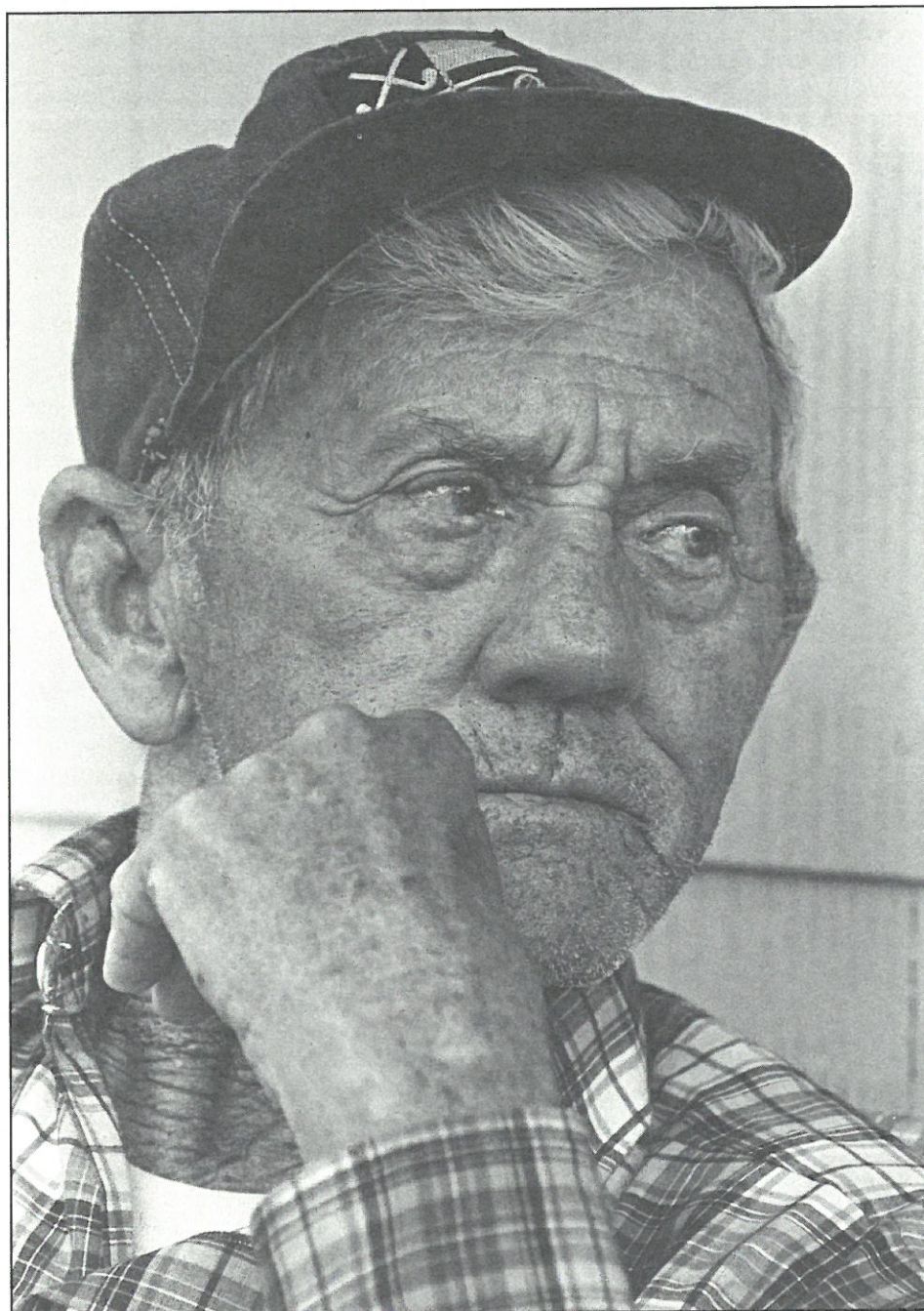


COAST WATCH



Charlie Russell of Harkers Island

Of corncob pipes And mullet fishing

"When I was a little boy there were about 14 families here. And mostly everybody went barefooted and smoked a corncob pipe or a clay pipe with a reed center. Everybody dipped their snuff like I chew tobacco now."

