

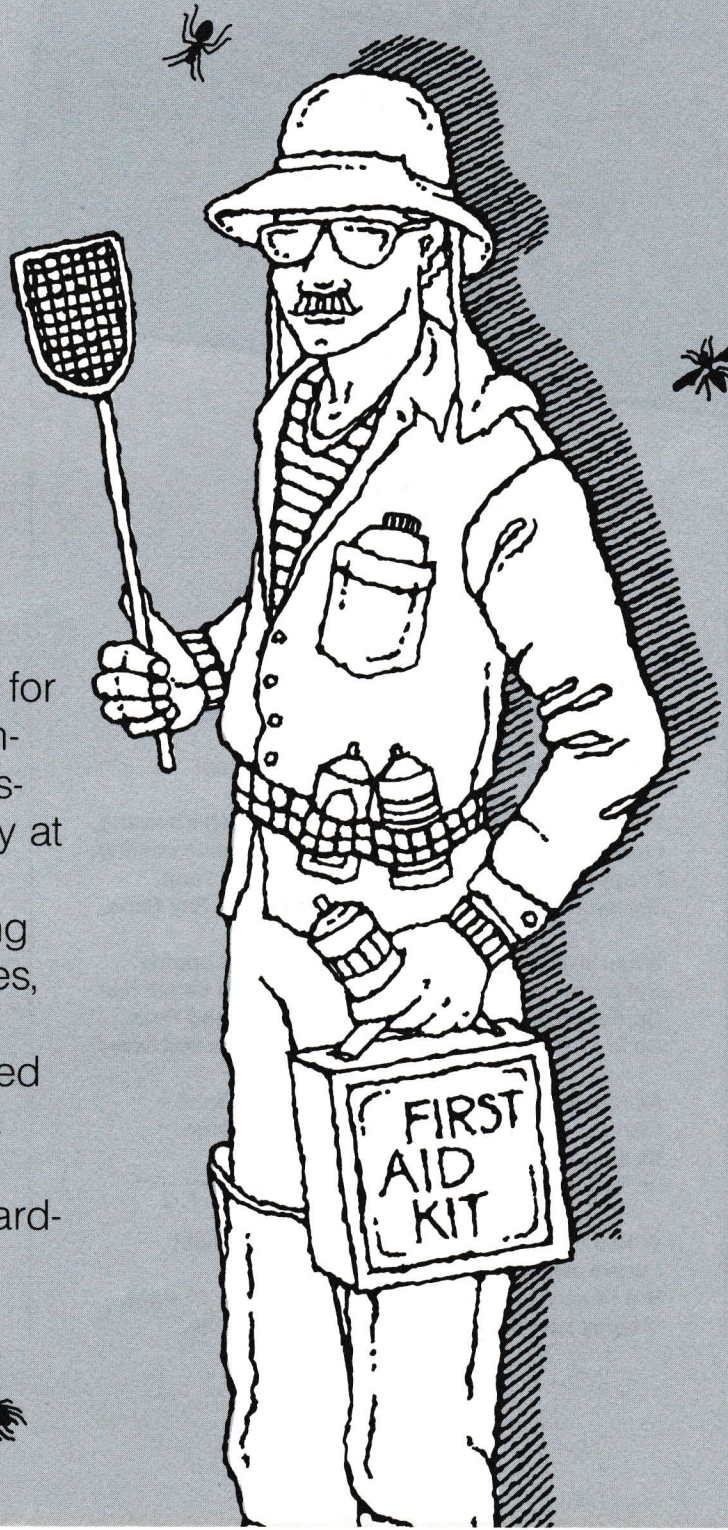
COAST WATCH

Mr. P.E.S.T.

(Perfectly
Equipped
Seaside
Tourist)

Meet Mr. P.E.S.T. He's ready for every crawling fire ant, swimming jellyfish and flying mosquito that may come his way at the beach.

If you hate things that sting and bite as much as he does, you'll love this issue of *Coastwatch*. We've pinpointed most of the pests that might pester you on your vacation and offered a few tips for warding off their attacks and soothing their bites.





