UNIVERSITY OF NORTH CAROLINA
SEA GRANT PROGRAM NEWSLETTER

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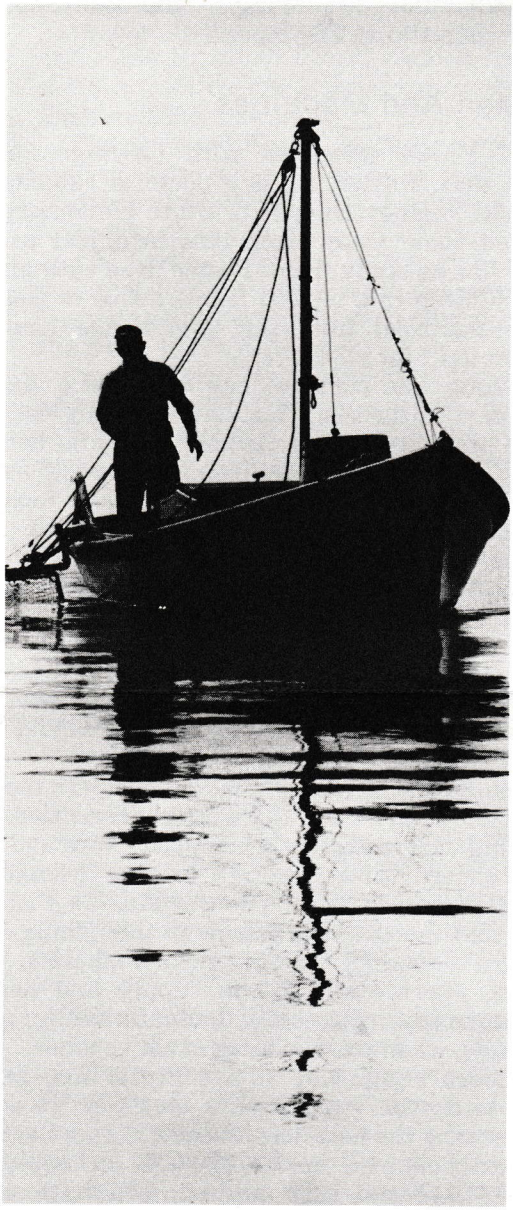
1235 Burlington Laboratories
NCSU, Raleigh, N. C. 27607 Tel: (919) 737-2454



Fishing

Yesterday, Today...

It's been a long time coming, but fishing—one of our nation's first industries—has finally left the days of the colonists and entered the twentieth century. The road has been a long one, and there are more miles yet to travel:

Under the smooth skin of Lawrence Austin's hands are bones gnarled by 81 years of life and 55 years of fishing. Despite their age (and perhaps thanks to the hard work), Austin's hands are steady and strong enough to tie up a bag of potatoes on the back porch to keep bugs out the way Austin womenfolk used to do.

And just as Lawrence Austin's hands are still alive, so is his mind alive with memories of fishing in "back days." There was the time, in 1917, when the Pamlico Sound froze over from shore to shore; and the time, the year slips his mind, when motors for fishing boats first came to North Carolina's Outer Banks around Hatteras.

(See "Progress Hasn't," page 2)

