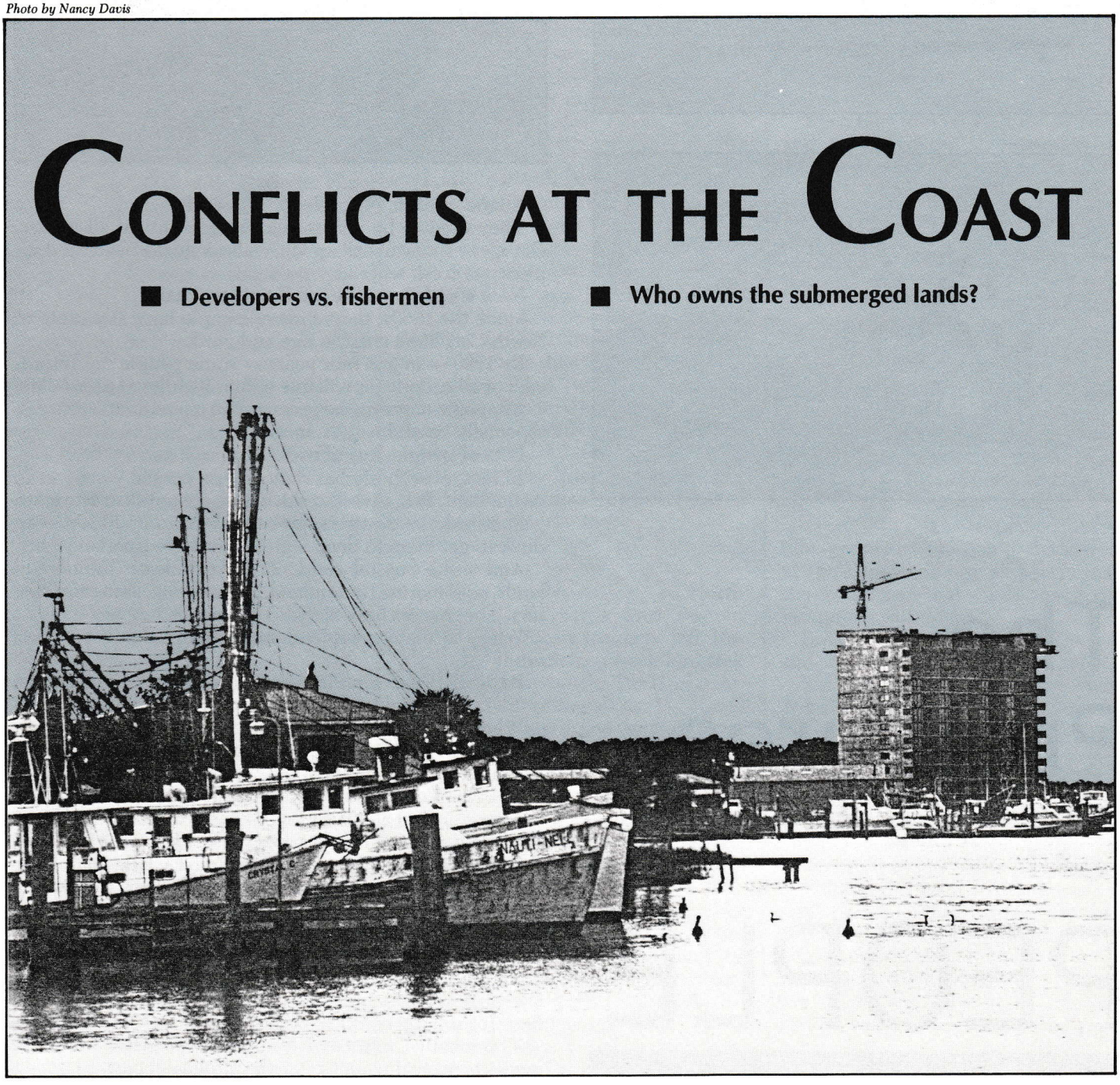
UNC Sea Grant

October 1986

COASTWATCH

Photo by Nancy Davis

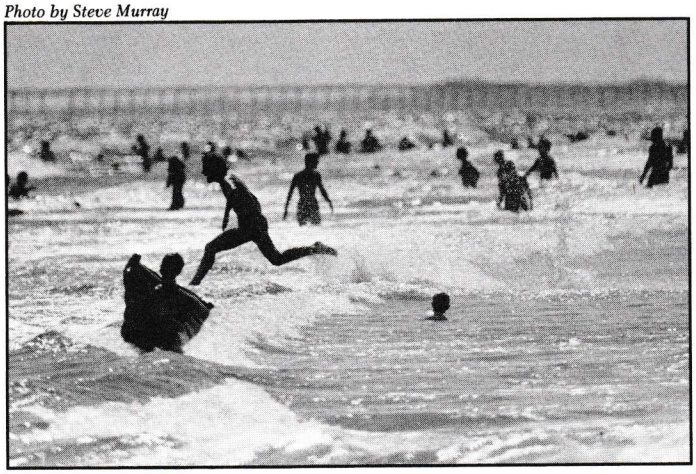


CONFLICTS AT THE COAST

- Developers vs. fishermen
- Who owns the submerged lands?

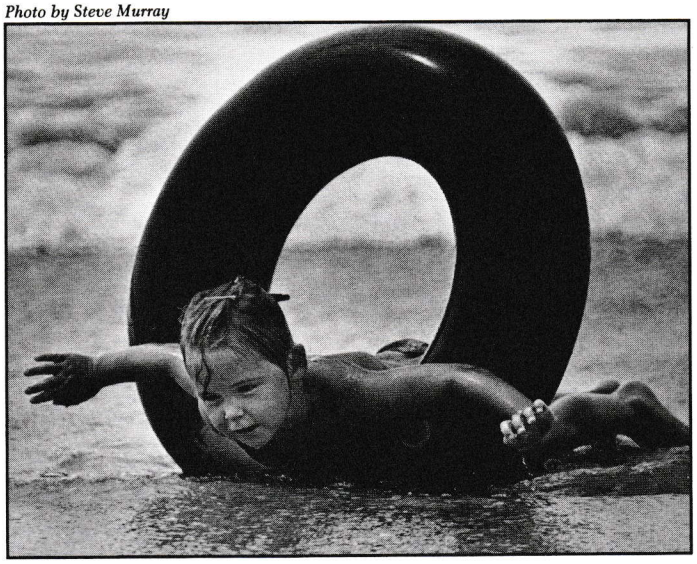
Photo by Scott Taylor

Photo by Steve Murray



The Pressures Of PEOPLE

Photo by Steve Murray



Atlantic Beach. Nags Head. Topsail Beach.

They used to be places you dreamed about all winter. Get-away spots to soak up sun, walk along the beach and eat plenty of fresh seafood.

Now it's likely you're a full-time resident.

Since the 1960s, thousands of people have streamed to North Carolina's coast to live and work.

By 1990 — in just four years — some people say 75 percent of all Americans will live within 50 miles of a coastline.

As people move in, the pressures on our natural resources, especially coastal waters, increase.

Lots of people, lots of uses.

In fact, everybody has rights to use coastal waters — to swim, boat, fish, dive and ski. Those are public trust rights.

Shoreside landowners have the right to build a pier or dock to get them to deep water. Those are riparian rights.

And some coastal residents own or lease submerged lands, or estuarine bottomland, for growing clams and oysters. The owners have rights. The leasers, too.

When so many people claim so many rights, conflicts erupt.

Basically these conflicts boil down to the rights of the public vs. the rights of individuals.

When should the public's right to clean water prevail over a developer's right to build a condominium? When should the public yield to those who own submerged lands?

Deciding who wins is always tough.

