

Fall 2001

# The River Packet

The newsletter of the Lower Mississippi River Conservation Committee

**THIS ISSUE:**  
Industries work  
with the river  
for mutual gain





**Coordinator**

Ron Nassar  
2524 South Frontage Road  
Suite C  
Vicksburg MS 39180  
601-629-6602  
fax: 601-636-9541  
ron\_nassar@fws.gov

**Secretary-Treasurer**

Debbie Strickland  
601-629-6604  
debbie\_strickland@fws.gov

**GIS Analyst**

Brad Miller  
601-629-6613  
brad\_miller@fws.gov

**Marketing Director**

Bill Box  
2153 Southwood Road  
Jackson MS 39211  
601-362-8689  
bbox@jam.rr.com

**Outreach Coordinator**

Bruce Reid  
601-629-6621  
breid@lmrcc.org

**Our new name**

We now call our newsletter *The River Packet*. Packets, or boats, once were common sights along the Mississippi. They were primary means of transportation and communication years ago. In addition to their human cargo, they carried the mail from town to town. In similar fashion, we want this newsletter to link communities along the river today, conveying stories and information to help them thrive and enjoy one of the world's great natural resources.

**Web site**

www.lmrcc.org

## From the chairman

In a report I did a few years back on Mississippi River water quality, I noted that everyone seems to have something to say about the Mississippi. That observation is as true today as ever.

Everywhere you turn there is someone or some group, agency or organization giving an opinion about "Old Man River." This often presents a confusing array of information for the average person or river manager to digest and understand. I am often aggrieved when I hear the river referred to as an open sewer, especially since I have access to some of the most complete water-quality data on the lower river and know that the Mississippi today has better water quality than many other streams. I bring this up because the attention sure makes our job as a voice and advocate for conservation and effective management of river resources more difficult. To be heard, I guess we will have to raise our heads above the crowd. We are needed out there to provide a voice of reason about the "real" Mississippi River.

In that regard, I am pleased with the activities and directions that the Lower Mississippi River Conservation Committee is taking. We are moving forward on two very important documents that should put us on the map as far as the Mississippi River is concerned. These include an Aquatic Resource Management Plan and Outdoor Guide for the 954-mile-long lower Mississippi River. The Aquatic Resource Management Plan has been under development since 1996 and represents the greatest effort of any organization to present a plan for protecting and conserving the significant aquatic resources, especially the fisheries, along the whole lower river. The



Dugan Sabins

Committee has been blessed with some outstanding resource professionals who have shepherded this report through to the present stage and who are continuing to review and revise it to keep it on the cutting edge of resource management. The same can be said for the Outdoor Guide, which is nearing completion and will offer a valuable collection of information on recreational opportunities in the lower river states from Missouri and Kentucky at the Ohio River junction through the states of Tennessee and Arkansas to Louisiana and Mississippi on the Gulf of Mexico. The guide will highlight the significant and often overlooked fishing opportunities in the river.

This issue of the newsletter contains an important story of the efforts of river industries in Louisiana to adequately treat their wastewater and protect the river. It also shows that industry today does have a stewardship relationship with the Mississippi River and that they recognize the river's value as a diverse resource for drinking water, fishing and coastal restoration. The two industries being featured were recently recognized by the Louisiana Department of Environmental Quality's Environmental Leadership Program for significant reductions in nutrients discharges to the river. And also featured is something we all can take pride in: the fact that the world's largest bald cypress tree is found right here in the open floodplain of the lower Mississippi River. It just happens to be in Louisiana but just barely because it is only a mile or so from the Mississippi line.

There are many other things going on with our Committee and the river, but we will save them for another time. Meanwhile, let's all keep working together for the river.

The Lower Mississippi River Conservation Committee is a nonprofit organization composed of 11 member state natural resources agencies and other cooperating agencies and organizations interested in the Lower Mississippi River.

The LMRCC's mission is to promote the protection, restoration, enhancement, understanding, awareness and wise use of the natural resources of the Lower Mississippi River, through coordinated and cooperative efforts involving research, planning, management, information sharing, public education and advocacy.

Activities and business of the LMRCC are administered through the chairman, executive committee and coordinator.

The LMRCC newsletter is published three times

annually and distributed without charge by the LMRCC. It does not necessarily represent the official views of the LMRCC. Suggestions, comments, questions or requests to be put on the mailing list should be directed to the coordinator.

As required by Internal Revenue Service Notice 88-120, C.B. 454, the annual tax returns of the Lower Mississippi River Conservation Committee, a copy of its exemption application and supporting documents and the letter of notification of exemption status under section 501 (c) (3) are available for public inspection between the hours of 8 a.m. and 4 p.m. Monday through Friday, except for federal holidays, at the offices of the U.S. Fish and Wildlife Service, 2524 South Frontage Road, Vicksburg, MS 39180, phone (601) 629-6604.

# Tulane institute study examines the batture

Researchers at the Tulane Institute for Environmental Law and Policy are conducting an extensive study of the legal and environmental issues relating to the Mississippi River batture, the waterway's remaining active floodplain.

A draft report on the study, conducted by Jerry Speir, the institute's former director, and Linda Walker, is now being circulated for review.

The Tulane institute is a six-year-old entity of the Tulane Law School in New Orleans.

As the researchers write in their draft, the word "batture" is derived from the French verb "to beat." It refers to the land "beaten out by the river."

In general, Speir and Walker are examining issues affecting the batture from Vicksburg, Miss., to near the Gulf of Mexico, an area covering more than

400 river miles.

In the draft report, the researchers write: "The batture is a singular ecosystem. It is the only remaining part of the river system (the alluvial valley) that still floods annually. Especially in its larger and more remote areas, where human activity is still minimal, the variety of its wildlife and the annual growth rates of vegetation are legendary."

Speir and Walker also are examining the complex patterns of ownership and regulation in the batture.

"The area's value for both economic and conservation purposes is enormous," they write in the draft. "But regulatory control of the batture - and even ownership - is often the subject of considerable dispute and confusion. This project seeks to resolve at least some of the confusion and to provide a focus for thinking more systematical-

ly about preserving the important qualities of this unique ecosystem."

The researchers are examining the various uses of the batture, from municipal and industrial development to agriculture, timber production, recreation and casino gambling.

"This hodge-podge of activity is currently overseen by an equally diverse set of agencies, commissions and boards," the researchers write.

"Clarifying these competing jurisdictions will benefit both those who depend upon the river corridor directly for their livelihood and those concerned about the long-term protection of its associated public resources."

A final report is expected this fall.

--

For more information, call Kem Opperman-Torres at 504-862-8827.