Charlie Russell's face wrinkled into a grin as he shifted a tobacco wad from one cheek to the other.

A few yards away, traffic on the main road through Harkers Island kept up a steady growl. It punctuated Russell's narrative with motorbike clamor, the swish of recreational vehicles and the rumble of pickup trucks.

Russell paid it no mind. He was busy remembering. "These families lived from one end of the island to the other. Scattered. Nobody here much. And you'd go clamming. You had a little net to go mullet fishing and you'd get 25 cents a bushel for your clams. Now a handful will give you as much as ten bushels would then at the county market."

Charlie Russell is 81 years old. He was born on Harkers Island. So was his mother. Her people came from Diamond City, the little fishing town on Shackleford Banks that was abandoned at the turn of the century.

That geneology makes Russell an "insider" on Harkers Island. He's privy to the unique cultural heritage of people whose lives have for generations depended upon the water. It's a heritage that seems to carry with it rugged self-sufficiency and an uncanny intuition about the forces of nature that rule a seaman's life.

Continued on next page

Russell was a commercial fisherman only a short time before he joined the Navy during World War I. He later worked until retirement at nearby Camp Lejeune. But he can spot danger signs in the weather along with the best of the commercial fishermen. And he keeps a little boat so he can "catch a mess of fish" anytime.

Like many Harkers Islanders Russell has a hard time explaining just how he learned what he knows about the sea. To hear him tell it, you'd think Harkers Island children are born knowing how to dig clams and predict when the mullet are going to run.

As James Rose, a younger fisherman on the island, explains, "if you're raised up in it, then you already know it, just by being around it."

That kind of knowledge has been in

the making many generations. It won't die easily. But as Russell's story indicates, other aspects of life on Harkers Island have changed radically since he was a boy. Gone are the maritime forests and swamps that once covered the island. They've given way to well-groomed yards, houses and trailers.

"Used to be if you wanted to get somewhere on the island, you had to walk along the shore," recalls Russell. Today paved and dirt roads crisscross the island.

You'll still find a boat in nearly every yard but commercial fishermen and boat builders make up a dwindling portion of the population. The mail boat which sailed to Beaufort has been replaced by a standard brick post office. In 1926 a ferry service, connecting the island with the rest of Carteret

County, began. And since 1941 islanders have been able to drive across a bridge to the mainland.

In short, the days of isolation are gone. And along with them went some of the naive notions that lent the island a special charm. Notions like the one islander Charlie Hancock had as a child.

"I used to think, 'I don't know what people eat that live in other places.' I says, 'What do they live on? They don't get oysters and clams.' The water was our living and the water was all of it. I thought you couldn't live unless you had seafood."

Each year Harkers Island draws more sport fishermen who use the island as a jumping off place to get to prime fishing grounds on Shackleford and Core Banks. That has meant the inevitable increase in conflict between commercial and sport fishermen over fishing grounds. Now, with impending development of Cape Lookout National Seashore, more changes seem to be in store. The seashore includes nearby Core and Shackleford Banks; plans call for putting the headquarters on Harkers Island.