Air Raid

BY KATHY HART

'Twas the first day of vacation and out on the shore
Nothing could be heard but the ocean's own roar.
Mama in her bikini and I in my beach hat
Had just settled down for an afternoon nap.

When out by the salt marsh there arose such a buzzing,
I sprang from my lounge chair to see what was a-coming.
I hopped in my flip-flops, brushed off the sand,
Tossed off my beach hat and adjusted my Ray Bans.

When what to my wondering eyes should appear,
But a swarm of biting insects—enough to cause fear.
On deerflies, on greenheads, on biting sand fleas,
On four types of mosquitoes including *Culux* and *Aedes*.

As I drew in my head and was turning around
I felt the jaws of the first mosquito bite down.
Its eyes how beady, its legs how hairy,
Its long tubelike mouth looked terribly scary.

With a flick of my hand and spray of repellent
I drove away my blood-thirsty assailants.
But I heard them exclaim as they flew out of sight,
"Happy vacation to all and to all a good bite."

Whether resident or vacationer, everyone has suffered through a summer invasion of the coast's biting insects—mosquitoes, deerflies, greenhead flies, dog flies and no-see-ums.

And no matter how much repellent you spray, one mosquito or no-see-um always finds that tender unsprayed spot on the back of your leg to plant its jaws.

Before long, you're itching, scratching and rubbing on the analgesic salve.

It's enough to spoil your day.

Like it or not, the same refreshing salt water that attracts us to the coast also breeds blood-sucking pests.

From Morehead City south along the North Carolina coast, salt marsh mosquitoes, no-see-ums, greenhead flies and deerflies are abundant. From Morehead City north, it's salt marsh mosquitoes, greenheads and deerflies.

The pest season starts early. The first wave of mosquitoes usually swarms out of the salt marsh in mid-April. The flies and no-see-ums join the blood quest a month or so later.

Interestingly, it's the females of these flying pests that delight in drawing blood. They need a blood meal to produce their eggs. The males feed on plant juices instead.

About 50 species of mosquitoes inhabit our coast. But fortunately, only about one dozen of them attack people. Other mosquito species specifically draw blood from birds or from reptiles and amphibians.

Aedes, or salt marsh mosquitoes, have earned a reputation as the most abundant and tenacious mosquitoes to swarm our shores. They're a little larger than their mosquito cousins, more persistent in pursuing their prey and active from dawn until dusk in their quest.

Other mosquitoes seek their meals only during twilight hours.

The female salt marsh mosquito lays its eggs in moist soils that will eventually be inundated by tidal flows or rainwater. When the eggs are flooded, they hatch. Three weeks later, hungry adult mosquitoes emerge from the marsh in droves.

The average mosquito lives two to three weeks, and 90 percent of the females die after taking only one blood meal and laying their eggs, says Charles Apperson, an entomologist at North Carolina State University.



But some female mosquitoes do take blood from more than one human victim. That's how they spread some diseases.

In North Carolina, however, there are few human disease transmission problems from mosquitoes, says Barry Engber, a medical entomologist with the N.C. Department of Human Resources.

But mosquitoes do transmit some deadly diseases among animals. In particular, veterinarians warn that Fido should take heartworm prevention medication year-round in North Carolina.

Because mosquitoes pose some health threat and because they're such a nuisance, state and county health agencies try to control mosquito populations.

Some counties spray insecticides or bacterial larvicides.

In the past, the state did extensive ditching to drain the marsh. But they learned that was ineffective.

Now, they have a pilot project that calls for digging narrow channels in the marsh to unite the mosquito larvae and eggs with their natural predators—fish.

Although these efforts reduce overall populations, they can't guarantee you won't be bitten. You have to take some precautions of your own.

To ward off mosquitoes, no-see-ums and flies, Apperson recommends choosing a repellent that has the highest percentage of active ingredients. It should be effective for 30 minutes to several hours depending on the temperature and humidity.

An unofficial repellent commonly used by coastal residents is Avon Skin-So-Soft bath oil.* Engber says that a study has shown the bath oil is effective in driving off mosquitoes. And Apperson says it also repels no-see-ums.