## EXECUTIVE COMMITTEE

-- **Dugan Sabins**

2001-2002 Chairman

La. Dept. of

Environmental Quality

(225) 765-0246

dugans@deq.state.la.us

-- **Mike Armstrong**

Ark. Game and Fish Commission

(501) 223-6371

marmstrong@agfc.state.ar.us

-- **Phil Bass**

Miss. Dept. of Environmental Quality

(601) 961-5100

phil\_bass@deq.state.ms.us

-- **Gary Christoff**

Mo. Dept. of Conservation

(573) 751-4115, ext. 3357

chrsg@mail.conservation.state.mo.us

-- **Edwin F. Crowell**

Ky. Dept. of Fish and Wildlife Resources

(502) 564-3596

Ted.Crowell@mail.state.ky.us

-- **Bennie Fontenot Jr.**

La. Dept. of Wildlife and Fisheries

(225) 765-2330

fontenot\_bj@wlf.state.la.us

-- **Ron Garavelli**

Miss. Dept. of Wildlife, Fisheries and Parks

(601) 432-2205

rong@mdwfp.state.ms.us

-- **John Leonard**

Tenn. Dept. of Environment and

Conservation

(615) 532-0225

jleonard@mail.state.tn.us

-- **Robert Todd**

Tenn. Wildlife Resources Agency

(615) 781-6575

rtodd@mail.state.tn.us

-- **Michael Wells**

Mo. Dept. of Natural Resources

(573) 751-2867

nrmwllm@mail.dnr.state.mo.us

--- **Jim Wise**

Ark. Dept. of Environmental Quality

(501) 682-0662

wise@adeq.state.ar.us



LMRCC photo

In the simplest terms, the batture is the remaining natural flooplain of the river.

# St. Louis Corps breaks ground

## Re-planting of trees at Thompson Bend replacing old methods

**A**t a bend in the Mississippi River, just above the Ohio River confluence, the stream flows in a broad sweeping reverse curve. This large, meandering loop, bordered by Illinois and Missouri, has created an agriculturally rich, 10,000-acre peninsula-like area called Dry Bayou-Thompson Bend.

At first glance, this bend wouldn't appear to present any problems, but, over time, it experienced such severe erosion that the river began to scour a new channel across the peninsula. If an efficient solution were not soon found, a navigation crisis could occur. This 17-mile reach, if destroyed, would cause a break in the 2,300-mile navigation channel. A new channel across the peninsula could not support even the smallest tows, and the existing channel would be too shallow for navigation most of the time. Southbound traffic would halt above the bend, and northbound traffic from New Orleans could not progress north of Cairo, Ill.

The erosion was so severe that it also threatened the Commerce to Birds Point federal levee, which protects thousands of square miles of property.

A solution to this problem required engineering intuition, in-depth experience in hydraulics technology, and a thorough understanding of the river. In addition, it was critical to establish a good partnership with the farmers, landowners, and political interests who reside at or near the bend and whose livelihood depends on the ability to grow and transport crops.

With resources scarce, the St. Louis District of the U.S. Army Corps of Engineers could not dedicate a lot of engineers to this project. But about 14 years ago, the district's engineering managers determined that one man, hydraulic engineer Jerry Rapp, could fill all the shoes. So, in addition to an already heavy project load, Rapp was assigned the difficult task of evaluating and developing a solution to the Dry Bayou-Thompson Bend problem.

Channel development would be time-



U.S. Army Corps of Engineers photo

### The Corps is using riparian buffers as a non-traditional solution to erosion.

consuming and costly, so Rapp's mission was to develop a non-structural, environmentally beneficial solution to stop the erosion. The Corps already had spent \$10 million on conventional erosion control methods. The new approach - re-planting a riparian forest - cost \$2.5 million.

Technology to resolve this problem did not exist, so Rapp began 14 years of trial and error. Major floods caused setbacks, but the floods also provided opportunities to evaluate the work.

Rapp was assisted by a support team, with significant contributions by Sharon Wolf from Real Estate Division and Dan Erickson from the Riverlands Project Office. Many years of hard work resulted in a solution that is working today: a buffer strip of trees planted between the riverbank and the floodplain, now called the Thompson Bend Riparian Corridor Project.

The project, covering 20 miles of shoreline, includes the planting of cottonwood trees and other hardwoods specifically bred for fast growth and water-resistant attributes, and strategic placement of other vegetation. The trees will be selectively harvested in an innovative arrangement with the landowners and local levee board so their shade does not prevent undergrowth. A major benefit is that the project also provides timber as a cash crop for the landowners.

The project is the first of its kind in the Mississippi valley, Rapp said.

"I think it's got a lot of potential for use up and down the river," he said.

Other Corps districts, including Memphis, are looking at starting similar projects. As a result of his efforts, Rapp has become recognized for his expertise in developing vegetative solutions for a wide range of erosion problems. The Thompson Bend project is considered a prototype and is changing the way the Corps deals with severe erosion problems, while benefiting the environment.

Others are recognizing the value of the Thompson Bend project.

In a letter to the Corps, Lester Goodin, President, Buffalo Island/Thompson Bend Soil Conservation Association wrote: "The concept is structurally sound, environmentally proactive, and economically viable. The idea worked far beyond expectations during the Great Flood of 1993. The planted trees cut water velocities in half, which led to far less erosion."

Tim Searchinger, senior attorney for Environmental Defense, has called Thompson Bend "a wonderful project, an ideal project, a credit to everyone involved."

*U.S. Army Corps of Engineers  
St. Louis District*

# U.S. hooks smugglers

## Landmark fine is assessed after caviar probe involving paddlefish

A U.S. Fish and Wildlife Service inspector's sharp eyes noticed something different about the labels on caviar shipments coming into Baltimore-Washington International Airport.

The result: a \$10.4 million fine against U.S. Caviar & Caviar Ltd., the largest ever assessed in a wildlife trade case.

U.S. Caviar is a major American supplier of the high-priced culinary delicacy.

Also as a result of the case, the company's former owner and president was sentenced to 41 months in prison. The fine and sentence were issued in federal court in Maryland earlier this year after a Fish and Wildlife investigation into the illegal caviar trade.

As part of their investigation, federal officials found that U.S. Caviar, among other things, had been operating a mail-fraud scheme to sell eggs from domestic paddlefish and shovelnose sturgeon as authentic Russian sevruga caviar, a highly prized Caspian Sea roe.

States along the lower Mississippi River have been concerned that paddlefish and sturgeon are being illegally harvested in the region and used in the caviar trade.

In July 2000, U.S. Caviar pleaded guilty to 22 federal charges. The former owner, Hossein Lolavar, pleaded guilty to 12 federal charges, including felony counts of conspiracy, smuggling, making false statements, submitting false wildlife records and mail fraud. The charges involved violations of the federal Endangered Species Act and the federal Lacey Act, which prohibits the false labeling of fish and wildlife imported, exported or transported in interstate and foreign commerce.