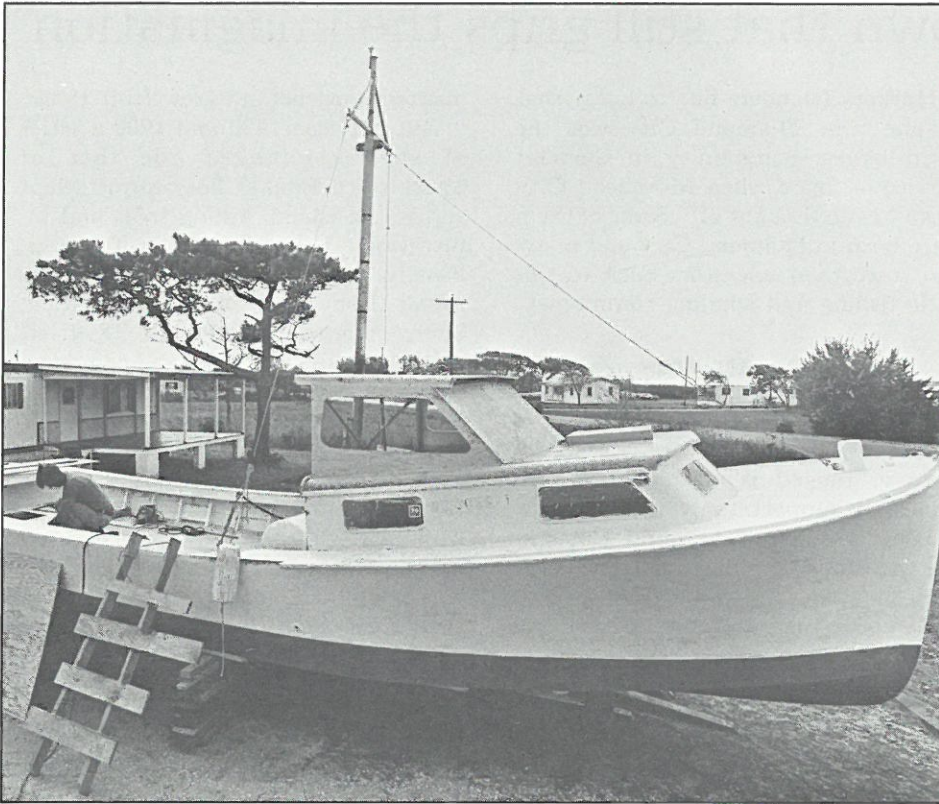
For the past year anthropologist Marcus Hepburn has been living on Harkers Island, keeping a close watch on how these changes are affecting the islanders. Hepburn is working on a Sea Grant study with anthropologist Jim Sabella and sociologists Richard Dixon and Roger Lowery of the University of North Carolina at Wilmington (UNC-W). The researchers are interested in finding out how certain predictable factors, such as tourism, increasing population and government regulations, influence the traditional lifestyles of coastal communities. They chose Harkers Island because of its long-standing tradition as a boat building and commercial fishing community.

This spring the researchers surveyed most of the island's adult population to find out about their attitudes toward a variety of issues, such as extended jurisdiction and fisheries management plans. The results should be useful to government agencies and planners in other coastal communities.

Hepburn has also been studying the history of the island and some of its families. He has spent many hours with old timers collecting tall tales and folklore which he considers essential to an understanding of the island's traditional culture.



Researcher Marcus Hepburn chats with islander Louis Hancock



A boat in every yard is still the rule on Harkers Island

'Sun dogs' and the weather

When folks on Harkers Island discuss the weather, they're not just passing time. Even more than fisheries enforcement officials, the weather controls the commercial fisherman's life. It determines what there is to catch, how much of it and when the fisherman can go out to get it.

Back in the days before living room barometers and television meteorologists, Harkers Island fishermen had to be able to predict the weather. Most of them still can.

According to Marcus Hepburn, who has been collecting weather lore, the fishermen's specialized language describes delicate changes in the sun, moon, clouds, water, wind, tides and the behavior of animals.

It's a far cry from meteorologists' pedantic language. But it's colorful and accurate. In lieu of cirrus and cumulus clouds, the fishermen talk about mare's tails, turkle fat and double-headed giants. And they can make the fine distinctions between calm water, slick calm and dead slick calm.

