







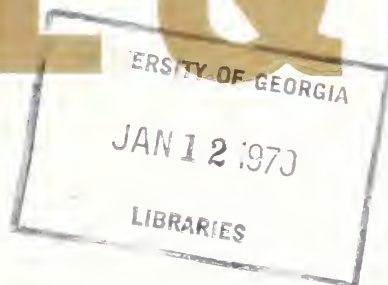
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GEORGIA

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GAME & FISH





GEORGIA

GAME & FISH

January 1970

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CONTENTS

Woodies' World ...	
The Beaver Pond	Sharon Davis 1
Alapaha Opens Up	John Culler 5
Frostbite Fishing	Marvin Tye 9
Conservation Preacher	John Culler 11
Outdoor World	13
Sportsmen Speak	15
Sportsman's Calendar	16
Tide Table	17

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NEEDED: Conservation Money For Wildlife

by George T. Bagby, Director
State Game and Fish Commission

This month, the Georgia General Assembly will convene for its annual legislative session. In addition to the many bills and resolutions that are considered each year, the General Assembly will adopt an appropriations bill which will govern the expenditures of Georgia's numerous state agencies for the coming fiscal year.

The relatively small amount of the appropriation that is allotted to the State Game and Fish Commission to a large degree decides whether the cause of wildlife conservation will fall back, stand still, or progress during the coming year. Without adequate financing, the Commission cannot hope to keep pace with rising costs caused by inflation, to meet salary increases necessary to hold qualified and experienced personnel as well as to attract new employees to fill vacancies, or to improve its services to a rapidly expanding number of hunters and fishermen.

How great an increase in demand is there on the Commission each year to provide new or additional services for sportsmen? The figures for increases in the number of licensed Georgia sportsmen in the past 10 years alone tell the story. For instance, in the 1958-59 season, Georgia sold 437,322 fishing licenses. In the 1968-69 season, that figure rose to 502,233. In the same period, hunting licenses increased from 175,955 to 247,431 and combination license sales rose from 49,542 to 66,461.

The total for all three types of licenses increased from 662,819 in the 1958-59 season to 816,125 only 10 years later, an increase of almost 22 per cent! There is no reason to believe that this tremendous increase in the numbers of Georgia's hunters and fishermen will be any less in the next 10 years.

How can the State Game and Fish Commission keep pace with the needs of this vast army of new sportsmen without cutting the quality of its services at a time when they should be improved? The only answer is more money.

How would this money be used, and how much is needed? For example, the budget request of the Commission for fiscal year 1971 asks for an additional \$1,433,711 in new state funds. \$377,236 of this amount would be used for 38 new employees, including four biologists, biological aides, refuge managers for new hunting areas, public fishing area managers, secretarial help, and 20 wildlife rangers for a separate saltwater patrol.

\$635,278 would be used for additional operating expenses to support the activities of the new personnel, including \$161,435 for motor vehicles, \$35,000 for uniforms, \$163,840 for the coastal patrol, new boats, radios, and many other items.

The final \$421,197 of state funds requested for fiscal 1971 would be used for capital outlays to construct permanent facilities for two public fishing areas: \$78,000 to construct

Continued on page 1

ON THE COVERS: Two views of Georgia duck hunting from the lens of Game & Fish's talented photographer, Ted Borg. On the front cover, a duck hunter seems to be pondering the fate of waterfowl and the wetlands in Georgia, beset by pesticides, radiation, and drainage. On the back cover, the sun setting, or rising on Georgia's waterfowl? The increase in the number of beaver ponds like the one on the back cover has been a bright spot in the duck hunting picture. The brilliantly colored wood duck making his getaway owes his comeback to a large measure of the rise of beavers and their dams in Georgia.

PHOTO CREDITS: Ted Borg 1, b.3, 10; John Culler 5, 6, 7, 8, 11, 12; Sharon Davis 1.4; Leonard Lee Rue 1.4; Marvin Tye 9; U.S. Bureau of Sport Fisheries and Wildlife r.2, t.3, t.4; U.S. Forest Service 1.4; Dean Wohlgenuth 13.

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WOODIES' WORLD

The Beaver Pond

By Sharon Davis

*School of Forest Resources
University of Georgia*



Beaver ponds are ideal wood duck territory. The wood duck's ability to dart swiftly through the trees makes his escape from danger relatively easy.

■ Governmental agencies have plans to drain some of Georgia's finest swamps for flood control. Private industry wants to destroy coastal marshes in phosphate mining. Timber companies would also like to drain their lands flooded by beaver.

Who stands to lose in the drainage process, besides the beaver? You, the Georgia sportsman. Every time you lose an acre of wetland, you say good-bye to more potential duck hunting lands. If you are fortunate enough to have beaver swamps on your own land, or know someone who does, you can still save some of Georgia's finest wood duck habitat.

Save your beaver pond and keep your woodies. Better yet, manage your beaver pond. Increase your wood ducks. Eugene Hester, a biologist who has hatched forty-six wood ducklings per acre on his own pond said, "The beaver is the best friend the wood duck ever had."

Why should we depend entirely on the northern waterfowl produced in the potholes of North Dakota, South Dakota, Minnesota, and Montana for fall duck hunting? Georgia has over 126,000 acres of potential wood duck habitat in beaver swamps. If half of this acreage were managed for woody production, each acre could produce ten to twenty ducklings, or over 1.2 million annually. This would add approximately 600,000 huntable woodies to the fall population!

If half the beaver ponds were planted to duck foods, like Japanese millet, over 3,000,000 migrating ducks could be fed in Georgia during the fall and winter. This is more than all the wood ducks presently using the two major eastern flyways! Wood ducks compose under 10% of the total waterfowl kill, but can be increased greatly, especially by intelligent management of southeastern beaver swamps.

Beaver ponds naturally provide ideal nesting and rearing sites for wood ducks. In a study done on the Piedmont Wildlife Refuge, Dave Almand found about one natural nest cavity in every four acres. Putting up man-made nest

boxes would greatly increase nesting opportunities for woodies. Georgia sportsmen's clubs are already doing this themselves.

In an eight-acre pond in North Carolina, twenty-seven broods were hatched from nest boxes in one season! In the Yazoo National Wildlife Refuge in Mississippi, duck boxes added 1,894 ducklings to the population in 1968. The average wood duck brood size in Georgia is nine, about half of which reach flight stage. With nest boxes, a beaver pond could produce over twenty-five young per acre!

Ducklings feed on the many aquatic insects found in emergent vegetation. This vegetation also provides cover for flightless birds and foods for adults. Wood ducks begin nesting in Georgia in February, with the peak hatching period



Although beaver ponds are already good habitat for wood ducks, they can be improved through the erection of nesting boxes like the one in the background behind this beaver lodge, or by planting duck food by drawing the pond down temporarily.



Beavers and their tireless construction efforts are considered the main reason that wood ducks came back from near extinction to huntable numbers, mainly with a closed season and no bag limit for many years.

the first two weeks of May. By mid-July, most young are flying.

For those who wish to keep these ducks until the fall hunting season, plus attract migrants, a little more work will pay off. The beaver pond is drained in July and planted to Japanese millet. The millet will grow best if seeded on the mud flats, and then reflooded after the water is a foot tall. An acre of millet can feed fifty to a hundred ducks by October.

To expose the mud flats for planting, several types of drains can be installed in a beaver dam. Beavers, though intelligent, cannot plug these drains, and usually don't try throughout the lazy summer. In spring and summer they do depend on felled trees and brush for food, as their summer diet consists of stems and leafy parts of cattails, duck potatoes, water lilies, sedges, and young blackberry shoots, all of which are close at hand. So they can live without their

huge pond during the summer, and will probably let you put a drain in the dam, as long as kits are not present.

Drains to foil the eager beaver range from three logs nailed together, costing forty-five cents per acre for drainage, to a more refined water level regulator. The latter is installed permanently and costs several hundred dollars.

In Hall County, a perforated steel pipe, costing approximately ten dollars, drained a five-acre beaver pond. This drain was placed in the dam in July. The pond area was broadcast with Japanese millet and reflooded in October. According to game biologist Robert

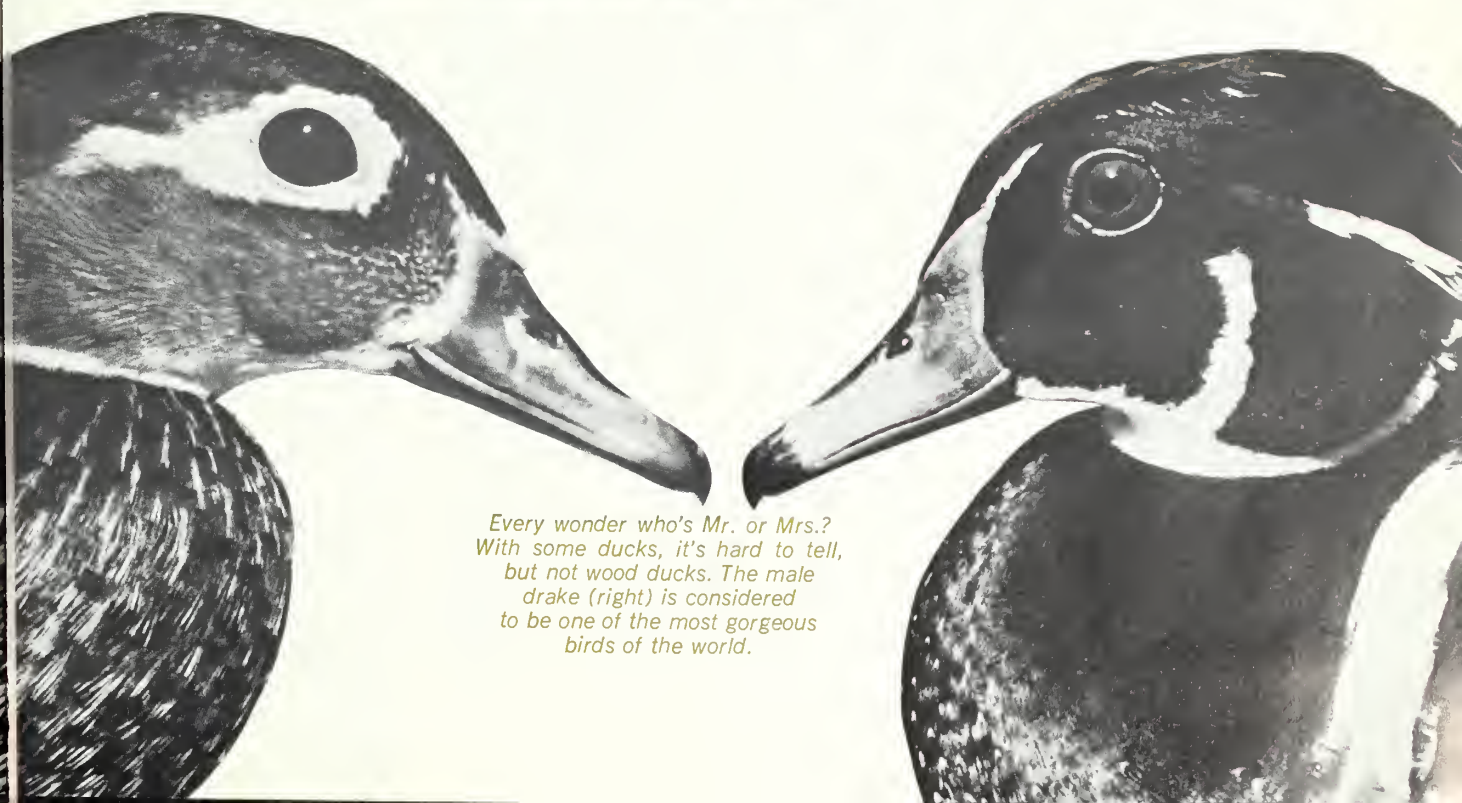
Howarth, the first season thirty to forty woodies and some mallards fed in the beaver pond. The next spring, at least three pairs of woodies nested in its five acres. The following summer, the pond was drained and replanted. Both woodies and mallards increased.

Another private landowner in Henry County manages his three beaver ponds for his fall shooting. He and his friends shoot their limit twice a week, throughout the whole season, without hurting the population. He gets better hunting from his beaver ponds, than from his man-made ponds, which cost \$1,000 and \$1,500 per acre to build!

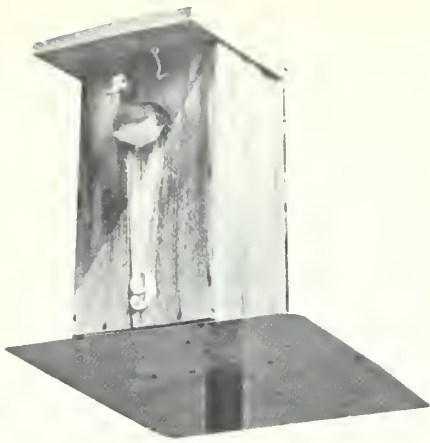
Marben Farms, a Georgia shooting preserve, is also taking advantage of the duck habitat beavers provide on their 3,600 acres. Bill Hester, the farm manager, is developing a 40-acre beaver pond for wood ducks. The first year of planting brought hundreds of ducks to the pond. In this hunting season, eighty Georgia hunters will be able to shoot woodies from Marben blinds. A fee of ten dollars each will provide hours of



During the courtship ritual, a male woodie proudly displays his colorful plumage to his mate. Wood ducks are the main species of ducks that nest in Georgia and live here during the entire year, although thousands of woodies and other species of ducks migrate here each winter from the north.



*Every wonder who's Mr. or Mrs.?
With some ducks, it's hard to tell,
but not wood ducks. The male
drake (right) is considered
to be one of the most gorgeous
birds of the world.*



This wood duck box has predator guard installed below it to ward off climbing animals, helping to insure survival of the young. Without it, the box could be a death trap for even the mother.

pleasure to Georgia sportsmen. Mr. Hester knows shooting wild ducks is much more sport than shooting domestic ducks released before the gun. They offer quality hunting, not quantity.

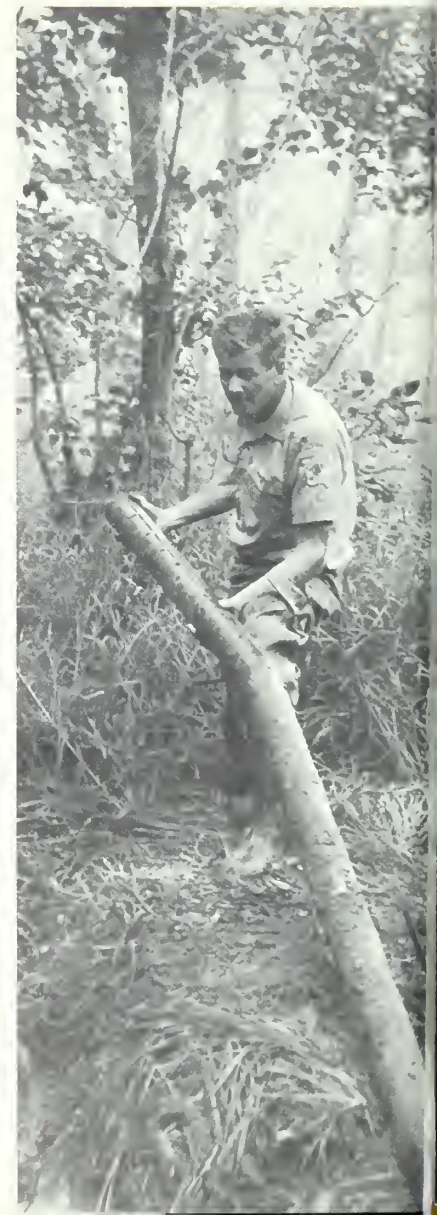
Game biologists in Georgia are helping those landowners who want the beaver to manage their beaver ponds for the propagation of wood ducks. Biologists say, "It's cheaper to use nature in developing waterfowl hunting areas. The beaver pond is our best tool in Georgia for the propagation of wood ducks." If you want help in managing your beaver pond for waterfowl development, the local district or region game biologist of the State Game and Fish Commission will furnish technical advice in methods of dewatering and explain how and what to plant.

Artificial ponds have also added

14,400 additional acres of waterfowl habitat in Georgia, as well as managing beaver ponds. However, unless they are constructed specifically for ducks, artificial farm ponds usually are not as good as natural beaver swamps for waterfowl nesting and feeding, usually because they are too deep, which is the problem with most hydroelectric or flood control reservoirs, in addition, to rapidly fluctuating water levels.

While private and government groups are concentrating on draining your Georgia swamps, you can still act. If you still enjoy sitting in a duck blind waiting for the "who-o-ek" of the beautiful wood duck, you can make your own hunting. You can protect the wood ducks . . . by protecting his best friend the beaver.

Permanent control over the water level in a beaver dam can be exercised through the use of several types of drains which the beavers can't easily plug, such as this one used successfully by Commission game biologist Robert Howarth of Gainesville.



With beaver dams, many waterfowl find food in the winter, they may find food in the summer when plenty of food is available. The beaver pond is a good place to look for food on exposed bank.

The personnel of the State Game and Fish Commission have already begun work on the new Alapaha Game Management Area. South Georgia game supervisor Frank Parrish (left) and area manager Arthur Harper mine a chufa food plot planted on a break for turkey winter food.

The Alapaha Area looks like South Georgia: flat, with sandy loam soil and many wet weather ponds and swamps. There is a surprising amount of hardwoods, mostly second growth oaks, rising above the typical pines in places.

Originally planted by farmers for hog food, chufas are a delicacy for wild turkeys, as well as deer and many other types of wildlife. They are available for months at a time just under the ground.



ALAPAHA OPENS UP

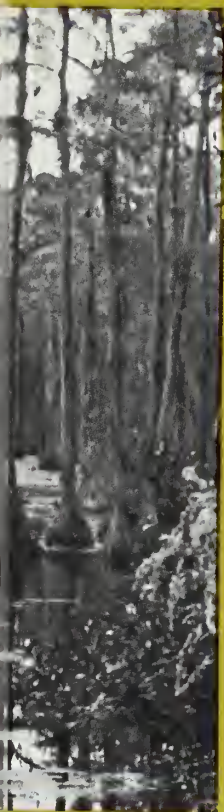
By John Culler

■ The Georgia Game and Fish Commission's newest game management area, the 16,000 acre Alapaha area near Pearson in South Georgia, promises to be one of the most diversified hunting areas now under the management of the commission.

Right: One large pond on the Alapaha Area has a good population of wood ducks, with an abundance of natural nesting cavities in old dead cypress trees.

Below: This season, there was a plentiful supply of palmetto berries, a preferred food of deer and many other animals, when it is available. Unfortunately, palmettos may go for many years without bearing any fruit at all, making them an unreliable forage species.





ALAPAHA AREA

There is fair quail hunting on the recently cutover sections of the Alapaha area, where there is a small game hunt this month, January 5 through the 10, with no permit required. The tall trees in the background are cypress around a small flat pond or "strand," one of the best places to still hunt for deer, because of a concentration of deer food around the ponds compared to the widespread adjacent pine areas.



aken under contract just last spring, Alapaha presently has a good population of small game, including squirrel, rabbit and quail, and small game hunting will be allowed on the area January through this season.

The area also has a good deer population, but commission biologists decided to wait until next season before deer hunting is allowed, "so we can start off with a really good deer season."

Wildlife biologist Frank Parrish said the area also offers good turkey habitat, although there is not a huntable turkey population on the area now. "Our plans include a turkey stocking program on the area to supplement the present population," Parrish said. "There are a good many hardwood trees on the area, and all in all, it's good turkey habitat."

Additional game populations include wild hogs, which are currently present

in good numbers, and duck shooting on the numerous cypress ponds which dot the area.

The addition of the Alapaha area makes four public hunting areas now managed by the Georgia Game and Fish Commission in the Valdosta area. Others are the larger Suwannee and Arabia Bay areas, and the 5,866 Grand Bay area. Both Suwannee and Arabia offer deer hunting.

The Alapaha River already has a good deer population and prospects will be opened for deer hunting next season. Deer also like the white oak, hickory and tupelo and can be seen more readily than in some of the other areas.



Along the Alapaha River, there is a good population of quail. The brush and ground cover is good for quail. Deer and turkeys will be seen in the brush. The quail are also seen in the brush. The quail are also seen in the brush. The quail are also seen in the brush.

More than 750,000 acres of good hunting in 27 game management areas in all parts of Georgia are now under the game management program. On these areas, wildlife is managed to produce the finest possible hunting. In addition to providing the public a place to hunt, the management areas serve as seed areas for restoration of wildlife into surrounding areas, primarily Georgia's two big game species, deer and turkey.

On the Alapaha area, special plantings of Japanese and brown top millet, along with white proso, will be made this spring to supplement native foods. Rye will be planted this winter for deer and turkeys, and also to hold doves on the area. Area manager Arthur Harper said he planned to do some controlled burning, which will stimulate new plant growth for quail.

Much of the area is open, and Harper said he flushed seven coveys of quail one morning recently. There have also been some big bucks killed on the area in the past. "I saw a deer that was killed here about two years ago that weighed over 250 pounds," Harper said, "and that is a big deer for south Georgia."

There has been a good mast crop this year in south Georgia, and under the protection offered on a management area, the wildlife on the Alapaha area should get a good start. It promises many happy moments for Georgia hunters.



Terry Chupp of Tucker admires the six-pound largemouth bass that he caught on a day when most other fishermen stayed at home. Despite rain and near freezing temperatures, a rainsuit and other proper clothing kept him warm and dry.



FROSTBITE FISHING

By Marvin Tye

Top: Proper equipment is a prime consideration in landing large stringers of fish. You'll need a good boat to reach the deep holes. Several layers of wool or insulated clothing are best to keep warm.

Middle: The wintertime fisherman often has the lake to himself. If he is familiar with the lake and knows where the large bass are likely to be found, he has a good chance of bringing in a really outstanding catch.

Bottom: Another bass for the stringer from Seminole's trees. The rewards are sometimes large for the fisherman who tries frostbite fishing.



■ Terry Chupp was the living picture of a disgusted fisherman. As the light rain falling on Lake Lanier became heavier and turned to sleet, he accepted the inevitable. "If these roads get covered with ice we won't be able to drive home towing this heavy boat," he said. "We had better leave now."

With somewhat mixed emotions, I was forced to agree. We had been fishing for only about an hour and had not hooked a single fish. I did not want to quit so soon, nor did I want to take a chance of being stuck here until the weather changed or of having a wreck on the icy roads.

We had planned this outing for several weeks and had been forced to change our plans by either rain or snow each weekend. By the time we reached Interstate 85 the rain and sleet had stopped falling. Terry pulled on to Beaver Ruin Road and headed for Freeman's Lake, one and a half miles south-east of the Interstate.

V. W. Freeman, owner of the lake, seemed to think it was funny that we wanted to fish on such a lousy day. He waived the customary \$1.00 per day charge per angler and \$1.00 for boat rental because of the weather and because Terry was a steady customer who had fished the lake several times before.

We had the entire 100 acres to ourselves as we began our first drift across. The wind was blowing just hard enough to push our boat along at a good speed for pulling Fliptails across the bottom behind us. The temperature was just above freezing and a light drizzle began to fall.

A short distance from the dock a hearty strike took our minds off the rain and cold wind. Terry let the bass run for some distance in the prescribed manner, then set the hook.

"It feels like a good one!" Terry yelled as the bass stripped off line against a tight drag. I reeled in my lure and grabbed the net. After several minutes of give and take Terry pulled the whipped bass to the surface. I carefully slipped the net under it and hauled it into the boat. The bass weighed six pounds and measured 22 inches long.

You might say that this was a fitting reward for anyone who would sit out in the rain and fish when he could be sitting home in a warm dry room. This fishing, however, was not as distasteful

as it seems. We wore waterproof boots and rainsuits with hoods. Underneath were wool socks and several layers of warm clothing. I wore a fur-lined cap that covered the top and back of my head and my ears. Only my face and hands were cold. This amount of discomfort could be taken for a short period of time with no strain.

Many fishermen make the mistake of putting up their tackle when the cold winds begin to blow. They either forge fishing entirely or dream of the warm spring days when they can fish in comfort.

Some of the year's largest fish are caught in the wintertime. Emory Josey landed a 14 lb. 14 oz. largemouth on December 22, 1968. That bass won first prize in the Game and Fish Commission's annual fishing contest. The third largest bass ever recorded as taken by sports fisherman in Georgia was a 17 lb. 9 oz. specimen taken from Lake Lanier December 19, 1965 by Emory Dunahoo.

Bass tend to concentrate in deeper waters during the winter. Plastic worms, jigs, deep-running plugs, and various live baits fished on or near the bottom have accounted for a number of lunkers at this time. The fisherman who can locate a concentration of big bass in the winter can come home with a fine catch. The only problem with this is that he will then become addicted to frostbite fishing.

The first step is to get the proper clothing. Rather than wearing heavy bulky jackets and trousers, it is better to use several layers of wool or insulated synthetic materials so that these can be shed or added as the need arises. A waterproof plastic bag in your boat is handy for storing extra clothing and helps to keep it dry. A rainsuit that covers your body from head to toe can be purchased for less than \$10. On really cold days you might cover your face with a ski mask and wear wool gloves.

Once you have the proper clothing the next step is to locate the bass. If you fish a familiar lake, the battle is half won already. Fish the deeper holes with bottom-scratching lures until you begin to catch bass. In a strange lake, it pays to fish with someone who knows the local waters. If this type of assistance is not available, you will have to find the hotspots by yourself. An electronic depth finder will help you to pinpoint the deep holes. If you do not have such equipment, try trolling deep-running lures until you begin to score. After that, simply concentrate on the area that produce action.

Don't put away your tackle when winter comes. The lunker bass don't simply quit biting when the water gets cold. The industrious fisherman will find little competition and, sometimes, plenty of hot action.



CONSERVATION PREACHER

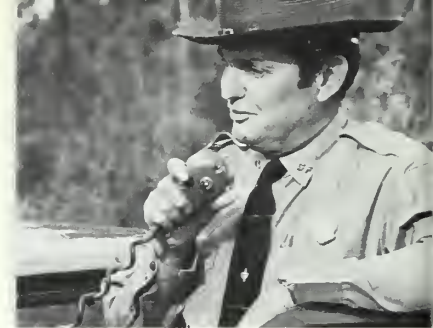




Sergeant Paul Johnson, Georgia's Outstanding Ranger of the Year for 1969, is a popular speaker with civic groups, spreading the gospel of conservation with quotations from the Bible and greetings in the language of the Okefenokee Swamp's Indians.



When he's not making a speech or teaching a class, Sergeant Johnson patrols big, flat Ware County, including a stretch of the Okefenokee, in cooperation with federal officers.



Easy to like, Johnson is a dedicated ranger who believes in God, and doesn't smoke or drink. He also believes in the value of conservation education, and common sense enforcement of wildlife laws for the hardheaded few.

Sergeant Paul Johnson

Georgia's Ranger of The Year

By John Culler

■ In the personnel records of the Georgia Game and Fish Commission, Paul Johnston of Ware County is listed as Sergeant, Law Enforcement Division. But to describe Johnston as an enforcement officer would be only a partial description, because even though he is an outstanding law enforcement officer, he is also an educator and conservationist motivated by the belief that only those who understand nature will care enough to protect it.

Johnston thinks of his position not as a job, but an opportunity. An opportunity which will allow him to help stop the destruction of Georgia's natural resources, and the opportunity to tell Georgians of the many values of the state's woods and wildlife.

Because of his efforts in education, his fine record in law enforcement, and his untiring efforts to promote conservation of our natural resources, Johnston was named Georgia's Ranger of the Year for 1969.

Born and raised in Bacon County, Johnston started with the Commission as a ranger in Ware County in 1960. He still works Ware County, but he was promoted to sergeant and assistant district chief to Mallory Hatchett in the Waycross District in April. Johnston's territory is unique, in that much of it is covered by the Okefenokee Swamp. This means that in addition to the regular duties a Ranger must perform, he also must work closely with Federal agents to patrol the huge swamp.

Riding herd on alligator poachers is a duty foreign to most Georgia rangers, but is a very important part of the enforcement efforts of the officers near the vast Okefenokee. Although Johnston says the killing of alligators for their hides has slackened off somewhat in recent months, there are always those who

will take advantage of Georgia's wildlife for an easy dollar. For instance Johnston, along with Ranger Walter Booth, caught one man a few months ago who had 21 gator hides in the trunk of his car. The arrest came after Booth surprised the man as he was loading the hides into the car. A high-speed chase resulted, but after Johnston was able to head him off, the violator drove his automobile into a South Georgia ditch.

While Johnston believes the key to wildlife conservation is education, he also believes there will always be a few people who can best be educated by a stiff fine or a few days in jail. "People in Georgia have a lot to be thankful for," Johnston says, "and in our work an education of the values of wildlife is extremely important because we can't arrest everyone. But for those who don't seem to care, we will always have law enforcement."

Johnston says he tries to be a common sense enforcement officer. "I think all our laws are based on common sense, and should be enforced that way. I believe common sense is the greatest virtue of our law, and certainly common sense is the greatest virtue of our law enforcement agents."

Because he believes education is so important to law enforcement, Johnston never misses a chance to speak to a civic club, school or sportsman's group. "I'll speak to church groups, garden clubs or anyone because I believe it's part of every ranger's job to try his best to educate the public," he said. "I know our educational programs have helped in this part of the country, because sportsmen are more eager to cooperate now and they respect game laws more than in the past. I also think our schools are helping a lot too."

Johnston says a Georgia Ranger must be armed with more than his badge of authority. "He must have full knowledge of his duties, laws, and regulations. This man must also possess many virtues. Among them must be pride, love of his work, dedication, self-discipline and enthusiasm."

Perhaps Johnston is a natural wildlife ranger, because he seems to like doing the things that are necessary. "I enjoy

meeting people and making new friends and I think wildlife laws are extremely important. Right now I can't think of many people I would change jobs with," he said.

Although he has been a ranger for nine years, he says he learns something new almost every day. "Awhile back came across two men in a panel truck in the woods. When I stopped to talk to them, they said they were cruising timber and I didn't have any reason to doubt their word because they didn't have any guns or anything," he said. "But later I learned they were working quail traps. I sure felt bad about that. I should have looked in the truck."

Asked about the most unusual thing he has ever seen a hunter do, Johnston said he once asked a young man how many quail he had killed. "Oh, seven or eight," the man replied. "I knew something was wrong the way he said it, and I also knew I had heard him shoot more than that," Johnston said. "I asked him to take the birds out of his hunting coat, which he had to do by reaching in and pulling them out blind from his bag in the back. He pulled nine quail, one at a time, and put them on the ground, then stopped. He reached in and found one more bird but it was a dove. Since it wasn't dove season, I made a case against him. But I'll never figure out how he pulled nine birds out of his sack and didn't get the dove."

Johnston is married to the former Rona Jane Booth from Manor, who he met on a Greyhound bus. "We were both going to Jacksonville, and I happened to get the seat next to her. That was the luckiest trip I ever took," said Johnston. Johnston was in the service at the time, and was headed overseas. But when he got back to Georgia they were married. "Sure was a lot of letter writing right along in there," he laughed. They live in Manor, and have a 14-year-old son, Paul.

Over the years Johnston has been bitten by a bear, helped with a baptism and been cussed out by an old man who didn't want his fishing messed up. But he took it all in stride. "It's all part of the job," he said.



Deer Hunters Have Their Day in Monticello

calling the rain of the year ago on
date, Monticello-Jasper Jaycees
mighty happy to see a warm,
day and a big crowd at their third
al Deer Festival Nov. 8 in Monti-

hundreds of folks, from deer hunters
business men, to townspeople, includ-
women of all ages and children,
on hand to partake in the affair.
lot of barbecued chicken and cole
were devoured, prizes were given to
ers for prize deer, folks listened to
find speechmaking and witnessed
ade. They looked at exhibits, in-
ing a number of wild animals provi-
y the State Game and Fish Com-
on. Entertainment included live
try music.

akers of the day included Wildlife
er of the Year for Georgia, Paul
ton of the Waycross District; and
y Carter, former state senator
Plains.

owned queen of the event by
e, was Sue Tuggle of Monticello.
ttendants were Patti Jordan, Deb-
ammond and Ann Stone, Monti-
Junior Miss.

prize for the deer with the most
on its antlers taken during the
week of the season went to Joe
son of Monticello for his 22-
er. Allen Fullord of Vienna bagged
pound deer, field dressed, to win
ize in the weight category.

largest doe taken in the bow sea-
Jasper County during the season
by Jim Leben of Roswell, a 115
er, field dressed. The youngest
to take a deer was Steven Mc-
on of Mableton, a 10-year-old who
145-pounder, field dressed. Mr.
rs. Bob Seay of Bethesda, Md.,
prize for having come the great-
istance to hunt, 738 miles. And
ard of Macon won the prize for
g the longest beard.

Dean Wohlgemuth



Jimmy Carter, candidate for governor in 1966 and a former state senator from Plains, Ga., was the main speaker of the day at the Monticello-Jasper County Deer Festival. He gave a hardhitting conservation talk, praising the Game and Fish Commission for its work, and lashing out at efforts to use Georgia's fine wildlife habitat as a dumping ground for industrial wastes.



Royalty at the third annual Deer Festival Nov. 8 included (from left) attendants Patti Jordan and Debbie Hammond, Deer Festival Queen Sue Tuggle, and attendant Ann Stone.

Cont. from inside front cover

plete the Chattooga County public fishing area now under construction, and \$300,000 for a public fishing area at a yet to be determined location; \$50,000 each for three new district law enforcement offices to replace antiquated and inadequate facilities at Gainesville, Thomson, and Macon; \$58,000 for 26 new boat launching ramps; \$67,500 for a new fisheries research laboratory at Brunswick; new boat houses at Allatoona, Sinclair, and Tobesofkee, checking stations on nine game management areas, hatchery superintendent residences at Richmond Hill, Arrowhead, and Bowen Mill fish hatcheries; and other improvements such as \$90,000 of hatchery renovations at the Summerville and Walton fish hatcheries so that more fish can be raised for stocking trout and striped bass.

How can this money be obtained? At present, approximately 80 per cent of the total state funds budget of the Commission is collected by the Commission from sportsmen for hunting and fishing licenses and other fees. While the Georgia constitution does not specifically allocate these license funds back to the Commission, state law provides that at least the same amount collected from hunters and fishing license fees or more will be appropriated back to the State Game and Fish Commission, in order to qualify for federal aid funds in fish and wildlife restoration. Therefore, the easiest way to justify raising the budget of the State Game and Fish Commission is to raise hunting and fishing license fees at the same time. There are a number of ways that this could be done that are worth serious consideration by the public and the General Assembly.

For instance, if the price of a resident

fishing license is increased 75 cents from \$2.25 to \$3.00, it is estimated that almost \$400,000 in additional funds could be raised. Increasing the hunting license 75 cents from \$3.25 to \$4.00 probably would raise almost \$200,000. These license fees are well below those of most of Georgia's neighboring and sister states. A state-wide hunting license in Florida costs \$7.50. North Carolina's fishing license is \$4.25, to name only two examples.

Another proposal which has special merit is a big game stamp to be required in addition to the regular hunting license for deer or turkey hunting. These two species are much more expensive than the other types of game to effectively manage, but they offer a much greater potential, especially on public hunting areas. Deer hunting is our fastest growing outdoor sport, increasing approximately 11 per cent each year. It is already our number two hunting species, just behind squirrels, and is virtually certain to take the number one place when the next survey is completed.

Game biologists estimate that there were over 161,934 deer hunters this season. If each one of them purchased a \$3.00 big game stamp, \$485,802 could be raised. If the stamp cost \$5.00, the amount raised could be \$809,670. Although the number of turkey hunters in Georgia now is low, the number will sharply increase if adequate funds are obtained to finance a turkey restocking program over the next 20 years similar to the deer stocking program of the past 20 years. At the same time, funds now being used for big game management could be put into programs of acquiring lands for small and big game hunting through lease or purchase, hiring new game biologists for extension work with

landowners in improving small game hunting on their own lands, and working with exotic experimental game birds like jungle fowl and hybrid pheasants.

Similar justifications can be made for a special trout stamp that would be required for mountain trout fishing in addition to the regular state fishing license. Like deer management, mountain trout stocking takes more than its share of fishing license money for the number of persons who fish for trout. The number of trout fishermen increases each year, but the number of native trout streams, native reproduction of trout and artificial hatchery stockings do increase.

The only way more fish can be produced to keep pace with more trout fishermen is to construct a third Georgia state trout hatchery, which will cost approximately \$250,000 to construct plus annual operation costs for salary, stocking trucks and gasoline, trout food, etc. It is estimated that there were 132,690 mountain trout fishermen in Georgia this season. If each one of them purchased a \$2.00 trout stamp, \$265,380 could be raised. A \$3 stamp would produce \$398,070.

From these examples, it is evident that the \$1,433,711 in additional funds needed to finance the proposed State Game and Fish Commission budget for fiscal year 1971 can be easily obtained from these sources, if the sportsmen of Georgia and the members of the General Assembly agree that the money needed and will be well spent. If I agree, I urge you to call, write, or your state representative or senator today to give him the benefit of your view. The future of wildlife conservation in Georgia is in the hands of you and your legislators. G.T.B.

A LOOK AT LICENSE FEES: Comparing Georgia and other Southeastern States

State	Fishing License	Hunting License	Big Game License
GEORGIA	\$2.25	\$3.25	None
Alabama	2.15	3.00	None
Arkansas	3.00	3.50	None
Florida	3.00	7.50	None
Louisiana	2.00	2.00	2.00
Mississippi	3.00	3.50	2.00
North Carolina	5.50	5.50	1.75
South Carolina	5.25	6.25	None
Texas	2.15	3.15	None
Virginia	3.50	3.50	2.00
West Virginia	3.00	3.00	
Missouri	4.30	4.30	7.80
Kentucky	3.25	4.25	10.50
Maryland	4.50	6.50	5.50
Tennessee	5.00 (Combination only)	5.00	5.00

Only three of these other 14 states have a lower fishing license fee, two of them only 10 cents less, the other 25 cents less. Only four of these states has a lower hunting license fee, one of which is merely 10 cents less, and two 25 cents less. Georgia's fishing license costs \$3.25 less than the highest of these, and Georgia's hunting license fee is \$4.25 less than the highest among these states. Georgia hunters may take all small and big game, including deer, bear and turkey on their license. The only state with a substantially lower hunting license charges \$2 for a big game license, making the overall cost higher than a Georgia hunter would pay for all game.

The average of all the states included in the figures for license fees is: fishing, \$3.5 (\$1.29 more than Georgia); hunting, \$4.35 (\$1.10 more than Georgia); big game license including only those who make a charge, \$4.57; averaging all states including those that make no extra charge for big game, \$2.61.

(Note: License fees in Southeastern states generally average lower than other states in the nation)

our November issue of "Georgia Game Fish" is a beautiful addition to any library!
We feel that this particular issue of your magazine would interest our retarded children, and request eight copies (one for each child) for their study and enjoyment. If you grant us this request, we will be most grateful.

es have been sent to the children.

ust read the Nov. issue of "Game and
and Mr. Winburn of Monticello's ar-
on "Sunday Hunting." I am in agree-
with him about the law being unfair.
nk all sportsmen should write their
representatives and strongly urge
to repeal this law making it illegal
e a gun on Sunday.

I state in "Game and Fish" that most many grand juries will not prosecute it, but that isn't the point. A bad law to be "repealed" not "ignored." It 't build respect for the law to "ignore the bad laws" and just "enforce the ones." Another point; the law against a gun on Sunday doesn't accomplish ing worth-while. All it does is to pre-a lot of law-abiding sportsmen from ng a few leisure hours either hunting get shooting. A lot of us can't afford long to a rod and gun club that has uthorized firing range."

about it sportsmen—let's hear your
or better yet, let the General Assem-
d the Governor hear them.

BOW HUNTING WASTE?

feel that the Georgia Game and Fish Commission is guilty of a great waste of money by allowing an either sex hunt without the entire "Bow and Arrow" system. It's common knowledge among good hunters that doe and fawn are easy

ing the bow hunters of my area, it is common to hear, "I saw it run off with my arrow in it, but I never found it." You hear, "My arrow went completely missing because I found blood on the ground but no arrow or shaft but I couldn't find the arrow." These conversations indicate that the majority of arrow wounded deer die unaided by the hunter.

view of these facts, I feel that the "2nd Arrow" season should be cut to "Only", or cut completely out.

Sincerely,
Jimmie S. Carter
Kathleen, Georgia

I think your staff does an excellent job and I am grateful that I live in Georgia with our abundance of wildlife, and a fine group like yours to manage things.

I think your Big Buck Contest is great, and many deserving hunters have been made happy and justly rewarded by winning. It distresses me however, that we bowhunters pay the same license fee and get so few benefits. I feel that it would be in order for you to sponsor a deer contest strickly for bowhunters. It is my sincere opinion that bowhunters represent a better cross section of true sportsmen that gun hunters. I wouldn't for one minute degrade the gun hunter for I am one myself, but all bowhunters that I know respect our laws. All gun hunters do not.

Please take this request into consideration. Give us an even break alongside gun toters.

Thank you again for the fine job you are doing. I repeat—I'm proud and fortunate to be a Georgia sportsman. I would be very grateful if you would print my letter in the Georgia "Game and Fish" Magazine so that we might find out how other bowhunters feel about this subject.

I am sending you a picture of the eight point buck I killed in Jones County with my bow. He field dressed 146 pounds and scored 156 $\frac{5}{8}$ points by America Bow Hunters Committee.

Harris Floyd
Macon, Georgia

The Big Deer Contest is co-sponsored with the Georgia Sportsmen's Federation. Deer killed with a bow and arrow are eligible for entry into the current contest. We're willing to talk to the Federation and/or one of the two state bow hunting groups about a separate contest.

I am enclosing a picture that I think tells the whole story of the "Sundown Covey" we all hope to wind up a perfect day of quail hunting with.

The pointer, "Bill", belongs to Ed Cooper of Reynolds and is the son of "Speedy" who is famous in this area and belongs to Dr. Bill Warren of Atlanta. The setter "Spec", having to honor this point, is no I thought you might possibly find the picture good enough to use for a cover in the future, if not, I figure you would appreciate what I think is a perfect point on the "Sundown Covey".

I also want to say that you all are doing a terrific job with "Game and Fish".

Sydney H. Bryan, Jr.
Reynolds, Ga.

Sorry, but your picture was a color print. Because of requirements of our printer, Game and Fish Magazine can only consider color transparencies for use on its covers, such as the standard 35mm color slides, or larger film sizes. Black and white photographs are not considered for covers, but can be used with a letter or an article. Game and Fish occasionally does purchase an outstanding photograph for cover use, but normally they are bought only from professional wildlife or outdoor photographers. If you'd like to try selling or donating use of a picture to us, we'll be glad to look at it, but we cannot assume responsibility for the loss of pictures in the mail, etc. Photographs sent with letters to the editor as a rule cannot be returned, for the simple fact that many of them get lost or marked up in the printing shuffle. Black and white



prints of photographs sent with articles for purchase consideration should be glossy prints, preferably 8 x 10's. Captions should be typewritten on 8½ x 11 sheets of paper and numbered to correspond to numbers on the backs or front margins of the photographs. Articles should be typewritten, double spaced.

BEAUTY AND SPLENDOR

In reference to your recent October issue of "Georgia Game and Fish", I would like to commend you on a job well done. Being an enthusiastic sportsman I find your magazine very informative and well worthwhile.

I have become aware of a problem that faces sportsmen and threatens our great outdoors. This problem is the wasteful use of our natural resources. I feel that conservation is the only answer to this problem. I believe totally in the conservation of our forests and wildlife.

I, along with many other sportsmen of Georgia greatly appreciate your worthwhile efforts to protect Georgia's wildlife and its resources. I say let us not rob future generations of their right to enjoy the beauty and splendor of Mother Nature.

Bill Wheelis
Elberton, Ga.

SUBSCRIPTIONS INCREASING

On the December 1969 issue of Georgia GAME & FISH Magazine we mailed 35,499 single copies and a total of 41,539 copies.

Thank you for letting us continue to mail the magazine.

Dure Thompson
Ace Mailing Service
2005 Marietta Rd., N.W.
Atlanta, Ga. 30318

GAME & FISH Magazine is proud of the way its subscriptions and total circulation have climbed steadily since beginning publication with the October, 1966 issue. Subscriptions were first required for the February 1967 issue, which Department records show was mailed to a list of 22,560 names. The magazine now has a higher circulation figure than any one individual daily newspaper in Georgia except the two large metropolitan daily papers in Atlanta, Savannah, Augusta, and one of the Macon daily newspapers. Georgia GAME & FISH has a higher circulation than the official state wildlife magazines of four of the five surrounding states, although all these states have published magazines longer than Georgia.

