April - May, 1978

Coastlines Georgia

Volume 1, Number 2

Governor's Coastal Zone Management Advisory Council

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EDITORIAL

The coast has always been important to Georgia. From Oglethorpe to the Revolution, it was the State. There never was a period in our history in which our coast did not contribute leadership and influence far beyond its geogrphic area or population.

In the remaining years of the Twentieth Century, the importance of Georgia's coast will increase even more in the eyes of the State and nation. This is my opinion and the opinion of the best minds in economics, science and planning. As important as it is today, tomorrow our coast will be more important.

One of the best things that has happened recently was the formation of the Coastal Zone Management Advisory Council. I appointed thirty-four people, from all walks of life, to assemble on Jekyll Island May 25, 1976 and to begin work on problems and solutions along our coast.

I think the finest move the Council made was to operate on the premise that, if coastal problems are to be solved, they must be solved by coastal citizens - with help and advice from the State and Federal governments where it is needed.

The Basic CZM Act has been adopted by the Legislature; I fully support the Act, and intend to sign it into law. One of the reasons I so strongly support it is that it provides a means by which local governments along the coast can get Federal funds to help them solve problems. The State, particularly the Department of Natural Resources in its role as the coastal resource agency, will provide a willing partnership to these local governments. So will the Federal Office of Coastal Zone Management.

Under this program, most of the time, money and effort will be spent along the coast of Georgia. That is how it should be and why I support it. It makes sense.

To the members of the CZM Advisory Council and to the host of others who worked on the coastal program, I thank you on behalf of the people of Georgia, the State government and myself.

George Busbee

Governor George Busbee addressing the CZM Advisory Council in December, following the Council's recommendations on coastal management.

COVER

Patrick Campbell Adams — 1947 - 1978

Pat Adams, a fine young man, an outstanding citizen of coastal Georgia, and firm believer in what life is all about, is no longer with us. Pat stood as a leader in the pathway of understanding of what our coast really is and what it means to each of us.

Pat was a naturalist, an educator, a fisherman, and a friend. People with such a strong conviction to better understand our relationship with our marshes and waters will know Pat even though they may have never met him. Those of us that knew him will always recall that Pat was an outstanding coastal citizen. His knowledge of science and philosophy, his ability to understand the relationship of the marsh to the seafood and his ability to share his experiences with his friends made him a leader.

There are many more like Pat who monitor the plants, animals, and water of our coast and other coasts. They are not commercial fishermen nor sportfishermen, they are not developers or artists, but the army of naturalists and scientists who utilize their knowledge and talent to seek answers to the questions - the unknown entities of our coast.

It is OUR coast and we must remember that many others, like and including Pat, give of themselves daily so that the rest of us may be able to share the wealth of beauty and resources of our coast with our future generations. It is my hope and prayer that this sad event will not dampen the spirit and mission of many outstanding individuals like Pat who continue in his footsteps to learn more about our coast so that the rest of us can continue to enjoy it.

Consequently we dedicate this issue of **Coastlines Georgia** to Patrick Campbell Adams, and to those who are still trying to better understand what our coast does for us and how we can continue to share the rich natural resources.

Robert J. Reimold, Friend and Colleague

GLOSSARY

Bag: the part of the net which holds the catch

Cable guide: moves cable back and forth as it winds onto the drum, keeping the cable even and untangled

Chaffing gear: plastic streamers or extra netting attached to bag to keep the bag from wearing out as it is dragged along the bottom with a heavy catch

Chain line: bottom line supporting the bottom border of the mouth or opening of the net. This line holds bottom part of the mouth of the net against the sea floor. The tickler chains are just in front of the chain line.

Dog: a metal bar which fits into slots on a winch drum to keep it from turning backward and releasing the cable holding up fishing gear. An improperly placed **dog** can cause serious accidents from falling fishing gear.

Door ropes: the ropes used to carry the trawl door back and forth from the boat to ends of the outriggers.

Drum: the rotating part (spool) of a winch onto which cable or rope is wound.

Float line: top line supporting the upper part of mouth or opening of the net. The floats are attached to the line. They hold the mouth of the net open.

Heads-off shrimp: shrimp tails remaining after heads have been removed

Lazy lines: lines attached to net bags by which the bags are hauled onto the boat

Outriggers: the long metal booms which when lowered pull the cables of the nets as they drag for shrimp

Snatch blocks: pulley blocks that can be opened to place and remove rope. Snatch blocks are often used with whip lines.

Striker: crew member on a shrimp boat

Sugar line: the line connecting the lazy lines together at the stern (back) of the boat which the crew uses to pick up the lazy lines so they can haul the bags onto the boat

Tickler chain: a chain which is attached to both trawl doors so that it drags across the bottom in front of the mouth of the net ahead of the chain line. The chain stirs up the shrimp causing them to jump so that the mouth of the net pulls over them and moves them into the net.