When it comes to wind conditions, Harkers Island fishermen use expressions like Rotten Easter, wind chop

and sheep storm. "Smelling the pine tops" is a predictive phrase, usually associated with mullet blows in August. The belief is that if a wispy black cloud passes over the water carrying the odor of pinetops there will be a mullet run soon.

Ever heard of a "sun dog?" It's a tiny multi-colored cloud seen in the evening. "If you see one this evening that side of the sun, you'll have bad weather from that direction tomorrow," says Charlie Russell.

A few Harkers Island weather phrases have a lilting rhythm that makes them easy to remember. Like this one: "When the wind backen against the sky, trust it not for Back Shell run." Or "wind blowing on the change of the moon, it'll rule that way till the moon is full."

The relationship between tide and wind is noted in detail. A north wind, some fishermen say, should keep the tide from ebbing out too far. But with a southwest wind at low tide "just about everything will be ebbd out."

Any Harkers Islander worth his salt can tell something about the weather from the behavior of animals. If you see lightning bugs in the evening, they

say, there will not be strong or bad weather the next day. What's more, there will be "fire" or phosphorus in the water that night. They also say that when the horses that still roam Shackelford Banks come off the marsh, there will be bad weather before long.

And here's another Harkers Island favorite: the George Anson. "You get it especially in the month of March," explains Charlie Hancock. "You'll be going in the water and directly something will build right up in the water like a little tornado or something. It don't mean nothing. . . . Directly it will blow right out and go to nothing. I've seen many a one of 'em in my time."

A few of the weather phrases are closely tied to the history of the Outer Banks. "Cold as Crissy Wright times," for example, refers to one of the area's worst shipwrecks. The Crissy Wright, with her crew of eight, ran aground off the coast of Shackelford Banks in the winter of 1905. It was so cold and windy that all but one of the crew froze to death before a rescue team could plow through the rough seas to the ship.

Watch out if you ever hear the expression: "The Lawrences are going to dance." That means it's gonna be a scorcher. It refers to the heat waves which rise from the surface of the earth or street during very hot weather.

Talk about folklore always seems to come around to witches. Like most traditional communities in North Carolina, Harkers Island is reputed to have had its share of practicing witches. Charlie Russell remembers one in particular. "She claimed she had a crooked stick, she could work you, make you give her something."

During his youth, Russell says, there were lots of folks on the island who believed in the witches' powers. When a fisherman had a streak of bad luck, he might blame a local witch who had "put a conjure on him."

The most popular way of breaking the jinx, says Russell, was for the fisherman to make a life-sized drawing of the witch. He then stood the drawing in the yard and fired his shotgun at it. "That was—most any fisherman that had little enough sense to believe it," chuckles Russell.

Diamond City: a town that still grips the imagination

If you hang around Harkers Island long enough, someone will tell you about Diamond City. Like the legendary Atlantis, this defunct nineteenth century community seems to take a grip on the imagination.

Until 1900 Harkers Island was a no man's land. No more than a dozen families lived there. But across the sound on Shackleford Banks were several flourishing communities, bearing poetic names like Edge of the Woods, Sam Winsors Lump and Mullet Pond. Their populations totaled about 500.

Just east of the Cape Lookout lighthouse was Diamond City, one of the largest of these settlements. It took its name from the diamond shaped pattern painted on the lighthouse.

Harkers Islanders like to boast that at one time Diamond City was the third largest community in Carteret County—"back when Morehead City wasn't even thought of." Some of them were born in Diamond City and many can trace their ancestors back to this little fishing and whaling community.

Another era

Today Shackleford Banks looks like a dubious location for a settlement. A narrow, rugged island covered with dunes, it supports only marsh grass. No one lives there year round. But during the first half of the nineteenth century the island was practically covered with cedar pine and oak. Cattle and horses grazed on lush grass. Settlers

planted gardens and grew fruit trees.

But between 1850 and 1900 a series of storms changed the face of Shackleford Banks. The storms swept across the island, killing trees and infiltrating the soil with salt water. Finally, wells began to dry up and the island lost most of its vegetation. Severe storms in 1896 and 1899 left behind a trail of dead sheep and cattle.