The success of the magazine in winning approval from sportsmen can be proven by talking to almost any subscriber, and from the many letters of praise we receive each month, many of which have been printed here.

But probably the most important criterion of success is not public acclaim, which we have received even on a national level (especially for the July 1969 issue), but whether or not we have advanced the cause of wildlife conservation by educating the public, even if there is some occasional adverse reaction from conflicting interests.

The most notable efforts of the magazine to successfully arouse public interest in a conservation problem and to secure support for its solution are in the important areas of dog control, marshlands preservation, and channelization. Many activities and causes of the State Game and Fish Commission have received support, and readers have benefited from the publication of volumes of information on where, when, and how to hunt and fish, along with interesting facts about wildlife in our own state.

Every individual associated with GAME & FISH Magazine deeply appreciates the support of its readers, and their generous com-

ments on our efforts for the past three years. At the same time, we realize that there is always room for improvement, within the limits of our printing budget and staff. Every letter from a subscriber is read with considerable interest. We hope you'll keep writing, and "Thanks a Million!"

STATE'S GAME MAGAZINE HAS OUTSTANDING ISSUE

The Georgia Game & Fish Commission's magazine publication, "Georgia Game & Fish", is hot off the presses for the November issue and is jam-packed with interesting articles and data for outdoorsmen.

Colorfully illustrated, the photographs and accompanying stories are enough to send a hunter's wandering fever to a sky-high pitch.

The front cover, for instance, shows a pair of wild turkeys, feeding, and the back cover features a head-on photo of a king-sized buck.

Local Areas

Albany and Southwest Georgia feature prominently in the magazine, with listings of hunting areas, wildlife regulations, and maps to show animal and bird distribution.

In fact, all of Georgia is covered in the ample devotion of the magazine's editors to articles explaining the game population, the types of game, their history in the state and methods being used by wildlife conservationists to build up and protect the game supplies.

All in all, the November Game & Fish edition is a compilation of facts, figures, photos and information for the hunter.

—From the Albany Herald
Sun., Nov. 9, 1969

ANTLERS

This morning I was walking through the woods down in Hancock County, and I found half of a deer's antlers. It was in excellent condition and had four points on the antler and appeared to have been lost only a few days. There was no other sign of anything around this spot.

What could account for the deer losing his antler? Do they begin to shed their antlers now or not? Please let me know about this matter.

Keep up the good work with Georgia Game and Fish.

David Malcolm
Athens, Georgia

According to Hubert Handy, State Supervisor of Game Management, deer in this area do not shed their antlers until about February. It is possible, especially if the stump is bloody, that the antler was broken off in a fight or by some other accident.

IN MEMORIAM

Thomas W. Harris, 64, Wildlife Ranger, died Sept. 2, 1969. He had been with the Game and Fish Commission for 15½ years, since 1954. Mr. Harris was the ranger in Charlton County.

H. J. Sewell, 63, manager of the Game and Fish Commission's game farm at Bowen Mill Hatchery, died Aug. 8, 1969. He had been with the Commission for 17 years, since 1952.

Mrs. Geraldine Stanton, 51, secretary at Walton Hatchery, Social Circle, Ga., died March 6, 1969. She had been with the Commission 2½ years, since 1966.

Sportsman's Calendar

SEASONS NOW OPEN

BRANT

Bag Limit—6 Daily, possession limit No goose season this year.

DOVES

Season—Dec. 6, 1969 through Jan. 15, 1970.

Bag Limit—18 daily, 36 in possession.

DUCKS, MERGANSERS AND COOTS

Season—Nov. 20, 1969 through Jan. 1970.

Bag Limit—Ducks: 3 Daily, including more than 2 wood ducks, 1 canvasback, 1 redhead, 1 black duck, and 3 mallards. Possession limit 6, including no more than 4 wood ducks, 1 canvasback or 1 redhead, 2 black ducks, and 6 mallards. Mergansers: 5 Daily, including no more than 1 hooded merganser; possession limit 10, including no more than 2 hooded mergansers. Coots: 10 Daily, possession limit 20.

GALLINULES

Season—Nov. 7, 1969 through Jan. 1970.

Bag Limit—15 daily, possession limit 30.

GROUSE, RUFFED

Season—Nov. 20, 1969 through Feb. 1970.

Bag Limit—3 Daily, possession limit 6.

OPOSSUM

Early Season—Sept. 27, 1969 through Feb. 24, 1970 in Coweta County only.

Regular Season—Oct. 18, 1969 through Feb. 28, 1970.

Bag Limit—None.

QUAIL

Season—November 20, 1969 through Feb. 28, 1970.

Bag Limit—12 daily, possession limit 24.

RABBITS

N. Ga. Season—Nov. 15, 1969 through Jan. 31, 1970.

N. Ga. Bag Limit—5 daily.

S. Ga. Season—Nov. 20, 1969 through Feb. 28, 1970.

S. Ga. Bag Limit—10 daily.

RACCOON

N. Ga. Season—Oct. 18, 1969 through Feb. 28, 1970.

Bag Limit—One (1) per person per day.

SNIPE, WILSON'S

Season—Dec. 13, 1969 through Jan. 1970.

Bag Limit—8 daily, possession limit 16. See Federal regulations.

SQUIRREL

Season—Oct. 15, 1969 through Feb. 28, 1970.

Bag Limit—10 daily.

TURKEY

Ga. Season—Nov. 20, 1969 through 28, 1970 in Baker, Calhoun, Decatur, Gerty, Early, Grady, Miller, Mitchell, Noble, and Thomas counties.

Ga. Bag Limit—Two (2) per sea-

ALTAMAHA WATERFOWL AREA (DARIEN)

Island Managed Blind Duck Hunts: days only, Nov. 20, 1969 through Jan. 1970. Hunting hours sunrise to 12 E.S.T. After Nov. 1, applications to not filled in the October drawing will be accepted on a first come, first served basis. For information on which hunts are available call the State Game and Fish Commission at Brunswick, area code 912, 1552.

Letters of application must specify date requested with a second choice if available in the event the first date is filled. Applicants must enclose a fee of \$5 per person in check or money order payable to the Georgia Game and Fish Commission. Applications should be addressed to P. O. Box 1097, Brunswick, Ga.

SEASONS OPENING THIS MONTH

SCAUP

Season—Jan. 16, 1970 through Jan. 1970 in that area east of the Inter-tidal Waterway only in Chatham, Bryan, Glynn, McIntosh, Glynn, and Camden counties.

Limit—5 daily, possession limit 10.

EVENTS THIS MONTH

Georgia Conservancy Annual Conference —January 30-31, 1970 at the Marriott Motor Hotel, Atlanta.



SMALL GAME MANAGED HUNTS SCHEDULED

(For detailed information of each individual area, write the State Game and Fish Commission, 270 Washington St., S.W.) No permits required, except Butler Island ducks.

DATES	AREAS	SPECIES
Reg. Season	Lake Seminole, Whitesburg, Allatoona, Altamaha (except Butler Island), Cohutta, Grand Bay, Brunswick Pulp and Paper Co.	All (except raccoons)
Nov. 20-Jan. 15 Sat. only	Altamaha (Butler Island)	Waterfowl and Dove
Dec. 8-Feb. 28 Fri. & Sat.	Lake Russell	All except Raccoons
Dec. 12-Feb. 28 Fri. & Sat.	Swallow Creek Coleman River	Grouse, Squirrel, Rabbit

Jan. 2-3	Chestatee	Squirrel Grouse
Jan. 16-17 Feb. 6-7	Lake Burton	Squirrel, Grouse
Jan. 3-31 Wed. & Sat.	Piedmont Exp. Sta.	Quail, Squirrel, Rabbit, Doves (In Season)
Jan. 3, 7, 10, 14, 17, 21, 24, 28, 31 Wed. & Sat.	Cedar Creek	Quail, Squirrel, Rabbit, Doves, Ducks (In season)
Jan. 9-10.	Chattahoochee	Grouse, Squirrel, Rabbit
Jan. 3, 7, 10, 14, 17, 21, 24, 25, 31	Bullard Creek	Quail, Squirrel, Rabbit, Dove, & Snipe (In Season)
Jan. 2-3	Blue Ridge	Grouse, Squirrel
Jan. 3-31 Wed. & Sat. only	Oaky Woods	Quail, Squirrel, Rabbit
Jan. 3-31 Wed. & Sat.	Clark Hill	Quail, Squirrel, Rabbit, Doves Ducks (In season))
Jan. 5-10	Alapaha	All (In season)



TIDE TABLE

JAN. - FEB. 1970

GEORGIA COASTAL WATERS

HOW TO USE THESE TABLES

The calculations are for the outer bar. Find the reading for the desired tide. In the table below find the number of minutes to add to correct for the place you are going to fish or swim. The outer bar calculation, plus this correction, gives the correct reading for the point desired.

Adjust For Daylight Saving Time By Adding One Hour

CORRECTION TABLE

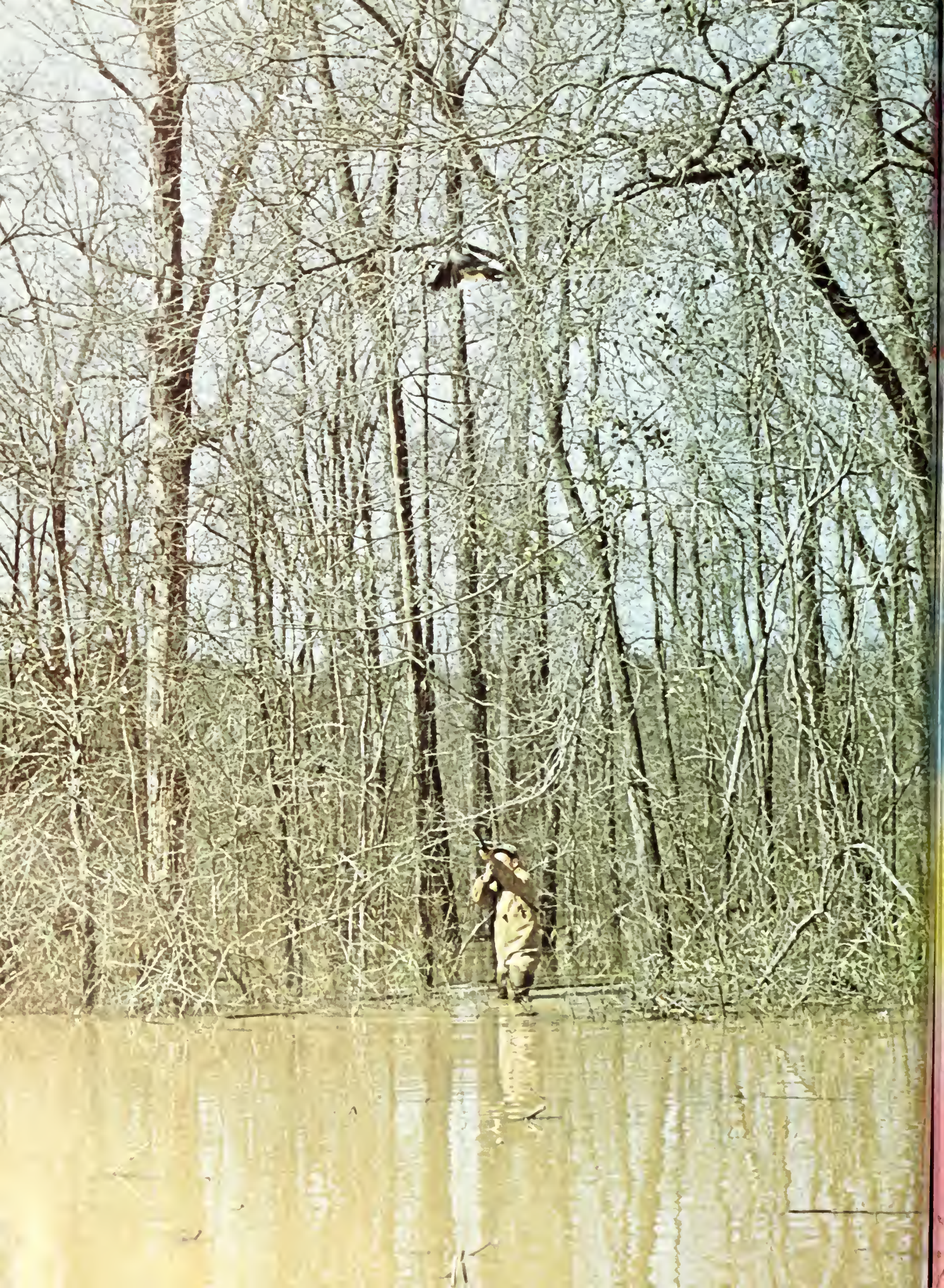
The times given are for Savannah River entrance (Tybee).

	Hrs.	Min.
Savannah High	0	44
Savannah (Low)	*	57
Hilton Head, S. C.	0	10
Thunderbolt	0	20
Isle of Hope	0	40
Warsaw Sound	0	00
Ossabaw Sound	0	05
Vernon View	0	35
Coffee Bluff	0	55
Ogeechee River Bridge	3	50
St. Catherine Sound	0	25
Sapelo Sound	0	00
Brunswick Bar	0	00
St. Simon Pier	0	25
Frederica Bridge	0	50
McKay Bridge	0	50
Brunswick East River	0	50
Turtle River Bridge	0	55
Turtle River, Crispin Is.	1	10
Humpback Bridge	1	00
Jekyll Point	0	30
Jointer Island	0	55
Hampton River Village Creek Ent.	0	20
Village Fishing Camp	C	45
Taylor Fishing Camp	1	00
Altamaha Fishing Park, Everett, Ga.	4	00
Two-Way Fishing Camp, S. Altamaha	2	00

Last Quarter	New Moon	First Quarter	Full Moon
JAN. 7	14	22	30
FEB. 6	13	21	

FEBRUARY, 1970

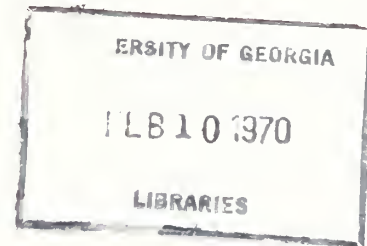
Day	A.M.	H.T.	P.M.	H.T.	A.M.	P.M.
1. Sun.	2:54	6.5	3:06	5.6	9:36	9:42
2. Mon.	4:06	6.7	4:18	5.7	10:42	10:42
3. Tues.	5:12	7.1	5:30	6.2	11:42	11:48
4. Wed.	6:18	7.6	6:30	6.7	12:36	
5. Thurs.	7:12	7.9	7:24	7.1	12:42	1:30
6. Fri.	8:00	8.1	8:18	7.5	1:42	2:18
7. Sat.	8:48	8.1	9:06	7.7	2:36	3:12
8. Sun.	9:36	7.9	9:54	7.7	3:24	3:54
9. Mon.	10:24	7.5	10:48	7.5	4:18	4:42
10. Tues.	11:18	7.0	11:38	7.2	5:06	5:30
11. Wed.	12:06	6.9	12:54	5.9	6:54	7:12
12. Thurs.	12:30	6.9	12:54	5.9	6:54	7:12
13. Fri.	1:24	6.5	1:48	5.4	7:54	8:06
14. Sat.	2:24	6.3	2:48	5.1	8:54	9:06
15. Sun.	3:24	6.1	4:00	5.0	9:54	10:06
16. Mon.	4:30	6.1	5:06	5.1	10:54	11:00
17. Tues.	5:24	6.2	5:54	5.3	11:42	11:48
18. Wed.	6:12	6.4	6:36	5.6		12:24
19. Thurs.	6:54	6.6	7:18	5.9	12:36	1:12
20. Fri.	7:30	6.7	7:48	6.1	1:18	1:48
21. Sat.	8:00	6.8	8:18	6.3	2:00	2:24
22. Sun.	8:30	6.7	8:54	6.4	2:42	3:00
23. Mon.	9:06	6.6	9:24	6.5	3:18	3:30
24. Tues.	9:36	6.5	10:00	6.6	3:54	4:00
25. Wed.	10:12	6.3	10:42	6.6	4:30	4:36
26. Thurs.	10:54	6.1	11:24	6.6	5:12	5:12
27. Fri.	11:42	5.9			6:00	6:00
28. Sat.	12:18	6.5	12:30	5.7	6:54	7:00



GEORGIA

VOL. 5, NO. 2 / FEBRUARY, 1970

GAME & FISH





GEORGIA GAME & FISH

February 1970

Volume V

Number 2

CONTENTS

Where The Wild Geese Went	John Culler	
A Way To Cleaner Waters	Dean Wohlgemuth	5
Fishing In The Great Indoors!	Marvin Tye	8
Georgia Teachers Go To School	John Culler	11
Voices In The Wilderness?		13
Outdoor World		15
Sportsmen Speak		16
Sportsman's Calendar		17
Tide Table		17

Lester G. Maddox

Governor

George T. Bagby

Director, State Game & Fish Commission

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Jim Morrison, Editor

Dean Wohlgemuth
Staff Writer

Marvin Tye, Staff Writer

John Culler, Staff Writer

J. Hall, Staff Writer

Ted Borg, Photographer

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Controversy and Conservation

by Governor Lester G. Maddox

(Excerpts from a speech to the annual convention of the Georgia Sportsmen's Federation, Thomaston, Ga., Dec. 6, 1969)

I am happy to meet again with the dedicated members of the Georgia Sportsmen's Federation to participate in the ceremonies to honor the young people and adults who have made outstanding contributions in the area of conservation of our natural resources.

Members of this Georgia organization and their counterparts in other states are deserving of recognition, themselves, for their own outstanding achievements, both as individuals and as an organization.

People sometimes join clubs and well-known organizations out of selfish interests. They may be looking for status, for votes, for financial contacts and for any number of other personal gains.

On a rare occasion, such might be the case with a member of a conservation group, but the great majority of men and women who take up the banner of conservation do so out of the purest of motives, if you'll pardon the pun.

Like other citizens, they choke on the big city smog, watch dead fish wash up on the beach of their favorite swimming hole and read about the unspoiled swamp coastal area that is threatened with pollution or total extinction.

Like other citizens, for the most part, members of your organization got a little upset when the incidence of pollution and exploitation continued to increase.

But, unlike most citizens, the people who gravitated to the Georgia Sportsmen's Federation did not just say, "Somebody ought to do something about that."

Instead, they said, "I ought to do something about the waste of our natural resources."

We need more Georgians and more Americans with your civic pride, your initiative, your love of land, your appreciation of natural beauty and your long-range vision.

If this were an ideal world, every person would be conservation-minded, but the world is full of greedy people who don't bother to think of their neighbors of today, much less of the generations yet unborn who are daily being robbed of a part of their heritage.

And the threat to our natural resources is likely to come much worse before it gets better.

It is estimated that the United States will have some fifty percent more people in it by the end of this century. Factors considered, I believe that Georgia's growth rate will be approximately twice that of the national average. That means that, over the next thirty years, we are going to have to find places to put nearly five million more people.

Continued on Page

ON THE COVER: Canada geese wing their way into the sky above grain field. In recent years, sightings of geese in Georgia have usually stopped, and the hunting season for them was closed entirely in 1969. For the reasons, see John Culler's interesting account "Where The Wild Geese Went" on the opposite page. Painting by Duane Raver.

ON THE BACK COVER: "A Man And His Dog." There's something special in the way George Sturgis of Twin City feels about Lady, 11-year-old English Setter, who is nearing the end of her hunting career. According to George's diary, Lady has been responsible for master bagging 3,119 quail by the beginning of this year, an uncounted number of woodcocks. Lady also retrieves doves ("and everybody else's," George says), and is a fair squirrel dog ("sometimes she barks up the wrong tree"). But rabbit running is out. "I have an understanding about that," George says. Lady once trailed running quail that crossed a wide field and a paved road twice. ("I see she finds a quail, he might as well come out with his hands. There is a saying that every man is entitled to at least one good and one good dog during his lifetime. George is a happy man, photo by Charles M. Marshall.

PHOTO CREDITS: Ted Borg 8, t. & c. 10, 13, 14, 15; John Culler 1, 2, 3, 4, 11, b. 12; Rockmart Journal 9; Wilson Hall t. 12; Jim C. 12; Wilderness Camp b. 10; Dean Wohlgemuth 5, 6, 7; Marvin Tye 8, 11, t. l. & t. r.; Wilderness Camp 11 b.



aren't geese seen in Georgia migrating south each winter, and north every spring? Biologists say there is just as many geese, but migration habit has been halted by food planted for them on private and federal refuges in the north.

Where the **WILD GEESE** Went

By John Culler

Bottom: A small flock takes to the air over a refuge corn field. The goose season was closed in Georgia this winter to help federal refuge efforts succeed.

Having a flock of geese land right on top of you is about as frightening as being stampeded by a herd of turkeys. It's a rare sight today in Georgia.



Left: The call of the wild! The sight and sound of a flight of geese passing high overhead sends a thrill through the heart of millions.

Right: Those aren't decoys, they're real McCoy! Perhaps these geese at a refuge pond at Harris Neck will one day be responsible for Georgia waterfowl hunters again enjoying goose hunting.



■ The Canada goose, object of song, ballad and poem and long the symbol of longing for a distant place, is changing his ways. No longer do long strings of these powerful birds wing their way south to spend the winter, nor can the coming of spring be announced by their return to their far north nesting grounds.

Oh, they come south all right, but only as far south as Maryland, Illinois, Wisconsin and like places. The thousands of geese that once wintered at the St. Marks National Wildlife Refuge near Tallahassee and other southern refuges have shrunk to a mere handful. It's not that there aren't many geese anymore. One federal official estimated that we have more geese now on the North American continent than we ever had. But they are being short-stopped. In our northern states the federal and state governments as well as wealthy in-

dividuals have created refuges where great birds are given food and protection, and the geese have responded.

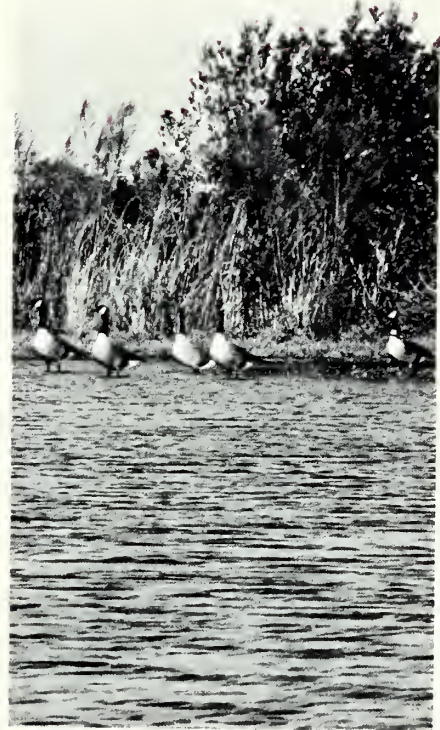
Last year 435,000 geese wintered in Maryland, and 15 years ago the number was only 20,000 birds. Hundreds of thousands of geese now winter at the Con National Wildlife Refuge in Wisconsin, Crab Orchard and Horse Lake Refuges in Illinois, and at Lake National Wildlife Refuge in Missouri. Compare this with Florida's Marks Refuge, where once 30,000 geese spent the winter. Last year only 2,000 birds showed up.

You can imagine what effect this had on the goose hunting in southern states. This season is the first year the entire state of Georgia has been closed to goose hunting. And Arkansas, Louisiana, long envied as the great all waterfowl states, no longer have a Canada goose season.





Below: The Harris Neck National Wildlife Refuge manager predicts that south Georgia may have native goose shooting again within eight to 12 years. The goose on the right has a special neckband so biologists can easily recognize him.



Left: A squadron of Canadian geese cruise near one of the refuge's many wood duck boxes, another wildlife restoration project that is already paying off in Georgia. Construction of the boxes has been urged by state, federal, and private conservation agencies for years.

Geese are very unusual birds, and as their relationship with man goes, they have been lucky. Geese traditionally nest in the Hudson-James Bay area of Canada, and some further north, as far north as the Arctic Circle. Because their far-north nesting ground is not desirable for farm land, their nesting areas haven't been subjected to drainage ditch as have those of ducks. Consequently, they have been able to hold their own even against increasing hunting pressure.

They are also unusual in that they are monogamous for life, and they defend their nests with a fierce determination seldom found among birds. And unlike most waterfowl, the male bird assumes parental responsibility after the young have hatched. These admirable traits, plus the fact that waterfowl traditionally nest in the same area where they were hatched, give us hope to the future of the Canada

goose in Georgia.

In 1965, on the Harris Neck National Wildlife Refuge on the Georgia coast, Refuge Manager Preston Lane and Biological Technician Hobart Hutchinson began experimenting with Canada geese in an attempt to get them to nest in Georgia. Today, five years later, Lane not only classifies the project a success, but predicts limited native goose hunting in South Georgia within another eight to twelve years!

The same thing had been tried earlier with mallard ducks, but while the ducks would nest, the hen, with no help from her mate, did not have the strength and size to defend her nest and brood from the many predators in the coastal area. Consequently, crows, gulls, snakes, raccoons, possums and the like had a field day feasting on duck eggs and ducklings. But, with geese, it's a different story. A pair of geese won't accept a

nest unless a "gander stand," is located nearby. This is usually a log, stump, or mound within 30 feet where the gander can watch over the nest. And nothing comes near the nest unless it gets by that gander first. Both male and female geese are fierce fighters, and most possums and skunks had rather forget it than tangle with one.

The geese at Harris Neck came from two sources — wild and semi-domestic. A captive flock was moved to the area in 1963, and also that same year twenty semi-domestic Canadas were purchased and added to the flock. Some young birds from Brigantine National Wildlife Refuge were transferred to Harris Neck in 1964.

Geese are three years old before they nest, and in 1965, there were five known nests on the refuge, but only seven goslings hatched. But in 1966, in an effort termed "extremely encourag-

Some of the goose nesting boxes used on the refuge are covered, but it doesn't seem to make much difference to the geese, as long as a gander stand is located nearby for Papa to stand guard duty.

The Harris Neck goose nesting area is enclosed with a standard post and rail fence, changed with electrified in the next to the last wing.



ing" by Lane, fifteen pairs nested and 40 young goslings were produced. In 1967, there were 20 nests and 89 young geese hatched. Eight of these were transferred to the Eufaula Wildlife Refuge which is located on the Walter F. George Reservoir in an effort to establish a flock there. The same year seven nests were found off the refuge, and it is known these nests produced 21 goslings to wing.

Production of geese increased annually each year, and this year 190 young goslings hatched. There were also reports of nesting geese both north and south of the refuge. Only two nests on the refuge were unsuccessful: one female was killed by a bobcat, and a possum managed to destroy the eggs in another. After hatching, 46 of the geese were transferred to other refuges, all in "family" units.

Lane said plans were to move some

of the nesting geese this season to both St. Marks and Eufaula. He also said there were many other areas in Georgia that would be suitable for nesting geese, particularly around large reservoirs and large swamps.

The geese on Harris Neck have just about reached the carrying capacity of the 2,687 acre refuge, but Lane said there was enough room to add one more large pond. "We hope to eventually have a flock of 500-800 geese on Harris Neck as permanent residents," Lane said, "But the best thing is the geese are spreading out on private property around the refuge, and are continuing to spread."

Young geese are primarily grazers, and need green plants. Browse was made available to the geese throughout the year by mowing perennial grasses to encourage young "shoots" and by planting such annuals as winter wheat, rye

grass, millet, and oats. More nesting sites were also built this year.

Lane credits luck with the success of the project. "We weren't sure that geese would adjust to the Georgia climate during the summer, but they are and are doing great."

The success of the project, although limited in scope, didn't come a minute too soon. Lane said 1966 was the first year in the history of the Savannah Wildlife Refuge that no geese were served migrating south during the fall.

He also had a brighter outlook for Georgia produced mallards. "The large beaver swamps are now producing some mallards, and one day most of the ducks in this state will be produced here," he said.

Meanwhile, don't rush out and buy any goose shells, but keep your fingers crossed.

■ How would you go about enforcing regulations against polluting Georgia's lakes with marine toilets . . . that is, toilets on boats?

Georgia's Water Quality Control Board, a nine-member board created by

A way to Cleaner Water

By Dean Wohlgemuth



The need for marine sanitation controls is apparent around the many large marinas on Georgia lakes. Fortunately, boaters have readily cooperated with State agents in complying with the new water pollution regulations.

the Water Quality Control Act of 1964, has that problem to solve. And after three years or so of work, the WQCB thinks the situation is progressing satisfactorily.

Obviously, this is a job that can't be done simply by knocking on doors. And you just can't chase down every cabin cruiser, houseboat and sailboat to enforce the law.

Marshall Gaddis and Ken Martin, marine technologists with WQCB, whose job it is to see that the regulation is enforced, have a much more tactful method of enforcement. Although cooperating with WQCB in any way it can, the Game and Fish Commission has no responsibility or authority to enforce sanitation regulations.

The first problem, obviously, is to learn which boats are equipped with marine toilets . . . heads, as they're known to boaters. This is difficult, since boat registration records don't include that information, and sailboats aren't registered anyway.

However, vessels equipped with heads are, with relatively minor exception, large enough that they're not trailered to a body of water for a one-day cruise, then returned to a carport at home.

These vessels are normally kept at one marina or dock permanently.

So Gaddis and Martin systematically began checking out all the large boats in the state, going from one lake to another, checking first one marina, then the next. It has been a long job, and it isn't complete. But every marina on every lake in the state has been paid several visits, and results of the inspections are looking good.

Most of the inspections are on weekends and holidays when boat owners are most likely to be found on their crafts. A check of the boat can then be made, the treatment device aboard can be inspected and certified when approved. And of course, when standards are not met, the owner is advised of the regulation and what he needs to do to abide by it.

Just what do Gaddis and Martin look for? What can an inspection do to assure that a boat won't pollute the water? The regulation requires that any vessel with a head must have suitable treatment equipment attached and in operation.

Several types of equipment are available from many manufacturers, which will do the job. But basically, there are

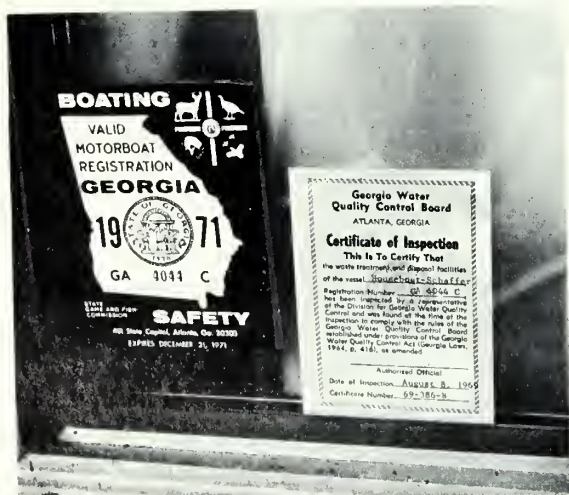
two major divisions in types. One of these grinds and disinfects the waste before it is discharged. The other utilizes a holding tank which must be pumped out to on-shore treatment facilities.

The Water Quality Control Board frowns on the second type primarily because there are no marinas in Georgia with facilities to pump out holding tanks. And WQCB feels that the on-board treatment and disposal type is satisfactory for protecting the water.

The on-board treatment types are of several designs and methods, some equipped with grinders which allow them to double as garbage disposal units, others which are capable of treating only human waste, rendering non-objectionable. In this second type of unit, garbage must not be put into the commode.

Once a boat is approved, a certificate of inspection sticker is attached to the boat, near the boat registration sticker to avoid repeat checking. There is no charge for this certificate and inspection.

The waste disposal outlets on most boats are located just below the waterline. Pumping sewage ashore has failed to be practical in Georgia, and Board studies show that treatment devices are handling the problem in congested lake areas.



Large Georgia boats are beginning to display two stickers on their windshields. The new one on the right issued by the State Water Quality Control Board certifies that the boat has an approved sewage treatment device. The State Game and Fish Commission registers motorboats (sticker on left), but does not have jurisdiction over marine sanitation regulations.



, and the certificate is valid for as long as the treatment device is in work-order.

If a boat does not meet standards, the owner is notified and required to bring the craft into compliance.

One of the biggest aids to WQCB's program is that all manufacturers in Georgia of houseboats and other boats with heads, now are install proper equipment at the factory before the boat is sold. However, many boats made outside Georgia must have sanitation equipment installed prior to launching in waters of the state.

Cost of such equipment varies from model and make to another, but overall cost runs from about \$110 plus installation, to \$300 plus \$75-100 unit. Some marinas will sell and install the units for boat owners.

The job will never be completely finished, since new boats are bought and launched in Georgia waters all the time. However, approximately 86 per cent of inspections on boats with heads passed on any given inspection tour will result in a certificate of inspection being issued . . . in other words, 86 per cent

of the sanitation-equipped boats inspected are in compliance.

The number of boats in the state that are equipped with marine heads is not available and will not be unless registration of boats requires providing information on whether or not each boat is equipped with a marine toilet.

Gaddis said that more than 1,000 boats have been certified and some 5,000 inspections have been made . . . which indicates why such regulations are necessary. It is necessary to inspect large boats to determine whether there is sanitation equipment on board, even though only about 20 per cent of them are equipped.

He added that boat owners have shown a great deal of willingness to work with WQCB. "We have had no trouble with people trying to get around us. There has been some foot dragging, but we've found that by and large, people who have boats of this type are willing and eager to comply. They seem to realize that these regulations are for the benefit of all who use our lakes, themselves included, and they want to do their part."

He added that thanks to this kind of cooperation, WQCB has been able to handle the entire program through a public relations-type approach, and have not as yet had to rely on any hard-fisted enforcement tactics.

The Board released a report this fall on a two-year survey made by WQCB, which indicates that the water quality in the area of concentrated treatment devices is satisfactory. This is the first time such a study has been undertaken, Gaddis said.

It is upon this study that WQCB bases its preference of the on-board type treatment devices.

Further information about what is required can be obtained from WQCB. A brochure, containing information and common questions and answers, may be obtained by writing Georgia Water Quality Control Board, 47 Trinity Ave. S.W., Atlanta, Ga., 30334, or phoning (404) 688-4033.

Continued cooperation by all boat owners can insure that Georgia's waters will remain clean enough for all of us to use, whether for recreation or municipal use. It's your water . . . help keep it clean!

shall Gaddis, a marine technologist with the Water Quality Control Board, in charge of making on-board inspections of boat sewage treatment devices, required on any boat with a marine toilet.



Top: Gaddis inspects a treatment device which uses an ammonium compound to break down wastes. This model, the Raritan Crown Head, is considered one of the best devices available.

Bottom: Some units use a hand pump to flush the commode, and use a five per cent hypochloride solution, or regular household bleach. Only the chemical recommended for a specific type of toilet should be used in that unit. Substitutes can place it out of compliance with the law.



FISHING IN THE GREAT INDOORS!



Two floating cover
docks at Wilderney
Lake Allatoona
provide a
comfortable fish
ing shelter in
any weather. A sunken
log pile placed between
the structures attracts
bass and
crayfish.

By Marvin Tye

many anglers, cold winter weather and frequent rainfall signal the end of the fishing season. They would rather sit home in comfort than to brave the elements in order to catch fish.

You don't have to put your tackle away just because the weather is not comfortable. Nor do you have to bundle up in several layers of warm clothing to sit outside on a day that may be considerably less than ideal. Facilities at Lake Allatoona provide the answer to indoor fishing.

Not long ago I drove up to Wilderness Camp on the north shore of the lake. There I found a metal building on the water that looks like a boathouse to a casual observer. Not what it appears, the structure is actually a floating barge with large holes in the floor to allow fishing for bass and crappie.

Not only do the walls provide protection from the cold, gas heaters suspended from the roof provide plenty of warmth. There are cushioned seats of the type found in movie theatres and electric lights to provide comfort for the fisherman. Due to the popularity of the first structure, another like it has been added at the other end of the dock. When Terry Chupp and I visited the

spot not long ago, we found four retired gentlemen from Atlanta dunking minnows in the water in hopes of catching a few crappie. The men, E. M. Cheek, C. J. Olson, A. D. Eddy and R. M. McFarland, Jr., discussed business, travel and other subjects in a leisurely manner, not seeming to be overly concerned with whether the fish were biting or not.

I baited up with a lively minnow and caught a crappie about the size of my hand. This catch came after about an hour of experimenting to find the proper depth at which to fish. The water at

this spot varies from 40 to 60 feet in depth. At night the fish are attracted to the lights and can usually be caught only a few feet below the surface.

The idea of catching crappie from a boathouse was not entirely new to me. I have made good catches of this delectable panfish several times when fishing around pilings in other lakes. Boathouses, piers, docks and similar structures attract crappie and other fish by offering shade and cover. M. E. Coalson, who operates Wilderness Camp, provides an additional attraction for the fish every 30 days or so by dumping bread and cake into the water near the floating house. He says that he has tried hay and other baits as well as placing submerged cedar trees in the water between the two floating fishing barges. The brush piles attract fish, but do not foul the lines of fishermen because of their placement.

Baiting is legal and practiced widely in Georgia to attract fish. Hay attracts zooplankton and other small organisms which attract minnows on which the large fish feed. Submerged brushpiles provide cover for smaller fish which in turn attract larger predatory species.

The hottest action at Wilderness



Mrs. Margarette Schleppe of Aragon caught this five-pound fourteen-ounce spotted bass Dec. 10, 1969 at the enclosed fishing barge at Wilderness Camp but crappie are the most commonly sought fish there, along with bream.

Camp is usually in the months of January and February. Many limit catches are made as anglers pack into the indoor fishing area.

Although the primary species sought in this type of fishing is the crappie, other species such as bass, catfish and bluegills are also taken. Mrs. Margarette Schleppe of Aragon caught a five-pound, fourteen-ounce spotted bass there this past Dec. 9. She caught it at about 9 a.m.

Coalson said that largemouth bass up to nine pounds and catfish of up to seven pounds had been taken from inside the "fishing house." He also said that white bass were sometimes taken in large numbers. One angler caught a 3 lb. 12 oz. specimen while fishing inside. The covered dock was opened in 1962, with the second enclosed fishing area opened in 1963. There are 32 theatre-style chairs in each building. Both buildings are 48 feet long by 28 feet wide. The fishing pool in the center of each house is 12 feet wide. The angler can buy a fishing ticket for 12 hours of fishing for \$1.50. Live bait — minnows and worms — can be purchased at Wilderness Camp. Overnight lodging in furnished trailers is also available.

The indoor fishing phenomenon in Georgia seems to be confined entirely to Lake Allatoona. One other such facility is located at Red Top Mountain State Park which is also on the shores of Lake Allatoona. According to Park Superintendent Wyatt Clark, the structure at the park is a large enclosed wooden building with a snack bar inside that seats about 40 people in comfortable cushioned chairs. The building is also supported on floating styrofoam blocks. It is 75 feet long and 35 feet wide. A 24-hour fishing ticket sells for \$1.25. Minnows and worms are also available there. Bait is placed here just as at Wilderness Camp to attract fish.

When the cold winds blow across Lake Allatoona, the "Indoor Sportsman" really comes into his own. Why not join him this winter for some off-beat fishing pleasure?



The crappie is the fish most sought after by anglers in the floating fishing houses. As many as 1,000 fish per night have been landed in these facilities at Wilderness Camp!

Wilderness Camp and Redtop Mountain State Park and Marina, both designated on this map, are believed to have the only two enclosed fishing docks in Georgia.



Terry Chupp adjusts a gas heater inside the building for warmth. Heaters, overhead lights and padded chairs give almost all the comforts of home.



The floating buildings at Wilderness Camp has 35 seats. Large minnows are used when the crappie are in season during the winter.



■ Fifty-seven Georgia teachers went back to school this summer so you and your children and your children's children can one day breathe pure air and swim in clean fresh streams.

They attended the award-winning Georgia Natural Resources Institute, a three-week course held each summer at two Georgia colleges, Valdosta State and Shorter College in Rome. They were there to learn about their environment, so they could pass their knowledge along to their students, the generation who must clean up the mess we have made with the earth if mankind is to survive.

Since it began in 1966, 168 Georgia teachers have completed this unique course, termed by many as the greatest single educational venture they have ever experienced. These teachers, and those who attend the course in the future, will return to their classrooms with a better knowledge of their surroundings, and the knowledge that man cannot continue as a species unless he preserves his environment.

Based on the premise that an unlimited amount of knowledge can be learned from a man who really knows what he is talking about, the workshop features more than forty experts in various fields of conservation who serve as guest lecturers and guides on the field trips. They are professionals who have a "working" knowledge of their subject. These men, who work with the problems that result from the misuse of our natural resources, are able to explain in laymen's terms what must be done to insure the continued use of our resources,

Georgia Teachers Go to School

By John Culler

Mrs. Sue Standard of Columbus leads a group of Georgia teachers along a board footpath through the dense growth that surrounds Valdosta State College's biological study area, Lake Louise. The teachers were participating in the 1969 Georgia Natural Resources Institute.

such as soil and water, without destroying the things we depend on for survival.

The teachers are not just told how we are ruining our rivers by polluting them with sewage and industrial wastes, or how a farmer's topsoil will erode away if he doesn't terrace his fields, they are taken into the countryside and on the riverbank where they can observe for themselves. Nor are they just told about solutions that may be implemented, but they are actually shown what a farmer has done to save his land — and they see how sewage should be treated before it is released into our rivers.

Almost all of the classroom work is done in the mornings, with a field trip in the afternoon so the teacher-students can see for themselves. Things that seem ordinary and commonplace suddenly take on a new dimension when the whys and hows of their being are explained. The teachers learn to observe the soil, forests and wildlife through the community concept, learning that each is dependent upon the other.

One teacher said she had learned more about her surroundings in three weeks than she had learned in twenty-seven years "on her own." "This workshop was the most informative one I have ever attended," another said. "It was different, interesting, with new ideas, and it concerned our daily lives."

Several teachers who have completed the course said they thought the workshop should be required of every college student in the state. All of them, both high school and elementary teachers, said they had learned a tremendous amount that could be taken into their classrooms. And this is what it is all about.

This program actually began in the minds of a few concerned state employees, in 1965. Realizing that the state's resources were slowly dwindling away with apparently little concern, they wanted to do something to stem the tide before it was too late. They wanted people to know why fish suddenly began dying in some streams, and the tops of pine trees turned brown and whole forests began to die. They knew it was an almost impossible task to try to educate everyone in the state of Georgia, but they could reach the children . . . if they could teach the teachers first.

A meeting of conservation agency information and education personnel in Georgia was called by Jay McConnell, at that time one of the regional information officers of the U. S. Forest Service in Atlanta. It was decided to form a State Natural Resource Education Council to unify the efforts of all state and federal conservation agencies and educational groups behind the program. Jim Morrison, the information education chief of the State Game and Fish



The two institutes are directed by two noted Georgia biology department chairmen, Dr. Philip Greear of Rome's Shorter College (above), and Dr. Clyde Connell of Valdosta State College (below).



Fish biologist John Frey of the State Game and Fish Commission shows teachers how to analyze water for its oxygen content, an important factor in the lives of fish that many youngsters aren't aware of.

Commission, was elected the first chairman of the Council in 1965.

Science curriculum administrators in the State Department of Education became interested in the program and offered their advice and assistance, which was eagerly accepted. With the selection of Shorter and Valdosta State colleges, the workshop was on its way.

Next summer's courses will be held at Shorter College in Rome from June 15-July 3, and at Valdosta State from June 22-July 10 making the fifth year of continuous operation of the Institute.

Students taking the course receive either three and one-third semester hours or five quarter hours of credit toward either an undergraduate degree or Master of Education degree. Undergraduate credit is available from either school, and graduate credit is given by Valdosta State, which has a graduate program.

Credit obtained through the Institute may be used to fulfill requirements for additional study for teacher certification or certificate renewal. The course is open to principals and other supervisors and to college instructors who desire additional course credit.

The total cost of the course, including tuition, food, and lodging for three weeks, is \$150.00. If they wish, students may apply for a grant-in-aid through their local school system to the State Department of Education. If accepted, the student pays the fee and is reimbursed by the state.