Both entomologists speculate that the bath oil spreads a film on the skin that the pests find difficult to penetrate with their mouth parts.

Aside from swatting, repellents offer the only line of defense against no-see-ums, deerflies, greenheads and dog flies. These flying pests breed in such diverse wet areas that they are impossible to control with insecticides and larvicides.

In many areas, they're just as abundant and



annoying as the mosquito. In fact, their bites are more painful, Apperson says.

Mosquitoes pierce the skin with a tiny tubelike mouth. People often don't even feel the bite.

But flies and no-see-ums have scissorlike mouths that lacerate the skin. They wait for the blood to come to skin's surface before slurping it up.

To keep no-see-ums out of your beach cottage, Apperson recommends turning off the lights at dusk and installing fine-mesh window screens.

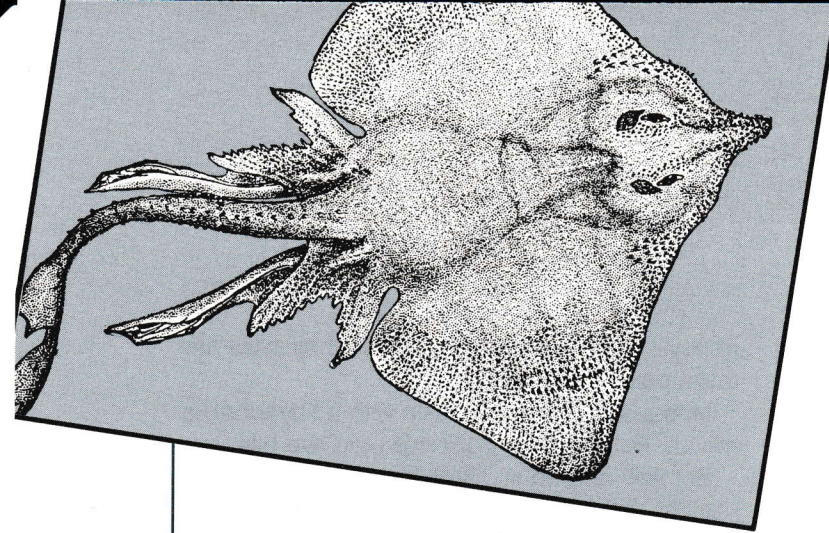
Although some beachgoers claim they are bitten by sand fleas, there is no such bug in North Carolina, Apperson says. Most likely, they are being bitten by regular fleas, no-see-ums or mosquitoes, he says.

If you've already been attacked by any of these blood-sucking pests, Apperson recommends rubbing the bite with any of the over-the-counter analgesic salves and taking an antihistamine tablet if necessary.

But don't let the threat of a few mosquitoes, flies and no-see-ums ruin your outdoor activities at the coast. Just remember these assailants are always after "a good bite," and spray accordingly with repellent.

*This is not an endorsement of Avon Skin-So-Soft.





Surprise Attack in the Surf

BY NANCY DAVIS

Just when you thought it was safe to go back in the water. . . you find out *Jaws* aren't the only thing to fear.

Why, you could be stung by a jellyfish, whipped by a Portuguese man-of-war, even stabbed by a stingray.

None of the creatures are man-eating, and fortunately for you, they won't attack.

But an unexpected brush with one of them is enough to put a damper on anyone's day at the beach.

That's why it's important to be familiar with some simple first aid, says dermatologist John Cheesborough.

Many of the pains of beachgoers can be treated in the cottage with a few items you bring from home. Be sure to pack an antihistamine, rubbing alcohol, bandages, an antiseptic ointment or cream, tweezers and meat tenderizer.

Not everyone reacts the same to stings, Cheesborough says. Small children and older people are often most susceptible. If a victim's reaction is severe or if he shows signs of shock, take him to a doctor immediately.

One of the most common ailments for beachgoers results from the sting of a jellyfish or Portuguese man-of-war.