Beginning about 1900 Shackleford Banks residents began to migrate to other parts of Carteret County. Some moved to The Promised Land, a section of soundside property now in Morehead City. But most of them settled on Harkers Island, where the land was going for \$1 an acre. They dismantled their homes and carried them across the sound on dories.



Charlie Hancock mending a net

Life went on much as it had in Diamond City. Most residents were fishermen and boat builders. They lived simply and what little money they had came from the shore whaling that they did during a short season each year.

According to amateur historian Mrs. Earl Davis of Harkers Island, whaling on Shackleford Banks had been a community effort. During the season the men of Diamond City would take turns watching for whales from Lookout Hill. Once a whale was sighted a crew of eight men would be put together to give it chase. The men shot old-fashioned harpoons and later, harpoon guns, from their sturdy little boats. The chase often lasted hours. Families who watched from the shore would later be enlisted in the laborious process of cutting the whale up.

After the chase

Once the dead whale was hauled ashore, blubber had to be cut off and dried out or cooked in large pots set up on the beach. The resulting oil was poured into 50 gallon barrels and sold to merchants in Beaufort and Morehead City. The bone, which was used mostly for corsets and umbrella ribs, also brought a good price.

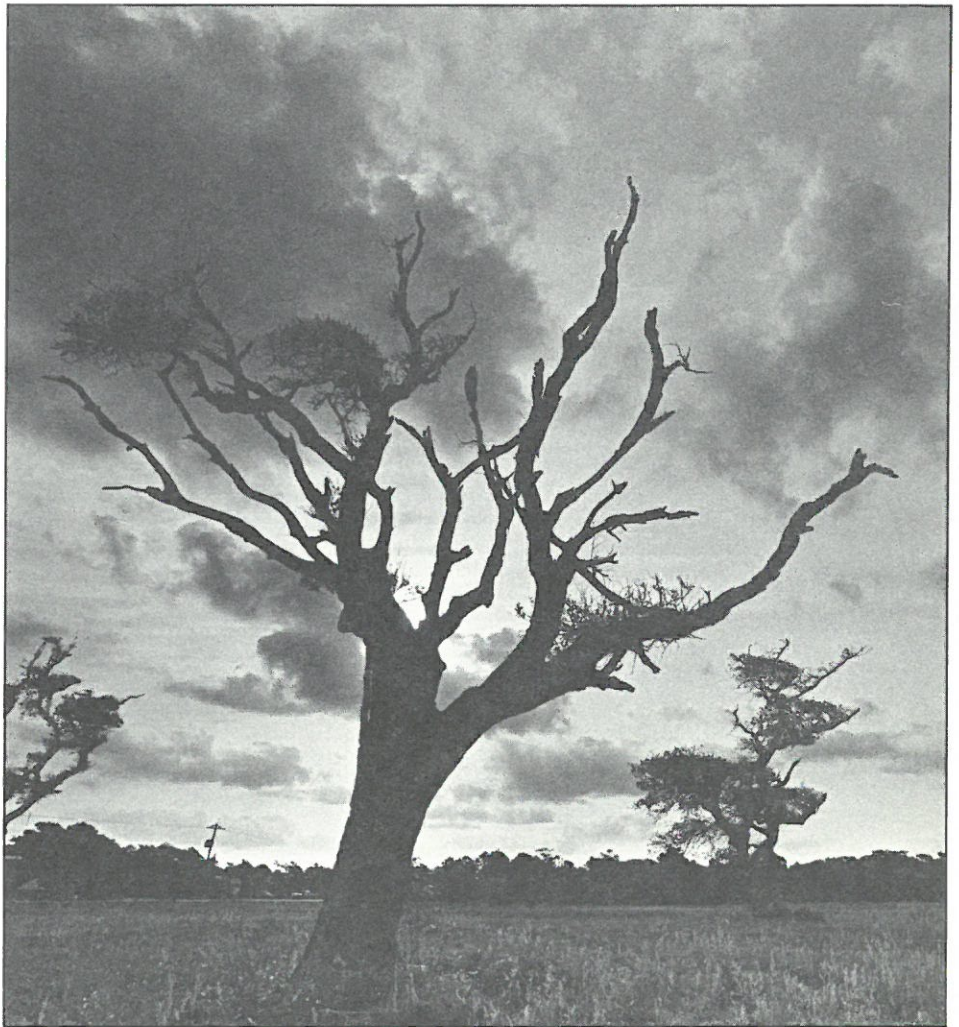
Diamond City whaling crews had a tradition of giving names to the whales they killed. Mayflower, caught one May 4, was reputed to be among the toughest to subdue. The Little Children was a whale killed by a crew made up largely of young boys.