Many state organizations and businesses are also interested in the course and contribute toward the program. Sportsmen's clubs, women's clubs, and Water Conservation Districts, garden clubs, and many business and individuals have pitched in to help. Donations range from several complete scholarships to just a few dollars. So through the help of the State Department of Education and other contributors, the Resource Education Council has been able to place every teacher attending the workshop on scholarship. This has been no small task, but as summer passes, the workshop grows stronger as more people learn about the course and its benefits, both present and future, to all Georgians.

The course begins with geology, which is the beginning of life. The students learn how the earth was formed and how it is changing even today. They learn that the seashore is constantly shifting, and why. The course progresses through soils, forests, air, water, and ends with three days of wildlife study. The students learn to identify trees, and are taught how a class can make a leaf collection. They learn to identify soil types, and they look under the microscope why some are good for crops and another type is not.

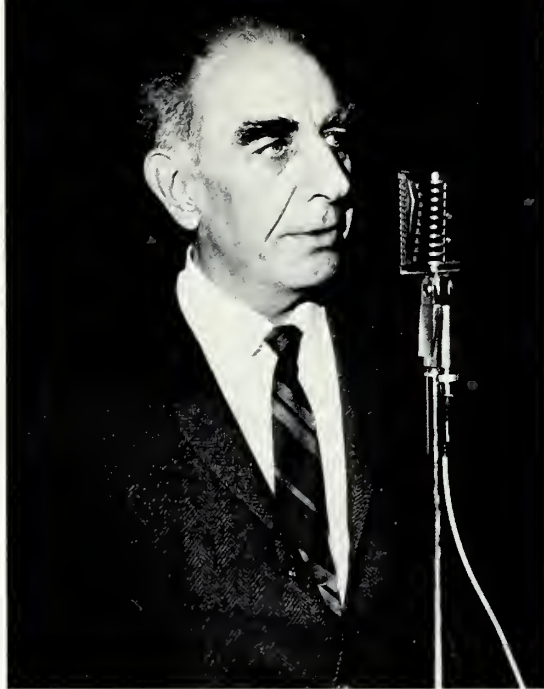
They learn the value of wildlife. They see what happens to a stream when an industrial plant far away decides to dump its waste material in the stream. They visit a lumber mill, where they learn the value of trees when they are made into lumber, and they visit Okefenokee Swamp, where the value of nature unfolds all around them as they learn the value of trees left standing.

Summer courses for teachers in conservation are also held in other states such as Tennessee, Virginia, and Kansas, as Americans everywhere realize we must learn to be a part of nature, because we can never be masters of the environment.

We have only made a start in Georgia, and have about 50,000 more teachers to go. But it is a start, and a fine investment in the future of our children.



Conservation's highest honor, Conservationist of the Year was presented by Governor Lester to Mrs. Charles Yarn of Atlanta for her efforts to preserve Georgia's islands and marshes from purchases by the Conservancy, Inc.



Members of the Georgia Sportsman's Federation were stunned by the sobering report on pesticide poisoning of both men and wildlife delivered at their annual convention's opening luncheon by Joseph P. Linduska, associate director of the U. S. Bureau of Sport Fisheries and Wildlife.



George T. Bagby, Director of the State Game and Fish Commission, was awarded the Federation's Water Conservationist of the Year Award for his fight to halt destructive phosphate mining plans on the Georgia coast.

Voices in the Wilderness?

Charles Yarn of Atlanta, who was instrumental in the drive to save Georgia islands so they could be preserved in their natural state, has been named Georgia's Conservationist of the Year by the Georgia Sportsmen's Federation.

At an awards banquet held in Thomas County in December, Governor Lester presented Mrs. Yarn with two awards, first as Wildlife Conservationist of the Year, then the Governor's Award, a beautiful bald eagle, signifying the state's highest conservation award. Past winners honored included Representative Reid Harris of Brunswick, as "Legislative Conservationist of the Year;" Franklin of Marietta, "Soil Conservationist of the Year;" George T. Bagby, Director of the Game and Fish Commission, "Water Conservationist of the Year;" Frank Craven, Chief of Forestry, Georgia Forestry Commission, "Forest Conservationist of the Year;" Dr. Hubert B. Owens, Dean of the School of Environmental Design, University of Georgia, "Conservationist of the Year," and Bob Harrell

of the Atlanta Constitution received the "Conservation Communications Award of the Year."

Bagby was presented the Water Conservationist Award for his efforts in protecting Georgia's coastal marshes from exploitation by an oil company which sought to mine phosphates on state-owned sea bottoms.

Andy Burns of Tifton was named "Youth Conservationist of the Year." District youth conservationist winners included Andy Burns, Tifton; Mike Sumner, Sumner; Gayle Smith, Georgetown; Kerry Steed, Roopville; Mark Reed Callaway, Ringgold; Janet Gaskin, Lakeland; Melvina Ray, Talking Rock; and Carol Thomas, Covington.

Mrs. Yarn, who believes Georgia has a tremendous opportunity to have something unusual through the preservation of its coastal islands, became interested in the coast through her membership in the Georgia Association of Landscape Design Appraisers. This organization once had as a project the preservation of the marshes of Glynn County, but two years ago expanded its coastal project

to include the entire coast.

Mrs. Yarn found the Nature Conservancy was interested in purchasing islands along the Georgia coast, which they would then turn over to the U. S. Fish and Wildlife Service. This would insure the islands would be forever kept in their natural state. Through her efforts, Wolf and Egg Islands near the mouth of the Altamaha River, came under the Conservancy's ownership. A short time ago she was named to the Conservancy's Board of Governors, and since then the Conservancy purchased 5,000-acre Wassaw Island near Savannah.

"We intend to continue working to save Georgia's coast, her islands and marshlands," she said. "But right now we are desperately in need of some sort of legislation to protect the coast."

And legislation to protect the coast is the reason Reid Harris was named "Legislative Conservationist of the Year." He introduced a bill in the Georgia House last term which would require proof of ownership before the marsh can be altered. The bill passed



Top: State Representative Reid Harris of Brunswick was named Legislative Conservationist of the Year for his efforts in guiding a coastal marshlands protection bill, H. B. 212, through the Georgia House. His bill is now under consideration by the State Senate.

Bottom: Daily newspaper columnist Bob Harrel of the Atlanta Constitution was named Conservation Communicator of the Year.

Top: Conservation Organization of the Year and the Outstanding Sportsman Club award both went to the newly formed Monroe County Sportsman's Federation. President Jim Hampton of Forsyth (holding trophy) is flanked by two of the club's most active members, Elbert Jackson (left) and S. L. Letson.

Bottom: One of the most touching moments of the Federation Convention came when combat wounded Vietnam veteran Gary Littlejohn of Barnesville was helped forward by his mother, Mrs. William G. Littlejohn, and Greg Chapman of Milner, to receive his prize for bagging the largest antlered buck of the 1968 Georgia Big Deer Contest, a deer rifle. The deer measured 179 2/8 points and was listed in the Boone & Crockett Club's records of North American big game. Sam Ingram of Crawford also received a rifle for his 304 pound buck in the weight division of the contest.

Top: "I didn't forget," Governor Maddox laughs with the Youth Conservationist of the Year, Andy Burns of Tifton, after delaying presentation of a shot from the Sears Foundation in addition to the trophy.

Bottom: Youth conservationist winners in addition to Burns included (l. to r.): Janet Gaskins, Lakeland; Mike Sumner, Sumner; Gayle Smith, Georgetown; Melvina Ray, Talking Rock; Burns; Carol Thomas, Covington; and Mark Reed Callaway, Ringgold. Not pictured is Kerry Steed, Roopville.

the House, and was scheduled to come before the Senate during this year's session.

Federation members heard from the heads of Georgia's major conservation agencies during the convention, in addition to Governor Lester Maddox's address to the awards convention, a portion of which appears on the inside front cover of this issue. Game and Fish Commission Director George T. Bagby reported on the accomplishments of the Commission in the past three years.

Featured speaker at the luncheon was Joseph P. Linduska, Associate director of the U. S. Bureau of Sport Fisheries and Wildlife in Washington, D. C., who startled sportsmen with a sobering re-

port of pesticide pollution of the environment. He said the reproduction of many species of wildlife, especially predators, has already been seriously reduced.

"Even more shocking is the realization that man himself is slowly being poisoned by long lasting pesticides like DDT which are accumulating in his body," Linduska said. As an illustration, he cited the fact that the average mother's breast milk now contains more DDT than the Federal Food and Drug Administration allows in cow's milk sold for human consumption.

Tommie Holliman of Thomaston was re-elected president of the Federation, and Clyde Greenway of Tucker was re-

elected executive vice president. Stickely of Lake Park was elected executive secretary and treasurer, succeeding James L. Adams of Stone Mountain who did not run for reelection.

District vice presidents elected: First District, Billy Stephens of Marietta; Second District, Walt Gilmore of Albany; Third District, Mike Matson of Preston; Fourth District, Charles Matson of Decatur; Sixth District, Jim Hampton of Forsyth; Seventh District, Joe McConnell of Harrison; Eighth District, Louis Rauler of DuPont; and 10th District, Matson of Augusta. Vice presidents were not named for the fifth and ninth districts.

the outdoor world



electing its new officers for 1970, members of the State Game and Fish Commission met with Governor Lester G. Maddox at their annual Christmas luncheon. From left to right is James Darby of Vidalia, 1969 chairman; Governor Maddox; George T. Dixon of Vidalia, new 1970 chairman; and Richard Tift of Albany, new vice-chairman.

Named New F Chairman

George T. Dixon of Cleveland, Ga., has been elected new chairman of the State Game and Fish Commission. The 43-year-old Commissioner from the Ninth Congressional District was named to the four-year term by other members of the commission. Executive vice president of the First National Bank in Cleveland, succeeds James Darby of Vidalia, who remains as vice chairman. Dixon is the representative of the First Congressional District.

Richard Tift of Albany was elected vice chairman, succeeding Leonard Dixon of Augusta, who represents the Second District. William Z. Camp of Albany was re-elected secretary-treasurer. Tift is in the real estate business. Camp represents the Second District. George T. Camp is tax commissioner for the State of Georgia, representing the Sixth Congressional District on the Commission.

George T. Bagby remains as director of the State Game and Fish Commission. The Georgia constitution, one Commissioner is appointed by the governor from each of the 11 congressional districts in the state to act as a governing body over the department. Commissioners are named to staggered seven-year terms.

Yield Timber Bill Passed in House

Timber interests are pressing for action on H.R. 12025, the bill to clarify the primary purpose on

most national forest lands, the Wildlife Management Institute reports.

It would earmark all unallocated receipts from the sale of national forest timber and other products to a fund for use only for intensified timber management. This could run to \$200 million or more for timber alone. Other national forest uses, such as wildlife, recreation, grazing, and the rest, would be left to the uncertainties of the appropriations process. Timber would have a regular nest egg to rely on.

H.R. 12025, described as a chainsaw backlash against conservationists, may come up for a House vote soon.

Ammunition Regulations Relaxed

Legal pressures are being relaxed for many hunters with a recent Senate action which eliminates the registration requirement for some ammunition purchases as called for in the Gun Control Act of 1968.

The Senate gave approval of House Resolution 12829 which was sent to the President for his signature, when it became law.

However, the bill fell short of most sportsmen's expectations by leaving the requirement for purchasers of .22 caliber rifle cartridges. As it stands all shotgun shells and rifle cartridges, except for .22, will be exempt from the registration requirement.

Sportsmen from throughout the nation have urged lawmakers to strike the registration portion of the Gun Control Act since it became law.

MADDOX (Cont'd from IFC)

There is little doubt that the influx of people will crowd some deer out of the swamps, some quail out of the fields and some squirrels out of the mountains.

Swamps will be drained, creeks will be dredged, dams will be constructed and the threat of air and water pollution will be a constant problem.

Conservation laws already on the books will provide us with a good deal of the protection needed, but the enforcement of such laws always has been, and always will be, a tough job.

When a chemical plant accidentally "sterilizes" a stream with pollutants, even if a fine is levied, the stream is useless to the public for years to come.

And, when industrialization overburdens the sewerage treatment facilities of a community, few politicians would be willing to put several hundred people out of work to, as some would say, "save a few tadpoles."

And, so it seems obvious to me that the most effective way for any group interested in conservation to get the job done is through educating the public.

If an attitude of conservation can be produced nationwide, then the occasional "big controversies" would become fewer and fewer in number. Most reputable industries spend a lot of money to project a favorable image to the buying public. Once they become aware of the buying public's interest in conservation, then industry, too, will be much more conservation-minded than it is.

The same is true of politicians, who often have the final say on projects which present a potential threat to our wildlife and other natural resources. They react to pressure, and when the bulk of the pressure comes from conservationists, your side will win.

But, it is obvious that we can't just pack people on top of people to avoid expanding the habitat of man any further into the kingdom of our wildlife.

Compromises will have to be made. Your job will be to help keep the sacrifices to a minimum.

(The Governor ended his address by pointing out the need to place more emphasis on preserving our basic freedoms as Americans. "It won't do a sportsman who likes to hunt much good to save a wildlife habitat from destruction if the move is successful to deny Americans the right to possess and bear arms," he said.)

Sportsmen Speak...



WORK AND DEVOTION

I have enjoyed my issues of **Game and Fish** immensely, also I have gained a great deal of knowledge pertaining to wildlife and its preservation. Your work and devotion that can be seen in the **Game and Fish** magazine make me very proud to be a native citizen of Georgia, and its leading fathers in the State Capitol.

Game and Fish is a very good example to people of this state and others, that we care a great deal for our natural resources and wildlife and its preservation. Please keep up the good work.

Very Proud of My State
Robert L. Ward
Savannah, Georgia

DDT

I would like for you to read about DDT and how it is destroying wildlife. (Clipping enclosed)

Robbie Hammond
Hapeville, Georgia

We do read about DDT, and we hear from people who share your concern, but the battle is far from won. In fact, the following item in favor of DDT from a Georgia agricultural group's newsletter came to us in the mail along with your letter:

"Opponents of DDT in New Jersey have succeeded in banning the use of that chemical against the gypsy moth in contending the chemical was a threat to wildlife. An aerial survey last summer indicated that trees in some 38,190 acres in seven N. J. counties were severely defoliated by the heaviest moth infestation in years . . . Defoliation in the same place next year, he added, will mean tree loss. And dead trees mean less food and shelter for wildlife, increased danger of fire and soil erosion from run-off flooding!"

The fact which is ignored by the group's newsletter is that DDT is not the best way to control these pests. Internationally recognized authority on pesticides, Rachel Carson, in her book *Silent Spring* says that "The gypsy moth program shows what a vast amount of damage can be done when reckless large-scale treatment (with DDT) is substituted for local and moderate control." The gypsy moth has been in this country for over 100 years and has been controlled, until recently, by natural means, such as importation of its natural enemies: other predators. Natural control does not threaten wildlife. In 1956 "all-out chemical war" was declared on the gypsy moth and huge areas sprayed from airplanes, including dairy farms, gardens, towns, fish ponds, marshes and suburbs. Livestock was killed, milk supplies and produce contaminated and made unmarketable, and birds, fish, crabs, and useful insects like honey bees destroyed. In short, as Rachel Carson said, "The expensive spraying operation . . . had in reality accomplished nothing at all."

HUNTING

During the past few years I have spent a lot of time in Georgia's Piedmont section, particularly Jasper, Jones and Putnam Counties, looking at land, etc., as I am in the real estate business. During this time deer hunting has become my favorite sport.

As you know, this section of the state has

an excellent deer population, however, it seems to me that unless something is done about the illegal poaching in this area, the now "excellent" deer population will surely decrease in the near future.

It seems to be the local custom in this area to open the deer season at least a month ahead of the regular season. I think most bow hunters will testify to this by the number of rifle shots they hear each day during the October bow season. Hunting with dogs is also common, as well as night hunting. One local resident of Monticello, Georgia, told me that he estimated that for every deer killed legally, 100 were killed illegally. I've also heard of a resident of Grey, Georgia, who boasts of killing 103 deer during 1968.

I realize that the Game and Fish Department has a limited budget and it's impossible to hire enough Wildlife Rangers to effectively patrol every county as it should be. However, it is my opinion, as well as other deer hunters that I've talked with, that the Game and Fish Commission can and should do more than it is presently doing to enforce Georgia game laws, particularly regarding deer hunting. For instance, more should be done to publicize the name, address and phone number of each Wildlife Ranger in each county. In other words, make the local citizens more conscious of their presence, as well as how to easily get in touch with them to report a violation.

In addition, why can't the State post a \$100.00 reward for information leading to the arrest and conviction of a violator, and have a standard \$500.00 fine for each conviction. This way the State can make money and you can bet that some of these "poachers" will think twice before committing what I'm sure all sportsmen consider an inexcusable crime.

Lewis A. Ray
Marietta, Ga.

The name, address, and home telephone number of the wildlife ranger patrolling each Georgia county can be obtained from the sheriff's office in the courthouse, and reports of violations can be relayed to him through that office. Collect telephone calls to report game law violations are accepted at all of the Game and Fish Commission's 12 district law enforcement offices, as well as at the State Capitol. The telephone numbers are printed in the current hunting regulations booklet, available free on request, or the numbers can be obtained from the information operator where a Commission office is located.

Commission officials feel that a reward system would help, but the existing law would have to be amended to authorize it, and a special appropriation of the General Assembly made to finance it.

Undoubtedly, most fines for game and fish law violations are too low. For many years, the Commission has felt that they should be increased. However, under Georgia law, all such violations are classified as misdemeanors, leaving the amount of the fine and sentence, if any, to the trial judge provided that it does not exceed \$1,000 or 12 months in jail. Often, the amount of the fine doesn't even pay for court costs, and if there is anything left, it goes to the county school fund, not the State Game and Fish Commission.

In some counties, even getting a small fine is unusual. Lack of interest by the county sheriff, grand jury, attorney general, and judge in securing active prosecution and conviction can make worrying about rewards or fines an exercise in futility. When the citizens of the county are interested in wildlife conservation and demand stringent enforcement of the law by all law enforce-

ment and judicial officials, they usually get their way.

WONDERFUL JOB

Please let me congratulate the staff **Game and Fish** for the wonderful job they have done this first three years. Every sportsman in Georgia can truly be proud of this fine magazine.

While I'm at it, let me say thanks also to the unsung heroes of the Commission, the biologists and wildlife rangers who are overworked and underpaid. We need more both.

I realize it would take money to do this. So why not sell trout stamps and deer tags separate from the hunting licenses? I am sure that every person who really enjoys deer hunting and trout fishing would support this plan wholeheartedly.

Also, many hunters probably don't realize that this could mean more game management areas in which the average guy can hunt for a small fee.

While in the Navy I was stationed in state of Washington. I had to purchase tags to hunt deer and elk. That was way back in 1954. So why not in Georgia in 1970?

Clayton O'Kelley
Decatur, Georgia

The General Assembly's House Game and Fish Revenue Study Committee recently passed a trout stamp and deer stamp provision for Georgia to make possible a substantial budget increase for the State Game and Fish Commission to carry on these other activities in the face of rapidly increasing numbers of hunters and fishermen. Interested sportsmen are letting their representatives and senators know their feelings on the subject.

WEEKEND SPORTSMAN

I look forward each month to the receipt of your fine publication. Thank you for making the "weekend sportsman" so much fun. I am sure that many such as I get a lot of benefit from **Game and Fish**. Due to the "itis", that requirement that keeps so many in the city for fifty weeks a year, the information you provide on where—when—and how is invaluable. "Keep 'em coming."

D. W. Raines
Decatur, Georgia

HELPFUL RANGER

In this day and time when our law enforcement officials (including the game warden) are receiving so much criticism, it would like to put in a word of praise for a much maligned group of men.

Being a new resident of North Georgia and knowing nothing of the area, my first day deer hunting plans were seemingly cancelled when my partner, a lifelong resident of the area, became ill at the last minute. However I was determined to go. After getting up at 4:00 A.M. and driving miles in the rain and fog to Paulding County, I spotted a game warden's truck and explaining my predicament to him, he pointed out his way to insure my success. He guided me, with the help of another warden via 2-way radio, to a place where I could hunt.

Luck was certainly with me as I bagged a nice spike buck just after daylight. I owe the help of those two game wardens my day and season would have been a failure.

So for my part, hats off to the Georgia Game and Fish Commission for the excellent men in their employ. I certainly respect them and their jobs. They perform more duties than just writing citations for game violators, etc., and this incident is a classic example.

It is men of their caliber as well as the entire staff of the State Game and Fish Commission that by their diligent

made Georgia an excellent state for
ing and fishing. They deserve the sup-
and cooperation of each and every
man in the state.

David L. DeVane
Smyrna, Ga.

SET SEASONS EARLY

h year when the State Game and Fish
ission meets I would like to know if
uld be possible if they could decide
e opening dates for the following sea-
specially deer season.

ot of sportsmen have vacations they
to decide on before the first of the
and it's hard to plan your vacation
our family and for hunting especially
can't split it.

Paul S. Anderson
Decatur Georgia

ing regulations for the next season
the present season is still going on
problem, especially if the results of the
t season are to have any influence on
ext year's season. Normally, informa-
om Georgia's game and fish biologists
ildlife rangers is compiled in Decem-
d submitted to the Commissioners for
at the January or February meeting.
out the bugs and printing normally
e about two months after that. Dates
ne management area hunts tradition-
ave been set by the Commission in
or July, which is also the time the
government releases the framework
must follow in setting that year's
and duck seasons, based on spring
tion counts. In recent years, the
and Middle Georgia deer seasons have
on the first Saturday in November,
ne buck hunts on game management
falling on Thanksgiving Week.

Sportsman's Calendar

SEASONS NOW OPEN

GROUSE, RUFFED

Season—Nov. 20, 1969 through Feb. 28, 1970.

Bag Limit—3 Daily, possession limit 6.

OPOSSUM

Season—Oct. 18, 1969 through Feb. 28, 1970. Closed in Coweta County.

Bag Limit—None.

QUAIL

Season—November 20, 1969 through Feb. 28, 1970.

Bag Limit—12 daily, possession limit, 36.

RABBITS

S. Ga. Season—Nov. 20, 1969 through Feb. 28, 1970. Closed in N. Ga.

S. Ga. Bag Limit—10 daily.

RACCOON

N. Ga. Season—Oct. 18, 1969 through Feb. 28, 1970.

Bag Limit—One (1) per person per night.

S. Ga. Season—No closed season.

Bag Limit—None

SQUIRREL

Season—Oct. 15, 1969 through Feb. 28, 1970.

Bag Limit—10 daily.

TURKEY

S. W. Ga. Season—Nov. 20, 1969 through Feb. 28, 1970 in Baker, Calhoun, Decatur, Dougherty, Early, Grady, Miller, Mitchell, Seminole, and Thomas counties.

S. W. Ga. Bag Limit—Two (2) per season.

SMALL GAME MANAGED HUNTS SCHEDULE

(For detailed information of each individual area, write the State Game and Fish Commission, 270 Washington St., S.W.) No permits required.

DATES	AREAS	SPECIES
Reg. Season	Lake Seminole, Whitesburg, Allatoona, Altamaha, Cohutta, Grand Bay, Brunswick Pulp and Paper Co.	(All except raccoons)
Dec. 8-Feb. 28 Fri. & Sat.	Lake Russell	All except Racoons
Dec. 12-Feb. 28 Fri. & Sat.	Swallow Creek Coleman River	Grouse-Squirrel, Rabbit
Feb. 6-7	Lake Burton	Squirrel, Grouse

TIDE TABLE

FEB. - MAR. 1970

GEORGIA COASTAL WATERS HOW TO USE THESE TABLES

The calculations are for the outer bar. Find the reading for the desired tide. In the table below find the number of minutes to add to correct for the place you are going to fish or swim. The outer bar calculation, plus this correction, gives the correct reading for the point desired.

Adjust For Daylight Saving Time By Adding
One Hour

CORRECTION TABLE

The times given are for Savannah River entrance (Tybee).

	Hrs.	Min.
Savannah High	0	44
Savannah (Low)	*	57
Hilton Head, S. C.	0	10
Thunderbolt	0	20
Isle of Hope	0	40
Warsaw Sound	0	00
Ossabaw Sound	0	05
Vernon View	0	35
Coffee Bluff	0	55
Ogeechee River Bridge	3	50
St. Catherine Sound	0	25
Sapelo Sound	0	00
Brunswick Bar	0	00
St. Simon Pier	0	25
Frederica Bridge	0	50
McKay Bridge	0	50
Brunswick East River	0	50
Turtle River Bridge	0	55
Turtle River, Crispin Is.	1	10
Humpback Bridge	1	00
Jekyll Point	0	30
Jointer Island		55
Hampton River Village Creek Ent.	0	20
Village Fishing Camp	0	45
Taylor Fishing Camp	1	00
Altamaha Fishing Park, Everett, Ga.	4	00
Two-Way Fishing Camp, S. Altamaha	2	00

Last Quarter New Moon First Quarter Full Moon

FEB. 6 13 21
MAR. 7 14 23 1-30

MARCH, 1970

FEBRUARY, 1970

	HIGH WATER		LOW WATER	
	A.M.	H.T. P.M.	H.T. A.M.	P.M.
Sun.	2:54	6.5	3:06	5.6 9:36 9:42
Mon.	4:06	6.7	4:18	5.7 10:42 10:42
Tues.	5:12	7.1	5:30	6.2 11:42 11:48
Wed.	6:18	7.6	6:30	6.7 12:36
Thurs.	7:12	7.9	7:24	7.1 12:42 1:30
Fri.	8:00	8.1	8:18	7.5 1:42 2:18
Sat.	8:48	8.1	9:06	7.7 2:36 3:12
Sun.	9:36	7.9	9:54	7.7 3:24 3:54
Mon.	10:24	7.5	10:48	7.5 4:18 4:42
Tues.	11:18	7.0	11:38	7.2 5:06 5:30
Wed.	12:06	6.9	12:54	5.9 6:54 7:12
Thurs.	12:30	6.9	12:54	5.9 6:54 7:12
Fri.	1:24	6.5	1:48	5.4 7:54 8:06
Sat.	2:24	6.3	2:48	5.1 8:54 9:06
Sun.	3:24	6.1	4:00	5.0 9:54 10:06
Mon.	4:30	6.1	5:06	5.1 10:54 11:00
Tues.	5:24	6.2	5:54	5.3 11:42 11:48
Wed.	6:12	6.4	6:36	5.6 12:24
Thurs.	6:54	6.6	7:18	5.9 12:36 1:12
Fri.	7:30	6.7	7:48	6.1 1:18 1:48
Sat.	8:00	6.8	8:18	6.3 2:00 2:24
Sun.	8:30	6.7	8:54	6.4 2:42 3:00
Mon.	9:06	6.6	9:24	6.5 3:18 3:30
Tues.	9:36	6.5	10:00	6.6 3:54 4:00
Wed.	10:12	6.3	10:42	6.6 4:30 4:36
Thurs.	10:54	6.1	11:24	6.6 5:12 5:12
Fri.	11:42	5.9		6:00
Sat.	12:18	6.5	12:30	5.7 6:54 7:00

	HIGH WATER		LOW WATER	
Day	A.M.	H.T. P.M.	H.T. A.M.	P.M.
1. Sun.	1:18	6.5	1:36	5.6 8:06 8:12
2. Mon.	2:30	6.5	2:48	5.6 9:18 9:24
3. Tues.	3:48	6.7	4:06	5.9 10:18 10:30
4. Wed.	5:00	7.0	5:18	6.5 11:18 11:36
5. Thurs.	6:00	7.5	6:18	7.1 12:18
6. Fri.	6:54	7.9	7:12	7.7 12:30 1:06
7. Sat.	7:42	8.0	8:00	8.1 1:30 1:54
8. Sun.	8:30	8.0	8:48	8.2 2:18 2:42
9. Mon.	9:12	7.7	9:30	8.1 3:06 3:30
10. Tues.	10:00	7.3	10:18	7.8 3:54 4:12
11. Wed.	10:42	6.8	11:06	7.4 4:42 4:54
12. Thurs.	11:30	6.2	11:54	7.0 5:30 5:42
13. Fri.			12:18	5.7 6:18 6:30
14. Sat.	12:48	6.5	1:12	5.3 7:18 7:30
15. Sun.	1:42	6.2	2:12	5.1 8:18 8:36
16. Mon.	2:48	6.0	3:24	5.0 9:24 9:36
17. Tues.	3:48	5.9	4:30	5.2 10:18 10:30
18. Wed.	4:48	6.1	5:24	5.6 11:06 11:24
19. Thurs.	5:42	6.3	6:12	6.0 11:54
20. Fri.	6:18	6.5	6:48	6.4 12:06 12:30
21. Sat.	7:00	6.7	7:18	6.7 12:54 1:12
22. Sun.	7:30	6.8	7:48	7.0 1:36 1:48
23. Mon.	8:00	6.8	8:24	7.1 2:12 2:18
24. Tues.	8:36	6.7	8:54	7.2 2:48 2:54
25. Wed.	9:06	6.6	9:30	7.3 3:30 3:30
26. Thurs.	9:48	6.4	10:12	7.2 4:06 4:06
27. Fri.	10:30	6.2	11:00	7.0 4:48 4:48
28. Sat.	11:18	5.9		5:36 5:36
29. Sun.	12:00	6.8	12:18	5.8 6:36 6:42
30. Mon.	1:00	6.7	1:24	5.8 7:48 7:54
31. Tues.	2:18	5.6	2:42	5.9 9:00 9:12

Port violations or if you need assistance in the Coastal Area—Call—State Game & Fish Commission, Brunswick, Georgia, Box 1097, Phone 265-1552, Savannah 233-2383, Richmond Hill 756-3679.

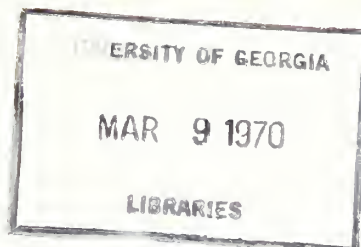


GEORGIA

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Miss Edith Klein
Asst. Prof. of Recrea.
Univ. of Ga.
Athens, Ga. 30601
2/70

GAMIE & FISH





GEORGIA

GAME & FISH

March 1970

Volume V

Number 3

CONTENTS

Tobesofkee, Sport for Today	Dean Wohlgenuth	1
A Hatchery Is Not A Home	Marvin Tye	5
Ogeechee Spectacular	John Culler	8
Meet Your Commissioner— Dr. Collins	Marvin Tye	11
Instant Predator Call	Dean Wohlgenuth	12
Enthusiasm Plus	John Culler	14
Outdoor World		15
Sportsmen Speak		16
Sportsman's Calendar		17
Tide Table		17

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George T. Bagby
Director, State Game & Fish Commission

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GEORGIA GAME & FISH STAFF

Dean Wohlgenuth
Editor

Staff Writers

Marvin Tye
J. Hall

John Culler

Ted Borg, Photo Editor

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Georgia's Generation Gap

On a cold, windy Tuesday in December, a crowd sat in the old Supreme Court chamber of the State Capitol listening to opinions that will shape the fate of Georgia's coastal islands.

The most challenging statement came, not from the politicians and experts, but from a shy young wife and mother a recently arrived citizen of our state, pretty, blonde Mrs. Richard Murlless of Bishop. She had been nervous, she said, about moving to Georgia. Many of her friends from the Northeast had laughed about Georgia being "ten years behind the rest of the country." That accusation is true, she admitted, in the sense that Georgia has until recently been a mostly rural rather than industrial state. But the laugh belongs entirely to Georgia, she said, because this time lag means that our state has a unique opportunity to preserve the natural resources and beautiful environment that many other states have already polluted and despoiled.

While Lake Erie is "too thick to swim and too thin to plow," Hartwell, Burton, Allatoona, and other Georgia lakes are still inviting places to swim and fish. While half of one of Florida's most beautiful wild rivers, the Oklawaha, had been dredged into a commercial barge canal, Georgia still has untouched beauty in the Ocmulgee, Altamaha, Chatooga, and the Suwanee, rivers so valuable that the latter two are at this moment being proposed as National and State Scenic Rivers.

While the coast of New Jersey is being washed into the sea so rapidly that scientists and engineers barely have time to check their measurement stakes before they are submerged, the grassy dunes of Georgia's offshore islands have held and protected the sandy, silver beaches. While hot dog wrappers wash ashore on South Carolina's Grand Strand, giant sea turtles drag their heavy bodies out of the surf on Little Cumberland Island and dig shallow nests for their round, shiny eggs.

Nor are all the benefits of this generation gap seen in ones. Much of the fertile marshlands and bays of California, Connecticut, and Massachusetts have been filled and made into housing developments, with a sharp drop in oyster, shrimp, and fish production, while on Georgia's rich coast, there was recently discovered the basis for a new industry in the harvest of calico scallops and clams. The productivity of our tidal waters and their future potential due to the preservation of the natural salt marshes, an accident of history and economics that is now recognized as a blessing instead of a curse.

We cannot, however, sit on our hands and look smug while less fortunate states suffer the results of their shortsighted exploitation of their heritage. The man who stands still will be overtaken by careless, so-called "Progress." Even now the carpebaggers are moving in, and this time some of them are our own citizens. Theirs are the voices that cry for us to make money now and worry about what life later. They would have us believe that we must sacrifice our clean water, timberlands, game populations, and open spaces in order to have jobs and economic growth. We have

Continued on Page 17

ON THE COVER: Little can compare with the beauty of a river in the South Georgia coastal area. And the Ogeechee, photographed by Ted Borg, not only demands its share of recognition for its beauty, it also provides some of the state's most exciting fishing... for the explosive shad. John Culler's story, "Ogeechee Spectacular," Page 8, tells all about this fine sport.

ON THE BACK COVER: Outdoor enthusiasts are always looking for new spots to visit. Lake Tobesofkee, near Macon, is one of the newest, most promising places for fishermen, campers, picnickers, swimmers and even hunters to try. Read about it on Page 1.

(Photo by Ted Borg)

Tobesofkee

sport
for today



Fish are full of fight in Lake Tobesofkee, this angler learns, as he tussles with a frisky rascal. A new lake, opened to fishing only last June, Tobesofkee produces excellent fishing. (Photo by Ted Borg)

By Dean Wohlgemuth

■ With all the water in Georgia already, a new lake of 1,750 acres might seem likely to become about as prominent as a new face in a crowd. Yet, because of its ideal location, and the facilities it has to offer, a new lake of that size has appeared on the scene that may be a standout in the crowd.

The lake is Tobesofkee, just minutes from one of Georgia's bigger cities and a few less minutes off the state's main interstate highway. This means Tobesofkee is ideally located for a one-day recreation jaunt for a large percentage of Georgia outdoor sports enthusiasts.

Less than a half hour from downtown Macon and just a few minutes off the Interstate 475 bypass around that city, Tobesofkee can be reached from Atlanta in an hour and a half, and not much longer than that from the extreme southern portion of Georgia.

Tobesofkee has much to offer the one-day visitor. If you have the time, however, you're likely to find it an even more enjoyable visit if you take a weekend.

Built by the Soil Conservation Service as a watershed project, the lake itself is



Top: This sign greets visitors on Ga. 194 on the northwest shore of Lake Burton. The hatchery is open to visitors from 8 a.m. to 5 p.m. each day.
(Photo by Ted Borg)

Bottom: Most of the trout stocked in Georgia's mountain streams come from the concrete raceways at the Lake Burton Hatchery. Approximately 1,000,000 trout are stocked here each year.

A hatchery is not a home

Hatchery superintendent W. L. "Dub" Lovell feeds trout in one of the raceways. These fish consume 65 tons of a specially prepared formula each year. Moccasin Creek State Park and the stream of the same name are shown in the background.

(Photo by Marvin Tye)



Nestled in the North Georgia mountains along the shore of Lake Burton is a hatchery that supplies most of the state's cold-water streams with trout. The hatchery has 20 concrete raceways in which the fish are raised from fingerling size to a length of 10 to 12 inches when they are stocked.

Each of the 12 raceways to the left of the hatchery building will hold 9,000 trout. The eight raceways on the right will hold 22,000 each. Fingerling trout, one to three inches in length, are placed in the raceways, beginning in June and continuing until the following March when

stocking of these fish begins and is completed the following September, 15 months after arrival at the Lake Burton Hatchery.

During that period, the trout are fed approximately 65 tons of feed. This is a prepared formula which comes in different size pellets, to fit the individual fish. The fish are fed twice each day and the raceways are cleaned daily.

The hatchery's only water supply is gravity flow from Moccasin Creek. The temperature of this water ranges from 58 to 68 degrees during the spring and

summer months and from 34 to 58 degrees during fall and winter.

The present carrying capacity of the hatchery is 270,000 trout. The brook, brown and rainbow trout placed in the hatchery are obtained from the U.S. Fish and Wildlife Service.

Although trout are not hatched at this facility, some 4,000,000 walleye eggs are obtained each year and hatched at Lake Burton Hatchery. The resulting fry are stocked in lakes in the northern part of the state.

In addition to the raceways used for growing trout to stocking size, there are

By Marvin Tye



six earth ponds used for rearing stations for bass and walleye during the summer months and for trout during the winter. A circular raceway contains what Hatchery Supervisor W. L. "Dub" Lovell calls show fish. These are trophy-size specimens up to eight or ten pounds that any angler would enjoy catching.

The hatchery is open to the public from 8 am to 5 pm each day throughout the year. Lovell or Assistant Supervisor Will Patterson are usually on hand to inform visitors of various aspects of the hatchery operation.

Approximately 1,000,000 trout are stocked in Georgia's lakes and streams each year. These are supplied by the Lake Burton Hatchery, The Game and Fish Commission Hatchery at Summer-ville, and the U.S. Fish and Wildlife Service. Georgia has more than 700 miles of cold-water mountain streams that are now being stocked with trout. In addition, the fish are placed in Lakes Hartwell, Lanier, Clark Hill, and others and in the tailwaters below the dams at many of these impoundments.

The stocking of Georgia's mountain streams is largely a put and take proposition, with most of the stocked trout being caught by anglers during the season in which the fish are released. Operation of the Lake Burton Hatchery is a big factor in assuring that the popular sport of trout fishing will be with us for a long time to come. 🐟

Left: Trophy-size trout such as this are placed in a circular raceway at the hatchery for the benefit of visitors.

(Photo by Marvin Tye)

Right: The trout are placed in tanks on the stocking trucks, top photo, then hauled to mountain streams, bottom photo, where they are released. Stocking is necessary, as the growing number of trout fishermen place heavy demands on the streams. (Photo by Dean Wohlgemuth)





When nature designed the world and its creatures, ever mindful of the Georgia fisherman, she knew it would take something rare indeed to shake him awake from his long winter sleep and get him in fighting trim

Ogeechee Spectacular

By John Culler

for the many battles he faced during the coming spring and summer. Old Mother Nature knew it wouldn't be easy, for Georgia fishermen seem to obey an unwritten law whereby at the first hint of cool weather, they lay aside their rods, zip up the old boat, and drift into a peaceful dimension of football games, turkey dinners and jolly fat men in red suits. She needed a spectacular. Something that only lasted a few weeks but was so wonderful that when a fisherman thought about it he would awake from a New Year's Eve celebration and go check his fishing tackle.

She finally came up with a solution. She designed a fish with the fighting spirit of a tarpon, the speed of a bonefish, and the homing instincts of a salmon. To this she added a compelling desire to attack any other fish in the

same area and then she gave it a gourmet-pleasing taste. She sent this awesome package up Georgia's coastal rivers in the spring to spawn, and fishermen began to bloom like early season flowers. Adam's counterpart on the Georgia coast named them white shad.

Shad are anadromous, that is, they spend most of their lives in salt water but return to fresh water to spawn. Biologists say they begin moving up the rivers when the water temperature reaches 60-65 degrees, but unlike salmon, most shad do not die when they spawn, but return to the sea and live to spawn again. However, many fish, exhausted by their long journey upriver, sometime as far as 200 miles, perish after spawning. This is particularly true in Georgia and other southern states.

Although many fishermen in Georgia

have never discovered this fantastic fish, shad are great fighters on light tackle. They are caught on small spoons and shad "darts" which can be trolled or cast. Why shad strike these lures is somewhat of a mystery, because they are members of the herring family and are primarily plankton feeders. Little or no food is found in shad stomachs while making their spawning run. Some say they strike as a defense mechanism during spawning season.

Whatever the reason, once hooked, shad really know how to turn it on. It's not uncommon for a four-pound fish to jump seven or eight times with long powerful runs between each jump. And when they get close to the boat you better watch out, because it seems like they get their second wind.

The prime shad fishing waters in Georgia and perhaps in the U. S. would have to be the Ogeechee River near Savannah. The Ogeechee has always had a good shad run and it is one Georgia river that is virtually unpolluted. The Savannah River also has a good shad run, and up near Augusta a lot of shad are caught. Unfortunately, the Savannah is heavily polluted, especially in its lower reaches, and the fish are inedible.

While our largest river, the Altamaha, has a good shad run each spring, the water is too turbid, and few shad are caught on hook and line.

As a commercial variety, shad caught

in the Ogeechee River enjoy a world-wide reputation, and commercial fishermen who fish set and drift nets in the river say shad caught in the Ogeechee bring a premium price.

The maximum weight of shad caught on the Atlantic Coast is about 12 pounds, and a five-pounder is a good fish. Most of the fish caught in Georgia waters average from three to five pounds, but occasionally a six or seven pounder will be landed. In fact, a Savannah bait salesman said he saw two fish from the Ogeechee caught last March that weighed over eight pounds. On the Pacific Coast, shad average about a pound heavier, attaining a maximum weight of approximately 15 pounds.

Most of the fish caught in the Ogeechee River are landed between Richmond Hill and Blythe, a 30-mile stretch of river about 20 miles below Savannah. Along this stretch the river is crossed by four highways, including Interstate 16. At the other crossings, U. S. Highways 17 and 80 and Georgia 204, there are boat launching facilities.

If you've never caught a shad, you will think you've got hold of a baby tarpon. In fact, shad are closely related to the tarpon family, and closely resemble their more famous cousins in appearance. The same forked tail, large streamlined body and fighting spirit are characteristic. Even when landed, s

When a shad jumps, the wise angler lowers his rod tip to prevent the fish from throwing the hook.



ever appear to give up, and will continue to flop in the bottom of the boat after most fish have given up the lip.

The St. John's River in Florida is a famous shad river, and the shad run here begins in December and lasts until the end of February. In Georgia, the shad appear in the coastal rivers in January, but the best month is March, and if we have a late spring, on to April.

In order to publicize the shad fishing on the Ogeechee, the Savannah Area Chamber of Commerce is planning a shad fishing rodeo on the river scheduled during March. As of this writing the dates are not definite, but some great prizes will be given to the largest shad caught, probably over a period of two weekends. Since Georgia doesn't have a state record on the books, the record will probably be established during the rodeo.

Like many other species of game fish that migrate up North American rivers each year, shad have been hard hit by pollution, dams and other water control structures in many sections of the Eastern Coast, particularly in the northern states. This makes rivers like the Ogeechee ever more valuable, and as more is learned about this fish it is believed better management techniques will make shad runs even better in the future if we can protect our coastal rivers.

While many shad are caught above the U. S. 80 bridge at Blitchton, and below the U. S. 17 bridge at Richmond Hill, the greatest majority of fish are caught between these two points. There aren't any places on the river that offer overnight lodging, but there are plenty of motels along both highways, a 10 minute drive away. There are several fishing camps along this stretch of the river that rent boats and have everything a shad fisherman would need including the small spoons that take the fish.

Fishermen with campers would really be in business, because there are parking areas complete with restrooms and electricity on the river near each of the launching sites.

If you've never fished Georgia's coastal rivers during the shad season, owe it to yourself to give it a try. Truly one of nature's spectaculars. ➤

Shad fishermen in Georgia may take shad weighing as much as 12 pounds. Women exhibit a string of average shad plus a striped bass. Both fish are anadromous, which means they live most of their lives in salt water then enter fresh water rivers to spawn.

Tip: A net is necessary for the angler who wishes to land a large number of the fish on the hooks. You cannot pull one out by the leader because the hook will tear out of the shad's tender



Meet Your Commissioner

By Marvin Tye



■ Dr. Robert A. Collins Jr. of Americus, the new Third District Representative to the Game and Fish Commission is described by his hunting and fishing companion Neon E. Bass as a man who is all business in the office and 100 percent sportsman when afield.