Although the sting of a sea wasp, a jellyfish common in Australian waters, can kill in minutes, the jellyfish and Portuguese man-of-war here will do little more than ruin a swim.

Jellyfish propel themselves through the water with pulsating movements of their umbrella-like



bodies. But they won't intentionally swim toward you.

The Portuguese man-of-war resembles the jellyfish, but is more translucent. It floats on top of the water, moving with the currents and breeze.

The tentacles of Portuguese men-of-war may be as long as 75 to 100 feet. They can inflict a nasty sting even after they've been severed from the body. Cheesborough says the stinging cells may remain viable for three weeks or longer.

If you have an encounter with a jellyfish or man-of-war, chances are you may not even see what got you. The only evidence may be a long streak or series of streaks on your body.

The symptoms of jellyfish and man-of-war stings vary from mild itching and burning to shortness of breath and fainting.

Your first reaction will be to brush the sting off or rinse it with fresh water as quickly as you can.

Don't do either.

Instead of relieving the pain, this will "fire off" the toxin, Cheesborough says, making it even worse. And you'll get the stinging cells in your hand as well.

Instead, sprinkle meat tenderizer on the streaks. It contains an enzyme that helps detoxify the stinging cells.

Or try alcohol. Any kind will do—rubbing alcohol, liquor, even products with alcohol in them, such as shaving cream.

Other remedies include warm salt water rubbed on very gently. Talcum powder can be sprinkled on the sting, then gently rubbed off. Some of the stinging cells will cling to the powder.

Even wading in the water can be risky and may produce some sharp consequences. The camouflaged bodies of sting rays often lay flattened against the sand in shallow waters.

They aren't aggressive, but their stingers pack a powerful punch. If you happen to disturb the ray, it erects its spine, complete with venomous cells, and it drives it into your body.

Once the spear enters your skin, it begins to spread the venom. Swelling around the puncture may be intense for two to three hours.

But the worst danger, Cheesborough says, is secondary infection. The best treatment is to remove the spine as soon as possible. Apply heat—as hot as you can stand it—to the wound



to break down the venom. Then see a doctor for an antibiotic to ward off infection.

Treat puncture wounds from sea urchins and fish spines in the same way, Cheesborough says.

Other water hazards include a variety of skin conditions that may come from the water, Cheesborough says. They may be caused by crab larvae, seaweeds and some algae, he says. These can usually be treated with calamine lotion, creams and antihistamines.

The bottom line, Cheesborough says, is not to let a minor sting ruin your vacation. If it threatens to, see a doctor.

they look up in horror at the pet trailing their innocent son.

It's an anteater.

Gary Larson's *Far Side* funnies have done wonders for the public's image of the common bug.

But when it comes to the real thing, most beachgoers don't think any insect is a laughing matter.

They cringe at the thought of roaches in their cottages, or fire ants crawling up their legs. They shiver at chiggers and twitch at ticks.

But like a picnic without ants, what would a beach trip in the summer be without bugs? They are part of it, invited or not.

Besides the pests that fly through the air and swim in the sea, the ones that crawl in the ground make trouble, too.

Ask Ray Harris of Morehead City.

As director of Carteret County's Agricultural Extension Service and an area pest expert, Harris has spent years helping people stomp out their bug problems.

The job isn't easy, Harris says, especially with fire ants.

The small, reddish brown ants seem to be everywhere, he says. They build their mounds on the beach, along the road, in the woods or wherever they please.

You can usually recognize the mounds because they're large and made of dirt. Some are up to 3 feet tall.

