshes, where they have flourished.

Once a boon to the trapping industry, ever-increasing numbers of these large South American rodents now destroy coastal marsh the old fashioned way – they eat it. In their search for food, nutria graze heavily upon the plants that bind the fabric of the marshes together. Mature nutria weigh an average of 12-16 pounds, and the animal's daily consumption of plants may equal 25 percent of its body weight.

With population densities as high as 20 animals per acre, nutria can quickly remove all vegetation in a wetland. And once coastal wetlands have been denuded, they can no longer withstand storm surges and tidal erosion or provide a buffer to inland areas.

Imagining that a single animal species could endanger vast expanses of marsh may be difficult; however, the threat is real. Through aerial surveys, Louisiana Department of Wildlife and Fisheries personnel have identified thousands of acres of marsh where nutria have removed all vegetation and left little more than open water. As Allan Ensminger, retired chief of the department's Fur and Refuge Division, says, "The influence of nutria

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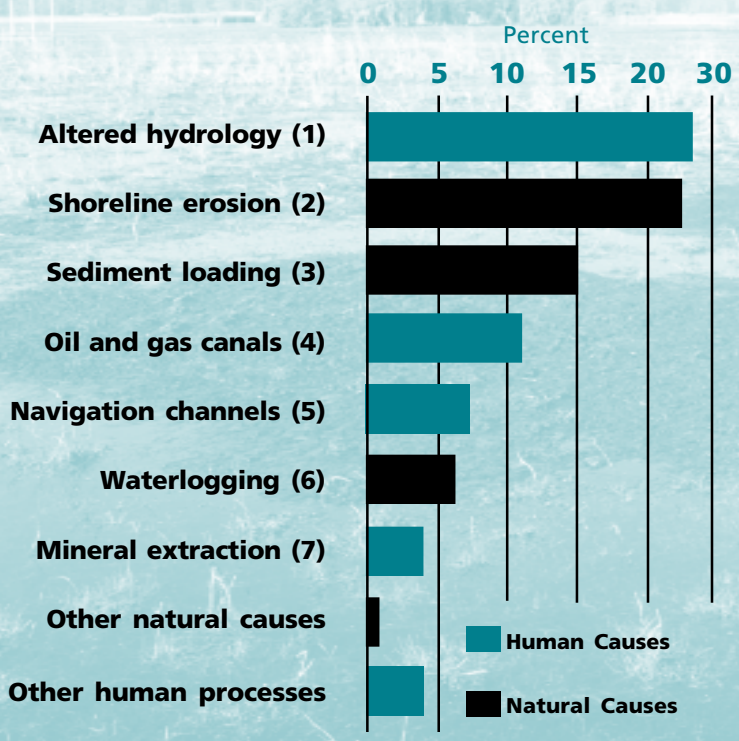
Louisiana's W
Are Sinking

Subsidence — the word has a heavy, technical and unfamiliar sound, but in fact, the term simply refers to land that is sinking. In Louisiana's coastal wetlands this phenomenon has occurred for thousands of years, always being offset by new accumulations of soil. The result was a cycle with the following components:

- Spring flooding delivered sediments and nutrients from the Mississippi River to the marshes.
- River sediments settled to the marsh floor.
- Plants grew rapidly, decayed and added to the soil at the bottom of the marsh.
- The weight of the accumulated layers of soil compacted the earth below making way for the process to begin again.

That cycle, however, has been broken. Levees, built to protect the land from floods, keep water out of the marshes, depriving them of sediments and nutrients. Consequently, soil accumulation has slowed significantly – but subsidence has not. The old layers of soil

Deltaic Plain Coastal Land Loss: Human & Natural Causes



(1) Altered hydrology – levees cut off flow and sediments and cause increased flooding. Canals or channels increase flooding or cause saltwater intrusion.

(2) Shoreline erosion – storms cause land loss on the fringes of bays, lakes, and bayous.

(3) Sediment loading – buildup of thick sediments presses on the soil below and causes accelerated subsidence.

(4) Oil and gas canals - construction directly destroys land.

(5) Navigation channels – construction directly destroys land.

(6) Waterlogging –"natural" subsidence causes loss.