A prominent surgeon, Dr. Collins graduated from Unadilla High School, received his pre-medical training at Presbyterian College in Clinton, S.C. and obtained his medical degree from the University of Georgia in 1948. He then joined the U.S. Army and served his internship in a general hospital. Dr. Collins was engaged in general practice from 1949 until 1953 when he received a Fellowship in Surgery from Mayo Clinic in Rochester, Minn. He obtained his Master's Degree in surgery from the University of Minnesota in 1957 and entered private practice in Americus the same year. He became a Fellow of American College of Surgeons in 1959 and a Diplomate of the American of Surgery in 1958.

Dr. Collins has served as secretary of the Third District Medical Society for nine years and is a past president of that organization. He has served as Chief-of-Staff of the Americus and Sumter County Hospital and as president of Sumter County Medical Society.

Active in many medical, civic and community affairs, Dr. Collins is a member of the First United Methodist Church and served on its administrative board for a number of years and is a past president of the couples class of the Sunday school.

Fishing for bass, crappie, bluegills, and other gamsters on Lake Blackshear is one of his favorite sports. He enjoys being on the water with his wife and five children. A real stickler for safety, he wears a life preserver whenever he is on a boat, and insists that each member of his family do the same.

On the wall of Neon Bass's lakeside cabin is a painting that was drawn by Dr. Collins' daughter, Virginia Jo, better known as Ginny, when she was 14. Now 20, Ginny is a student at Georgia Southwestern College in Americus and plans to go into medical illustration after graduating. Robert III, now 19, is described by his father as an all-around sportsman who enjoys all types of outdoor activity. Rodney, 15, Richard, 13, and Glennis, 17, also enjoy boating and other outdoor activities.

Dr. Collins' favorite hunting activity is pursuit of the whitetail deer. He and Neon Bass hunt with A. N. "Boots" Waters on Pineland Plantation each fall. Bass says that the commissioner is a deadly shot with a deer rifle and has taken his share of nice bucks. Dr. Collins also hunts doves and quail, but is not as enthusiastic about these species as he is about deer hunting. 🦌



Dr. Collins, left, and Neon E. Bass examine a painting of Bass's boathouse. The painting was done by Dr. Collins' daughter, Virginia Jo, six years ago when she was only 14.

Dr. Collins, left, spends much of his spare time fishing on Lake Blackshear with his friend, Neon E. Bass, postmaster at Newby, Leslie, Ga. He is also an enthusiastic deer hunter and hunts doves and quail each fall. Photos by Ted Borg





Nothing like a fishing rodeo to stir up excitement for the youngsters! A nice big catfish and a few bream (upper left) made a hefty stringer for this boy. It takes patience and careful study to entice a finny adversary (upper right) to take the bait. A veritable jungle of cane poles (lower left) is the order of the day as competition for the fish's attention is keen. After the catch is made, it's time to weigh in the catch (lower right).

Photos by John Culler



Enthusiasm Plus

By John Culler

■ Have you ever seen 3,000 corks floating shoulder to shoulder? You would have, had you been at the 15th Annual Fishing Rodeo at the Robbins Packing Company's lake in Statesboro last April.

Sponsored jointly by Robbins and the Statesboro Recreation Department, the rodeo is open to boys and girls in the first seven grades of school. The kids are encouraged by free hot dogs and cokes, a combination that is fatal to the fish population in the 15-acre lake.

Last year it was estimated the young anglers caught between four to six thousand bream, bass and catfish during the one-hour contest.

First, second and third place prizes were given to persons catching the largest bream, bass and catfish, as well as miscellaneous prizes to contestants traveling the farthest distance to enter the rodeo, the first fish caught, to anyone catching one of the 100 tagged fish re-

leased in the lake, and to the youngest angler.

Prizes were also given to the oldest man and oldest woman present.

The field was broken into two divisions, those in grades one through four and those in grades five through seven. All anglers fished from the bank with cane poles, using crickets, worms and minnows.

There was no entry fee, and free fishing poles were even given to the kids by some of the stores in Statesboro.

Enthusiasm ran high, and there were few who didn't catch a string of fish, including those who went for another hot dog every five minutes.

Despite tangled lines, hooked fingers and extreme concentration on the task at hand, everyone had a great time, including the parents who came along to watch their charges in action, and to keep them from falling in the lake. 🐟

Instant Predator Call

By Dean Wohlgemuth



Caught in the woods with no game to be found, the day can be salvaged by making an instant predator call. Select a twig of about six inches long and about $\frac{3}{8}$ inch in diameter. The twig should be smooth and straight, preferably of dogwood, gum, maple or similar woods. E. A. Wallace uses his pocket knife to cut the ends of the twig as squarely as he can.

—Photos by Wohlgemuth



The twig is flattened on one end by whittling on opposite sides of the same end, cutting slightly deeper than the bark. The cut should be at least three inches long.



The flattened end of the twig is split nearly as far down the stick as the initial flattening cut was made. It may be necessary to make a second split as close as possible to the original, trimming the excess wood between the splits, to allow the reed space in which to vibrate.



A dry leaf is inserted into the split, then trimmed close to the wood. If the leaf has a heavy center stem, use only half of the leaf, to avoid using the stem.

■ It was late in February and there were only a couple more days of quail season left. The party of four hunters were beating the cover, figuring to get in one last crack at bird hunting but the birds, apparently breaking into pairs, escaped them almost completely.

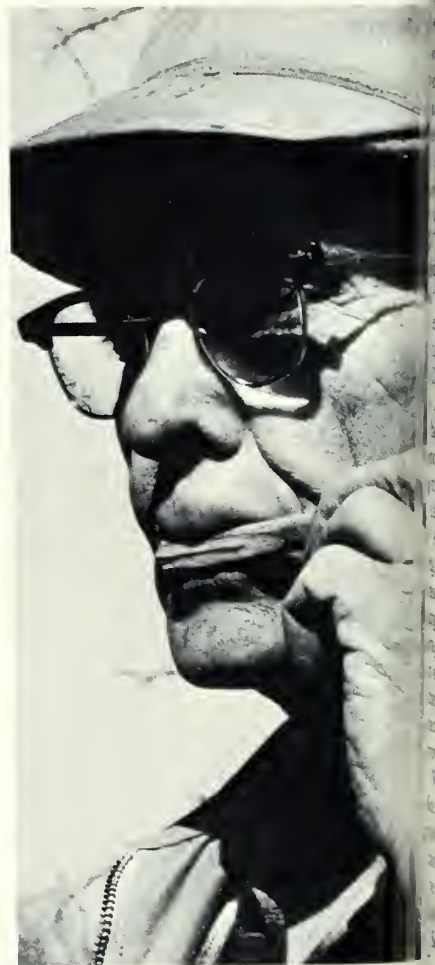
Weary from the walking and the lack of success, the senior member of the party, E. A. Wallace decided to sit one out while the rest of them made another swing.

The other three came back to the camp an hour later without having fired one shot, and found the old gentleman smiling smugly. "I've seen four hawks and a stray cat. What did you see?" he jabbed.

There had to be a reason behind his comment, so they bit. "What do you mean you saw four hawks and a cat?"

Wallace produced a small twig, and sticking one end in his mouth, he made a low, pathetic squeal. "I called 'er up," he grinned.

He showed them the twig. It was just a short piece of dogwood, perhaps five inches long and about three eighths of an inch in diameter. He'd shaved the bark off two sides of the end that had been



Putting the side of the reed end of the completed call into his mouth, with leaf reed horizontal, Wallace blows softly. This makes a plaintive squeal which is an excellent imitation of a rabbit in mortal fear.

his mouth, and there was a split on
t end, about two inches deep.
His was a trick that was intriguing,
cause it was simple to do, a bit of
ods-wisdom worth knowing, espe-
lly for the outdoorsman who prefers
to have to buy every little piece of
ipment he uses.
Not only that, if a man finds regular
ne hard to come by and he decides
I try for some varmint shooting if
y he'd brought a predator call along,
can make himself a fine call in a
ter of only a couple of minutes.
The old gentleman consented to dem-
strate the art of making the call.

He first selected a straight, smooth
piece of dogwood (other woods, such as
gum, birch, maple, and elm will do)
and cut off the ends as squarely as he
could with a pocket knife. He sliced off
the bark, into the wood a little on op-
posite sides on one end, flattening the
stick somewhat. Then he split that end
of the stick between the peeled areas
and parallel to them.

He selected a dry leaf, wide enough
that a half of the leaf was slightly wider
than the twig, without using the center
stem of the leaf. Inserting half of the
leaf into the split, he carefully cut the
leaf close to the stick so that it filled the

split, making a reed.

That's all there is to it! He put the
end of the call into his mouth and blew
a plaintive note, which sounded for all
the world like the cry of a rabbit in dis-
tress.

He could vary the pitch of the cry by
lip pressure, and also by blowing
slightly harder. It took only a couple
minutes to practice to learn to make a
natural-sounding call.

It may be more effective than some
"store-bought" calls, because it is not so
loud, more like the real thing.

You can bet it really works. Give it a
try yourself! ➤

the outdoor world



everybody talks about it, but nobody
anything about it. No, it's not the
her. This time they're talking about
environment.

President Nixon, in his State of the
on message, pledged the most ex-
ive campaign in our history to
up the nation's fouled air and
er. How bad is the situation? Every-
has his own opinion, but the Na-
l Wildlife Federation has the facts,
they are not pretty!

The Federation has compiled the first
c of Environmental Quality, "EQ"
short, to let us know just what we
doing to our air, water, for-
wildlife, minerals, and soil. They
repeat the study every year and give
report on our progress or lack of it.
scale goes like this: very bad, bad,
fair, good, very good, excellent.
Unfortunately, our report card for this
shows failing marks.

America's air draws a *Very Bad* rat-
because of the smog and killing
over even the small cities. The
t source of this pollution is the av-
man's automobile, with industry
ond place. Americans spend more
five times as much money on to-
products as on air quality im-
provement.

Water is only a step better, having a
rating. We are still losing here, with
dustrial waste and city sewage pouring
our streams every day. In the next
years it will cost us \$26.3 billion
for clean water.

Si looks better, with a grade of
even here, however, we are slowly
sig to shopping centers, highways,
suburban sprawl, the green, open
space we need for parks, recreation,
wildlife habitat.

The condition of our forests is also

only *Fair*, and current demand for lum-
ber at any price makes the future of our
forests doubtful. Many private landown-
ers use the cheapest methods to get their
lumber to market, scarring the land and
sacrificing fish and wildlife habitat.
There is increasing pressure on our Na-
tional Forests for more intensive cutting
and conversion from hardwood to fast-
growing conifers. These changes
threaten the balanced use of the forests
for wildlife management as well as tim-
ber.

With the pollution of the soil by un-
wise use of pesticides and decreasing
amounts of standing timber, wildlife can
only be losing too. The rating is *Fair*,
with the list of endangered species ris-
ing. In 1967 there were 78 species in
danger of extinction; today there are 89.

The only hopeful scene is in mineral
resources. Here the rating is *Good*. One
word of caution—of all our resources,
minerals alone are not renewable: there-
fore we must be especially careful not
to waste what we have. We must also
guard against further damaging soil,
water, and wildlife by careless surface
mining practices.

Over-all the Environmental Quality
Index reads *POOR*. Air and water are
dangerously polluted and soil, forest,
and wildlife resources are in a pre-
carious state at a time when more and
more Americans need and demand
clean places to live, work, and play.
Only our minerals are in good shape.
We have only ourselves to blame! We
created this mess, and only we can clean
it up. As Georgia's most famous comic
strip character, Pogo the Okefenokee
Swamp 'possum says, "WE HAVE
MET THE ENEMY, AND THEY
ARE US!"

Georgia Lakes Receive Trout

Georgia fishermen who want to catch
a trout in a major reservoir will have an
excellent chance this coming summer.
The State Game and Fish Commission
stocked 178,600 trout in 10 lakes dur-
ing December.

Anglers were reminded that a 14-inch
minimum size limit is in effect on lakes
where trout are stocked. Also, tributar-
ies to these lakes are closed to trout
fishing until the opening of the regular
trout season in April. Standing water of
the reservoir is open to fishing, but run-
ning water in streams flowing into these
lakes are closed.

Leon Kirkland, chief of fisheries for
the Commission, added that stream
trout fishermen should have an excep-
tionally good year this coming trout sea-
son. He pointed out that the trout going
into the lakes no way affects stream
stocking. Furthermore, he said, Georgia
will have an additional 75,000 trout for
stream stocking. "Trout to be stocked in
our streams will be larger, as well as
there being more of them," he said, "so
we expect stream fishing to be un-
usually good."

Lakes which received trout are: Blue
Ridge, 2,000; Nottely, 1,000; Chatuge,
1,000; Burton, 6,000; Seed, 1,200;
Rabun, 1,200; Tallulah Falls, 1,200;
Lanier, 85,000; Clark Hill, 30,000; and
Hartwell, 50,000. The number of fish
per lake was based primarily on the size
and use of each lake.

Kirkland said that anglers have
caught some nice trout out of Hartwell.
He added that improved stocking tech-
niques were used at Clark Hill, in hopes
of greater catches of trout by anglers.

Those stocked in Lanier, he said,
were put in below the Highway 53
bridge, and the majority were put in
below Brown's Bridge. Thus, the trout
should stay in the lower end of the lake.

"Due to the exceptional size and large
number of trout put into Lanier this
winter, this should be an excellent year
for trout fishing in that lake," he said.

—Dean Wohlgenuth

More Lakes Get Stripers

The Georgia Game and Fish Commission has stocked 42,000 striped bass from the Walton Fish Hatchery into two Georgia lakes, Director George T. Bagby has announced. He said that an additional 92,000 stripers had been placed in two other Georgia lakes as part of a state-federal program to determine when and at what size fish should be stocked to get the best returns to the fisherman.

The striped bass is a saltwater fish that spawns in rivers which flow into the ocean. Landlocked stripers have been reproducing in rivers flowing into the Santee-Cooper Lakes in South Carolina for the past twenty years. The Georgia Game and Fish Commission has been experimenting with the striped bass for the past three years in an effort to establish a population of this game fish in several lakes.

Fisheries Chief Leon Kirkland said that 1969 has been the best year yet for hatchery production of stripers. The Walton Hatchery has produced 390 pounds of fish per acre. These fish have been fed artificially produced food.

Lake Nottely received 11,000 of these fish and Lake Blackshear 32,000. The fish ranged in size from 3 to 9½ inches. This was the first striped bass

stocking for Lake Nottely. The fish had been placed in Blackshear and Seminole in previous stockings.

Lake Sinclair received 72,000 stripers in June, 1969. Although these were 1½ inch fingerlings at that time, stripers weighing ½ to ¾ pound have been caught by anglers there only six months later. Another amazing example of the rapid growth rate of the striper is a 6 lb. 9 oz. specimen landed by Vic Wood at Lake Burton in Oct., 1969. This fish came from an accidental release of some two to three hundred fingerlings in 1966—all of them less than four inches long.

Lake Jackson received 20,000 stripers, ranging in size from three to nine inches, in December, 1969. All of these stockings will be evaluated to determine the best size fish to stock and the best time of year to stock these fish in order to obtain maximum survival and return to the fisherman.

—Marvin Tye

National Wildlife Week

Seen any wildlife lately? A simple question, but a crucial one. Perhaps you have been lucky enough to see, or bag, a nice buck, or to have a luncheon on your line. Maybe you're looking forward to pulling a few trout out of an icy moun-

tain stream. If so, you are one of the lucky few. To millions of Americans, adults and children, wildlife means a ragged pigeon on a dirty street or a rat scurrying across a vacant lot.

America was once a land of unlimited wildlife, where deep forests sheltered deer, raccoons, squirrels, and bobcats; where miles of grassy plains rumbled to herds of buffalo and mustangs; where glass-clear streams were full of fish and lakes echoed to the call of migrating birds. Their numbers have steadily declined. Some species are extinct and many others are in danger.

Look around you. If there are fewer deer, geese, squirrels, and fish it's a sure sign that the quality of our life has deteriorated. Wildlife cannot tolerate the dirty air, poisoned water, and noise that accompanies the change from natural area to concrete suburb. Wildlife cannot find shelter on the modern "clean" farm, homes in the drained swamp, or food in the commercial pine forest. Our wildlife is not only a source of beauty and recreation; it is a sensitive indicator of the state of our world. The decline of wildlife is a warning of the decline of our own standard of living. Ask yourself during National Wildlife Week March 15-21, "Seen any wildlife lately?"

—Margaret Tucker



ALABAMA SHAD

In an issue of Georgia Game and Fish, reference was made to a "novelty fish," the "Alabama shad," in the W. F. George Reservoir and behind the Eagle and Phenix Dam above.

These things seem to "school" in September and other times with small bass and white bass and will hit small lures. I have heard people swear they were "tarpon" and "roe shad" and various others. Most seem small, but I have seen one about 14" long.

Are they the same thing as the "skip jack" or "herring shad" that fishermen use behind Wilson Dam at Florence, Alabama as bait for smallmouth?

Please tell me all about who he is. I will greatly appreciate it.

John T. Miller, O.D.
Columbus, Georgia

The Alabama shad you are speaking of is a salt water fish which comes up-river to spawn. It is not the same fish that is used as bait behind Wilson Dam on the Tennessee River, as that would be a fresh water fish. Nor could it be called tarpon, but perhaps the term "roe shad" is applicable to the female as the Alabama shad would be in the rivers when full of roe and ready to spawn.

LAKE WALTER F. GEORGE

I would like to know the rights of a Georgia Fisherman that fishes in Lake Walter F. George at Fort Gaines, Georgia and Eufaula, Alabama. If we have a Georgia valid

fishing license, is it honored by the Alabama authorities? Do we have the right to fish on the Alabama side with a Georgia fishing license?

There have been rumors of people from Douglas, Georgia being fined for fishing on the Alabama side with a Georgia license. I know that last year the Alabama Safety Patrol stopped me and I was told that I had to register a 9.8 Mercury motor on a personal boat. Under the Georgia law this does not have to be registered. I did register and received a number which I placed on the boat, however, I think this was an expense that I should not have had to endure.

Please advise me as soon as possible on this matter as there are a great many fishermen in our area who enjoy fishing at this lake. I enjoy your magazine very much.

Ronnie J. McClelland

Georgia has a reciprocal agreement with Alabama on waters where the Chattahoochee River borders the two states, from Columbus southward. Yes, you may fish in the reservoir, on the Alabama side, with a current Georgia license. You may not enter tributaries, however.

You are also correct in that you must have registration on your boat, regardless of horsepower, when operating on the Alabama side. This applies from the center of the lake toward Alabama. However, if your boat has a motor of 10 horsepower or less, you may, at this writing, obtain a free registration sticker from the Game and Fish Commission's Atlanta office.

It must be pointed out, however, that it is possible that a bill may soon be entered into the Georgia legislature, which would require registration of all boats, powered or not, and regardless of horsepower.

Editorial continued

listened to them too long!

Many cities, including our greatest, are pouring daily increasing amounts of raw sewage into streams and rivers. There was an oil slick one hundred miles long, from a broken railroad pipeline, down the Chattahoochee River January 17. Few fish were affected, but few can live in that 50 miles of open sewer below Atlanta.

Developers are still drawing up plans for commercial ventures on Cumberland, the large, wild island proposed by a National Seashore in legislation sponsored by Georgia Congressman William Stuckey. The race is on for Cumberland! Place your bets, gentlemen—a public park or private subdivision?

Local profiteers have been busy buying tracts of marshes in Glynn County and filling them, bit by bit, while waiting for the slow processes of government to provide a law to protect these areas. Will we awake tomorrow to discover that we have, at last, a strong law, but the marshes are already gone? This happened in Connecticut; it must happen in Georgia.

Georgians do not have to stand helplessly and watch their birthright sold. They can join the efforts of sportsmen, conservationists, legislators, and their fellow citizens to protect our natural resources and keep the Georgia estuaries

ment uniquely clean and beautiful. Support is crucial now. There are important bills before the U.S. Congress designed to protect our rivers, coastal islands, and the Okefenokee Swamp, introduced by Georgia Congressmen Ben Cuckburn and William Stuckey. In the Georgia Legislature action is being completed on the marshlands protection introduced last year by Representative Reid Harris, and other legislation is being introduced to determine the fate of Georgia's coastal islands.

In addition to supporting wise conservation legislation, you can make a personal contribution to your state by joining a planning and conservation organization called S.A.V.E. (Save America's Voluntary Environment). If you belong to a sportsmen's club, urge your fellow members to strengthen their influence by joining with other clubs in the Georgia Sportsmen's Federation, the state-wide organization affiliated with the National Wildlife Federation. Perhaps you could organize your own chapter of the Isaacson League of America, a strong conservation group with chapters in Atlanta, Gainesville, and Newnan.

—Margaret Tucker

Sportsman's Calendar

SEASONS OPENING THIS MONTH

TURKEY

Season—March 23, 1970 through March 28, 1970 on the Bullard Creek Wildlife Management Area only.

Bag Limit—One (1) turkey gobbler.

Turkey: March 14-April 11, 1970 in Ben Hill, Brantley, Camden, Coffee, Charlton, Dodge, Pierce, Stuart, Telfair, Wilcox and Decatur counties. Only that portion of Clinch and Echols counties lying East of U.S. 441 and South of Ga. 94. Bag limit one (1) turkey gobbler.

Turkey: March 28-April 25, 1970 in Chat-

tahoochee, Columbia, Houston, Lincoln, Marion, McDuffie, Muscogee, Talbot, Twiggs, Upson, Warren, Wilkes, Taliaferro, and Wilkinson counties. Bag limit one (1) turkey gobbler.

SEASONS OPENING NEXT MONTH

TURKEY

Season—April 27-May 1, 1970 on Blue Ridge, Chattahoochee, Johns Mountain, Chestatee, and Wildlife Management Areas only.

Bag Limit—One (1) turkey gobbler.

Season—April 18-May 2, 1970 in Banks, Chattooga, Dawson, Fannin, Floyd, Franklin, Gilmer, Gordon, Habersham, Lumpkin, Murray, Rabun, Stephens, Towns, Union, Walker, White, and Whitfield Counties.

Bag Limit—One (1) turkey gobbler.

Season—April 20-25, 1970 on Piedmont National Wildlife Refuge only.

Bag Limit—One (1) turkey gobbler.

Season—April 13-18, 1970 on Clark Hill Wildlife Management Area only.

Bag Limit—One (1) turkey gobbler

TROUT

Season and bag limit to be announced later.

TIDE TABLE

MAR.-APR. 1970

GEORGIA COASTAL WATERS HOW TO USE THESE TABLES

The calculations are for the outer bar. Find the reading for the desired tide. In the table below find the number of minutes to add to correct for the place you are going to fish or swim. The outer bar calculation, plus this correction, gives the correct reading for the point desired.

Adjust For Daylight Saving Time By Adding One Hour

CORRECTION TABLE

The times given are for Savannah River entrance (Tybee).

	Hrs.	Min.
Savannah High	0	44
Savannah (Low)	*	57
Hilton Head, S. C.	0	10
Thunderbolt	0	20
Isle of Hope	0	40
Warsaw Sound	0	00
Ossabaw Sound	0	05
Vernon View	0	35
Coffee Bluff	0	55
Ogeechee River Bridge	3	50
St. Catherine Sound	0	25
Sapelo Sound	0	00
Brunswick Bar	0	00
St. Simon Pier	0	25
Frederica Bridge	0	50
McKay Bridge	0	50
Brunswick East River	0	50
Turtle River Bridge	0	55
Turtle River, Crispin Is.	1	10
Humpback Bridge	1	00
Jekyll Point	0	30
Jointer Island	0	55
Hampton River Village Creek Ent.	0	20
Village Fishing Camp	0	45
Taylor Fishing Camp	1	00
Altamaha Fishing Park, Everett, Ga.	4	00
Two-Way Fishing Camp, S. Altamaha	2	00

	Last Quarter	New Moon	First Quarter	Full Moon
MARCH	7	14	23	1-30
APRIL	1	7	14	23

APRIL, 1970

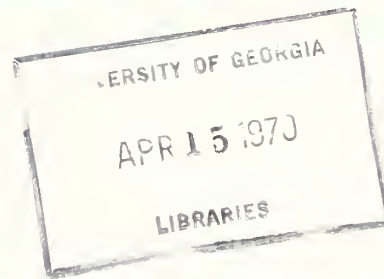
Day	HIGH WATER			LOW WATER		
	A.M.	HT.	P.M.	HT.	A.M.	P.M.
1. Wed.	3:30	6.7	3:54	6.4	10:00	10:24
2. Thurs.	4:42	7.0	5:06	7.0	11:00	11:24
3. Fri.	5:42	7.4	6:00	7.7	11:54	
4. Sat.	6:36	7.7	6:54	8.2	12:18	12:42
5. Sun.	7:24	7.8	7:42	8.5	1:12	1:30
6. Mon.	8:06	7.4	8:24	8.5	2:00	2:18
7. Tues.	8:48	7.4	9:06	8.3	2:48	3:00
8. Wed.	9:30	7.0	9:48	8.0	3:30	3:42
9. Thurs.	10:12	6.5	10:36	7.5	4:18	4:24
10. Fri.	11:00	6.0	11:18	7.0	5:00	5:12
11. Sat.	11:48	5.6			5:48	6:00
12. Sun.	12:12	6.6	12:42	5.3	6:42	6:54
13. Mon.	1:00	6.2	1:42	5.2	7:42	8:00
14. Tues.	2:00	6.0	2:42	5.3	8:42	9:00
15. Wed.	3:00	5.9	3:48	5.5	9:36	10:00
16. Thurs.	4:00	6.0	4:42	5.9	10:24	10:48
17. Fri.	4:54	6.2	5:30	6.4	11:12	11:36
18. Sat.	5:36	6.4	6:12	6.8	11:48	
19. Sun.	6:18	6.6	6:42	7.2	12:18	12:30
20. Mon.	6:54	6.7	7:18	7.5	1:00	1:06
21. Tues.	7:30	6.7	7:54	7.7	1:42	1:48
22. Wed.	8:06	6.7	8:30	7.8	2:24	2:42
23. Thurs.	8:42	6.5	9:12	7.7	3:06	3:00
24. Fri.	9:24	6.4	9:54	7.6	3:54	3:48
25. Sat.	10:12	6.2	10:48	7.3	4:36	4:30
26. Sun.	11:12	6.1	11:48	7.1	5:30	5:30
27. Mon.			12:12	6.0	6:24	6:30
28. Tue.	12:54	6.8	12:24	6.1	7:36	7:48
29. Wed.	2:06	6.7	2:36	6.4	8:42	9:00
30. Thurs.	3:12	6.7	3:42	6.8	9:42	10:06



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GAME & FISH





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April 1970

Volume V

Number 4

CONTENTS

Sapelo... Island With A Purpose	John Culler	1
Death in Small Doses	Margaret Tucker	4
How To Carpet A Trout Stream	Wilson Hall	7
Where The Big Boys Are	J. Hall	9
Where To Catch 'Em In '70	Marvin Tye	12
Outdoor World		15
Sportsmen Speak		16
Sportsmen's Calendar		17

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Marvin Tye
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Ted Borg, Photo Editor

The Popular Thing

It's good to know that at long last, being concerned about conservation of our natural resources is becoming the popular thing. Not so long ago, showing genuine concern for air and water pollution and the quality of environment, was likely to get you anything from an icy stare to a snicker.

What's sad about it is that the public is getting concerned only because we are rapidly approaching the danger point. Unless we act soon and swiftly, there'll be little in the way of natural resources to protect. With the ever-increasing population and ever-dwindling resources, we're headed for disaster in a hurry unless we quit paying lip service to conservation, and get to work.

Let's hope it isn't too late already.

A recent issue of a major magazine aimed at general readership pointed out that a recent former president once touched upon the topic of environmental conservation. The audience and the speaker, the magazine intimated, were both bored by the subject. Yet in the past couple of years, the conservation bandwagon has been boarded by nearly everyone from the little man on the street through the nation's highest offices and even major industry and business leaders.

Perhaps yet, concern is too general and not quite specific enough. There's a big job to do. Mountainous tasks must be accomplished to protect what we have left. How do you move mountains? Well, first you must pick a spot to begin then go to work, a shovel full at a time.

The job can't be left for someone else to do. Each person has an obligation to do whatever he can. We can't rationalize that the problems are elsewhere, and therefore not our own. Our own state has problems that must be faced.

Perhaps the most encouraging thing of all is that the public is gradually beginning to realize that it isn't just the outdoorsman that has reason for alarm over water pollution and environment quality. What hurts the outdoorsman the wildlife hurts everyone.

Once this lesson sinks home, perhaps we can really make strides in conservation.

Efforts are being made to take a serious look into the future of Georgia's natural resources. Plans have been under way for several months, for example, to hold a Land Use Planning Symposium for all interested citizens. A wide variety of topics from all concerned groups is on the agenda.

The Symposium has been scheduled for July 6 and 7 at the Center for Continuing Education, at the University of Georgia in Athens.

You, as a sportsman, businessman, industrialist, farmer or just plain citizen, owe it to yourself to become involved in such worthy programs.

Mark those dates on your calendar now, and plan to attend. More detailed information on this Symposium will appear in Game and Fish Magazine, as it becomes available. (See Outdoor World Section of this issue).

—Dean Wohlgenuth

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ON THE COVER—Thousands of anglers go into Georgia's mountains each spring, in search for trout. The trout are there all right... thanks to diligent efforts by the Game and Fish Commission. These men are conducting a population study on Noontootley Creek, to help determine how to improve fishing. Photo by Ted Borg.

ON THE BACK COVER: Some of the wildest, most beautiful beaches on the nation and perhaps the world, can be found on Sapelo Island as well as other Georgia coastal islands. Efforts are being made to preserve as many of these as possible. See John Culler's article, "Sapelo—An Island With A Purpose." Photo by Ted Borg.

SAPELO

AN ISLAND WITH A PURPOSE

by John Culler



■ Thousands of years ago when nature decided she had enough of the last ice age and the great ice sheets began to melt, changes began to take place on the Georgia coast. As the ice melted and the seas began to rise, older islands became the floor of the ocean, and finally, just about 500 years before Christopher Columbus made his famous voyage, most of the present Georgia islands became separated from the mainland by tidal creeks and rivers.

We are still in this "interglacial" or melting period, and unless something happens to change things, the present

Georgia islands will be covered by the rising waters in about a thousand years and undoubtedly new ones will be separated from the Georgia mainland, just as the present islands were. This will happen ever so slowly, with a patience that only nature possesses, and the daily changes that take place 500 years from now will not be any more evident than they are today.

Oftentimes the ways of nature seem strange, because no matter how knowledgeable we become, nature still has a lot on us in the good old plain horse sense department. We'll never know if it



Down this tree shaded lane, slaves went out to the fields in the early morning and returned wearily in the evening to their cabins. Nearby (not visible in this picture), are the ruins of several of the old slave cabins, which were constructed of "tabby," a cement-like material of burned oyster shells, widely used in early coastal area construction. (Photo By Ted Borg)

was planned, but because nature created the islands, and because a farsighted lady who owned one of the islands wanted it preserved and maintained in its natural state, there is new hope for Georgia's wild turkey population, and of course, new hope for the state's turkey hunters.

Sapelo Island, owned by Mrs. Annemarie S. Reynolds, widow of tobacco millionaire Richard J. Reynolds, was sold to the State of Georgia last summer for a fraction of its worth by Mrs. Reynolds because she loved the island and wanted to see it saved just as nature intended it to be.

Sapelo, along with Blackbeard Island, which is a Federal Game Refuge and is separated from Sapelo only by Blackbeard's Creek, is about eleven miles long and three miles wide, and characteristic of all Georgia islands it is covered with a climax forest of pine and oaks, prime turkey habitat.

Taken as a whole Georgia's islands follow a pattern of sandy beaches on the ocean side and salt water marshes between the island and the mainland. Sapelo is no exception. The several thousand acres of marsh in the vicinity of the island is perhaps the most productive acreage in the United States.

Together with the marsh, the island totals about 14,000 acres, including several smaller islands. The University of Georgia utilizes part of the island as a research center, where much of our knowledge about Georgia's super-productive marsh has been learned. About 8,000 acres will be left in its natural state and used by the Game and Fish Commission for game research and as a place to raise deer and turkeys.

Turkeys were abundant on the island years ago, but disappeared through the years because of illegal poaching and other factors. The island will be restocked with turkeys, which will be protected and encouraged, and it is hoped future generations of island turkeys can be used to bolster Georgia's wild turkey flocks all over the state.

Hubert Handy, state supervisor of game management for the commission, says the turkey stocking program on the island will take about two years. Handy

said, "We feel that once we get the land stocked, we can hatch, raise a stock about 300 turkeys a year in other parts of the state from Sapelo Island."

Handy said illegal poaching in Georgia has almost wiped out the native turkey population. "We've got to do something for the turkey population in the state, illegal hunting has almost wiped them out," he said. "We plan to restock the county by county once they are available."

In order to improve the habitat for turkeys on the island, a controlled burning program has been implemented on a small portion of the island at a time, burned, in order to remove the palm and heavy vegetation and put the land back into production. Since turkeys are similar to geese in that they enjoy grazing on green plants, it is very important to get the legumes and grasses coming back. Forty acres of rye has already been seeded for the early arrivals in spring.

There is a good deer population on the island, and the thinking now is to limit deer hunting in the future, only after the turkeys have become established. "We have a good deer population on the island now," Handy said, "but some poaching has been going on and it has kept the deer herd down some. We are going to correct this problem, then we believe we can have a fine deer hunting on the island."

Sapelo history dates hundreds of years back, and some of the old buildings are still on the island. But the most impressive thing about the island is the solitude that results when man and his machines are absent. There are a few sheds and a long abandoned tractor, but the absence of litter makes the fellow feel like he's possibly on a remote island. The wide beach, more than four miles long, is likewise unlined with not a beer can in sight.

It won't be long before there will be very few natural areas left in the United States, but Mrs. Reynolds took out an insurance policy on Sapelo when she sold it to the state.

And she just might have given a game bird a new chance.



The roof leaks a little, but the walls are as solid as the day they were built . . . back in the early 1800's. This old barn with its ornate pigeon loft may be remodeled for use in the Commission's wild turkey hatchery program. (Photo By Ted Borg)



Part of the crowd of several hundred persons who went to Sapelo for the dedication ceremonies. Although a few came by plane to land at the island's air strip, most were ferried over and back by boat. During the day, barbecue was served, guests were entertained by a band concert, and later were taken on a bus tour of the island after the dedication services were ended. (Photo By Ted Borg)



Governor Maddox, Mrs. R. J. Reynolds and Game & Fish Commission Director George T. Bagby confer at the granite monument, dedicating the Sapelo Island refuge to the people of Georgia, in memory of her late husband. (Photo By Ted Borg)

By Margaret Tucker

Death In Small Doses

The Pesticide Problem



Photos courtesy of U.S. Bureau of Sport Fisheries & Wildlife

Death comes from the skies in the form of insecticides. While immediate effects seem to be on insects, long-range effects are more on desirable wildlife . . . and even human beings. Spray planes are just one of the methods . . . and the fastest . . . in putting out insecticides.

There is no longer a field, a hilltop, a stream, or a lake on this wide earth that has not been touched by chemical poisons. These poisons are the "fallout" from a new set of weapons that man has vigorously used for the past 25 years in an unrelenting effort to exterminate plant and insect enemies.

A few pesticides were used in the last century, but since World War II there has been an accelerating effort to find an easy final solution to agricultural and medical problems by poisoning insects and insect pests. At first DDT seemed the miracle cure; it wiped out insects, but did not apparently affect other forms of life. Strangely, however, the situation has become reversed. Many insects have developed a resistance which is close to immunity, while man is beginning to see terrible and perhaps irreversible effects in some bird and animal populations.

In our haste to use these new, powerful insect killers has led to the waste of valuable wildlife. In the last few years many states have suffered fish kills due to pesticides or the heavy loss of song and game birds, and now many areas report ever-rising levels of pesticide contamination in big-game species.

What is happening to cause this widespread concern among scientists, conservationists, and sportsmen? Hasn't DDT been considered "safe" for years? The fact is that the DDT that we sprayed on our forests, farms, orchards, and rose bushes did not do its job and disappear. It stayed in the soil for as

much as 15 years; it ran into the streams and ground water, and it is now blowing in the winds over all the earth and flowing into the sea, even to the far-away poles. Penguins in Antarctica carry residues of DDT in their body tissues, as do polar bears in the Arctic, and as do you and I.

DDT is not the only poison in our food, water, and air. It is merely the one that has been with us the longest. Since the pioneer days of World War II we have become more clever in the invention of poisons: Chlordane, heptachlor, dieldrin, aldrin, endrin, all related to DDT, but up to 50 times as deadly, are being used daily. These poisons are of a family called chlorinated hydrocarbons, substances which do not occur in nature, but are a recent invention. They are called "hard" pesticides because they do not disappear from the environment quickly, but remain for years in soil, water, and the bodies of animals.

This lasting effect was considered good at first, but it is the basis of our current problems. The hard pesticide can be sprayed directly on a plant or be absorbed by the roots from previously treated soil. When an animal eats a treated plant, the residues of the pesticide may then travel through four or five species in a "food chain," a pyramid relationship like the following. A large number of organisms, such as the microscopic plankton in water serve as food for a lesser number of small fish, which are in turn eaten by larger fish, which are eaten by birds, or by men.

Since DDT and related chemicals do not pass through the body, but are stored in fat, each small fish eaten by a larger one contributes a small dose of DDT. The amount accumulated by the last animal in such a chain may be 100 times as concentrated as the original amount in the soil or water. This accumulation is called "biological magnification" and it means that death may come in small, seemingly harmless doses to animals that were far away when the pesticide was applied.

The long-lived pesticides can even kill animals yet unborn when the spraying was done. When poisons accumulate in the tissues of a fish or a bird, they will also appear in the eggs. Because the young are usually much more sensitive than adults, this dose which hardly affected the parent will kill the fry or the chick. Pesticides can also travel through the placenta of a warm-blooded animal, and appear in the young before birth.

Pesticide residues stored in fat can also affect the adult animal long after the exposure occurred. If the animal suffers a food shortage and is forced to live on its reserves of fat, it may be poisoned by its own tissues. This delayed effect may be the reason for a sudden, mysterious, fish kill.

DDT, dieldrin, and endrin have been found by the U. S. Public Health Service in all major river basins in the United States. What does this concentration of poisons mean to our environment? What animals are affected, how severely, and for how long?



Many forms of wildlife die in apparently scattered incidents, but it may never be known exactly what was the cause of death. However, it seems more and more certain that a buildup of pesticides through several generations are taking a toll of our birds, animals and fish.



Careful laboratory studies are needed to determine the levels of pesticide residues in fish and wildlife and to pinpoint possible trouble areas. Some tests have been made, giving strong indication of problems now in existence . . . but more tests are necessary to be certain of the facts. Just how serious the problem is in Georgia is not yet known, but apparently it is not yet critical. But it may be soon if something isn't done.

Even sea life succumbs to pesticides. Shellfish are very sensitive to pesticides. Dursban used in mosquito control in the Fort Myers, Fla., area wiped out 90 per cent of the fiddler crab population, eliminating the food supply for many birds. And those that lived, when eaten by birds, began a buildup of deadly poison in the birds.



It is a biological fact that some organisms have more tolerance than others. The most sensitive are insects, and shellfish, then, in decreasing order, other fish, amphibians, reptiles, birds, and mammals. Thus, if a pesticide is applied to a forest, field, or pond, the insects and smaller animals will be killed first. It was formerly thought that larger fish and wild game would not be affected. But now, after many years of freely using these chemicals, we are seeing some unexpected side effects among animals we have no wish to kill.

The greatest threat to game populations is not necessarily direct spraying, but the slow buildup of poison from repeated exposures. The inability of birds and fish to reproduce is just as serious, if less obvious, a threat to the species as direct killing. The danger is great, because it may not be noticed until too late.

The Texas Parks and Wildlife Department reports that trout have virtually stopped reproducing in Lower Laguna Madre Bay. Since 1964 the count of young trout has dropped from 30 fish per acre to less than one! As adults still can be found, the culprit is believed to be DDT and other pesticides which occur in the eggs and prevent hatching.

Fish are not the only animals in which pesticide residues interfere with reproduction. Large amounts of poison accumulating in the tissues of birds of prey (eagles, pelicans, falcons, and owls) are causing the rapid disappearance of these birds from large areas of our country. The Southern bald eagle is now listed by the National Forest Service as an endangered species. Pelicans, too, are in trouble because the fish they

eat contain poison residues. The osprey is vanishing from Connecticut and Michigan because DDT makes their eggshells too weak to allow hatching by the mother bird. Studies indicate that almost no falcons were able to raise young east of the Rocky Mountains last year.

Falcons are dying out even in areas like British Columbia where pesticides have not been used in great amounts.

Perhaps sportsmen are not concerned about these non-game animals, but it is a fact that similar disasters can befall other species — quail, grouse, dove, pheasant, and woodcock. As Paul Spitzer, studying ospreys for the U. S. Fish and Wildlife Service, expressed the problem, "They are an alarm system of things gone haywire in the river, the estuary, and the sound. They are sensitive indicators of the environment."

These indications are not comforting! Pheasants and ruffed grouse in British Columbia have been found to have DDT residues of one to four parts per million. If levels like this were found in commercial meat, it would be condemned by the Food and Drug Administration. The partridge and pheasant hunting season in Alberta had to be closed entirely this fall because of mercury contamination. The birds had eaten treated seed grain. Neighboring Montana did not close the season, but warned hunters against eating "too many" of the poison-carrying birds. California was forced to ban the use of DDT and dieldrin in rice-growing areas after a study showed that in treated areas nearly half the year's hatch of pheasants died within six weeks of birth.

The woodcock is also a vulnerable bird because it eats mainly earthworms.

The worms, living in the soil, pick up any long-lived chemical and pass it on to the woodcocks. Spraying for spruce budworm on the New Brunswick woodcock habitat in 1958 reduced the number of young birds by one-half and the effects lasted after the spraying stopped. Past treatment of the woodcock's southern range with heptachlor in an effort to stamp out the fire ant also sent pesticide levels in that bird soaring. In 1960 most of the woodcock migrating across the eastern U. S. carried more heptachlor than the law allows in meat. This is good news in the fact that heptachlor has not been used in the fire ant program for several years, but its residues remain in the soil for years and its replacement, mirex, is also a long-lived chemical.

Few studies have yet been done on the effect of pesticides to big game animals, although Missouri has a survey of whitetail deer in progress, as does Colorado on mule deer. South Dakota recently reported that the dieldrin levels in big game there exceed the zero tolerance set by the U. S. Government for commercial meat.

Even though their tolerance to pesticides is higher than that of birds, game animals can be killed outright by sprays. In the summer of 1964, the treatment of a field of soybeans with a powerful hydrocarbon pesticide in Mississippi left 17 whitetail deer dead.

Perhaps the greatest threat to elk, antelope, and other big-game animals is spraying to clear unwanted vegetation. The herbicides 2, 4-D and 5-T are used to clear roadsides, pastures, and forest areas before seed. Poison-treated vegetation is attractive to grazing animals and has caused problems in several western states where broad scale spraying is done to eliminate sage brush and mesquite.

The experiences of other states with DDT and many types of long-lived pesticides should alert Georgians to possible threats to our own fish and game populations. Indeed, we have our problems also, especially with the fire ant program, and local fish. One fact which we cannot afford to ignore is that pesticides are silent, complicated killers. Their effects go far beyond the point of their application.

We need to monitor the levels of pesticides washing off our farmlands, pastures and orchards before we discover that the fish are not reproducing, need to study the pesticide levels in game birds and animals to determine they carry amounts which are potentially harmful. We need to study carefully the new chemicals which are marketed every year, for it is a fact that the use of pesticides will not stop tomorrow. The pesticide problem has just begun.

How To Carpet a Trout Stream

Wilson Hall

One of the first things I ever did on a trout stream, once I got my rod assembled and waded out into the water, was to fall in. On that particular April morning, I had to get out on dry land to build a fire to dry out and to stop my teeth from chattering and my lips from turning purple. Since then, I have never slipped, slid and stumbled into one of the best trout waters in Georgia, and, consequently, ever since then, I have been looking for something to put a firm, non-skid foundation under

Now, everybody expects to get a little fishing occasionally when he fishes a stream, and ordinarily, on a summer day, you don't pay too much attention to it, but once in a while a little danger is involved, and it is then time to take the situation seriously. It was the danger in a dunking that spurred me on to look a little more avidly for some new treads with more traction.