Trawl doors: doors made of wood or metal which serve to spread the nets and hold them on the bottom

Trash: unwanted catch that comes in with the shrimp—jelly-balls, little fish, horseshoe crabs, and other sea life of little economic importance

Trip hook: a hook which holds the bag onboard while it is emptied and re-tied before returning it to the ocean

Try net: a smaller net which is pulled along with the big nets and is frequently hauled in for the captain to examine what he is catching

Winches: motorized set of drums onto which the cables and ropes used to move fishing gear are wound. The powerful winches do the hauling and hoisting of heavy doors, outriggers, and nets full of catch.

Whip lines: lines placed around the net above the bag to hoist the bag out of the water and onto the boat

Coastal Resources Update

Blue Crab Update

Second only to the shrimp industry in Georgia, the blue crab fishery in 1977 landed 7.7 million pounds of crabs at a dock side value of nearly 1.6 million dollars.

Jerry Knowlton, DNR biologist involved in the crab survey for coastal fisheries, said two DNR boats are routinely involved in the project. "The **Cobia** and **Anna** are in the first year of a federally funded project which is to last three years. We are studying population fluxes, size, sex ratio and landing statistics of the crab fishery here in Georgia."

Knowlton said DNR hopes to establish a prediction model for blue crabs in Georgia, but said since crabs reproduce more than once a year in the state, predictions are more complicated than for areas like Chesapeake Bay which already have such models.

Knowlton also said the hard freeze which wiped out shrimp populations last year hurt the blue crab market, but in a more indirect way. "During the freeze," he said, "crab houses were afraid the weather would wipe out the crab populations too, and bought crab meat at high prices." He said the houses kept the crab meat and, if forced to sell at today's market prices, would suffer great losses.

Asked about the data on recent crab populations, Knowlton said the DNR boats were not finding large male or female crabs, but are finding smaller juveniles. "We are not finding any dead crabs in our samples," he said.

Shrimp Statistics Program

Regional management of shrimp resources may be a reality soon in Georgia,

Jerry Knowlton, coastal fisheries biologist, staying off the water preparing reports.

Florida, South Carolina and North Carolina. These south Atlantic states have started to work cooperatively with the National Marine Fisheries Service (NMFS) to start a computerized shrimp catch-and-effort statistical program.

A pilot study, patterned after the system used by NMFS for the Gulf of Mexico shrimp fisheries is scheduled to begin April 1, 1978.

Computerized information will include vessel information taken directly from commercial trawler license applications and catch-and-effort data from interviews with licensed commercial fishermen, dock owners and dealers. Georgia's computer terminal, to be located at the Coastal Resources Office in Brunswick, will be capable of obtaining a variety of shrimp landing statistics from the computer system on a daily basis from North Carolina through Florida.

Beginning in March, port samplers periodically will visit docks and fish houses to interview dealers and shrimp fishermen. Dealers will be interviewed on a monthly basis for shimp landings by size-count and

species and for the number of vessel trips made. Fishermen will be interviewed randomly on a weekly basis on areas fished, size-count and species caught and other information.

Data gathered will give resource managers up-to-date landing statistics to aid shrimp management strategies. If the goals of this pilot study are reached, the system may become the model for similar fishery statistics surveys nationwide. This four state cooperative adventure involving the federal and state governments is the first time such a cooperative resource management program has ever been undertaken.

Shrimp Report

by Bobby Palmer

The beach to three miles offshore was closed on Wednesday, February 8, 1978 at 5:00 p.m. to all power drawn nets. The sudden drop in water temperatures from 46° F to 41° F in a little over a week's time, the influx of fresh water into the sounds due to flooding conditions (freshets) of the Altamaha, Satilla and Ogeechee Rivers and other conditions brought a mass exodus of small shrimp to the warmer, more saline offshore waters. We began to catch a few large dead shrimp in our nets as early as Monday, February 6, and by Friday, February 10 our boats were picking up large dead white shrimp inside the sounds. These shrimp are the ones that failed to migrate due to entrapment in inland rivers. Our observations revealed that the smaller size white shrimp (50-100mm) survived the harsh conditions better than did the larger ones (100mm and over) due to their greater tolerance for fresh water. However, few dead or living shrimp were taken. Catches inshore and offshore decreased by early February and since have remained constant. From our data and observations we estimate the critical conditions occurred during the first eight days in February.

From February 10 through February 24 we experienced a warming trend raising the water temperature back up to 45° F.

Our assumption that the majority of our white shrimp population migrated south ahead of the harsh conditions was substantiated by the fact that on February 15 one of our inshore boats picked up 12 pounds of live shrimp in the Kings Bay area (our southern-most station). We also caught white shrimp (less than one pound) in the Brunswick River on February 16. This indicates that as the waters warm and become more saline again, the white shrimp will filter back north and inshore.

Up until the first week in February, we were getting good size shrimp and good size catches in the outside waters (beach to three miles). In fact, our catches were so good we were able to extend the shrimping season beyond the regular cutoff date of December 31 to the above mentioned closing date of February 8, 1978. The sounds, of course, have remained closed the entire time.

