

Mobile Bay

A tarnished treasure

This special report examines how Mobile Bay is threatened by rapid development along its shores, development that officials have been slow to control.

The impact of this growth is sometimes obvious: The streets of downtown Mobile have been torn apart for months to replace overloaded pipes that spill millions of gallons of sewage into the bay with every strong rain.

More often, however, the damage to the bay is hidden beneath its shallow waters or obscured by the passage of time. Only aerial photography reveals that the bay has lost more



Photos by Kichiro Sato

than a third of its vital marsh. Only laboratory analysis detects that cancer-causing chemicals are lodged in the bottom and the oysters that live there.

No one has done the research to establish any conclusive threat to human health. But the marine life of the bay is suffering. Underwater grasses have disappeared and with them many fish. The oyster harvest is half what it was in the 1950s.

The deterioration of the bay has been obvious for decades, but there is still no local, state or federal agency with a coordinated plan to turn the tide.

TOP PHOTO: Mobile Bay receives wastewater from industry stretching hundreds of miles upriver.

BELOW: The shallow waters of the bay have long been a source of food and recreation.



Inside

Abundant waters have attracted man for at least 3,500 years. **Page 2**

Throughout its history, the bay has meant big business. **Page 3**

Sewage is contaminating the bay from both sides. **Page 5**



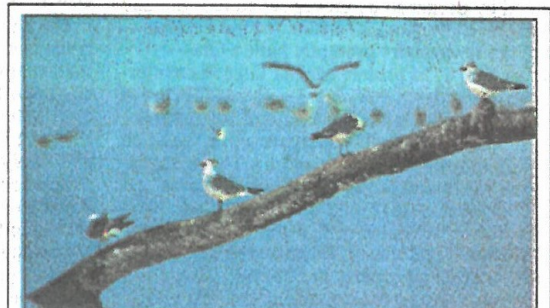
The area by the bay is Alabama's fastest growing. **Page 4**

Inside

Toxic chemicals are lodged in the bay's bottom. **Page 6**

Oysters and ducks are among the species in decline. **Page 10**

Politicians have made bay's health a low priority. **Page 13**



Grasses and marsh have largely disappeared. **Page 7**

Mobile Bay HISTORY

Bay has always caught the eyes of men

From one of the earliest settlements on the continent to World War II boom, the bay has been the magnet

By SAM HODGES
Staff Reporter

In history, as in fish, Mobile Bay offers a jubilee. The bounty includes sovereignty by five different nations, appearances by the Marquis de Lafayette, Andrew Jackson, David Farragut, Jefferson Davis and, much later, a shipyard worker who could also sing and pick a little, Hank Williams.

The cotton trade is part of the story. So is the slave trade. A turn-of-the-century utopian community figures in, as does Old Mobile, a French settlement of the early 1700s. Rum running? Yes, during Prohibition. Blockade running? Yes again, during the Civil War.

Through it all, Mobile Bay has been the precondition for Mobile and Baldwin counties — the reason people settled here. Although not as central as it once was to residents' lives, it remains crucial to the area's economy and recreational life.

Mobile Bay itself is, some conservationists fear, overfished. But no one would say that about its history. For one who would fish the bay for history, the only limit is time.

The long, shallow bay is what geologists call a drowned river valley. Prior to the last ice age, the river system that now empties into the bay flowed all the way to the Gulf of Mexico. What is now the bay was a valley, and the river ran through it. As the ice age ended, the melting glaciers made sea levels rise worldwide, and many such deep valleys flooded to become bays and lakes.

The bay is no more than a few thousand years old. As the rivers carry silt into the bay, it is filling in — a natural process — and if left alone it will probably be dry land again in a thousand years or so.

Unsettled settlements

Archaeologists have found evidence of human habitation going back to at least 1500 B.C. European explorers found several Indian tribes thriving in the area, including the Mauvila, whose name evolved into the name of the bay and its principal city.

The first colonization attempt came in 1559 when Tristan de Luna and 1,000 followers arrived from Mexico. If false starts counted, Mobile would be a good deal more famous than it is.

"This was the biggest colonization attempt made in North America in those early years, and it predated Plymouth Rock, Jamestown and St. Augustine," said Jay Higginbotham, Mobile's city archivist. "Unfortunately, it did not succeed."

Harsh conditions forced the colonists back to Mexico after two years. Permanent settlement by Europeans did not occur until 1702. That's when brothers Pierre Le Moyne, Sieur d'Iberville, and Jean Baptiste le Moyne, Sieur de Bienville, established a colony here for French King Louis XIV.

The French chose the bay because of Dauphin Island's naturally deep harbor and because the extensive river system offered easy contact with the Indians. Louis XIV wanted good relations with the Indians to help thwart the English advance from the east.

From 1702 to 1711, the French used various sites on the bay (including Dauphin Island and Bon Secour Bay) but made their headquarters at 27 Mile Bluff on the Mobile River, at a site known now as Old Mobile. This was the earliest French settlement in what would become the United States, and it was the capital of Louisiana, a French province that extended over half the continent.

The "WPA Guide to Alabama" vividly describes life at 27 Mile Bluff.

"Weakened by illness, the settlers did little more than build a fort and cabins; they depended on storehouses from France for their food. The colony, however, grew by immigration and the arrival of supplies, at first undependable, became more regular. The Pelican, arriving from Canada in 1704, brought not only messengers of the King, soldiers, prelates, missionaries, and nuns, but the 23 'Cassette' girls, chosen by the Bishop of Quebec as future wives for the colonists. In a month all but one had husbands and before a year had passed the first native child, Jean Francois LeCan, was born."

Cotton port king

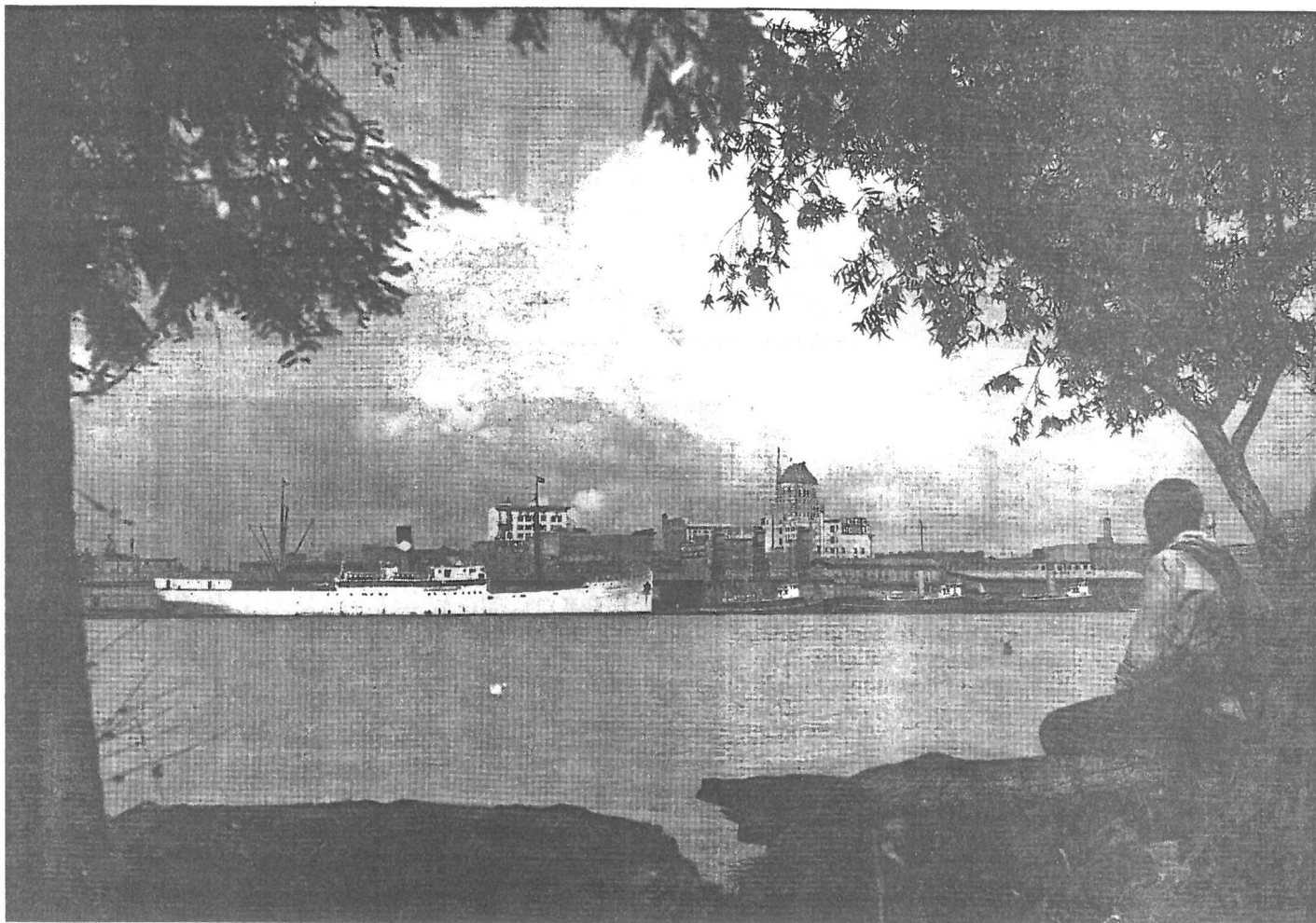
By 1711 the colonists had moved to the less flood-prone site of present-day Mobile, and there they built Fort Conde. Ten years later the first slave ships arrived in the bay, boosting agricultural prospects, but in 1733 a hurricane and epidemic nearly finished off the settlement. The capital of Louisiana had been moved to New Orleans, and in 1763, as part of the Treaty of Paris, the French ceded Mobile to the English.

English rule lasted until 1780 when, in the first and less famous Battle of Mobile Bay, a fleet commanded by Bernardo de Galvez sailed into the Bay and captured the area for Spain. On the Eastern Shore the newcomers promptly built a fort — Spanish Fort — to protect against English counterattacks.

The 1813 Creek Indian massacre of 500 settlers at Fort Mims in Baldwin County drew the vengeful attention of Andrew Jackson and his Tennesseans. Jackson was in and out of the Mobile Bay area during the War of 1812, and once addressed troops from a live oak tree that the Baldwin County Historical Development Commission says still stands on private property in Daphne.

U.S. troops seized Mobile during the War of 1812, and held it against English counterattack. Mobile — now under its fourth flag — became a cotton port. Relative prosperity ensued, and in 1825 the city was prominent enough to merit a visit by Lafayette, aging hero of the Revolution. The next year the U.S. government did its first dredging and channel-clearing in the harbor.

More than 13.3 million bales of cotton were



An elderly man gazes at the Mobile skyline, topped by the Merchants Bank Building, in this undated photograph.

S. Blake McNeely Collection, University of South Alabama Archives

shipped through Mobile Bay between 1817 and 1861. Mobile, its gas-lit streets paved with cockle and oyster shells, could boast of 16 foreign consulates during the 1850s. Cotton brought them. In fact, the prominence of the fluffy white fiber led one visitor, quoted in Weymouth Jordan's book "Ante-Bellum Alabama," to these observations: "Mobile is a pleasant cotton city of some thirty thousand inhabitants — where people live in cotton houses and ride in cotton carriages. They buy cotton, sell cotton, think cotton, eat cotton, drink cotton, and dream cotton. ... It is the great staple, the sum and substance of Alabama. It has made Mobile and all its citizens."

Slaves, too, made Mobile and Alabama, and in 1859 the last known slave ship to reach North America sailed into Mobile Bay. The Clotilde quickly freed its human cargo. The slave trade was, by this date, illegal, and federal agents had been spotted near the docks. The Africans fanned out on their own to plantations or lived in the woods, eventually regrouping into a community called Africatown, near 3 Mile Creek. There are Mobilians alive today who remember meeting the longest-lived of them, Cudjo Lewis, whose African name was Kazula.

'Damn the torpedoes!'

Secession and the Civil War put a fifth flag over Mobile Bay. President Jefferson Davis considered the area's defenses so important to the Confederacy that he came to inspect them personally in 1863, giving a speech at the Battle House.

Guarded by Fort Morgan on one shore and Fort Gaines on the other, the bay remained in Confederate control long after Pensacola and New Orleans had fallen. The interior South survived, in part, on supplies delivered by ships that slipped into the bay past a Union blockade.

But the end to all that came on the morning of August 5, 1864, in a battle which thrilled the North and provided one of the war's enduring utterances. The Confederates had planted explosives for the expected Union fleet, but legend has it that Union Admiral David Farragut instructed, "Damn the torpedoes! Full speed ahead!" The Union fleet did go ahead, capturing the bay despite resistance from Fort Morgan, the Tennessee and other ships in the smaller Confederate fleet.

The torpedoes claimed a Union ironclad, the Tecumseh, which remains underwater (and mostly buried in silt) about 200 yards from shore. It's the most famous of what the U.S. Corps of Engineers believes could be as many as 200 shipwrecks in and around the bay. Archaeologists continue to ponder the expense, difficulty and decency of raising the Tecumseh, which contains the remains of 93 Union sailors.

Back to business

The bay's military and transportation importance declined with the end of the Civil War and the expansion of the railroads, but not its commercial importance. Mobile revived as a cotton port, and as the decades passed it became an important shipping point for lumber, naval stores and iron and steel barged down from Birmingham.

The subduing of yellow fever made the Mobile Bay area more attractive to immigrants. Italians settled in Daphne, Scandinavians in Silverhill, and idealistic Americans from all over established Fairhope in 1894 as a utopian community based on Henry George's "single tax" philosophy.

During Prohibition, Mobile Bay rum runners made their way to and from Cuba and Mexico. More legitimate fishing expeditions also provided local color and enhanced the Bay's reputation nationwide. "Among epicureans the Bon Secour oysters are regarded as perhaps the tastiest and fattest found in American coastal waters," reported the WPA Guide.

Two Mobile shipyards, Gulf Shipbuilding and Alabama Dry Docks Shipbuilding, built military ships during World War I, although the war ended before many of their ships saw service. In 1928 the Alabama State Docks opened, improving shipping facilities and formalizing government control over the port.

Mobile keenly felt the Depression, as did all of the United States, but many remember the 1930s fondly. Caldwell Delaney, retired director of the City Museum, spoke of Mobile Bay's "crystal clear" water and its vibrant waterfront.

Wartime boom

Mobile's population doubled in World War II. Brookley Field was an Air Force facility, but it depended on its deep water port to transport plane parts and whole planes that could not fly long distances. The Theodore Ship Channel provided access to an important ammunition dump, near where Naval Station Mobile is today.

As big as Brookley was, the shipyards were bigger, building Liberty Ships, tankers and warships, and employing about 40,000 people, including Hank Williams.

"A lot of people came in from the backwoods of Georgia, Alabama and Mississippi," said John Sledge, architectural historian with the Mobile Historic Development Commission.

The postwar period has been a utilitarian one. Bender Shipbuilding and other companies continue the shipbuilding tradition, chemical companies and paper mills line the Western shore up into the delta, and crab pots bob in the shadow of natural gas rigs. Militarily, the bay has declined in importance, with Brookley closing in the '60s and the short-lived Naval Station Mobile set for closing soon.

Perhaps the biggest bay-related event has been the 1985 opening of the \$2 billion Tennessee-Tombigbee Waterway. It offers an alternative to the Mississippi as a shipping route from the Midwest — but the silty, slow-moving, commercially under-achieving channel is still a sore spot with environmentalists and others who think of it as the ultimate pork barrel project.

In conspicuous ways, the emphasis on industry and other development has cost Mobile Bay. Wetlands have been lost, beaches and other recreational areas have been lost and pollution has closed some oyster beds.

Mobile has grown away from its bay, literally and figuratively.

"The demographic center of Mobile used to be much closer to the water in 1900 than it is today," said Michael Thomason, professor of history at the University of South Alabama. "People were more conscious of the bay, they were physically closer to it."

Writers, editors for this special report



Michael Hardy is the newspaper's environmental reporter. A native of Athens, Ala., he graduated from the University of West Florida with a degree in communication arts. Before joining the Register in 1986, he worked for two Florida newspapers, the Clewiston News and the Pensacola News Journal.



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Carol McPhail has been a business reporter and editor since joining the newspaper in 1992. A native of Collins, Miss., she received her journalism degree from the University of Southern Mississippi. While in college, she was a Dow Jones Newspaper Fund intern and a Eugene C. Pulliam fellow.

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David Rainer is the paper's outdoors editor. Prior to joining the staff in 1992, Rainer was the outdoor writer for The Clarion-Ledger in Jackson for nine years. Prior to that he served two years as sports editor of the Northeast (Miss.) Daily Journal.



Cover design was by Michael Callahan, Mobile Register graphics artist.

Mobile Register copy editor Doug Dimitry designed the inside pages.

Mobile Bay HISTORY

Mobile wants to display romance of bay's past

► Plans in the works to introduce public to area's long-neglected maritime history

By SAM HODGES
Staff Reporter

The history of Mobile Bay, like the quality of its water, has not been carefully preserved.

"It's a colorful, fascinating story that is virtually unknown," said John Sledge, architectural historian with the Mobile Historic Development Commission. "We need to do a better job of telling the story."

There is little sense of Mobile as a port city today, much less of its rich and varied maritime past. Sledge's theory is that Mobile's leaders, going back to the 19th century, were practical men who felt no romance for the water but saw it as merely a means to a commercial end.

So, apart from Battleship Park and the rather remote Forts Morgan and Gaines, there's little maritime history left to see.