Whaling days didn't end until 1918 and whaling stories are still told on Harkers Island. Charlie Hancock likes to recount one of the most famous of the Diamond City whaling stories.

"This is the story I've been told by my father who said he was told by his father," he begins.

It had been a long season without whales one year when Hancock's grandfather was a young man living in Diamond City. Finally one day a whale was sighted and the men went after it. They harpooned the whale but, after a long fight, lost it. "They hung to until after dark" but finally gave up the search and went home—disconsolate.

"It was a bright moonshiny night and my grandfather couldn't sleep. . . . In the night sometime he got to sleep but he dreamed that the whale had died and had caught up on the Cape



The remains of a maritime forest on Harkers Island

Lookout point. He was a fast runner and he went around and told all the boys. 'The whale,' he says, 'I dreamed it so plain. It's there.' Some of them thought it was just a nightmare or what have you, but they decided to go look."

'One chance left'

As the story goes Hancock ran several miles to Lookout Point, by the light of the moon. Sure enough, there was the whale, beached.

"When the boys got there, he told them, 'Now we've got one chance left. We've got to go to Beaufort tomorrow and see if we can get rope enough.' And they had to do that by their honor because they didn't have any money."

Hancock sailed to Beaufort the next morning and found a merchant willing to let him have rope on credit. With the rope, the men secured the whale on shore. There was spending money that year after all.

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Ollie Moore in the O&D Grocery on Harkers Island

Of kerosene, fatback and snuff

Next time you get an earache, don't rush to the doctor for some newfangled antibiotic. Try an old fashioned remedy from Harkers Island. A little bit of the juice from cooked marsh mussels should do the trick. Or, if you're feeling adventurous, put a few drops of urine in the affected ear.

Those are two of about 50 home remedies that anthropologist Marcus Hepburn has collected as a sidelight to his research on Harkers Island. Hepburn believes that medical folklore can shed light on the traditional culture of a region.

A few of the remedies, he notes, make use of herbs. Ground mullein leaf, for instance, is frequently recommended for treating swelling from sprains. And sassafras tea is said to have the power to "break out the measles" in a person suffering from the fever which precedes measles rash.

But Hepburn has found that most remedies remembered by islanders make use of more readily available items such as kerosene, fatback and snuff. A long soak in a tub of hot water and kerosene used to be the treatment for chigger bites.

"Most people remember hearing these remedies from their parents or grandparents," says Hepburn. "But few people still use them."

Charlie Russell is one exception. He still swears by his remedy for babies who are having trouble teething. Cut a piece of Jerusalem oak into tiny segments, he advises. Then string the pieces and tie the necklace around the baby's neck.

Hepburn believes that most of the folk remedies used on Harkers Island were popular in other sections of the state, too. But some seem to have originated on Harkers Island.

Take Ollie's salve, for instance. The recipe remains a secret because Ollie . . . died earlier this year without passing it on. Her daughter Ollie Moore remembers that the concoction required cooking and contained kerosene, lard, paragoric and a few other ingredients.