(7) Mineral extraction – removal of minerals from beneath the soil causes increased subsidence.

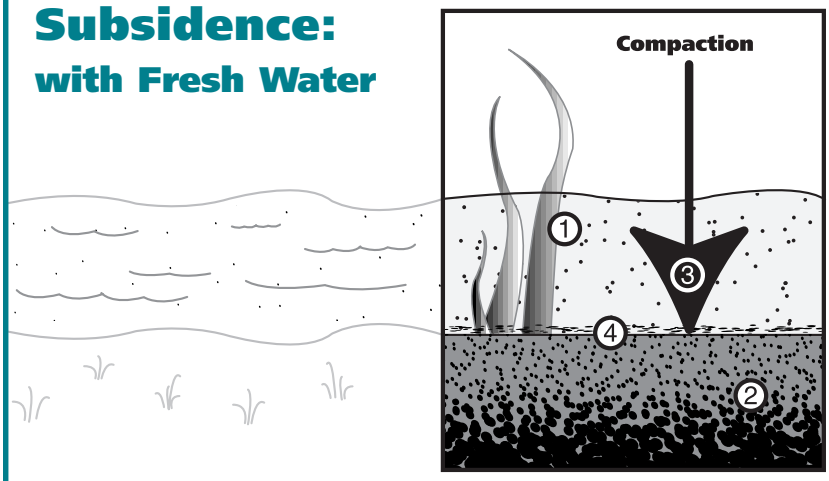
Source: *Natural and Human Causes of Coastal Land Loss in Louisiana*; 1996; Penland, Mendelssohn, Wayne & Britsch

Wetlands g Under Pressure

continue to compact. In the nutrient-poor, deepening water, the marsh plants die and ponds develop. Eventually, shallow lakes replace the marsh.

While subsidence is one of the major causes of coastal land loss, wetlands are also affected by other factors, some natural, some man-made. For example, channels and canals built for navigation or oil and gas access draw salt water into the freshwater marshes, while natural erosion occurs on the shoreline of bays and lakes. This combination of forces contributes to the loss of 25 square miles of wetlands each year in coastal Louisiana (see chart on previous page). ❍

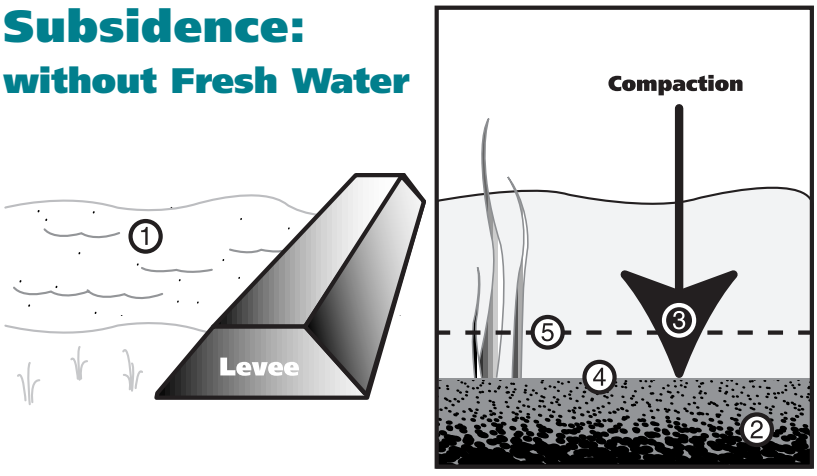
Subsidence: with Fresh Water



1. Fresh water carries nutrients and sediments from annual floods
2. Soil is built from sediments and organic plant material
3. Soil compacts
4. Level of marsh floor is maintained, water depth remains stable

Sediments from annual flooding and decaying materials allow the floor of a marsh to remain at a constant level.

Subsidence: without Fresh Water



1. Fresh water is blocked
2. Soil buildup from sediments and plant materials slows
3. Soil compacts, subsidence occurs
4. Level of marsh floor drops, water depth increases
5. Previous marsh floor

Even when fresh water is absent, compaction continues and subsidence occurs. As a consequence, water depth increases, plants die and ponding results.