...And Tomorrow

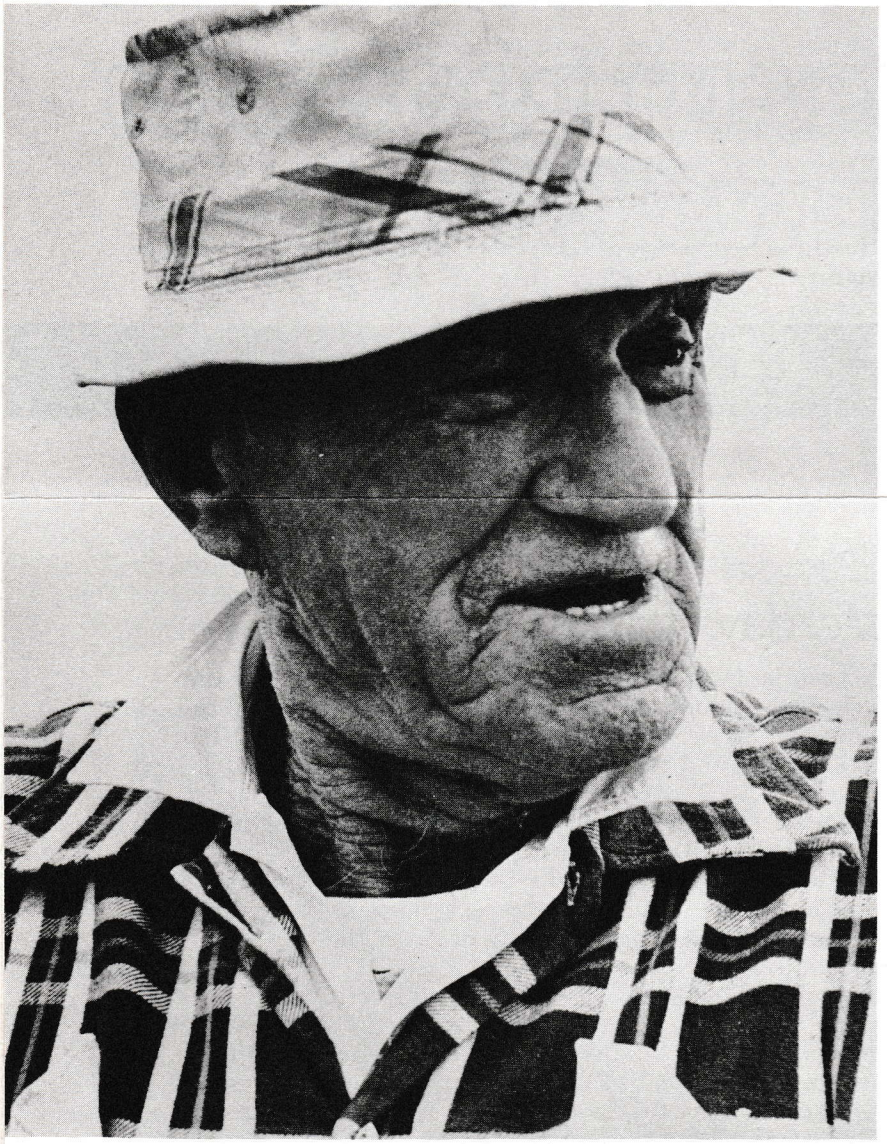
Yesterday's fisherman knew the meaning of hard work. He didn't have many gadgets to help him do his job. But the fish were there. They were his if he worked to get them.

Tomorrow's fisherman probably won't know the kind of grueling labor his grandfather knew. Machines will have taken over a lot of the back-cracking work.

Trouble is, tomorrow the fish might not be there. Some species have been so over-fished that their number are already seriously low. A fisherman faced with a shortage of fish is a worried man—especially if he's paying off loans and trying to eke out a living too.

Demand for fish has increased dramatically over the past three decades. From 1950 to 1970, the world catch jumped from an estimated 46 billion pounds to 153 billion pounds. Foreign fishing has accounted for most of the increase, since

(See "As Fishing," page 4)



Lawrence Austin:
"We had it the hard way . . .
They don't work anymore."

'Progress' Hasn't A

(Continued from page 1)

Fishing was rough, often dangerous, and the hours were long—especially for two young brothers courting the ladies, too. Equipment was basic. Boats were often made on the island. Fishermen made their own sails. And Austin says "The whole family would tie on a net."

Manila net ropes had to be weighted with leads or five-pound bricks, or floated with cork. And nets had to be tarred—every two weeks in summer—to prevent rot. Tarring was a tedious job involving steaming caldrons, tar-heavy nets and flats for drying.

"We **had** to fish," Austin says, "or leave home. . . . We had it the hard way," in what he nonetheless calls "the good old days." But today, he grins, "They don't work any more."

Of Men And Machines

Bill Foster disagrees with Lawrence Austin about that. Foster, 32, is a doctoral candidate in fisheries biology from N.C. State University who decided some years back that he'd just as soon catch fish as study them. Foster lives with his wife and children in a modest frame house in Hatteras down the road from the trim house Lawrence Austin built for his bride.