Also sentenced were U.S. Caviar's former sales manager, who ran a caviar label-making business at the company's Rockville, Md., headquarters, and the president of a caviar export firm operating out of the United Arab Emirates.

They will serve prison time for their participation in a five-year smuggling operation that involved caviar with a retail value of more than \$7.5 million, one of the most valuable wildlife trafficking schemes ever

uncovered by the Service.

"Three years ago, nations around the world took steps to protect sturgeon and paddlefish because overharvest for the caviar trade was depleting fish populations," said Acting Service Director Marshall Jones. "This case shows that some segments of the caviar industry not only ignored those protections but deliberately defrauded the public in the process."

U.S. Caviar admitted importing tons of black market caviar from the United Arab Emirates using forged Russian caviar labels. The labels made it look as if the roe had been produced and exported by a large, legitimate Russian caviar supplier. However, it had actually been smuggled out of Russia or other countries bordering the Caspian Sea.

At least 5,000 forged labels were produced at U.S. Caviar's Rockville headquarters and sent to the United Arab Emirates for use in shipments destined for the United States.

The defendants forged documents, including Russian health certificates, to further authenticate their shipments. The shipments were also accompanied by false permits, customs documents, invoices and packing lists. In 1998 alone, U.S. Caviar imported some 9 million tons of caviar from the United Arab Emirates with false labels and documents.

U.S. Caviar smuggled real beluga caviar, a Caspian Sea variety that ranks as the world's most expensive, into the United States by labeling tins as less valuable caviar, filing false declarations, and



Photo by Bruce Reid

**This paddlefish was netted for research and released, but others have been killed to supply caviar markets.**

using false invoices understating the value of the caviar to avoid paying higher customs duty required.

DNA tests conducted by the Service's National Fish and Wildlife Forensics Laboratory in Ashland, Ore., showed that the purported "Russian" caviar sold by the Maryland company did not contain eggs from Caspian Sea sturgeon species as claimed. Instead, the roe originated from paddlefish and shovelnose sturgeon, species native only to North America.

*U.S. Fish and Wildlife Service*

# River provides endless adventures

## *Sidney Montgomery knows fish of the Mississippi*

I don't ever remember a time when I was not totally intrigued with the Mississippi River.

As a boy growing up in Jackson, Miss., I looked forward to summer weekends when my brother would hook up his ski boat and head to the river at Vicksburg. I enjoyed fishing more than skiing, so I would load up my casting rod, pellet gun, a bucket of worms and a few artificial lures and spend the day on a sandbar.

I was 10 years old then, so it was always entertaining.

Today, after many more years of river exploits - and after acquiring successively larger boats of my own - I learned the



Photo by Bruce Reid

**Montgomery (above) holds a white bass and striped bass from the river.**

habits and habitats of white bass, hybrid striped bass and sea-run stripes. I tried jug-fishing and trot-lining. It became necessary to keep a log detailing each trip to the river so I could hone my fishing techniques during different river stages and conditions.

After reviewing 20 years of frequent river trips, certain trends become evident.

Sea-run stripes, or native striped bass

that migrate between saltwater to freshwater systems such as the Mississippi, were very common between 1986 and 1992, with daily catches averaging 20 fish. Now, one fish per day is average.

Hybrid striped bass, fish bred in captivity and released in lakes along the river, were even more common in years past. It wasn't unusual to catch more than 100 hybrids in a day. Catching one now is a rarity.

White bass, on the other hand, seem to be increasing, with many thousands of fish ending up on my line.

Big catfish (20 pounds or larger), also are increasing. And sauger can be plentiful in late spring and early fall.

Turbidity is always unpredictable, except in October, when we often have 3 feet of visibility, even in the main channel.

One of the most intriguing aspects of the river is its varying depths. When the Vicksburg gage reads "zero," for example, the water depth exceeds 130 feet in several places upstream from the city, with one three-mile stretch averaging 100 feet or more. I am also fascinated by the whirlpools, which can be 20 feet in diameter and form a two-foot depression in the water surface.

Historically, the most consistent fishing is around the rock dikes. Any dike point, breach or notch can create perfect conditions for catching white bass and other species.

My usual lure choices include a mid-range Bandit crankbait, a 3/8-ounce pearl grub, a Rat-L-Trap and a tail-spinner such as a Rinky Dink. The best colors are chartreuse and white.

Key indicators for a productive dike include concentrations of wading birds and skipjacks feeding on shad.

Catfishing is another phenomenon that has become increasingly popular. Tight-lining in the deep eddy pools or around sandbar points seems to produce the larger fish. Cut skipjack or white bass are excellent catfish baits.

Recently, I fought a catfish for an hour and 16 minutes in 92-foot-deep water before it finally pulled all the line (220 yards of 50-pound test) off my spool.

Jug-fishing is my favorite catfish tech-

nique. For best results, attach a 30-inch line to a two-liter bottle with a 7/0 hook on the end of the line and another 7/0 hook 10 inches above the first one. Then clamp a 1/4-ounce weight 6 inches above the top hook. Bait the rig with 2-inch chunks of cut bait and drop the jugs 50 feet apart in water that is 3 to 9 feet deep. Drop your jugs along a sandbar allowing about one-half mile or more of floating distance. The fish should average 6 to 8 pounds, with some exceeding 20 pounds and others too big to land. It takes a fish larger than 20 pounds to pull a jug under; I've had some jugs go under, never to be seen again.

Apart from its endlessly exciting fishing and wildlife viewing, the river presents unparalleled opportunities for anyone interested in nature and history. The sunrises and sunsets are breath-taking. The whole place is good for the soul.

Thank groups like the Lower Mississippi River Conservation Committee that can tell the world about the Mississippi River - a world-class natural resource.

--

*Sidney Montgomery, marketing director at Tara Wildlife Inc., which provides conference facilities, hunting and other outdoor recreation experiences near Vicksburg, has spent more than four decades fishing and exploring the Mississippi River. He often serves as a river guide for visiting fishermen.*

### **Rinky Dink: a river lure**

Brothers Hugh and Earnum Rinkle started selling their Rinky Dink lure about five years ago. Hugh Rinkle calls it a "finesse bait." The tail-spinner "will catch anything the swims," he said. To find out more about this dynamite river lure, call Rinky Dink Lures in Shreveport, La.: 318-687-4020.



## Studying the river



Photo by Bruce Reid

**Birders scan a drying lake bed off the Mississippi River for shorebirds.**

# Tracking the wind birds

*Joint Venture links birders, scientists to benefit shorebirds*

Writer Peter Matthiessen called them the "wind birds." Birders and ornithologists know them as "shorebirds" - sandpipers, plovers, dowitchers, avocets and other species that nest in the northern plains and the Arctic. Like the wind, they fly from the short northern summers to their wintering grounds in the southern United States and Central and South America.