Mayor Mike Dow acknowledged that Mobile has preserved less of its history generally, and especially of its maritime history, than two Southern rivals in tourism — Charleston and Savannah.

"One of the biggest responsibilities I feel is that we do things that preserve and showcase our history," Dow said.

Some ideas under consideration for improving presentation of Mobile's maritime history include:

■ A maritime museum. Locating such a museum on the Mobile River near the new Civic Center was a key recommendation of LDR International Inc.'s downtown development plan for Mobile, prepared two years ago.

Within the last year, a Maritime Museum of Mobile has incorporated and begun to plan a museum that would open in temporary quarters downtown by 1995, then move to a permanent waterfront space within three to five years.

“

We've never had a comprehensive inventory of important sites around the bay. We don't know what we've got until a bulldozer turns it up.

—Greg Spies,
Mobile archaeologist

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"We're trying to make this a broad-based museum, focused not only preserving underwater resources (shipwrecks) but also on things like the history of seafood, the history of shipbuilding — the entire impact of maritime matters on this community and the Gulf Coast," said E.B. Peebles III, chairman of the museum's board of trustees.

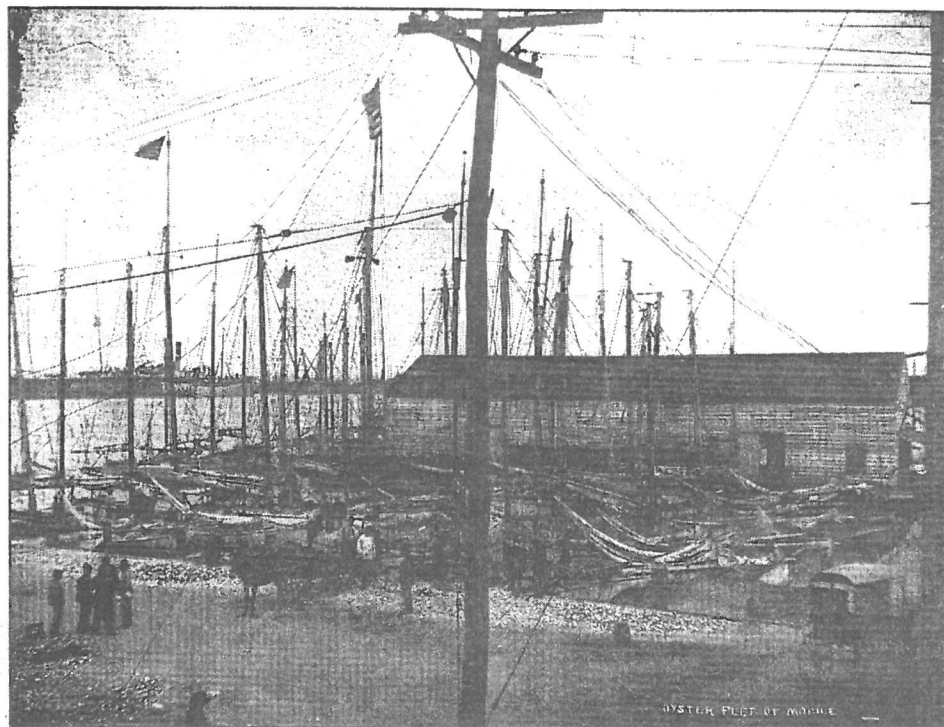
■ A restored or replica historic ship to be placed in the Mobile River, near the Civic Center and the proposed museum. "We need something in the water, even if it's a reconstruction," Sledge said, noting the popularity of tall ships in other harbors.

■ Regular boat tours devoted to bay history.

■ The raising and display of part or all of the *Tecumseh*, the Union ironclad sunk during the Battle of Mobile Bay. The expense and risk of deterioration involved in such an operation would be considerable, perhaps prohibitive. But Jack Friend, who is writing a book on the Battle of Mobile Bay, thinks "partial salvage" is a viable option.

"It might be possible to get a turret up. It may be possible to get a big 15-inch cannon up. It may be possible to go in and get many artifacts."

Making bay history accessible to tourists is one issue. Helping scholars research and preserve it is another.



Erik Overbey Collection, University of South Alabama Archives

Historians want to emphasize Mobile Bay's historic waterfront, where the oyster fleet once docked.

For example, little is known about the 1859 arrival of the *Clotilde*, believed to be the last slave ship to arrive in U.S. waters.

"That's something that would interest people a good deal — people from all over. But there hasn't been a lot of solid research on that," Sledge said.

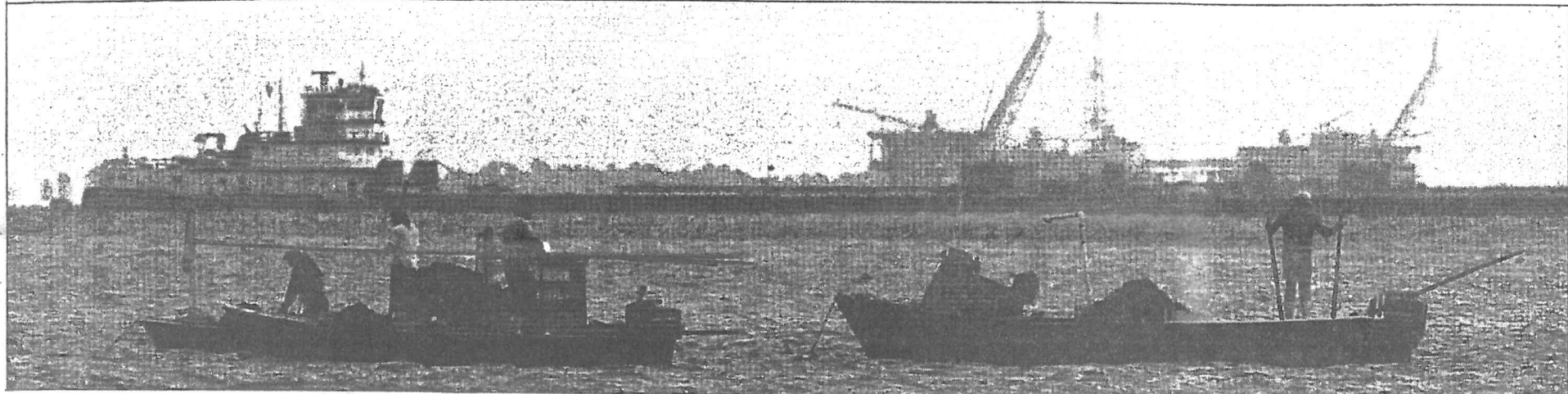
Considerable archaeological research has been done on Old Mobile, the site at 27 Mile Bluff above the bay where the French colonists made their headquarters from 1702 to 1711. Alabama Power has contributed money toward the research, but wants to put an industrial park in the area — something opposed by those who want to see the site made into a historical park.

Greg Spies, a local archaeologist, has spent

years trying to protect a bluff on Dog River where the French had a trading post in the early 1700s. Apartments now occupy part of the site, and Spies said trucks delivering materials for the new Dog River Bridge have driven over another part that has not been fully excavated. No historical plaque marks the site, though it is mentioned in such books as Peter J. Hamilton's "Colonial Mobile."

The failure of the state and local governments to protect that site is symptomatic of a general neglect of the bay's historical treasures, Spies said.

"We've never had a comprehensive inventory of important sites around the bay," he said. "We don't know what we've got until a bulldozer turns it up."



Modern oystermen anchored off Dauphin Island continue plying the area's historic trade. Seafood and fishing generate thousands of jobs.

KIICHIRO SATO/Staff Photographer



A river tug moves past barges filled with timber and other supplies on the Alabama River.

DAVE HAMBY/Senior Photographer

Bay means business—from docks, to wells, to tourism

► Some industries on the water thrive, but fishermen face tough times

By CAROL B. McPHAIL
Staff Reporter

The bay's influence on the area economy can be seen from the chemical plants at its headwaters to the natural gas rigs at its mouth, from the state docks at Mobile to the sailboat slips at Fairhope.

Mobile is one of the nation's 10 busiest ports, linking the bay to the Tennessee-Tombigbee Waterway, one of America's largest river systems.

The Alabama State Docks alone accounts for a yearly payroll of \$12 million and directly employs 418 people. However, it also spawns a whopping 59,000 jobs across the state related to transportation and shipping. In the immediate area, about 2,500 people work directly or indirectly in shipping.

The 28 natural gas wells towering along the lower bay sit atop one of America's largest natural gas reserves. They pump \$4.25 million a year into local coffers by way of property taxes, \$5.9 million into state and local coffers in production/privilege taxes and have yielded nearly \$1 billion in bonuses to the state. In addition, royalties add about \$3 million to \$4 million a month.

Gas exploration in the area promises to sink even deeper roots. Exxon recently began production in the first of its three natural gas fields in Mobile Bay — a move expected to increase the state's offshore gas production by 70 percent. Exxon and Mobile alone employ an estimated 180 people on area platforms and in treatment facilities.

Not far from those facilities are the headquarters of Mobile's \$100 million fishing and seafood industries. An estimated 2,600 fishermen and roughly 3,200 seafood workers reel in their livelihood from the Alabama waterfront.

Fishermen, particularly shrimpers, have faced several threats and number 500 to 600 fewer than they once did, according to the Auburn Marine Center. Among the problems: competition from Latin America, high interest rates in years past and tougher federal regulation on fishing.

For several reasons, including weather changes, envi-

ronmental problems and the fishing industry itself, the state's seafood catch has fallen in recent years. From a record 40 million pounds in 1973, the catch has fallen to 23.6 million pounds last year, according to the Auburn Marine Center.

Much of the fish comes from the Gulf of Mexico, but many spend part of their lives in the bay.

As the bay goes, so goes fishing and so goes the Gulf. "It's all intermixed. If you eliminate the bay system, there's no more shrimp fishery," said Vernon Minton, director of the marine services division of the Department of Conservation and Natural Resources.

“It would really destroy the foundation of Mobile's economy if we pollute the water any more than we have done. We would lose industry. Fishing-related jobs would be gone. Water recreation jobs would be gone.”

—Dr. Semoon Chang,
professor of economics

Tourism and recreation is another big industry that relies heavily on the bay. Recreational anglers spend nearly \$6 million a year, Minton estimates. And the USS Alabama draws 315,000 visitors to Battleship Park, which employs 40 people and contributes another \$4 million to \$5 million.

The proximity of the bay is also a prime reason Baldwin County is the state's fastest-growing county, with 4,000 new residents a year.

All this adds up to a powerful economic reason to protect the bay's health, said Dr. Semoon Chang, professor of economics at the University of South Alabama.

"It would really destroy the foundation of Mobile's economy if we pollute the water any more than we have done," Chang said. "We would lose industry. Fishing-related jobs would be gone. Water recreation jobs would be gone."

Mobile Bay **GROWTH**

Growth is dangerous to bay's health

► Area's expansion threatens quality of life that attracted new residents in the first place

By **CAROL B. McPHAIL**
Staff Reporter

DAPHNE — Twenty years ago, real estate broker D.V. Williams tried to sell a man on the idea that U.S. 98 would become a commercial bonanza. He argued that one day there scarcely would be any available property left along the thoroughfare.

The man didn't buy the prediction or the land. Today, restaurants, convenience stores, gas stations and motels crowd this corridor that links Daphne to Interstate 10. Williams estimates one short stretch of property along the eastern side of U.S. 98 could be worth a million dollars. It sold for \$140,000 in the mid-1970s.

"I wrote 200 letters to select people in Mobile about the potential of this commercial property," Williams recalled. "Nobody could believe it."

The thoroughfare handled 29,280 cars a day in 1992 — more than on I-10 in west Mobile. The crowded corridor often is held up as an example of growing pains in Baldwin County, the fastest-growing county in the state.

Mobile County isn't far behind. While the city itself has struggled not to lose population, the unincorporated areas of the county grew 20 percent during the 1980s, giving it the state's fourth-fastest growth.

This growth not only snarls traffic and crowds classrooms, but threatens the health of Mobile Bay.

According to official predictions, for example, Daphne's existing sewer system can accommodate only five more years of current growth. And Mobile's sewage capacity is expected to handle only four more years.

Bridge to Baldwin

Until the late 1970s, Baldwin County remained largely a sleepy summer getaway for Mobile's elite. At the beginning of each summer, families packed station wagons and headed across the causeway for the duration of the break. Typically, breadwinners continued to work in Mobile County and commuted, when possible, to the Eastern Shore.

The opening of I-10 changed everything. "I-10 opened up a whole new world to the Eastern Shore because the causeway here was vulnerable to winds and hurricanes," Williams, the developer, said. "Most people had been afraid to risk living there all the time on the Eastern Shore because they had to go back and forth to a job and were afraid they'd be cut off from Mobile proper."

Soon, demand for housing began to fill previously built subdivisions, such as Lake Forest, and spawn new ones.

Between 1980 and 1990, 19,724 people moved to Baldwin County, a 25-percent increase. The next year alone, the county added nearly 4,000 more residents.

"If we continue like this, we will have to develop 18 square miles of Baldwin County in order to house the people who will be moving here" in the next 20 years, said Wendy Allen, a county commissioner who chairs the county's long-range planning committee.

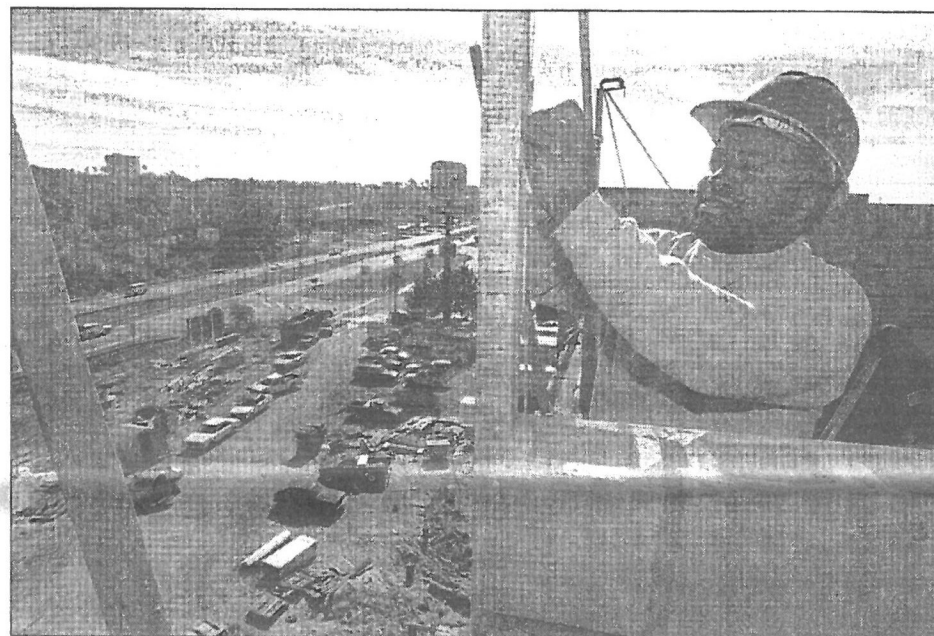
In November and December, builders submitted 22 requests for new subdivision developments to the Baldwin County Planning and Zoning Commission. Only one was denied.

Daphne's first wake-up call on growth's impact



The commercial district on Highway 98 in Daphne has become known as the city's "Hamburger Hill" for its plethora of fast-food restaurants.

DAVE HAMBY/Staff Photographer



Oscar Hines works on sixth-floor construction of the new Hampton Inn in Daphne.

KIICHIRO SATO/Staff Photographer

may have come this past August, when a beachfront resident alerted county authorities to raw sewage floating past his backyard. An investigation resulted, leading to the recent indictment of Daphne utility officials on charges of discharging inadequately treated sewage 71 times over the past year.

In addition to sewer system problems, old and leaking septic tanks also have been blamed for polluting Baldwin's creeks and streams. About 40 percent of Daphne is not yet connected to city sewage, and new developments are increasingly cropping up in unincorporated areas that will rely on septic tanks.

One group that has pushed for more openness on the subject of growth is Baldwin County United, a nonprofit community group. The group sounds an alarm, but a gentle one.

"Right now, I'd say the road system and the water supply and the sewer treatment facilities are not keeping up with the present growth," said John Parker, vice chairman of the group. "But it isn't far out of hand yet; it's still manageable."

"It can be addressed adequately, but we don't have a lot of time. We need to move with it."

It wasn't until roughly a year ago that Baldwin County took meaningful steps toward managing and controlling its mounting population.

The South Alabama Regional Planning Commission is compiling a comprehensive long-range plan for consideration by the Baldwin County Commission. The County Commission has also established countywide authorities to deal with economic development and sewer issues.

Another possible tool is zoning. Although districts within unincorporated parts of the county may opt to zone property, Baldwin County has no countywide zoning. Such power would have to be granted by the state Legislature, and that authority has received little support, officials say.

Power to control growth continues to be split between dozens of municipalities and county authorities on both sides of the bay. Whether all will support pledges to manage growth is anyone's guess.

Daphne adopted a long-range growth plan four months ago, and is already considering changing it to allow Wal-Mart to open a bigger store at a wooded lot on U.S. 98.

Critics say the store would crowd the area further. But city officials say they need the store's tax revenue to help pay for sewer expansion and other costs brought on by the town's recent growth.

Meanwhile, the movement to Baldwin shows few signs of slowing.

"The basic question we're wrestling with on the Eastern Shore," Parker said, "is how do we find a balance between accommodating people's desire to live here and preserving what attracted residents who already live here."

Mobile's growth

Mobile Bay also faces a threat from the west, where population grew 15 percent between 1970 and 1980 and 3.7 percent the next decade. Unincorporated areas, such as west Mobile, grew 20.6 percent between 1980-90 while incorporated areas of the county actually lost 2.2 percent of their combined populations.

