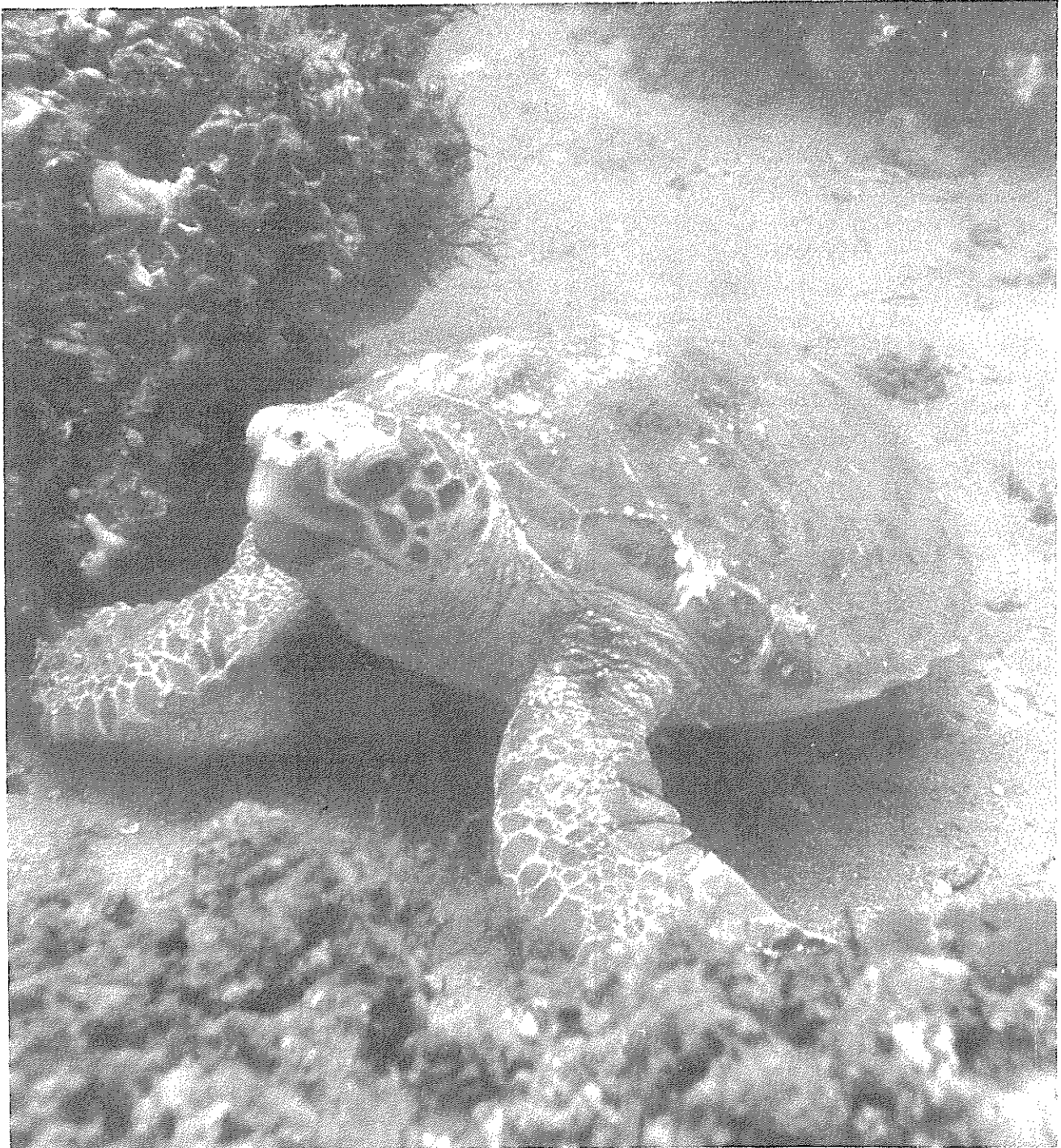


July-August, 1979

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COASTAL RESOURCES DIVISION
BRUNSWICK, GEORGIA

Volume 2, No. 2

Coastlines Georgia



—Photo by Duane Harris

**Resource Compatibility
Energy And Our Environment**



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COASTLINES GEORGIA is published by the Coastal Resources Division, Department of Natural Resources, 1200 Glynn Avenue, Brunswick, Georgia 31520.

Dr. Robert J. Reimold, Director
Bill Morehead, Editor

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About The Cover Photo

Silently gliding from the 10 million year old limerock outcroppings which surround it, this loggerhead turtle was photographed about 15 miles from the first exploratory drilling rig in the South Atlantic.

Only recently have CRD fisheries scientists Duane Harris and Henry Ansley, documented that these sea turtles use the naturally occurring live bottom areas of the ocean. The live bottoms are an important ecological resource in that they provide food and shelter (habitat) for a variety of commercial fishes including snapper and grouper. They are likely neighbors of potential oil and natural gas exploration activities on the ocean floor.

Since energy exploration is just beginning along the South Atlantic frontier, we have a responsibility to evaluate the effects of offshore energy exploration and production activities on all marine organisms including those inhabiting valuable live bottom habitats.

Energy experts and natural resource officials believe that with careful planning the renewable fishery resources as well as the nonrenewable energy resources off Georgia's shores can be harvested without conflict.

Still, many question remain. What are the links among the sea turtles, fishes, and live bottoms? Will energy exploration affect these habitats? How can we best satisfy our growing desire for gasoline and filet of red snapper? The Coastal Resources Division seeks answers to these question about **RESOURCE COMPATIBILITY.**

Tarbutton Is New Member Of Board

Governor George Busbee has appointed Ben J. Tarbutton, Sandersville, to the Board of Natural Resources. Tarbutton will represent the 10th District on the Board.

Tarbutton is president of the Sandersville Railroad, a trustee of Emory University from which he graduated in 1951 and a trustee of Wesleyan College.



SEARCH AMONG THE SPIKEGRASS-- Nobody lost a contact lens. Scrutiny of this square meter of *Distichlis* is one way to find out the local

animal population. Investigators Andy Allen, Kathy Smith and Bob Reimold count fiddler crab burrows and check for possible ribbed mussels.

Semi-Annual "Checkup" Time For An Estuarine Sanctuary

by Jeannette H. Phillips

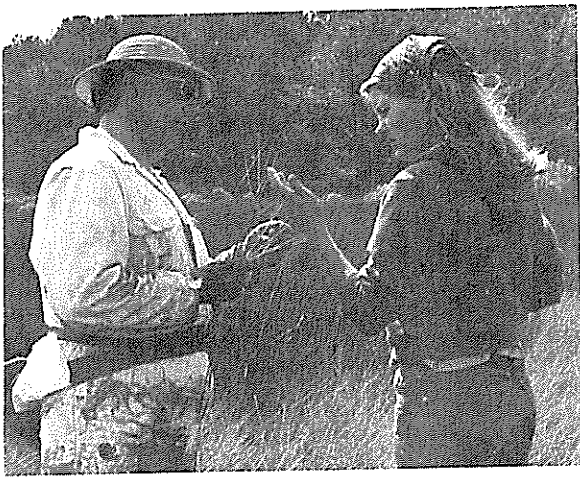
The Sapelo Island National Estuarine Sanctuary program is more than marshwalks, public tours of Sapelo Island, and cub scout slide shows. Another essential part of sanctuary operation consists of periodic monitoring, to make sure that the baseline environmental quality of the sanctuary is assessed for continuing research and public enjoyment.

Monitoring involves a lot of direct body contact with the elements. Often it means bringing home incidental souvenirs of those elements: mud-caked clothes, sunburned (or windburned) skin, boots that spew salt water, and a welter of insects bites. But in the process we find out how favorable a place the Duplin River watershed (the mainstem of the Sapelo Island National Estuarine Sanctuary)

is for nurturing forms of estuarine life upon which the Georgia seafood economy is based.

During the most recent monitoring foray, our six-person team set forth in the R/V ALTERNIFLORA from Two-Way Fish Camp near the mouth of the Altamaha River. Accompanied by all sorts of scientific paraphernalia, thermoses of coffee and tea, and an occasional honey bun, we bucked choppy waters up the Atlantic Intracoastal Waterway to reach the marsh sampling sites located in the western portion of the sanctuary. Mike Hardisky moored the boat at a decrepit dock, we hefted our gear over the boggy creekbank, and bent to our tasks.

To find out how well different plants grow in the marsh, all the plant growth in small, randomly located squares is cut, bagged, and later weighted in the laboratory. Since the smooth cordgrass, *Spartina alterniflora*, covers more than 90 percent of marsh with the Sapelo Island National Estuarine Sanctuary, we sampled more *Spartina* than anything else, although we also clipped patches of *Juncus roemerianus* (black needle rush) and *Distichlis*



THEY EAT WHAT?--Bob Reimold and Gail Phillips discourse on the feeding habits of marsh grasshoppers, while they watch the gyrations of one specimen. Marsh grasshoppers are one of the subjects of ongoing research at the University of Georgia Marine Institute on Sapelo Island.

spicata (spikegrass).