The permanent closure of all sounds on the Georgia coast is now - and will be - a key factor in maintaining our shrimp resource. With the creeks and rivers zoned, the sounds closed and the beaches to the three mile offshore limit closely regulated, DNR personnel will be able to more rationally manage the shrimp resource. This in effect is what we've been dong for the past ten months. We have been able to manage the shrimp harvest to such an extent that the 1977 landings, even after the severe freeze of January, 1977 which depleted our over-wintering white shrimp crop - future spawners, was 60.4 per cent of the average for the past ten years. 4.6 million pounds of white shrimp were landed in Georgia during 1977. One can readily see from this that our disaster situation has been lessened somewhat by effective management. We also feel that we regulated the harvest seasons so that at no time were we in fear of depleting future shrimp populations.

Direction of the Shrimp Disaster Project

Our plan now is to continue the sampling program at the same 2 week frequency even though few shrimp are being taken. Roe white shrimp will begin to appear in quantity offshore in April and continue through June while brown shrimp will start to show up inside at approximately the same time. By June the brown shrimp will have grown large enough to move outside. During this period, the inshore shrimp populations will be mixed with the browns being much larger in size. This will be a very critical time in shrimp management, and some crucial decisions will have to be made.

Depending on the number of spawning white shrimp and the magnitude of the spawn, we will decide when to open the beaches to commercial trawling. Last year, due to the small number of roe white shrimp surviving the freeze, we delayed opening date until the white shrimp had spawned. On July 6, 1977 we opened the beach and certain inside zoned areas where white shrimp were large enough to make the legal cutoff size of 2½ inches. In doing this we protected the spawners by delaying the commercial season and the newly spawned white shrimp by keeping the sounds and inside

nursery areas closed. This year, 1978, after analyzing and evaluating our data, collected on a two week frequency, we will again have to make these decisions.

To document this year's spawn, we will have three two-man seine crews, sampling nearly 60 marsh stations along the Georgia coast. The seine crews will start in May to insure that the first juvenile white shrimp appearing in our inland nursery areas will be recorded. Our crews will track the intensity and frequency of juvenile shrimp very closely through the spawning season so that we can use all the data collected to determine and predict future shrimp crops and to regulate harvest seasons in the event of another disaster.

The shrimp disaster program is an example of something quite new on the coast of Georgia. It is the first time the commercial fishermen, the Georgia DNR and the University of Georgia have worked hand in hand on a project. Bobby Palmer, DNR, and Pat Adams, UGA, have been coordinating the operations of six boats involved in this intensive sampling program. In a future issue, we will provide a more complete report of the personnel and boats used in this special project.

As of May 1978 we will have a full year of comparative data on this special project. The special project, funded by Governor Busbee, extends through December, 1978, giving us documentations on two spawning seasons. It would be more advantageous for us to have two complete years' data; however, the data we have now and will collect through December will be invaluable in our future management of Georgia's most valuable fisheries resource.

Sportfishing Update

Finally, after months of negotiations, budget amendments and so forth, transfer documents are being prepared by the General Services Administration to give the surplus dredge HENRY BACON, currently owned by the Savannah District Corps of Engineers, to the State of Georgia.

The acquisition of this vessel will be a tremendous boost to the state's artificial reef program. After undergoing cleaning and preparation, the BACON will be towed to the site of Reef "L", 23 miles offshore of Ossabaw Island, and sunk by Navy explosives ordinance disposal

Winter is a tough time for seamen. Icy gales and rough water keep artificial reef crew members Henry and David Ansley working in the shop - so they'll be ready when better weather comes.

personnel from Charleston. The 160 foot dredge will project 25 feet above the ocean floor (ocean depth at Reef "L" is 60 feet). Past studies indicate the BACON should provide habitat for red snapper up to 20 pounds and grouper up to 30 pounds, as well as visual reference for king mackerel, barracuda and amberjack (maybe even sailfish and dolphin). If everything goes as planned, the BACON should be on the ocean floor within two months.

Coastal Fisheries of DNR has recently completed a brochure, "Georgia's Artificial Reefs." This brochure contains a brief history of the reef program, a description of each reef, including the relation of the buoy to material and a chart showing the locations of the reefs with headings and distances from major buoys. To get a copy, write Coastal Fisheries, 1200 Glynn Ave., Brunswick, Georgia 31520.

Coastal Marshlands Protection Update

The director of DNR's coastal marshlands protection program, Dr. Frederick C. Marland, has been asked to serve as a member of an advisory

committee for the Urban Institute - a private foundation headquartered in Washington, D.C. The committee will examine the enforcement of state wetlands and shorelands laws.

Dr. Marland, marshlands director, said the project is supported by a grant from the National Science Foundation. Member of the advisory committee were selected from federal, state and local governments and the private sector, according to a letter Marland received from the Urban Institute.

The letter further said the committee's objectives will be to survey the monitoring and enforcement procedures in the several states' regulatory programs concerning wetlands, shorelands and the coastal zone; to estimate the extent of compliance with such regulations and to study alternative means of strengthening enforcement programs.

Law Enforcement Southern Sector

Activity during the Month of January slowed down considerably due to cold and inclement weather, according to Sgt. Woody Hinton. Total licenses checked = 417; total boats checked = 255; total cases for violations = 37; total warnings issued = 12.