Much of the growth has occurred in the western part of the county outside the city limits, where land is abundant and relatively cheap.

"I think you'll see most of the growth in the western portion, from Cody Road west and probably south of Airport Boulevard and west of Cody," said developer Richard Rowan.

Some subdivisions to the city's west are still served by septic tanks. But continued growth of subdivisions hooked to the city's system has taxed the McDuffie Island treatment plant. During periods of heavy rain, faulty pipes suck in enough stormwater so that McDuffie gets flooded and discharges incompletely treated waste. That has been going on for at least five years, according to water and sewer officials.

Under a state order to stop such discharges at McDuffie, the city's board of water and sewer commissioners this summer issued a short-term moratorium on development in west and south Mobile. It also spent about \$40 million to replace lines downtown and upgrade the McDuffie plant.

Nonetheless, board chairman J. Bradley Donaghey estimates the plant will need to be expanded again by 1998.

Another moratorium could be imposed if the problem isn't solved. Said Donaghey: "This is for real. It's going to happen if we don't get something done."



This view from the top of the Government Plaza shows the Adam's Mark Hotel and the Convention Center at left, and the Mobile River straight ahead.

KIICHIRO SATO/Staff Photographer

Mobile Bay **SEWAGE**

Sewage has become a dirty word

► Spotlight focused on the indictments of Daphne officials, but the problem is widespread in the area

By **MICHAEL HARDY**
and **CAROL McPHAIL**
Staff Reporters

When Daphne utility officials were charged recently with concealing illegal sewage discharges, the news hit many area residents in the gut. Two men responsible for protecting public health now stand accused of endangering it.

But problems with sewage in the bay area are nothing new, and are not confined to the booming Eastern Shore.

In Mobile, the streets downtown have been torn up for months under orders from the state Department of Environmental Management to halt years of excess sewage discharges that occurred with every strong rain.

Problems with sewage treatment capacity are the direct result of rapid growth. In Daphne, the largest city in Baldwin County, 40 percent of homes are not yet connected to city sewerage. Planners say expanding the city's sewage system to include everyone in the city would cost more than \$6 million, and would make it necessary to build a new treatment plant, which would cost millions more.

Soil overwhelmed

In the meantime, thousands of homes rely on septic tanks. Septic tanks work well in some types of soil in rural areas, but they are not as effective when concentrated together. They work by percolating the wastewater through the ground itself. If too many are operating too close together, they can overwhelm the ability of the bacteria in the soil to clean the water before it seeps into the bay.

While the focus on water quality has centered recently on Baldwin County, Mobile County probably has been the focus of more regulatory discipline.

Since 1987, Mobile's board of water and sewer commissioners has been under order from state regulators to correct problems that caused them to discharge incompletely treated waste at its McDuffie treatment plant.

Before beginning the repair plan last summer, the water board ordered a brief moratorium on new development in west Mobile.

The excess discharge occurs because the city's storm drains have been tied in with its sanitary sewers. The plant's capacity is 27 million gallons, but it discharges almost twice that amount during periods of heavy rain. To handle the volume, the plant treats part of the waste normally, and the rest it simply screens, chlorinates and dechlorinates before flushing both types together into the bay.

Utility officials are spending \$18 million to disconnect the storm drains and another \$20 million to upgrade McDuffie and add temporary storage space for overflows. In addition, officials agreed to charge a capacity fee of \$1,000 per new connection on developments, which will help to pay for services.

David Granger, a spokesman for the Alabama Department of Environmental Management, said the board has until August to correct the problem.

'This is for real'

Even when the downtown work is done, McDuffie will run out of capacity in 1998, predicts board chairman J. Bradley Donaghey. Unless officials begin planning soon to build a new plant, he said, it could mean another moratorium against new development.

"This is for real," Donaghey said. "It's going to happen if we don't get something done."

Sewage treatment plants don't happen quickly. The Mobile board spent 14 years in a losing court battle for permission to run a pipe that would discharge waste from Theodore into Mobile Bay. The project was fiercely opposed by environmental groups and the effort failed.

Many sewer officials believe the McDuffie plant would not be overloaded



DAVE HAMBY/Staff Photographer
The Lake Forest sewer plant in Daphne has been the focus of a continuing controversy in recent months over bay pollution.

if the Theodore project had become reality.

Since then, little progress has been made on solving the long-term capacity problem, according to Donaghey. The board is still considering whether to build a new plant in Theodore or at McDuffie, and whether to discharge its waste into the bay or create a wetlands area to receive it. Each option would cost \$60 million to \$100 million.

The density of population along the bayshore poses one of the greatest threats to the health of the bay, said biologist Dr. John Borom, director of

Faulkner State Community College's Fairhope campus.

A Fairhope resident since 1942, Borom said the bay has lost much of its vitality as human population has grown. As more people move in, more and more wastewater is discharged into the bay or streams feeding it.

"You can get away with certain lifestyles when you have fewer people than when you have more," he said.

An essential step in solving the problem is to educate people about the need to process waste. "People think it's not a problem, because they flush their toi-

let and it's just gone," he said. "It's easy to believe that it just disappears."

Borom said south Alabama is one of the nation's few coastal areas that has not yet grown out of control.

"It's not too late," he said. "But if we wait too much longer we're going to lose some resources and it's going to cost a lot more to bring it back. We're in a good position now to benefit from the mistakes that have been made in other parts of the country."

"There's a lot to be said for not being first."

Human waste may end in fish kill — or jubilee

► Bacteria consumes oxygen in water, leading to these similar phenomena

By **MICHAEL HARDY**
Staff Reporter

Human waste threatens water quality primarily by overloading it with nutrients.

The nutrients encourage the growth of bacteria that consume oxygen in the water. This biochemical oxygen demand, if too high, can lead to a condition called hypoxia, or low dissolved oxygen.

Hypoxia is what drives fish and crabs toward shore in the jubilee phenomenon. At very low oxygen levels, it also causes fish kills.

"People are happy when it's a jubilee, but they're unhappy when it's a fish kill," said George Crozier, director of the Dauphin Island Sea Lab. "And it's the same thing."

Waste can also carry disease-causing germs. Fecal coliform bacteria, which was found in high concentrations in Daphne waters this past summer, can cause diarrhea. Other organisms cause diseases such as cholera and hepatitis.

Wastewater treatment systems disinfect the water before discharge to kill those organisms. The high counts of fecal coliform indicated that poorly treated sewage was finding its way into the bay.

Raw sewage usually has an average biochemical oxygen demand of 250 to 300 parts per million, said engineer Bob Borneman, who designs wastewater treatment plants for BCM Engineers in Mobile. That means the material consumes 250 to 300 milligrams of oxygen in a liter of water over a five-day period.

By the time treated waste is discharged, the plants with even the most lenient standards along the bay will have reduced the oxygen demand to 30 or lower.

Removing suspended solid matter is the other important goal of most wastewater treatment, Borneman said. The water passes through various screens and filters along the way to remove the particles of human waste, tissue paper and other objects flushed down toilets.

Most plants in the Mobile Bay area are required to filter the solids down to level of 30 parts per million or better.

This 30-30 standard for biochemical oxygen demand and total suspended solids is generally called secondary treatment, Borneman said.

Secondary treatment is the standard in Alabama, but it is by no means the best level that can be attained. But further levels of treatment cost more.

"You can get pure drinking water out of a treatment plant if people want to spend the money," Borneman said.

ADEM is showing signs of tightening restrictions on plants all along Mobile Bay.

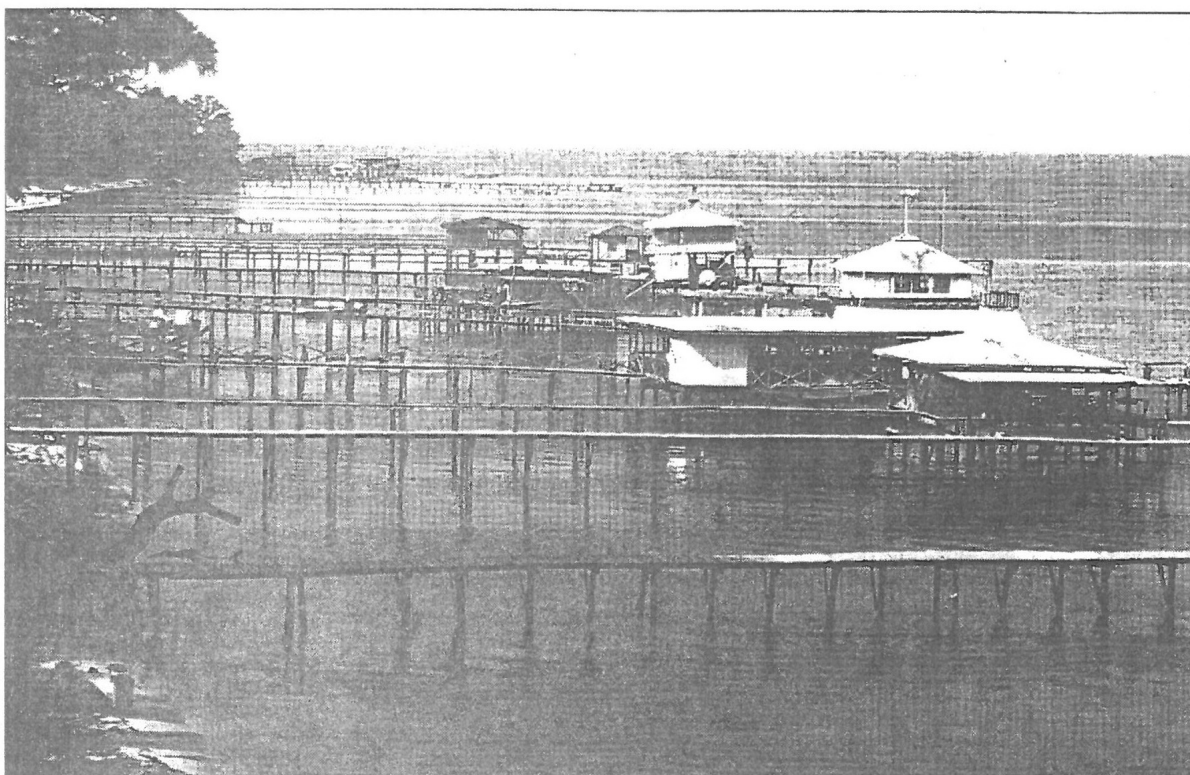
Responding to public pressure this past summer, the agency announced that new permits for Daphne's main Lake Forest treatment plant for the first time will include discharge standards for fecal coliform bacteria.

Truman Green, head of ADEM's municipal branch, said several plants around the Mobile Bay area already have discharge limits of 20 parts per million or lower for oxygen demand and suspended solids.

In Gulf Shores, where wastewater plants empty into the Intracoastal Waterway, ADEM toughened the limits several years ago. The sewage treatment plants there must lower the biochemical oxygen demand to 4.

Larry Stejskal, manager of Gulf Shores Utilities, said the tougher limits came in 1987.

"There were no serious water quality problems in the canal at that time," he said. "We didn't have fish floating belly-up. But there had been enough long-term monitoring to know that there was obviously a downward trend. I think we headed some problems off at the pass."



DAVE HAMBY/Senior Photographer
Private piers and septic tanks have been identified as another source of sewage contamination.

Hurricane Frederic flushed out the bay

► One good thing to come from '79 storm

By **MICHAEL HARDY**
Staff Reporter

When Hurricane Frederic tore through Mobile in 1979, it destroyed millions of dollars worth of property.

But the storm also cleared a century's worth of accumulated silt and pollution from Mobile Bay, according

to Wayne Isphording, a geology professor at the University of South Alabama.

Isphording said heavy metals and other chemicals, brought downstream from industries all along the Alabama-Tombigbee river system, had been captured in the absorbent sediment of the bay.

(See graphic on page 6)

"In the space of nine hours the hurricane removed as much sediment as the Mississippi River moves in a year," he said.

Isphording estimates that Frederic

carried up to 297 million tons of sediment from the bay, as much as the natural silting process had deposited in the past century. With the sediment went many of the accumulated pollutants.

Unfortunately, he said, the pollutants are returning to the bay, although tighter regulation of industrial wastewater has slowed their return.

"I was hoping we wouldn't see it build back up, but it has," he said. "The only thing we can hope for is another fortuitous hurricane."

Mobile Bay CHEMICALS

Chemicals settle under bay's waters

► Sediment holds heavy metals, but nobody knows how harmful they may be

By MICHAEL HARDY
Staff Reporter

Mobile Bay lies at the end of one of the largest river drainage systems in the country. That massive inflow of water brings with it the byproducts of industrial activity stretching hundreds of miles upriver.

Studies have found heavy metals and other toxic chemicals in the sediment under the bay. But how much harm these pollutants may cause remains an unanswered question.

Chemicals trapped in sediment can accumulate in the flesh of animals that feed on the bottom, such as oysters and blue crabs.

Dr. Wayne Isphording, a geologist at the University of South Alabama, has found high levels of zinc in Mobile Bay oysters. Other researchers compared Mobile oysters to those from Bay St. Louis, Miss., and found higher levels of cobalt, copper, iron, nickel and vanadium here than there.

Other studies conducted by the National Oceanic and Atmospheric Administration have found what the agency considers excessive levels of cadmium in bay oysters, and high levels of DDT, chlordane and PCBs.

But while scientists can measure these concentrations, they can't say whether the chemicals in the bay pose a threat to health. The U.S. Environmental Protection Agency has not set limits for chemicals in sediments or marine life. Neither has the state of Alabama.

Isphording said his work is limited to gathering the information, not interpreting it.

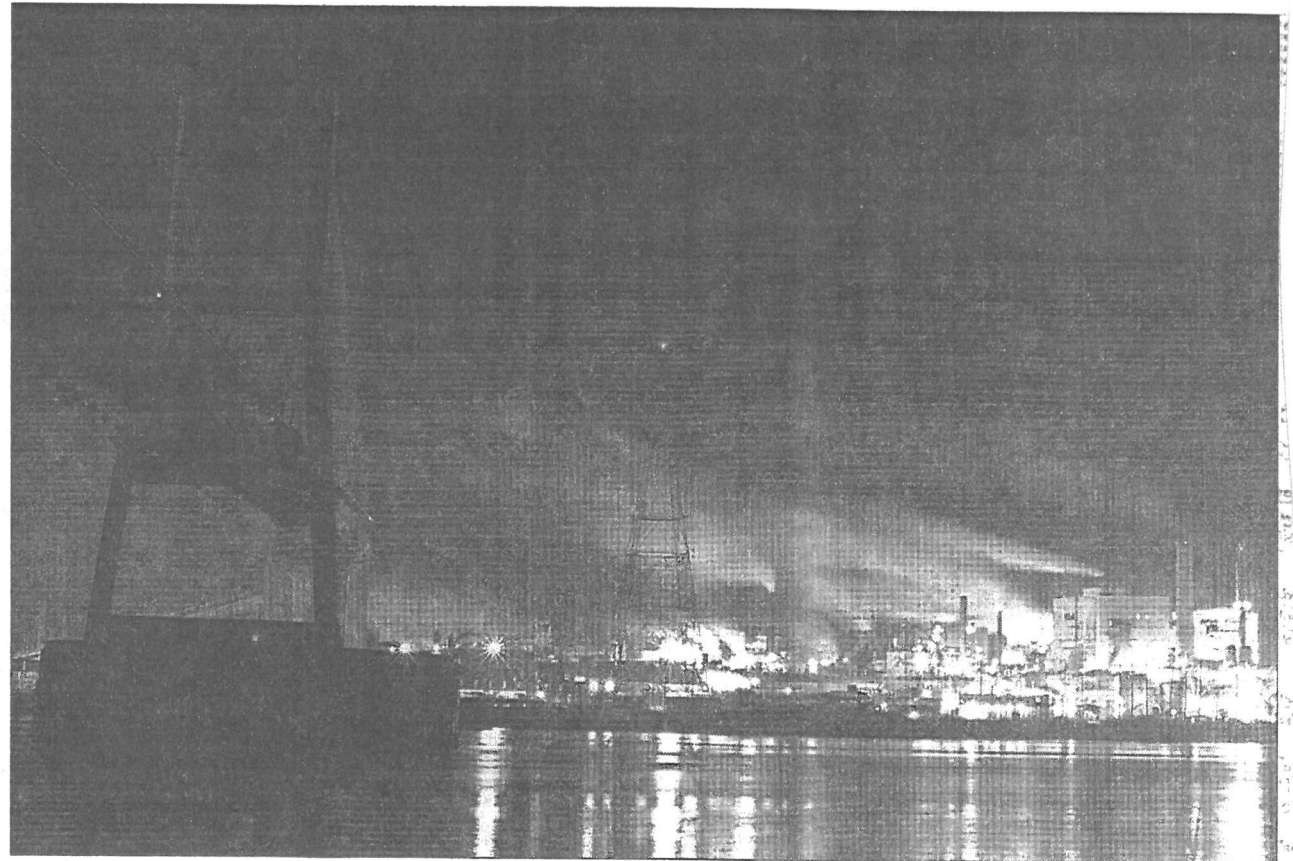
"I can't tell you what is a problem and what is not, because I'm not a biochemist," he said. "And unfortunately, most biochemists want to study organic pollution. No one has done much work on heavy metals."

Of the 50 state environmental agencies, only Washington has set limits for chemicals trapped in sediment.

So far, the concentrations of metals Isphording has measured are well below those standards. They also measure below potential danger levels suggested in a study done for the Florida Department of Environmental Regulation.