On their way south in late summer and early fall, some 500,000 shorebirds pass through the Mississippi Alluvial Valley, probing the sandbars, mud flats, lake beds and old catfish ponds for the invertebrates they need to survive.

Though these migratory flights have occurred for thousands of years, amateur bird enthusiasts and professional biologists have joined forces to make sure shorebird rest stops still exist in the lower Mississippi Valley, a region changed by centuries of man's influence. The birders

and researchers have been assembled by the Lower Mississippi Valley Joint Venture, a group similar to the Lower Mississippi River Conservation Committee.

Both groups are based in the same office in Vicksburg, Miss. And both groups work to promote the conservation and restoration of native species and habitats among government and non-government partners. The Joint Venture's efforts are focused on birds; the LMRCC is focused on aquatic species and habitats.

The Joint Venture began a coordinated shorebird counting effort in 1999. This year, for the first time, shorebird counters can send their data to the Joint Venture via the Internet. The Joint Venture's staff will assemble the data for use in more detailed research.

Information from the counters, along with data from professional biologists tracking shorebirds, will help the Joint Venture confirm the estimates of shorebirds moving through the valley and make sure there are enough feeding grounds, even in times of drought. Researchers think about 5,000 acres of managed habitats are needed.

As part of the effort, Dr. Francisco Vilella with the U.S. Geological Survey's

Cooperative Wildlife and Fisheries Research Unit at Mississippi State University will hire a post-doctoral student to provide more precise estimates of shorebird numbers, using data collected in the volunteer counting program. This year, the counters were asked to visit sites of their choice on specific weekends in August and September. The Joint Venture contacted the counters through Internet listservs and with the help of Audubon Mississippi, the Mississippi office of the National Audubon Society.

Dr. David Krementz with the USGS Cooperative Wildlife and Fisheries Research Unit at the University of Arkansas and a graduate student are capturing pectoral sandpipers, one of the more common migrants, to get a more precise estimate of the amount of time shorebirds remain in the valley. Radio transmitters are being attached to the birds so their movements can be tracked. For now, researchers think each shorebird stays in the valley an average of 10 days.

Aquatic invertebrates associated with shallow-water and mud flat habitats are the primary food of shorebirds during fall migration. As part of the Joint Venture's project, Dr. Jack Grubaugh at the University of Memphis and a graduate student are sampling invertebrates to gain a better understanding of the food available to shorebirds at different habitats.

To learn more about the Lower Mississippi Valley Joint Venture's shorebird project, see [www.lmvjv.org/shorebird](http://www.lmvjv.org/shorebird) or contact Randy Wilson, the Joint Venture's science coordinator, at 601-629-6626 or [randy\\_wilson@fws.gov](mailto:randy_wilson@fws.gov).



Cornell Laboratory of Ornithology photo

**A semipalmated sandpiper is a common migrant in the Mississippi valley.**

# The Cost of Companionship

Louisiana industries, drawn to the Mississippi River for its water resources, working to protect the river as well as benefit from it.



BASF photo

**BASF's Geismar plant south of Baton Rouge covers 2,360 acres on the Mississippi.**

Henry Graham doesn't have to go far to be reminded that one of the world's largest assemblages of industrial activity exists because of one of the world's greatest rivers.

Out the large windows of his Baton Rouge office building, the picture is crystal clear: He can see the Mississippi River snaking gently to the north and south. And along the river's banks, as far as he can see, are masses of metal towers and steel framework rising like small cities. They are chemical plants, fertilizer factories, refineries and the like lining the banks of the Mississippi to make use of the river's ample water supplies, its watery transportation system and the flat floodplain beside it. Dozens of companies operate in the 150-mile-long river corridor between Baton Rouge and New Orleans.

"The vast majority of our plants are

located along the Mississippi River," said Graham, director of environmental and legal affairs for the Louisiana Chemical Association.

As much as chemical manufacturers as a group are "painted as waste disposers," Graham said, three of those operations, BASF Corporation's Geismar plant and IMC Phosphates Co.'s Uncle Sam and Faustina plants, are setting a positive example. They are spending millions of dollars to give something back to the river that has provided them so much.

"Here at BASF, we recognize how fortunate we are to have access to such incredible natural resources such as the Mississippi River," said

Otis Hall, vice president and general manager of the Geismar plant. "We often have gone above the demands of regulations to help ensure the sustainability of natural resources."

BASF has developed a wastewater treatment system that converts more than 2.3 million pounds of nitrates annually to atmospheric nitrogen, thus reducing significant nutrient loads to the river and the Gulf of Mexico.

IMC Phosphates plans to spend \$80 million on an elaborate system to keep phosphates from its huge gypsum stacks from making their way to the river and eventually the Gulf, where they can contribute to seasonal drops in dissolved oxygen over a large area, a phenomenon known as the "dead zone."

"This is a major reduction of nutrients to the river and the Gulf," said



Photo by Bruce Reid

**Don Lierman talks about BASF's sophisticated wastewater plant.**



Photo by Bruce Reid

**Russ Olivier, left, of IMC Phosphates and Dugan Sabins of the LMRCC discuss the multimillion-dollar project to control the runoff of phosphate from the company's gypsum piles.**



Photo by Bruce Reid

**A tractor driver works in a sugar cane field near Baton Rouge as the towers of an oil refinery rise in the distance. Many industrial plants are on old cane plantations.**

Russ Olivier, safety, security and environmental manager at IMC's Uncle Sam plant, also south of Baton Rouge.

Huge volumes of gypsum are produced in the making of phosphate fertilizer. That leaves IMC with mountains of gypsum covering hundreds of acres that form the highest points of land around. The gypsum contains traces of phosphate from the fertilizer production process. To minimize phosphate discharges, rainwater runoff from those stacks must be controlled carefully with buried pipes, by using layers of clay and by seeding the surface of the gypsum stacks with grass, among other things.

The actions by IMC resulted in more than an 80 percent reduction in average annual nutrient discharges to the river, or more than 100 million pounds. That includes the results of similar measures to control phosphorus runoff from IMC's nearby Faustina fertilizer plant.

"Obviously, there were a lot of phosphates going into the river and the Gulf," said Dugan Sabins, senior environmental scientist with the Louisiana Department of Environmental Quality. "None of this action was driven by a regulatory compliance order."

Sabins is also the chairman of the Lower Mississippi River Conservation Committee's Executive Committee.

The initiatives by both BASF and IMC earned the companies recognition last March at the Louisiana Environmental Leadership Awards. In announcing the awards, Louisiana Gov. Mike Foster said: "Meeting environmental regulations and standards is one thing, but it takes a big

commitment for a company to voluntarily spend the extra money and allocate the necessary resources to do more than the regulations require. Voluntary efforts to improve environmental performance and to reach out to the communities where these facilities are located are just great business, and I would encourage other companies across the state to do the same."