A new project at Sea Grant may help find some answers. With funding from the Water Resources Research Institute, Sea Grant's coastal law specialist Walter Clark, state attorney Dan McLawhorn and legal intern Barbara Namkoong have delved into the issues.

They're pinpointing the conflicts and looking at what the state is doing to resolve them. Then they're comparing these notes with ways other states have addressed the problems. When the team compiles the data, they'll have some guidelines for solving conflicts in the future.

This month, *Coastwatch* introduces you to two water-use conflicts occurring along North Carolina's coast.

At odds over

Coastal Water Quality

By Kathy Hart

It's the heavyweight bout of the decade for coastal North Carolina.

In one corner, harvesting 3,150,000 pounds of clams and oysters, are North Carolina's shellfishermen.

In the other corner, investing millions of dollars to build condominiums, are the state's developers.

Refereeing the match are resource management commissions such the N.C. Environmental Management Commission and the N.C. Coastal Resources Commission.

The opponents are sparring about development and its effects on coastal waters.

At stake are their rights to use the water.

Shellfishermen say their water use rights, called public trust rights, are being denied.

Like other North Carolina residents, shellfishermen have the right to use the water. They want to harvest clams and oysters.

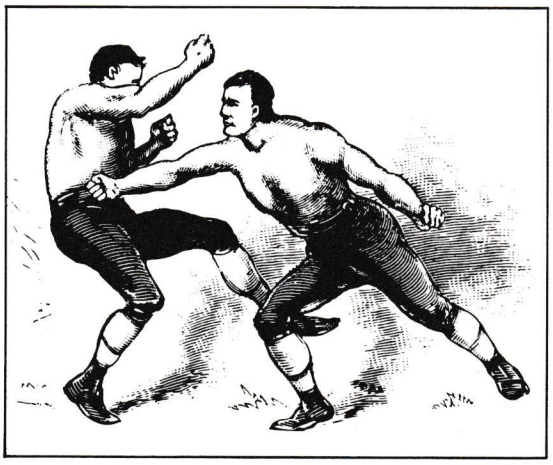
But shellfishermen say developers deny them that right.

They maintain that development leads to pollution. Pollution means closed shellfishing areas and fewer clams and oysters. It all adds up to loss of a livelihood and a loss of rights.

To assert their rights to clean waters, fishermen organize, hire lawyers and lobby legislators and regulatory commissions.

But developers have rights, too. At stake are millions of dollars in personal investments and the economic health of coastal North Carolina.

So they fight back. They organize, hire lawyers and lobby legislators and regulatory commissions.



The first round punches are thrown over storm water runoff.

"If you build an eight-story condo on a five-acre piece of land, most of the area around the building will be covered with a parking lot," says S. Henri Johnson, an attorney for the N.C. Coastal Federation, an environmental group that represents shellfishermen.

"The rain can't permeate the parking lot, so it runs off into the sounds, carrying with it pollutants," Johnson says. "Even though parking lots and tennis courts seem innocuous, the problems they cause are severe."

But condominiums can be built and parking

Continued on next page

lots paved without degradation of water quality or loss of fishermen's rights, says William Raney, a Wilmington attorney who represents developers.

"There are construction and landscape techniques that control storm water," he says. "You can reroute the storm water or use porous paving materials for instance."

Raney's right. Developers can use methods such as holding ponds and underground pipes to funnel storm water into the ground instead of into shellfishing waters.

But not all developers have been willing to go to the extra expense of controlling storm water.

That may soon change.

A set of regulations is now pending before the N.C. Environmental Management Commission. They will require storm water control by new developments built within half a mile of shellfishing waters.

But storm water isn't the only source of pollution for coastal waters. Shellfishermen also point a finger at marinas.

Boat owners who dock at marinas tend to flush sewage into the surrounding waters.

Most developers don't argue that commercial marinas cause pollution. But private boat docks for multi-family condominiums are a different matter, they say.

Raney says that private boat docks are used less than commercial boat slips.