Bob Perkins of the Alabama Department of Public Health said the oysters NOAA sampled all came from the upper part of the bay, which has been closed to oyster harvest since 1950.

Perkins said the health department does not routinely test oysters for accumulation of the metals or any other chemicals. Since neither Alabama nor the federal government maintain standards for them, the information would



Lights from paper mills on the Mobile River illuminate the night, the Cochrane-Africatown Bridge and the mills' emissions. KIICHIRO SATO/Staff Photographer

be useless from an enforcement perspective, he said.

Perkins said testing for the materials for informational purposes would be a good idea. However, the health department only allows enough funding for the shellfish program to meet the standards of national shellfish sanitation policies set by the federal Food and Drug Administration.

The FDA requires state health departments to sample for fecal coliform bacteria, Perkins said. Because it is present in all animal waste, fecal coliform indi-

cates the presence of sewage, which can also contain germs causing other diseases, such as salmonella, hepatitis and cholera.

The health department also plans to begin testing oysters for vibrio vulnificus, a naturally occurring bacteria carried in some raw oysters that has killed two Alabamians in just over a year.

But the federal rules do not require routine testing for other possible contaminants, including metals and other chemicals, he said.

According to the NOAA report, Alabama allocates relatively little funding to its shellfish programs. In 1985, NOAA found Alabama spent only 1 cent per acre of shellfish area, the lowest of any state in the nation. By 1989, the state was spending 31 cents per acre, no longer last but still lower than the national average of 47 cents.

Mobile Bay is a natural sponge for chemicals, due to the absorbency of the clay which covers most of the bay's bottom, Isphording said. Sandy bays, such as Pensacola Bay, could have the same amount of material pass through and would absorb far less than Mobile Bay does, he said.

The Mobile River Delta filters some of the pollutants which

come from upstream. However, the delta is formed of coarser, less-absorbent sediments than the bay, meaning it is not as effective at trapping the metals.

Even if the delta were an efficient filter, Isphording noted, the metals would be no better for the ecosystem there than they are for the bay.

Tiny shrimp live in the waters of the delta, said Steve Heath, a biologist for the Alabama Department of Conservation and Natural Resources. Those shrimp ultimately grow up and become the harvest for commercial and recreational shrimpers.

"If we pollute the waters, the shrimp will leave," Heath said. "They just won't inhabit polluted waters."

The only way to stop the chemicals from coming in is to completely stop industrial discharge along the entire river system, Isphording said. A complete halt is unrealistic, but tightening discharge limits will reduce the volume to a level the bay might handle better.

Joel Hansel, an environmental scientist with EPA, said scientists debate whether chemicals trapped in sediment can be released easily.

"When you deal with sediments you deal with not only the sheer numbers, but other ques-

tions like how strongly does the material bond to the sediment, how much leaches back out of the sediment to be available in the water?" Hansel said. "You could have a tremendously high level, but have it be strongly bound to the sediment and not very available, and therefore not really much of a threat."

Brett Betts, a biologist with the Washington Department of Ecology, said the standards there were developed over seven years of study and adopted in 1991.

Washington plans to eventually use the numbers in writing wastewater discharge permits for industries, Betts said.

Conventional wisdom holds that different bodies of water have different characteristics — such as flush rate, sediment type and salinity — and that those differences may make it difficult to apply one set of standards to more than one body of water.

But Betts said differences between sites may be less variable than some scientists imagine.

"My belief is that the states are going to start agreeing on what the levels should be pretty soon," he said. "My advice to them would be to use our numbers as a guide, and do their own chemical and biological testing to see if they work."

Sediment chemical levels

Chemical	PARTS PER MILLION*			
	Mobile Bay 1979	Mobile Bay 1988	Mobile Bay 1990	Washington State limits*
Arsenic	NR	NR	23	57
Cadmium	NR	NR	.85	5.1
Chromium	83	53	55	260
Cobalt	29	15	10	NS
Copper	32	31	16	390
Lead	28	51	18	450
Mercury	0.25	0.38	0.33	.41
Organic carbon	3.24%	0.74%	NR	NS
Vanadium	163	88	64	NS
Zinc	360	120	100	410

NR = NOT REPORTED
NS = NO STANDARD SET
Sources: Dr. Wayne Isphording, University of South Alabama
Washington Department of Ecology

*Washington is the only state that sets limits on sediment chemicals.

Register graphic

Regular testing of water is hardly a tradition in Mobile

► But ADEM has begun a new monitoring program, and long-term information expected from Baywatch volunteers

By MICHAEL HARDY
Staff Reporter

Ask many questions about the health of Mobile Bay, and the answer will be "We don't know."

How long has sewage been contaminating the water near Daphne? No one knows. There had been no regular testing until feces was found floating along the shore.

How quickly are cancer-causing heavy metals accumulating in the bay's floor? And how significant a health threat do they pose?

It's hard to say. A university professor has tracked the metals for years in the bay's sediment and the oysters that feed there, but the official state environmental agency is only beginning to test the sediment for itself. And the state's health department has no plans to monitor the metals contaminating the oysters it is charged with protecting.

Like most states, Alabama has adopted minimum water quality standards required by the U.S. Environmental Protection Agency. But it relies on industries and local governments to monitor their own discharges and report violations.

Although a number of agencies

monitor various aspects of bay water in various places, no one has compiled comprehensive statistics over a long period of time.

This kind of trend monitoring is needed to establish the normal conditions of the bay. Without it, new information cannot be placed into its proper context.

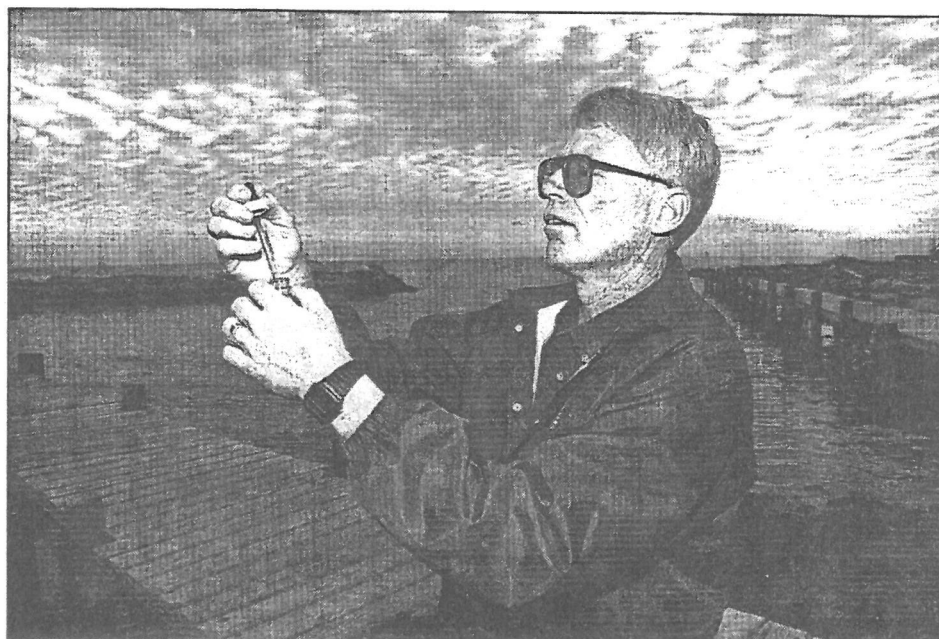
This past summer, Alabama's Department of Environmental Management began a new program with the intention of developing a statistical profile of the bay. They took samples of water, sediment and invertebrate animals from 89 randomly chosen points and are analyzing them for dissolved oxygen, acidity, temperature, nutrient levels, suspended solids, heavy metals and other chemicals.

John Carlton, head of ADEM's Mobile field office, blamed lack of funding for the agency's failure to monitor more intently. He said the agency has spent about \$175,000 of its \$32 million budget on water quality trend monitoring in Mobile Bay, a figure that will increase to \$225,000 with the new program.

But Carlton said neither trend monitoring operations nor the Mobile Field Office in general have specific budgets. Rather, ADEM headquarters assigns tasks to the field office and budgets funds as needed.

"Sometimes we get what we ask for, often we don't. We try to work with what we have," he said.

Some other states are well ahead of Alabama in building such comprehensive bodies of information.



Dr. George Crozier of the Dauphin Island Sea Lab takes a water sample. JASON THOMPSON/Staff Photographer

In Florida, state and local governments have been compiling information on most of the state's surface waters for 25 years, said Vivian Garlein, an official with Florida's Department of Environmental Protection.

"Not only does the state do monitoring, but you'll find counties, cities and volunteer people monitoring," she said. "We have a fair amount of information over time now."

In Mobile Bay, more long-term information is expected to come from Baywatch, a citizens' monitoring effort coordinated by the Alabama Coastal Foundation. Volunteers sample the water and keep records of its temperature, salinity, dissolved oxygen level and turbidity, or cloudiness.

ADEM designates bodies of water for specific uses, such as swimming, fishing or shellfish harvest. It maintains water quali-

ty standards for a variety of chemicals, standards which may be more or less strict depending on the intended use of the water.

The agency usually requires sources of discharge — industries, wastewater treatment plants and other facilities — to monitor their discharge and water both upstream and downstream from the discharge point to see if the standards are being met.

Then, usually no more than once a year, ADEM performs an unannounced inspection to make sure the company is performing its self-monitoring correctly and honestly. However, the agency is not able to continually monitor the water.

The Alabama Department of Public Health monitors the waters near oyster beds. Bob Perkins, who designed the health department's sampling plan, said the department maintains 30 trend stations which are sampled monthly.

The primary test is for fecal coliform bacteria, an indicator of sewage contamination. Fecal coliform can cause severe diarrhea if people eat oysters which have absorbed the bacteria. State law sets a standard of 14 colonies of bacteria per 100 milliliters of water near seafood beds.

The department does not test the oysters for heavy metals or other chemicals, Perkins said. Federal regulations do not require them to, and state budgets do not allow them the luxury, he said.

The Alabama Department of Conservation and Natural Resources keeps track of waters in the upper bay, where shrimp and many of the bay's finfish live.

The department tests the water for its dissolved oxygen, temperature and salinity, which are important factors for the health of the shrimp. It does not test for fecal coliform.

Shrimp are not filter feeders like oysters and therefore not likely to absorb bacteria or other pollutants, said conservation department biologist Steve Heath.

Mobile Bay MARINE LIFE

Fish are out there, but nothing like 'the good old days'

► Reasons for decline: too many fishermen, too much construction, too much human activity

By MICHAEL HARDY and DAVID RAINER
Staff Reporters

Earl Cornelius worked Mobile Bay as a fishing guide several years ago but shifted his operation to Louisiana when the fishing became too inconsistent.

"The good old days are gone," he said. Cornelius moved west when competition made it difficult for him to find the speckled trout and redfish his clients wanted.

"There's just so much pressure from fishermen and the commercial guys," he said. "The fishing for the specks and reds is nip and tuck. I just couldn't give my customers their money's worth."

Scientists and regulators say more fishermen are working the waters, meaning fewer fish for each.

The commercial seafood catch peaked in 1973, when fishermen pulled 40 million pounds of fish, shrimp, crabs and oysters from state waters.

The numbers have varied from year to year since then. Often they fall below 25 million, just slightly more than half of the 1973 record. But as recently as 1986, 36 million pounds of fish came from state waters.

Counting the recreational catch is harder, and the state doesn't do it.

Biologist Steve Heath with the state's Marine Resources Division the only way to really know how sports fishermen are doing is to do "creel surveys."

"You'd have to have enough people to go out and survey the fishermen wherever they are. It's a very manpower-intensive kind of survey."

The division does survey young fish every month to keep track of populations. Chief biologist Walter Tatum said the department counts larval or juvenile fish of various species, and compiles a monthly tally.

The numbers show whether the species is doing well or having some trouble.

"That's usually our first warning if there's a problem we need to address," he said.

Tatum said most species of fish in Mobile Bay are doing well.

"All of them are kind of cyclical. You'll get trends of up and down," he said. "But if you look at all of them over a 10-year average, they're all holding steady."

But fishermen say that fish were much more

plentiful decades ago than they have been in recent years.

Sea grasses, which many species of fish inhabit, have all but disappeared in Mobile Bay. With them, say fishermen, went the fish.

Pete Melech of Mobile, who has fished the bay for more than 50 years, said the grass beds were indispensable to the fish.

"You're not going to get fish back anywhere like it used to be unless we can bring back the grass beds," he said.

Scientists say the grasses have disappeared because construction and other human activity has clouded the water of the bay, reducing the amount of light reaching the bottom.

The state has taken some steps to conserve its fish stocks, said R. Vernon Minton, conservation department director.

Catch limits are a primary conservation tool, he said.

For example, Alabama has a daily limit of 10 speckled trout with a minimum of 14 inches. The

“*You've got this plate of food out there with more people putting their hands in it, so the food per person is going to be less. When people say it ain't like it used to be, well, they're right.*”

—Skip Lazauski, Marine Resources biologist

redfish limit is three per day between 16 and 26 inches.

"Generally our stocks in redfish and speckled trout look fairly healthy," Minton said. "Speckled trout is more of a year-to-year crop, almost like shrimp. If we get an abnormally wet spring which increases the fresh water during the peak spawning months of May and June, it's going to affect next year's crop."

Minton said the commercially harvested species have shown normal fluctuation patterns that can be attributed to factors of nature such as hurricanes and floods.

Others have dropped due to over-harvesting. In 1988, the conservation department began prohibiting the use of gill nets on the south shore of Bon Secour Bay for the last two months of the year to protect the flounder.

"We were very concerned at that time of the over-harvest of flounder as they were migrating



Angler Gerald Portis handles a couple of lines he's baited for redfish in the water of Pinto Pass.

through," Minton said. "Some fishermen were getting 10,000 pounds a night."

And as the human population increases, there will be more pressure on the fish population.

"One of the pleasures these people demand is angling. They like to fish," said Skip Lazauski, as-

stant chief biologist with Marine Resources.

"You've got this plate of food out there with more people putting their hands in it, so the food per person is going to be less. When people say it ain't like it used to be, well they're right."



Marguerite and Paul Noel sort a load of shrimp aboard their boat.

Bay loses grasses, marsh as water becomes cloudy

► Construction, other human activity blamed for resulting loss of fish

By MICHAEL HARDY
Staff Reporter

Fifty years ago, broad expanses of underwater grasses covered the floor of Mobile Bay and vast marshes lined its banks.

Today, construction and other human activity has claimed almost all of the grasses and much of the marsh, depriving the bay of a vital life-support system.

The grass beds provided habitat for small fish and crustaceans, and in turn the bigger fish which fed on them. Now that the grasses are almost gone, so is much of the bay's sport fishing.

The marsh provided an interface between land and water, filtering out contaminants and providing home to a unique array of plants and animals.

John Borom, a biologist and director of Faulkner State Community College's campus at Fairhope, remembers what the grass beds were like when he was growing up in Fairhope in the 1940s.

"You could wade out by the Fairhope pier — it was an old wooden pier at the time — and find huge beds of grasses," Borom said.

"In the '40s the grasses were thick all along the Eastern Shore. In the late '40s they started to dry up slowly. It accelerated in the '50s and '60s, and now they're almost completely

gone." Aerial photography shows that the bay has also lost more than a third of its marsh areas. Dr. Judy Stout of the Dauphin Island Sea Lab said the photo study showed a loss of 49 percent of the freshwater marsh and 35 percent of saltwater marsh between 1955 and 1979, and 35 percent — almost 6,700

The grasses have disappeared mainly because construction in and around the bay has made the water cloudier, she said. The increased cloudiness of the water diminishes the amount of light that reaches the bottom, she said.

In winter, the rivers flowing into the bay drop and the water is shallower, leaving patches of the bottom dry.

"All of that means there is a very narrow zone the grasses could grow in," she said.

In water deeper than about one meter, not enough light reaches the bottom, she said. Water shallower than about half a meter is likely to dry up in the winter. Grasses are therefore likely to grow only in water within that narrow depth range.

The loss of the undersea grasses opened the door for weeds to come in, said Barry Vittor, a Mobile environmental researcher. The most pernicious of the weeds is Eurasian water-milfoil, which has gained a foothold in the upper bay in recent years.

The weeds can survive in the cloudier water, he said, and grow much thicker than the sea grasses.

"It just chokes out the system," he said.

When the weeds die, the decaying matter creates a tremen-

dous oxygen demand, Vittor said. That makes the water less habitable for fish and other animals.

"It's become so thick and dense that you get these huge mats of rotting weeds in late summer."

Stout said she believes the grasses can return, though not to the extent they once covered the bay. Some have already begun to re-emerge.

Marshes are not as likely to rebound. Several attempts have been made to create artificial wetlands, and Stout worked with the Alabama Department of Environmental Management to survey those attempts two years ago.

"The general consensus was that there were pitifully few examples of marginal success, and many examples of absolute failure," she said.

Borom said the single major factor today in the loss of vegetation may be the growing population along the Eastern Shore. The prime property overlooking the bay has long since been developed, and new homes are going up along the beach.

To protect their investments against erosion, those property owners often build seawalls to keep the bay from washing away their back yards.

"That alters the natural wave action, and that causes turbidity," he said.

When a property owner builds a seawall, the bay's wave action channels more water onto neighboring property on one side, depending on the current. The neighbor usually then needs to build a seawall too, Borom said.

"Soon you have wall-to-wall seawall and no beach," he said.