Both the BASF and IMC plants use large volumes of river water for processing and cooling. And both plants, like others along the Mississippi, take advantage of the river's navigation system for the receipt of raw materials and the shipment of their products.

The Geismar facility is the third largest BASF plant in the world. It employs 1,800 people. The plant began production of a variety of chemicals in 1958. Since 1995, BASF has spent \$1 billion to expand the Geismar plant. Among the investments made by BASF is a \$3.2 million state-of-the-art environmental laboratory.

IMC's Uncle Sam plant was built in 1967. The plant, like others in the fertilizer industry, has been facing declining global demand. Its operations were scaled back in 2000 and late 1999, and it was shut down for a period this

year, as were many fertilizer plants.

Many of the dozens of plants along the Mississippi's industrial corridor got their start around World War II, with increasing demand for rubber and anti-knock compounds for aircraft fuel. The sites where many of the plants were built have deep historical roots, mostly because they used to be sugar plantations.

BASF's plant sits on what once was the Linwood Plantation; IMC's plant sits on what once was the Uncle Sam Plantation. The sugar plantations also had distinct connections to the Mississippi - mainly the rich, floodplain soil and the ready access to ports.

The river has and will continue to provide many things, from water to shipping to flat land. Companies like BASF and IMC are finding ways to return the favor.



Photo by Bruce Reid

**IMC built a fertilizer plant at the old Uncle Sam Plantation.**

# Industries work to track spills

*La.'s early warning system helps protect drinking water supply*

**T**he Louisiana Department of Environmental Quality's Early Warning Organic Compound Detection System detects and identifies volatile organic compounds (VOCs) in the Mississippi River.

In the event of a release or a spill, the system allows the agency to contact local waterworks downstream, so the facility can initiate preventative measures, including shutting off drinking-water intake valves.

The Mississippi River spans a distance of 2,300 miles from where it begins in Minnesota to where it ends in the Gulf of Mexico. The river drains 41 percent of the continental United States. Louisiana is the last state the Mississippi travels through. It is here that there are 350 industrial and municipal facilities next to the water body, and 175 of them are permitted under state and federal authorities to discharge wastewater. This affects 1.5 million people across the state who depend on the river for their drinking water. A detection system became necessary to protect the public from potential harm. Thus Louisiana's EWOCDS was born.

In 1981, an incident occurred on the river that made it clear that a detection system was needed. A large barge containing phenol sank in the Mississippi. The company that owned the barge failed to report the incident.

Phenol, a hazardous substance, gives off a very potent odor and has a bad taste. All the waterworks downstream were affected.

David Wagenecht, DEQ's coordinator of the EWOCDS program, says: "That one instance was the straw that broke the



Photo by Bruce Reid

**Don Lierman of BASF's Geismar plant south of Baton Rouge explains how daily water-quality samples are taken at water-intake pumps on the Mississippi River.**

camel's back. It made people realize they needed some kind of warning system in place for spills."

Later, in 1986, DEQ officials received approval and funding from the Louisiana Legislature to begin the program. DEQ employees in the Surveillance Division traveled to Ohio to observe the Ohio River Valley Water Sanitation Commission program that monitors three rivers for VOCs.

## EWOCDS protects 1.5 million people in Louisiana who get their drinking water from the Mississippi

After the visit, DEQ had a good idea how to go about getting the job done.

The EWOCDS program DEQ designed is a cooperative effort involving the agency, five industries and three waterworks along the Mississippi. Each facility takes water samples from the river twice a day. DEQ provides the equipment (analyzers, gas chromatographs, computers and modems) and the facilities supply the manpower to run the analyses and the

utilities.

Each sample is analyzed for 27 different compounds. The results are sent to DEQ staff via modem for review. If toxic or carcinogenic compounds are detected above federally established safe levels, then all the waterworks along the river will be notified of the incident. If necessary, the waterworks can shut down.

If protective measures are warranted, some facilities participating in the program may be asked to take further samples of the river to identify the possible location of the contaminant plume.

By measuring the river's flow rate and using a computer model, DEQ can determine the approximate time a plume will pass by a certain point. This allows the agency to notify each water facility when it is safe to resume operations.

The system also helps DEQ's Surveillance and Enforcement Divisions determine the origin of a plume for further investigation.

All the sampling sites operate on a voluntary basis.

Said Wagenecht: "Certainly, a lot of industries want to give back to the community. They monitor themselves and help us ensure the health and well-being of the citizens who drink the water that comes from the Mississippi."

*Louisiana Environmental Update*

## Stemming the flow of nutrients

**A**s Mississippi River states study criteria for limiting discharges of phosphorus and nitrogen, scientists have measured the largest "dead zone" in the Gulf of Mexico, a condition blamed on excess nutrients.

A research team led by Dr. Nancy Rabalais of the Louisiana Universities Marine Consortium measured an area of more than 8,000 square miles, from the Mississippi River delta west to the upper Texas coast, where dissolved oxygen is too low to support aquatic life.

Rabalais' team has measured the dead zone phenomenon for 17 summers. Excess nutrients flowing into the Gulf from along the entire Mississippi stimulate the growth of algae. When the algae die and decompose, they consume oxygen.

The researchers blame this year's larger dead zone on heavier rains along the upper Mississippi, which washed more than the normal amount of nutrients that had accumulated on farm fields after two years of drought into the river.

"Because of time constraints, we weren't able to map the entire extent into Texas," said Rabalais, returning from a research cruise in late July. The mapping this year followed a weekend of fish kills attributed to the low oxygen content of the water off Grand Isle, La., beaches.

Rabalais' research cruise last year measured the smallest-ever dead zone, an area covering 1,700 square miles.

## Gulf hypoxic zone bigger than ever

### States grappling with criteria for nutrients

The record-breaking zone for 2001 extends from very close to the beach and as far as 50 miles from shore. It covers water depths of 15 to 75 feet. It is particularly severe in 2001 with very low values at many stations and well up into the water column, not just at the bottom.

Tropical weather systems can lessen the dead zone by mixing oxygen in water. Once the storms pass, however, low-oxygen conditions can return.

That was the case after Tropical Storm Berry in early August. While nearing Louisiana, Berry kicked up 12-foot waves off Terrebonne Bay and eliminated the low oxygen in places. Waves from tropical storms or cold fronts will break down the structure of the water column that supports the development of hypoxia, and allows mixing of oxygen from the surface waters to the bottom. But an extensive area of low oxygen built back up off Terrebonne Bay by August 15.