"She always called it her dream salve because the recipe came to her in a dream. I was small at the time and my daddy had a place that wouldn't heal on his foot." Mrs. Moore remembers that the salve cured her father's foot in a hurry.

That was only the beginning. Word of the healing powers of Ollie's salve spread. "People would come to her from all over when everything else failed . . . She'd always keep one of those tin coffee cans full and anybody who came, she'd give them some," says Mrs. Moore.

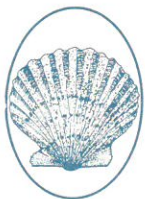
Sure enough, life has changed on Harkers Island. You don't know everybody you meet anymore. Not every family has a commercial fisherman in it. You can't walk out in the back woods "of a dewy morning" to shoot your dinner.

But Ollie Moore is good testimony to the fact that some things just don't change. Her roots on Harkers Island go back a long way. She was born there and her grandfather was born in Diamond City.

To sum it up, she says, "I was born and raised right on the waterfront. I moved across the highway. And that's as far as I want to go until I go behind the Methodist Church in Vergie Mae Cemetery."

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 and workshops, and new publications. For more information on any of the projects described, contact the Sea Grant office in Raleigh (919/737-2454).



Contaminated oysters can cleanse themselves of potentially harmful viruses if the oysters are transferred from polluted to clean water. That's the initial finding of the first in a series of relay experiments conducted by Sea Grant researcher Mark Sobsey of the University of North Carolina at Chapel Hill (UNC-CH).

In Sobsey's first test, oysters were experimentally contaminated with a harmless enteric virus that behaves like a pathogenic one. The oysters were then transferred, or "relayed," in special baskets to a research sanctuary in the North River outside of Morehead City. For a month, the oysters were sampled at intervals and checked for viral contamination. Sobsey found that, by the end of the four-week test period, less than 0.02 percent of the viruses remained. Sobsey expects the elimination rate to be even faster during warmer weather, when the oysters' metabolisms are more active. He will continue his relay experiments throughout the year to see how the cleansing rates vary with the seasons.

Twenty-three species of colonial waterbirds, including herons, egrets, ibises, gulls and terns, nest along the coast of North Carolina. But, as more of their natural nesting sites are upset, these birds are nesting on new, man-made sites.

These and other findings were the

topics of discussion at a three-day planning workshop held May 17-19 in Wilmington. The workshop was organized by Sea Grant researchers Jim Parnell of the University of North Carolina at Wilmington and Bob Soots of Campbell College. It attracted representatives from the U.S. Fish and Wildlife Service, the Army Corps of Engineers, the National Park Service, the National Audubon Society, the North Carolina Wildlife Resources Commission and other agencies.

Workshop participants examined the status of waterbirds across the nation, and discussed ways to manage them. One management technique, building dredge-spoil nesting islands for the birds, received particular notice as an important management tool. Studies by Parnell and Soots in 1977 showed that nearly 80 percent of the colonial waterbirds in North Carolina nested on sites either built or modified by man.

Proceedings of the workshop will be published by UNC Sea Grant later this year.



Interested in improving your surf- and pier-fishing skills? If you're in the Nags Head area this summer, you can enroll in free classes, according to Sea Grant's recreation agent Dennis Regan. Pier-fishing classes will be held from 9 a.m. until 11 a.m. at the Nags Head Fishing Pier on Tuesdays and at Jennette's Fishing Pier on Wednesdays. Advanced registration is required for these classes. Participants should meet at the Marine Resources Center on Roanoke Island for transportation to the piers. Surf-fishing classes will be held at the Center from 2-4 p.m. Tuesdays and Wednesdays. Fishing equipment will be provided, but participants may bring their own gear. Classes will be offered from June 26 through August 29. For more information call Dennis Regan at 473-3937 in Manteo.