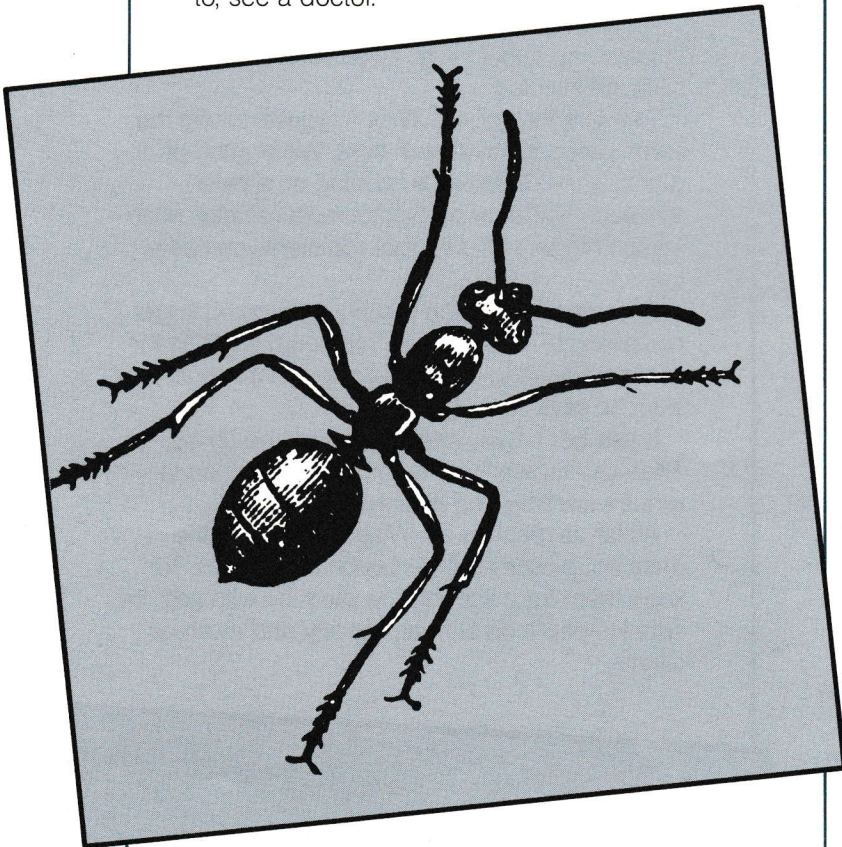
To be sure the mound is for fire ants, stomp your feet nearby, suggests Clayton Feltman of the New Hanover County Health Department. "If you see a multitude of them coming out, the best thing to do is just stay away from them."

"If you step on a mound," Harris says, "they'll start climbing up your leg. If you stick a stick in the mound, they'll start climbing up the stick."

Fire ants are aggressive. And they bite. Most people say the bite is like a bee sting, but with a fiery pain.

Reactions vary. Usually a bright red welt forms that itches and burns, Harris says. But some people may have an allergic reaction and need to see a doctor.

Harris recommends soothing the pain with a meat tenderizer. Others suggest ice and an antiseptic.



Ground Assault

BY SARAH FRIDAY

"He followed me home. Can I keep him?" pleads a wide-eyed little ant with a furry friend in a popular cartoon.

The even wider-eyed parents say nothing as



Ground Assault

CONTINUED

If you can treat the bite within 30 minutes, household ammonia can counteract the acid in your skin, says Wilmington pharmacist Hal King. After that, he recommends using an antihistamine.

Treating a fire ant's mound takes a different prescription.

A fire ant colony operates much like a bee colony, with a queen ant in charge. She burrows 3 to 4 feet in the ground and has thousands of worker ants to serve her. To destroy the mound, you must kill the queen.

Gas and dry chemical treatments work, but liquid chemical applications do the job best, Harris says. Check with a county agent or vector control specialist for more information.

Vacationers in Manteo will be glad to know that fire ants haven't traveled that far north yet. But like the rest of the coast, the area has plenty of ticks and chiggers.

Before you put away your beach blanket, read on.

"Ticks are more of a nuisance than anything," says Chris Wise, a Dare County extension agent.

"Basically they are pests," Wise says. They get on your skin and walk around. Sometimes the females decide to bite you and stick their sucking parts into your skin, he adds.

Try to determine if the tick is attached or not before you try to remove it, Wise advises. Either the tick will be stuck or the skin around it will be red.

If the tick is not attached, pull it off carefully and burn it with a match or gas, or drown it in oil.

If it's embedded, first try to pull it off gently with tweezers, Wise says. If that doesn't work, rub oil or petroleum jelly over the tick. That will suffocate it and make it back out.