Quick News

Barataria Feasibility Study Begins

ACOE photo

In February, the New Orleans District of the U.S. Army Corps of Engineers and Louisiana Department of Natural Resources signed the Coast 2050 Feasibility Cost Share, paving the way for a $6 million study of the Barataria Basin. According to Jack Caldwell, DNR secretary, the study will lay the foundation for pursuing funding resources outside the Breaux Act.

The Barataria Basin was selected because it is currently experiencing the most rapid land loss of any coastal area in Louisiana — almost 11 square miles annually. The study will focus on marsh creation, barrier island restoration and river diversion strategies. ❍

Waste Not, Want Not

Staff at the Barataria-Terrebonne National Estuary Program (BTNEP) has come up with an interesting idea — pump storm-water runoff into nearby wetlands. Most storm water is currently pumped into man-made canals, wasting potential nutrients and sediments that could benefit wetlands. Redirecting the output of drainage systems throughout the estuary could improve the condition, or at least slow the degradation, of nearby marsh.

To that end, BTNEP, the Terrebonne Parish Consolidated Government and the Gulf of Mexico program are encouraging the construction of a pump station near the Point-aux-Chenes Wildlife Management Area. The pump would re-direct water currently pumped into Bayou Terrebonne and send it into more than 22,000 acres of nearby brackish and saline marsh. If successful, the station could be used as a model for construction of similar stations throughout the estuary. ❍

Nutria
Destroying Marshes The Old Fashioned Way

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alone is sufficient to cause the marshes to continually decline, jeopardizing their existence."

During the early 1960s, a demand for nutria pelts produced attractive fur prices and a corresponding incentive for trappers to harvest the animal. For a quarter of a century, trapping curbed nutria population growth. Unfortunately, fur prices fell in the mid-1980s and trapping diminished to insignificant levels. Since then, nutria populations have grown dramatically, as has the damage the animals inflict.

With countless numbers of nutria now living in coastal wetlands, experts are diligently seeking solutions. Greg Linscombe, program manager for the Fur and Refuge Division, Louisiana Department of Wildlife and Fisheries, says, "If we can reduce the nutria population by at least 500,000 each year, the vegetative damage caused by these animals will be dramatically reduced."

To increase the harvest of nutria, the department initiated an innovative approach. Its strategy involves developing domestic and international markets for nutria meat, thereby creating a financial incentive for trappers. Nutria recipes abound, international business concerns have expressed an interest, and there is hope we might see an expansion in the harvest of this chisel-toothed threat to Louisiana's marshes. ❍

A Closer Look at

Myocaster coypus (Nutria)

Native to South America, these brown, marsh-dwelling, semi-aquatic rodents may weigh more than 20 pounds when mature. Long, bristly whiskers give them a moustached appearance that contrasts with their sparsely haired, round tails. Four dark-orange front teeth, that may be an inch long, enable these plant eaters to forage on the often tough and fibrous marsh vegetation.

Nutria, which multiply prolifically, reach sexual maturity at four to eight months of age, breed throughout the year and produce an average litter of four to six young.

With webbed rear feet, these animals are well adapted to an aquatic environment. They are competent swimmers who can nurse their young in the water. Even day-old pups swim with their mother while nursing from one of the nipples located high on the female's sides. ❍

Louisiana Nutria Recipe

Chef Philippe Parola Commandeur des Cordon Bleu de France
Chef Parola Enterprises: Jackson, LA www.chef-parola.com

Heart Healthy "Crock-Pot" Nutria

2 hind saddle portions of nutria meat
1 tomato, cut in big wedges
2 carrots, sliced thin
1/2 cup white wine
2 teaspoons chopped garlic
1 cup demi glace (optional)
1 small onion, sliced thin
2 potatoes, sliced thin
Brussel sprouts
1 cup water
salt and pepper to taste

Layer onion, tomato, potatoes, carrots and Brussel sprouts in crock pot. Season nutria with salt, pepper and garlic to taste and place nutria over vegetables. Add wine and water, set crock pot on low and let cook until meat is tender. Cook for approximately 4 to 6 hours. Garnish with vegetables and demi glace (4 servings).