Fishing has come a long way since Austin's back days: Foster, a Floridian who only fished for sport previously, uses durable synthetic nets and ropes. The ropes have built-in floating and sinking properties, so cumbersome weights and floats are unnecessary. Foster's 30-foot open boat is, of course, motorized and can carry about four times as much weight as similar motorless boats in Austin's day could. Foster uses a citizen's band radio to keep in touch with other boats and shore.

And he plans to buy an hydraulic system—a device that can "take the work out of fishing" by automatically reeling in a loaded net—and a fathometer to keep up with schools of fish.

Despite the advances, Foster considers the work hard, the hours long, the working conditions (like freezing sea spray) rugged, prices low and costs high. Indeed, Mike Street, Director of Research and Development, N.C. Division of Marine Fisheries, says that the major problems in the fishing industry are economic, not biological. Fisheries, he explains, operate strictly on supply and demand. Consequently, prices can fluctuate wildly, as, for example, when word of a big catch gets out.

Modern equipment allows Foster and another man to do the work it once took four to do, but Foster says the help doesn't come cheap. Last year, for example, he spent $10,000 on equipment. "Everytime you turn around, you have to buy

ways Made Life Easier For Fishermen

something new . . . just the minimum" to remain competitive. The hydraulics, which can double a catch, cost anywhere from $250 to $4,000 and up. Enough floating and weighted sinking lines to rig just one net can cost over $70.

"Progress" has made fishermen more vulnerable to outside forces than in Austin's day, too. Fuel costs have risen. Nets, a petroleum product, have doubled in price. Insurance keeps going up. New Social Security regulations are tangling bookkeeping. And new Internal Revenue Service requirements will make it difficult for fishermen to use the old method of sharing equipment and catches by "fishing on shares."

These days, Foster says, it's hard for a newcomer to get started. Financing is hard to get, and with interest rates running around 10 percent, "It's as hard to pay them (loans) back as it is to get them." As often happens, Foster did it by first working on someone else's boat and then buying a used boat.

Crowded Waters

Observers and fishermen agree, however, that recently younger men—like Bill Foster—have begun to take to the nets. And while the small operations like Foster's open boat are still popular and profitable, especially in the sounds, government officials note a trend toward more of the bigger trawlers as well. The large trawlers, about 55 feet and up, usually carry a larger crew and move more freely over greater distances, often farther out at sea. The trawlers are better able to move up and down the coast as seasons change.

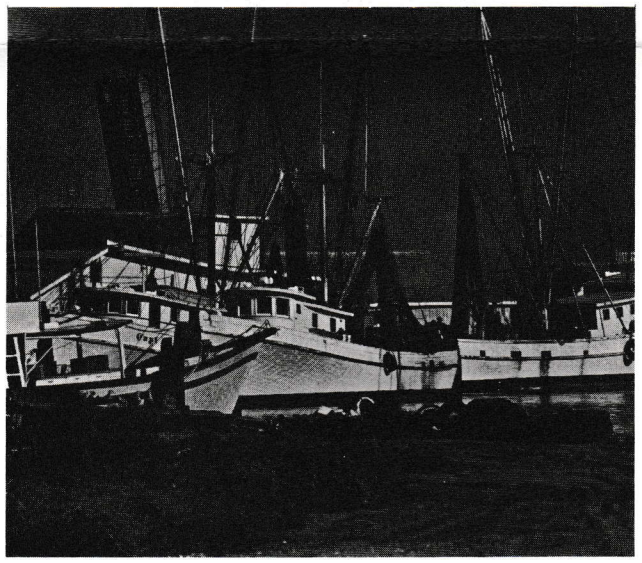
The largest group vying for the increasingly crowded fishing space—over 18,000 vessels were registered in North Carolina last year—is made up of sports fishermen. North Carolina has a long tradition of sports fishing and although those catches are not monitored, they are estimated to be sizeable.

So far, most species have been able to sustain the increasingly heavy fishing. Fish are still largely plentiful in North Carolina coastal waters. Certain fisheries, though, are in trouble, while others are making a comeback. Shrimp catches are said to be increasing thanks to government management. Menhaden, of prime commercial importance, are "in trouble," says Harry Davis, Chief of Statistics, National Marine Fisheries Service, due to over-fishing.