To address the national problem of nutrient enrichment, the Clean Water Action

Plan, announced in 1998, calls for the U.S. Environmental Protection Agency and states to develop nutrient criteria tailored to different waterbodies and ecoregions. Ecoregions are areas with similar climate, geology, soils, water quality, land use and biology, such as the lower Mississippi River Alluvial Valley.

States were given the option of adopting regionally recommended nutrient criteria or developing their own, EPA-approved criteria. In either case, states must act by the end of 2003.

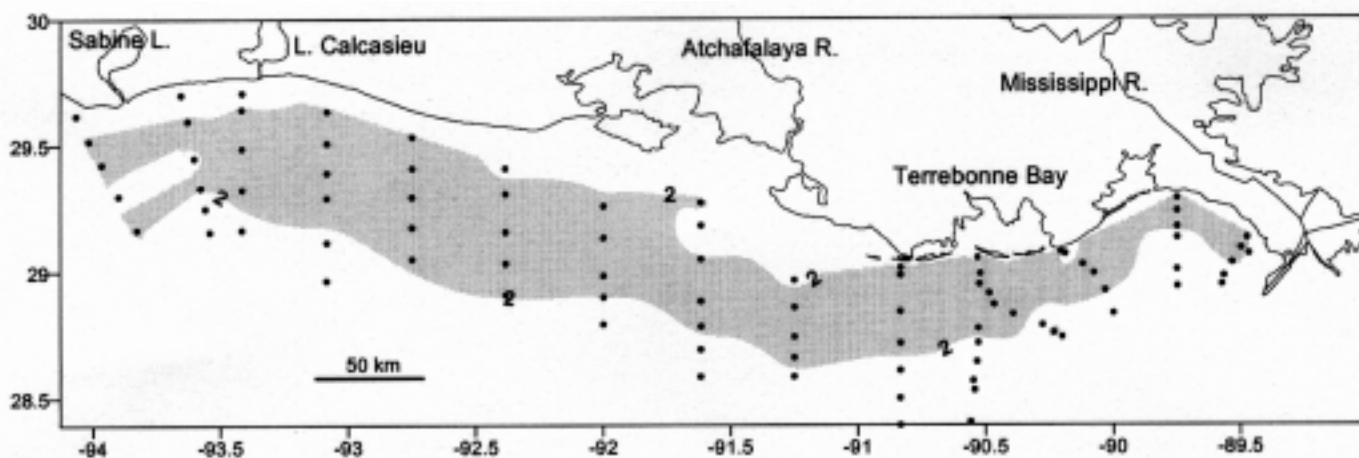
The criteria, when adopted as standards, will allow states to place numeric limits on individual discharges from factories or sewage plants.

In addition, the recently released Hypoxia Action Plan recommends voluntary measures for controlling the runoff of nutrient-laden fertilizers from farms in the Mississippi watershed. The measures would include planting filter strips along fields and restoration of wetlands that would remove nutrients.

High levels of nutrients recorded at waterworks along the upper Mississippi this spring might prompt action throughout the river valley.

Robert Wayland, director of the EPA's Office of Wetlands, Oceans and Watersheds, told the New Orleans Times-Picayune: "I think it will certainly help if people recognize a need to respond to these problems in their own watersheds."

## The "dead zone" in 2001



Source: Louisiana Universities Marine Consortium

The above map shows the extent of this summer's "dead zone," or the waters in the Gulf of Mexico subject to low oxygen conditions, as measured during a research cruise over a six-day period from July 20-25.

# Youngsters lend hand in restoration

*MRBA, LMRCC support program to expose students to river work*

For the second year, the Mississippi River Summer Leadership Program exposed young people to the issues, problems and solutions related to the Mississippi River and its surrounding environments.

The program is a partnership among the University of New Orleans, the Mississippi River Basin Alliance, and both the Upper Mississippi River Conservation Committee and the Lower Mississippi River Conservation Committee.

This summer, with funding from the MRBA and LMRCC, 13 youngsters spent three days in the Barataria Basin area south of New Orleans. The group visited the Davis Pond Freshwater Diversion Project, Bayou Lafourche, and Grande Isle.

The students learned about the problems of coastal erosion and the solutions being used, including river diversions and barrier island restoration.

Adults accompanying the students were Doug Daigle from The Mississippi River Basin Alliance,

Kathleen Deubler of Jefferson Parish Environmental Department, and Dinah Maygarden from the University of New Orleans Coastal Research Laboratory.

After setting off from the University of New Orleans on July 8, the group saw the partially completed Davis Pond structure. The students received informational materials that explained how the diversion will work to freshen the Barataria Basin and aid in building new marsh. At the NRCS Plant Materials Center at Golden Meadow, students attended a classroom session using aerial photos and maps and took a night hike.

The next day, the students headed to Grand Isle, where the shoreline is eroding rapidly. They helped plant beach grass to promote the natural formation of new dunes.

Grand Isle is Louisiana's only inhabited barrier island, and it protects the coastal marshes and towns from hurricanes.

The trip was both educational and fun for the students, who learned about the Mississippi River's role in the restoration process.



University of New Orleans photos

**Students (above) in the Mississippi River Summer Environmental Leadership Program work at Grand Isle, La. Bonnie Maygarden (right) scoops sand around a clump of newly planted grass.**



## LMRCC honors two river friends

The Mississippi River has lost two of its best friends.

Both Jerry Vineyard, Missouri Department of Natural Resources, and Gordon Farabee, Missouri Department of Conservation, retired this year.

Each of them had more than 30 years of service and possessed a wealth of knowledge about large river ecosystems. Their value to their agencies is exemplified by the

fact that both of them have been asked to stay on in a temporary consulting role and work with their replacements on the Lower Mississippi River Conservation Committee to ensure that the river's natural resources receive the attention they deserve.

Both men have served as chairman of the LMRCC. Though their professionalism and dedication to river resources will likely prevent



Photos by Bruce Reid

**Gordon Farabee (left) admires his new fishing rod, while Jerry Vineyard is thanked by the LMRCC's Dugan Sabins.**

them from ever completely retiring, both men are looking

forward to time with their families and grandchildren.