One summer mid-morning a few days ago, I was in the first half of what I had promised to be one of those "perfect" days. I had half filled my limit of eating trout, and had the whole stream to myself, not a soul behind me pushing, not a soul ahead of me spooking fish. I was fishing down stream to meet my brother, to whom I'd given the car keys so that he could drive back and pick me up.

I stopped at the top of a waterfall, about ten or so feet high, and watched the water pour into a long clear pool at the bottom. I stood astride a small stream that flowed out over the falls, studying how to climb down and how best to approach the pool to fish it. My leader was frayed, and I was in the process of changing it.



The materials required to make a carpet sole and fasten it to a shoe are few: the shoes or waders, a scrap of carpet, a pair of scissors, a jar of rubber cement, and a tongue depressor or disposable brush with which to apply the glue.



Step one: Using a soft pencil or ball point pen, outline the shoe to which the carpet sole is to be fitted.

Step two: Cut around the outline.



Step three: Apply the glue to both the bottom of the shoe or wader and to the carpet sole. Wait eight to ten minutes before putting the two surfaces together.



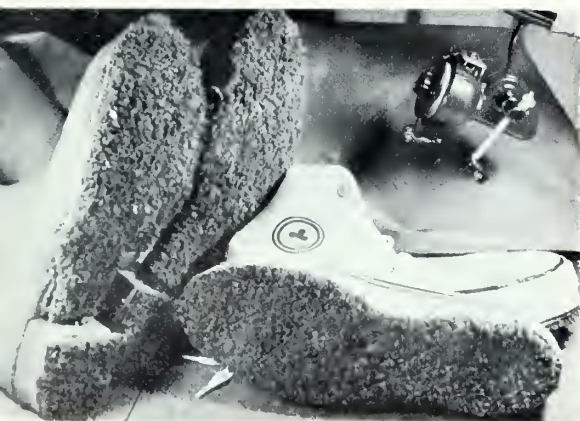
In fact, I had just slipped the new leader end through the eye of the hook when BAM! — in a split second, the rock and water background behind the hook and line which I had my eyes focused on suddenly became a china blue sky, laced over with laurel and hemlock branches. I was conscious of cold water running down my collar and a pain in both elbows. I still held my fly rod under my right arm, and the leader was still through the eye of the hook, but I was flat on my back in the shallow stream.

Needless to say, I was in a state of amazed shock. The fall could have been dangerous if I had slipped in the other direction. Right then I began to seek in earnest for a solution to the slippery sole problem. And I found it in the form of discarded carpet scraps.

I don't know who used it first—probably someone who could not afford felt soles, which, by the way, do not do the job as well as carpet. I do know, however, that the idea is not very widespread, for I have met only a few people on the streams of north Georgia who were using carpet soles, and I'm convinced that if anyone ever tried them, he would never be caught again without a pair of them on his shoes and an extra pair in his tackle box or fishing vest pocket.

At this point, it might be well to explain why carpet soles work better than the number and variety of corded soles, steel cleats and chain grippers found on the market. Carpet soles do what none of these other devices can do because they work on an opposite principle. Steel cleats, chains and corded soles are designed to either bite into the

Step four: Carefully place the blue covered surface of the carpet sole to the bottom of the shoe. Be sure that you have them together correctly the first time, because there is no moving them around or taking them apart to start again.



Now you are ready to get your rod and go fishing. The whole world will feel like wall-to-wall carpet, and your new sole will take most of the slip out of slippery rocks. The carpet works well on waders also. You need only measure a heel piece as well as a sole. Glue them as described for the tennis shoe, and you are ready to go fishing.

stony surface or furnish an abrasive surface that minimizes slippage. But in the case of metal, a hard surface is placed against a hard surface. A slippery surface is placed against a slippery surface, in the case of wet rubber cords and standard tennis shoes. Both of these kinds of devices add to the problem rather than solve it.

Carpet, on the other hand, has a soft and pliable surface, which allows itself to fit the contour of whatever the fisherman is standing on at the time, and the thousands of inches of frictive surface furnished by the tiny strands of carpet material lock onto a rock surface. You'll never believe how well they do it until you try it.

But back to the process. When I got ready to re-sole my tennis shoes (I prefer a stocking footed wader with tennis shoes, but this same idea works just as well on booted waders), I got my material together—a piece of carpet, a jar of rubber cement, a wooden tongue depressor to spread the cement with, a pair of scissors to cut the carpet, and a ball point or soft lead pencil to mark the outline of the shoe.

The carpet was easily gotten. We had just had our house carpeted, and so I have a life-time supply of odds and ends. But carpet pieces can be gotten from junk piles around new houses that are being finished up, or even from carpet stores where they may give away the scraps or sell them very inexpensively. Be sure that you do not get outdoor carpet. Since it is waterproof and short piled, it is not very effective.

Be sure that you get a good grade of carpet, because this will determine the usable life of your carpet sole. Carpet bonded to a foam rubber backing will not do at all. Carpet with the pile woven into the backing is best, but most of the modern carpet is chemically or thermally bonded to the jute back and this works well enough.

Usually water will affect it after a long day of fishing, so that at the end of the day the heat-set carpet especially has begun to come loose from the backing while the backing itself is still fast secured to the shoe sole. This tendency to separate from the backing could possibly be eliminated by using a metal staple at the strategic places, the toe and heel, to reinforce the carpet. I have also considered having the wife take a turn around the carpet sole with the sewing machine. This should make it strong enough to last for several trips.

The rubber cement that works best is the kind that shoemakers use to replace crepe and rubber soles. This is easily gotten from the shoe repair shop where you have repair work done. My shoe repairman sold me a quart for a dollar and apologized because it had gone up

from seventy-five cents. I was happy however, for this is definitely a good price for a season-long supply of glue, and you'll have some left over for repairing odd things during the winter. In fact, my brother and I both do not use a quart in a summer. When you consider that this may be your only financial outlay, the price of firm footing for a whole season is cheap indeed.

The application for the cement can be anything: a tongue depressor, such as I use, a stick, or even an old paint brush, if you don't intend to ever use it again.

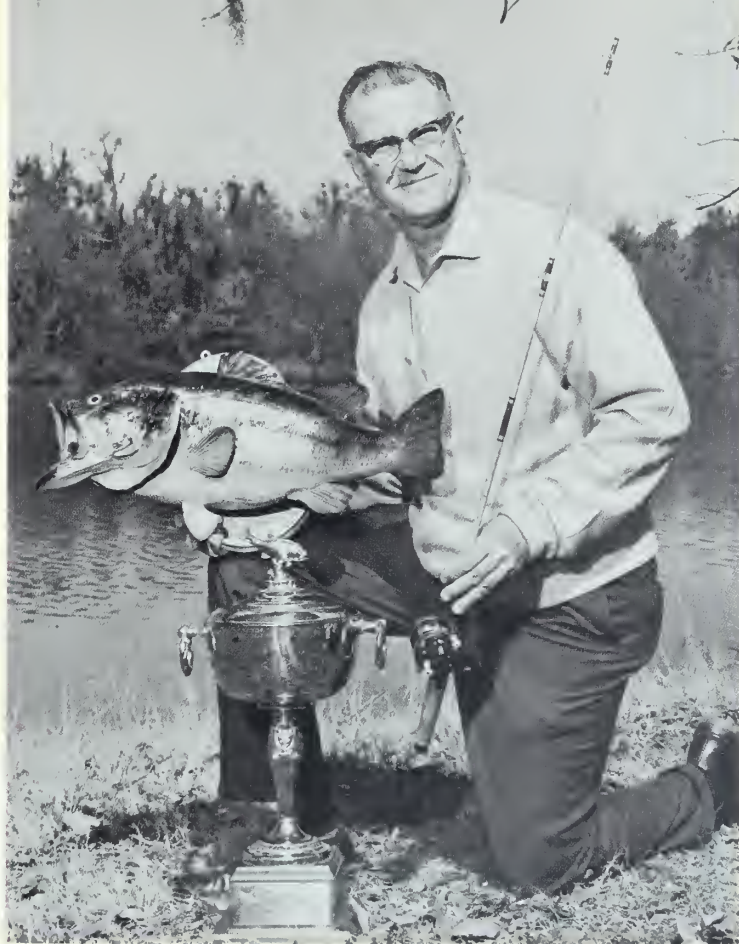
The scissors can be whichever pair you have around the house that your wife will allow you to use. Whether she believes you or not, cutting carpet will not hurt them, and it does not require a great deal of hand strength if the scissors are sharp.

Once the material is gathered, the process is very simple. First, place the tennis shoe or wader boot on the inside of the carpet, and then use a ball point pen or soft lead pencil to outline the shape of the shoe. Then use the scissors to cut along the outline.

This next step is where you will make a mess if you are going to make one at all, and it is the one which the wife will watch with close eye if you are working in the house. Using the applicator, spread the glue on both the carpet sole and on the bottom of the shoe or wader. Make sure that you lay ample glue on both surfaces. When you are finished with it, and then set the sole and shoe aside to dry for eight to ten minutes. Don't worry if the carpet backing seems to absorb a great deal of the glue. This is normal. After waiting the proper length of time, carefully put the sole and shoe back together. Be sure that where you touch them together is where you want them to stay, because there is no pulling them apart or moving them around afterward. They are stuck.

Now take your thumbs and push the carpet down all over the shoe. Be sure that all of the surface has contact and that there are no air bubbles under the sole. If this is done the night before, the shoes will be ready for fishing the next morning. But a hasty application of a spare pair right on the stream bank can do an adequate job after about twenty minutes of drying.

These carpet soles are worth far more than they cost in money and effort, and they can be applied to old street shoes and boots as well, if that is what you choose to fish in. If you really want an easy mind while you fish, and want to increase your agility as you run along a rock stream, give carpet shoes a try.



Now there are a couple of fine trophies . . . both of them! Mr. R. P. Bolton, of Bainbridge, displays the Number One black bass in the state, a 15 lb. 10 oz. largemouth he caught in Lake Seminole.

Mr. Bolton's name will be engraved along with those of previous state winners on the Garcia Bass trophy, and will receive a Garcia 5000 reel and rod as a prize.

(Photo By Ted Borg)

Where the big boys are

announcing the winners of the 1969 Big Fish" contest, sponsored by "Game Fish" Magazine and the Georgia Sportsman's Federation.

Ask a dozen people why they fish, and you'll get a dozen different answers. But the simplest answer, of course, is, "I just like to catch big fish." (You might be amazed at the number of people who like to catch big fish, but don't give a flip about eating them.) Everyone likes to catch big fish, and that's a big reason why this magazine and the Georgia Sportsmen's Federation have an annual Big Fish Contest.

There's something different, however, about fishing than most any other sport you can think of. With hunting, there's a positive element . . . hopefully. You see a deer or squirrel, draw a bead on it, squeeze the trigger and he's yours. Fishing is also hopefully. There's a definite element of chance about this, just you and your luck. Some people like this; some don't. But with fishing it's different.

There's an element of chance about it that gives you the opportunity to safely appease your gambling urge without risking the young'un's shoes in the process.

There's more of the scattergun approach. You spend the day flinging a chunk of wood, plastic or metal, with a hook attached to it into the water. There might be something there that's feeble-minded enough to think that looks like a meal. On the other hand, there might not. And if there is, it could be a minnow or it might be big enough to drag you out of the boat and discuss the matter on a personal basis. All this tends to make the sport more interesting.

Very rarely does the fisherman ever face his prey. And usually he's even more frustrated if he does. I recall an afternoon of dedicated and unscrupulous stalking of a large trout I had discovered in a little mountain stream. There he lay, jewel-like and shimmering down under the clear cold water of his pool. He seemed to me to be about five

feet long and something around 87 pounds. I was impressed. I carefully analyzed the situation, limbered my rod, chose my lure with professional taste, presented it to him with delicate finesse and . . . nothing. For upwards of about two hours I flang that critter a smorgasbord luncheon of bugs, flies, wooly-boogers, nits, gnats and . . . Oh Nuts! All he did was lay there, jewel-like and shimmering and hating my guts. See him! I could'a hove a rock and knocked that silly smirk off his face in a minute. I wanted to. I even looked around for a witness. But that wouldn't have been the sporting thing to do, would it? (I hope he died of starvation.)

There's another thing. Somewhere, lurking in a musty and cobwebby corner of the mind of every angler is that desire to catch a "wall fish," a trophyunker that's just a little smarter, a little meaner, and a whole heap bigger than anything anybody else has ever caught. There again is where that element of chance comes in. We can kid ourselves (and we do) by bragging about our skill



"And that's the way I caught him . . ." New State Record holder Donald Palmer, of Cleveland, displays the fishing form that helped him land a 7 lb. 8 oz. spotted bass in the Little Tesnatee River in White County. Don's bass is just eight ounces under the World's Record. (Photo By J. Hall)



If that isn't a "wall fish" you never saw one. This 12 lb. rainbow graces the living room wall of Hollis W. Newberry, of Smyrna. Hollis landed this beauty on the opening day of trout season last year in the Coosawattee River near Ellijay, and receives a Pflueger Supreme rod and reel as his other prize. (Photo By J. Hall)

and experience, and it's true that a certain amount of technique and discernment are required. It also helps to have been endowed with an ample supply of dumb luck. Catching a big fish requires a combination of circumstances so haphazard that only fate could really assemble them . . . casting just the right bait in just the right place at just the right time to just the fish that happens to have a peculiar and insatiable craving for your prickly, blah-tasting tidbit. Sure, exposure helps. The more you fish, the more you increase your chances of doing all those "right" things. Some folks never quite make it though.

I've talked with fishermen . . . good fishermen who catch a lot of fish. But they never manage to assemble all the necessary elements to land a big fish, even though they've fished

hard and steadily for years with that ambition driving them on. They just didn't hit it lucky. And then there's the other side.

Take the case of John H. Casteel, of Lilburn, Ga. John hauled in a 10 lb. 2 oz. bass last year that was 26 inches long. That in itself was a pretty good feat. But consider the fact that Mr. Casteel is a tottering ancient all of six years old, and his bass was almost as long as he is. Now doesn't that put you in the shade!

Big fish are hard to come by. That's what makes them desirable. But they are there, and this year's "Big Fish" Contest is proof of it. In many respects, this was a very successful contest and a most impressive year of fishing in Georgia. We had seven new state records established during 1969. And that's impressive in anybody's book. But if records can be set, they can also be broken. And three new records were set, only to come crashing down again, even before the ink got dry in the record books. That's disappointing, of course. But that's progress, and if you don't believe everything's getting bigger these days, just take a closer look at the bills that come in every month. (I'm not sure that's progress, though.)

On the negative side of the ledger, the number of entries were a little disappointing. We simply didn't have any fish entered in several categories, even though plenty of those fish had to have been caught. There were no entries of striped bass, redeye or Coosa Bass, bowfin, carp, white crappie, gar, muskellunge, chain pickerel (jackfish), sauger, redbreast sunfish or yellow perch. Now I can understand a lack of entries for muskie or sauger. There aren't too many places to fish for these in Georgia. But mudfish? Carp?

Traditionally, the Georgia "Big Fish" contest offers prizes in six categories: the largest black bass (includes largemouth, smallmouth, Flint River smallmouth, spotted and coosa bass), the largest white bass, the largest crappie (black or white), the largest bream (includes bluegill, redbreast, and shellcracker), the largest trout (includes brook, brown and rainbow), and the largest catfish. To be eligible for these prizes, the fish must have been caught in the state during the year 1969.

The prizes are enough to make any angler fish just a little harder. There's an impressive trophy from the Garcia Corporation upon which the name of the winner of the black bass category will be engraved. And this year, there's an additional goody. The Pflueger Company is presenting a beautiful trophy to the state to bear the name, rank and serial number of the winner in the white bass category. In addition, winners in the black bass, crappie and catfish cate-

gories will receive Garcia Ambassador 5000 reels and rods. Winners in the white bass, bream and trout categories will receive Pflueger Supreme rods and reels. Now don't you wish you'd entered!

But we've built up enough suspense now (we hope) so here's the rundown on the winners . . . and new state records . . . for 1969.

We have three new records in the black bass category this year, beginning with a state record for the Flint River smallmouth, caught by J. L. McCormick, of Griffin. Mr. McCormick landed a 6 lb. 8 oz. bass in the Flint River, Mar. 9, 1969. (Old record, 6 lb. 5 oz., 1967.)

A new State Record was established for the (northern) smallmouth bass of 5 lb. 5 oz., caught by Jackie R. Suits, Fry, Ga., at Lake Blue Ridge on Dec. 11, 1969. (Old record, 6 lb. 2 oz., 1968.)

The spotted bass was one of the "up and down" . . . or perhaps it might be better to say "up and up" category this year. Mrs. Joan Philyaw, of Marietta, took the record with a catch of 1 lb. 14 oz. "spot" at Lake Allatoona, May 16, 1969. The Game & Fish Commission announced her catch as being a new State Record. Mrs. Frances Anderson, also of Marietta, heard about it and came forward with her moult and authenticated seven pound spotted bass she caught at Lake Allatoona on Oct. 1967, so she took over the record. That stirred up enough dust to attract the attention of H. Grady Pierce, Jr., of Atlanta, who produced his spotted bass of 7 lbs. 3 ozs., caught in 1965! His was verified, and entered as the new State Record. But the story doesn't end there.

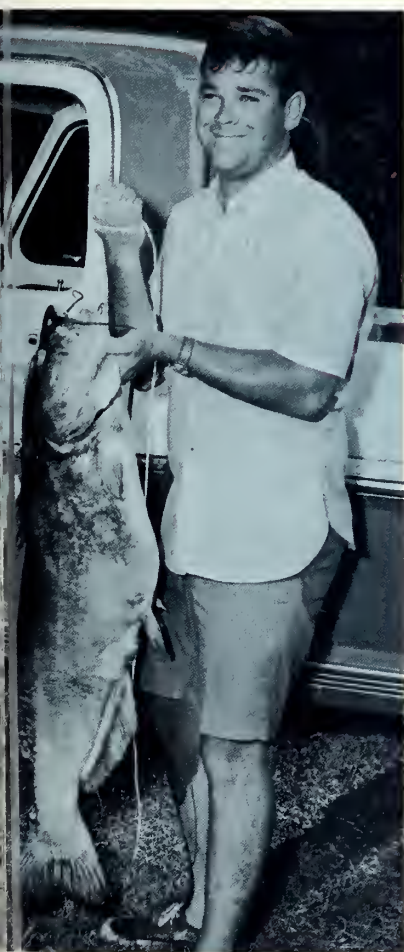
In checking the 1969 entries, we found the fish caught by Donald Palmer, of Cleveland. Don's 7 lb. 8 oz. spotted bass was caught May 20, 1969, in the Little Tesnatee River in White County. Don's bass relieved Mr. Pierce of the burden of fame, and established a new State Record that's just eight ounces under the World's Record. (Old State Record, 6 lbs. 1967.)

But Georgia being the bass state it is, any fish that falls under the category of a "black" bass will almost have to bow to the superior size of the largemouth. The biggest largemouth of the year was caught by R. P. Bolton, Bainbridge, at Lake Seminole. Mr. Bolton's lunker weighed in at a whopping 15 lbs. 10 ozs. and earns him the Garcia trophy and a rod and reel for the largest black bass caught last year.

The Pflueger trophy for the largest white bass goes to William H. H. Jr. of Cornelia. Bill hooked a 4 lb. 5 oz. white bass on a "Thin Fin" at Lanier on March 31, 1969. He's 10

ned himself a Pflueger Supreme reel and rod and the encouragement to go t and fish a little harder this year. 's only three ounces under the rld's record! (Old state record, 4 lb. 6 ozs., 1966, tied, 1968.)

In the bream category, we've had ne strange goings on this year. The state record for the bluegill was set Lee Barry, of Milledgeville, with a 2 8 oz. entry in 1965. Then along es a friend of Mr. T. E. Shaffer, ow deceased), of Cuthbert, Ga. who imed the record for Mr. Shaffer. He ight a 2 lb. 9 oz. bluegill at Vernon illip's Pond in Springvale, Ga. 'way ek in June, 1942. The weight of the a was recorded and authenticated, d the mounted trophy has been the de of Cuthbert all these years. The ord has been set straight, but the fish sn't able to hold the title long, be- use now comes J. Terry Cantrell, of anta, to claim the record with a



ut is a heap of fish! Ben Patrick, of on, strains to hold up the 39 lb. c. channel catfish he caught at Pat- 's Lake near Brookfield, giving Georgia her first official state record r this species. Ben celebrated the th of July by catching the fish; 'l help him celebrate his good for- n by awarding him a reel and rod p a Garcia Corp. with their . . . and r compliments.

bream he caught in 1965! Mr. Cantrell's bluegill weighed 2 lbs. 15½ ozs. and was caught in the Okefenokee Swamp.

But that's not the end of the story! Even though Mr. Cantrell's fish established a new state record, his was not the largest bluegill entered in the contest in 1969. That distinction goes to Mr. M. R. Gazaway, of Atlanta, who caught a 1 lb. 14 oz. bluegill at Lake Shamrock in Jonesboro on July 14, 1969. Now comes the finishing touch that makes a contest judge's life a thing of beauty and a joy to behold! Since the bream category includes also the redear and shellcracker as well as the bluegill, this year's prize of a Pflueger rod and reel goes to Mr. Harold Griggs, of Marietta, who caught a 2 lb. 12 oz. shellcracker at Stewart Murray's Lake on July 16, 1969. Mr. Griggs will receive a Garcia Ambassador 5000 reel and rod for his prize.

The catfish judging was also fairly easy to establish, and also gave us a new State Record for channel catfish. This big baby was a 39 lb. 3 oz. whopper caught by Ben Patrick, of Tifton, at Patrick's Lake in Brookfield, Ga. on July 4, 1969. (Old record, not official.) Ben wins our congratulations and a Garcia rod and reel for his very impressive catch.

The final category was trout, and this brought a few problems, too. Up 'till now, the largest brook trout caught in Georgia weighed 2 lb. 1 oz., caught by Jay Tipton, of Smyrna, in 1967. Bob Townsend, of Atlanta, upset that with his "brookie" of 3 lbs. 5 ozs., caught in Cooper's Creek on April 6, 1969.

But Barry Lowe, 12 years old, of Lithonia, decided he'd take a crack at it, and landed a 3 lb. 12 oz. brook in Moccasin Creek on April 12, thus establishing a new State Record.

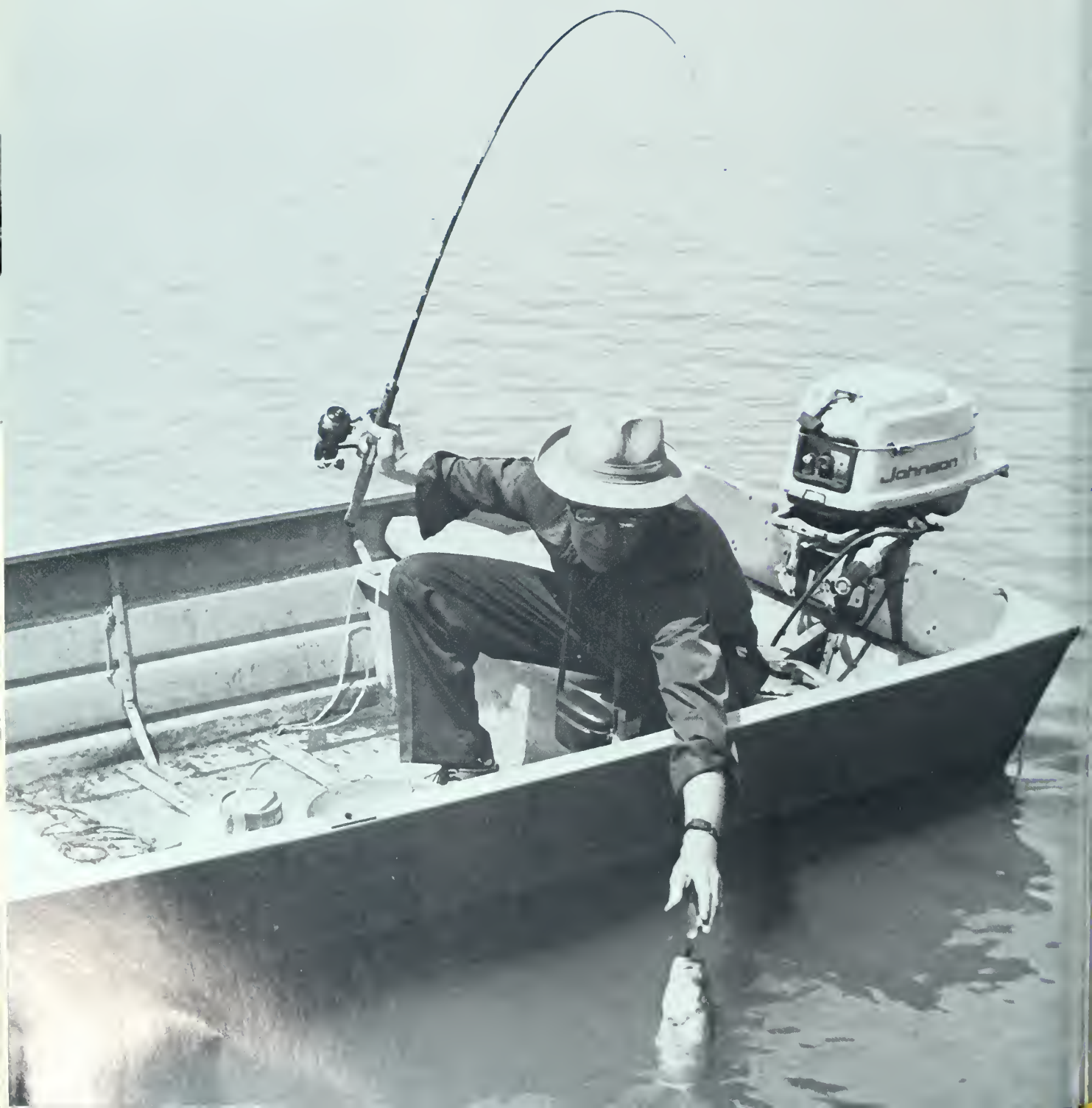
The largest brown trout entered in 1969 was caught by James A. Braselton, of Winder. James' trout weighed in at 5 lbs. 10 ozs., and he caught him in Dick's Creek, July 19, 1969. To the victor goes the spoils, however, and the winner of the largest trout category is Hollis W. Newberry, of Smyrna. Hollis whipped down a 12 lb. rainbow on the Coosawattee River in April, the opening day of the trout season last year, and he will be presented a Pflueger Supreme rod and reel for his catch.

Well, that about wraps it up for 1969. We're going full steam ahead into a brand new fishing season here in 1970, and I for one am quite confident we'll be seeing some more records toppling this year. There's a good chance we may even see some new world records established. Certainly we're close to them, and I think they're out there, waiting for the right person to come along at the right time. Who knows . . . that person may just be . . . You! Good Luck.

Minimum Weight for Certificate	State Records	World's Record
5 lbs.	BASS, FLINT RIVER SMALLMOUTH 6 lbs., 8 ozs.—J. E. McCormick, Griffin, Flint River, March 9, 1969	No Record
10 lbs.	BASS, LARGE MOUTH 22 lbs. 4 ozs.—George Perry, Brunswick, Montgomery Lake, June 2, 1932. World's Record. Second—17 lbs. 14 ozs., Nickie Rich, Marietta, Chastain's Lake, April 27, 1965 Third—17 lbs. 9 ozs., Emory Ounahoo, Gainesville, Lake Lanier, Dec. 19, 1965	Same
5 lbs.	BASS, SMALLMOUTH 6 lbs., 5 ozs.—Jackie R. Suits, Fry, Lake Blue Ridge, Dec. 11, 1969	
5 lbs.	BASS, SPOTTED 7 lbs., 8 ozs.—Donald Palmer, Cleveland, Little Testatee R., May 20, 1969	8 lbs.
20 lbs.	BASS, STRIPE 63 lbs. 0 oz.—Kelly A. Ward, Dublin, Oconee River, May 30, 1967	Same
2 lbs.	BASS, REOEYE (COOSA) 2 lbs. 10 ozs., John R. Cockburn, Jr., Dalton, Jacks River, July 4, 1967	No Record
3 lbs.	BASS, WHITE 4 lbs., 15 ozs.—William R. Harris, Jr., Cornelia, Lake Lanier, March 31, 1969	5 lbs. 2 ozs.
	4 lbs., 14 ozs.—Clyde Vaughan, Canton, Lake Lanier, March 26, 1968	
1½ lbs.	BLUEGILL 2 lbs., 15½ ozs.—J. Terry Cantrell, Atlanta, Okefenokee Swamp, August, 1965	12 ozs.
8 lbs.	BOWFIN 14 lbs., 0 ozs.—Randall Lee Brown, Lake Park, Okefenokee Swamp, May 5, 1968	
20 lbs.	CARP 35 lbs. 6 ozs., Albert B. Hicks, Sr., Atlanta, Sweetwater Creek, April 17, 1967	55 lbs. 5 ozs.
15 lbs.	CATFISH, CHANNEL 39 lbs., 3 ozs.—Ben Patrick, Tifton, Patrick's Lake, July 4, 1969	57 lbs.
15 lbs.	CATFISH, FLATHEAD 29 lbs., 0 ozs.—James Chastain, Marietta, Lake Blue Ridge, May 21, 1968	
3 lbs.	CRAPPIE, BLACK 4 lbs. 3 ozs., Kenneth Matthew Kirkland, Jonesboro, Lake Jodeco, April 30, 1967	5 lbs.
3 lbs.	CRAPPIE, WHITE 4 lbs., 4 oz.—Charles McCullough, Decatur, Lake Hartwell, April 27, 1968	5 lbs. 3 ozs.
15 lbs.	GAR, LONGNOSE No Official State Record	50 lbs. 5 ozs.
Any Weight	MUSKELLUNGE 38 lbs.—Rube Golden, Atlanta, Blue Ridge Lake, June, 1957	69 lbs. 15 ozs.
5 lbs.	PICKEREL, CHAIN (JACKFISH) 9 lbs. 6 ozs.—Baxley McQuaig, Jr., Homerville Feb., 1961, World's Record	Same
4 lbs.	SAUGER No Official State Record	8 lbs. 5 ozs.
1½ lbs.	SUNFISH, REOBREAST No Official State Record	No Record
2 lbs.	SUNFISH, REDEAR (SHELLCRACKER) 2 lbs. 12 ozs.—C. E. Morris, Appling, Private Pond, May 2, 1967	4 lbs. 12 ozs.
15" or 2 lbs.	TROUT, BROOK 3 lbs., 12 ozs.—Barry Lowe, Lithonia, Moccasin Creek, April 12, 1969	14 lbs. 8 ozs.
18" or 5 lbs.	TROUT, BROWN 18 lbs., 3 ozs., William M. Lowery, Marietta, Rock Creek, May 6, 1967	39 lbs. 8 ozs.
24" or 8 lbs.	TROUT, RAINBOW 12 lbs. 4 ozs.—John Whitaker, Ellijay, Coosawattee River, May 31, 1966	37 lbs.
2 lbs.	PERCH, YELLOW No Official State Record	4 lbs. 3½ ozs.
5 lbs.	WALLEYE 11 lbs.—Steven Kenny, Atlanta, Lake Burton, April 13, 1963	25 lbs.

Where to catch 'em in '70

The largemouth bass is the fish most sought after by Georgia anglers. Four lakes offer top fishing for this species in 1970—Hartwell, Lanier, Walter F. George, and Seminole. (Photo By Ted Borg)



Would you like to catch a large bass, your limit of trout, or a good string of white bass? The experts say that the Georgia angler's chances have never been better than they are this year.

According to Fisheries Chief Leon Kirkland, prospects for fishing in all of Georgia's trout streams should be better than last year. "All of them offer excellent fishing," he said. "We have stocked more trout this year than ever before. It would be hard to pick the best fishing spot. That would depend on what you are looking for."

He went on to explain that if you are looking for developed camping areas and did not mind plenty of company when fishing, Tallulah River or Cooper's Creek might be just the place you're looking for. On the other hand, if you are looking for productive fishing in a wilderness setting, there are a number of streams that will offer just what you want.

The Chattahoochee tailwaters below Buford Dam offer the best stream fishing for lunker trout. In comparing this stretch of water to the tailwaters below Hartwell Dam, Kirkland said that portion of the Chattahoochee offers better fishing because it is managed as a trout stream. The tailwaters below Hartwell are open to angling the entire year.

Several streams have been added to the list of those that are open the entire year. New additions are Toccoa River, Ocoosa Creek, and several others. A complete list of these is contained in the Trout Fishing Regulations published by the Game and Fish Commission. These can be obtained by writing or visiting the Commission office or fishing license dealer.

Trout season on all other streams except those on wildlife management areas opens April 1 and closes Oct. 3. Fishing on the managed area streams begins on May 3. The table on page 17 gives the dates on which each individual stream will be open.

More than 700,000 catchable-size trout will be stocked in Georgia streams during the 1970 season. Lake Lanier received 85,000 trout and should provide some good fishing during the summer months. The trout were placed in the lower end of the lake below the highway 53 bridge—the majority of them



Frequent stocking plus thorough study by fisheries management personnel should insure good fishing on the mountain trout streams in the northern portion of the state. (Photo By Ted Borg)



The tailwaters of the Chattahoochee River below Buford Dam should provide excellent trout fishing this season. There will be plenty of average size trout and a number of lunker specimens waiting for the angler's lure. (Photo By Jim Morrison)

That old favorite the bream is abundant in all of Georgia's major reservoirs and countless smaller ponds. Good catches like this should be fairly easy to come by for the serious fisherman who is familiar with this fish's habits.
(Photo By Ted Borg)



below Brown's Bridge. Anglers must throw back any trout under 14 inches taken on a major reservoir. No more than eight trout per day can be taken by any angler on lakes or streams.

If you want to catch a lunker large mouth, Kirkland suggests four lakes as best bets. These are Lanier, Hartwell, Seminole, and Walter F. George. Seminole and Lanier, the two oldest lakes, have produced some of the largest bass taken in the state. The third largest bass ever recorded in Georgia was a 17 lb. 10 oz. specimen taken by Emory Dunahoo on Dec. 19, 1965. The 1969 big-fish contest winner was a 15 lb. 10 oz. largemouth taken at Lake Seminole. The world's record largemouth, as most fishermen know, weighed 22 lbs. 4 ozs. and was taken by George Perry 38 years ago on Montgomery Lake near Lumpkin City, Ga. This lake no longer exists.

Lakes Hartwell and Walter F. George are both fairly new lakes, still in the hatchling stage and providing a lot of fast action with an exploding bass population. Each lake is capable of producing a number of bass of 10 pounds or more this season.


In addition to good fishing for large mouths, most of the state's reservoirs provide good fishing for white bass, crappie, and several other species of freshwater gamefish. Lake Lanier has produced more than its share of large white bass including the current state record, a 4 lb. 15 oz. specimen taken by William H. Harris, Jr. on March 19, 1969.

The top lakes for catching white bass—in addition to Lanier—are Sinclair, Clark Hill, and Walter F. George.

Saltwater fishing varies little from year to year. Each summer anglers take large numbers of Spanish mackerel and other gamefish when fishing off the Georgia Coast. The best way for a beginner to break into this game is to join out of a fishing camp such as Kip's Fishing camp at Shellman's Bluff. Guides are available at such locations and they will put you into the fish.

Several Georgia lakes now have striped bass in them . . . but this species is so new that chances are slim of catching anything but a juvenile of 10 pounds or less. All stripers of less than 15 inches taken from fresh-water lakes must be released immediately. There is now a daily bag limit of five on striped bass.

In order to produce excellent striped bass fishing for the future, the Georgia Game and Fish Commission requests anglers to cooperate by returning striped bass to the water unharmed. Striped bass are frequently confused with white bass, a close cousin. Striped bass, however, are more slender for their length.

Whatever your pleasure, bass or trout—fresh water or salt, Georgia has much to offer. 

ler Trophy Inaugurated

RUNSWICK, Ga. At a recent meet-
the Coastal Area Sport Fishing
eration voted to inaugurate a Dr.
iam Tailer Memorial Trophy. This
y will be presented to the individ-
establishment, or group doing the
t to promote sport fishing through-
the year in the Coastal Area. A rep-
of the original trophy will be pre-
ed annually to the nominee selected
panel of judges.
ny citizen or group can nominate
individual, group, or establishment
wish to be honored by writing to
Coastal Area Sport Fishing Fed-
on explaining why their nominee
ould receive the Dr. William Tailer
norial Trophy. The letter will then
urned over to the panel of judges
shall evaluate each one and decide
winner. The presentation will be
e at the winter meeting of the Fed-
on.
nd letters to the Coastal Area Sport
ing Federation, P.O. Box 1011,
aswick, Georgia 31520.

Land Use Symposium Set

ATHENS . . . A Symposium set up
achieve an understanding of the
s for and to explore various facets
and use planning has been scheduled
July 6-7 at the Center for Continu-
Education, University of Georgia,
ns according to Frank E. Craven,
on, general chairman of the Sym-
m.
The program agenda has been de-
ed to be of interest to planning
cies, conservationists, government
cies, industry and the general pub-
The meeting was initiated by the
Georgia Chapter, Soil Conservation So-
of America the Georgia Institute
Community and Area Development,
University of Georgia. Co-sponsors in-
ce the Georgia Association of Soil
Water Conservation Districts, Asso-
of County Commissioners in
Georgia, Georgia Conservancy, Georgia
gional Development Association,
Georgia Forestry Association, Georgia
tsmen's Federation and the Georgia
oor Writers Association.
Major topics to be explored include a
e for Rural Land Use Planning, a
Professional Conservationists Interest in

Land Use Planning. Priorities on Uses
of Land Space, Urban-Rural Land Use
Relationships and the Need for Com-
promise—A Generalists Viewpoint.

Other topics are Flood Plain Land
Use Planning, Land Use Planning for
the Coastal Tidelands, Implications of
the Land and Water Conservation
Needs Inventory, Use of the Soil-
Survey in Land Use Planning and
Maintaining an Environment of High
Quality through Land Use Planning.

Concluding the two day session, pa-
pers will be presented on Putting Land
Use Plans into Operation and Using Re-
sources for the Benefit of the Total
Public.

Speakers will include several well
known land planners and conservation-
ists from Georgia.

President Nixon in his recent message
to Congress said "Like those in the last
century who tilled a plot of land to ex-
haustion and then moved on to another,
we in this century have too casually and
too long abused our natural environ-
ment. The time has come when we can
wait no longer to repair the damage al-
ready done and to establish new criteria
to guide us in the future". Georgia's
Land Use Planning Symposium will ex-
plore the need for comprehensive land
planning in Georgia made necessary by
the State's surge in population and in-
dustry coupled with Georgian's more
leisure time and income, according to
Craven.



CORRECTION

In answer to a letter in the February is-
sue, reference was made to the apathy of
certain county officials as well as the At-
torney General. This department regrets that
this statement was included in the answer.
A former employee was apparently express-
ing his own opinion and this statement does
not reflect the feelings of our Commission.

Generally speaking, this department re-
ceives excellent cooperation from county of-
ficials. In addition, the Attorney General,
who was specifically referred to in the state-
ment, has cooperated completely and this
department is indebted to him and his staff
for their assistance. With the help of the
Attorney General's office this department
has been able to confiscate and sell over
100 automobiles which were being used in
violation of the wildlife laws. These cars
were taken during the past two years.

The printing of this statement was unfor-
tunate, and we offer our sincere apologies
to anyone who might have been offended by
its publication.

LESS CRIPPLING

I have just received my January issue of
Georgia Game & Fish and as always thor-
oughly enjoyed it. There was one letter in
the "Sportsmen Speak" section which really
caught my attention. It was under the cap-
tion **Bowhunting Waste** by Jimmy S. Carter
of Kathleen, Ga.

Undoubtedly he doesn't know that most
bowhunters won't shoot at a deer at over
30 to 40 yards at the farthest, and most wait
for closer shots. At that distance most bow-
hunters can easily put their arrow in the
deer's vital area. I strongly believe there is
less crippling from bowhunting than from
gun hunting because of the distance.

I am a member of the "New Echota War-
hawks Archery Club", the G.B.A. and N.F.A.A.
I would like to make the comment that if
Mr. Carter should try bowhunting he would
not feel that it should be bucks only for
bowhunters. Archery is a greatly increasing
sport. Keep up the good work on your maga-
zine.

Benny Caldwell
Fairmount, Ga.

In reference to Mr. Carter's letter on **Bow-
hunting Waste**, I'll have to say it riled my
fletching. First off, in my opinion, I feel the
game biologists are competent in determin-
ing when and where there are ample deer,
permitting an either sex hunt. Secondly, it's
evident Mr. Carter has never hunted with a
bow. I know of no bow hunter that can justly
say doe and fawn are easy prey, unless he
means with a gun. And third, any true sports-
man will exert all effort and ability to track
down a wounded animal, deer or whatever.
I enjoy both gun and bowhunting and I'll
have to honestly say I know of more gun
hunters than bowhunters wounding and
never finding deer.

Keep up the good work in Game & Fish.

Larry Slaughter
Conyers, Ga.

Introduced to the Georgia Game & Fish
magazine through a gift subscription from a
friend, I have thoroughly enjoyed it. No-
where today does such a value exist for less
than ten cents a copy.

You people are providing a real service to
the Georgia sportsman. At last he is being
made aware of current or planned projects
which affect his future recreational environ-
ment. It is only through publications like
yours that interested individuals can be
stirred to express viewpoints regarding the
pollution of air and water, and the destruc-
tion of natural wooded areas to those in re-
sponsible positions.

I regret that every Georgia sportsman has
not had the opportunity to see first hand
the serious effects of neglect in areas of air
and water pollution that some sections of
this country are suffering. Keep up the good
work.

C. K. Murray
Lomita, Calif.

SO CALLED SPORTSMEN

Another deer season has come to an end
with not too many complications such as
bad accidents and serious injuries to many
hunters. But for many deer in this state,
they were not as lucky. Being a native Geor-
gian I have hunted deer in this state for
nearly twenty years and have been fairly
successful as a deer hunter. With several
nice trophies in my den, one of which ranks
with the largest ever to be killed in Georgia,
I have had my day in the woods after Georgia
whitetails and have enjoyed every minute of
it. Trying to abide by state rules and regu-
lations, cooperating with other hunters and
doing what I could to help anyone whom I
came in contact with deer hunting.

Georgia's Game and Fish Commission is to be commended for the job they are doing with the few personnel that they have to operate with. Without the Game and Fish Commission, lots of successful hunters would not be so successful. They have or have helped to make this state a hunters paradise.

Never have I been so disgusted this past season with some of the cases of which I personally know, since I have been deer hunting. Some of these guys like to brag about this stuff, they really think they are doing something big. They are only hurting themselves and future generations. I am speaking of taking well over the limit of deer. I personally know of cases of hunters taking four, five, and six deer, two of this six were does left lying in the woods. This nut really thinks he has done something and would you believe another case? One hunter kills nine deer, sex not known. These guys call themselves deer hunters or sportsmen. To me they are thieves with no respect to the law or to anyone else, especially to law abiding hunters who obey rules and regulations. The state has enough problems with wild dogs, out of season poaching, etc., without having the season open and a lot of hunters trying to see just how many deer they can kill. The average family should get along on the meat of the two legal deer a person is allowed. If they cannot, a hunter should be working instead of hunting to provide for his family. With the attitude of some hunters, or if all hunters had the attitude of some, there may not be many deer left to hunt.

I watched a small buck with three to four inch spikes browse around for ten minutes this year. I would not shoot this deer because I was sure I would see a larger deer, maybe one of these chaps who seem to not kill enough will get him next year. So I saw about 40 deer during this past season but I did not see a buck I wanted to kill and I did not want a doe. Leave them for the guys who are trying to set a record for the most killed in one season.

If some of these record hunters could be brought before some grand jury for excessive deer kills, there might be more deer for all hunters.

I would like to see this little gripe of mine published or any part of it in the *Game & Fish* magazine for the simple reason maybe some of these record hunters will think before they try to rid the state of our most prized game animal.

Please omit my name for apparent reasons.
A Conservationist

I live in Clayton, Ga. My letter to you is about our deer herd. I have lived and hunted in Rabun County for all my life. For the past few years I have noticed that the population of the deer has decreased each year. The problem is because of deer being killed by poachers. I have heard of as many as a dozen being killed in one night. It is not just one person or one group of persons but it seems like everyone kills them like that. I do a lot of hunting and I believe that in another year or two a deer will be extinct. When a hunter goes hunting several times and doesn't see anything to shoot it is very discouraging.