Confiscations: 3 boats; 3 nets; 4 traps; 1 vehicle; 1 gun; 2 lights; 1 waterfowl; 20 pounds fish; 534 pounds shrimp. In addition, there were 16 cases made for hunting violations, 17 cases for fishing violations, 3 cases and 6 warnings for boating safety violations and 1 case and 1 warning for littering. One non-fatal boating accident was investigated and 2 information and education programs were presented.

Shad fishing opened January 15. Some fish were reported in the Savannah area but fishing in the southern sector is reported to be slow. Shad season will end April 15 and the fishing is expected to improve during March.

* * * *

Corporal John R. (Bob) Brown of the southern sector in Brunswick, was named Officer of the Year by the Brunswick Chapter of the National Exchange Club. Brown was nominated for this honor by Capt. Paul Leverett, for outstanding performance, professional attitudes and dedication to his work.

Cpl. Bob Brown receives the plaque for "Officer of the Year" from Captain Paul Leverett. The plaque was awarded to Brown by the Brunswick chapter of the National Exchange Club.

Law Enforcement Coastal North Sector

January was a low activity month from a law enforcement viewpoint. There were 28 cases made, a total of 33 convictions (from cases previous to January) and $1,333.00 fines levied.

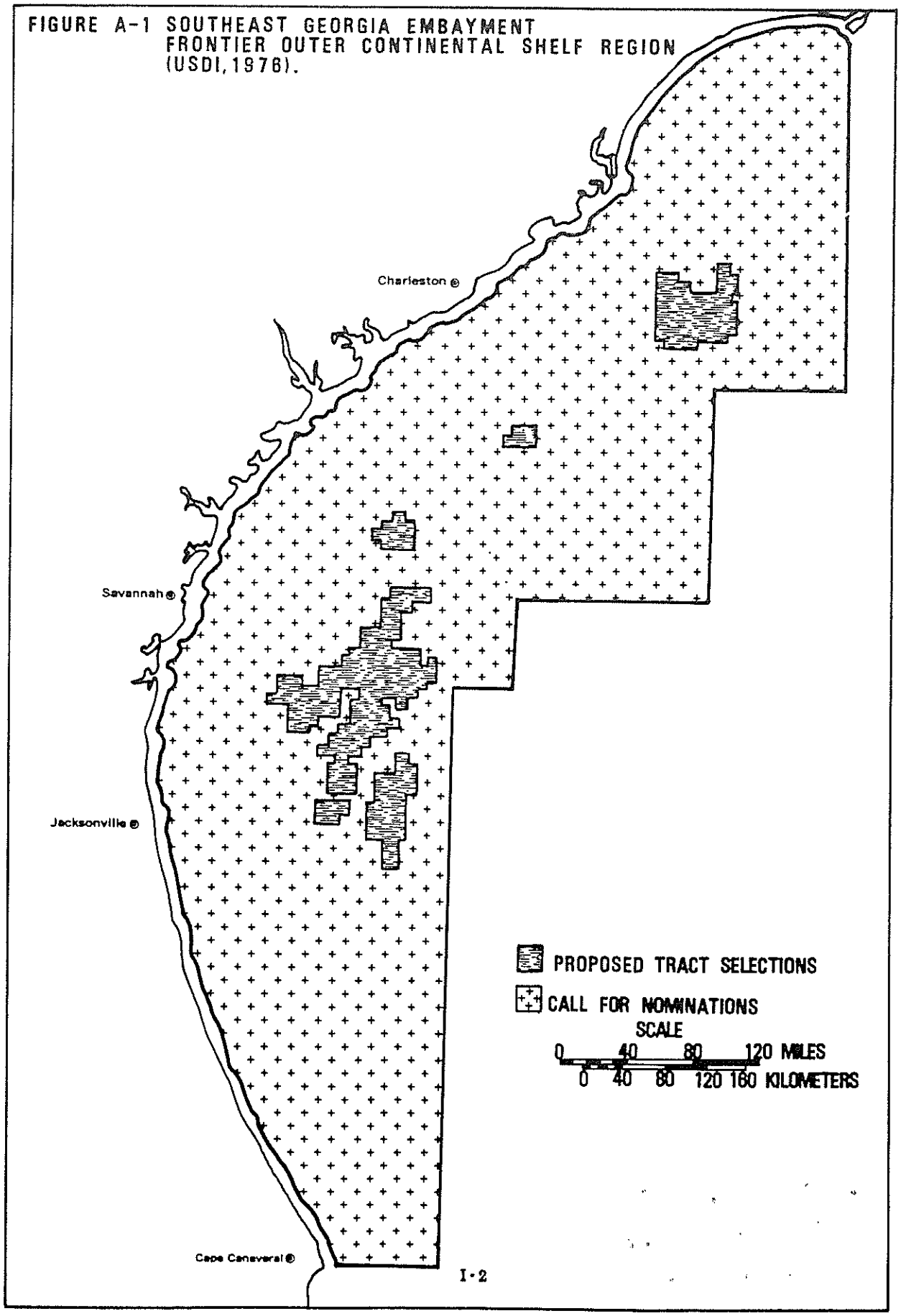
Nine rangers from the sector attended the refresher course, "Conservation Ranger Training Program," at the University of Georgia in Athens. Twelve rangers attended a driver training course in Jesup, and one ranger attended the hunter safety program offered by the Outdoor Education Section.