Species	YEAR							
	1985	1986	1987	1988	1989	1990	1991	1992
Flounder	102,418	149,784	116,567	56,679	71,120	83,112	57,095	61,209
Mullet (Black)	965,280	1,664,501	655,703	975,914	639,758	1,100,862	1,134,225	814,119
Sea Trout (White)	18,482	17,651	19,402	9,307	6,355	16,113	16,013	45,529
Sheepshead	65,605	68,879	106,124	163,522	241,491	139,090	31,929	149,137
Spanish Mackerel	5,986	2,855	11,950	9,574	2,285	1,570	4,132	2,938

Register graphic

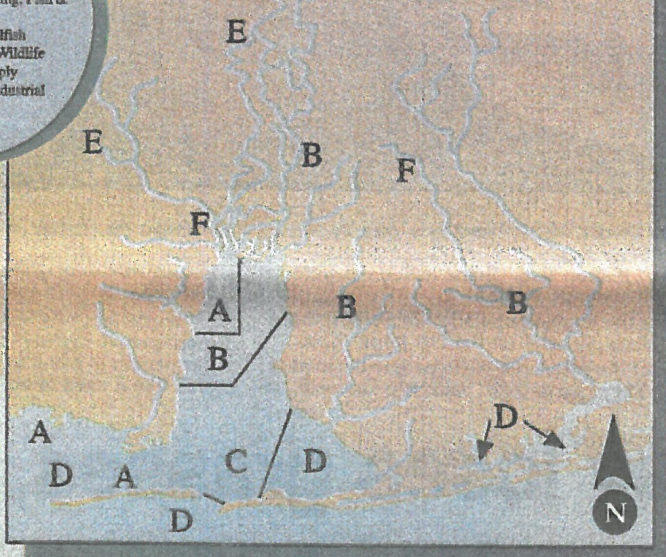
The burden on the bay

Years of industrial development and population growth are straining the environment around Mobile Bay

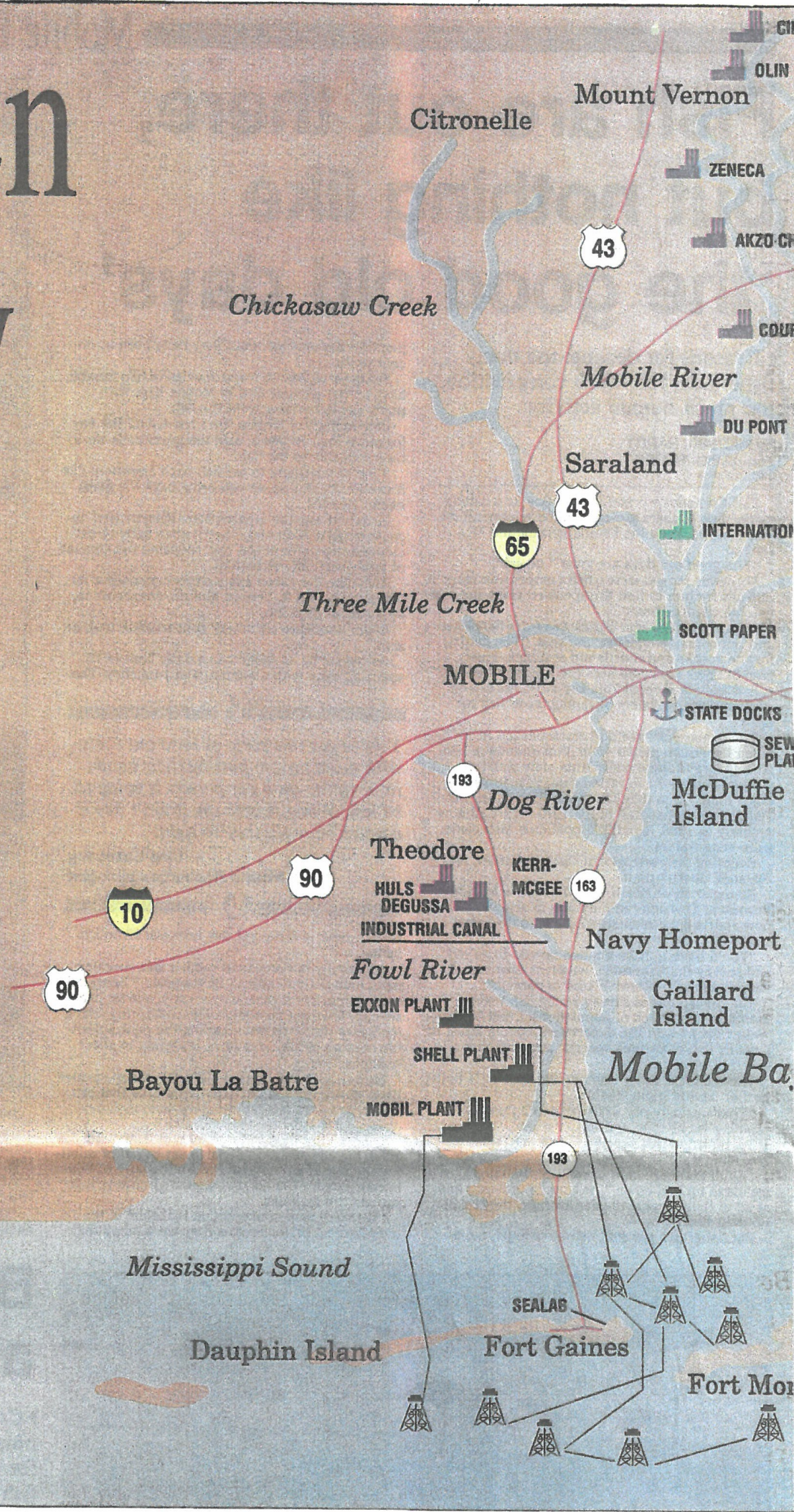
Water classifications of Mobile Bay and feeder streams

KEY:

- A. Fish & Wildlife
- B. Swimming, Fish & Wildlife
- C. Shellfish harvesting, Fish & Wildlife
- D. Swimming, Shellfish harvesting, Fish & Wildlife
- E. Public water supply
- F. Agricultural & Industrial water supply



Source: ADEM



Industrial discharge

The massive flow of water into Mobile Bay brings with it the byproducts of industrial activity stretching hundreds of miles upriver. Years of this discharge have built up an accumulation of heavy metals and other toxic chemicals in the sediment and oysters at the bottom of the bay.

Environmental and health officials say there is no evidence showing a conclusive threat to human health, however. Neither the federal nor state government has set any limits for chemicals in sediments or marine life.

But the National Oceanic and Atmospheric Administration has found what it considers "high levels" of DDT, chlordane and PCBs in bay oysters.



Sewage demand

Rapid growth in Baldwin County and unincorporated areas of Mobile County has strained the area's major sewage treatment plants.

In Mobile, the McDuffie Island plant discharges millions of gallons of improperly treated wastewater with every heavy rain. In Daphne, the city's sewage board faces criminal charges of concealing a pattern of illegal discharges.

Scientists say improperly treated sewage reduces the oxygen in the bay, a phenomenon that can cause either jubilees or fish kills depending on how low the oxygen levels get.



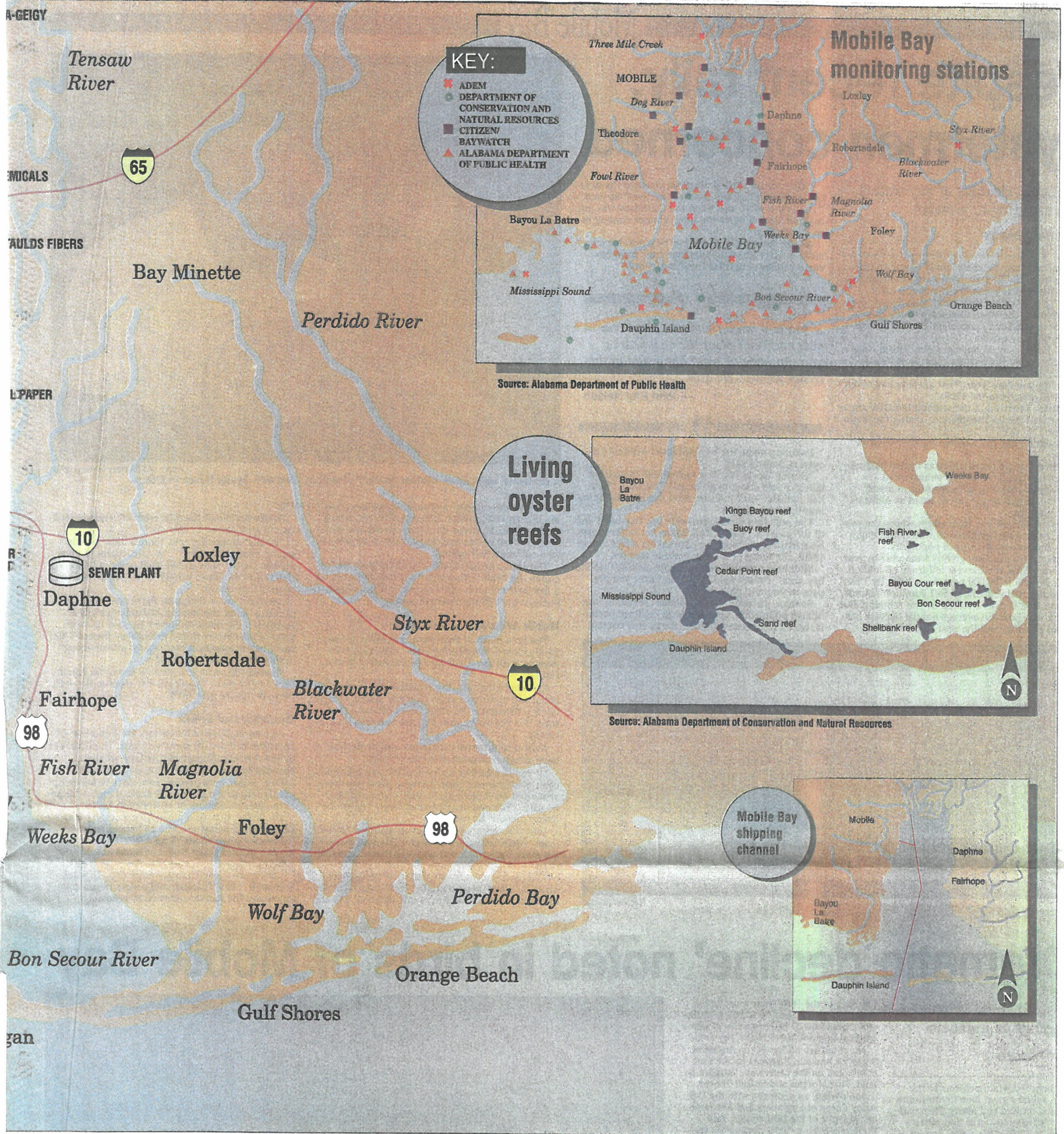
Oyster harvesting

The state's oyster catch has strengthened in recent years, but the average annual harvest of the 1980s was only half what it was in the 1950s.

Some oystermen blame construction and pollution for fouling bay waters; others say the commercial catch has suffered more from market factors and competition from other states.

Alabama's 1992 harvest was valued at \$1.7 million.





Register graphic

Natural gas drilling

The production platforms rising from the mouth of the bay are among the most obvious of man's intrusions. But experts say they are among the least destructive to the environment.

While the rigs do alter the natural floor of the bay, their underwater platforms act as artificial reefs that attract fish and other marine life.

Mobile Bay has one of the nation's largest natural gas fields. The 10 production platforms support 28 wells, pumping the gas to processing plants on shore.



Water quality monitoring

While a variety of state and local agencies test various aspects of bay water in various places, no one has compiled comprehensive statistics over a long period of time. Most testing has focused on salinity, oxygen levels and fecal coliform bacteria, an indication of sewage contamination that can threaten oyster beds.

To monitor pollution from industries and sewage plants, the state relies mainly on plants themselves to test their own wastewater. Until this past summer, the state had no program to test random samples of bay water for pollutants.



Water classifications

The state classifies bodies of water according to their intended use, setting higher discharge limits for some than others.

All of the bay is considered suitable for fish and wildlife. The lower bay is classified suitable for shellfish harvest as well, one notch more demanding than the general fish and wildlife designation.

Most of the upper bay is classified as suitable for swimming, the second-highest classification ADEM uses. (Public water supply is the highest.) That means ADEM would set standards for the water with the assumption that people might be immersed in it, absorbing and swallowing whatever is in the water.



Mobile Bay MARINE LIFE

Despite recent rally, oystermen concerned

► Frequent closures of bay waters are frustrating to growers

By MICHAEL HARDY
Staff Reporter

When John Ray Nelson's family began pulling oysters from Mobile Bay more than a century ago, the mollusks were clean, fresh and abundant.

The Nelsons called their catch Bon Secour oysters, honoring the small inlet from which they came. Soon Alabama's succulent Bon Secour oysters were highly prized.

Now, Nelson's company uses Bon Secour only as a trade name. His oysters come from Texas.

In the 1950s, Alabama oyster landings averaged 1.5 million pounds a year. That average had fallen to 700,000 pounds in the 1980s.

But those involved in the seafood industry argue over the reasons for the decline. Among the major theories:

- Pollution has reduced the number of good oysters.

- Fewer people are working as oyster harvesters, meaning good oysters go unharvested.

- Many Alabama oysters are sent to other states, meaning they are not counted as Alabama oyster landings.

- Oyster sellers buy from states where the oysters are best, meaning different waters will enjoy waxing and waning periods of popularity.

The numbers can vary greatly from year to year. In the late 1980s, the harvest fell from 1.3 million pounds in 1985 to 10,000 pounds in 1989. By 1992, the landings had rebounded to 1.2 million pounds.

Nelson said he was cheered by the rebound. But state figures show the average annual harvest has declined steadily over the past three decades.

"The demise started when we changed the ecology of Mobile Bay and the river system," he said. "The first change was when the Causeway was put in. That slowed down the flow of water coming in to Mobile Bay."

As the flow declined, the bay began to become more heavily silted. Bedding grounds have become shallower and less oyster-friendly.

“If you're a farmer and you plant one year and can't plant the next year ... you can imagine what happened to the oyster grower. He quit.”

—John Ray Nelson

Pollution made the bay still less hospitable to oysters, Nelson said.

"During World War II it looked like the oyster industry was about to go to hell," he said. "You had industry after industry after industry dumping into the river system."

The pollution discharges were not regulated until the passage of the Clean Water Act. After those laws limiting discharges began taking effect in the 1970s, the water of the bay became cleaner.

"But next came all of the people moving into the bay area," Nelson said. "And wherever you find people, you find pollution."

Sewage, the main water pollutant resulting from human population, contains fecal coliform bacteria, which can cause illnesses. It can also contain



A customer wolfs down oysters on the halfshell at Wintzell's Oyster House in Mobile. MARY HATTLER/Staff Photographer

other disease-causing microbes, spreading cholera, hepatitis and other ailments. Oysters, which feed by filtering water through their bodies, can absorb these germs and transmit them to people who eat uncooked oysters.

To protect human health, Alabama state law requires the health department to close oyster beds if the fecal coliform count exceeds 14 colonies of bacteria per 100 milliliters of water.

North area always closed

The area north of Fowl River has been permanently closed to oystering since 1950, said Bob Perkins, with the Alabama Department of Public Health.

Elsewhere, he said, the department averages about two closures a year, typically lasting a week or two. Whenever the department orders a closure, it is the entire bay, not just one reef, that is closed.

Nelson said oyster cultivators and harvesters have grown frustrated with the closings.

"If you're a farmer and you plant one year and can't plant the next year, and you plant two more years and can't plant again, that's what it's like," he said. "You can imagine what happened to the oyster grower. He quit."

Doody Peters, president of the Alabama Oystermen's Association, doesn't agree. He said there are more oystermen working Alabama waters than ever.

"Thirty or 40 years ago you knew everybody," he said. "Back then you didn't have over a couple hundred people. Now you're talking about 500 and

600." Peters attributed the apparent reduction in landings to an increase in exports.

"What's happening now, there's more people selling them in the shell," he said. "A lot of them are leaving the state in the shell and not being shucked here. Those wouldn't be counted in the pounds they shuck."

But Ken Ford, a Bayou La Batre seafood seller, said bag limits imposed on Alabama oyster harvests keep the numbers lower. He said he buys most of his oysters from Texas partly because Alabama harvesters could not legally collect enough oysters to keep him supplied.

"I need 400 sacks of oysters a day to fill my orders," Ford said. "I can't get 400 sacks a day here, because they're on a limit."

Commercial limits

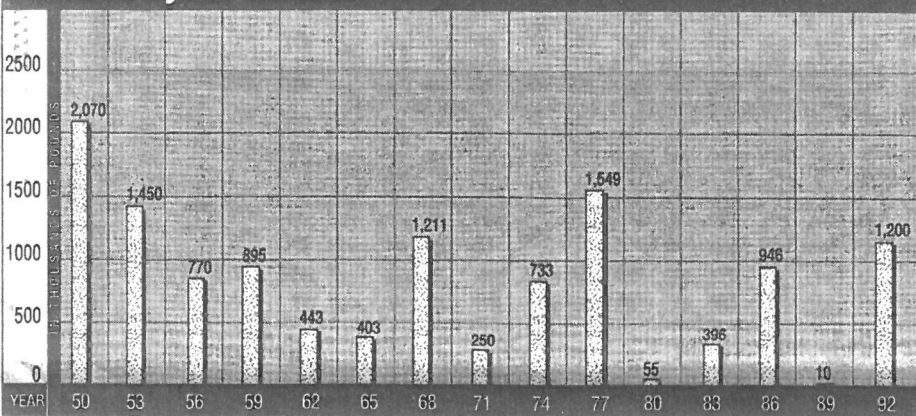
Commercial oyster harvesters are limited to 12 sacks per catcher, 24 sacks per boat. The limit, set by the Alabama Department of Conservation, changes by seasons depending on conditions.