Always clean your hands and the area where the tick was, then use an antiseptic, Wise says.

The chance of getting Rocky Mountain spotted fever or Lyme disease from a tick is small, he says. But be aware of ticks. If one has been embedded for a long time and you get sick, see a doctor.

The agent's best advice concerning ticks is to initially prevent them from attaching. Repellents are available. But Wise suggests wearing high-top shoes and trousers in wooded areas. And he ad-

vocates checking your skin and hair thoroughly and regularly if you've been in areas where there might be ticks.

The beaches are relatively tick-free, but watch out in the vegetated areas. Coastal pharmacists say most of the people who ask about ticks are hunters or campers.

The same goes for chiggers, or red bugs.

The tiny, bright red mite lives mostly in berry patches, woodlands and pine straw, not in the sand or grass, Wise says.

An allergic reaction to the mite's saliva causes the swelling and itching. If you scratch it, it could become infected.

To prevent chiggers, Wise suggests taking the same precautions as with ticks. Wilmington pharmacist Mike Costin says rubbing on a pine-scented cleaner or an extract mixture helps keep some chiggers off. Chigger repellents can help, too.

Pharmacist Hal King discourages using fingernail polish to kill chiggers. Petroleum jelly has the same suffocating effect and is less harmful to your skin, he says.

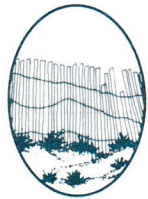
If you get bitten, wash or pull off the chiggers. Then use topical creams or calamine lotion to reduce swelling and itching.

As far as roaches go, Wise says they're the most troublesome at the beach in cottages. To keep them from spending a vacation with you, be sure to keep food stored properly and all areas clean.



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.



UNC Sea Grant, the N.C. Coastal Federation and the N.C. Department of Public Education are organizing a series of workshops about coastal regulatory agencies and citizen involvement.

During the first of the two-night workshops, representatives from the state's coastal regulatory agencies will explain the regulations and processes for managing coastal resources. The second evening, workshop leaders will explain how citizens can become involved in the regulatory process.

The workshops are sponsored by the Albemarle-Pamlico Estuarine Study Program and will be held: May 18-19, Municipal Building, South Broad Street, Edenton; June 1-2, St. Peter's Episcopal Church at the corner of Bonner and Main streets, Washington; June 15-16, Duke University Marine Laboratory auditorium, Beaufort; July 20-21, St. Andrews Episcopal Church By-the-Sea, Virginia Dare Trail, Nags Head.

In addition, participants in the workshops will be eligible to attend one of the two Saturday field trips planned for 10 a.m. to 3 p.m. Aug. 6 at N.C. Aquarium on Roanoke Island and Aug. 13 at the aquarium at Pine Knoll Shores.

The workshops are free and open to the public. No preregistration is required. If you have questions, call the Coastal Federation at 919/393-8185.

To increase the awareness of the Albemarle-Pamlico estuarine ecosystem, biology and social studies teachers

from target schools in Northeast North Carolina will be selected to participate in the citizen awareness workshops.

Wende Allen, a regional science coordinator for N.C. Department of Public Education, is coordinating the teachers' selection. She wants to increase the educators' awareness of the Albemarle-Pamlico Estuarine Study, the ecology of the area, the regulatory system that manages it and the role citizens can play in management.

Teachers or principals who are interested should contact Allen at the Northeast Regional Education Center in Williamston at 919/792-5166.

In conjunction with the workshops, Sea Grant and the N.C. Coastal Federation have produced a 70-page booklet, *A Citizen's Guide to Coastal Water Resource Management*.

If you are interested in the development and preservation of North Carolina's coast, this booklet is a must-read. It describes in everyday language the complex combination of federal and state laws that form the basis of the state's coastal resource management program, including the federal Clean Water Act, the N.C. Coastal Area Management Act and the N.C. Sedimentation and Pollution Control Act.

And the booklet explains how citizens can become involved in forming, changing and enforcing resource management rules, regulations and decisions.