January saw the successful investigation of an incident in which two brown pelicans, an endangered species, were killed. Thanks to the U.S. Fish and Wildlife agents, the men responsible are now awaiting their court date in Federal court.

CHANGE OF ADDRESS

If you wish to be placed on the mailing list for **Coastlines Georgia** or wish to correct your address, please write: **Coastlines Georgia,** Department of Natural Resources, 1200 Glynn Ave., Brunswick, GA 31520

FIGURE A-1 SOUTHEAST GEORGIA EMBAYMENT
FRONTIER OUTER CONTINENTAL SHELF REGION
(USDI, 1976).



Offshore Oil Lease Set

Some 1.2 million acres off the Georgia coast will be offered for lease by the U.S. Department of the Interior in March. According to Secretary of the Interior, Cecil Andrus, the bidding for these tracts will take place at the DeSoto Hilton Hotel in Savannah at 10 a.m. March 28.

In July, 1976, the United States Geological Survey estimated the areas considered for lease may contain up to one billion barrels of oil and up to 6.8 trillion cubic feet of natural gas. In the final environmental impact statement (EIS) put out by the Interior Department, the USGS was quoted as estimating, "The proposed action may result in a peak daily production of between 56 and 170 thousand barrels of oil and 0.47 to 1.4 billion cubic feet of gas, peaking approximately 14 years after production has commenced. The estimated production life of this proposed oil and gas project is 25 years."

Other geologists have cautioned against speculating on production estimates, Dr. Wallace Fallaw of Furman University in South Carolina said, "The USGS was required to come up with some figures. The public should understand that these figures are correct plus or minus 100 percent. Nevertheless, there is considerable interest in the area off Georgia and I wouldn't be surprised to see a good deal of bidding activity in Savannah in March."

Georgia officials will monitor the offshore activity closely so as to minimize the harmful onshore impacts of offshore drilling.

(Map is shown on page 10. Please turn page.)

Geologic and Water Resources Update

Cumberland Island Project

The National Park Service is funding a geologic survey of Cumberland Island, according to Dr. Sam Pickering, Director of DNR's Geologic and Water Resources Division. Pickering said Mr. Doug Wilson, DNR geologist, is heading up the survey.

Wilson explained that the work is divided into three phases. Phase I, in operation since October, 1977, and scheduled to be completed in October 1978, is a "Feasibility Hydrogeological study of Cumberland Island."

This work includes surface mapping of sediment types on Cumberland, especially dune sands, beach sands and other sands. A surface geology map and a landform map will result from this effort. Also included is a preliminary study on beach erosion and a remote sensing analysis.

A popular aspect of Phase I will be the collection and identification of pleistocene and pliocene fossils found during the surface mapping. DNR paleolontologists will prepare the fossil collections and turn them over to the National Park Service for display. Vertebrate (mammal, fish, etc.) and invertebrate (clams, snails, etc.) fossil collections are to be made.

Phase II of the investigations will consist of drilling 15-20 shallow holes (100-200 feet deep), seismic exploration, and spudding a deep well (800-1500 feet deep). Such exploration will lead to an understanding of the geologic and water resources on Cumberland in sufficient detail so as to guide and influence NPS management decisions on the use of Cumberland.

Water quality analyses will identify the uses and potential uses of Cumberland's groundwater sources and a permanent hydrological monitoring device placed in the deep well will continue to provide management information. Phase II of the study will probably begin in the Fall of 1978 and end sometime in the Spring of 1979, according to Wilson.

Phase III of the study will be the production of general reports. Wilson said the reports will be prepared in 1979-80 and will include a DNR bulletin, "Geology of Cumberland Island", a detailed groundwater report on the island and a thoroughly illustrated interpretive booklet for the general public.

Anyone interested in an update on the progress being made by this study should contact Doug Wilson at 2024 Newton Road, Albany, Georgia 31701.