Before and after deer season deer are killed by the hundreds. I hear of, and know of, people that shoot deer and leave them to rot and laugh about it and brag about it. It seems like people are trying to exterminate the most. Please do not tell anyone about this, I am not going to mention any names. This is a serious thing. I think that deer season should be closed about two or three years to give the deer a chance to multiply back again.

Please let me know of your concern in this matter.

Name Withheld at Request

YOUNG DEER HUNTER

I would like to express my feelings about your magazine. It is the most interesting magazine on hunting you can buy. It gives good stories, colorful pictures, and dates of the hunting seasons. You people of State Game and Fish Commission do not get enough credit on the fabulous work you do in your editorial work.

I'm only fifteen years old and I'm trying to become a good and successful deer hunter.

Terry Stephens
Covington, Ga.

ENFORCE LAWS

I was just reading in the January *Game & Fish* that money was needed for conservation of wildlife.

As a sportsman, I try to abide by the State Game and Fish laws. We have a no dog deer season in Telfair County which I am in favor of, but no one seems to be enforcing the law. I would like to see something done to enforce laws. At least try.

Paul Powell
Lumber City, Ga.

TOURNAMENTS TABOO

Thanks a lot for a great magazine. I have been a subscriber since the very beginning and look forward to each edition. I would appreciate your publishing my comments regarding bass fishing tournaments.

I know you are familiar with the fishing tournaments sponsored on our public lakes in Georgia and other southern states; and I would like to call your attention to a practice that disturbs me quite a bit concerning these tournaments.

Certain individuals and clubs promote bass fishing tournaments throughout the South annually; and for the past three or four years, they have been fishing Lake Seminole at Bainbridge, Georgia, and the Walter F. George Reservoir at Ft. Gaines. The way this tournament is conducted is that 100 to 200 professional bass fishermen pay \$125 fee to enter these tournaments; and for three days, the lakes are fished by these highly professional experts catching as many as 15 bass a day with no thought to the future effect of the fishing of the local anglers; and I feel that this is a practice that should be stopped. This year, there is a tournament scheduled for March 19, 20, 21 at Lake Seminole; and the reason for this late March schedule is that last year they held the tournament in February and had very inclement weather which reduced the catch to only 700 to 800 bass. However, this year, the plans call for late March so they will have more agreeable weather and can increase the catch to an estimated 1500 to 2500 bass.

Now, I do not think this is right for these professionals to raid our public lakes catching these bass before they have had a chance to spawn. I would estimate that if they catch 1500 bass that at least 800 of these bass would be females loaded with eggs.

I feel that this will curtail the bass fishing in Lake Seminole for the next four or five years. I certainly have no objections to competitive tournaments and sport fishing; but I feel that it should be regulated with certain rules laid down to see that our lakes are not depleted of these egg laying bass.

What I propose is that these tournament promoters place an umpire in each fishing boat to record and weigh each bass caught and then release these bass unharmed so that these fish can go on to lay their eggs; and then the weekend fisherman will have an opportunity to catch these fish at a later

date. To improve on this further, I would also recommend that since these men are professionals and capable of catching fish against great odds that the barbs be filed from the hooks of the plugs to insure that these fish will be unharmed when released. What about it local bass fishermen? Do you think it's time we did something to stop this wholesale slaughter?

John Turner
Albany, Ga.

TREES CUT IN LAKES?

During the last 12 years I have visited Clark Hill Reservoir numerous times to fish for crappie and all species of bass. Crappie weather or hot, I fish whenever I have spare time. As all fishermen know, there are times when crappie and/or bass are caught more frequently around trees in deep water. My question is who had the right to cut the tops from the trees in the reservoir and what reason were they cut? If it was for safety of those who ski or to prevent someone from damaging a boat and motor, it appears to me the purpose was defeated. If the water level is below normal, 330' is full stage then there is danger of hitting a submerged snag that has been left submerged due to cutting and left unmarked. When the reservoir is full or above normal, then some of the better fishing areas cannot be fished due to the tree top being cut below water level. There are lots more fishermen than there are skiers and if a skier couldn't see a tree top, then I say he has no business being on the water anyway. For the benefit of local fishermen and especially visiting fishermen who have no idea where the submerged trees are, I think the areas should be marked by some means so that they can be found at all seasons.

After expressing my views with others fishing in the areas I do, I feel that I am expressing their views also.

I wish to express my appreciation for *Game & Fish* magazine. I think you are doing a good job and I look forward to receiving each month. I am always interested in articles about fishing in our state.

M. E. Hall
Martinez, Ga. 30912

Tops of trees weren't cut off in any of the Corps of Engineers lakes as far as we know. Many trees as feasible were left in the lakes to create good fishing spots. Over the years, however, trees do rot and break off, usually about the water line where the wood is attacked by both air and water. There is no way to prevent this. We might suggest that you contact Corps of Engineers and request that they mark these broken off trees so there'll be less hazard for boaters, and fishermen in finding good spots.

Sportsman's Calendar

SEASONS OPENING THIS MONTH

Season—April 27-May 1, 1970 on Upper Oconee, Ridge, Chattahoochee, Johns Mountain, and Chestatee, Wildlife Management Areas only.

Bag Limit—One (1) turkey gobbler. *Season*—April 18-May 2, 1970 in Chattooga, Dawson, Fannin, Floyd, Gilmer, Gordon, Habersham, Jackson, Murray, Rabun, Stephens, Towns, Union, Walker, White, and Whitfield Counties.

Bag Limit—One (1) turkey gobbler.

on—April 20-25, 1970 on Piedmont
ional Wildlife Refuge only.

Limit—One (1) turkey gobbler.

on—April 13-18, 1970 on Clark Hill
life Management Area only.

Limit—One (1) turkey gobbler.

TROUT

n Stream Season—April 1, 1970
ugh October 3, 1970.

l Limit—Eight (8) trout of all species
day. Possession limit—8.

management Area Streams—Open on
duled days, May 2-Sept. 7, 1970.)

owhead Public Fishing Area April 1-
31.

SEASONS NOW OPEN

TURKEY

key: March 14-April 11, 1970 in Ben
Brantley, Camden, Coffee, Charlton,
ge, Pierce, Stewart, Telfair, Wilcox and
atur counties. Only that portion of
ch and Echols counties lying East of
S. 441 and South of Ga. 94.

Limit—One (1) turkey gobbler.

key: March 28-April 25, 1970 in Chat-
ochee, Columbia, Houston, Lincoln,
ion, McDuffie, Muscogee, Talbot,
ggs, Upson, Warren, Wilkes, Tali-
ro, and Wilkinson counties.

McDuffie Public Fishing Area
n March 1-Nov. 1.

SPECIAL EVENTS

annual Lake Seminole Carporee Bow-
ing Contest at Wingate's Lodge April
2, 1970. Open to the public.

Management Area	Stream	May	June	July	August	September
BLUE RIDGE	Jones Creek (Artificial Lures)	Sat., Sun.	Sat., Sun.	Sat., Sun.	Sat., Sun.	(Sat., Sept. 5; Sun., Sept. 6; Mon., Sept. 7)
	Montgomery	Wed., Thurs.	Wed., Thurs.	Wed., Thurs.	Wed., Thurs.	(Wed., Sept. 2; Thurs., Sept. 3; Mon., Sept. 7)
	Nimblewill	Sat., Sun.	Sat., Sun.	Sat., Sun.	Sat., Sun.	(Sat., Sept. 5; Sun., Sept. 6; Mon., Sept. 7)
	Noontootley (Artificial Lures) (Catch and Release)	Wed., Thurs. Sat., Sun.	Wed., Thurs. Sat., Sun.	Wed., Thurs. Sat., Sun.	Wed., Thurs. Sat., Sun.	(Wed., Sept. 2; Thurs., Sept. 3; Sat., Sept. 5; Sun., Sept. 6; Mon., Sept. 7)
	Rock Creek	Wed., Thurs. Sat., Sun.	Wed., Thurs. Sat., Sun.	Wed., Thurs. Sat., Sun.	Wed., Thurs. Sat., Sun.	(Wed., Sept. 2; Thurs., Sept. 3; Sat., Sept. 5; Sun., Sept. 6; Mon., Sept. 7)
CHATTAHOOCHEE	Chattahoochee	Sat., Sun.	Wed. Sat., Sun.	Sat., Sun.	Sat., Sun.	(Sat., Sept. 5; Sun., Sept. 6; Mon., Sept. 7)
	Dukes	Wed., Thurs.	Wed., Thurs.	Wed., Thurs.	Wed., Thurs.	(Wed., Sept. 2; Thurs., Sept. 3)
CHESTATEE	Boggs	Wed., Thurs.	Wed., Thurs.	Wed., Thurs.	Wed., Thurs.	(Wed., Sept. 2; Thurs., Sept. 3)
	Dicks	Sat., Sun.	Sat., Sun.	Sat., Sun.	Sat., Sun.	(Sat., Sept. 5; Sun., Sept. 6; Mon., Sept. 7)
	Waters	Sat., Sun.	Sat., Sun.	Sat., Sun.	Sat., Sun.	(Sat., Sept. 5; Sun., Sept. 6; Mon., Sept. 7)
LAKE BURTON	Dicks	Wed., Thurs.	Wed., Thurs.	Wed., Thurs.	Wed., Thurs.	(Wed., Sept. 2; Thurs., Sept. 3)
	Moccasin	Sat., Sun.	Sat., Sun.	Sat., Sun.	Sat., Sun.	(Sat., Sept. 5; Sun., Sept. 6; Mon., Sept. 7)
	Wildcat	Sat., Sun.	Sat., Sun.	Sat., Sun.	Sat., Sun.	(Sat., Sept. 5; Sun., Sept. 6; Mon., Sept. 7)
LAKE RUSSELL	Middle Broad	Wed. Sat., Sun.	Wed. Sat., Sun.	Wed. Sat., Sun.	Wed. Sat., Sun.	(Wed., Sept. 2; Thurs., Sept. 3; Sat., Sept. 5; Sun., Sept. 6; Mon., Sept. 7)
	Finney	Wed., Thurs.	Sat., Sun.	Wed., Thurs.	Sat., Sun.	(Wed., Sept. 2; Thurs., Sept. 3; Mon., Sept. 7)
WARWOMAN	Saraha	Wed., Thurs.	Sat., Sun.	Wed., Thurs.	Sat., Sun.	(Wed., Sept. 2; Thurs., Sept. 3; Mon., Sept. 7)
	Walnut Fork and Hoods Creek	Sat., Sun.	Wed., Thurs.	Sat., Sun.	Wed., Thurs.	(Sat., Sept. 5; Sun., Sept. 6; Mon., Sept. 7)
	Tuckaluge	Closed	Closed	Closed	Closed	

TIDE TABLE

APR. - MAY 1970

GEORGIA COASTAL WATERS

HOW TO USE THESE TABLES

The calculations are for the outer bar. Find the reading for the desired tide. In the table below find the number of minutes to add to correct for the place you are going to fish or swim. The outer bar calculation, plus this correction, gives the correct reading for the point desired.

Adjust For Daylight Saving Time By Adding One Hour

CORRECTION TABLE

The times given are for Savannah River entrance (Tybee).

	Hrs.	Min.
Savannah High	0	44
Savannah (Low)	* 57	
Hilton Head, S. C.	0	10
Thunderbolt	0	20
Isle of Hope	0	40
Warsaw Sound	0	00
Ossabaw Sound	0	05
Vernon View	0	35
Coffee Bluff	0	55
Ogeechee River Bridge	3	50
St. Catherine Sound	0	25
Sapelo Sound	0	00
Brunswick Bar	0	00
St. Simon Pier	0	25
Frederica Bridge	0	50
McKay Bridge	0	50
Brunswick East River	0	50
Turtle River Bridge	0	55
Turtle River, Crispin Is.	1	10
Humpback Bridge	1	00
Jekyll Point	0	30
Jointer Island	0	55
Hampton River Village Creek Ent.	0	20
Village Fishing Camp	0	45
Taylor Fishing Camp	1	00
Altamaha Fishing Park, Everett, Ga.	4	00
Two-Way Fishing Camp, S. Altamaha	2	00

Full Moon Last Quarter New Moon First Quarter

APR. 1 7 14 23
MAY 5 13 21 27

MAY, 1970

Day	A.M.	HT.	P.M.	HT.	A.M.	P.M.
1. Fri.	4:24	6.9	4:48	7.4	10:36	11:06
2. Sat.	5:24	7.1	5:42	7.9	11:24	
3. Sun.	6:12	7.2	6:30	8.3	12:00	12:18
4. Mon.	7:00	7.2	7:18	8.5	12:54	1:00
5. Tues.	7:42	7.1	8:00	8.4	1:42	1:48
6. Wed.	8:24	6.8	8:42	8.2	2:30	2:30
7. Thurs.	9:06	6.5	9:24	7.8	3:12	3:18
8. Fri.	9:48	6.1	10:06	7.4	3:54	4:00
9. Sat.	10:30	5.8	10:48	7.0	4:36	4:42
10. Sun.	11:18	5.6	11:36	6.6	5:24	5:30
11. Mon.			12:12	5.4	6:06	6:18
12. Tues.	12:24	6.3	1:06	5.4	7:00	7:18
13. Wed.	1:12	6.1	2:00	5.5	7:54	8:18
14. Thurs.	2:06	6.0	2:54	5.7	8:48	9:18
15. Fri.	3:00	5.9	3:48	6.1	9:36	10:12
16. Sat.	3:54	6.0	4:42	6.5	10:24	11:00
17. Sun.	4:48	6.1	5:24	7.0	11:06	11:48
18. Mon.	5:36	6.3	6:12	7.4	11:48	
19. Tues.	6:18	6.4	6:48	7.7	12:30	12:30
20. Wed.	7:00	6.5	7:30	8.0	1:18	1:12
21. Thurs.	7:42	6.5	8:12	8.1	2:06	2:00
22. Fri.	8:24	6.5	9:00	8.0	2:48	2:42
23. Sat.	9:12	6.4	9:48	7.8	3:36	3:30
24. Sun.	10:06	6.4	10:42	7.5	4:24	4:24
25. Mon.	11:06	6.3	11:42	7.2	5:18	5:24
26. Tues.			12:12	6.4	6:12	6:24
27. Wed.	12:42	7.0	1:18	6.5	7:12	7:36
28. Thurs.	1:48	6.8	2:18	6.8	8:18	8:48
29. Fri.	2:54	6.6	3:24	7.1	9:12	9:48
30. Sat.	3:54	6.5	4:30	7.5	10:12	10:48
31. Sun.	4:54	6.5	5:24	7.8	11:00	11:42

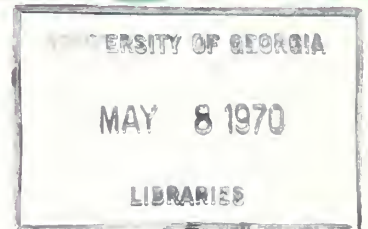
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CONTENTS

King Of The Swamp	J. Hall	1
By A Cat (Fish) Whisker	Beverly Clement	5
Aquarium Affair	Ted Borg	8
Clair de Loon	Jean & Erv Davis	12
Outdoor World		15
Sportsmen Speak		16
Sportsman's Calendar		17
Tide Table		17

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It's The Punished Who Pay

Last year 29 reported oil spills occurred in this country and its territories. In most cases these accidents result in loss of wildlife, such as the loons in the story *Clair de Loon*. Other problems of a spill include, hampered recreation, and property damage in the affected area. In all cases an oil spill is a headache for someone, whether it is on a relatively remote beach, or in a busy harbor like San Francisco Bay.

The spill generally has to be cleaned up, since it is pretty hard to convince people that an oil drenched beach is better than a clean one. Large areas are usually involved, and the methods used are far from efficient, so the clean-up usually turns into an expensive proposition. Who pays the bill? Well, that's another perplexing thing about oil spills.

You might assume that the company owning the vessel or facility responsible for the spill would be liable for the damage it causes. Unfortunately this has not often been the case since oil spills and their inherent problems are a relatively new issue in most circles. Existing laws are generally outdated and are inadequate to provide protection and recovery for damages in these cases, and new legal controls and precedents are just being established. As a result the burden of the expense falls on the injured party, the people who use the beaches or harbors are fouled, and who want them cleaned up again.

The clean-up of a spill is usually less than perfect. Since this is a new problem, experimental methods are being tried with limited success. At the present time, however, there is no completely successful way to remove the scars of a spill.

Federal legislation is now law that promises to more equitably handle the oil spill problem. In an omnibus water pollution control bill, H.R. 4148, there is a section dealing specifically with liability and clean-up on the oil problem. This bill probably won't stop this type of pollution, but it takes a step in the right direction by placing liability on those responsible for the damage.

The liability limit for a spill is \$100 per gross ton of vessel or \$14 million, whichever is less. If negligence can be proven as a cause of the spill the liability for clean-up is unlimited. That should go a long way toward accelerating prevention, and increased supervision. This measure covers spills within three miles of the U. S. shoreline, but it vests the government authority to take immediate action on oil spills anywhere on U. S. waters. It also calls for research to develop more effective clean-up methods.

This bill is definitely an advance in pollution control and it offers some relief to those unfortunate folks who wake up to see an oil slick rolling in with the tide. But you help but wonder how a scenic view lost forever is computed in dollars and cents, or how to replace a colony of seabirds drowned by oil in their feathers.

—Aaron Pass

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ON THE COVER: This scene of beauty greets the angler this morning as he makes forays afield for fish. Waters such as these are a good habitat for alligators . . . but his kind is rapidly disappearing. See the story on gators, "King of The Swamp," by J. Hall, Page 1. Photo by Dean Wohlgenuth.

ON THE BACK COVER: Water lilies in all their splendor are a picturesque bonus to a fisherman pursuing his favorite sport. Look peaceful, but if you drop a lure beside that pad, look out! The moment is an explosion of a bass below it. Photo by Dean Wohlgenuth.



KING OF THE SWAMP

Photo by Ted Borg

By J. Hall

There was an almost imperceptible movement among the leaves, and the raccoon emerged cautiously from the dense undergrowth, blinking to adjust his eyes to the sudden glare of the morning sun. After a few moments, he moved again, so softly that he caused no alarm to the blackbird chuckling quietly to himself on a low branch nearby. He pricked forward, his nose quivering, the coon stepped carefully around the projecting knobs of the cypress knees. His keen eyes were focused intently on the low mound of leaves and moss piled near the water's edge . . . so intently he took no notice of the large log floating soddently a few feet away.

Reassured by the quiet, the coon moved quickly to the mound and began to scratch rapidly at the compacted vegetation, groping down into the warmth beside. His slender fingers had just touched a hard round object when, with a yell of rage, the log erupted into the air and the big sow 'gator charged with incredible speed. The startled coon squealed shrilly, his feet scrambling on the loose leaves, and then the powerful jaws snapped shut.

It was over in seconds. The gator raised her head, turning the coon in her

mouth as the massive jaws crushed life and bones. Then, holding the head and forequarters of the coon clamped between her teeth, she shook her head fiercely from side to side. The violence of the shaking tore the coon in half, his hind quarters flying nearly 20 feet away on the bank. With her prey reduced to eating size, the gator swallowed the fore part of the coon with several jerks of her head, then moved leisurely over to recover the other half.

Her meal completed, the gator turned to her nest that the coon had almost violated. Rising high on her toes, she nosed among the overturned leaves and then stopped, listening intently. Her keen ears had caught a faint sound down inside the mound. In a moment it came again. Urrrk! Urrrk! There was no mistaking it. With several swipes of her bony snout, the gator flung the rotting vegetation off the top of the mound, exposing the clutch of eggs underneath.

Several of them were already broken. Three miniature gators, their yellow stripes gleaming wetly in the sudden sunlight, blinked dazedly at their mama while brothers and sisters struggled to escape their shells. The big gator waited and watched as, one by one the shells

were broken and their occupants emerged, grunting, to join the others. It took some time, but finally there were 26 little gators squirming and wriggling among the leaves and sticks of the nest. When all were free and their tiny legs strengthened, the mother grunted softly, URRK! URRRK! and turned toward the water. Immediately the little alligators followed, stumbling through the grass, taking their first steps into a long and troubled life.

The American alligator is one of the most amazing creatures on this continent. A member of the order of *Crocodylians*, it is a direct descendant of the *thecondonts*, and a first cousin to the dinosaurs. Like those huge ancient lizards, the alligator has larger hind legs. But it never rose to walk on them, as did its cousin, whose forelegs grew tiny in relation to its back legs and were used much as hands. But the alligator is virtually unchanged since it first flourished upon the earth during the Mesozoic Period, some 65 million years ago, when it and the dinosaurs ruled the world together. Perhaps his survival is due, in part, to the fact that throughout these millions of years it has continued to live in a Mesozoic-like environment of warm, tropic swampland.



"That's close enough!" This mother gator froze the photographer in his tracks with a threatening hiss. One blow of her slowly cocking tail would easily snap a man's legs like matchsticks. The reason for her antagonistic attitude? Note the youngster just below her chin. (Photo by J. Hall)

In the family of Crocodilia, which includes crocodiles, caimans and gavials, there are only two species of alligators, the American (*Alligator mississippiensis*), and the Chinese (*Alligator sinensis*), which lives in the tropics of Asia. Few crocodiles exist in North America. There are a small number in the Everglades at the Southern tip of Florida, but they require too warm a climate to ever venture much further northward. The caiman is native to Central and South America and Mexico, and closely resembles his cousin, the alligator, although he does not grow as large. The gavial is also smaller, has a very long, pointed snout, almost like an alligator gar fish, but much longer, and is native to India. The American alligator himself is found naturally only in the southern United States, from central Texas to the Atlantic. At one time, however, when the climate of this continent must have been greatly different than it is now, he lived over many parts of the United States and even in Southern Canada!

Hatched from a hard-shelled egg about the size of a goose egg, the alligator is about eight or nine inches long at birth. Its body is soft and black, and has yellow stripes which disappear as it grows older. The softness of its body soon leaves also, and along its back are formed bony protective ridges and plates similar to those of a turtle. On the alligator however, these do not fuse into a shell but remain movable and flexible. The belly skin is soft, and it is this part of the hide that is used in making alligator leather goods.

The young gator does not eat for two or three weeks after it is hatched, but lives upon its own yolk within its body. After it begins eating, however, its appetite is voracious, and it will eat almost anything that moves within reach. It commonly feeds on insects, small fish, rodents, birds, crayfish and in fact, anything it can handle. It grows rapidly at first, about one foot a year for the first six or seven years of its life, and then the growth rate slows considerably. When mature, a male gator often reaches eight to ten feet in length, and will weigh around 500 pounds. The female seldom goes over eight feet and 150 to 300 pounds. Even as late as a century ago, much larger alligators were found. An 18 foot gator was not uncommon, and specimens were measured up to 20 feet in length. Occasionally now a 12 to 14 foot gator may be seen, but they are very unusual, and it is rare that one survives long enough to reach that size.

Gators do not live to the fantastic ages often attributed to them. Parks and zoos are fond of claiming that their gators are hundreds of years old, and some insist theirs must surely have swaggered down the gangway of Noah's Ark. Actually, the experts disagree on the subject, but most set the average age of senility at around 60, although at least one swears he is personally acquainted with a centenarian.

Since the gator spends most of its life in the water, it is specially equipped for its aquatic environment. Its ears (which are at least as good as those of a human if not keener) are covered by

flaps of skin which it can close to keep out water. The nostrils, which are at the tip of the long bony snout, are raised much like twin snorkles, and can also be sealed when the gator submerges. From the nostrils, two bony tubes run back through the snout to the rear of the gator's throat to carry air to his lungs. In front of these passages, he has a third flap of skin which he can move to close off his throat. In this manner, he can breathe almost totally submerged and can swim with his mouth open to catch his prey without water pouring down his throat. The gator's eyes are also a distinctive feature, bulging up on top of his head like twin headlamps. They appear to be set in bony prominences on his skull, but this appearance is deceptive. Actually, this prominence is only skin. The eye sockets themselves are well back in the skull, and for protection, the gator can squint his eyes back in out of danger. His eyes are also equipped for underwater viewing, in addition to having regular eyelids he has a third eyelid, or *nictitating membrane*, which moves vertically across the eye. With his eyelids open, he can draw a transparent membrane across to protect his eyes and keep water out of them, and yet still see perfectly well while submerged. (Birds also have this membrane, perhaps to protect their eyes from air currents while flying.)

The alligator has 30 to 40 teeth in each jaw. They have no roots to anchor them to the jaw bones, and are therefore frequently lost, but the gator promptly replaces them with others. Since the gator swallows most of his food whole, his teeth are used mainly for gripping and holding. Usually, the gator will push his prey down under water and swallow it. Then, if it is too large to swallow whole, he will break it apart by shaking it, as described earlier, or by whirling it. This is a characteristic of all crocodilians. A large animal may be seized by the powerful jaws and then, using the tail as a propeller, the alligator can rapidly in the water like a log. The smashing force of this whirling motion tears almost any size victim to pieces, and large gators have been known to kill and eat deer and even bears.

Instances of alligators attacking humans are rare, and generally, when they have occurred, the gator has been provoked into attacking. It was reported to me that one such incident is reported to have happened in the Okechobee Swamp. A ranger of the U. S. Bureau of Sport Fisheries and Wildlife (which controls the swamp) was working one day in an area which contained many fallen logs and submerged stumps. It was necessary for him to wade through this area, which he did with caution, although the water was only about knee deep, the bottom was littered with vines and other hazards which he could

A non-gregarious creature, the alligator usually prefers solitude of his own company. Close association with other gators frequently results in quarrels. This toothy chap is grumbling with his neighbors because they're crowding him. Since he swallows most of his food whole, the gator's teeth are primarily used for holding and crushing his prey. (Photo by J. Hall)



h his feet. Suddenly the water extended beneath him. He barely had time to realize that powerful jaws had seized him, the teeth clamping viciously into the fleshy part of his hip, when the alligator crashed about him and he was rolled rapidly, several times, with terrific force. Fortunately for the ranger, there were a number of small trees around him, and as the gator spun him, he slammed into one of these and had time to get his mind to throw his arms around it and hold on. The gator's teeth snapped loose from his hip, tearing off a piece of his pants and a good sized chunk of hide, but he managed to escape with only scars to remind him of the painful and terrifying experience.

Although cases such as this are very unusual, gators have often been known to attack small farm animals, such as chickens or goats, and, like the smoker who wears one brand of cigarettes above all others, they'll walk a mile for a dog. It was Johnny Hickox, a guide at the Okefenokee Swamp Park at Waycross, Ga., who told me about the couple from the Florida who visited the park one day. They were accompanied by their dog, a poodle and a small dog which, Johnny said, was actually dyed pink and had a blue ribbon in its hair. It was hot that day, so the people ignored the warning signs in the parking lot and tied the poodle's leash to the door handle of the car while they went back to look at the park. When they returned, the dogs were still wet on the ground and what remained of their pink poodle was its pretty little rhinestone collar and leash . . . still tied to the door handle.

The gator's tail is perhaps his most powerful weapon. The saurian uses it to stun or kill his prey, sweeping it around to the waiting jaws. There is enough force in the tail to break a large animal's legs or back. In using the tail as a weapon, the gator bends his body like a bow, then snaps it suddenly in the reverse direction with terrific force. The blow might be compared to that of a 100-pound sledge hammer. His jaws are powerful only when closing. A man could easily hold a gator's jaws with only one hand. A gator's jaws, however, are a different matter altogether, for when they come together, (the lower jaw moves), it's an entirely different story. Something's gonna

The alligator matures sexually at around six or seven years, when he is six or seven feet in length. The noisiest of all crocodilians, the male gator expresses his amorous ambitions in bellows that can be heard for miles. This, he believes, helps to attract a female and also warns other bulls away from his territory. His warnings aren't always effective, however, and the mating season, (usually around April or May), sparks terrible battles among the males, who frequently lose eyes, tails, toes and even entire legs in the fray. In addition to his noisy "crooning," the male also has scent glands in his chin and cloaca which further assist his advertising campaign.

After mating, the male goes on about his affairs and leaves the business of birth and child rearing to his wife. The female alligator is, in her way, a paragon of virtue among reptiles. She is a very good mother. Since she is a reptile, and therefore cold blooded, she has no body heat with which to incubate her eggs, which require a constant temperature and humidity in order to hatch. The female builds a large nest, usually around three feet high and six feet across, of leaves, sticks, grass and other vegetation. She packs this down by crawling over it, and then in a depression in the top, she lays 20 to 40 eggs, which she covers with more vegetation. Now, while the heat from the sun and the fermentation and decomposition of the vegetable material incubate her eggs, the female guards the nest from rats, skunks, coons, snakes and other egg loving marauders, and awaits the arrival of her family. If the weather is dry, she assures the continued dampness and humidity of the nest by occasionally urinating on it.

When they hatch, the mother gator's

job has just begun. The young are extremely vulnerable, and are legitimate prey for fish, animals, water birds and papa gator, who is cannibalistic. The female quickly takes her little ones a safe distance away from the breeding grounds and watches over them carefully. Until the young gators are on their own, the mother is never far away.

I still laugh at the youngster from South Carolina who got his first indoctrination to alligators. A large sow was standing guard over her brood of little ones, and the boy, about 10 years old, was fascinated by them and, I think, hoping to catch one. Suddenly I saw the gator move. The child whirled, his little legs churning like pistons, put his head down and charged . . . straight into me. I caught him, set him back on his feet and, barely able to suppress a grin, asked, "What's the matter? What happened?" He stammered for a moment, then managed to get out. "She swole up an' hiss at me!"

I could recall the incident with painful clarity while taking the photos that accompany this article. I kept moving in closer and closer to a big female, hoping to get a clearer picture of her young, when she suddenly reared her head. Her jaws opened, the big sides swelled. *HisssSSSSS!* She said "Get!" I got! And if you don't think that'll bring up the hairs on the back of your head, you take the camera and make the pictures next time! I'll watch.

After an alligator reaches about four feet in length, his worries should be over. He has no more natural enemies, and by rights, has earned the title of King of the Swamp. But now his most fearful and predatory of all enemies becomes a real threat, for he has attained a size to be desired and hunted . . . by man. When the white man first came to

this continent and sent back descriptions of it, the alligators numbered in the millions. It was said of the St. John's River in Florida, for example, that it might have been possible to walk across the river on the backs of the alligators, and reach the other side with dry feet. (I presume no one was ever foolish enough to try it.) But, like the feathers of the egret, it was discovered there might be a commercial value in their hides, and man hesitated not a minute to exploit it.

Between 1800 and the turn of the century, more than 20½ million gators were slaughtered in Florida for their hides. Since then, an untold number have been killed, not only for hides, but stuffed, made into souvenir key chains or sold as pets. Now, laws in most states protect gators, at least in that respect, and the stuffed gators and souvenirs which you buy are almost all caimans, imported from South America. (Let's hope *they* put a stop to it soon!) But gator hides are still valuable, and with good skins selling for five to seven dollars a foot, poachers are still responsible for the killing of 40 to 50 thousand American alligators each year.

Like a sort of sea serpent, the alligator cruises his murky domain. Only the tips of his snorkle-like nostrils, his eyes and his armored back are exposed above the surface of the water. Despite his bulk, the gator can move almost soundlessly and will submerge, tail first, to suddenly reappear several yards away, alert for any sign of danger.
(Photo by Ted Borg)

And although the law does protect them, the laws have so far proved ineffectual to any great extent. Although the Federal government has classed them as an "endangered species," this has certainly not softened the hearts of the men who make bootleg dollars off their hides, and the gator surely faces extinction, and soon, if the present rate of slaughter continues.

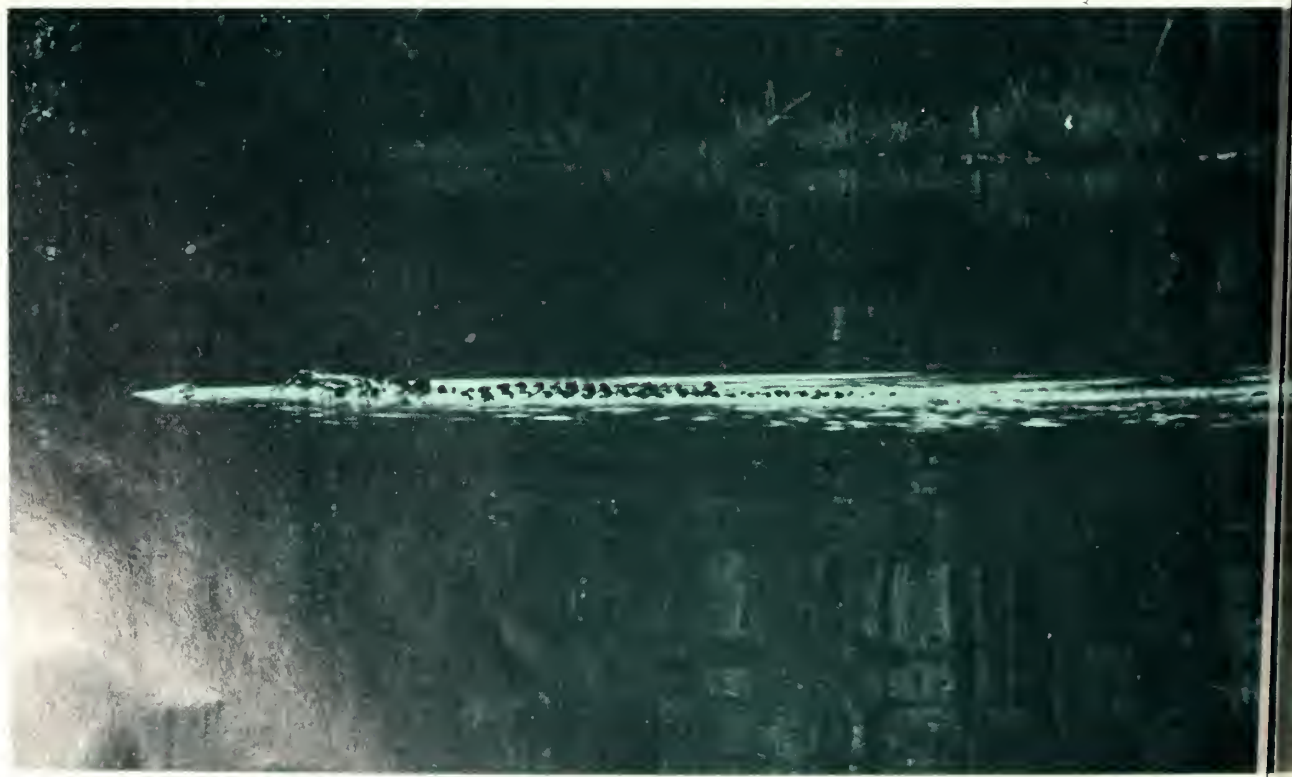
But aside from the hides, you might ask, of what *value* is the alligator? Well, in the first place, simply that he is *here*! What right have we, either through greed, carelessness, brutality or for whatever reason, to doom a species to extinction? We did not put them here, we certainly cannot bring them back or re-create them once they are gone, and we have no justifiable reason for presuming to control their destiny to that extent. And thus there is the philosophic value.

Of more practical value is the ecological importance of the alligator. Whenever the alligator has disappeared, the entire ecological and biological balance of the region has been altered. A major portion of the gator's diet is composed of trash fish, such as gar and bowfin. When the gator leaves, these fish take over and, being hardier than others, soon crowd more desirable fish, such as the largemouth bass and other game species, out of existence. And so the sportsmen suffer. In his activities in his swampland habitat, the gator is constantly altering the environment itself. By constant usage of his "trails," he keeps the vegetation pushed back, preventing the swamp from being filled in by expanding plant growth and succession. By

opening new trails and digging dens "gator holes" in the swamp he creates new swampland which, in many cases during periods of drought, is the source of water, and possibly the protection to the water table in that region. Conversely, during periods of heavy rainfall, it is the trails kept open by the gator which channel the excess water away and help to control flooding. And thus his economic value.

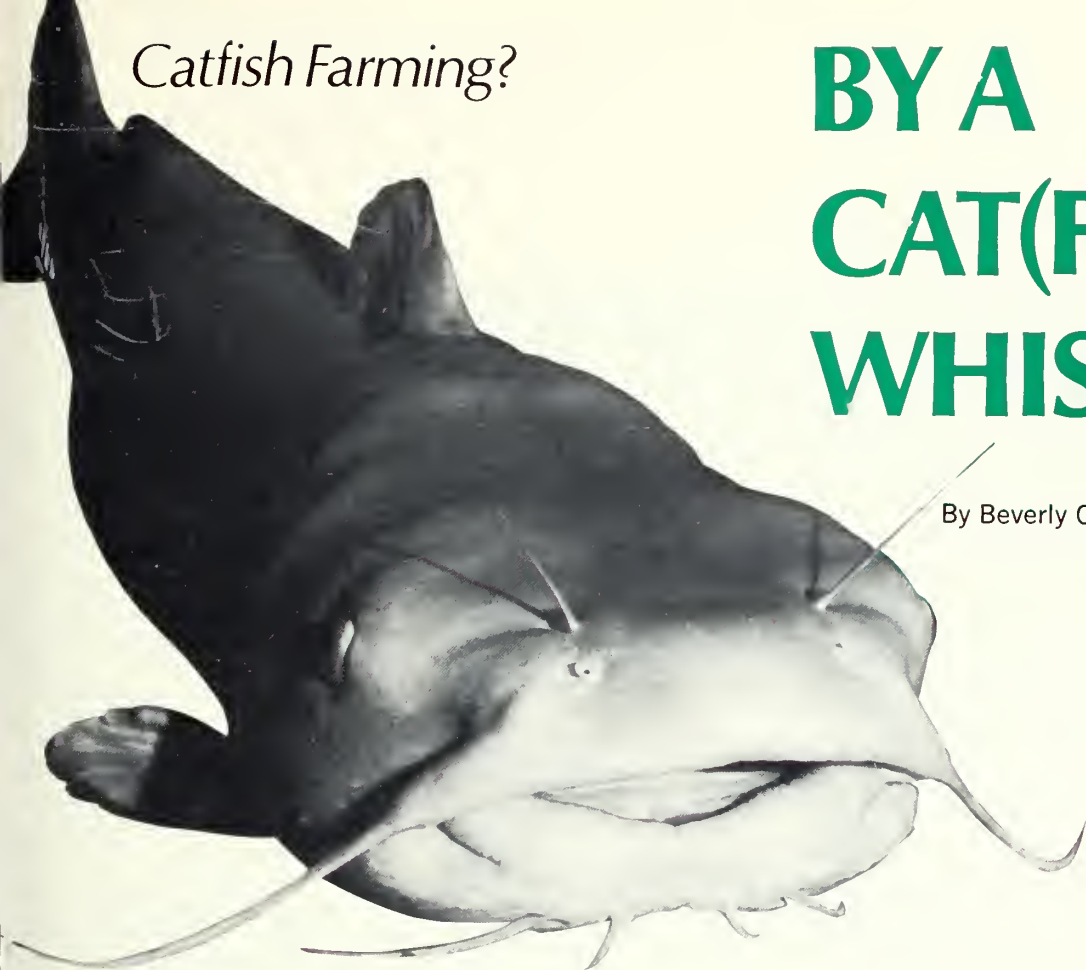
But poachers are not his worst enemies. Of far greater danger to the alligator is man's destruction of his habitat. Marsh and swamplands have been drained, his waters have been polluted and poisoned, the fish and wildlife upon which he feeds and depends have been eliminated. Dams have been built which have hastened the process of recession, and despite the frantic efforts of the gator to fight back, his trails, water holes . . . and his home, being choked and filled with the smothering spread of vegetation, and swamps are disappearing.

True, man must use the land to his best advantage. But utilization does not necessarily mean exploitation. Using much more can be achieved by cooperation . . . with the needs of the land, the wildlife, and with Nature herself. The alligator has been around for a long time. In 65 million years, he has surely learned many things about living in peaceful coexistence with Nature while in our short span of time we have only to be able to feud with her. Perhaps it would be very well for us to learn more about the gator. We can profit from his experiences that have made him King of the Swamp.



BY A CAT(FISH) WHISKER

By Beverly Clement



Suddenly everyone's talking about the channel catfish. Why all the interest in this bewhiskered creature? Because he is bringing in cash and fast becoming big business in the South. Some people are even predicting the catfish industry will, in 10 years, be where the poultry industry is today.

A word of warning should be mentioned, however. Anyone considering raising channel catfish should be sure he has all the facts in hand. There have been many unsuccessful attempts due mostly to a failure to obtain necessary knowledge of the basic principles of fish culture.

The major limiting factor appears to be water quality. The oxygen cycle in a pond depends on the plankton, which in turn depend on the oxygen produced by the plankton. Phytoplankton are small green plants suspended in the water which produce oxygen during daylight hours. There is always a demand for oxygen, not only from the fish but also from the decomposition of organic matter such as rotting plants, feed and waste products from the fish. The fish and decomposing material use oxygen all the time, but the plankton produce it only during periods of daylight. Due to this a cloudy day can result in an oxygen shortage in the

The pond owner should have some equipment for testing the oxygen in the pond periodically. Kits, which are adequate but inexpensive, are available. When a low oxygen level is found, some type of artificial aeration should be used. The most practical method would be pumping surface water into the air and back into the pond. If fish are observed in distress and an analysis of oxygen shows the oxygen level is acceptable, your local Game and Fish biologist should be contacted immediately. Diseases or toxicants which cannot be determined without professional training may be causing the problem.

Proper stocking is also important. Fingerlings should be obtained from a reputable hatchery, in good condition, and be disease free. Whenever possible stock fingerlings at least four inches long. When fingerlings of mixed sizes are stocked a difference in growth rate tends to make the larger ones grow faster and the smaller ones stay small.

Proper feeds and feeding methods are necessary to insure the most efficient feed usage. In ponds stocked with a low number of fish per acre, a supplemental feed in addition to natural foods already present may be sufficient. An intensive culture means a large number of fish per acre, and there may not be enough natural food. In this case a complete ra-

tion must be used. Check the feed being used to see if it is correct for the situation. The basic recommendation for feeding is three percent of the body weight per day. Higher percentages are now being used successfully in experiments. However, under most circumstances a feeding rate that exceeds thirty pounds of feed per acre per day should not be used.

Actual samples of the fish for calculating the feeding rate is preferable to following a set schedule. A sample of the fish is removed, weighed, and an average weight is obtained. The sample should be around ten per cent of the total number of fish in the pond for acceptable accuracy. This is multiplied by the total number of fish, and the feeding rate is determined from the resulting total weight. The fish are fed every day or six days a week.

Fingerlings are available from the many hatcheries which produce them for sale to pond owners. These hatcheries keep pairs of brood catfish in pens or ponds with containers provided for spawning. When spawning is complete, the eggs are hatched by two different methods. In one, the female is removed and the male hatches the eggs. He fans the eggs with his fins, providing the constant current required to hatch the eggs. When the young catfish are first



Fish like this provides great sport on light tackle, and is great in the frying pan too. These factors account for the popularity of catfish among Georgia fishermen.

hatched they are called fry, and transferred to rearing ponds where they grow to stocking size. The other method is to collect the eggs and put them in a trough with paddlewheels. The eggs are held in wire baskets while the paddlewheels provide required current. When the fry have hatched, they are transferred to the rearing pond.

There are several aspects to raising channel catfish. Channel catfish may be stocked in combination with largemouth bass and bream, usually at the rate of 100 per acre. These are not fed artificial feed, but utilize natural food. When the initial stocking is fished out, catfish are not restocked because the bass will eat the fingerlings.

Another type of catfish culture is "fish-out" or "fee-fishing" pond. Catfish are stocked at the rate of 1 to 2000 per acre. They are fed and raised to harvestable size. There should be no other species of fish in the pond, as adequate growth of the catfish cannot be expected if other fish are also eating the food. If a water supply is used which contains other fish, filtering of the water is essential. When the fish have reached harvestable size the pond is opened to the public for fishing. The fee is usually \$1 per day plus 50-60 cents per pound charged for the fish. The ponds are periodically drained and restocked.

Commercial production requires more extensive planning. The pond must be properly constructed. The pond should be cleared of all stumps and debris, and catch basins should be installed. Equipment for oxygen testing and aeration is needed. Fingerlings are stocked at a rate of 2000-2400 per acre and are fed a complete ration. At the end of a growing season, when the fish are of harvestable size, the pond is drained and the fish are sold. It is essential that a satisfactory market for catfish be found before production is started.