"The usage of the boat tends to be away from the docks," he says. "People get on their boats and go away from the docks. They come back and go upstairs to their condo.

"They don't stay on the boat all night and flush the toilet numerous times."

Raney says he sees no difference between the docks at a multi-family condominium and a string of piers trailing behind a dense development of houses.

"Single-family developments have no controls," he says.

But shellfishermen and environmentalists believe that where boats congregate, toilets are flushed.

"Studies show that marinas pollute," Johnson says. "There's no doubt about it."

Some developers have proposed a "closed head" policy for marinas. Boat owners would be required not to flush untreated waste overboard.

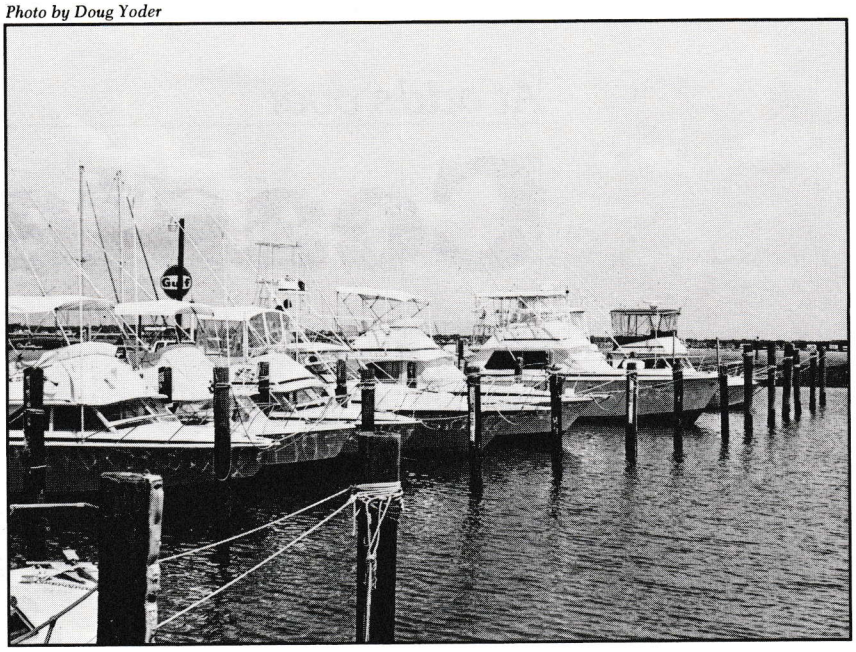
But Todd Miller, executive director of the Coastal Federation, says that kind of policy can't be enforced.

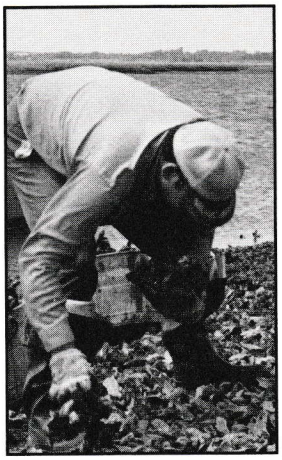
Johnson says, "How long have we had this anti-littering campaign? Yet people still throw out their beer cans."

Miller believes that all future marina development should be limited to areas that are already polluted.

Preston Pate is caught in the middle.

Photo by Doug Yoder





Pate, assistant director for the N.C. Division of Coastal Management, says the regulations apply equally to commercial and private marinas, and they involve a maze of state agency policies.

An N.C. Division of Shellfish Sanitation policy says that generally marinas cause pollution. Therefore, the waters around them will be closed for shellfishing.

This presents a problem if a proposed marina is sited for open shellfishing waters. An Environmental Management regulation says no new use of coastal waters can interfere with an existing use.

Since the proposed marina would close waters, preventing shellfishing, the permit would be denied whether it was commercial or private.

Developers believe the broad application of marina restrictions to private boat docks denies riparian rights.

A property owner who buys land that borders on the water has the right of access to deep water. The owner can build a pier, wharf or dock to gain that access.