Fort King George

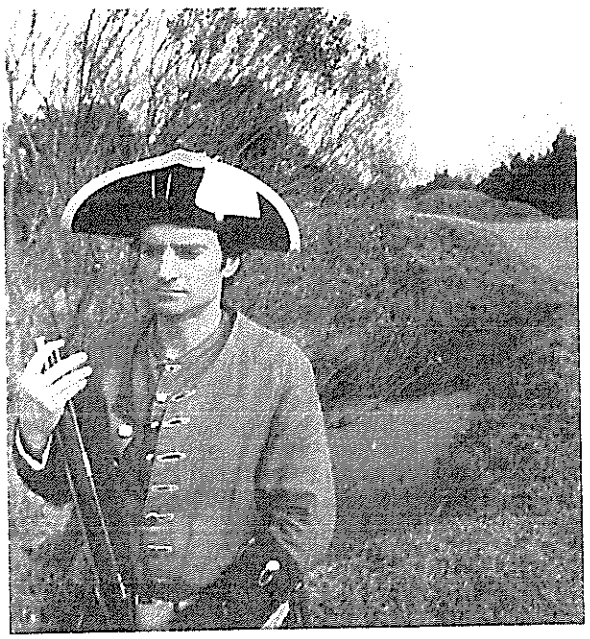
by Norman Edwards

Fort King George is one of the most significant historic sites in Georgia, and in the Southeast. The British built the fort in 1721, before there was a Georgia, to keep the French from occupying the Ocmulgee and Altamaha Rivers and the coast of Georgia from the interior. The Guale Indians, the native inhabitants of coastal Georga, had fled in terror from the warlike, well-armed Indian allies of the British in Charles Town. The Spanish, who had held the coast for 150 years, had been driven south to St. Augustine in 1702 by these same British-allied Indians. The British were not yet strong enough to capitalize upon the success of their Indian allies; they had all they could do to consolidate their hold in South Carolina and protect themselves against hostile Indians. The French, however saw an opportunity to expand eastward from the interior and gain access to the Atlantic Ocean.

The French were established in Canada, and down the Ohio and Mississippi River valleys to the Gulf of Mexico. But it was impractical to ship furs upstream to Canada and across the North Atlantic shipping lanes to France, and ships sailing from Louisiana had to sneak around the Florida ninsula, doding Spanish warships and dangerous efs. The French needed direct access to the Atlantic, and in the vacuum created by the retreat of the Spanish and Guale in 1702, they saw their chance.

The French struck eastward from the lower Mississippi valley, sailing up Mobile Bay and the Alabama River to Fort Toulouse, above present-day Montgomery, Alabama. From Fort Toulouse, they skirted the tail end of the Appalachians, picked up the Ocmulgee somewhere not far below Atlanta, and floated downriver to the junction with the Oconee, and from there down the Altamaha to the Atlantic.

When the British in Charles Town learned what the French were doing they knew the French instrusion threatened the existence not only of South Carolina, but of all the British colonies in North America. The French were entrenched in Canada to the north, on the Ohio and Mississippi to the west, and were now trying to encircle the thin strip of British colonies on the coast of North America by controlling the south; overland from the Mississippi to the Ocmulgee, down river from there to the Altamaha and the Atlantic. The French could cut off Charles Town's thriving deerskin ade with the Indians of the interior, crippling the outhern British colonies, and then push all of them into the sea. The British had terrible, all-too-possible visions of French-incited Indians raiding



Norm Edwards, Ft. King George Curator, poses in the garb of an 18th Century British soldier.

their trading posts and plantations, of French regulars attacking their cities and towns from the interior while French fleets blockaded the sea. Needless to say, the French enjoyed the same visions, and saw that access to the Atlantic, down the Altamaha, was the key, the missing piece of territory they had to control.

Colonel John Barnwell, South Carolina's leading Indian fighter and most experienced militia officer, saw that the best way to stop French expansion down the Altamaha was to control the mouth of that river. In 1720 he went before the Board of Trade in London to request the king commission him to build a fort to control the mouth of the Altamaha, thus denying the French access to the Atlantic. The Board of Trade, aware of the French treat and impressed with Barnwell's plan, ordered him to fortify the Altamaha.

Colonel Barnwell returned to Charles Town in May, 1721, with an overstrength company of very sick soldiers. The threat of French expansion was too pressing for the British to wait for the soldiers to recover from the voyage and become acclimated, so Barnwell used South Carolina's Provincial Scouts to construct Fort King George on what he called Garrison Point, just below the site of the abandoned Indian Village and Spanish mission of Tolomato. After the British regulars had recuperated, they took over as Fort King George's garrison from the Provincial Scouts, and manned this southernmost outpost of the British Empire in North America until 1727, when the garrson was withdrawn to Port Royal. The Independent

Company left more than 140 officers and men buried above the fort site, in the village of Tolomato. This cemetery may be the oldest of regular British soldiers in North America.

In the six years the Independent Company garrisoned Fort King George, the British soldiers destroyed French plans for colonizing the Altamaha and coastal Georgia from the interior, and for surrounding the British colonies on three landsides. If the British had not built Fort King George, Georgia would have become a French colony in 1721, instead of a British colony under Oglethorpe in 1733. Fort King George saved Georgia for the British Empire.

Environmental Protection Update

Improperly treated sewage affects public health and creates hazardous conditions in our streams, rivers and lakes. To monitor such discharges effectively, samples are routinely collected from wastewater treatment facilities and analyzed in the laboratory of the southeastern region of EPD.

Merrill Tindall, an environmental scientist with EPD in Brunswick, has been analyzing water samples for the past 2½ years to determine levels of contamination. The analyses include suspended solids, dissolved oxygen, fecal coliform, biochemical oxygen demand, pH, specific conductivity and others. Analytical results are used to determine whether the discharger is in compliance with EPD assigned discharge limitations. These limitations are specified in the discharger's NPDES (National Pollution Discharge Elimination System) permit, issued by the Georgia DNR Environmental Protection Division, under guidelines established by the U.S. Environmental Protection Agency.