There are many potential markets for channel catfish. They may be sold to a local market. Individuals may come to the pond to purchase fish or the fish may be taken to various places for sale. Arrangements may be made for the fish to be taken to a local restaurant or to a restaurant chain. Catfish may also be sold in a "put-and-take" pond.

Commercial processing plants are developing which buy harvestable fish. In some cases, the catfish may be raised on a contract basis. The price per pound

ries according to distance from the ant, feed conversion, and other factors. It would probably range from 30 to 40 cents per pound. It is most important in commercial operation that the pond owner know his market and his expected price before starting production.

An additional method has recently been developed for raising channel catfish. They are reared in a cage one cubic meter in size (36"x47.5"x36" deep) and suspended in a pond by means of styrofoam or plastic jugs. A desirable stocking rate appears to be 10 fish per cage, harvested at approximately one pound in size. Hardware cloth is generally used on a wooden or metal frame and treated with preservative. The mesh size must be at least 1/2 inch to allow sufficient water exchange. This exchange is necessary to remove wastes, and bring in an adequate amount of oxygen. The stocking rate for a pond remains the same, 2000-2400 fish per acre. There are many advantages to this type of culture, especially ease of harvest.

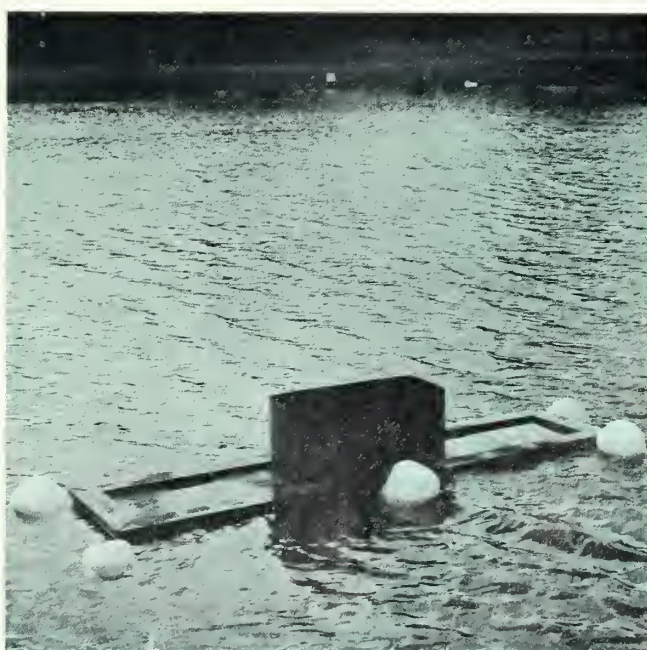
Although it would be impossible to include all the information on catfish in this article, it is hoped that this will give a general idea of what is involved. The channel catfish industry is definitely expanding in Georgia. Anyone who has seen the final product knows why. 🐟



The author checks the oxygen level in a catfish pond by chemical analysis. Such testing is a necessity in commercial production.



Series biologists check the growth of catfish in an experimental cage. The Commission is testing these cages to determine their feasibility for commercial production.



This test cage is the home of about 500 catfish. If current experiments prove it successful it could add a new dimension to fish farming in Georgia.



Pretty Miss Patricia Bramblett, a student at Jenkins County Elementary School, Millen, Ga., has a bright smile for the largemouth bass . . . and seems to be getting a smile back. The fish are just a few of those on display for the public to see at an aquarium at Millen National Fish Hatchery, about five miles north of the town of Millen, on U. S. 25 near Magnolia Springs State Park.

AQUARIUM AFFAIR

Photo Story by Ted Borg

Jenkins County Elementary School
th graders taught by Mrs. Ruby Lane
recently paid a visit to the Millen
atchery aquarium, and learned more
about the kinds of fish that can be
found in their state. Game & Fish
Magazine Photo Editor Ted Borg was
there, too, and his lens captured the
fascination on the faces of these
youngsters as they paid a call on the
citizens of the underwater world.



Where to start? The youngsters darted
around from one glass to another,
hardly daring to waste a precious second
for fear they might miss something.
Hank Joyner, biological technician, tells
Mrs. Lane and Principal Lewis Johnson
about the aquarium. Organized groups
are admitted free at the aquarium, while
individuals may see it all for only a
dime. The facility is open 8 a.m.
to 5 p.m. Monday through Friday, and
9 a.m. to 6 p.m. Saturdays, Sundays
and holidays.

an, can't you just see us getting into
a mess of redbreast like this down
the creek? This seems to be what's in
the minds of William Lariscy, left,
Meyer, center and L. C. Williams.
They're probably wishing they had
their cane poles with them!





*Which one is really in the tank?
Actually, Herb Reichelt, Aquarium
Curator, isn't really in the tank . . . he's
on the other side, using this unique
pair of tongs to pick out trash from the
crappie tank. Even fish have to have
their house cleaned once in awhile! The
crappie doesn't seem to mind having his
janitorial services performed for him.*

*There's lots to see in the Aquarium.
To be exact, more than 700 species are
on display. There are largemouth bass . . .*



*. . . there are chain pickerel, also known
as jackfish (Georgia holds the world
record for both largemouth and
chain pickerel) . . .*



... and readeare sunfish, usually known as shellcrackers, a popular character among bream fishermen ...



... and of course, you can't look at fish without taking a peek at the bluegill, probably the most popular of all fish, not only in Georgia but all over the nation. These and other species may been seen from an overpass walkway on a stream near the aquarium, where many people feed bread to them.



This brute is a 25-pound albino catfish raised at the hatchery. At 11½ years old, he's the "granddaddy" of the aquarium, having been on display since the aquarium opened in 1963.



It's time to go home, but Martha Jo Bragg and De-Anne Branne have to bid a fond farewell to the chain pickerel.

Refugee From Oil-Troubled Waters

CLAIR de LOON

By Jean and Erv Davis

■ We found her on a cold February day, when a Northeaster was shoveling clouds of gray sand down our coastal island beach. She huddled near our granite seawall, eyes tightly closed; beak tucked under one wing. She looked miserable. Though we approached on tip-toe, she raised her strong, cobra-like neck in alarm and glared balefully at us out of ruby-red eyes. Avoiding her deadly-looking three inch beak, and trying to ignore her neck-hair-raising wails of distress and anger, we managed to carry the great bird home wrapped insecurely in an old beach towel.

She was beautiful, about the size of a large goose, with silky gray back feathers checkered at random with black and white. When we placed the bird in a sheltered dog run at the side of our beach house, she made several leap-frog attempts to escape, pumping her sturdy, pointed wings in a futile effort to be-

come airborne. Her large webbed feet, set far back under her body, were definitely not designed for walking or perching. We guessed she'd be a powerful swimmer.

The bird we found was a loon, one of a flock of more than thirty common loons which struggled ashore on our Golden Isles beaches. Some of the birds were already dead, and all were weak and helpless. Closer examination of our loon, which a friend immediately dubbed Clair de Loon, revealed the reason why.

Clair's usually snow-white underbelly and neck feathers were saturated with a stiff, sticky mass of diesel oil. Coated with the tar-like goo, the loon could neither fly nor dive for fish—and as the oil hardened, Clair's feathers lost their waterproofing and insulating ability. Her flock had been spending the winter

Clair de Loon, one of 100,000 waterfowl who fall victim to coastal oil pollution each year. She was one of a large flock of common loons who managed to struggle ashore on Georgia coastal beaches after being heavily oiled. Most of the birds died of pneumonia or liver degeneration, almost inevitable results of contact with oil slicks.





*... quickly learns the difference between finger-length minnows and friendly
ers. St. Simons sportsman Sandy Hightower supplied the bird with 30 or 40 of
small fish each day.*



*... neck and breast plumage, usually snow-white is darkened by diesel oil—
...ly discharged illegally by a ship pumping bilge within the 50-miles-from
e limit.*

riding the whitecapped, olive waves off our Georgia coast when they swam afoul of the oil-slick, most probably residue from a ship illegally pumping bilge too close to shore. Helpless, the loons drifted ashore to die—of starvation, exposure, and liver poisoning.

We were determined to save Clair if we could, but knew nothing about the care and feeding of loons, especially oil-coated loons. These birds inhabit lakes of the northern United States and Canada, and though they fly south when their homeland lakes freeze over, they are seldom seen near our southern shores.

With the help of a local veterinarian, several bird books, and an amateur naturalist from Jekyll, our neighbor-island, we mapped out what we hoped was an appropriate course of action.

We concluded, from our own experience with another oil-coated bird, and from the accounts of experts who had tried to clean oiled feathers, that this was no job for amateurs. We decided to wait and give nature a chance, hoping Clair's oily feathers would eventually be moulted and replaced with clean, new ones. Since this might take several months, we'd need to find a daily source of fresh fish for our loon. A neighbor, "Salty" Hightower, who is in the bait business, offered to supply Clair with as many minnows as she could eat. He probably regretted his hasty promise when, some two months later, Clair was still gulping down his fine, fresh minnows at the rate of thirty each day.

At first Clair ignored her food, but after we stuffed several minnows down her gullet, she got the idea. We filled a small plastic pool with water and in it, placed live minnows at feeding time. Clair chased them enthusiastically, securing the wriggling black fish with her sharp beak, then maneuvering them—always head-first—down the hatch.

Soon she lost her fear of us, and would take fish from our hands without biting, clucking whenever we came into sight of her dog run. She never bit without reason, but she hated to be touched, and our hands were always pecked when we examined her to note the progress of the new feathers.

In a short time, we learned to interpret Clair's various cries. Her short cluck was for recognition and food; a higher, shorter wail signaled annoyance, and her long, loud distant-train-whistle cry meant she was really distressed.

Late one night, a neighborhood cat invaded Clair's domain, probably attracted by the smell of fish. We were wakened by loud, indignant howls from Clair and screeches of pure terror from the cat, who must have found it a novel experience to be attacked by a giant bird with a three-inch stiletto beak and murderous red eyes!



After two months of living in a sand-floored dog run, the large bird welcomes the chance to stretch her wings again. New legislation and strict surveillance of coastal waters are possible solutions to the growing problem of coastal oil pollution.

Around the middle of March, we noticed Clair was eating less and seemed restless. We checked the Almanac, and found that this was the time of the migration of ducks and geese back to their breeding grounds in the north. Clair was hearing the call of the wild, but was still grounded. We hated to keep her in captivity, but knew if we released her too soon, she'd starve. She was her old, impudent self in another week when the migration season passed.

After we'd boarded Clair for almost two months, we began to doubt she'd ever fly again. Most of the oil was gone, but her new feathers weren't growing in properly. Thinking that loons, whose wings are relatively small in proportion to their large, heavy bodies, might need a large expanse of water as a run-way, I carried Clair to a nearby tide pool. She swam a few yards underwater, surfaced, and swam back to me. I waded out into the pool, flapping my arms and feeling foolish, hoping she'd take the hint. Clair calmly paddled after me. I splashed back to the beach. Again she followed. Her behavior was puzzling, especially as Clair was an adult bird when we found her. She was still far from tame. Loons are usually wary of the company of humans and prefer to live alone with their mates on some isolated lake. Clair's flock bands together to migrate south. Yet here was Clair, a

twelve-pound, full-grown loon, following me like a puppy. I carried her home, she clucked for fish, then settled down comfortably to preen her feathers.

Our short Georgia spring was almost over, and we were concerned about the effect of our hot summer on our northern visitor. As the days grew warmer, Clair's energy ebbed. We wrote to a nearby marine institute, asking if they could find a place for Clair which would more closely simulate her natural habitat. They answered that a federal permit was needed to keep migratory birds, and advised us to write to a Florida bird sanctuary. Before we mailed the letter, Clair became ill, and in the few short hours while we frantically tried to locate a veterinarian on Sunday, Clair de Loon was dead. We buried her, not in the large, sand-floored dog run, but among the wild sea oats on the dunes. A flowering beach plant marks her grave.

Unfortunately, the story of Clair de Loon is a common one today. Each year, thousands of our sea birds die under similar circumstances; many on our beaches and many more, unrecorded, at sea. The oceans are our last unspoiled frontiers, symbols of freedom and space in a world where man crowds nature more closely each day. Because the seas are seemingly limitless, the fal-

lacy exists that the seas are unspoiled. Even our vast oceans are natural sources which need protection, and pollution is not only a threat to loons and other sea birds, but to all marine life, as well.

It is difficult, of course, to predict and prevent accidents at sea which cause deadly oil slicks, but new legislation provide more stringent measures—especially for ships which flout existing pollution laws.

After Clair's death, we asked a representative of the U. S. Coast Guard if these ships were not caught and punished. His reasonable reply was that the Coast Guard couldn't possibly find every ship out of the fifty-mile zone where it is legal for ships to pump oil. Under present laws, a ship—foreign or domestic—must be caught "in the act" before an arrest can be made.

"A good deal of this coastal pollution could be prevented," says Wildlife I David Gould, Supervisor of Coastal Fisheries for the Georgia State Game and Fish Commission in Brunswick. The Oil Pollution Act of 1961 has been effectively revised. As the law stands, the hands of the law enforcement agencies are tied. The Oil Pollution Act needs revision—right now.

All of Clair's feathered friends undoubtedly appreciate that.



am E. (Billy) Smith, second from right, former State Game and Fish Commissioner from Americus (Third District) is awarded a plaque by Commissioner Clyde Tift of Albany, honoring his 10½ years of service on the Commission. At left are Commission Chairman Clyde Dixon and Commission Director George T. Smith. Smith's post was recently taken over by Dr. Robert A. Collins, also of Americus.

"Admiration" Captures Amateur

By John Culler

A bird dog trainer from Illinois who has run dogs all over the U. S. says he thinks the Southwest Georgia area is the greatest bird country in the world.

H. N. Holmes of Springfield, Illinois made the statement after his seven-year-old pointer female captured the National Amateur Quail Championship held on Wildfair, Blue Springs and Pineland Plantations near Albany in March.

Sixty-odd dogs were entered in the trial, which ran a full week in temperatures that climbed over the 70-degree mark several afternoons.

Holmes' liver and white pointer, "Gunsmoke's Admiration," found nine coveys during her one and a half hour race, and ran what the judges called "a nice forward race." Championships are nothing new to Holmes or his dog. Admiration merely added the quail championship to the pheasant and prairie chicken championships she won last year. She was also runner-up in this same quail trial last year.

Second place went to Wildfair's Horsepower, owned by John Grant, Jr. of Albany. He found eleven coveys and finished strong.



H. N. Holmes of Springfield, Ill. with his pointer female, "Gunsmoke's Admiration," which captured the National Amateur Quail Championship held near Albany in March. She now has won every national all-age amateur championship.

A New Threat to Georgia's Marshes?

Chemical pesticides are reaching estuaries," says Jack Lowe, biologist with the U. S. Bureau of Commercial Fisheries in Gulf Breeze, Fla. laboratory. "The estuarine ecosystem is liable to be exposed to long-term, low levels of pesticide residues," he told the group of scientists and other concerned people from all over the U. S. who attended the Federal Water Pollution Control Agency's Pesticide Ecology Conference at the Univ. of Ga. Feb. 24-26. Marine crustaceans and shellfish are particularly sensitive to pesticide residues in the environment, and can be severely damaged even by amounts too small to kill outright, according to Lowe. As an example he cited studies which show that shrimp exposed to a low concentration of pesticide, 1/1000 per billion, died in four weeks. A concentration of one part per million, ppm, is one and a half inches in the total circumference of the earth. One part per billion, is one thousand times smaller than one part per million. Blue crabs and oysters are also sensitive, Lowe reminded the audience. Phillip Butler, Research Consultant with the Gulf Breeze lab, said that the nibbling mortality is going on every day in our streams and estuaries, "due to pesticide pollution, primarily DDT and some Mirex. Dr. Butler

reported on studies which show that very low levels of pollution from herbicides (chemical weed killers) caused oysters to shrink two-thirds and to stop growing for two to three months.

Fishing Rodeo Feeds Poor Kids

If you go fishing May 16 at the East Point Reservoir in Douglas County near Lithia Springs, you can help underprivileged school children have a better breakfast each day.

The Lithia Springs Jaycees will hold a Fishing Rodeo that day, from sunrise to sundown, with the proceeds to be used primarily to finance their project to provide breakfast for underprivileged school children.

The rodeo is open to adults and youngsters alike, with prizes being given for four species of fish in each age group. Prizes will be given for the largest bass, bream, catfish and crappie, and for the largest fish of the day, a grand prize of an electric fishing motor will be presented.

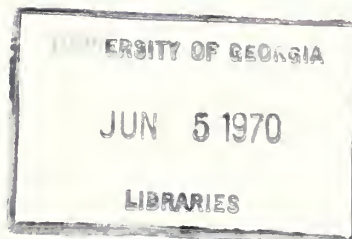
Entry fee is \$5 per adult, and \$2.50 per child under 12, which includes use fee on the lake.



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GAME & FISH



CONTENTS

Find Your Own Thing	Marvin Tye	1
Samaritans of the Waterways	Aaron Pass	4
Mountain Fair	Ted Borg	8
For Want of a Ramp	Wayne Thomaston	10
Those Battling Bluegills	Bob Wilson	13
Outdoor World		15
Sportsmen Speak		16
Sportsman's Calendar		17
Tide Tables		17

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Pollution—Problem or Pleasure?

"Armpit Estates—69 miles," said the sign. A rather amusing bit of graffiti until you notice that it defaces a natural rock wall on the side of the road. The view on the other side wasn't much either. Supposedly it was the magnificent Tallulah Gorge, but it could not be seen for the souvenir shops, refreshment stands, and other such tourist traps that line the roadside. These stands have been called eyesores, but perhaps we have misjudged them. By obscuring the view of the gorge, they probably prevent many sightseers from obtaining a closer look by driving in.

It is said that every cloud has a silver lining; so it is perhaps with the environmental pollution problem. Since man is seemingly so intent on the ruination of his natural habitat, maybe with a little thought we can transform pollution into a benefactor of modern man. By applying a philosophy of this type we could do much to decrease the complexity of modern life.

Take fishing for example. A fishing trip usually involves arising at an early hour, getting off work, driving to a lake or river, and generally being away from the comforts of home. This is particularly apparent on weekends when fishing detracts so much from pleasant tasks such as painting the house, mowing the lawn, etc. However, if we continue to pollute our streams and lakes at the present rate we can eventually poison all the fish, alleviating the problem entirely. The ocean presents a somewhat greater challenge, but considering our expanding technology, it shouldn't be insurmountable. Surely a country that can put men on the moon can pollute an ocean with relative ease.

Hunting has the same general drawbacks as fishing, but is usually done in colder, nastier weather, and in more rugged country. These added inconveniences make hunting more of a burden to modern man than fishing. It would probably save many men's health and marriages if it were phased out.

By the same token, the elimination of sport hunting is one of the easiest problems to solve. Environmental pollution coupled with a snowballing population will finish hunting in short order. After all, man, left to his own devices has been multiplying and extraplenishing the earth for centuries. The population increase serves many functions as a tool for simplifying man's life style. It makes him more likely to enjoy the organized social pleasures rather than individualistic sports like hunting and fishing. He is also likely to join a conservation organization such as Ducks Unlimited, without which duck hunting might already be a thing of the past. Anyone who would get up at 3 a.m. to go out in a freezing rain and shoot at ducks is, in the opinion of many, in desperate need of psychological guidance.

Another effective deterrent to sport hunting is anti-legislation. This type of restriction is becoming widespread and may eventually make owning a firearm difficult or even impossible. A lack of guns will probably make hunting less popular, and will also free man of the necessity of sighting in, and target shooting.

(Continued on page 10)

ON THE COVER: A summer day . . . and fishing fever strikes. Want to go? There's a new fishing hotspot in northwest Georgia, open to the public. This beautiful scene on Arrowhead Lakes Fishing Area, will greet visitors here. Read "Do Your Own Thing" on the next page, by Marvin Tye. Photo by Ted Borg.

ON THE BACK COVER: How many times have you wished there was a boat ramp near one of your favorite fishing spots? Many anglers have, and the State Game and Fish Commission is all it can do to build ramps all over the state. See "For Want of a Ramp," by Wayne Thomaston, page 10. Photo by Marvin Tye.

FIND YOUR OWN THING

by Marvin Tye

It has been estimated that Georgia has 1,250,000 fishermen. There are those who like fishing large impoundments and others who would rather fish or troll offshore waters for water gamesters. Some prefer the solitude of an isolated mountain stream where they might find trout or smallmouth bass.

There is yet another breed of angler who likes to fish small ponds for bass, bluegills and catfish. There is no problem in finding large impoundments or streams on public land in North Georgia or in getting access to good water fishing on the coast. Unless you own land or know someone who can get permission to fish on small ponds may present a problem.

The Georgia Game and Fish Commission has embarked upon a program

to furnish public fishing lakes to help solve this problem. In addition to providing fishing for those who just like to fish such waters, there are a number of other advantages. These public fishing lakes are ideal for the handicapped, for the elderly and for children. You don't need a large boat or extensive know-how to fish these waters. The lakes are well-stocked and a person who fishes them long enough to become acquainted with their characteristics can have good success.

The oldest of these facilities is the McDuffie Public Fishing area which consists of 15 ponds open for fishing March 1 through Oct. 31 each year. The lake is located about four miles outside Dearing. To reach the area, drive to the Iron Hill church from town and then turn left at the wooden sign

marking an unpaved road to the checking station. Fishing costs \$1.00 per day per angler. Children under 16 are admitted free. Fishermen can use their own boats but only electric motors can be used. The ponds, covering a total of 88 acres, are well fertilized and heavily stocked with largemouth bass, bream and channel catfish. Bass as large as eight pounds have been taken on this area as well as bluegills in the two-pound class.

The Arrowhead Public Fishing Area is the newest to be opened to the public. It consists of two easily accessible ponds, one of 16 acres and one of 19 acres, which will be opened for fishing on alternate years. The 19-acre pond was opened for fishing for the first time this year. No public fishing had been al-



Any day tree, a beautiful lake, and these anglers are doing their thing . . . fishing good fishing, easy to get at. All fishing is from the bank on Arrowhead Lee Public Fishing Area. No boats are allowed. (Photo by Aaron Pass)



A rainy opening day didn't prevent this angler from reeling in a nice bass. One of the two lakes on the Arrowhead Area is open each year from April 1 through October 31 with fishing allowed on Wednesdays, Saturdays and Sundays only. (Photo by Aaron Pass)



Arrowhead is managed primarily to produce catfish, and stringers of small fish are not uncommon. (Photo by Aaron Pass)

lowed in either of the ponds prior to the 1970 season.

Fishing season at this facility runs from April 1 to Oct. 31 with angling allowed on Wednesdays, Saturdays and Sundays only. Admission charge \$1.00 per day for each fisherman 16 or older. Boats are not allowed at this facility and all fishing must be done from the bank. Fishing is primarily for channel catfish with some bass and bream action to be had. Bass were stocked primarily to rid the lake of wild species other than catfish. There is a 10-inch limit on largemouth bass and a creel limit of two per day. Anglers may take 5 catfish and 25 bream each day.

To reach Arrowhead from Rome, go 7.1 miles north of the Floyd County Hospital on Highway 27 to the Arrowhead Post Office, then turn right and drive 4.5 miles to the area. From Summerville, go south on Highway 27 and make a left turn to the area. From Chocoma, take highway 156 west to Kinney's Grocery Store. Turn right and drive one mile to the area.

The Champney Island Area consists of 117 acres of public fishing on Champney Island. The lake has been constructed and stocked with catfish and bream. Public fishing is scheduled to begin in the summer of 1971.

Construction has just begun on the Chattooga Public Fishing Area at Summerville. A large earthen dam has been constructed in a picturesque wooded valley that has many streams and springs to furnish an ample supply of cool water. The lake will cover 100 acres and should produce some good fishing. In the near future another dam will be constructed downstream from the present damsite and another lake will be formed. The Chattooga Public Fishing Area will probably be opened in 1972.

According to Fisheries Chief I. Kirkland, the Game and Fish Commission hopes to construct a number of other public fishing areas throughout the state in the next few years. He said that he would like to see as many as one or three each year under construction. The land for these lakes is decided by the Game and Fish Commission by the county in which it is located. The Commission then constructs the lakes and maintains and stocks them.

Most lakes will have soft drink vending machines but no concession stands. Bait and fishing tackle may be purchased before arriving at the fishing areas. Fishing licenses will be sold at public fishing areas.

If fishing a small pond is, as the anglers now say, "your bag", you are able to "do your thing" at Georgia's Public Fishing Areas.



he area to the right of this dam, now under construction, will be covered by a 40-acre lake. The road in the picture will be replaced by a road over the dam. The dam at the future site of the Chattooga County Public Fishing Area is 202 feet wide and 100 feet long with a 100-foot spillway. (Photo by Ted Borg)



as well as men enjoy the fishing at Arrowhead. Any lady will agree, it's nice to have a gentleman around to help carry out her limit catch. (Photo by Aaron Pass)

SAMARITANS of the WATERWAYS

By Aaron Pass

■ The setting sun is an orange ball dropping swiftly through red tinted clouds to its evening rendezvous beyond the western shoreline. A lone boat sits quietly on the lake in the gathering twilight. The occupant, also sitting quietly, is gazing at the sunset.

Joe, the boater, does not feel peaceful in this serene setting, instead he feels a trifle uneasy. Joe snapped a shear pin earlier in the afternoon, and since he forgot to bring any spares, he has little choice but to watch the sun go down. He could of course paddle if he had some sense, he doesn't, and he also forgot to blow the small boat distress signal. Luckily Joe has been waving at passing

boats all day, getting lots of cheery waves in return, but no assistance. Right friendly folks hereabouts. So now Joe is not admiring the beautiful sunset, but is contemplating a long, dark night in the middle of the lake.

As Joe is trying to remember whether the weather forecast included storms, he hears the hum of a boat motor. "Well," thinks Joe, "I might as well wave goodbye to this one too." He waves, and to his surprise the boat turns and pulls alongside.

In the boat is a fellow in a khaki uniform; "Having any trouble?" he asks.

"You bet," answers Joe. "I broke a shear pin, and I thought I was going to

have to spend the night."

"I'm from the Coast Guard Auxiliary," said Joe's savior. "I'll give you a tow back to the Marina, where you can get that pin fixed." As Joe gratefully accepted the tow line, he was also grateful that the Coast Guard Auxiliary ran a "Sun Down Patrol" to aid boaters like himself.

Such incidents are routine for members of the Auxiliary, over the many thousands of boaters have assisted by this organization. Of course, situations are merely uncomfortable but just as often the circumstances are more dangerous, and lives may be at stake on the actions of the Auxiliarists.



You can bet that this sailor is glad to see the Coast Guard Auxiliary Safety Patrol boat. That water is 42 degrees, cold enough to kill anyone in it longer than 20 minutes.

The U.S. Coast Guard Auxiliary is a civilian affiliate of the U.S. Coast Guard. It consists of a voluntary membership of dedicated boaters, and performs a general public service related to boating and recreation. Created by an act of Congress "to promote safety and efficiency on and over the high seas and navigable waters . . .," the Auxiliary exists to make water sports safer and more enjoyable for everyone. Members are on call via the local Auxiliary Operator to provide assistance in any types of emergencies. They frequently turn out in foul and dangerous weather to rescue a stranded boater, or help local authorities search for a

missing person. In times of natural disaster the Auxiliary helps in the rescue operations, and provides aid to the victims.

Providing a safety patrol for water parades and regattas is another important mission of the Auxiliary. Some of these events are held in weather where the water temperature could kill anyone who had to stay in it more than a few minutes. In these cases the presence of the patrol saves lives by offering immediately available aid.

Another function of the Coast Guard Auxiliary is the Courtesy Motorboat Examination. The examination is free, and will be conducted only by request.

The purpose of the examination is to determine if the safety equipment on a given boat meets the legal requirements in the area. If the boat passes the test it is awarded the CME decal. This decal is recognized by the U.S. Coast Guard in all 50 states, and a boat bearing one will not usually be boarded unless a violation is noted. After the check the boater is given the only copy of the checklist, and deficiencies are not reported to any agency. This examination is not a method of law enforcement, but is intended to help the boater enjoy safer boating.

In addition to the direct waterborne assistance, the Auxiliary gives boating

MOUN



"Let's get this over with so I can get back to the trout," says a contestant in the children's costume contest, at the Rabun County Mountain Fair.



You mean it's not 1870?



Climbing the greased pole gave some slippery action to several youngsters with "high" ideas.



All the way from Hiawassee came this mule train to help celebrate the County Mountain Fair.

N FAIR



otos by Ted Borg



State Game & Fish exhibits are shown at many fairs & festivals throughout the state.



Wonder what his wife thinks about it?



Sad? Who, me?!!



It is not the kind of log sawing that'll put you to sleep. It took some brawny men to win this contest. This year's fair is set for June 19, 20, 21.

FOR WANT OF A RAMP... ...THE FISHING WAS LOST

By Wayne Thomaston



■ It is 6 a.m. and nine trailered boats wait in line at the only launching ramp in the area. It might well be two hours before that ninth boat gets on the water, missing some prime fishing time. They will also be fishing in crowded water around the ramp. Eight miles upstream the river is deserted save one lone bank fisherman. . . There's good fishing but it's not accessible.

Sound familiar? It should, a tremendous need exists in many areas of the state for more adequate boat launching facilities. This shortage of launching ramps has resulted in overly crowded conditions where ramps do exist, and a total lack of fishing pressure in many good areas where there are none.

To make these areas more accessible to anglers and to better distribute the fishing pressure, the Game and Fish Commission has initiated a public

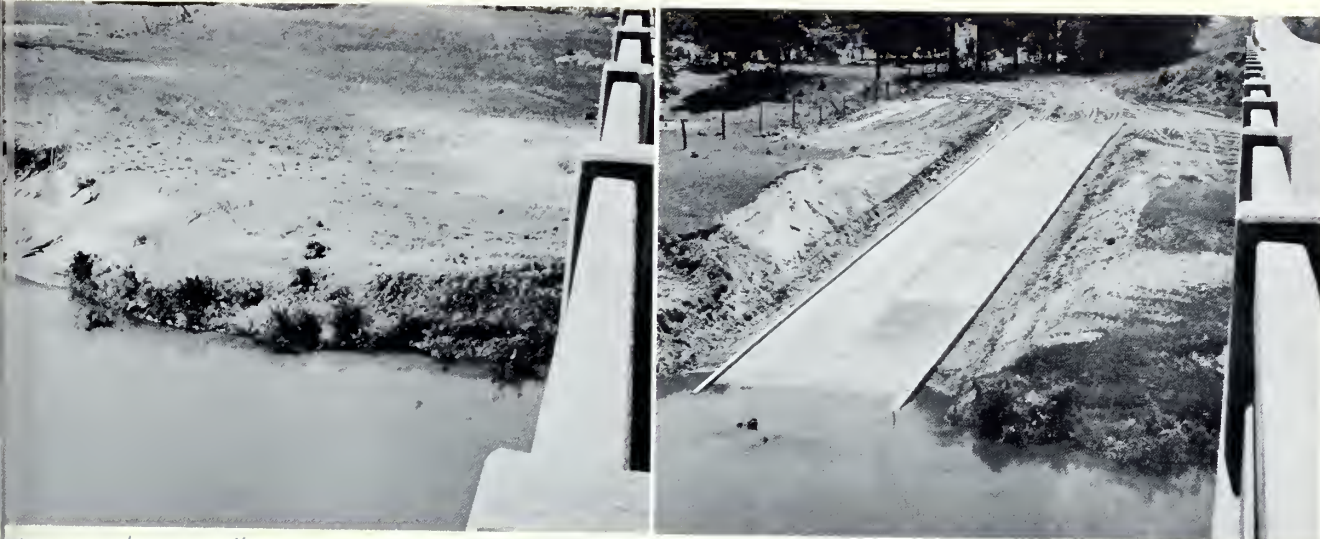
A waiting line of boats to be launched is one of the problems encountered where there are too few ramps to meet the needs of boaters.

launching ramp construction program. The program, initiated almost four years ago, has resulted in the construction of 60 ramps throughout the state. Launching sites are presently available on the Ogeechee, Oconee, Altamaha, Etowah, Oostanaula, Flint, Tugaloo, and Ocmulgee Rivers, Aberecorn Creek, Demeris Creek, Lake Chatuge, Lake Hartwell, Lake Sinclair, and Nottely Lake. These ramps have received a great deal of use, and more of them are definitely needed to relieve the crowding.

For instance, there is very little access from Lake Jackson to Macon on the Ocmulgee River. It's the same on the Georgia side of Goat Rock Reservoir; and the rivers in the coastal areas.

If these and other fine fishing areas are to be used to their best advantage ramps must be built.

Local participation is needed in ramp construction. A city or county wanting a ramp must make the land available, and participate in construction. It is necessary that the state own the land immediately under the ramp, and have a 25 year lease on the adjacent land for parking. Approximately a half of an acre is required for the ramp itself, and a minimum of two acres for adequate parking. Funding for the program is provided by the Bureau of Outdoor Recreation on a 50-50 basis with the Game and Fish Commission. Ramps can be built on Federally owned land by agreement with the Federal Government. They can also be constructed on highway property if permission has been granted by the



new ramp where once there was none. There were no launching
ramps on this section of the Flint River before this ramp was
constructed at the Highway 128 bridge.

LAUNCHING RAMPS IN USE

Body of Water

Ramp Location

1. Altamaha Gray's Landing
2. Altamaha Jesup
3. Altamaha Town Bluff Ferry
4. Altamaha McNatt Falls
5. Altamaha Carter Bike Landing
6. Altamaha Morris Landing
7. Altamaha County Landing
8. Lake Blackshear Veterans State Park
9. Chattahoochee Columbia Lock & Dam
10. Lake Chatuge Hwy. 76, Towns County
11. Lake Chatuge Up Chatuge Lake
12. Clark Hill Mistletoe Park
13. Clark Hill Mistletoe Park
14. Crooked River Crooked River State Park
15. Crooked River Crooked River State Park
16. Demeris Creek Richmond Hill
17. Etowah River Hwy. 5, Cherokee County
18. Flint River Hwy. 49, Macon County
19. Flint River Reeves Landing
20. Flint River Below Blackshear Dam
21. Flint River Hwy. 128, Taylor County
22. Hartwell Little Gumby Creek
23. Lake Nottely At Dam
24. Lake Nottely Nottely Creek
25. Ocmulgee River Cochran
26. Ocmulgee Hwy. 96, Houston County
27. Ocmulgee Abbeville
28. Ocmulgee Hwy. 230, South of Hawkinsville
29. Ocmulgee Dodge Lake Landing
30. Ocmulgee 3 miles west of Jacksonville
31. Ocmulgee Jacksonville Bridge, 441
32. Ocmulgee Staves Landing
33. Ocmulgee Flat Tub Landing
34. Ocmulgee Red Tub Landing
35. Ocmulgee Bullards Landing
36. Oconee River Milledge Hospital
37. Oconee River U.S. #78, Green County
38. Oconee River Buckeye, 20 miles N. of Dublin
39. Oconee River Pete Davis River
40. Oconee River Hwy. 280, Wheeler Co.
41. Oconee River Balls Ferry
42. Oconee River Blackshear Ferry
43. Oconee River Steve Fuller Landing
44. Oconee River Bells Ferry
45. Ogeechee River Between Herndon & Midville
46. Ogeechee River Hwy. 88, Jefferson Co.
47. Ogeechee River Between Hwy. 1 & Hwy. 17
48. Ogeechee River U.S. #1, Jefferson Co.
49. Ogeechee River U.S. #17, Jefferson Co.
50. Oostanaula River Hwy. 156, Gordon Co.
51. Oostanaula Calhoun
52. Satilla River Hwy. 121, Pierce Co.
53. Satilla River Alapaha River at Odom Bluff
54. Satilla River Herring Lake
55. Satilla River Hwy. 64 Bridge
56. Satilla River Hwy. 19, Charlton Co.
57. Savannah River Bush Field, Augusta
58. Savannah Abercorn Creek
59. Sinclair Murder Creek, Hwy. 129
60. Tugaloo Below Yonah Lake, Hwy. 184



Game and Fish personnel get together with local officials to determine the need and the best location for a ramp. This site is on Lake Blackshear.

highway department. Off-the-highway parking must also be available.

Construction of the ramps consists of pouring a concrete base, then attaching prefabricated concrete logs. These logs extend out into the water far enough to provide an adequate ramp. The presence of one of the ramps makes boat launching easier in areas where it was difficult or impossible to launch before.

Ramp sites are selected on the basis of a survey by the Game and Fish Commission. This survey determines the need for the ramp by the degree of use of the area, and whether the proposed site lends itself to construction.

The Commission's goal is to provide a launching site for every ten miles of navigable stream, and for every 1,000 acres of reservoir. There is a strong need for approximately 300 ramps throughout the state if the full recreational potential of the streams and reservoirs is to be realized.

There are many miles of rivers and lakes that receive virtually no use because of the lack of access areas. The sportsmen, including hunters, fishermen



and boating enthusiasts, find that concrete boat ramps are extremely beneficial. A concrete ramp makes it much easier to launch a boat.

There are many small streams throughout the state that would be excellent for hunting, fishing, and canoeing trips if it were possible to get in and out of the creek with a boat. Although only small fishing boats can be used,

these small streams produce a tremendous amount of fishing. At present these streams are virtually unused in most regions of the state for want of adequate boat launching sites.

If this program continues to receive support from local governments, the increasing number of ramps will provide more recreation for more people with less crowding.

Concrete ramps like this one on the Ocmulgee River in Beckley County provide easy launching.





Although bluegills seldom put up a topwater fight as this one did, catching these fish on light tackle, as Mr. Everett Hall of Hawkinsville does, offers very satisfying sport.

THOSE BATTLING BLUEGILLS

By Bob Wilson

any a dedicated bass fisherman has heard to comment something to effect that, "Bluegill fishing is for men and children." But if you want to see the other side of the story, just ask a man who has taken a pound or more and a half bluegill on light fly tackle. On the proper types of fishing tackle, the bluegill puts up a strong and spirited struggle.

One of the attractive things about bluegills are the variety of baits and lures that they can be taken on, and the fact that they may readily be taken during the hot summer months, when most other species make themselves scarce.

While bluegills may be taken almost any time on almost any bait, catching the big ones calls for skill and determination.

Bluegills may be taken on almost any type of bait or lure that they can get in their mouths; and they will strike at those too big for them. Favorite baits include worms of the red and catalpa varieties, crickets, and many types of cut bait including fatback and chicken livers. Artificial lures which have proven successful include dry and wet flies, floating and sinking bugs, very small spinners, and the plastic worms and crickets.

While just about any kind of fishing gear can be used, for the greatest enjoyment in catching bluegills, the lighter the equipment the better. The best equipment would be a good cane pole, long and very flexible, an ultra-light spinning outfit, or a light-action fly rod. Four pound test line is sufficient unless the fish can get into brush or submerged trees.

Bluegills in our area spawn when the water temperature reaches 65 to 68 degrees, which usually occurs in mid-April, and continue to spawn until August. The male bluegills guard the nests until the fry leave. During this time, the



One of the best things about the bluegill is the variety of baits and lures they can be caught on. The larger ones, though, can be as demanding as any trout, waiting for just the exact bait or lure before they will strike.

Bluegills can be caught when other species make themselves scarce, and provide enjoyable and relaxing sport almost anywhere, almost anytime.

This fine stringer of panfish, including a number of bluegill, has provided this angler fine sport on his supple cane pole; and it's more than likely that there is a fine meal in store.

bulls will attack anything approaching the nest. The largest bluegills are usually taken late in the spawning season when an angler can place his bait in the vicinity of the deeper nesting beds.

Bluegills periodically change their location in a lake or pond. Where there were large numbers of them one day may seem deserted a day or two later. These fish seem to have differing food preferences according to size, with the smaller fish taking one bait, and the larger ones waiting for some other type. The moral is rather obvious: Keep moving around until you locate a school and then keep changing bait until you are satisfied that you are catching the largest size in the school.

The use of fly tackle in fishing for bluegill is becoming increasingly popular. Both dry and wet flies produce results, as will sinking and floating bugs. As a general rule, the top-water lures will produce best in the early morning and the evening, and the sinking lures are best during the day. The bluegill will put up a good struggle on fly tackle, swimming strongly at right angles to the pull of the line.

Bluegills prefer quiet water with brush, weeds, or other obstructions, and shade. Overhanging limbs, submerged trees, and docks are good spots for these fish. The large ones drop out into deeper water during the day, but come in to the shallows to feed in the mornings and evenings.

Bluegills are certainly not the same as trout, but they can be caught almost any time of year, and on the right tackle they can provide a real pleasure. It's a shame, of course, that they are called panfish for good reason.



the outdoor world

Douglas Decries Loss of Wildlife

"What we're doing to wildlife in this country is monstrous!" said Supreme Court Justice and conservationist William O. Douglas to a concerned audience at Georgia Tech recently.

Douglas criticized modern farming practices and careless exploitation of resources as factors leading to the decline and possible extinction of game animals and fish. "Oklahoma is losing 100,000 bobwhite quail each year," he said. "Insects disappear because pesticides eliminate them at a crucial time of year when bobwhites must have the concentrated protein food of insects." Small mammals have also been affected. "Twenty years of poisoning has almost eliminated prairie dogs," Douglas stated.

"The pheasant population of North Dakota has dropped from 13 million to 2 million because of specialized farming with 'clean' techniques. Modern clean farming does not leave brushy hedgerows between crops to serve as shelter and food for small animals.

Douglas also hit poor management of public lands and public funds. Antelope die in piles beside fences installed across public range lands in the west because the fences prevent them from migrating to food and shelter in the winter. About the loss of wetlands Douglas declared, "The government pays a man to drain water bird habitat to grow wheat so they can pay him not to grow wheat."

The disappearance of six species of commercial fish off the New York coast is a grave sign that pollution is affecting our ocean waters as well as our rivers and lakes. Sewage and industrial wastes poured into the nation's waters eventually reach the sea, as do pesticide residues washed off the land. Douglas pointed out that "Almost all ocean fish have traces of pesticides in their fat or ovaries."

Even air pollution can affect fishing. Douglas cited cases of wilderness lakes being polluted by airborne nitrates washed out by the rain. Nitrates and phosphates, which are present in sewage and in runoff from agricultural lands, are fertilizers which promote algae growth. Algae and aquatic weeds choke a lake and their decay robs the water of dissolved oxygen, suffocating fish. In the environment, stressed Douglas, "Everything is connected to everything else!"



has appeared in ARGOSY and SKIN DIVER magazines as well as the Athens, Georgia, *Banner Herald*. Bob enjoys almost all outdoor activities, but one of his favorites is scuba diving. He has been diving since 1960 in areas ranging from New York to Florida and Bermuda. Bob particularly enjoys underwater photography and spearfishing. Also among his favorites are upland bird hunting, trout fishing, and primitive weapon hunts.

He graduated from the University of Georgia in 1966, and went directly into the Army for two years; one year of which was spent in a combat area in Viet Nam. In 1968, he returned to the University of Georgia for a program leading to an M.A. Degree in Journalism.

At the Game and Fish commission, Bob will be Audio-Visual Editor, handling film and radio productions as well as serving as a staff writer on the GAME and FISH magazine. He will be heard on many radio stations throughout the state giving the daily outdoor report.

About the Author

A new addition to the staff at GAME and FISH, Bob Wilson, is certainly not new to outdoor writing. His writing

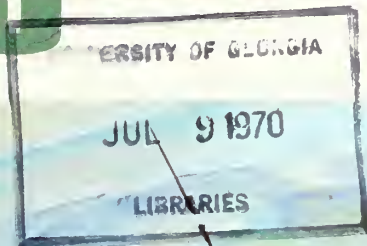
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CONTENTS

Finders Keepers	Dean Wohlgemuth	1
Treat It Like A Trophy	Aaron Pass	5
Striped Bass Are Coming	John Culler	8
Most Neglected Gamefish	Marvin Tye	10
Coastal Marshes—A Vital Link	Bob Wilson	12
Outdoor World	Staff	14
Sportsmen Speak		15
Sportsman's Calendar		17
Tide Table		17

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Are You The "Other Fellow?"

Is there a boat in your carport? If not, you're probably wishing there were. This seems a fairly safe statement, since you're obviously an outdoorsman. . . you're reading this magazine.

If you've got a boat, it seems safe to assume you've had it on the water recently. Maybe it was a fishing trip, a cruise, perhaps a boat camping trip, a float trip, or a little water skiing.

Did it occur to you, while you were out, that there certainly were a lot of other boats out? If you've been a boater for several years, has it struck you that there are now a lot more boats out than there used to be? You're right.