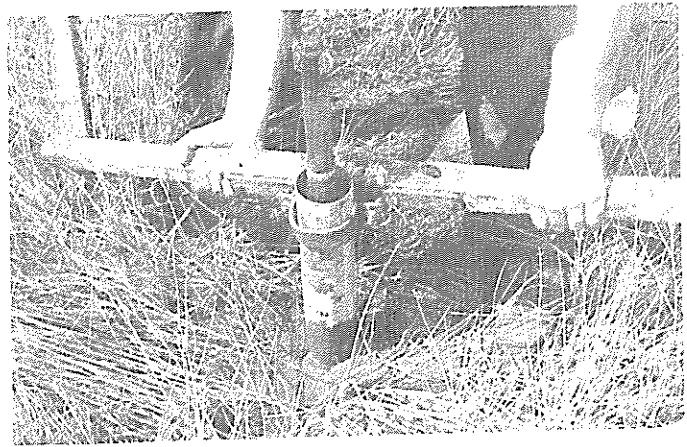
Clearing half-square-meter plots of *Spartina* is trickiest along the creekbank because of the alarming tendency of team members to sink, beyond recall, into the oozing mud. Short persons on the team were easily lost among the jungle of six-to-seven foot creekside *Spartina* stands.

Sampling plots of higher marsh *Spartina*, which grows only to about 12 inches, poses fewer tactical problems. We progressed from there to expanses of *Juncus* and *Distichlis*, where walking was so easy we didn't even have to constantly watch our feet.

It's fairly simple to record what plants grow on top of the marsh surface, but it is equally important to determine the amount of root material below. A *Spartina* plant's roots are 15 to 20 times more extensive than the above-ground plant. This root system forms a giant, intricate network that holds the soupy mud together, preventing the soft silts from washing into the open estuarine waters. The root mat makes it possible for animals and people to walk in the marsh.

Marsh mud is anerobic -- it contains little or no oxygen -- so the above-ground part of the *Spartina* plant must make oxygen and send it down to the roots. Roots need oxygen in order to take up nutrients from the soil.

The way we measure the density of the root system is to extract mud cores, slicing down



A PRO AT WORK--The approved method of unearthing a core is demonstrated by Mike Hardisky. The secret is applying just the right amount of leverage, and keeping the crossbar at just the right angle.



PUTTING NEW SKILLS TO WORK--The author shows she has learned her lesson well, pulling a core intact from the soupy substrate. She also won the Most Mud on Clothing award, the result of an ill-conceived encounter with the creekbank.



CUT HERE--The core is sliced into five-centimeter segments and each piece labelled as to its original depth. The segments are then taken to the laboratory and put through a sieve. This process measures how much root and other organic material is found at various depths in the marsh soil.

through soil and plant material to bring up meatloaf-like plugs of mud that are taken back to the lab and sifted for their content of root material.

Sampling activities were not limited to those in the marsh. We also made trawls in the river water to determine the diversity of marine life that was present. The catch was bagged and transported back to CRD facilities for



THE FINE ART OF CORE SAMPLING--Working with the corer to bring up a perfect 25-30 cm cylinder of mud takes perseverance and finesse. Here, Mike Hardisky tightens the plumber's test plug inside the corer pipe.



THUMBS UP--Another successful day in the lives of the intrepid monitoring crew. Mike Hardisky follows the channel markers back to Two Way Fish Camp, while investigators Reimold and Smith take a well-deserved tea break.

analysis, as were clumps of oysters sampled from the Duplin riverbank.

During the trawls we also took water samples which were later tested to see how much dissolved oxygen was available in the water. High levels of dissolved oxygen are a good sign that the river is a healthful place for fish and other marine animals.

Plant life is only one indicator of the health of a salt marsh. As the vegetation was clipped away from each plot, and the resident fiddler crabs scuttled down their burrows, we counted the number of those burrows on the exposed soil surface. A census was also taken of all visible periwinkle (*Littorina*) and coffee bean (*Melampus*) snails, and ribbed mussels.



READY TO CUT--Just how many *Distichli* (spikegrass) plants grow in a small space in the sandy high marsh soil? Clipping, counting and bagging operations here duplicate the muddier ones in *Spartina*-covered marsh.

Hurricane Devastates Georgia Coast?

by Karen Popek

This headline has not appeared in any Georgia newspapers for many years, but it could this year. There is a one to seven percent chance that a major hurricane will strike here this year, with the higher percentage more likely near Savannah, the largest population center in coastal Georgia.

One major hurricane probably will strike the southern Georgia coast each hundred years. Seven such storms may occur in the same time period (or one every 13 years) near Savannah. Keep in mind, however, that Texas experienced three high-intensity hurricanes in the decade between 1961 and 1970, and 72 people died. Nature does not read the rule book, or obey statistics.

This article is not to argue odds, however. The fact is that a hurricane will strike -- if not this year, then next year, the following year or in ten years. Are we ready for it? The answer is no.

More and more people are moving to the narrow strip of land along the Atlantic and the Gulf called the coastal zone. In the past 25 years, the coastal population has swelled three to four times faster than the national average. Georgia's relatively unspoiled coast has not escaped this trend. Of the nearly 300,000 people living in the six coastal Georgia counties, about 80 percent have never experienced a hurricane. And what of the thousands of tourists who flock here in the summer -- the prime hurricane season?

The strongest magnets are the mild climate and the sea, so island and shoreline properties are at a premium. Unfortunately, these locations are precisely those most susceptible to heavy damage during a severe storm as a result of high wind, flood water, storm surge and wave height. Buildings must be very strong to withstand 140-mile-per-hour winds and 14, 18, or even 25-foot storm surge. Up to now, little thought has been given by residents and local government officials to the ability of barrier islands to absorb this increased population. This "it can't happen to me" attitude is dangerous because barrier islands

can act as buffers for the mainland during hurricanes and other severe coastal storms, taking the full force of wind and wave action.

For example, a violent hurricane in the 1890's put much of St. Simons Island, Georgia, under several feet of water. Twelve thousand people now live on the island, which is connected to the mainland by a five-mile two-lane causeway. The island is zoned for 75,000. The National Hurricane Center in Miami estimates only about 10-12 hours of warning can be expected before a hurricane hits. Whether people can evacuate in time depends on when the low areas of the St. Simons Causeway flood, when the two drawbridges are raised (since ships have the right-of-way), when the power fails, and when or if people choose to evacuate.

Sanibel Island on the Gulf coast of Florida is slightly smaller than St. Simons and has 8,000 residents. Last year one million tourists visited the island, which is similarly served by a two-lane causeway. A study was conducted recently to determine whether the island could be safely evacuated before a hurricane. Road capacity, likelihood of flooding, potential traffic bottlenecks on the mainland and other factors were assessed in detail. Conclusion: Not all people could get off the island, and those who could would probably be stranded in their cars on the mainland. The consequences are sobering.

Georgia can do several things to prepare for what the National Weather Service has called "the greatest storm on earth":

***Improve evacuation plans.** The Georgia Department of Defense (DOD) published a coastal evacuation plan last year, but more detail is needed. Georgia's draft coastal management program, which will undergo public workshops later this summer, contains policies which recommend counties prepare detailed hurricane contingency plans in cooperation with the state DOD and other applicable federal or state agencies.

***Improve construction standards.** Nearly all coastal communities have adopted the Standard Building Code (formerly the Southern Standard Building Code). Several speakers at the National Conference on Hurricanes held recently in Orlando, Florida said this code is inadequate because it requires

construction to withstand only 105-mile-per-hour winds and does not take wave height into account. Furthermore, they said there is no adequate universal code at this time, although research is being conducted. Georgia has made a pioneering effort to develop sound hurricane resistant construction standards as part of the rules for the new Shore Assistance Act of 1979.

***Improve public understanding.** People must be informed of the dangers and power of hurricanes through school, civic clubs, newspapers, and other means if they are to protect their lives and property investments. Every coastal resident of a barrier island or high-hazard area on the mainland must know what to do and where to go before a hurricane. Shelter must be provided for those who remain behind for whatever reasons, and plans must be made for cleaning up the community afterwards.

Remember, not only can it happen here, it will happen here. Several hurricanes of 1979 have already formed in the Caribbean Sea, and Hurricane Bob, the second one of the 1979 season, hit the Gulf only recently. Georgia is not prepared, but can be if enough people take the interest. Do you?