In addition, Davis says, the river herring fishery is in trouble due to foreign fishing. There are foreign vessels in North Carolina coastal waters. But this area has not been as threatened as fisheries in the North have been. There the problem is acute. And, of course, that affects those North Carolina fishermen who follow fisheries that move north as well as south.

In fact, for a variety of reasons, Davis sees a shift in emphasis in Atlantic coast fishing in general. The northern fleet, he says, is deteriorating while the North Carolina fleet is growing and becoming more important. The total volume of the North Carolina catch now exceeds the **combined** catches of Virginia, Maryland, Delaware, New York, and Connecticut. And that means, says Davis, North Carolina fisheries will increasingly require management as more and more fishermen —some on trawlers from out of state—jockey for space.

Fishing has changed some since Lawrence Austin's day. Although there are still some rather basic deficiencies in the industry—in icing, in distribution, in processing, in handling. Fishing has nevertheless begun the long evolutionary process from the solitude of a relatively few men with homemade nets to the crowded seas with scores of men and fancy machines. In an ever more crowded world with more mouths to feed, fishermen such as Bill Foster will soon find change of a different sort entering their lives.



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As Fishing Increases,

So Does Talk Of Controls

(Continued from page 1)

U.S. catches remained between four and six billion pounds annually over the same period.

Indications are that demand for the sea's bounty will continue to grow. Competition for fish will increase—and still more species could be overfished. Declining fishery stocks could be the biggest problem for tomorrow's fisherman.

So what's to stop uncontrolled plunder of coastal waters? What can be done to insure a future for fishermen?

Some believe that "fisheries management" is the answer. The goal of managing fisheries is to improve or stabilize stocks so that all species continue to thrive. To reach this goal, a variety of controls is used to prevent damage to stocks.

Ideally, controls are based on a thorough knowledge of the abundance of each species and how much fishing each tolerates before it dwindles to dangerous levels.

Management tools aren't new to North Carolina fishermen. Official openings and closings of seasons, restrictions on gear and areas that can be fished and licensing are ways to control fishing and conserve stocks.

In the past, management has been carried out by the states. When the Division of Marine Fisheries, the agency charged with maintaining coastal fisheries in North Carolina, plants oyster cultches in Brunswick County waters, it is taking action to encourage continued oyster production there. Since Marine Fisheries identified and closed nursery grounds to fishing in the Onslow area, the average harvest in nearby waters jumped from 8,500 pounds in 1971 to some 1.5 million pounds in 1974. Annual ups and downs in the shrimp harvest may have accounted for some of the increase, but management probably added significantly to the increase.

But as foreign and domestic catches increase, many believe that broader controls are needed to conserve species that cross state boundaries or the 12-mile offshore boundary where U.S. control currently stops.

Already states are banning together to manage economically important species. The first of these regional management plans affecting North Carolinians concerns the shrimp fishery. North and South Carolina, Georgia and Florida have agreed to cooperate in setting season opening and closing dates, establishing regional licensing and reciprocal enforcement and furnishing data needed for management. Similar regional management plans for other species are in the works.

On an even broader scale, a national fisheries plan has been devised by the National Marine Fisheries Service which sets forth a framework of management involving state, regional and national coordination. Through this framework, it is hoped that fishery stocks will be restored and maintained at a level that meets future U.S. needs—and that keeps tomorrow's fisherman in business.

About Those Controls . . .

Here are some of the management tools which are and will be used to insure that we have enough fish to meet tomorrow's needs. These controls govern what the fisherman can and cannot do.

Quotas—Limits are set on the amounts of fish and shellfish which may be harvested over a specific time period.

Gear Restrictions—Net length and mesh size are regulated, clam dredge weights are controlled. Certain nets used to capture certain species are prohibited.

Season Restrictions—Season opening and closing dates are set regulating when specific species may be fished.

Area Restrictions—Certain areas, deemed important as nursery and breeding grounds, are declared off-limits to fishermen.

Limited Entry—The number of persons permitted to fish for specific species is controlled.

Size Limits—Clams, oysters, crabs and some fish below a minimum size may not to be harvested.

Prospects Look Good For New Wanchese Port

Visions of a major fishing center in the Roanoke Island town of Wanchese have danced in the heads of some of that community's residents for nearly two decades.

Their visions aren't a reality yet. But the day when their dreams may finally come true seems closer.