In addition to laboratory analyses of wastewater samples, Tindall also performs bacteriological analyses of coastal waters inhabited by shellfish. These analyses and other data lead to assessments of the sanitary quality of the waters.

The Southeastern Regional Laboratory also provides laboratory analyses for the southwestern region of EPD headquartered in Albany, and the middle Georgia region in Macon.

Generalists Bob Lord and Bob Rose in the southeastern regional office of the EPD (in Brunswick) are actively implementing the Rules for Safe Drinking Water within the 24-county region. Implementation consists of collection of water samples for detailed analysis and sanitary surveys of each of the more than 300 community water systems (excluding Chatham County) in the region.

Under the Rules, each community water system (a system that serves a minimum of 25 persons or 15 service connections on a year-round basis) is required to meet specific treatment and monitoring requirements. Failure to meet the bacteriological monitoring requirements would result in enforcement of the Public Notification section of the Rules. In addition, EPD personnel collect water samples for analysis for radioactive, organic and inorganic substances that might exceed the set maximum contaminant levels (MCL's).

An annual sanitary survey is made of each community drinking water system as well. Each survey is a summary of the operation and sampling history over the past year. For municipal water systems, a detailed financial information section is included.

Through these actions, the goal of assuring high quality safe drinking water for all residents obtaining their water from a public system, regardless of size, will be achieved.

Brunswick/Glynn County Joint Planning Commission

St. Simons Island presently is in the midst of a process to examine its values and desires. The need to conduct this examination is a result of strong urban growth on the island in recent years. For example, during the last four years 50% of the total development activity within Glynn County has occurred on St. Simons Island, although its 10,000 population makes up only one fifth of the County's population. As might be expected, such growth places heavy pressure on public support facilities, the insland's sensitive environmental resources and its unique historical and ethnic cultures.

In order to provide some structure to this community self-evaluation, the Brunswick/Glynn County Joint Planning Commission (JPC) is providing leadership and coordination to the planning process. Commission staff, supported by Georgia's Coastal Zone Management Program, has prepared two reports during recent months.

The first, a **Background Report,** investigates in a comprehensive fashion the islands population, economy, public services, environmental charcteristics and current land use management methods. This report presents facts, identifies problems and states issues. Thus its overall purpose is to inform public officials and interested citizens of problems, issues and sending decisions.

Beginning where the **Background Report** leaves off, the second publication, **Island Plan**

Alternatives, enumerates several factors which together will forge the island's future (rate of ulation growth, types of housing, patterns of development, availability of services, land controls and environmental protection measures). Because it is an alternative report, optons within each of these factors are first identified and grouped in such a way that three alternative plan directions emerge. Brief descriptions of the implications of each alternative accompany. Copies of both reports may be obtained from: Mr. Roy Dudark, Brunswick/Glynn County Joint Planning Commission, Newcastle Street, Brunswick, Georgia 31520.

During the week of February 19-25, public meetings were held on St. Simons Island to involve citizens and specific interest groups in the selection of long-range goals, realistic objectives and ultimately sound policies to guide public and privation actions in the future.

Obviously such an approach is time consuming but it is the only way that planning can have meaning and not just be an exercise for planners. While numerous individuals have shown an interest, it is too early to measure results. Indeed, worthwhile results can only be brought about by the participants themselves. For if each potential participant, homeowner, beachcomber, realtor, retiree or developer, will in fact participate, the island will be that much stronger as a community, that much more certain of its values and possibly that much more in command of its future.

Coastal fisheries biologist Tony Reisinger leads a group of 8th graders onto a docked research vessel during a tour of DNR's Coastal Resources Program.

University of Georgia Marine Extension Service

by Patrick C. Adams

The role of the University of Georgia Marine Extension Service in Brunswick with Dr. Wayne Bough as its director, is to develop new ideas and materials for the improvement of the various aspects of the seafood industry of the Georgia coast and to educate the public about its coastal environment.

The Fisheries Advisory Section headed by Mr. Dave Harrington is continually attempting to develop new types of gear or trying to improve already existing gear used in the commercial fishing industry. Examples of this are the twin trawling system and the jelly ball elimination device developed for the shrimping industry.

In addition other areas in the fishing industry, such as commercial finfishing, are being explored to determine if they are economically feasible for the Georgia coast. Mr. Jack Rivers, who is in charge of this project, and the crew of the R/V **Capt. J. W. Fanning,** an 85-foot steel hull trawler, are putting in many long days at sea on this project.

The fisheries advisory agents also hold workshops for the commerical fishermen in net making and mending and cable splicing. With the aid of the R/V **Capt. Gene,** a 55-foot shrimp trawler, Capt. James "Diddley" Higgins and first mate Tom "Frito" Shierling demonstrate new trawling techniques to the commerical fishermen and help solve problems associated with the fishing industry.