Sight-Seeing The Offshore Mercury

Visitors and residents of coastal Georgia may wish to take a shore airplane ride or boat ride in order to have a firsthand look at Tenneco's drilling rig, the *Offshore Mercury*. The rig has just been moved to Tenneco's second test well area off coastal Georgia. If you are flying, the ADF Beason is 553 kilohertz. This is an historic site in that it is the first commercial energy exploration activity in the South Atlantic.

Boats are cautioned to stay at least one thousand feet away from the rig due to operations. Since the rig will only be in this location for 45 to 60 days, ecologists advise that we should not expect any great increase in fishing around the rig. The increased occurrence of fishes around oil rigs in the Gulf coast occurs after production rigs have been installed for six months or more. Aircraft are cautioned to stay at least one thousand feet from the rig and to be on the lookout for other aircraft (helicopters) transporting supplies and personnel to and from the rig.

This is your chance to have a firsthand look at the first oil/gas exploration rig off the Florida-Georgia Coast.



Billy Winburn of Savannah, Georgia displays the 357 pound blue marlin which won him first place in the blue marlin category in the Eighth Annual Savannah Invitational Billfish Tournament. Winburn's fish measured 10 feet $\frac{1}{4}$ inch long and 4 feet $3\frac{3}{4}$ inches in girth.

Eighth Annual Savannah Invitational Billfish Tourney

by Susan Shipman

The onset of fair summer weather brings a series of sportfishing tournaments along the southeastern Atlantic seaboard; and Georgia anglers revealed their skills in the Eighth Annual Savannah Invitational Billfish Tournament held May 31-June 3rd. Georgia's only billfishing tournament is sponsored annually by the Savannah Sport Fishing Club, with the Savannah Yacht Club at Bradley's Point serving as tournament headquarters and weigh station. Twenty four boats billfished June 1 and 2, the designated fishing days, seventy to ninety miles off the Georgia coast in the Gulf Stream, and six of the boats landed billfish.

A highlight of this year's billfish tournament



Coastal Resources biologist Henry Ansley weighs tournament's winning dolphin, a 29 pound 4 ounce fish caught by John Tyson of Savannah, Georgia aboard the *Snatch*.

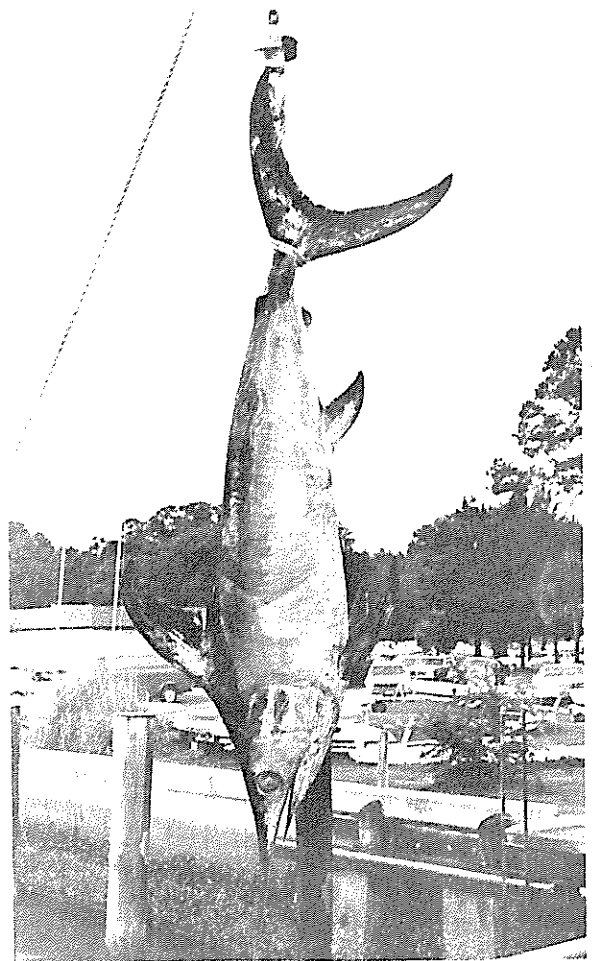
was the swordfish tournament held after the 3:00 p.m. cutoff time for marlin fishing on June 1. Twelve boats remained offshore that Friday night to swordfish, and one boat, the *Sanshi*, returned a winner in that event. Woody Woodward of Savannah, Georgia hooked the contest's only swordfish, a 63-pound fish measuring 6 feet 10½ inches in length and 2 feet 4¼ inches in girth.

Dr. Lloyd Newberry, President of the Savannah Sport Fishing Club, and Bobby Groves, Chairman for the tournament, expressed relief that this year's tournament has broken the spell of "bad luck" that had dominated the 1977 and 1978 tournaments in which no billfish were landed. In addition to the swordfish, seven blue marlin, seven dolphin, and two wahoo were landed.

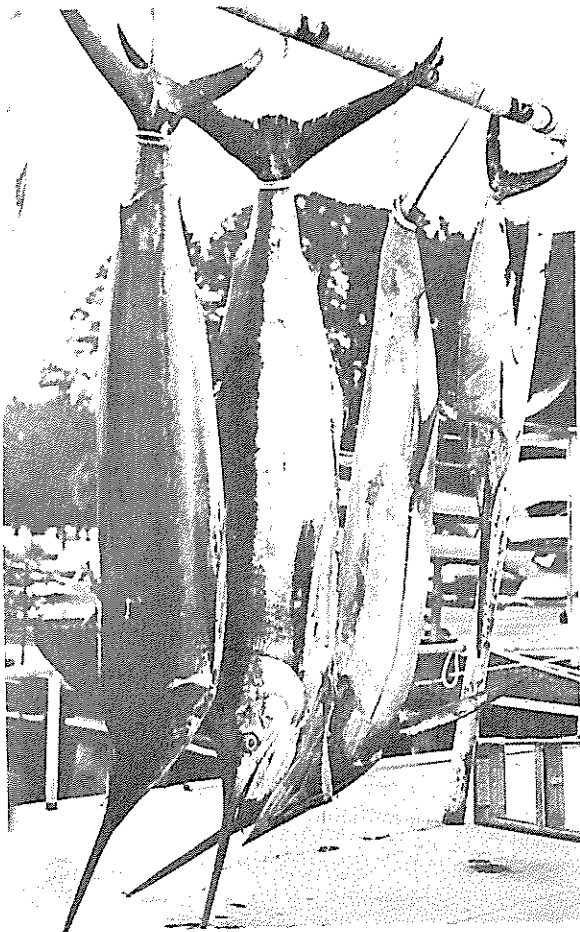
Angler Billy Winburn of Savannah Georgia,

aboard the *Ambush*, landed the first place blue marlin weighing 357 pounds and measuring 10 feet ¼ inches in length and 4 feet ¾ inches in girth. Winburn's marlin is only four pounds less than the state record blue marlin, which weighted 361 pounds and measured 11 feet 1¼ inches in length. The state record fish was landed by Savannah Harold Murray aboard the *Ginger II* in the Gulf Stream in May 1975. Other winning anglers and weights of their marlin include: Jim Black, Savannah, aboard the *Remedy*, 348 pounds, second place; John B. Peters, Savannah, aboard *Release 26*, 323 pounds, third place; Bobby Groves, Savannah, on the *Ambush*, 311 pounds, fourth place; and Oscar Vick, Charleston, S.C., aboard the *Waterway*, 262 pounds, fifth place.

The *Ambush*, captained by Rick Glendye of Savannah, Georgia, captured the top prize for



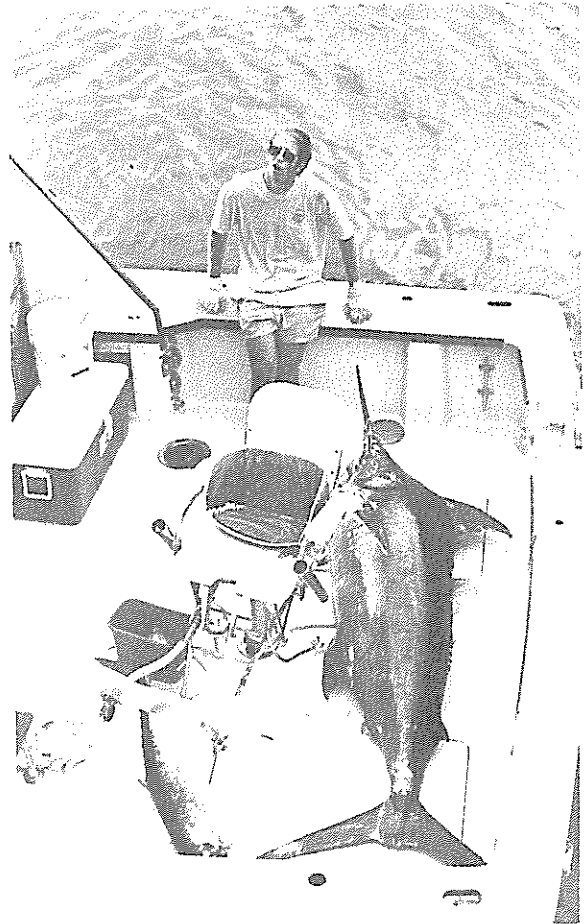
This 61 pound 6 ounce swordfish was landed Friday night, June 4, by Woody Woodward of Savannah, Georgia on the *Sanshi*. Twelve boats fished this first swordfish tournament held during the Savannah Invitational Billfish Tournament.