By contrast, commercial harvesters in Mississippi this season are allowed 60 sacks a day, because of the greater number of oyster reefs there.

Ford said short term demand for oysters may fall following a health scare, as happened in early November when about 75 people fell ill from eating raw oysters taken from Louisiana and Mississippi waters.

That scare caused a momentary drop in sales, Ford said. Then Thanksgiving orders began coming in and the market returned to normal.

Alabama oyster harvest



Register graphic

'Dramatic decline' noted in birds of Mobile Bay

► Loss of habitat is blamed for decline of numbers

By SAM HODGES
Staff Reporter

Two hundred white pelicans to the north, a solitary great blue heron to the south, and around and above them various species of gulls, terns and other shorebirds. Such is the visual bounty of a late autumn's drive along the causeway.

Mobile Bay remains richly endowed with birds, but their numbers are down from years past. In the case of some duck species, numbers are down dramatically.

Roger Clay, a biologist with the state Department of Conservation and Natural Resources, said that annual surveys dat-

ing back to the 1965 show a decline in the wood thrush, prairie warbler, white-eyed vireo and 37 other species of neotropical migrants seen in the bay area.

Numbers are off too in the Audubon Society's annual Christmas Bird Count conducted on the causeway, Dauphin Island, Fort Morgan and in Gulf Shores.

John Winn, an ecologist with the U.S. Army Corps of Engineers and a veteran coordinator of the bird counts, said there has been a "slow decline" in the number of species seen and a "dramatic decline" in the overall number of birds seen in recent years.

In some cases, the decline is attributable to loss of habitat around Mobile Bay. In other cases, it's more a matter of loss of habitat or pollution problems elsewhere, especially in Mexico, Central and South America, where neotropical birds winter.

Winn said one of the happier birding stories locally is that of the brown pelican, which was rarely seen here for decades. With the banning of DDT, pelicans made a general comeback that was helped along here by the Corps' creation of Gaillard Island from material dredged from the bay.

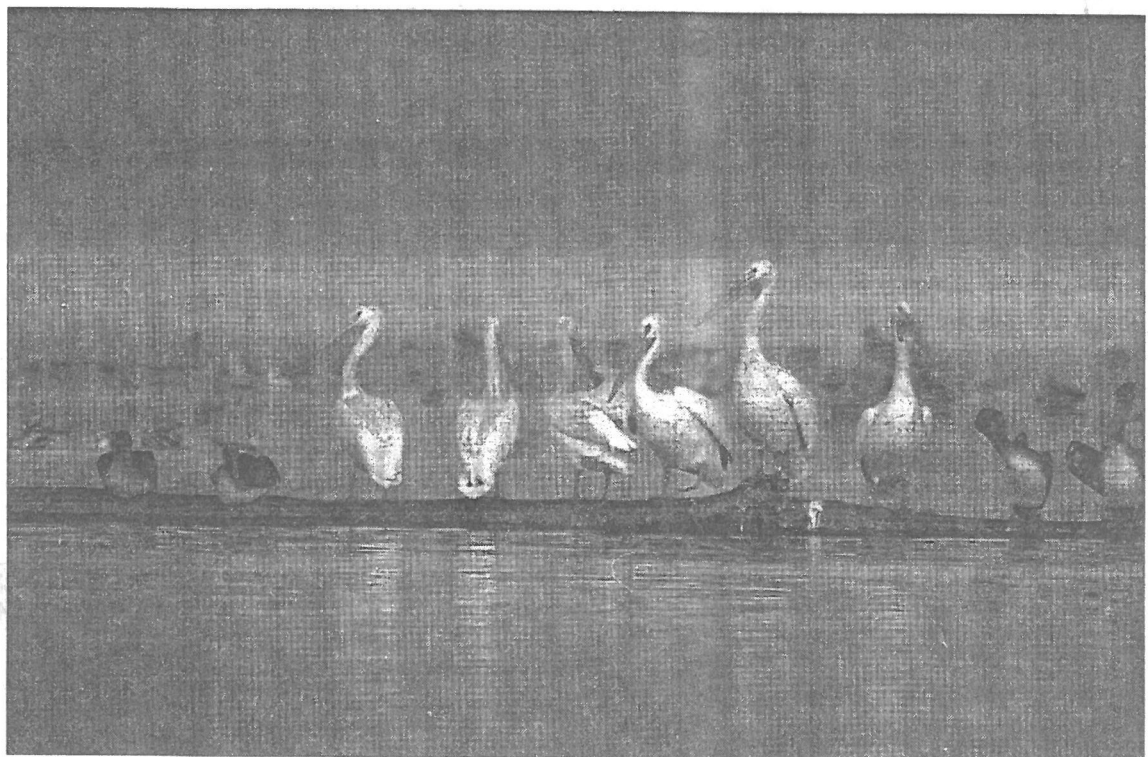
Pelicans have been nesting there since 1983, Clay said. They are now a fairly common sight around the bay.

But longtime residents speak of the great decline in ducks in recent decades. Jack Friend, retired marketing executive and longtime environmentalist, said he has 8 mm film his late father shot of Mobile Bay where "the sky is black, black with ducks."

People can remember tremendous concentrations of ducks, particularly north of the causeway, from the 1950s and later.

"There were thousands and thousands of them," said John Borom, administrator at Faulkner State College in Fairhope and a Fairhope native. "I remember when you'd drive to Mobile in the '50s, you'd see canvasbacks and mallards and pintails and all sorts of coots along the road. It would not be unusual to see five or ten coots dead on the road, having been walking across the road and got hit by a car. Now you hardly see one if you look hard from the road into the Bay. That's a big difference."

Larry Goldman, of the U.S. Fish and Wildlife Service's office in Daphne, said



The white pelican is a common sight, but many ducks have disappeared from the bay. DAVE HAMBY/Senior Photographer

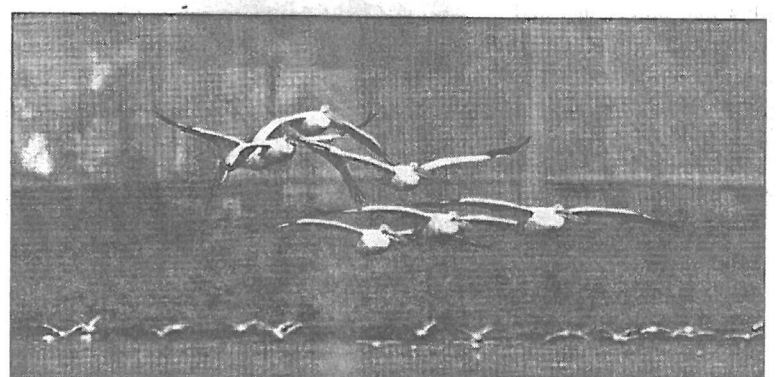
there has been a nationwide decline in duck populations, with more spending the winters in refuges established in the Midwest.

The ducks don't make it down this far because they find enough to eat in the refuges, they said. "If it's a severe winter, we see more ducks," Goldman said.

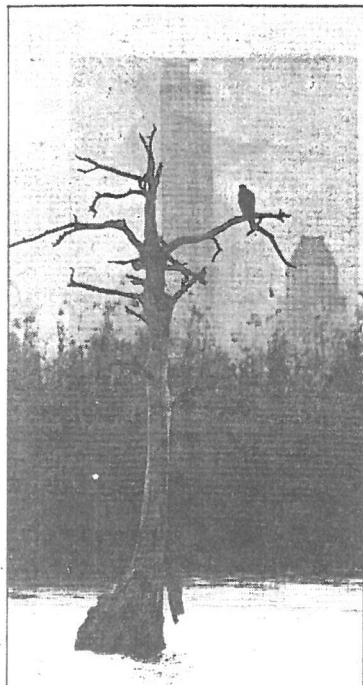
Winn agreed that the refuges help keep some mallards and pintails from reaching the bay, but he said it's a different story with canvasbacks.

He cites a major decline in submersed grasses, specifically water celery.

"That's what canvasbacks eat," Winn said. "There's not enough food to feed them here now."



Pelicans fly low over the Mobile River delta. DAVE HAMBY/Senior Photographer



An osprey at rest. DAVE HAMBY/Senior Photographer

Mobile Bay ENVIRONMENTALISTS

Gas wells are benign presence in bay

▶ They may not be pretty, but they're good for fishing and apparently don't harm anything else

By MICHAEL HARDY
Staff Reporter

The 28 natural gas wells operating in Mobile Bay are among the most obvious of man's intrusions. They provide a distraction from the natural beauty that is impossible to ignore.

"A sunset that's obscured by a rig, that does take away from the aesthetics," said Myrt Jones, president of the Mobile Bay Audubon Society.

But the wells are among the least harmful uses of the bay's natural resources, experts say. While drilling and operating the wells alters the natural bay floor, it also provides a new habitat for fish and other aquatic animals.

The underwater framework becomes an artificial reef, a fertile fishing ground.

"I know a lot of people who fish them. They're extremely effective," said Walter Tatum, chief biologist with the Alabama Department of Conservation.

Wayne Swingle, executive director of the Gulf Coast Fishery Management Council, said the pumping platforms don't appear to disturb other marine life.

"We've never had any problems with the wells," Tatum said.

Mobil drilled the first natural gas wells in Mobile Bay in 1978. Shell, Arco and Exxon have joined in, yielding millions of dollars in revenues to the state.

While the rigs are drilling, most operate under a zero-discharge provision. That means they do not discharge the mud that comes up from the ground back into the water; rather, they collect it and send it to an onshore disposal facility, such as a landfill or incinerator.

"Alabama's unique in that respect," said Mike Kimmett, a spokesman for Mobil Oil. "In federal waters, and in other states' waters, water-based drilling mud can be discharged into the water."

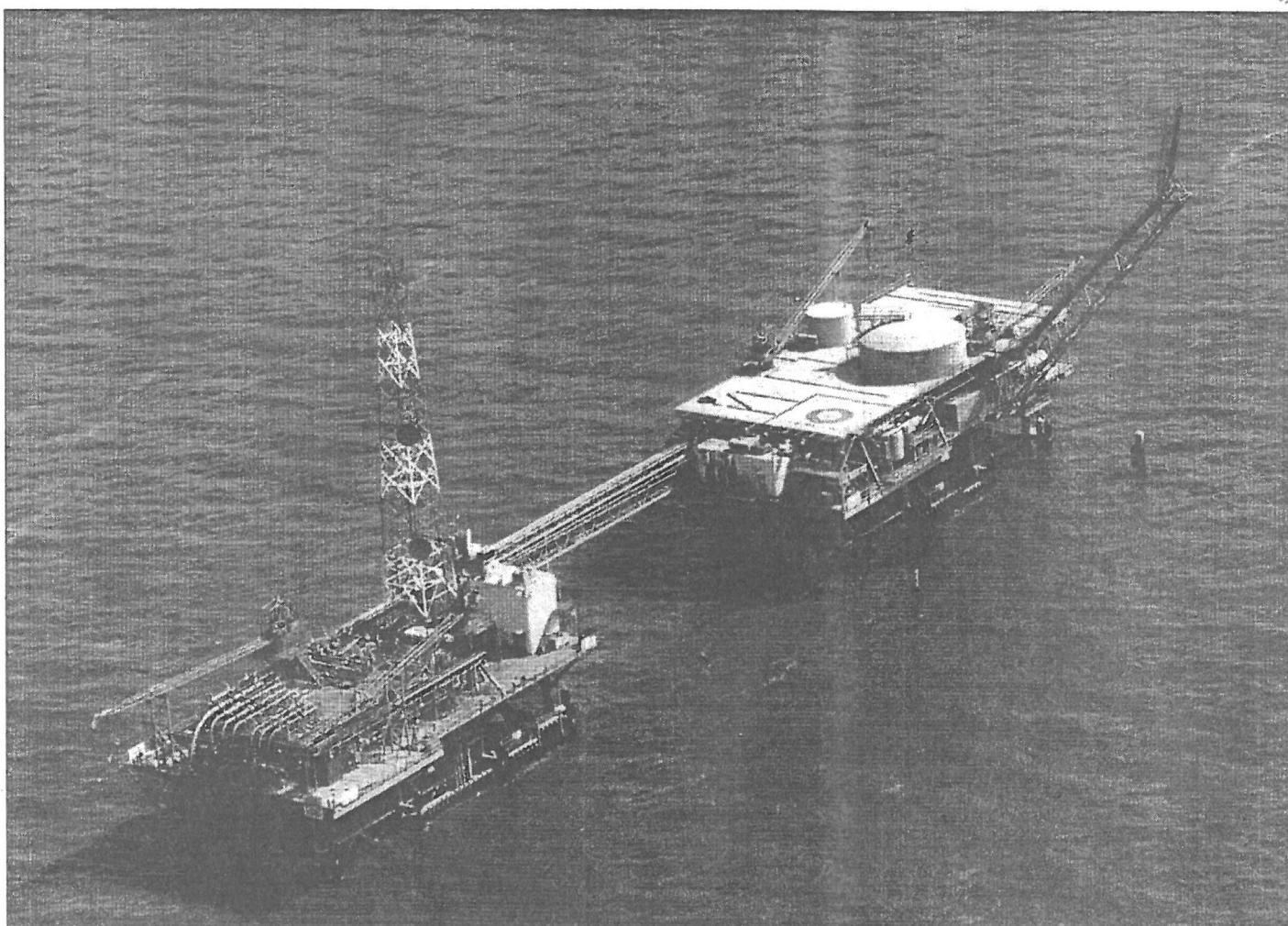
"Alabama's regulations and procedures are the toughest we've encountered," said Chuck Dickey, a spokesman for Exxon.

The no-discharge policy is "the most unique aspect of the activity here," he said.

The policy is not a law, say environmental officials. Drilling permits do not have to include it, but most do.

Once drilled, the wells do not generate mud as they pump out the gas.

The biggest potential threat posed by the rigs is the possibility of a catastrophic blowout that could



The 10 production platforms in the bay serve as artificial reefs for fish and have caused no environmental problems, experts say.

DAVE HAMBY/Senior Photographer

release a cloud of deadly hydrogen sulfide. But the drilling rigs and the platforms are equipped with numerous safeguards to prevent such a disaster.

"In one of the worst-case scenarios, a cloud of gas would come and kill everybody on Dauphin Island," said Dr. George Crozier, director of the Dauphin Island Sea Lab. "But the odds of that happen-

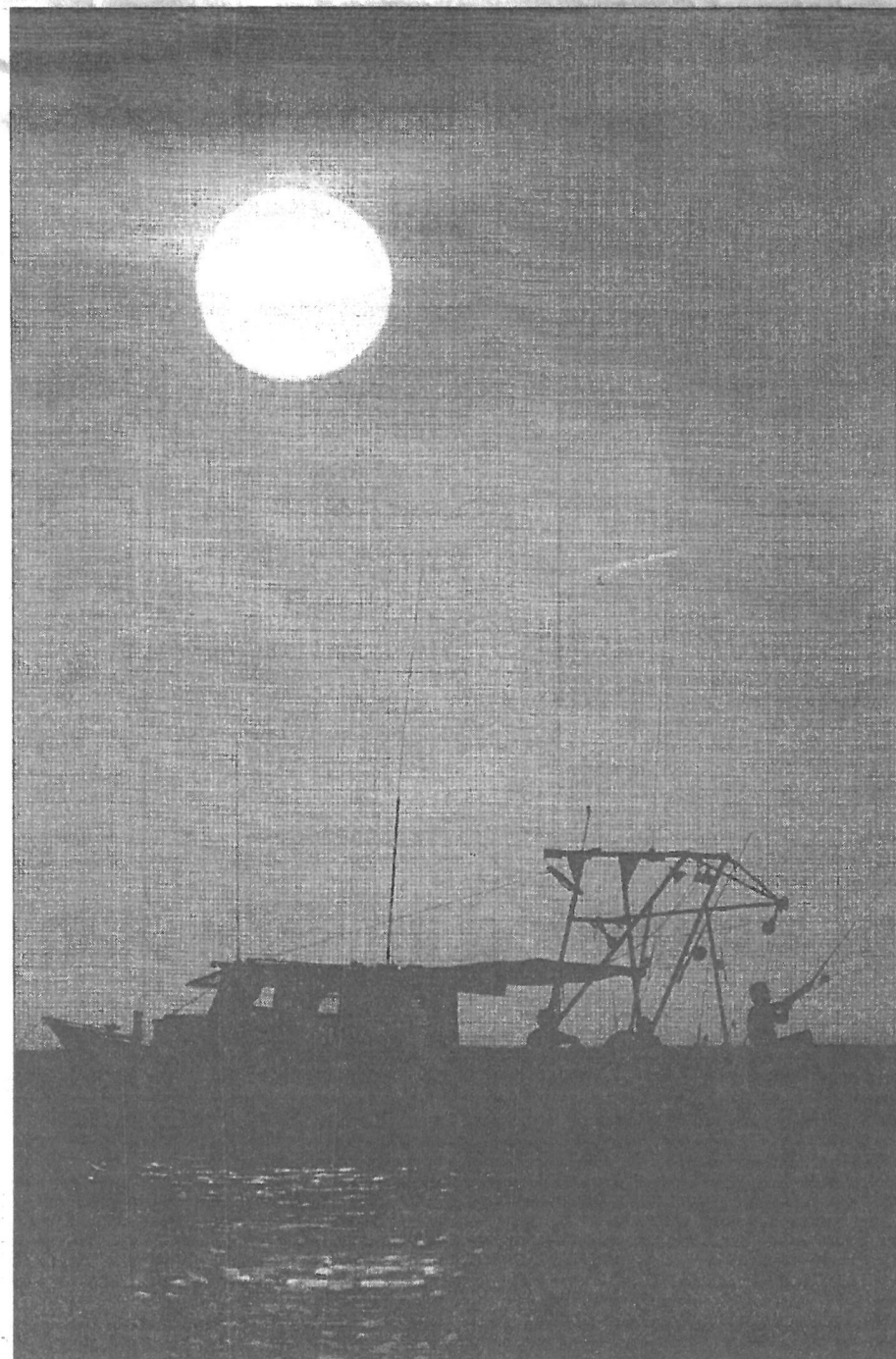
ing are incredibly small. You would have to have a blowout under exact weather conditions."