Although the condominium owner's riparian rights are denied, "those rights don't give owners the right to pollute," Pate says.

Shellfishermen and developers are slugging away with countless regulations, policies and statutes to assert their rights.

Meanwhile, resource managers are trying to strike a balance between the two. With research from organizations like Sea Grant and a little compromise from the opponents, it can be done.

Resource managers hope that when the bell rings, no one loses.

Photo by Steve Murray

Submerged Lands

A matter of ownership

By Sarah Friday

More than once, Pete Rivenbark has had to cool the fires in New Hanover County.

One time a fellow thought some swimmers were trying to steal clams from his shellfish beds. Another time, homeowners around a creek wanted to claim the waterway and bottomland as their own.

But in most cases, Rivenbark is the mediator between fishermen and residents who claim to own submerged lands.

It's not always an easy job, says Rivenbark, an assistant supervisor for the N.C. Division of Marine Fisheries.

More than 2.2 million acres of submerged land lie like fertile farmland in the waters between the Outer Banks and the mainland shore.

And much of it is involved in the biggest and longest land dispute in North Carolina.

The state has sought to ease the tension. But centuries of tradition, confusing laws and misinformed citizens blur the picture.

People who own and rent bottomland stand firm on one side. On the other side is the state, fighting for the public's right to keep the bottomland.

For 200 years, North Carolina easily upheld the principle of public trust, which gives individuals the right to use state waters and submerged lands.

But by the 1960s, more people were moving to the coast, placing greater demands on the water and the lands beneath it. Disputed lease and ownership claims became frequent, and the

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state began trying to settle the controversies.

Twenty years later, the state is still juggling public and private rights. Too many people, and too many rights are involved.

Now money is an issue.

These underwater fields are more valuable because so much of the land can be used for shellfishing. And shellfish bring fishermen a high price at the market.

In 1971, fishermen got a penny a clam, Rivenbark says. Now they get about 15 cents.

As a result of the increased value and use of submerged lands, state resource managers, commissioners and attorneys are turning to the statutes for guidance.

State law allows citizens to boat, fish, hunt, swim and carry on commerce in all navigable waters that are publicly owned, says Allen Jernigan, an attorney with the N.C. Department of Justice. Basically, the public can go anywhere in the water that a boat can go.

But state law also allows residents to lease or to own submerged lands below these public waters.

If you own bottomland in North Carolina, you have the same rights as any private property owner. You can grow and harvest shellfish, dig for minerals or leave it bare. All beds should be marked, but signs or stakes cannot obstruct navigation.

The same rules apply if you lease submerged lands. Renters cannot interfere with the public trust rights of people using the water. Likewise, swimmers and boaters cannot bother the oyster or clam beds.

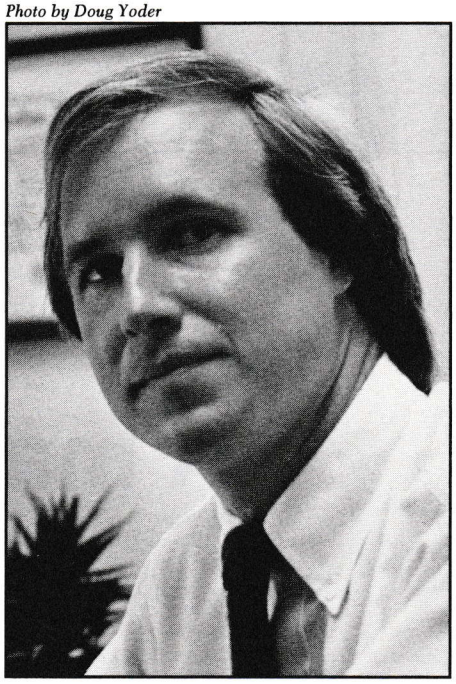
It's like a parking lot, says Walter Clark, Sea Grant's coastal law specialist. Somebody may own the pavement, but anyone can use the air above it.