# Ark begins river trip

## Audubon launches third annual journey along Mississippi

**T**his fall, the National Audubon Society will continue its journey to rediscover life along the Mississippi River.

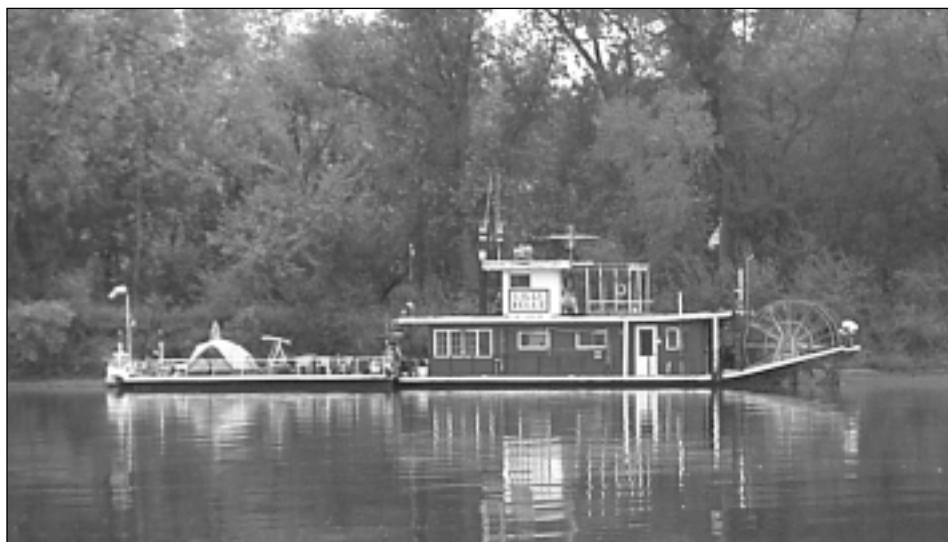
Through most of September, members of Audubon's Upper Mississippi River Campaign will once again take to North America's longest river to examine its ecological health and celebrate the cultural heritage of its neighboring communities.

Traveling aboard the "Lilly Belle," a 60-foot authentic sternwheeler riverboat built in 1958 by its owner and pilot, Ike Hastings, the Audubon Ark will kick off its tour with a river cleanup in St. Paul, Minn. The tour will continue with educational programs, ecological surveys and community events throughout a 260-mile, 25-day journey to Dubuque, Iowa.

This is the third annual trip for the Upper Mississippi River Campaign and the second on the Lilly Belle.

"We're thrilled to be back on the river," said Dan McGuinness, director of the Upper Mississippi River Campaign. "We've now covered all 1,366 miles of the Upper Mississippi, and met with thousands of people in nearly 100 different communities. This year we're returning to some of the communities that made our first trip so special, and we're spending several days in each area. Our goal is to get people out on the river and help them make the connection between the health of their community and the health of the river. In addition to sharing our knowledge, we want to hear from others - we want people to share their ideas, stories and beliefs about the river with us."

Stopping in nearly a dozen communities, the Ark's five-member crew will share its environmental exhibits and programs with school groups and Audubon chapters, and participate in local cultural festivals and river clean-ups. Through dialogue with community leaders, local governments, farmers and civic groups, McGuinness and



National Audubon Society photo

**The sternwheeler Lilly Belle (above) serves as the Audubon Ark on the Mississippi.**

the Ark crew will discuss the environmental issues facing the river.

"The future prospects for restoration of river habitat look particularly promising since the Corps of Engineers released new guidance from its headquarters ... giving environmental sustainability equal footing with navigation and flood control," McGuinness said. "I look forward to exploring opportunities for ecological restoration projects as we travel on the river this year, with good prospects that we might actually turn these visions into reality."

In addition to positively shaping public decisions regarding the river, the Upper Mississippi River Campaign seeks to take direct action at selected urban, rural and natural places on the river and its watershed, resulting in definitive protection of existing habitat and restoring habitat that has been lost. Once a healthy habitat for migrating birds, waterfowl, and other wildlife, the Mississippi has been degraded through 200 years of human settlement and use. The construction of a series of dams in the 1930s and decades of levee construction served to further compound the situation, aggravating flooding conditions and putting stresses on wildlife. The cumulative effect of modifications and alterations to the river's physical and biological features has taken a toll - not only on the river but on communities in the region as well. Areas where the river once meandered freely have now been hemmed in and developed, leading to disastrous results when the river overflows these makeshift boundaries. The first Ark tour, in August 1999, traveled from Minneapolis, Minn. to Rock Island, Ill., and

stopped at 38 communities along the way. The second Ark tour was in October 2000 and traveled from Cairo, Ill., to Rock Island, Ill. In June 2001, the Ark's crew invited the public to join them on the last untraveled leg of the upper portion of the river, from the headwaters at Lake Itasca, Minn. down to Fort Snelling in Minneapolis. Traveling by canoe in the shallow waters, the 35-day voyage completed the inspection of the full length of the Upper Mississippi River.

One of the long-term goals of the Upper Mississippi River Campaign is to establish a full-time Audubon Ark that travels the river throughout three seasons of the year, investigating the health and well-being of the river and serving area communities with a "floating" Audubon nature center.

The permanent Audubon Ark will be integral to Audubon's 2020 Vision, a national education initiative to create 1,000 nature centers by 2020. The goal of this program is to provide children and their families with direct experiences in nature in order to foster an understanding of the natural world around them, and inspire an interest in taking care of it.

"By having a floating nature center that travels up and down the Mississippi, we'll be providing outdoor learning experiences for kids right in their own community," said McGuinness. "Many people have lived with the river in their backyard their whole lives but never had a chance to go out on it and study it up-close. The permanent Audubon Ark will provide that opportunity."

*National Audubon Society*

# New foundation to help Tenn. agency

The Tennessee Wildlife Resources Agency has a new ally: the Tennessee Wildlife Resources Foundation.

The foundation is a nonprofit, non-government organization created to raise public awareness of the agency programs and help implement them.

Historically, the state's wildlife agency has been funded by money collected from the sale of hunting and fishing licenses and from permits, excise taxes on hunting and fishing equipment and boat registration fees. With increasing demand on Tennessee's wildlife resources, more money is needed.

The foundation creates new ways for individuals and businesses to financially support wildlife conservation and recreation. By raising additional money, the foundation can

help increase support for programs aimed at wildlife conservation and outdoor recreation across the state.

The foundation will raise money for wildlife management and to add more protected areas needed as wildlife habitat.

The foundation will help support education programs geared toward wildlife, including programs for youth.

It also will support internship programs.

Other efforts the foundation will support include fisheries and wildlife research; conservation and cleanup programs; and wildlife restoration programs.

To learn more about the foundation and how to donate time, land or money, write to the foundation at P.O. Box 110031, Nashville TN 37222 or call 615-831-3480.

## Tennessee

# Commissioner Boatwright honored with renamed WMA

The Kentucky Fish and Wildlife Commission honored one of its own in August by renaming a state wildlife management area in the western part of the state.

The Barlow Bottoms Wildlife Management Area in Ballard County will now be called the Boatwright Wildlife

Management Area in honor of the longstanding service of First District Commissioner and former chairman of the state Fish and Wildlife Commission, Mike Boatwright of Paducah.

Boatwright, who is serving his sixth term on the commission, has been instrumental in the development of numerous hunting, fishing and other

outdoor recreation opportunities in western Kentucky. He has a particular interest in waterfowl conservation and the management of waterfowl resources for hunting.