Here are four of the eight billfish landed in waters offshore of coastal Georgia during the tournament. These three blue marlin and swordfish weighed in a 957 pounds total.

total pounds landed by a boat over the four-day event with its catch of two blue marlin totaling 668 pounds. The *Remedy* also landed two marlin, giving it a second place finish with 501 total pounds. *Release 26* finished third with 323 pounds, *Waterway* fourth with 262 pounds, and *Fantasy* fifth with 71 pounds.

Top honors in the wahoo category went to Tommy Lyman of Savannah aboard the *Fantasy* with his 53 pound 12 ounce catch, while John Tyson of Savannah landed a 29 pound 4 ounce dolphin on the *Snatch* to earn him that category's award. DNR biologist Henry Ansley of the Coastal Resources Division in Brunswick served as official weighmaster for the tournament, weighing and certifying each angler's catch. Upon conclusion of the final fishing days, the marlin, which had been refrigerated after weigh-in, were transported to the Reidsville State Prison where the meat was



Bobby Groves of Savannah, Savannah Sport Fishing Club member and Chairman of the Eighth Annual Savannah Invitational Billfish Tournament, relaxes aboard the *Ambush*, the boat which won first place for total pounds landed. Two blue marlin, totaling 668 pounds were hauled aboard the *Ambush*.

prepared and served to the inmates. The tournament concluded with a luncheon at the Savannah Yacht Club on Sunday, June 3, at which time the winning anglers and boats were presented silver awards.

If you would like to receive
 Coastlines Georgia
 regularly, write the editor,
 DNR, 1200 Glynn Ave.,
 Brunswick, GA 31520

Charter Boat Data

Below is an updated listing of charter boats available along the Georgia coast. While we are sure some boats have been left out, we have made a serious effort to get a complete listing.

In these days of dwindling gasoline supplies, offshore fishing trips to the well-known offshore fishing ports in other states may not be practical. When you add the fact that Georgia waters probably are just as good, if not better, than more famous locales, it makes sense to fish Georgia.

Please let us know if you wish to add a charter boat to our listing. Write: Coastlines Georgia, 1200 Glynn Ave., Brunswick, GA 31520, or call (912) 264-7330.

All phone numbers are in area code (912).

- Captain Sherman Helmeý and Judy Helmeý: 124 Palmetto, Savannah, Ga.; 897-2478; *Miss Jerry*, T-Craft, 28', capacity 6; docks at Wilmington; offshore fishing: trolling, bottom, and inland; diving.

- Captain Ralph Vick: 203 Fiddlers, Savannah, Ga.; phone 355-0645 or 234-6696; *Water Way*, Davis, 45', capacity 6; docks at Isle of Hope; Offshore and Gulfshore fishing: trolling; no diving.

- Charter Boat Services: P.O. Box 1715, S. Casgoigne Bluff, St. Simons, Ga.; phone 638-2025 or 638-8452; 9 boats; docks at S. Casgoigne Bluff; offshore, Gulfstream, Inshore, tour fishing: trolling; diving.

- Captains Tommy Williams and Jimmy Newman: 3 Webster Dr., Savannah, Ga.; phone 354-0162 or 927-4515; *Renegade*, T-Craft, 32', capacity 6; docks at Williams Seafood; offshore, Snapper Banks, bottom fishing: trolling; no diving.

- Captain Charles Llewellyn: 1741 E. 31 St., Savannah, Ga.; phone 232-3097 or 354-1260; *Citation*, Cruise Craft, 59', capacity 6; docks at Thunderbolt; 50 M. offshore, Snapper Banks: bottom; no diving.

- Captain Weldon Stamps: P.O. Box 57, Jekyll Is., Ga.; phone 635-2571 or 635-2410; *Wel Mic IV*, Uniflite, 31', capacity 6; docks at Jekyll Marina; offshore and Tampa Reef fishing: trolling and bottom; diving.

- Captain Bill Shearin: 20 E. Victory, Savannah, Ga.; phone 233-6825; *Neva Miss III*, T-Craft, 32', capacity 6; docks at Thunderbolt, offshore fishing: Snapper; diving.

- Captain Frank Mead: 420 Union St., St. Simons, Ga.; phone 638-4261 or 638-3611; *Shadowfax*, Mako, 20', capacity 6; docks at Sea Island; inland fishing: inshore; no diving.

- Captain Dan Robertson: 522 Postall Dr., St. Simons, Ga.; phone 638-3151; *Proline*, 20', capacity 6; docks at Sea Island; inshore fishing: trolling and bottom; no diving.

- Captain Vernon Crews: P.O. Box 418, Kingsland, Ga.; phone 729-3353; *Patricia*, Pleasure, 40', capacity 6; docks at St. Mary's and St. Simons; offshore, Gulf Stream, and artificial reef fishing: trolling and bottom; diving.

- Captain Mike Parker: c/o Don Mussman, P.O. Box 229, Richmond Hill, Ga.; phone 756-3784; *Fonda Becky*, Sportcraft, 27', capacity 4; docks at Lincoln River; offshore, Gulf Stream, and artificial reef fishing: trolling and bottom; diving.

- Captain Tracy Youmans: Cloister Hotel, Box 11, Sea Island, Ga.; phone 638-2308 or 638-3611; *Cobia*, 20', capacity 6; docks at Sea Island; inshore fishing: trolling and bottom; no diving.

- Captain Jim Eeslin: Cloister Hotel, Box 11, Sea Island, Ga.; phone 638-2900 or 638-3611; *Starcraft*, 20'; capacity 6; docks at Sea Island; inshore fishing: trolling and bottom; no diving.

- Captain Frank Anderson: Cloister Hotel, Box 11, Sea Island, Ga.; phone 638-3893 or 638-3611; *Mako*, 20', capacity 6; docks at Sea Island; inshore fishing: trolling and bottom; no diving.

- Captain Ken Doss: 6 Seminole Rd., Brunswick, Ga.; phone 264-5071 or 265-8842; *Hobo*, Chapperel, 25', capacity 4, docks at Two Way Fish Camp; *Emmeline*, Sea Ray, 31', capacity 6; docks at Golden Isles Marina; offshore and Gulf Stream fishing: trolling and bottom; diving.

- Captain James Slaughter: 3222 Treville, Brunswick, Ga.; phones 265-2357, 265-7011, or 265-9119; *Blak Jak*, Sport Craft, 28', capacity 6; docks at Brunswick Marina; offshore and Gulf Stream fishing: trolling and bottom; diving.

- Allen Wood: 3207 Treville, Brunswick, Ga.; phone 265-4403 or 265-7011; *Gemini*, Chapperel, capacity 4; docks at Brunswick Marina; offshore and Gulf Stream fishing: trolling and bottom; diving.

Shark Preparation

by Tony Reisinger

In these times of spiraling meat prices, small sharks common to Georgia coastal waters can provide an economical and appetizing substitute.

1. Remove the head and entrails of a freshly caught dead shark and allow it to bleed for about five (5) minutes overboard or in a bucket of fresh seawater. Be sure to keep the shark well iced before preparation.

2. Fillet meat approximately $\frac{1}{8}$ " from skin and discard all red flesh.

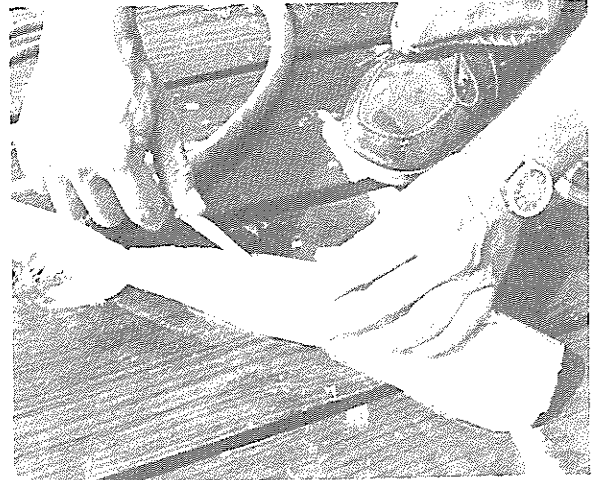
3. When ready to fry, dredge inch thick by four inch square serving portions into egg-milk batter, then into corn meal seasoned with salt and pepper, and place in hot, deep frying oil until batter turns golden brown. (Do not drain shark meat after washing, prior to frying; moisture in the meat turns to steam, drives off excess urea, and allows the fish to cook faster and from within, thereby proving a delicious and nutritious entree' for meals or parties.)