The Sport Fishing Section is headed by Mr. Jim Whitted. His primary purpose is to develop a fishing map for each county of the Georgia coast. These maps not only show the sport fisherman where to fish but also advise him as to when to fish, which bait and tackle to use, and which species of fish that he can expect to catch at each location. The maps of Glynn and McIntosh counties have already been completed and are available to the public at the Marine Extension Office and all local marinas. Jim Whitted also conducts workshops on how to fish along the coast and which types of gear to use.

The Seafood Technology Section organized and headed by Dr. Wayne Bough, is dedicated to helping the seafood industry in many ways. Processing and packing houses especially are benefiting because of new research being done to evaluate screening and treatment of waste from their plants in order to help them meet environmental quality laws. Also new methods of sanitation in the industry and seafood waste disposal, such as ocean dumping, are being explored to determine their effects upon the environment and their commercial feasibilities.

Other projects of the seafood technology section include developing uses for seafood waste products. One new product, chitosan, is made from crab hulls and can be used in waste treatment applications. Another project is developing food products from underutilized fish species. Dr. Arnold Wu is

A University of Georgia Marine Extension biologist drowned February 22nd when the boat he and his colleague were using to trawl for shrimp flooded and capsized. Patrick Campbell Adams, 30, of Brunswick and Steve Pittman, 23, also of Brunswick, were trawling for the shrimp as a part of the cooperative UGA/DNR shrimp monitoring project in Buttermilk Sound (Glynn County) near marker 221, close to the Hampton River entrance, when the accident occurred.

According to UGA and DNR reports the **R/V Alterniflora's** nets snagged around 1:15 February 22nd and in attempts to free it, part of the net caught in the propeller of the boat began to take in water over its transom. The combination of winds (20 mph), low tide and waves (up to three feet) and the snagged net caused the craft to fill quickly and capsize.

UGA and DNR officials said Pittman made it to the overturned boat and sat on it until rescued by the U.S. Army Corps of Engineers boat **Bacon II.** Pittman said Adams was swept away from the boat. Wate temperature in the area was 41 degrees.

Shortly after 4:00 p.m. rescuers from the Sheriff's Office in McIntosh County, Department of Natural Resources, the University of Georgia Marine Extension Service and the U.S. Coast Guard, raced to the scene. Recovery attempts continued through the night and at 9:00 a.m. February 23rd, the University of Georgia's Research Vessel, **Capt. Gene,** succeeded in recovering Adam's body.

working with these problems.

Other services of Marine Extension include elping new seafood industries such as the Bryan County Cooperative Association to develop into a profitable commercial enterprise that will benefit the Georgia coast.

With the public becoming increasingly aware and concerned with its coastal environment a new section has been created at the Brunswick Office dealing with education and ecology and headed by Mr. Pat Adams. Pat's job is to educate the people of the coast and other interested persons about the environment in which they live, the problems associated with the coast, and what agencies like the Marine Extension Service are doing to solve these problems by teaching in schools, conducting short courses and marsh walks, giving lectures, and working with groups such as Boy Scouts, Girl Scouts, and 4-H.

Another example of problems considered by the Marine Extension Service is the shrimp kill which Georgia experienced last winter because of the severe cold weather. Both the Department of Natural Resources and the University of Georgia Marine Extension Service are trying to determine the effects of this disaster upon the shrimp population in a cooperative project involving six boats and numerous personnel of both agencies.

The personnel of the Marine Extension Service are dedicated to serving the people of the Georgia coast in any way relating to marine activities. Further information can be obtained by stopping by the offices located in South Yards or calling 912/264-7268.

The pose you were most likely to get of Pat Adams - hurrying to get his research done in Georgia's coastal waters.

Coastal Zone Management Update

Current Coastal Legislation Status

House Bill 1465, the Basic Coastal Zone Management Act, passed both the House and the Senate in the General Assembly. The final question remaining, the oundary of the coastal zone, is in the hands of a joint committee of the General Assembly. When the committee acts, the bill will go to the Governor for his signature (see page 3). House Bill 1316, the Shore Protection Act, passed the House and is in the Senate Natural Resource Committee. The Bill is expected to be presented to the floor of the Senate for action any day.

House Bill 1382, the Bait Shrimp Act, passed both the House and the Senate and awaits the Governor's signature. This bill, among other things, provides for a $5 sportfishing license for resident saltwater fishermen who net shrimp for bait. Two other bills, H.B. 1545, Air Quality Act and H.B. 1967, Water Quality Act, also will affect coastal citizens. The Air Quality bill passed both houses and awaits the Governor's signature. The Water Quality Act passed the House (with amendments) and is in the Senate, where the Senate Natural Resource Committee also amended it.

First Draft of CZM Management Plan

The CZM staff has prepared and delivered the first draft of the Coastal Zone Management Plan to the Office of Coastal Zone Management in Washington. Since the document is in a preliminary state, the CZM staff is working to complete a final version (expected to be completed by early summer). CZM staffers from DNR, the Metropolitan Planning Commission, Coastal Area Planning and Development Commission and the Brunswick/Glynn County Joint Planning Commission are working on the plan.

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