Louisiana Department of Wildlife and Fisheries

The WATER MARKS Interview

Timothy Matte

Mayor of Morgan City

Mayor Matte was elected to the city council of Morgan City in 1987. He served five and a half years as mayor pro tem and took office as mayor in January of 1993.

The Breaux Act, federal legislation funding the planning of coastal wetland restoration and preservation, has been in place for a decade. Reflecting on that 10-year period, Mayor Matte discusses the need for consensus within the state, a recognition that the problem of coastal wetlands loss goes beyond Louisiana and the necessity for increased federal funding.

What lessons have been learned in the 10 years since the passage of the Breaux Act?

I think we have always had a pretty good understanding that the problems of southern Louisiana were related. It took us a little longer to realize that the solutions had to be equally interconnected. We've now learned that for a solution to be a good one, it has to be good for everyone.

How about an example.

Back in the '80s Morgan City supported a plan called the Avoca Island Levee Extension. It was clear to us that the plan addressed our flood control problem by pushing water from the Atchafalaya farther out into the Gulf. What we didn't adequately consider is that Terrebonne Parish believed our solution would cut them off from water they desperately needed to rebuild their coastal marshes. Because we didn't fully recognize that our solution had to consider everyone, we found ourselves in a standoff. We were visiting Senator Breaux's office in the morning to urge his support of the project, and officials from Terrebonne parish were there in the afternoon opposing it.

"The solutions, just like the problems, are interconnected."

And have things changed since then?

Absolutely. Morgan City won't support projects that hurt our neighboring parishes, even if they happen to work for us. We've come to see that our destinies are linked. So we aggressively support projects in Terrebone Parish that restore their coastal wetlands even though we don't have wetland loss within our parish. Why? Because we depend on those wetlands to protect us from hurricanes coming out of the southeast.

The river has always tied us together, but now we're coming up with solutions with that idea firmly in mind. The Lower Atchafalaya Re-evaluation Study marks a real step forward in this effort. The study will draw up plans that meet

the needs of parishes, port commissions, commercial and recreational fisherman, as well as the expectations of groups like the Coalition to Restore Coastal Louisiana and the Sierra Club. I'm convinced this is an approach that can work as long as everyone understands the crisis we face, the consequences of doing nothing and the necessity of compromise.

So how far up the river do you take this idea of being connected?

All the way up. Unless we can convince the people of Minnesota that they have a self-interest in controlling flooding and restoring coastal wetlands in Louisiana, we'll never accomplish much. We have to make the case that this is a national issue. As of yet, we haven't succeeded.

Practically speaking, what does that mean?

It means that other states will have to understand that it's in their best interest to spend a lot more federal dollars in Louisiana. It means that they'll have to be convinced that it's worth the cost to take dramatic initiates like diverting the course of the Mississippi or reconstructing barrier islands. Right now Congress is considering a bill titled the Conservation and Reinvestment Act, or CARA. This bill would re-direct the tax revenues that come from oil and gas taken from the outer continental shelf. States like Louisiana that provide all the public services for the oil and gas industry will receive a significant share of those taxes. It will take the kind of dollars included in this bill to do what needs to be done.

And what's the justification for that kind of national commitment?

States like Louisiana have had to bear a huge cost for providing the country with a plentiful supply of oil and gas. As you fly over our coast, you can see the oil and gas canals that have been cut across our marshes letting in salt water and killing the vegetation. What's less obvious, and often forgotten, is that the levels of our public services are much higher than they would be without the demands of the oil and gas industry. For example, in Morgan City we have a jail with a 140-bed capacity when a jail in a typical city of our size would have a capacity of 30 beds or less. The same disproportionate demand applies to our hospitals, roads, water and sewer systems.

"We've come to see that consensus is something we're able to achieve in Louisiana."

In spite of the difficulties, you seem to be optimistic about Louisiana solving its problem of coastal wet land loss.

I am optimistic as long as we can convince the nation that this is more than just Louisiana's problem. If we can do that, then I believe we have the capability to make a difference. We've come to understand that we can't change nature, we have to work with it. We've come to understand that the solutions, just like the problems, are interconnected. And most importantly, we've come to see that consensus is something we're able to achieve in Louisiana. ❍