4. Fresh shark freezes well provided it doesn't get "freezer burned."

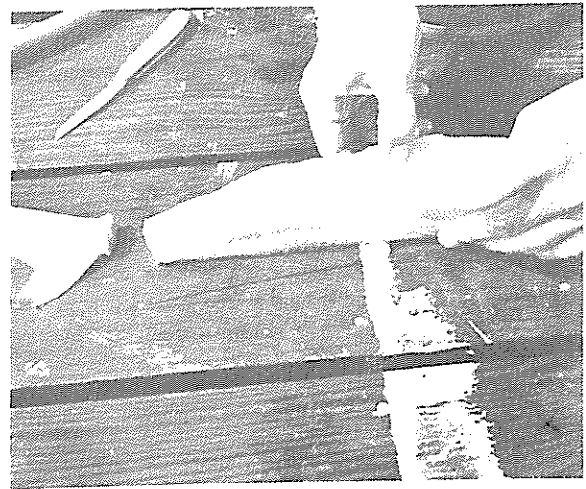
Pleasant catching, cooking and eating!

* * * * *

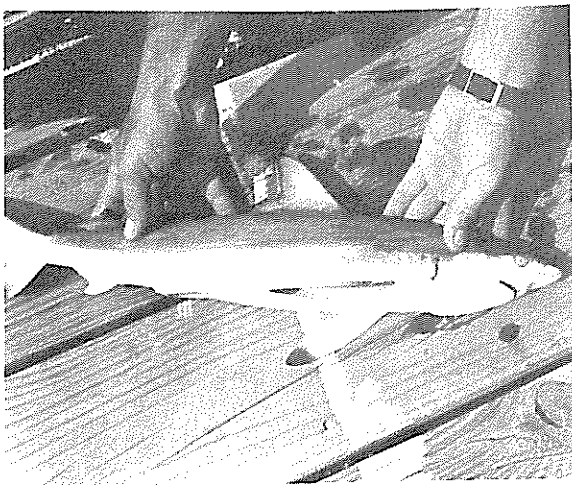
*Recipe courtesy of: Edwin W. Cake, Jr., Ph.D., Head, Oyster Biology Section, Gulf Coast Research Laboratory, Ocean Springs, Mississippi.



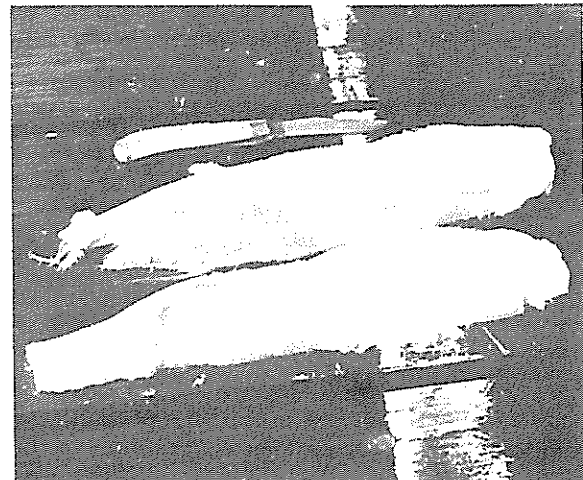
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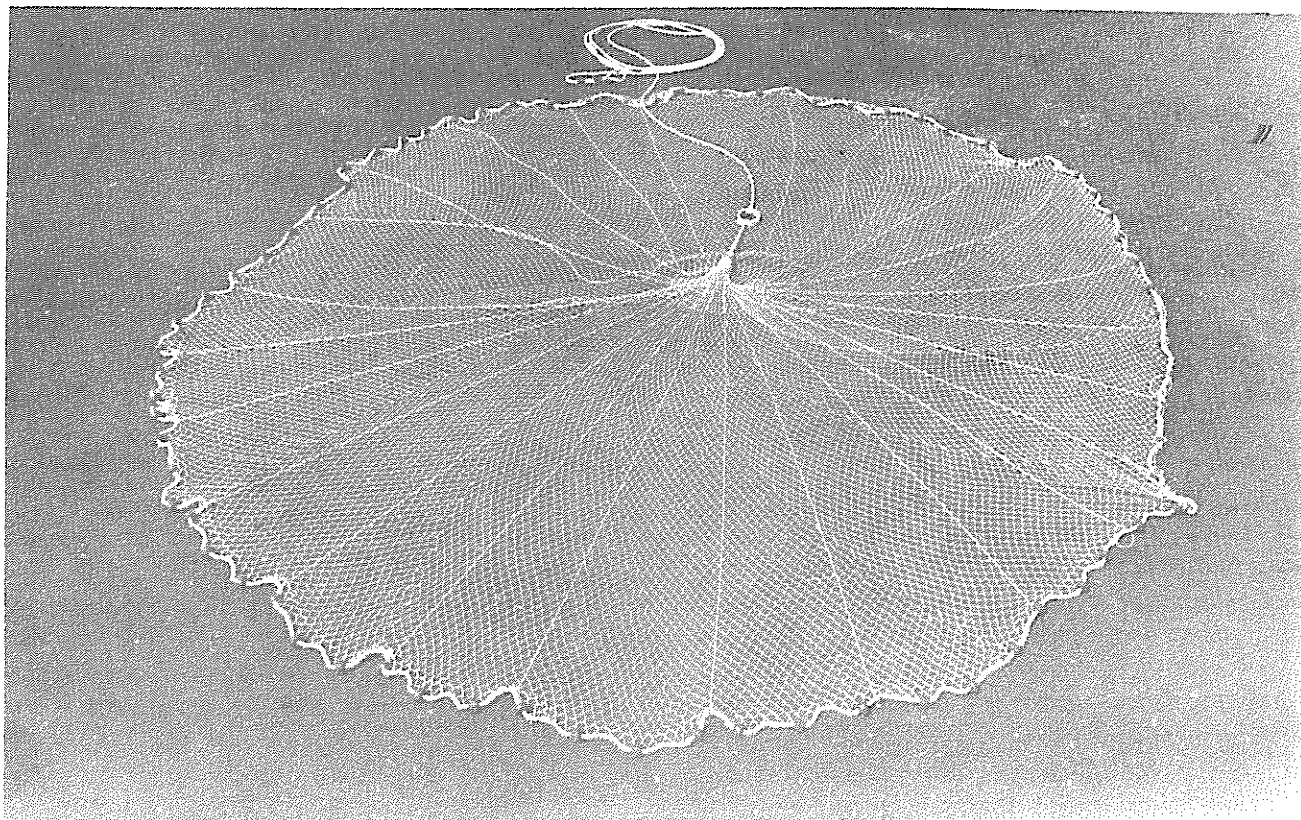
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The English net. Notice the weights are on the perimeter. The lines leading from the central ring cause the net to form a complete pocket on

retrieval. This is a three-foot net with shrimp mesh - perfect for the beginner.

Throwing A Cast Net

by Bill Morehead

There's a popular opinion that learning to throw a cast net is hard. The myth holds that it takes weeks and weeks to learn and is reinforced when a novice sees some fisherman spinning a cast net like a circus performer.

The truth is, cast netting can be learned by almost anyone with good instruction in one afternoon. Like poker, the rules and rudiments are simple to grasp. Also like poker, you can dedicate the rest of your life to its perfection. But the same afternoon you learn to cast a net on a Georgia beach, it is quite possible to land enough mullet or shrimp for the evening dinner.

Cast nets have been around for thousands of years. Egyptian pictographs show Nile fishermen tossing them. The cast net came to America sometime in the early 1500's and ever since then, somebody, somewhere has been standing on a beach or in a boat tossing one.

A great advantage to using a cast net in

Georgia saltwaters for shrimp or fish is that it is legal anytime, anywhere. To sell any of your catch, you must have a commercial license.