The booklet, which was funded by the Albemarle-Pamlico Estuarine Study Program, will be distributed at the workshops. For those who can't attend, write Sea Grant for a copy. Ask for UNC-SG-88-05, and please enclose \$1 for postage and handling. Or to avoid the handling fee, stop by one of the Sea Grant offices located at the N.C. Aquariums at Fort Fisher, Pine Knoll Shores and Roanoke Island for a copy.

What's in season at the seafood counter? Well, if you had a copy of Sea Grant's seafood availability poster, you

could find out in one quick glance.

The colorful 17-by-23 inch poster is a guide for buying fresh fish and shellfish. It graphically depicts when you're likely to find the 23 most common species in North Carolina. The chart is based on the state's commercial landing statistics.

For your copy of the poster, write Sea Grant. Ask for UNC-SG-84-04. The cost is \$2.



If you've ever bought shrimp at the market, you know the prices can soar. But suppose you had your own supply of the tasty crustaceans?

That's right. With a little effort, luck, a license and a copy of Sea Grant's *A Guide to Recreational Shrimping*, you can fill your freezer with America's favorite seafood.

A Guide to Recreational Shrimping provides detailed instructions for rigging small boats to catch shrimp. It includes information on building doors, choosing nets, rigging the boat and pulling the net.

The 32-page booklet, written by Sea Grant advisory agent Wayne Wescott, provides valuable information about shrimp biology, regulations and types of trawl nets.

With the help of detailed illustrations, Wescott describes how to rig the net, prepare the boat and complete a successful tow. He offers many tips that can save the new shrimper hours of frustrations. And he has suggestions for culling and storing the catch.

For a copy of the booklet, write Sea Grant. Ask for UNC-SG-86-07. The cost is \$4.

Sea Grant is cosponsoring a symposium on coastal water resources May 22 to 25 in Wilmington, N.C.

The four-day symposium will include sessions on a variety of topics from wetlands protection to waste disposal in coastal areas.

Sea Grant Director B.J. Copeland

Continued on next page

will moderate a session on estuarine water quality. And Sea Grant researchers Donald Stanley, Joseph Boyer, Kerry Smith and Wayne Skaggs will present the findings of their research.

For more information about the symposium, contact David Moreau, Water Resources Research Institute, Box 7912, NCSU, Raleigh, N.C. 27695-7912. Or call 919/737-2815.

Coastwatch is published monthly except July and December by the University of North Carolina Sea Grant College Program, 105 1911 Building, Box 8605, North Carolina State University, Raleigh, N.C. 27695-8605. Vol. 15, No. 5, May 1988. Dr. B.J. Copeland, director. Kathy Hart, editor. Nancy Davis and Sarah Friday, staff writers.

Coastwatch is a free newsletter. If you'd like to be added to the mailing list, fill out this form and send it to Sea Grant, Box 8605, NCSU, Raleigh, N.C. 27695-8605.

Name _____

Address _____

City•State•Zip Code _____

To help us specialize our services, please answer these questions.

I am in the following line of work:

- | | |
|-------------------------------------------------|----------------------------------------------------------|
| <input type="checkbox"/> Boatbuilding/Repair | <input type="checkbox"/> Marina operator |
| <input type="checkbox"/> City/County government | <input type="checkbox"/> Marine recreation |
| <input type="checkbox"/> Commercial fishing | <input type="checkbox"/> Mass media |
| <input type="checkbox"/> Educator | <input type="checkbox"/> Seafood processing/marketing |
| <input type="checkbox"/> Farming | <input type="checkbox"/> State government |
| <input type="checkbox"/> Homemaker | <input type="checkbox"/> University professor/researcher |
| <input type="checkbox"/> Lawyer | <input type="checkbox"/> Other _____ |

Coastal property owner yes no Boat owner yes no

\$_____ contribution to defray printing costs for *Coastwatch*

COASTWATCH

105 1911 Building
Box 8605
North Carolina State University
Raleigh, NC 27695-8605

Nonprofit Organization U. S. Postage PAID Raleigh, N.C. Permit No. 896

Address correction requested