There has never been a blowout or significant leak from wells in Alabama waters, said David Bolin, an assistant supervisor with the state oil and gas board.

A blowout would threaten people more than life

in the bay, Crozier said, because the gas does not dissolve in water. If it were released beneath the surface, it would float up and enter the atmosphere, where it would be swept away in winds.

"It's not really a potential problem to the creatures that live in the bay," Crozier said. "They're safer than we are."



Environmentalists say area residents are slowly becoming conscious of the bay's health.

DAVE HAMBY/Senior Photographer

Activists taking charge of push for clean Baldwin

▶ They don't wait for state agencies to get job done

By MICHAEL HARDY
Staff Reporter

When a Daphne resident found smelly black sludge on his beach last summer, the first officials to respond were from the county, not the state.

A Baldwin County Environmental Task Force, which had been assembled by District Attorney David Whetstone, took samples of the goo and shipped them off for analysis. Only when the tests revealed high levels of sewage contamination did state health and environmental agencies get involved.

Finally, it was Whetstone who took the case before a grand jury and won indictments against the Daphne Utilities Board for violating its state permits.

This self-reliant approach characterizes an awakening spirit of environmental awareness in Baldwin County. Activists look with approval at a growing number of people interested in the issues, and a willingness to take on responsibility, rather than call on thinly spread state officials for help.

More people are moving to Baldwin County, especially the scenic Eastern Shore that Whetstone has dubbed "Alabama's Camelot."

"The people who are moving down here are moving here because of the environment," said Orange Beach resident Melody Hopkins. "That's why you see so many more people interested."

Hopkins is a member of the newly formed Baldwin County Environmental Council, which plans to serve as an information center to connect people with concerns to the appropriate government agency.

She said communication between environmental groups, the government agencies responsible for protecting the environment



Whetstone

and people who are concerned is the area's biggest need.

"The states that are making a difference are those who have good organization and networking among the groups," she said. "When I came here, I was just one person and I started making calls to see if I could get some help. There are a lot of pockets of people who are interested, but they're discouraged because we have no networking or coordination."

"We've had a tremendous amount of interest," said Dean Mosher, chairman of the environmental council. "We're looking to be the preeminent environmental factor in the county."

The council intends to establish an information center with a hotline number, so callers with problems can call once and be routed to the proper agency, he said.

"We've heard horror stories about people who call one agency, and by the fifth time they're referred, they're back to the agency they started with," he said. "There seems to be little communication between the agencies."

Don Koontz, chairman of the Baldwin County Commission, said forming the council was the first step in forging an effective environmental effort.



Mosher

"What we want is to be responsible for our own destiny when it comes to the environment," he said. "It's going to take a lot of pushing and shoving to get this thing honed, but with the interest I've seen displayed, I think in the long run it's going to be a really good system."

Eleanore Scott, head of the Eastern Shore Environmental Coalition, said her organization is trying to coordinate Baldwin County's various groups and to serve as an information conduit between the groups and the public.

"So much goes on that the public does not find out about until too late," she said. "We need to be more effective."

Dr. Lynn Yonge, a member of the board of directors of the Mobile Bay Audubon Society, agreed that interest in the environment is on the rise.

"There's a strong interest among a large percentage of the population," he said. "We're concerned about what's happening, like the Daphne sewage problem, and how it affects us."

Hopkins said she believes interest will continue to grow.

"There are a lot of people interested," she said, "and if someone would come along with some strong leadership, we could pull this area together."

Mobile Bay REGULATION

Mobile Bay needs its very own doctor

► Lack of coordination is a problem, and nobody's responsible for well-being of the bay

By SAM HODGES
Staff Reporter

Mobile Bay is like a patient attended to by various specialists, but with no family doctor to read all the charts, coordinate all the treatment, and plot a course for the patient's future health.

In the bay's case, the specialists are government agencies, federal, state and local, each with limited regulatory say-so. But those agencies rarely coordinate their work and there is no single agency whose job is to look out for the bay as a whole.

Some of the agencies are, in the opinion of many, underfunded and understaffed. Others don't seem well thought-out. Alabama has, for example, placed headquarters of its Coastal Zone Management Program in Montgomery, far from the coast.

But those familiar with bay regulation and research say the main problem is lack of coordination. As a result, it's hard to give a complete report card on the bay's condition or say what problems need priority attention. And there's no plan for how to take care of the bay, even as water quality and fisheries are threatened by rapid development.

"There seems to be a lot of disjointed efforts — good efforts — but there's very little coordination, and that's bad," said Tom Hutchings, on leave as director of the Alabama Coastal Foundation, a small, recently formed organization which hopes to evolve into something like the 40,000-member Chesapeake Bay Foundation.

Many other estuaries, some considerably smaller than Mobile Bay, have been placed in the federal National Estuary Program, which provides selected bays extra money for research and mandates a long-term management plan.

But Mobile Bay, for what appear to be political reasons, has failed to get into the National Estuary Program or even to get special state designation as a body of water deserving special attention. Nor does it yet have a broad-based citizen support group, like the Chesapeake Bay Foundation or Galveston Bay Foundation.

Instead, the bay has agencies, lots of them — most going their own way.

The federal role

Eight different federal agencies help regulate Mobile Bay. For dredging and wetlands, it's the U.S. Army Corps of Engineers. For endangered species and advice on wetlands permitting, it's the Fish and Wildlife Service. The Coast Guard polices pollution from ocean-going vessels, the National Oceanic and Atmospheric Administration funds "coastal zone management," the Federal Emergency Management Agency checks on coastal construction, the Federal Energy Regulatory Commission monitors gas and oil pipeline systems and the National Marine Fisheries Service advises on fisheries management.

But the main federal agency responsible for Mobile Bay — indeed, for the health of all U.S. waters — is the Environmental Protection Agency. Unlike some of the other federal agencies, EPA has no office near Mobile Bay, and hasn't since the early 1970s. Alabama falls within EPA's Region Four, which has its headquarters in Atlanta.

More than 1,000 people work in EPA's Atlanta office, but a day-long visit there revealed that there is no Mobile Bay section, and no expert on Mobile Bay. Wetlands people know about wetlands, municipal sewage systems people know about municipal sewage systems, storm water runoff people know about storm water runoff. But no one can speak with expertise about the overall health and future of Mobile Bay.

It turns out, too, that EPA does little direct research on or monitoring of Mobile Bay. Instead, the federal agency works with the Alabama Department of Environmental Management (ADEM) on water quality standards for the state and relies on that agency to make sure standards are enforced.

"Your base of pollution control is ADEM," said Dan Ahern, chief of EPA's Region Four watersheds protection section. "You have us behind them, cajoling, threatening, saying do the right thing."

State regulation

Alabama environmentalists have their problems with EPA, but ADEM is the agency they love to hate. While praising ADEM's technical staff, they fault the higher-ups for not adopting water quality standards higher than EPA's minimums, for not aggressively enforcing standards that exist, and for not taking a proactive approach to protecting Alabama waters.

"ADEM is basically on record as saying 'we're



Downtown buildings loom behind a windswept tree near Polecat Bay.

DAVE HAMBY/Senior Photographer

not a management agency," said George Crozier of the Dauphin Island Sea Lab. "Instead of taking a leading position, they take a 'blame it on EPA' position."

David Whetstone, the Baldwin County district attorney who is prosecuting Daphne officials for allegedly dumping untreated sewage into Mobile Bay, is similarly blunt.

"ADEM has not used the power it has," he said. "ADEM is primarily a permitting agency, not a protection agency."

James Warr, acting ADEM director, disputed that view. "Last year we assessed close to \$1 million in fines. To me, that's pretty aggressive enforcement. Someone else could say you should have done \$2 million or \$3 million, someone else a half million. But I don't know how anyone can categorize us without looking at the totality of what we do."

ADEM officials and even some ADEM critics point out that EPA has approved Alabama's water quality standards and declined to intervene — as EPA has done with certain other states — in enforcement. Critics also argue that ADEM is understaffed and underfunded. (An analysis by the Institute for Southern Studies showed Alabama ranks 42nd in the nation in per capita spending for water quality.)

“Politically, the state is not dominated by the coast, because we're just two counties down here. The political conscience of the state just doesn't get involved with the bay.”

—Dr. George Crozier
of Dauphin Island Sea Lab

"The major dischargers into Mobile Bay and elsewhere in the state only have sampling inspections once a year by ADEM," said David Ludder, a lawyer who quit ADEM in frustration and works now for the Legal Environmental Assistance Foundation in Tallahassee. "Those industries are left on the honor system, and they are to report violations to ADEM. The reason facilities are only inspected once a year is inadequate funding and insufficient personnel. Yet (ADEM) meets the minimum federal requirement. It's really a policy matter determined by EPA."

Unlike EPA, ADEM does have staff near Mobile Bay. Of ADEM's 450 employees, 25 are based in Mobile.

"They deal with anything that goes on in South Alabama," said ADEM spokesman Clark Bruner.

ADEM is just one state agency overseeing Mobile Bay. The Alabama Department of Public Health is in charge of issuing permits for the many septic tanks along the Bay and along creeks that flow into the Bay. If there's a complaint about an overflowing septic tank, the Health Department responds, not ADEM.

"It's confusing for local governments to have to jump through hoops instead of having one agency that's in charge of water quality," said Wendy Allen, Baldwin County commissioner. "If septic tanks are a threat to water quality, then they ought to be under the water quality agency."

Ironically, ADEM itself was created in an effort to bring several state environmental offices under one roof.

The Department of Conservation and Natural Resources has 11 marine police officers at work in the bay and the Gulf. Their focus is boating safety. Another 40 people work in the department's Marine Resources division, which manages saltwater fisheries.

Then there's the state's Coastal Zone Management Program, which is based in Montgomery and split between two agencies, ADEM and the Alabama Department of Economic and Community Affairs (ADECA). It's the successor to the state Coastal Board, which was actually based in the Mobile area, but which the state closed in 1982 with the creation of ADEM. Half the \$1.3 million in Coastal Zone Management Program funds comes from the state and half comes from the National Oceanographic and Atmospheric Administration.

ADEM uses its share of the money to help pay for regulation of beaches, dunes and wetlands. ADECA, which has a four-person office in Foley, does education outreach and consults with local governments on sewage systems and other planning issues.

Local politics

When one takes into consideration the county and municipal governments, and all their various councils and commissions and boards, the regulatory forest gets thicker. An environmental advisory committee to the Baldwin County Commission has identified 27 federal, state and local agencies that handle environmental issues in Baldwin County.

Dean Mosher, who chairs that committee, said he spoke to a resident who tried to find some agency to contact about a possible wetlands problem along the causeway. The resident got referred from agency to agency, five times, before getting referred back to the agency he'd started with.

Don Brady, executive director of the South Alabama Regional Planning Commission, agrees that there needs to be a major effort at coordinating regulation and some forum for getting all interested parties — governments, industry, environmentalists — together to resolve what he calls "use conflicts" of the bay.

He said Baldwin County is ahead of Mobile in attention to environmental issues, but that the two need to work together to protect and restore an estuary crucial to tourism, fishing and overall quality of life.

"We need to think of the bay as our backyard pond," he said. "It's ours to take care of."

Brady's organization wrote Alabama's 1992 application for Mobile Bay to be a part of the National Estuary Program, which would have made the bay a federally recognized body of "national significance."

More practically, Brady said, the designation would have meant about \$6 million in EPA funds for more research on the bay and for an ongoing management conference to bring regulatory agencies and other interested parties together to develop a plan for taking care of the bay.

But EPA director William Reilly selected just three of 10 applicants for the program in 1992, and Mobile Bay didn't make the cut.

Here again, coordination was a problem. Sen. Richard Shelby wrote Reilly a letter of support for Mobile Bay's application, but Sen. Howell Heflin did not. "No one had asked us to do anything on it," said Tom McMahon, Heflin's spokesman. "We didn't know about it."

U.S. Rep. Sonny Callahan, R-Mobile, did not push for the national estuary designation either. A spokesman said Callahan was never asked to help.

Crozier said protection of Mobile Bay hasn't been a high-priority issue with state politicians.

"Politically, the state is not dominated by the coast, because we're just two counties down here," he said. "The political conscience of the state just doesn't get involved with the bay."

"I'm not happy with how we manage the Bay now," he said, "because we don't manage it at all."

Area suffers from lack of plant suggested in 1979 plan

► Other recommendations were followed, but wastewater treatment facility never got through

By MICHAEL HARDY
Staff Reporter

Fourteen years ago, a wide-ranging array of private and public agencies came together to produce a comprehensive water quality management plan for Mobile and Baldwin counties.

That plan, coordinated and published by the South Alabama Regional Planning Commission in 1979, marks the last time any extensive, coordinated research effort has focused on Mobile Bay. In the meantime, the population

has grown and the rate of growth accelerated.

Many of the plan's recommendations are now in place. But Mobile is suffering the consequences of one major suggestion that never came through.

A wastewater treatment plant in south Mobile County, which was stopped by environmentalists, would have eased the burden on an overtaxed Mobile treatment plant, authorities say.

The massive report, partly funded by a grant from the U.S. Environmental Protection Agency, was conducted to suggest ways the two counties could comply fully with the federal Clean Water Act of 1972.

The report found that most of the area's problems came from point-source pollution, contaminants that enter the environment at a single point, such as a

factory or sewage discharge pipe.

It said that stormwater runoff adds to area pollution problems when the water drains from city streets. But other common non-point pollution sources such as agriculture and forestry do not pose a significant threat locally, the report said.

To reduce pollution from industrial discharge, the report recommended requiring all industries to use the best pollution control technology available.

Glenda Dean, an environmental engineer with the Alabama Department of Environmental Management's industrial branch, said the agency has surpassed the plan's recommendations for industrial pollution control.

It requires industries to use the best pollution control technology available, as the plan recommended. But it also

requires them to make sure the water into which they discharge meets standards the agency sets for purity.

But the plan also recommended the construction of a treatment plant and outfall line in the Theodore area to handle industrial and municipal wastewater there. Mobile County officials tried to build the now-infamous Theodore outfall line. But the Fowl River Protection Association opposed the project and fought it through the courts.

Water officials say the outfall line would have diverted enough water away from Mobile's overloaded McDuffie Island treatment plant that recent problems with overflows might not have happened.

ADEM is also working on writing stormwater permits for Mobile that will mandate treatment of rainwater collect-

ed in storm drains before it can be released.

An ADEM spokesman said EPA has required the agency to write stormwater permits for all metropolitan areas in the state with more than 100,000 people. That will include Mobile, Huntsville, Birmingham, Jefferson County and Montgomery, he said.

The permit for Mobile should be written by May of next year, he said.

Addressing such non-point pollution sources will likely be the next major step of improving area water quality, said planning commission executive director Don Brady.

"Nothing was done right away ... because that was not a priority for EPA and ADEM," he said. "They were more concerned about getting the point sources under control."

Mobile Bay REGULATION

Political world is slow to protect bay

► Idea of an authority for Mobile Bay is talked about, but few details aired

By SAM HODGES
Staff Reporter

The more Mobile Bay changes, the more Mobile Bay politics stay the same.

Studies going back to the late 1970s cite the need to coordinate regulation of the bay and to develop a plan for safeguarding its health during a period of rapid population growth.

But in late 1993, regulation remains uncoordinated, the state's coastal program is headquartered in Montgomery, and the two bay counties don't work together to improve the situation.

Politicians are talking — about the need to talk. "Mobile County and Baldwin County and maybe even the counties north of us, we need to get together and talk about Mobile Bay, because it impacts all of us," said Wendy Allen, Baldwin County Commissioner. "If people around Chesapeake Bay can do something to bring it back from the depths of despair, we can do something for our bay. It's our livelihood."

But neither she nor a handful of other area politicians contacted could cite any specific action they had taken toward those ends, other than to fight for a local office of the state's Coastal Zone Management Program, run jointly by the Alabama Department of Economic Affairs and Alabama Department of Environmental Management.

Politicians might be farther along in dealing with Mobile Bay if voters demanded it of them. However, no broad-based citizens' support group exists to press for action on the bay. And politicians don't see many votes in a platform that would probably require more restrictions on property owners.

"Alabamians are at the top when it comes to wanting to be able to do anything they want to do with their land," said Dean Mosher, who chairs an environmental advisory council to the Baldwin County Commission. "The thing is, they can't anymore. We're blowing off the scale as far as growth goes. We've got hotspots that are in dire need of strong regulatory action within the next few years."

Other possible reasons for a void in political leadership on bay issues include the philosophical divide between Mobile and Baldwin Counties (Mobile favoring industrial development, Baldwin favoring tourism), and the small size of Alabama's coast translating into relatively little clout in Montgomery.