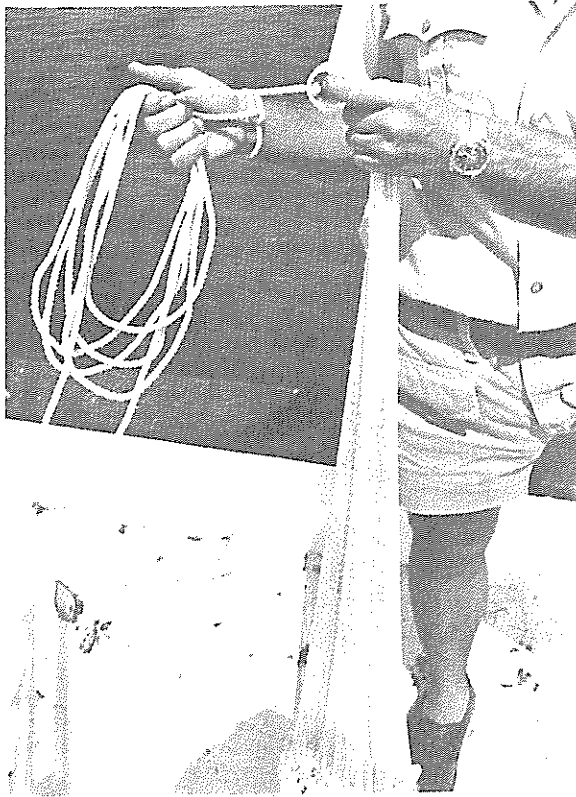
CAUTION: A CAST NET IS LEGAL ONLY IN GEORGIA SALT WATERS!!

Two types of cast nets are made: The Spanish net with its perimeter folded under so when it's retrieved the net forms a partial pocket; and the English net with lines leading all the way through a central ring (see photo below).

The English net forms a complete pocket when rapidly retrieved and is by far the most popular cast net along Georgia's coast.

Cast nets are now being made of monofilament or nylon thread. Monofilament nets are cheaper and lighter to throw than nylon thread nets, but they don't last as long. For example, sunlight gets to the monofilament and breaks it down over a period of time. Nylon thread nets are preferred by most serious fishermen.

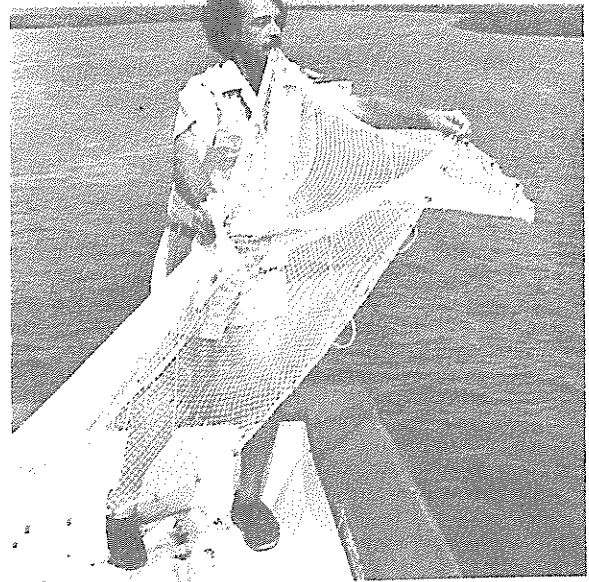
The cast net is used both as a sporting technique and a commercial tool. In spite of thousands of years of progress in fishing



Gathering the net for a cast. For right-handers, loop the line lasso-like in the right hand (the line's slip knot fits on the right wrist).

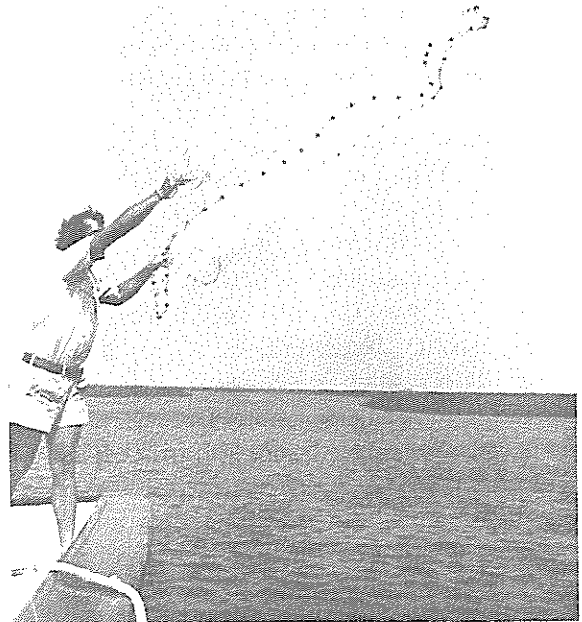


Preparing for the cast. The looped line and the net's neck are held in the right hand. A middle part of the perimeter is held in the mouth and another part is held in the left hand.

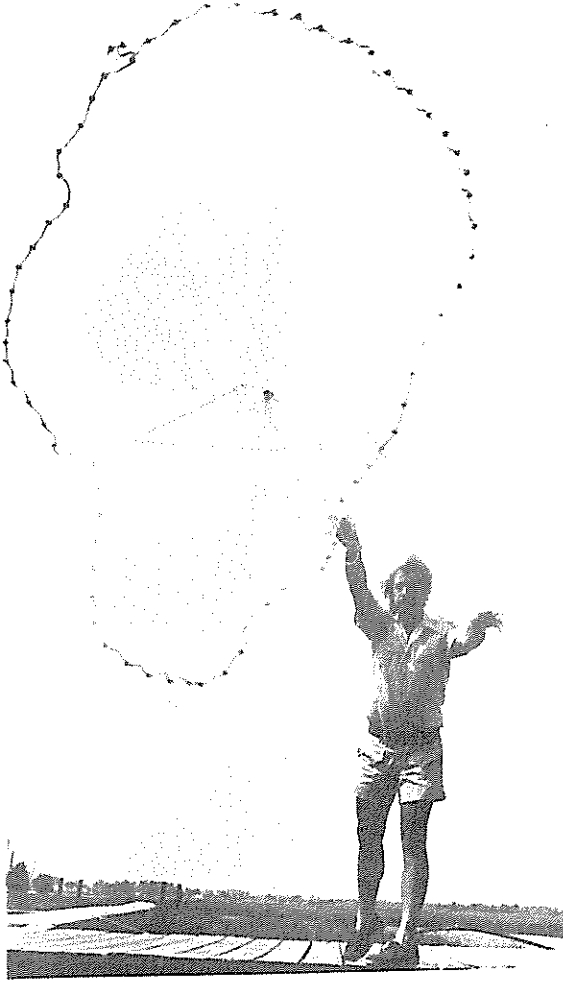


With a swirling motion, the net is swung backward. As the net's backward motion stops, the caster brings the net forward with a steady movement. NOTICE: The caster is keeping both arms straight increasing the forward movement of the net.

As the forward motion increases, the caster times the release of the right hand first, the mouth second and the left hand last. This assures a spinning, thus spreading, of the net. Be sure to let go with your mouth -- or you might run up your dental bill.



The caster has now let go of the net. The loop is beginning to uncoil. Notice the perimeter of the net is parallel to the caster's right arm. The high trajectory of the net assures enough distance to spread the net wide.



A mullet's eye view of the cast net. The loop is half-uncoiled, the spinning motion of the net spreads the perimeter and the net is on its way.

techniques, cast nets are still used by commercial bait or food shrimpers to bring in good catches.

A cast net can be tossed standing in the surf, from a stationary dock or from a boat. The English net is useful both in shallow and deep water, while the Spanish net is designed primarily for shallow water.

Mesh size for these nets in Georgia is either (1) large mesh - for mullet and other fish and (2) small mesh - usually one-inch, for shrimp. The beginner would be wise to get a shrimp mesh for his first cast net, since it can be used for both fish and shrimp.

A beginning cast netter should get a three- to five-foot cast net with shrimp mesh and use this net as basic equipment until his confidence and skill demand a larger net.

Professional cast netters may be seen tossing

a twenty-foot net with ease. Don't be misled. Pro golfers hit one-irons with ease and pro basketball players swoosh fifty-foot jump shots with ease.

Start with a small net. Learn the basic rhythm. If you follow these steps, you can learn to cast net--at least good enough to catch a mullet.

How To Catch, Clean And Cook A Blue Crab

by Bill Morehead

There are thousands of places along coastal Georgia where you can catch enough blue crabs for supper. It takes no special skills or talents to catch them and it can be great family fun.

First off, from spring to late fall, blue crabs abound in Georgia's coastal rivers, sounds and near-shore waters. Almost any pier, bridge or place you can wade can be a good crabbing spot, including the beaches of St. Simons, Jekyll and Tybee Islands.

A good, easy way to catch enough crabs to eat for supper is the "chicken neck" technique.

Get a long-handled dip net, a short pole and tie a piece of line on the pole long enough to match the handle on the dip net and get ready. All you need to do now is (1) find a place -- creek bank, surf or wherever to crab and (2) tie a chicken neck on the end of the line.