For the past four years, Sea Grant researchers have been experimenting with the culture of American eels for export to European and Oriental food markets. The eel farm now has new headquarters at the Pamlico Estuarine Laboratory on the shore of South Creek near Aurora. This year two new aquaculture projects have gotten started there and the site is on its way to becoming an aquaculture center for eastern North Carolina.

With mini-grant funds, eel farm researchers recently have begun a study to see whether coho salmon and rainbow trout can be successfully raised in eastern North Carolina. Three hundred salmon and 150 trout now are being raised in cages in the canals which carry water pumped out of Texas-gulf's open pit phosphate mine. The real test will come this summer when water temperatures are expected to rise close to the upper tolerance level of these fish.

Also at the Aurora site, fisheries biologists Howard Kerby and Mel Huish of North Carolina State University (NCSU) are conducting experiments to see whether striped bass hybrids can be successfully raised as a food crop.

In a related study, researchers at the UNC-CH Law School have reviewed North Carolina's laws affecting mariculture, the cultivation of marine organisms by exploiting their natural environment. Researchers Tom Schoenbaum and Cathy Martin, in findings presented to the N.C. Marine Science Council and the World Mariculture Society, have concluded that "In order to make mariculture a viable industry, North Carolina laws that adversely impact it will have to be revised to avoid limiting the industry's commercial potential."

Specifically, the researchers recommend that the Coastal Resources Commission be given authority to make



regulations concerning the water above leased underwater sites; that non-residents be allowed to lease land; and that increased evidence of productivity be required to maintain leases. They suggest that a more effective means should be found for handling already polluted areas than simply closing them off to cultivation.

In addition, the researchers recommend improved coordination among state agencies regarding fishing regulations and regarding the leasing of underwater mariculture sites. The leasing issue is one that is also being addressed by researchers at the North Carolina Central University Law School. The legal analysis of shellfish bottom leasing regulations around the country will lead to recommendations for state revisions of existing regulations. The researchers are Tom Earnhardt, Billy Ellerbe, Delores Faison, Gregg Spencer and James Finch.



The first of Sea Grant's graduate fellowships in marine sciences was recently awarded to William Peirson for a doctoral study that proposes to show how transplanted juvenile bivalves might be protected from their predators. The study will be conducted under the direction of Tom Wolcott of the Department of Marine Science and Engineering at NCSU. Results of the study will be particularly useful to the state's clam rehabilitation program because many

of the juvenile clams transplanted each year are wiped out by blue crabs. By examining the behavior of these crabs, the researchers hope to develop a method for protecting the clams.

The fellowship program was initiated this year in an effort to expand Sea Grant's involvement with marine affairs within the university.

And to give marine affairs a boost in another area, Sea Grant has awarded funds to three students for advanced studies in marine education. The program is intended to develop educators with leadership skills in the field of marine sciences.

Recipients of the new fellowships are Beth Taylor, a teacher from West Carteret High School in Morehead City; Manley Midgett, a teacher with the Onslow County schools; and Bill Martin, a graduate student completing his masters degree in science education at East Carolina University.

The program, which is administered through the NCSU Department of Math and Science Education, also includes internships with state agencies responsible for marine education.

As a complement to a current Sea Grant study on the small-boat, recreational fishery of North Carolina, recreation specialist Leon Abbas of NCSU and sociologist Peter Fricke of East Carolina University have begun a study of coastal and ocean tournament fishing in the state. Through

their study, the researchers hope to learn who participates in the tournaments, how they differ from unorganized recreational anglers, and how much money is generated by the tournaments.

Because the study will show the impact of tournament fishing on various species, it will have implications for fishery management. The information will also be useful to tournament organizers.



Hurricanes on the Coast of North Carolina is the title of a full-color poster recently produced by Sea Grant. The poster includes historical information on the major hurricanes of the 20th century, as well as details of how hurricanes form and what they destroy. For a free copy of the poster, write UNC Sea Grant, Box 5001, Raleigh, NC, 27650.

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