A recent $325,000 grant by the Coastal Plains Regional Commission, a $500,000 appropriation earmarked for harbor construction after July 1 by the N.C. General Assembly, endorsement by an influential organization of water resources experts and increased support from seafood industries have significantly boosted the project this year, according to Alvah Ward, seafood industries consultant from the N.C. Department of Natural and Economic Resources.

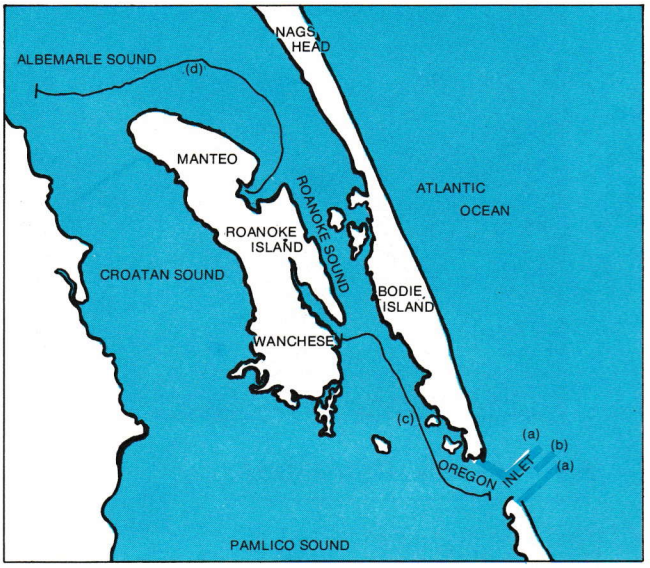
The proposed Wanchese Harbor project is a joint federal-state effort intended to spur the Tarheel seafood industry and coastal economy by providing improved channels to rich offshore fishing grounds and a harbor complex where seafood processors and distributors and a wide range of support industries could lease space for their operations from the State Ports Authority.

According to Ward, the need for additional detailed studies of the social, economic and environmental impact of the harbor by the Corps of Engineers might have slowed progress somewhat. But data gathered in the studies has helped keep the project alive during budget-tightening times by proving that economic benefits derived from the project will outweigh building costs.

Col. Dan McDonald of the N.C. Division of Environmental Management noted that estimated costs of deepening the harbor and channels and stabilizing Oregon Inlet—the federal phase of the project—have leaped from $9.2 million in the 1960s to more than $23 million today.

A Congressional appropriation of $70,000 to the Corps of Engineers for completing design and engineering of the harbor, channels and jetties helps pave the way for actual dredging, according to McDonald. The first construction funds are expected to be appropriated for fiscal year '77 which begins Oct. 1, he said, adding that dredging could begin by spring, 1977.

Grant money totaling $325,000 from the Coastal Plains Regional Commission (CPRC) should hasten the beginning of construction, Ward said, CPRC funds will support drawing a blueprint from the master harbor complex plan. Stan Beebe, CPRC program director, said his agency viewed the harbor as "the most pressing need in the seafood industry for all of the coastal plains states."



Proposed channel improvements to be done by the Corps of Engineers include (a) stabilization of Oregon Inlet with jetties, (b) a channel through the ocean bar at Oregon Inlet, (c) a channel from Oregon Onlet through Roanoke Sound to Wanchese and (d) a channel through Roanoke Sound to and through Albemarle Sound in deep water near the northern end of Croatan Sound. The Corps would also deepen and enlarge Wanchese harbor if the project is approved.

CPRC is also supporting feasibility studies for similar harbors in South Carolina and Georgia and funds have been set aside for engineering and design in those states.

Another significant push for the project, especially for the improvement of routes to the Atlantic, came this year when the U.S. Water Resources Congress, an influential organization of water resources experts, designated the project as one of "national urgency." The congress based its designation on the fact that the U.S. Coast Guard was called 168 times to assist vessels in the Oregon Inlet area from mid-1970 through last March.

Continued interest among seafood industries and among mid-West seafood distributors who would like to locate in the harbor complex and establish reliable supplies from Wanchese has also provided support for the project, Ward noted. "We now have 30 industrial prospects ready to talk turkey about locating in the harbor complex," Ward said, adding that they represent $12.5 million in investments and would offer 445 new jobs.