Local politicians are not without ideas about improving protection of Mobile Bay. Some favor a bay authority, but there's no consensus about what it would do exactly, or who would create it.

David Whetstone, Baldwin County district attorney, favors a strong bay or coastal authority that could step in when behavior by individuals, companies or municipalities threatens the bay.

"What you have to have is someone who is willing to tell people, 'You can't do that,'" he said. "If you can't meet standards, you can't have any more subdivisions."

Whetstone is short on specifics for how such an authority would be set up or funded, but he's sure that it should consist of people from Mobile and Baldwin Counties.

"Those two counties should have the agency, not Montgomery," Whetstone said. "(Montgomery) can't perceive the problems."

Rep. Taylor Harper, D-Grand Bay, and Sen. Ann Bedsole, R-Mobile Bay, agreed with the need for more local management of the bay. But they couldn't point to anything they'd done to make that happen.

"The thing to do is to sit down with the leaders of both counties, the business groups and environmental groups, and work up a plan," Harper said. His own preference is for an authority that could control a percentage of state revenues from oil and natural gas exploration, and spend those funds locally for improved sewer systems and other infrastructure projects that could help preserve the bay.

Bedsole said her preferred first step is to see a strengthened Alabama Coastal Foundation that would bring together politicians, bureaucrats, business leaders and environmentalists to establish priorities and find means for protecting the bay. The director of the Coastal Foundation is Tom Hutchings, who has taken a leave of absence to work with Bedsole's gubernatorial campaign.

Bedsole said she could also see virtue in the two counties establishing a bay authority.

"They could set it up and give it the force of whatever law the counties have," she said.

But Sen. Steve Windom, D-Mobile, thinks a bay authority is a bad idea.

"That's just another agency," he said. "I think it would be duplicative of what authority is already out there."

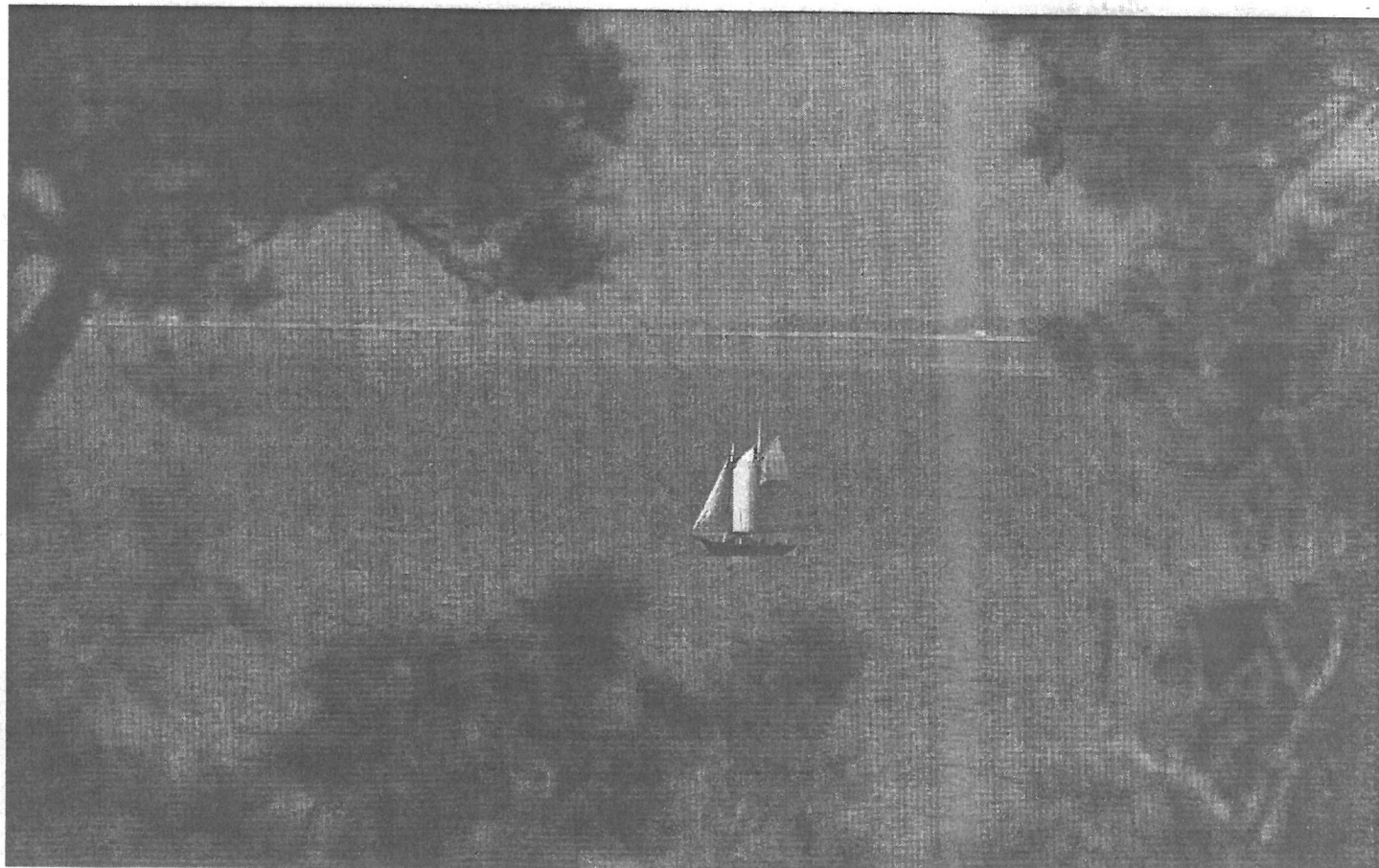
Windom believes the Alabama Department of Environmental Management, which has a Mobile field office, is the right agency to take care of Mobile Bay.

"You've got a lot of runoff from chemical and agricultural interests, septic tanks and all those things," he said. "It seems to me that ADEM would be the logical agency. Their problem in general is that they're undermanned and underfunded, because of the state of the finances of Alabama."

ADEM's annual allotment from the state's general fund has hovered around \$5 million for the last three years. This year's figure is \$4.86 million — about \$1 million less than the agency requested. Most of the rest of the agency's \$32 million operating budget comes from federal grants, fines and permit fees.

About \$1.56 million of the agency's funds gets spent on its Mobile field office. That covers salaries for 25 employees and enforcement expenditures for South Alabama, not just Mobile Bay.

"You can always do more with more, but I don't think Mobile Bay is being slighted by the resources we have there," said Charles Horn, head of ADEM's water division.



Bay area lacks clout with Legislature, environmentalists say.

DAVE HAMBY/Senior Photographer

State legislators

These are the state legislators whose districts border Mobile Bay:

Sen. Al Lipscomb, R-Magnolia Springs.
PO Box 209
Magnolia Springs, 36555
965-7871

Sen. Steve Windom, D-Mobile
1 St. Louis Centre, Suite 1000
Mobile, 36602
432-1671

Rep. Michael Box, D-Mobile
1 St. Louis Centre, Suite 40002
Mobile, 36602
675-1991

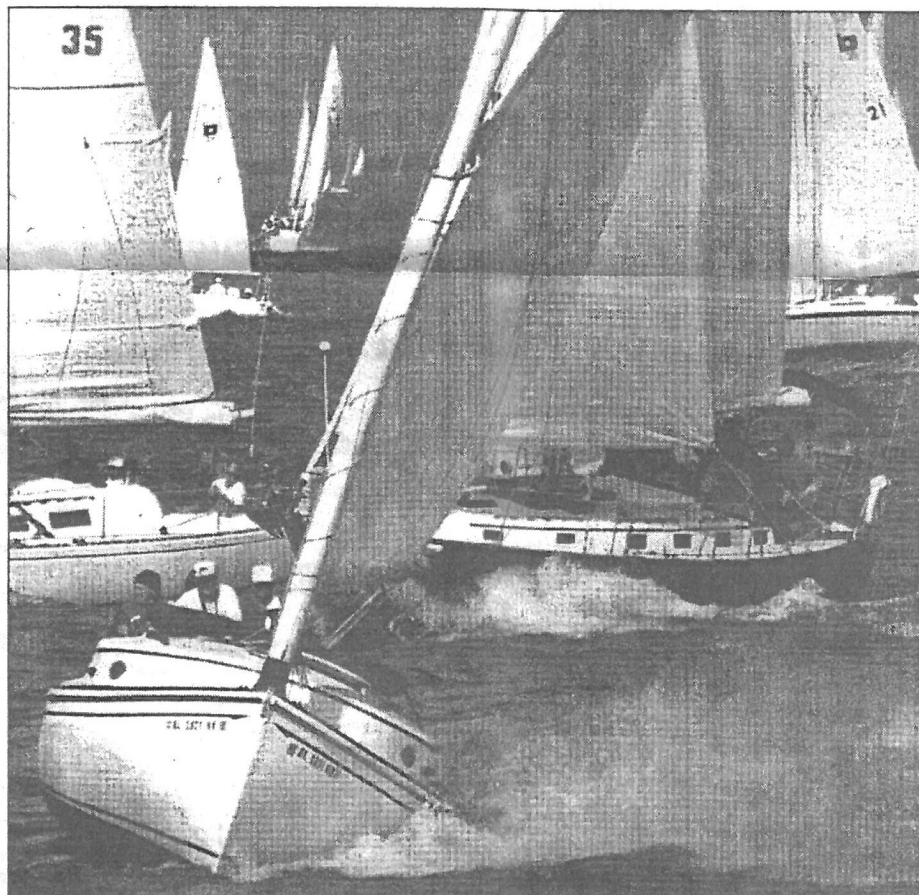
Rep. Taylor Harper, D-Grand Bay
PO Box 229
Grand Bay, 36541
865-4663

Rep. Yvonne Kennedy, D-Mobile
351 N. Broad St.
Mobile, 36690
690-6416

Rep. Steve McMillan, R-Bay Minette
PO Box 337
Bay Minette, 36507
937-5441

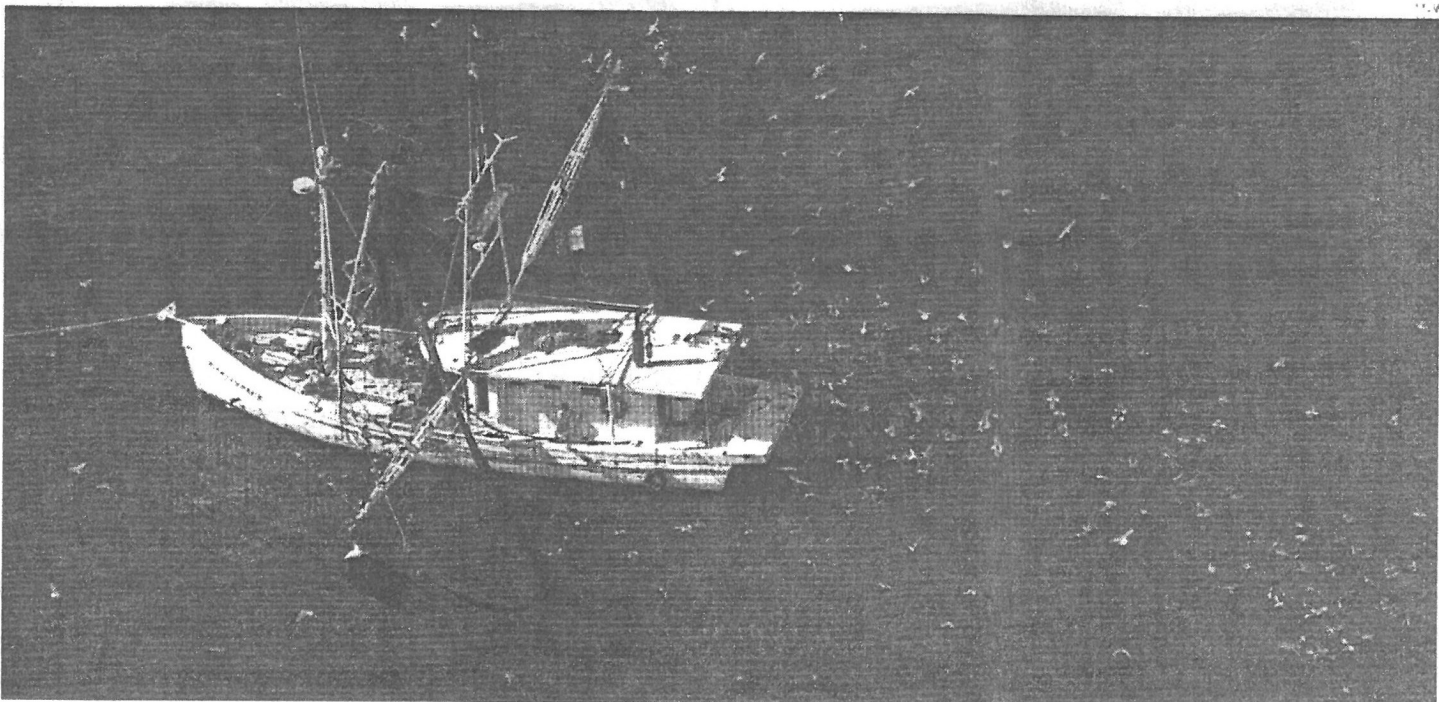
Rep. Walter Penry, R-Daphne
12040 County Road 54
Daphne, 36526
626-1752

Rep. Lois Rockhold, D-Mobile
5163 Santos Drive East
Mobile, 36619
666-6246



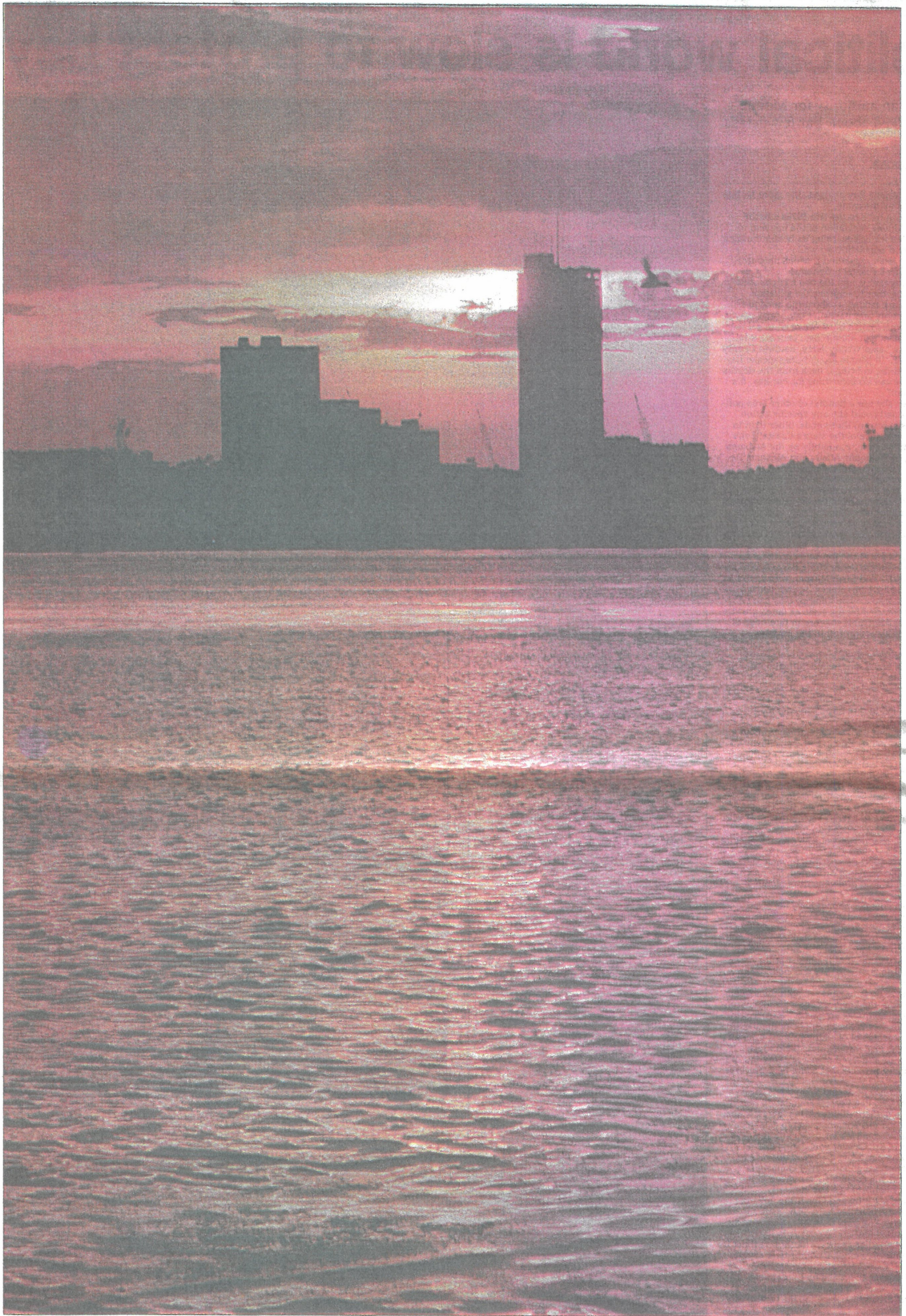
Many people enjoy the bay, but few have rallied to its defense.

DAVE HAMBY/Senior Photographer



Fishing is among the bay activities not regulated by the state's environmental agency.

DAVE HAMBY/Senior Photographer



MARY HATTLER/Staff photographer

“The basic question we’re wrestling with... is how do we find a balance between accommodating people’s desire to live here and preserving what attracted residents who already live here.”

John Parker, Baldwin County United