"A member of numerous conservation organizations, Boatwright has provided leadership and a voice for the sportsmen in western Kentucky for more than 20 years," said Kentucky Department of Fish and Wildlife Resources Commissioner Tom Bennett.

Said Boatwright: "I appreciate this unexpected gesture and have enjoyed working with the sportsmen, my fellow commission members and agency personnel to improve and manage the natural resources of this state."

## Kentucky

# Mo. names two to conservation panel

Gov. Bob Holden of Missouri has appointed two new members to the state Conservation Commission.

The new members, who must be confirmed by the Missouri Senate, are Stephen C. Bradford of Cape Girardeau and Cynthia Metcalfe of St. Louis. If confirmed, both will serve until July 1, 2007.

The commission oversees the control, management, restoration, conservation and regulation of forest, fish and wildlife resources of the state.

Bradford and Metcalfe would succeed Randy Herzog of St. Joseph and Ron Stites of Plattsburg, whose terms expired this year. The outgoing and incoming commissioners are Democrats. Under the state constitution, no more than two of the commission's four members can belong to the same political party.

Brad and Metcalfe will join Republican incumbent members Anita B. Gorman, the chairwoman, and Howard L. Wood, the vice chairman.

Bradford, 55, has a master's degree from the University of Mississippi, where he also obtained his bachelor's degree. He is executive vice president and co-owner of The Pyramid Group Inc. of Cape Girardeau, a company that provides nursing and in-home services to the elderly.

"Serving on the commission is something that I've wanted for many years," Bradford said. I **Missouri** have great respect for the MDC and the struggles and successes they have had."

He is a member of the Missouri Conservation Federation, a former commissioner of administration for the state of Missouri and operates several farms.

Both appointees said they will work to promote good conservation practices in rural and urban areas alike.

Metcalfe, 60, is a graduate of Smith College. She is a free-lance writer, master gardener and volunteer for the Missouri Botanical Garden.

She has written a series of articles for the St. Louis Post-Dispatch on exploring the St. Louis region by bicycle.

"As I began to explore the region, I was moved by the beauty of nature found in metropolitan St. Louis," Metcalfe said. "I am eager to help the commission fulfill its mission to reach all citizens of the state, especially those in urban areas. Our citizens need to clearly understand the full conservation system, which includes non-consumptive recreation like hiking and trails and management through hunting and fishing."

### LMRCC, Ark. group join forces on watersheds

The Lower Mississippi River Conservation Committee is developing a working relationship with the Arkansas Watershed Advisory Group.

Both groups have goals to encourage stakeholder participation in the management of the lower Mississippi River watershed in Arkansas.

The Arkansas group was formed to assist interested citizens

and organizations by promoting voluntary approaches to

### Arkansas

watershed management and conservation. Nearly 30 participating agencies and private citizens have come together to pool their resources to address the public's needs concerning water resources. Organizers spent eight months developing a mission statement, goals and a structure for the Arkansas group.

One goal of the the Arkansas group, according to its mission statement, is to "promote the public's interest, understanding and involvement in their watershed resources." The LMRCC will assist in meeting that goal by providing additional river access points, re-attaching backwater area and oxbow lakes for fishing and other recreation, and restoring wetlands for wildlife and recreation opportunities.

Both groups also will work jointly to improve communication, technical support and funding related to watershed management.

For more information about the Arkansas Watershed Advisory Group, see the organization's Web site: [www.awag.org](http://www.awag.org).

### Sperm whales putting on show at mouth of Mississippi River

Endangered sperm whales are making a home near the mouth of the Mississippi River, just a few miles off the Louisiana coast.

Scientists are launching research projects to find out why these waters have become an oasis for the whales.

About 500 or more sperm whales can be found in the northern Gulf of Mexico.

Randall Davis of Texas A&M at Galveston said coldwater eddies and the outflow of nutrients from the river may enhance food production that draws the

whales closer to coastal

### Louisiana

waters. "The unique aspect of the Gulf is that we have a continental shelf that is only about 25 miles wide off the Mississippi Delta, so we have this influx of freshwater nutrients into a deepwater environment very close to the coast," Davis said.

The same area supports extensive oil and gas production. "Basically, we probably have a breeding population of endangered sperm whales right in the middle of one of the hottest areas for offshore oil development in the continental United States," Davis said. He said regulators at the Marine Mammal

Commission, National Marine Fisheries Service and the Minerals Management Service should be interested in research on the whales.

Industry officials say companies are complying with federal laws while they explore and drill for oil and gas in the region. "Our vessels automatically shut down their seismic testing equipment as a precaution anytime they detect a marine mammal," said Thomas Michels, a spokesman for the National Offshore Industries Associations.

Noise from oil and gas exploration - and other activities such as boating - can be a concern for the whales.

Heavy shipping traffic near the mouth of the Mississippi also is a concern for the whales, which may be struck by commercial vessels.

Scientists say no injured whales have been found.

Sperm whales, made famous by Herman Melville's "Moby Dick," can measure up to 50 feet long and weigh up to 50 tons. They can remain underwater for more than an hour.

Researchers, including Davis, will use satellite tracking, genetic analyses and photographic identification to study the natural history of the whales.

Various research projects are planned through 2003.

### USDA unit develops technique for stemming streambank erosion

Interlocking piles of felled trees anchored to a streambed and adjacent banks can help protect eroding stream banks and cost less than current control measures.

Many stream corridors in agricultural watersheds suffer from accelerated erosion. For years, researchers have tried to stabilize stream banks with planted vegetation. This technique is usually cheaper, better for the environment and more aesthetically pleasing than traditional artificial control measures that use structures made from costly stone and concrete.

However, vegetation is hard to establish in rapidly eroding channels.

Now, Agricultural Research Service

hydraulic engineer Doug Shields at the National Sedimentation Laboratory (<http://msa.ars.usda.gov/ms/oxford/nsl>), Oxford, Miss.- in cooperation with the USDA's Natural Resources Conservation Service, U.S. Army Corps of Engineers and local landowners - has designed and constructed

### Mississippi

an experimental erosion control system. It uses interlocking piles of felled trees anchored to the stream bank.

These felled-tree structures are designed to induce sediment deposition at the toe - the place where the stream bank intersects the streambed - of eroding banks. This reverses erosion-

driven channel enlargement. Data and observations indicate that the structures create hydraulic conditions favorable to stream habitat restoration and induce sediment to be deposited in areas formerly subject to erosion.

Additional components include planting willow cuttings and switchgrasses. Results could provide the technical basis for future applications that cost only about one-third of current approaches featuring the use of quarried stone and other artificial materials to stabilize stream banks.

This technology will help to create forested riparian buffer strips, control stream bank erosion and restore the nation's 3.5 million miles of rivers.