Recounting other developments, Ward pointed to several changes made in the master plan of the harbor. A central gear storage area which will be available to fishermen for a nominal fee has been added and re-organization aimed at smoothing traffic flow in the harbor were the major changes he cited.

Despite optimism that the harbor is nearing realization, Ward warns that the entire project—both the harbor facilities and improved access to offshore fishing areas—must be completed if full potential is to be reached. "We can use the harbor alone to accomplish a good part of our mission. But we can never achieve our real purposes or reach full potential until we get the jetties," Ward said.

Will Limiting Foreign Catches Help North Carolina?

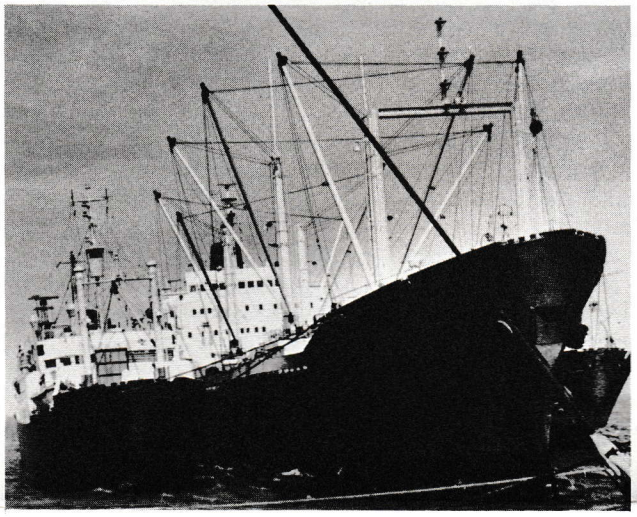
You're a North Carolina fisherman and all this talk about a 200-mile limit has you baffled. You read that the House of Representatives has passed a bill to extend United States jurisdiction over fishing out 200 miles from the nation's coastline. The Senate has acted on a similar bill. With differences in the bills worked out and without a presidential veto, extended jurisdiction will become law.

How would extended jurisdiction affect you?

If you're one of the vast majority of Tarheel fishermen who fishes the state's sounds and nearshore waters, extended control of fishing in distant offshore waters would probably have little effect—at least in the immediate future, according to Mike Street, director of research and development of the N.C. Division of Marine Fisheries.

But if you're one who fishes farther offshore, and particularly if you travel to New England waters to trawl, you may note some changes resulting from extended jurisdiction.

One change may be that you'll see fewer foreign fishing boats. One benefit may be more fish for U.S. fishermen.



In the past, there has been no attempt to conserve fisheries resources in the ocean. The rule has been that anyone who wanted to fish in waters beyond 12 miles from our shores had the right to do so.

In recent years, foreign fishing vessels have taken a heavy toll on some fish species. Overall, North Carolina landings have increased in spite of foreign fishing. But statistics show that fisheries biomass, all seafood flesh from fish to lobster, from Maine to Hatteras declined 55 per cent in the past decade, Street says. On the North Carolina coast, foreign fishing's most obvious effect has been the decline in the river herring catch from 20 million pounds in 1950 to 5.8 million pounds in 1970, Street said. River herring is caught offshore by foreign boats, but is fished by North Carolina fishermen when it migrates to inshore waters.

By extending jurisdiction to 200 miles, the U.S. could begin conserving fishery resources by limiting the foreign catch. If the legislation is passed, foreign vessels would not be excluded from our waters. But to fish in the 200 mile zone, other nations would have to strike agreements with the U.S. regulating where they could fish and the kinds of species and quantities they could catch. The proposed law would also give the U.S. the right to inspect and seize violating nations' vessels within the 200-mile zone.

The impact of extended jurisdiction would probably be most immediate for fishermen in North Atlantic and New England waters where some species have been seriously depleted by foreign boats.

In North Carolina's offshore waters, fishery stocks are abundant, Street says. But without extended jurisdiction, our resource could become seriously overfished in the future. For now, though, control of foreign fishing would help rebuild the river herring fishery here, Street says.

University of North Carolina
Sea Grant Program
1235 Burlington Laboratories
North Carolina State University
Raleigh, N.C. 27607

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