But leases for submerged lands in North Carolina are hard to come by these days. The state put a moratorium on leases from 1981 to 1983 to revamp the leasing system and re-evaluate the amount of public bottomland.

Fishermen also organized to stop the flow of leases. More leases would mean less public bottomland for them to fish.

Since the ban has been lifted, the N.C. Marine Fisheries Commission has approved only six leases. Nine are pending before the commission.

Photo by Doug Yoder



Shellfishermen use leased bottomland to raise oysters (above); Walter Clark (below)

The commission strives for fair judgments. As with ownership claims, the courts protect private property rights, but history weighs heavily on the side of the public trust.

The state has not had the authority to sell submerged lands since the early 18th century. But for one reason or another, some land has been sold. The last piece was on Figure Eight Island in 1960.

Now thousands of residents claim to own acres of bottomland. No one knows exactly who owns what.

Under pressure, the 1965 N.C. General Assembly asked people to map and register private claims to submerged lands before 1970. Failure to file meant the claim was void.

By 1970, 3,000 people said they owned more than 10,000 acres of bottomland.

But there was a catch.

Claimants had to prove direct ownership from the original deed or title.

That meant digging through records and tracing the deeds back to a grant from King Charles in 1663, for some. For others, it meant a 1920s grant from the N.C. Board of Education. And some claimed ownership by "adverse possession," saying they used an unclaimed plot for more than 21 years.

Today, the N.C. Attorney General's office is still examining the claims to see if they are valid.

THE BACK PAGE

"The Back Page" is an update on Sea Grant activities — on research, marine education and advisory services. It's also a good place to find out about meetings, workshops and new publications. For more information on any of the projects described, contact the Sea Grant offices in Raleigh (919/737-2454). For copies of publications, write UNC Sea Grant, NCSU, Box 8605, Raleigh, N.C. 27695-8605.

Rip currents are for real. Ask Roberta Naimark of Charlotte. In August, she and her husband were riding the waves during their vacation in Duck.

A woman swimming nearby began screaming that she was caught in a current.

Roberta swam to help her.

But it was useless. "All of a sudden we were way out," says Roberta. The powerful current was whisking them out to sea.

Six others were caught — frightened and frantic to paddle their raft to shore.

But Roberta stayed calm.

The day before, she had read a Sea Grant poster in her rented cottage telling the dangers of rip currents and how to swim to safety.

"If I had not read that poster I would have thought the tide had pulled me out." But when she felt the pull and realized how fast she was moving, she knew it was more than an undertow.

The force quickened just past a sand bar. Swimming back was impossible. For about 10 minutes, the current kept pushing them out to sea.

As the two women swam to meet the raft, Roberta recalled tips in the poster.

"I remember shouting, 'They're only 30 feet wide! Swim diagonally!'" she says.

The group clung to the raft and swam across the current. Soon they were able to get close enough to the beach for rescuers to pull them in.

Later the Naimarks found out rip currents ran one after another for miles along the beach that day. One swimmer had drowned. Hurricane Charley and a full moon were playing havoc with the tides.

Roberta's level head and a few tips from the Sea Grant poster saved herself and seven others from tragedy.

A copy could save your life, too. For a copy of the free poster, write Sea Grant and ask for publication number UNC-SG-86-09.

Last year will be hard for Wayne Wescott to forget. The Sea Grant marine advisory agent spent days—and months—spreading the word about crab shedding. And it paid off. Records show last year was the best year yet for the booming soft-shell crab industry. In Dare County alone, fishermen sold more than 600,000 pounds of soft crabs. That figure topped previous sales for the whole state by more than 100,000 pounds.

Most of the crabs were shipped to markets in New York and Baltimore. But North Carolina residents got a taste of the success, too.

In August, 16 North Carolina and Puerto Rican teachers left Raleigh for a week-long trek across the Tar Heel state.