Toss the chicken neck into water deep enough so you can't see it lying on the bottom and watch the line. When the line begins to move or jerk, slowly pick it up and move it toward the dip net. A hungry blue crab (and there is no other kind) will hang onto the neck long enough for you to put him in the net.

Put the crab into a bucket. Crabs will live for hours if shaded from the sun and if a wet rag is placed in the bucket with them. Don't put water in the bucket or the crabs will attempt to breathe and die. Dead crabs should never be cooked.

CAUTION: A BLUE CRAB'S PINCHERS CAN REALLY HURT, SO BE CAREFUL HOW YOU HANDLE THEM.

Hoop nets or collapsible traps are

inexpensive but good tools to use to crab off a dock or pier. The bait -- a chicken neck or smelly fish -- is set in the middle of the trap and lowered to the bottom.

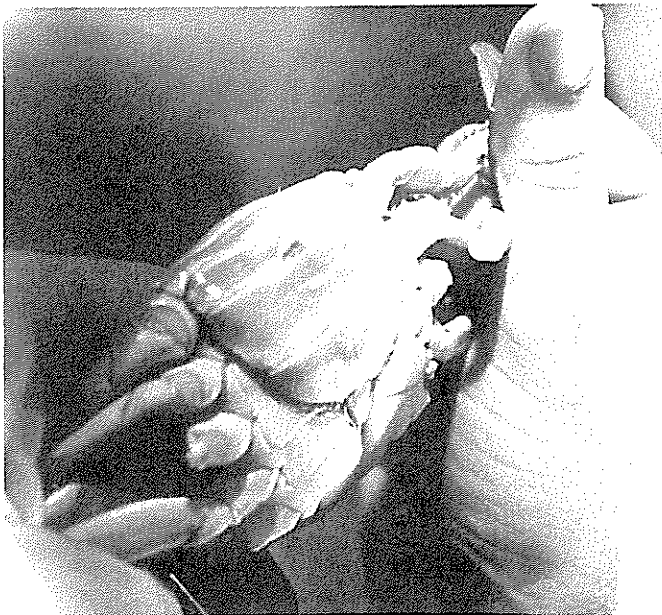
As these traps are retrieved, crabs attacking the bait are caught. Be sure to check your trap every three minutes or so. Such nets or traps can also be used to wade for crabs in much the same way as the pole-and-line method.

Georgia laws are very encouraging to the sport crabber. Sport crabbers may use one 2-foot by 2-foot crab trap (non-collapsible box-type) with no license, provided the trap is tied to a private dock and crabs taken are not sold. Licenses are not needed for pole-and-line, hoop nets or collapsible traps for sport fishing.

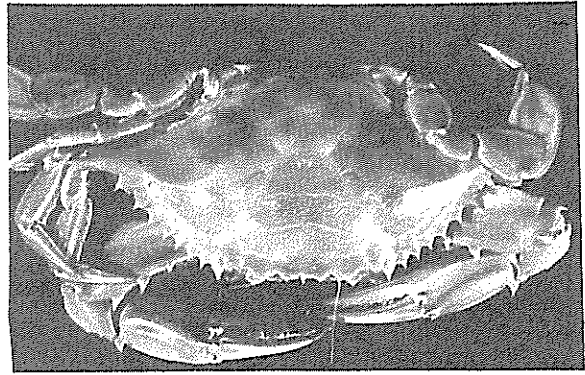
For commercial-type crab traps, the user must have a personal commercial saltwater fishing license (\$2 for residents and \$5 for non-residents).

Sport crabbers may take up to one bushel of crabs a day, but no crab may be taken that is less than five inches from spike to spike across the back. (For other rules, see the Georgia Coastal Fishing Regulations for Saltwater.)

Catching a crab is not hard. Cleaning it is another story. First, place the **live** crab in salted, boiling water for fifteen to twenty minutes.



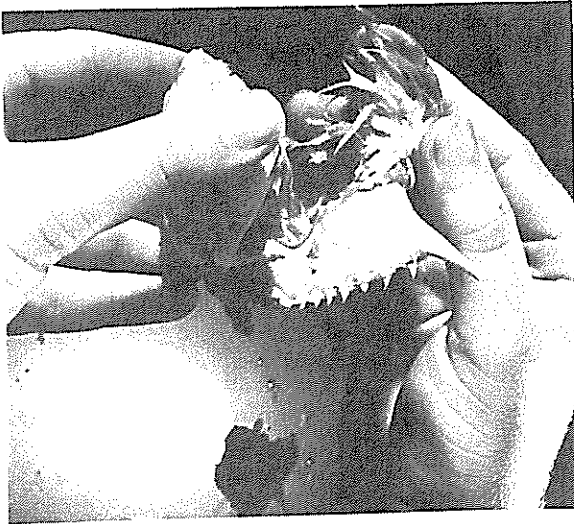
3. Female crabs have a much broader plate or apron.



1. Drain the crab(s) and let them cool for several minutes.



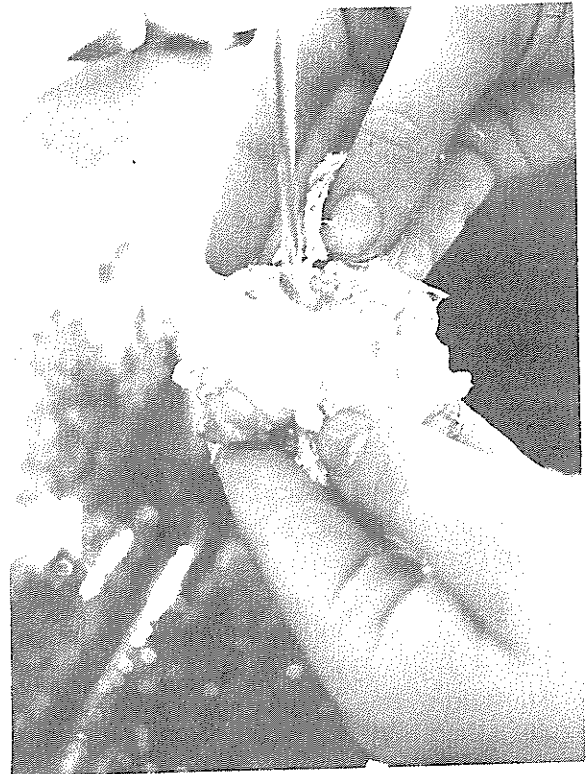
2. Lift the plate on the underside of the crab. Male crabs, such as the one shown here, have a narrow plate.



4. After lifting the plate, pull the top half of the shell off. Throw the top half away. Edible meat is on the bottom half.



5. The legs and pincers are then removed. Save the pincers to break with a hammer and clean, keeping any "breast" meat attached to the pincers or legs.



6. The light-yellow to yellow material in the center of the remaining crab part can be discarded, although many people like to eat it. Known as "fat," this material is actually the reproductive structure of the crab.

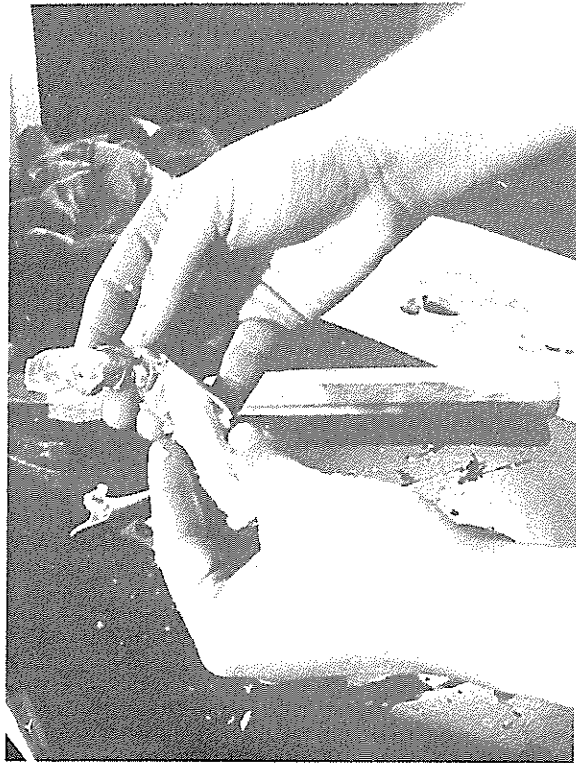
Note: Be sure to discard the feathery structures found on either side of the bottom half of the shell. Known as the "dead man," this material **SHOULD NOT BE EATEN**.