One alligator, a raft trip down the Nantahala River and 1,300 miles later, the group returned from their outdoor classroom.

Lundie Spence, Sea Grant's marine educational specialist, organized the trip to expose teachers to the state's natural water systems.

"We try to get the teachers into the systems — into the marshes, into the rivers. This experiential method of learning gives teachers a better understanding of the aquatic systems they're studying," Spence says.

Along the way, the group looked at how people used water in the past and how it affected their lives. And they studied the ways people use, change and manage these waters today.

Spence and the junior high and high school teachers began their tour in Wilmington. They visited the N.C. Aquarium at Ft. Fisher, Bald Head Island and the Brunswick Town Historic Site.

They studied the sandhills of Carolina Beach, saw a cypress swamp and released baby loggerhead turtles.

Then they moved west to Charlotte and to Cherokee, stopping at Discovery Place, a Christmas tree farm, waterfalls and a Cowee ruby mine.

The workshop is part of an ongoing venture with the Puerto Rico Sea Grant Program. Last year, the North Carolina teachers traveled south to study the island's ecosystems. They'll get another chance next summer.

The summer of 1986 — hot, dry and sunny. Conditions seemed right. Residents along the Neuse River from Goldsboro to New Bern waited.

They expected the foul blue-green algae to pop to the surface of the sluggish Neuse and form massive green mats that would coat boats, swimmers and docks.

But the Neuse River never bloomed, and scientists wanted to know why.

Sea Grant researchers Hans Pearl, Bob Christian and Don Stanley sampled the waters of the Neuse River for some answers.

"It takes a wet spring and plenty of runoff coupled with a hot, dry summer to produce a bloom," says Hans Pearl.

But it's not the large volumes of water produced by the rains that trigger the bloom. It's what's in the runoff — millions and millions of tiny molecules of nitrogen and phosphorus. "Nutrients" they call them.

These nutrients wash off of farms, forests, parking lots and roof tops. And they're just what nuisance blue-green algae need to survive and bloom.

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In 1983, North Carolina had a wet spring and dry summer. The bloom-prone Neuse and Chowan rivers were coated with algae. Further north, the Potomac blossomed in view of the White House and the capitol.

After that summer, many scientists believed the blooms were related to the pace of the river. They surmised that when river flows dropped, the blue-greens had plenty of time to float to the surface and bloom.

But Paerl had some doubts about that theory.

"The river just doesn't behave that simplistically," he says.

The summers of 1985 and 1986 proved him right.

They were dry, and the Neuse River was nearly stagnant. Yet no bloom appeared.

Paerl says the missing element was a strong dose of nutrients. Nitrogen and phosphorus levels are always high in the Neuse River because of effluent from sewage treatment plants and normal runoff, but spring runoff makes the levels "super high," he says.

It takes the super high levels to nurture the blue-green algae.

Maps used to predict flood heights from storms and hurricanes do not consider erosion, says Spencer Rogers, Sea Grant's coastal engineer.

Rogers has written a report, *Coastal Erosion Issues in Flood Hazard Mapping*, that describes present deficiencies in flood maps, types of erosion and how erosion rates can be incorporated into these maps.

Without the inclusion of erosion, present flood maps distort public perception of storm risk, underestimate the potential for insurance claims and result in inadequate flood plain management regulations.

For a copy of the report, write Rogers at Box 130, Kure Beach, N.C. 28449.

A drive through any coastal town will tell you there's more to lodging these days than hotels and motels.

Bed and breakfast establishments offer visitors an opportunity to stay in local homes with hosts who are native to the area. And it's a way for homeowners to make a profit on spare rooms.

If you're thinking of starting a bed and breakfast, Sea Grant has a publication that will help. *Opening a Bed and Breakfast* describes the investments, regulations, reservation and scheduling system, and rate structure you should consider before making your home a bed and breakfast business.

For a copy, write Sea Grant. Ask for UNC-SG-84-03. The cost is $1.

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Address correction requested