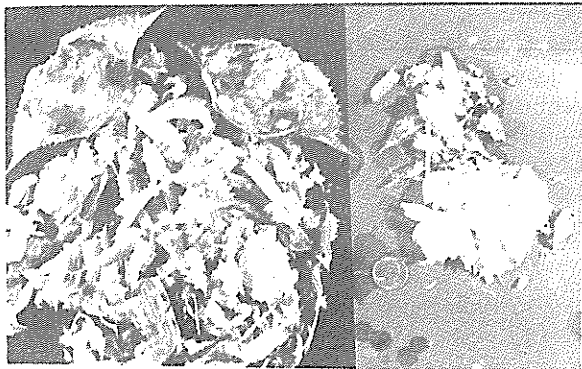
7. Break the bottom half of the shell in two. With a pointed knife, or very nimble fingers, pick out the white crab meat. Take care not to include portions of the partitions separating the meat. These partitions are the same to crab meat as bones are to fish meat.

Georgia Water Quality Management Plans and Studies

Georgia residents who are concerned about the quality of the water in the rivers they use for fishing, skiing, or boating, and who want these rivers to be enjoyed by their children and grandchildren, have a new source of information available. The second edition of the Georgia Water Quality Management Plan, and 15 Basin Studies for the individual rivers of Georgia are now in the Department of Natural Resources' library at 1200 Glynn Avenue in Brunswick. These studies and plan mandated by the Federal Water Pollution Control Act, were produced by the Water Resources Management Unit of the Georgia Environmental Protection Division as a means of assessing pollution problems, developing solutions to these problems, evaluating costs and environmental factors, identifying management approaches, and recommending implementation of programs to improve the fresh waters of Georgia.



8. The pincer or "claw meat" can now be picked much as a pecan is picked.



9. On the left is the discard. The small pile on the right is the edible meat from two mature crabs.

What you have now is a delectable tidbit. True, there is not much meat on one crab, and picking crab meat is slow and hard-going, but the fact remains that fresh crab meat is about the best seafood available.

After you have boiled and picked the crab(s), you will find a bewildering variety of recipes available. For Georgia recipes, the Lewis Crab Factory in Brunswick has a recipe booklet for distribution.

Good luck and happy crabbing.

The Management Plan includes descriptions of existing and proposed programs to monitor the water quality, priority ratings for pollution control activities, and plans for the management of pollution sources. There is also a plan for the identification and control of such potential sources of pollution as run-off from agriculture, forestry, construction and mining wastes, siltation and flow changes due to dredging, and intrusion of salt water into aquifers or land disposal of wastes, as well as pollution from sewage treatment plants and industries.

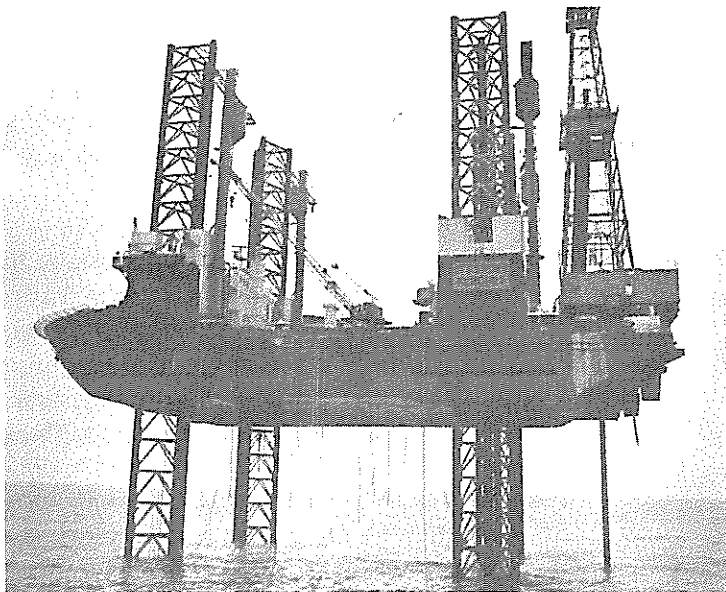
The basin studies include descriptions of the natural environment typified by the rivers, existing and proposed water usage for various portions of the rivers, and descriptions of all potential sources of pollution to the rivers. Each river is broken into geographical management units. For each unit, stream data, population and growth trends, and analyses of the known pollution sources that discharge into the river are outlined. This information is used to produce programs which will allow stream water quality standards to be met.

People, Places And Things. . .



Rick Cothran, Chief of the Coastal Management Section of Coastal Resources, briefs a group of Georgia senators and representatives on the

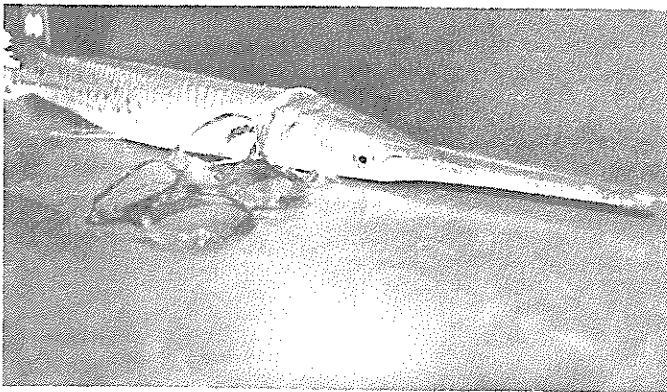
Georgia Coastal Management program. The State of Georgia, deciding not to pursue a Federally approved CZM program, nevertheless is committed to a strong state program consistent with the federal Coastal Zone Management Act.



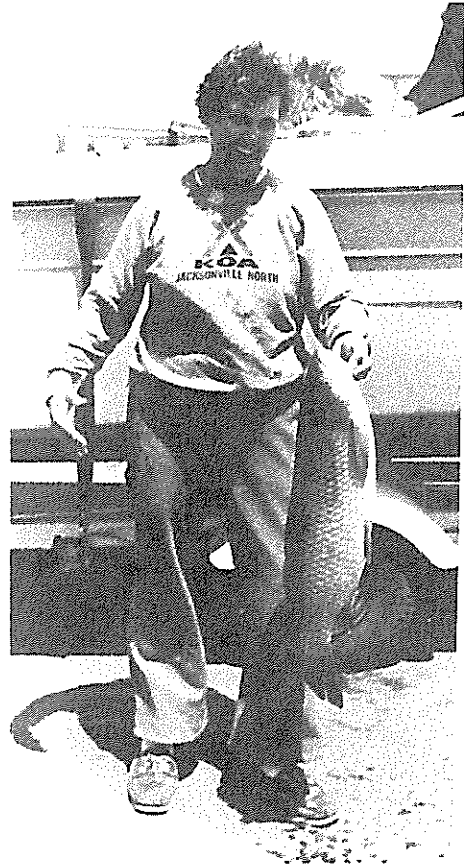
The exploratory rig, *Offshore Mercury*, is currently drilling a second test well for Tenneco Oil Co. The same rig will then be moved to offshore Georgia tracts leased by Getty Oil Co. for additional energy exploration.



NEW YACC NETWORKER--Ann Cullens, former YACC Assistant Staff Member, became the networker for the program when Tim Hightower left the program for a job with a private industry. Ann, like Tim, now has the formidable task of keeping 22 YACC's assigned doing what, at times, seems like jobs for 50, not 22, enrollees.



This is the second gar this year DNR has found with a plastic ring around the head. We hope this is not an indication of a radical increase in trash in coastal waters.



A WHALE OF A MULLET--Doris Bright, mother of DNR ranger Chip Bright, caught this huge mullet (a ten pounder) recently. Doris caught the fish on Raccoon Key, in Camden County. She was fishing for bream with a cricket when the mullet hit. Some bream! Some cricket!



Cheryl Carlson, one of the new YACC's in Coastal Resources this summer, does everything from marsh sampling to administrative work.

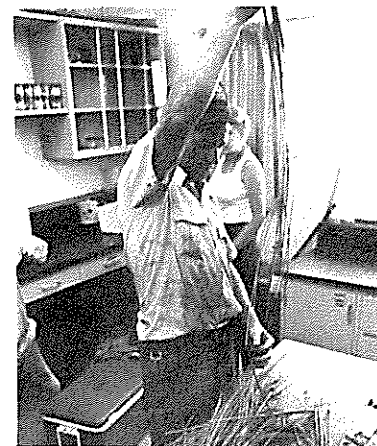


Game and Fish Division biologists band one of two eaglets recently placed in a man-made nesting site on Sapelo Island. Furnished by the U. S. Fish and Wildlife Service, it is hoped by biologists that these

young bald eagles will mature and breed on Sapelo, thus helping to restock the eagle population in southern states.



Karl Davis, in charge of photographic services, is a YACC enrollee. Many of the photos in this newsletter were developed and printed by him. In addition, several were taken by Karl.



Sampling the marsh is hard work. A tired Mike Hardisky, Chief of Data Management and Special Projects for Coastal Resources, after spending all morning in the marsh collecting, now has to spend his afternoon in the lab doing the scientific analyses necessary to better understand the marshlands.