Perhaps nowhere are people more interested in boating in its various forms, than the people of Georgia. Just as they love other outdoor sports, they love boating; and they want to continue enjoying it.

Just as in all other outdoor sports when their favorite recreation area begins to get crowded, the edge can sometimes be taken off their fun. And more and more, each person using our outdoor recreation resources has an increased responsibility for others also using them.

Actually, boating in Georgia is a pretty safe sport yet. When things are considered. But when you see the way "the other fellow" operates his boat, you sometimes wonder why. Running a boat on some of our lakes is more and more getting to be pretty much like driving the expressways in our metropolitan areas during the rush hour.

That kind of thing takes a great deal of the fun out of our sport.

Wait a minute . . . the "other fellow," you say? Well, sure, you're a safe boater. Never had an accident. Sure, you may have come fairly close a couple times, but it was "the other fellow's" fault. Was it?

How well do you know the rules of boating safety? Do you know your danger zone? Do you know the safe way to pass another boat? Do you turn your lights on at dusk? Do you know where to slow your boat so that your boat won't cause discomfort or possible damage to others and their property?

What a kill-joy, you think, bringing up such boring things. You boat for fun, and it's no fun having some traffic cop tell you how to do it.

Well, just think how much fun boating will be after you've been involved in a tragedy. Then perhaps you'll wish you'd learned something of boating safety.

Actually, learning more about your boat and its safe operation is fun. Properly learned, lessons such as these add immeasurably to your boating pleasure.

The fun begins when the learning begins, if you take advantage of free boating classes provided by both the U.S. Power Squadrons and Coast Guard Auxiliary units. For one reason, there's fellowship with other folks with whom you have something in common . . . an interest in boating. Even if you're already an old salt, you're bound to learn quite a bit you didn't already know. You've invested a lot in your boat; learn to handle it and care for it properly.

Continued on Page 16

ON THE COVER: How many of your boyhood fishing trips were for catfish? But how many times have you fished for them lately? They're still good sport and good eating, but we tend to forget them sometimes. To help you remember, read Marvin Tye's story, "Most Neglected Gamefish," Page 10. Painting by George Reiney.

ON THE BACK COVER: Summer's here and the weather's hot. You dream all year of the summer fishing, but sometimes, the hottest weather the poorer the fishing seems to be. Tips on catching catfish in the heat of summer, using a depthfinder, can be found in Dean Wohlgemuth's story, "Finders Keepers," Page 1. Photo by Ted Borg.

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Wow! A big bass on the line! This is what we all dream of, but how do you get them consistently, especially during hot summer months? One of the ways to find the lair of big bass is with a depthfinder to help you find the holes and dropoffs.

FINDERS KEEPERS

By Dean Wohlgemuth

(Photos by Ted Borg)

All winter long, many an angler dreams of summer weather, so that he can spend every available minute pursuing his favorite sport . . . only to discover that the high temperatures have put the fish in deep holes where he can't find them.

Discouraged, our friend hangs up his rod until next spring, when he has a chance of catching them along the shoreline.

He sits by his air conditioner, and wonders. Where do the fish go in the summer? Do they go on a hunger strike? How can I find them?

He has all the latest equipment for locating the fish. He has a wide variety of rods, reels and lures of all types. He has a dandy fishing boat and a good motor. He uses an electric motor to ease

into a fishing spot. What else could there possibly be that he needs, what piece of equipment is lacking in this complement of gear?

There is probably one big item lacking. It's lacking because, first of all, it is rather expensive and secondly because he isn't sure just how much benefit it would be and whether it would be worth it to him to get it. Would he be able to figure out how to use it to his own advantage enough to make it worth the price?

What is it? Well, different makers call it different things and despite the fact that at least one manufacturer resents his product being termed such, for the purposes of this story to cover all such equipment, we're going to call them depthfinders. Some call them fish

finders, others fish locators. Whatever they're called, they all work on basically the same principle.

The basic principle is radar . . . an electronic beam is sent from a transducer and is bounced back from the bottom. The time it takes the beam to travel that distance is computed onto the dial to tell the angler the depth of the water.

Also, any solid objects between the bottom and the transducer . . . such as a fish . . . sends back another signal, and the depth of the object (or fish) is likewise flashed on the dial.

When you see a second signal above the bottom signal, it very well may be a fish. It may also, however, be a tree limb or any other foreign object that may be in the water. All you know for

sure is that something is there, and it is X number of feet deep. It's then up to you to find out whether it's a fish, and if so, whether you can catch it.

In effect, then, as a fish finder this machine is something like a bird dog. It can help you find fish, and can explore good cover . . . but from then on it's up to you as an angler to produce the skill to catch it, just as it's up to the bird hunter to be a good enough shot to kill a quail.

In the opinion of most users, the prime benefit in any depthfinder is that it helps locate good fishing waters. Let's face it . . . if you're casting a bait to a spot where there are no fish, there is virtually no chance of catching fish . . . unless they happen to move in while you're there. You might as well be fishing in your bathtub.

The problem, then, is in finding where is the best place to fish. Not just the best lake, but where in the lake . . . what specific spot. Bass, for example, seek the depth of water where the water temperature is most comfortable. They make forays in the shoreline early and late in the day, for very brief periods of time. These times are considerably longer in early spring and late fall when water temperatures are cooler.

The big boys, however, spend nearly all their time in deep holes. These holes have to meet the proper conditions. There must be rocks or stumps to provide cover. There must be a food supply nearby.

Now, a hole 20 or more feet deep may have ideal temperatures and ideal cover, but when the bass are that deep there is no food close by. If the sides of the hole are very steep or very gradual, there is little hope of him getting a meal. What he wants is a deep hole where there's a dropoff on the side, leveling off at a depth of perhaps eight to 12 feet, where there's a good chance of finding something to eat.

Now, how are you going to find such a spot? The surface of the lake all looks



Calvin Pearce of Lumpkin, Ga., keeps his hand on his electric motor, sneaking a hole where big bass lurk. His eye is set on the dial of a depthfinder, watching just the right spot where the bottom drops off into a deep hole. Not only can a depthfinder help you find the hole in the first place, it can help you locate it again when you return on another trip.

the same. You can't see how many stumps are underneath, nor can you spot a shelf near a hole.

Here is where that depthfinder pays off. It can read the water depths for you, helping you find just what you're looking for. And in studying it several times, moving a boat back and forth across it, you'll discover whether there are tree limbs at certain depths, by checking to see if you get blips on the depthfinder dial at the same place and same depth each time you read it.

If you find blips at other places sometimes but not always, then you can be reasonably sure that what you see are fish.

This can still be tricky, however, because more often than not, the fish will be close to the bottom, and it'll be difficult to tell whether that blip just off the bottom is a rock or a stump or a fish.

Of course, there are other ways to measure holes. You can ride a boat when the water is low in winter, and mark a map. You can drop an anchor or weight in several spots until you get a fair reading. But this is time consuming, inaccurate, and ruins the fishing that day.

And if you're on a lake you've never been about and always wanted to fish, you've gone a long distance for a one-shot chance you haven't a way to find a hole in the



... and like this. Those big boys really know how to put on a tussle. They don't always sulk on the bottom, but occasionally they come to the top and put on some real aerial displays.

and like this. Those big boys really know how to put on a tussle. They don't always sulk on the bottom, but occasionally they come to the top and put on some real aerial displays.

And after it's all over, you'll hoist board a fish you'll be mighty proud to show off to your neighbors. You'll have something to talk about to the boys at the tackle shop, too. If you know how to use them, and if you fish often enough, particularly in strange waters, a depthfinder might be of real value to you.

have a depth finder or hire a guide. If resources are, the guide will use his depthfinder to help him find his favorite

depthfinders don't come cheap. They run anywhere from perhaps \$50 to \$200 or more. All of them will perform some services, but usually the expensive ones are worth the investment if you use it and use it

at how worthwhile it is for Mr. Average Angler to buy one? That's a question that can't be answered straight out. Usually, you yourself are the only person who can answer it. The intent of this article is to explain what a depthfinder does, and help you make your decision.

If you fish only four or five times a year, you probably can't afford one unless you are the type who can go away only those few times, but still be a very serious angler, and know fishing techniques pretty well.

If you fish very frequently, say once a week or thereabouts, you probably can't afford one . . . unless you already know good producing spots and can find them without the help of the

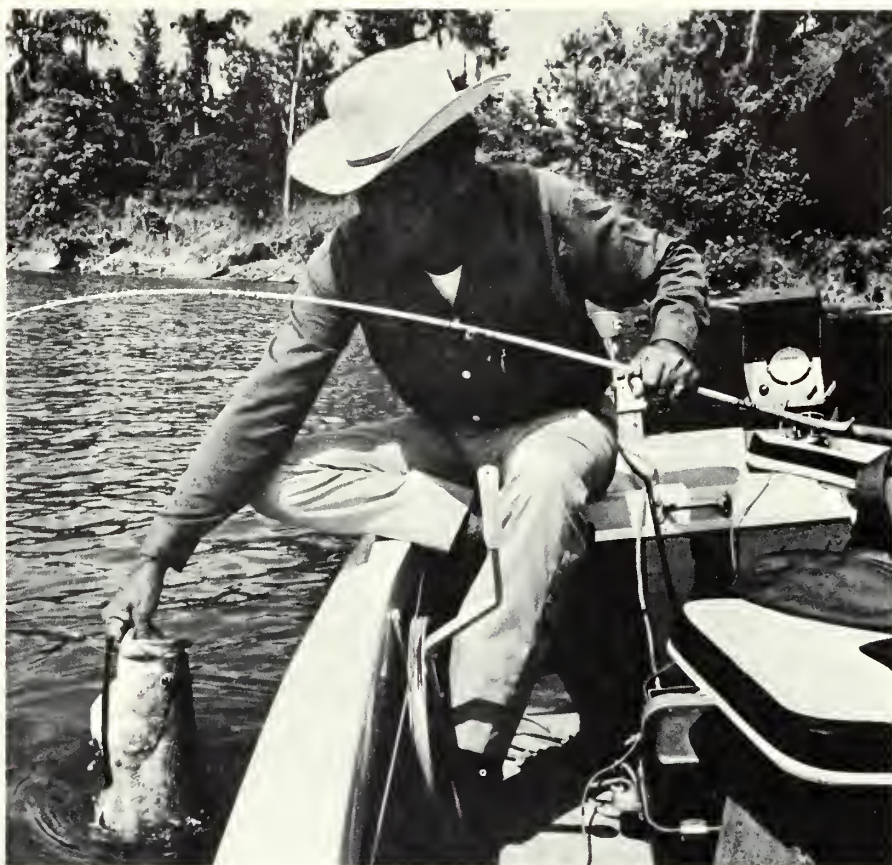
If you fish only one lake, in time you will learn the producing spots, particularly if you get a good local angler to show you a time or two and show you where to go.

More and more nowadays, however, fishermen like to try new waters. Perhaps they have a couple days or more to spare but may visit this lake only one or twice in several years, moving on to another spot on the next trip. People who would be wasting trip money if they hadn't a depthfinder or some other suitable means . . . namely a depthfinder . . . to give reasonable assurance of finding good fishing spots.

This writer's guess that the average angler stacks up something like this: He catches fish on a pretty good percentage of his trips, but often comes home empty handed.

He'd go at least once a week if he had a boat, but probably makes 10-15 trips a year or somewhere close to that.

Most of his fishing is done on one lake not far from his home, but two or three times a year, he'll visit different lakes, perhaps in a distant corner of his state, and perhaps one in a neighboring state. And on vacation, he could



be some distance from his home.

—He's a pretty fair fisherman, and can catch them if he can find them.

—The majority of the bass he catches run from one to three pounds, with two or three fish a year . . . or less . . . going over four pounds.

Does this sound like you? Then perhaps you'd better check into the idea of investing in a depthfinder.

Let me warn you, however, not to expect too much from that tool right off. Don't expect to load your boat with fish the first time out.

In the first place, your first trip out with it will be spent largely in getting familiar with it, and knowing how to read water depths.

Then, you'll spend a lot of time looking for the right kind of a hole. When you find one, if you don't see fish in it, you'll fish without confidence until and unless you happen to catch a fish fairly soon. And you'll want to find several spots, not spending too long on a spot that may not be productive.

In other words, it'll take several trips to learn to use the depthfinder effectively, and to find several holes. And it'll take several more trips to learn whether or not the holes that you find are really potentially good fishing.

Is the depthfinder good for only the bass fisherman? Definitely not! White bass fishermen, crappie fishermen and trout fishermen (in lakes) can use it to good advantage. They'll help locate schools and determine the depth where they can be found. It may take quite a

lot of experience to determine whether or not you have actually found fish.

The bass fisherman will probably get the most good out of it, however, once he learns to use it. Though he may not find fish, or be able to read them even though they are there, he can find good spots and try them.

There are some limitations of this equipment that must be realized. If you're a shoreline fisherman, for example, and wouldn't try anything else, forget it. This thing isn't for you.

The reason for this is that the depthfinder reads only a small area, directly under your boat. If you're running a cast away from shore and fishing toward shore, you'll never be able to tell how deep the water is there, or whether there are fish there.

If you run too close to shore with the boat, you'll run the fish out and you'll still never know. In shallow water, a fish will spot your boat and he'll move on.

In water 10 or more feet deep, however, a slow moving boat may not disturb him too much. Depthfinders, or at least most of them, are useless at high speed. The best way to use them is to run them at trolling speed, using either your gas motor or better yet, an electric motor. Some gas motors emit static electricity which can confound the readings of your depthfinder. In this case, position the transducer as far as possible from your motor, and run the motor as slowly as you can.

Down to the nitty-gritty . . . just

what can you do with a depthfinder? Well, most of the top anglers in any state use them, at least some of the time.

To illustrate, just what can be done with them, let me take you on a recent trip.

We're at Walter F. George Reservoir, in southwest Georgia. This lake is one of the newest and hottest lakes, not only in Georgia but anywhere in the country. You've heard the fishing is fabulous, and you want to try it.

The first time or two you go out, you may catch nothing, if you're very unlucky. Or perhaps you hit several spots that produced one to three pound fish, and you probably got a good number. You might have even hung one or two good fish.

But on this trip, we're really loaded. We have a depthfinder in the boat, and demonstrating what can be done with one is Calvin Pearce, of Lumpkin, one of the state's best bass fishermen. Calvin does some guiding when time permits, and in his spare time he manufactures the Streak-O-Lean plastic worm, which has in its center a strip of yarn that not only makes the worm stronger, but provides a scent which attracts the big ones.

Calvin is a trophy fisherman. He doesn't like to catch bass under six pounds, and he rarely comes home empty handed.

Of course, with years of experience on the lake—Calvin holds the unofficial (no careful records have been kept) record for bass on this lake, at 14 pounds, 4 ounces—he knows the spots already. For our sake, however, he demonstrates how he pinpoints a hole. He runs his boat over an area he knows contains a good hole (he found it earlier, using a depthfinder and also cruising the lake when the water was low.)

He finds the water in a small area is 30 feet deep. Along one side, he finds a shelf that drops off into the deep water. The shelf is 10 feet deep. Off to the side, near the shelf, the water is perhaps only four feet deep. He anchors in the shallow water, casting to the deep part, and brings his lure up onto the dropoff.

Does it produce? On our trip, the barometer was falling and the weather was hot, in the 90's. We left the dock at about 9 a.m., missing the coolest part of the day. In a couple days time, however, we boated a dozen bass, eight of which were "keepers" of over four pounds, running up to about nine pounds.

The secret, then is knowing the good deep holes where the fish are, then finding them. If you don't know where the holes are, perhaps the best way for you to find them might be with a depthfinder. It's worth thinking about, if you're looking for big bass and plenty of them!



Here's another big one, putting on a spectacular show. This one came from a hole 30 feet deep, that had a ledge about 12 feet deep right beside it. Finding such a spot is easy with a depthfinder, but difficult to pinpoint by any other method. You really never have known it was there, just a few yards from where you'd fruitlessly try to plug for hours.

(Photo by Dean Wohlgenant)



The depthfinder won't put the fish in the boat for you, but with know-how, it can help you find where they are. Depthfinders are rather like a bird dog... they can help you find out the location of good spots, and sometimes the fish themselves, but it's up to you to provide the skill to hook and land those lunkers!

(Photo by Teo L...

Treat It Like A Trophy

By Aaron Pass

(Photos by Ted Borg)



A bass can be easily landed by this lip hold technique. It seems to paralyze the fish and keeps it from thrashing around and knocking off scales.

More Georgians will be fishing this year than ever before, and according to the law of averages, many will catch big-sized fish. Some of these lunkers will be eaten of course, but many others will be shipped off to taxidermists to be mounted. These mounted fish will then adorn den walls, and rekindle at a glance the memory of a fine day's fishing. Obviously everyone wants a mount as natural and life-like as possible. Hence the whole purpose of taxidermy is to preserve the fish as it was when it was caught. What many people don't know, however, is that proper treatment of the fish as soon as it is caught goes a long way toward insuring the future beauty of the mount. Every fish which are the trophies of a lifetime are ruined by careless or improper handling.

Consider the plight of the taxidermist who receives an improperly handled

fish on which he is expected to work miracles. The fish may have been clubbed, gutted, or even allowed to partially decompose before he gets it. He knows that if he doesn't turn out a near perfect mount from this mutilated hunk of meat, his reputation is at the mercy of the disappointed customer. The sad truth is that if a fish is in poor condition when the taxidermist gets it, there is little chance that it will make a beautiful trophy, at least not as beautiful as a fish that has been well prepared.

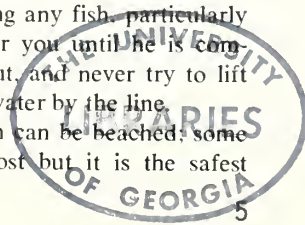
There is no mystery to good preparation, just common sense, and the time spent learning what to do will be rewarded with an excellent trophy rather than a mediocre one. The steps outlined in this article were furnished by Joe Hurt, Museum Curator at Fernbank Science Center. If they are followed the fish should arrive at the taxidermist in grade A condition.

The first step toward a fine mount

comes as the fish is landed. The important thing to remember is to not let the fish flounce around and knock off scales. A landing net is perhaps the best method to prevent the fish from bruising itself, but it often seems that a net is never available when you most need one and the fish must be landed by hand. There are many ways to land a fish barehanded, some are good and some aren't, one of the best is with a finger in the gills.

To use this method play the fish until it is completely exhausted, bring it within arm's reach, with the fish on its side, slip your forefinger into the gills and the thumb into the mouth until they meet. Never bring any fish, particularly a large fish, near you until he is completely played out, and never try to lift a fish from the water by the line.

Very large fish can be beached, some scales may be lost but it is the safest





While the fish is held immobile by the lower jaw, the hooks can be easily removed. Do this carefully to avoid tearing up the lips.

Lip damage like this is hard, if not impossible, to repair. It could have been avoided by not stringing the fish.

method without a net. When dealing with bass, a net is not really needed as bass have a built-in handle for landing. As the fish is brought in, stick the thumb into his mouth, and the fingers under the lower jaw, then lift the bass from the water as if you were lifting a piece of paper off a desk. The weight of the fish hanging at an angle to the jaw will paralyze him and the hook can be removed at leisure.

Hooks should be removed carefully so as not to tear the tender membranes of the fish's mouth. A hook disgorging or needle nose pliers are ideal for this. If the hooks are just ripped out they may leave holes and tears in the mouth that are difficult or impossible to fill when the fish is mounted.

A trophy fish should not be put on a stringer, since a stringer will tear up the mouth more than the hook. Instead, wrap it up in a wet cloth and place it out of the sun. An ice chest is good if one is available; but if not, place it

A trophy fish should be wrapped in a wet cloth and placed out of the sun. An ice chest is ideal for this purpose.



under a boat seat or in the shade of a tree, and keep it moist. Make sure the fish is well wrapped to prevent it from flouncing around and bruising itself.

It's a good idea to take a color picture of the fish to send to the taxidermist. Since the coloration of fish, particularly trout, vary considerably due to local water conditions, diet, etc., the picture will aid the taxidermist in making the fish look as natural as possible.

If the fish is mounted, the meat will have to be sacrificed as there is no way to preserve the meat during the mounting process. Since the fish is not going to be eaten, don't cut the fish or attempt to gut it. Skinning a fish is a delicate operation, best left to a professional.

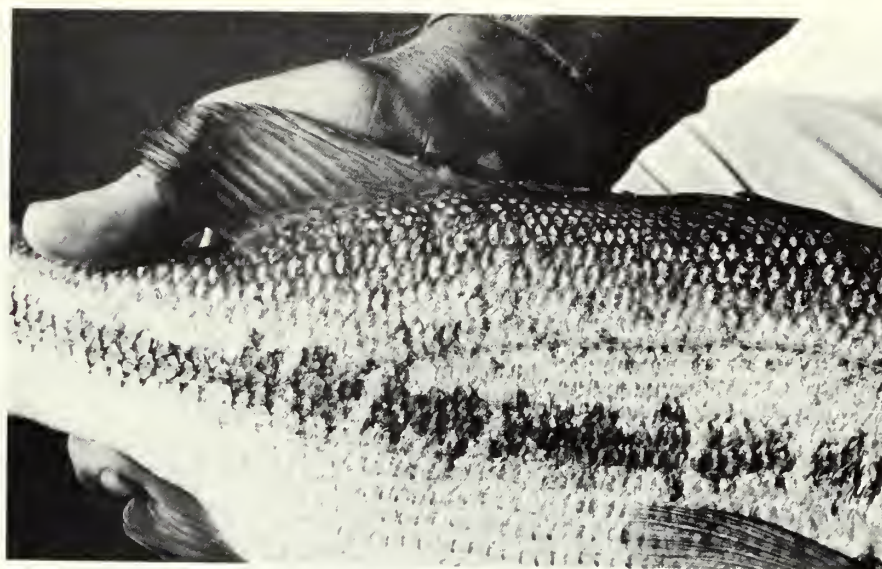
The best way to preserve a fish is to freeze it. Rinse the fish in clean water and wrap it in a wet cloth before placing it in the freezer. It should be placed on a flat surface and not have anything placed on top of it while in the freezer. Handle the fish gently at all times, being particularly careful not to damage the fins or the membrane that holds them.

To package the fish for shipping to the taxidermist, freeze it solid. Wrap the fish up and package with dry ice, being careful not to let the dry ice make actual contact with the fish's skin. Include a letter describing the type of fish.

at you want, and include the color picture. Mark the package "Perishable Rush" and ship it to the taxidermist. It's a good idea to call him and inform him that it is on the way.

Suppose you have backpacked in to a mountain lake when you catch the fish of your dreams. If there's no way to freeze him, you don't have to cut your trip short. Lay the fish out flat on a sheet of paper and draw an outline, measure the length and girth and note it on the drawing. Take a color snapshot by all means, since the natural colors will fade. With this done you must preserve the fish's skin. Make a cut down the side of the fish and remove the internal organs, and as much flesh as is possible. Before the cut is made, visualize the mounted fish and make the cut on the side which will eventually face the wall. While removing the flesh, be very careful not to cut the skin in any place other than the initial incision, which should run the back of the gills to the tail along the lateral line. When you have removed as much meat as is possible, salt the fish down, and let it sit overnight. The next day drain off the salt and re-apply. When you return to civilization, wrap it up in plastic, then brown paper, and ship, including the drawing and photo.

When it comes to selecting a taxidermist, nothing is more true than the old adage, "You get what you pay for." By this means avoid someone's brother-in-law, Charlie, who, as legend has it, "stuffed" a fish in the dim and distant



past. There are, no doubt, many excellent amateur and part-time taxidermists, but unless you have seen and liked samples of their work, it is wise to stick with a professional.

A man who makes his living at taxidermy depends on his reputation for new customers, and can't afford to do shoddy work. On the other hand the mount can be of no better quality than the condition the fish allows, so the initial handling of the fish is very important to the end result. If one will remember that trophy fish are few and far between, give it the care it deserves, and select a competent taxidermist, he will get a fine mount of which he can be justly proud.

The fins are composed of a thin membrane held erect by spiny projections called rays. This is a rather delicate structure, and care should be taken to avoid tearing or breaking it.

A color snapshot is a fine trophy in its own right. It is also the best insurance that the mount will look exactly like the fish as it was caught.



The Striped Bass Are Coming



Biologist Glenn McBay scoops up a big striper in the Savannah River. The fish are momentarily stunned by an electrical charge. After the brood fish are caught, they are taken to the Richmond Hill Hatchery, where they are kept until they spawn.

(Photo by Jim Tyler)

By John Culler

■ Ever since 1950 when it was proven in the Santee-Cooper Reservoirs in South Carolina that striped bass could live and reproduce exclusively in fresh water, this fantastic fish has been the main topic of conversation among fishery biologists throughout the Southeast.

And with just reason. Strong, hardy fighters with a vivacious appetite, the striper is a great game fish. This alone would certainly make the striper desirable, but when it is considered that stripers grow upwards of 60 pounds and have a liking for gizzard shad, which are a problem in most Georgia reservoirs, the species is looked on with a favoritism usually reserved for t-bone steaks and warm, moonlit nights.

If there has ever been a state that needed striped bass, it is Georgia. Our rivers and sounds once abounded with runs of striped bass, but these runs have been reduced to only remnants of their original strength. Georgia at present has approximately 300,000 acres of waterways suitable for striped bass. In addition, there is another 500,000 acres of estuarine and river environment

which is suitable habitat. With the creation of new reservoirs, this acreage will be close to a million acres in the next few years.

In addition to providing a large, scrappy, edible fish for Georgia fishermen, the striper will also provide a needed biological control for certain species of trash fish in our big lakes. Many of our reservoirs, especially in the southern half of the state, have a tremendous population of gizzard shad, which grow too large for largemouth bass to eat. These fish compete with game fish for food and living space. It is also hoped that a good population of stripers will cut down the numbers of small trash fish to the extent that largemouths will be forced to eat more bream, thus helping the crowded conditions that result in stunted, undersized panfish.

The Georgia Game and Fish Commission began its striped bass program in a very limited way back in 1966, when approximately 20,000 baby stripers from South Carolina were released in Lake Seminole. This was followed

later that same year with 13,209 4-inch fish which had been raised from the Richmond Hill Hatchery in North Georgia. The following year Lake Blackshear was stocked with 151 adult fish, weighing up to 25 pounds, which were taken from the Savannah River system. In 1968, 122 more adult fish were planted in Lake Blackshear. At this rate, stocking our reservoirs would be a slow and tedious process, but 2,500 3-inch fingerlings were successfully hatched and reared at the Richmond Hill Hatchery near Savannah later in 1968 and stocked in Lake Blackshear, the first time Georgia had hatched fish had been stocked. This made Georgia only the fourth state in the nation to successfully hatch and raise striped bass to stocking size. To say that these fish were hatched under primitive conditions would be an overstatement, but hatched they were. Georgia was in the striped bass business.

Other small successes followed at the Richmond Hill Hatchery, and arrangements to swap walleye fry to South Carolina for more stripers were made.



9, 32,000 fingerlings were produced at Richmond Hill, and 30,685 fry from South Carolina were raised at the Walhatch Hatchery and transferred to Lake Blackshear. Last summer help from the U.S. Fish and Wildlife Service arrived in the form of 77,000 2-inch stripers which were stocked in Lake Sinclair, and 25,000 6-inch fish which were stocked in Lake Jackson. This past winter, 1,000 Georgia raised fish were also stocked in Lake Nottely.

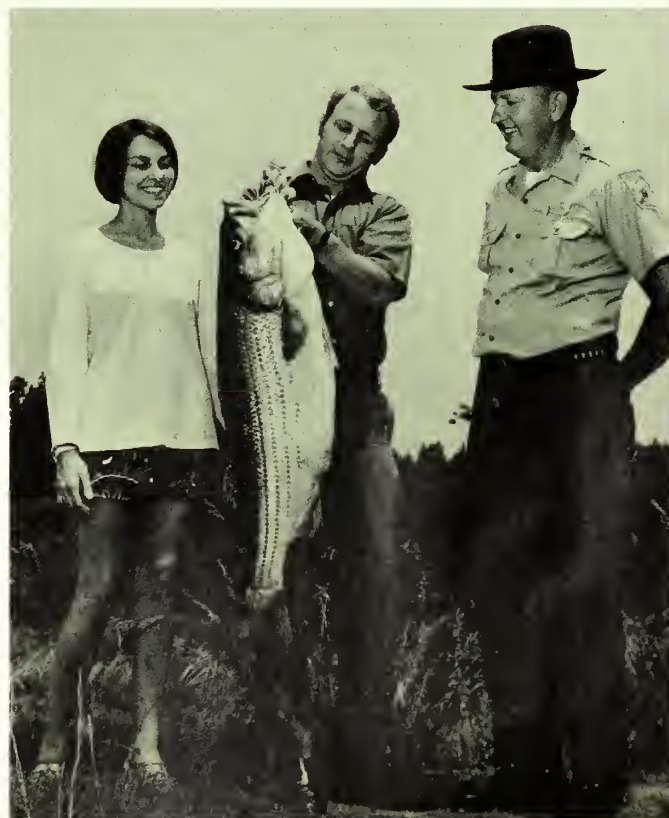
It's too early to evaluate the success of the stockings, or to tell if any reproduction has occurred, although biologists are currently taking egg samples in Lake Blackshear. But sporadic reports of catches are beginning to filter in, including one that weighed better than 12 pounds from Lake Seminole. Catches of up to two pounds are fairly common in Blackshear and Sinclair, and reports appear good.

Ordinarily, stripers are salt water fish coming to fresh water only in the spring to spawn. Females cast their buoyant eggs into the current of the river, where they are fertilized by the males, then they drift for the next 48 hours or so until they hatch. This means the eggs must have 35-40 miles of running water, a factor which will probably limit reproduction in some of our reservoirs because dams and other water-control structures will limit the upstream runs of the spawning fish.

While reproduction would be desirable, the success of the striped bass program in Georgia will not hinge on this single factor. This past spring a striped bass hatchery was completed at Richmond Hill, about 15 miles south of Savannah. The potential of this facility is almost unlimited, as it is estimated that a single hatchery can produce more than 50 million striped bass fry each

Commission biologists load stripers into a holding tank for transportation to the hatchery. Their offspring will be used to establish striped populations in Georgia's reservoirs, which contain more than 300,000 acres of suitable striped habitat. (Photo by Jim Tyler)

Norman Pollock of Hawkinsville (center) shows his 35 pound, two ounce striped to his wife and Ranger John Owings. The fish caught in the Ocmulgee River, on its annual spawning run from the sea. (Photo by Ted Borg)



year, an ample supply for stocking our reservoirs, rivers, and even our estuarine areas.

Work began on the hatchery in 1969, but unfortunately, the facility was finished just in time to be too late for the spring spawning run. But biologists who sat up nights trying to hatch stripers in mason jars in past years are looking forward to next year, when they will really have their first chance to become striped midwives. The hatchery is in an ideal spot, only about three miles from the Ogeechee River and 15 miles from the Savannah River System, where most of the brood fish are obtained. It is necessary that the wild fish are taken at a time when the females are near to spawning naturally, and studies indicate that all spawning done in river systems occurs within 25 miles of tidal waters. Stripers run much further upstream, but they are on feeding runs, chasing herring, who sometime follow a river more than a hundred miles before spawning.

While it is true most people talk about striped bass and reservoirs in one breath, commission biologists also have plans to restock our rivers and estuarine areas in an effort to reestablish the striped populations once native to Georgia.

It will take a little time, but as more knowledge is accumulated about the striped bass, and as this knowledge is applied to Georgia's program, our rivers will once again know the spawning runs that disappeared years ago, and our lakes will have a powerful new resident, guaranteed to put life in any fisherman who meets him face to face.

Our Most Neglected Gamefish

By Marvin Tye

■ Do you like to catch powerful hard-fighting game fish that weigh 10 pounds or more, perhaps as much as 40 pounds, and are a fine food fish as well? Would you like to fish for a species that is abundant and can be caught without having to purchase a lot of expensive

equipment? Think such a fish doesn't exist? Consider the channel catfish.

Channel cats can be found in all portions of the state and their range is growing due to the stocking of numerous private ponds with this species. Although it will sock artificial lures with

gusto at times, the channel cat is generally taken with natural bait. A scunner, the cat will take just about any of cut fish or animal flesh, as well as a number of specially prepared concoctions containing scents.

Speaking of scents, it seems that the smellier the bait, the more the catfish like it. Chicken liver, beef liver and shrimp are favorite natural baits of confirmed catfish addicts. If these are left in the sun until they become "rancid," the appeal to the catfish seems to be enhanced rather than lessened.

There are a number of commercial prepared catfish baits that rely heavily upon secret ingredients that produce scents said to be irresistible to the fish. A number of catfishermen mix their own baits in their homes, probably to the chagrin of their wives and families.

Channel cats will sometimes strike at artificial lures. The fish hits hard and puts up a spirited battle. Anyone who has caught a catfish is sluggish will change his mind as soon as he catches one. A spinner or plug. Many anglers have experienced the savage strike of a channel cat on a lure, followed by powerful surges of the fish fought for its freedom. These anglers have been convinced that they are hooked to a monstrous bass until the fish is reeled into sight. Disappointment of confirmed bass fishermen in such an incident does little to improve the reputation of the channel cat.

With continued introduction of this species into commercial fishing ponds and private ponds, his statue is bound to increase. Channel cats can be caught



Viola Lang, left, and Ben Patrick examine an 11 lb. channel cat she caught at one of Patrick's Ponds. The channel catfish is growing in popularity and is being stocked in more and more Georgia lakes. (Photo by Marvin Tye)

all of the Game and Fish Commission's Public Fishing Areas. In at least one of them, Arrowhead, ole whiskers is given as a billing.

The food value of the channel cat is rarely disputed by anyone. Fried catfish and hushpuppies are a traditional Southern delicacy. A number of restaurants feature this dish as a specialty of the house.

The state record channel cat, a 39 pound 3 ounce specimen, was taken on July 4, 1969 by Ben Patrick from one of his ponds near Tifton. This area is typical of a number of similar operations in the state where catfish are stocked and fishermen are allowed to fish for a fee.

According to Patrick, the best catfishing at his lakes is usually from the bank. One group of anglers who fished for two weeks in his ponds last April caught a number of largemouth bass weighing more than six pounds each and a number of channel catfish weighing as much as 17 pounds.

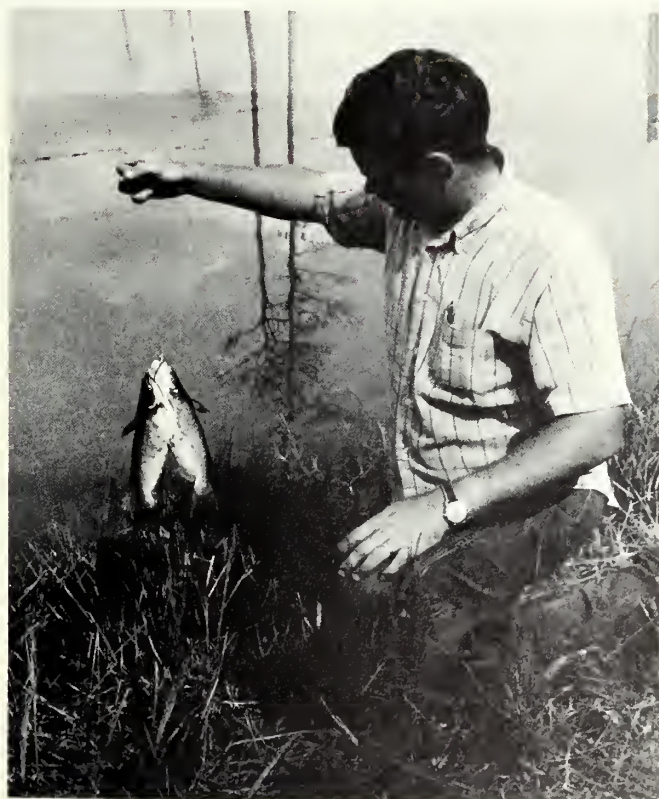
The favorite method of fishing there is to bait up with chunks of liver, minnows, shrimp or worms and fish the bait to the bottom. The bail of the spinning reel is left open so that the fish can take the bait without feeling any resistance. After the fish has made a short run, the angler closes the bail and sets the hook. Then the fun begins.

A heavy line is probably to be preferred, but Ben Patrick used only 12-pound test line to land his record-breaking monster. He reports that anglers fishing at his ponds have had channel cats strike small spinners, underwater



The first step in catching a channel catfish is use of the proper bait. Ben Patrick uses a hunk of liver placed on a small Eagle-Claw hook with a split-shot sinker just heavy enough to take the offering to the bottom. (Photo by Marvin Tye)

Care must be taken to avoid the cat's sharp fins when releasing it, or adding it to the stringer. (Photo by Marvin Tye)



plugs, and top-water poppers as well as natural bait.

If you want to try your hand at catfishing, you can find a number of lakes near any town in Georgia that offers this sort of angling for a fee. There are a number of lakes in the Atlanta metropolitan area.

All of our large impoundments and major rivers also contain catfish. The trotline or setline is a favorite method of catching catfish. Fishermen can legally use a set line with no more than 50 hooks if he has a Georgia sport fishing license. If he uses more than 50 hooks, the angler needs to have a commercial fishing license.

Jug fishing is a sport that is catching on in Georgia but seems to more popular in other areas. Edward W. Phillips of Rt. 1, Royston caught a 45 lb. channel cat by this method last spring. This fish could not be accepted as a state record because it was not caught on sport-fishing tackle.

Phillips used an Eagle Claw hook and cut bait tied with three feet of nylon line to a plastic jug. He and his fishing companions followed the bobbing jug in their boat until the catfish had tired of pulling it around, then grabbed the line and hauled it aboard. The fish was caught in a 15-acre lake belonging to Grady Bray.

The world-record channel cat weighed 57 pounds. Many anglers believe that a new record for this species is swimming around one of our Georgia lakes. They may be right. The anticipation of hooking such a monster adds to the thrills of fishing for the whiskered channel cat, our most neglected game-fish.



(Photo)

COASTAL MARSHLANDS -a vital link

By Bob Wilson

■ Georgia's marshlands, almost the last unspoiled remainder of our originally extensive east coast marshlands, have been afforded a measure of protection under the state's new Coastal Marshlands Protection Act of 1970, which was signed into law by Governor Lester B. Ford on March 27. The law establishes an agency charged with the responsibility of insuring that marshlands are not altered in such a way as to affect navigable waterways, contribute to

increased erosion, cause shoaling of channels, or interfere with the conservation of wildlife or other natural resources.

While the coastal marshlands of other eastern seaboard states have been filled to provide building sites or otherwise irrevocably altered, Georgia's marshlands have generally been spared this form of "progress". These tidal areas have been allowed, if only by default, to continue to function as a key link in the ecologi-

cal chain of coastal marine life and abundant wildlife of the Georgia area depends heavily upon marshes for its very existence.

Just what are these marshlands and exactly why are they valuable resources? In a simplified description these are rich flat areas that are affected by the ebb and flow of the tides. At ebb tide rich mud flats are exposed, frequently chock full of shellfish and hosting a multitude of shore-

When the tide is full the marshland seems to be a placid lake with tall coarse grasses and meandering waterways; but that shallow layer of water is a veritable nursery, teeming with young shrimp, fish, and crabs.

Estimates of just how long it takes for nature to create a coastal marsh like the famous "Marshes of Glenn," range from 10,000 to 70,000 years. Rich layers of silt, washed by the tides and fertilized by the decay of marsh grass and marine life, make marshlands extremely productive. The most visible product of the marshes is the marsh grass itself, growing thick and tall. Much marshland is capable of producing up to ten tons of marsh grass each year. These marsh grasses and other marsh plants, provide ideal conditions for the growth of microscopic organisms which, in turn, are the food source to support the young shrimp and other marine life in the marsh itself and in surrounding tidal creeks, sounds, and offshore waters.

Georgia enjoys a healthy and growing shrimp industry in shrimp and oysters. That industry depends directly on the continued existence of the coastal marshlands. Laws which regulate the commercial gathering of shrimp and oysters serve little purpose if there are no laws to regulate the dredging and filling of the marshlands which support these industries. In some areas around Savannah and Brunswick it has come to pass. Previous alteration and pollution of the marshlands have rendered thousands of acres of little value for food production.

In addition to commercial fishing, Georgia's coastal marshlands support excellent sportfishing potential. Little of this potential is currently being enjoyed due to a lack of facilities, but the picture for future sportfishing on Georgia's coast is bright. The coastal marshes and the marine life they support attract fish such as mackerel, bluefish, sea trout, striped bass, whiting, and striped bass. These are just a few of the saltwater fish species to be found on Georgia's coast. As facilities become available, fishermen will awaken to the real value of fishing opportunities provided by these marshlands.

It took the threat of devastation of the areas of Georgia's marshlands to open people to the need for their protection. When a multi-million dollar company attempted to obtain rights to dredge marshlands in Chatham County for the purpose of mining phosphates, citizens awoke to the fact that if no action were not taken, and quickly, Georgia's marshlands would go the way of those of New Jersey, New York and other states. Georgia, with almost 1,000,000 acres of coastal wetlands, of which 125,000 acres are considered by

biologists as areas of important basic habitat, had lost only 800 acres of that basic habitat by 1967 through dredging and filling. This amounted to only .6% loss of basic habitat as compared to New York's loss of almost 20,000 acres or 15%, and New Jersey's loss of almost 54,000 acres or 13.1%. The worst picture, however, is presented by California, where out of an original 382,000 acres of basic habitat, 256,000 acres or 67% had been destroyed by 1967 by dredging and filling.

In many crowded urban areas, estuaries and marshland areas are seen by many as "unused" space crying for development into airports, sewage treatment plants, industrial sites, marinas, golf courses, and housing projects. Some of these marshlands and estuaries contain sand and gravel sought in huge quantities by the building industries. Other people see only the vermin supported by marshlands, rats, mice, and mosquitoes; many are unaware of the myriad life forms supported by the marshlands that are beneficial to man.

Benefits to mankind from the marshland are not limited to food supply. Coastal marshlands are an important factor in erosion control. Marshes form a protection for the high ground from the ravages of storm-driven waves. The marsh quickly repairs storm damages to itself. Perhaps even more important, the marshlands form a sediment trap that protects the offshore islands from mud deposition. The marshes introduce a

great quantity of oxygen into the water as it is released from decaying matter. Thus, the marshlands provide a natural buffer, protecting the offshore areas from pollution, both natural and man-made.

It has been estimated that Georgia's marshes presently produce a yearly income of \$100 per acre. For the whole of the Georgia coast this comes to nearly \$20,000,000. This much, and the marshland resource has hardly been tapped. Many scientists feel the productivity of plant and animal life in coastal marshlands is greater than either land or sea proper, capable of producing more harvestable food for human consumption per acre than the best farmland. Both the recreational value and the potential for direct food production of the coastal marshlands are as yet virtually untapped.

The importance of the marshlands to commercial and sport fishermen is clear. More than 90% of the total seafood harvest taken by American fishermen comes from the continental shelf. Almost two-thirds of that volume is composed of species whose life chain and survival depend on the coastal marshlands and estuaries. Thus, seafoods such as shrimp, oysters, crabs, and commercial fish for the family table are dependent upon the marsh. Marshes are even indirectly important in the production of pork and poultry since swine and chickens are fed fish meal as a protein supplement.

(Photo by Ted Borg)



The Georgia Coastal Protection Act of 1970 created the Coastal Marshlands Protection Agency, and defined the powers and duties of that agency. The agency was created as an autonomous division of the State Game and Fish Commission, and is empowered to issue permits, obtain injunctions, set penalties, and to provide for policing. The agency is made up of seven members, the Director of the State Game and Fish Commission, the Executive Director of the Ocean Science Center of the Atlantic, the Executive Secretary of the Water Quality Control Board, the Director of the Coastal Area Planning and Development Commission, the Executive Director of the Georgia Ports Authority, the Director of the Department of Industry and Trade, and the Attorney General.

The agency is charged with promulgating and enforcing such rules and regulations as may be necessary to carry out the provisions of the Act. It is only through the Coastal Marshlands Protection Agency that permission may be obtained for a landowner to, "... remove, fill, dredge or drain or otherwise alter any marshlands in this State within the estuarine area thereof..." To obtain such a permit an applicant must furnish proof of ownership or permission of the owner along with proof of that persons' ownership. The applicant must also provide a list of all adjoining landowners along with their addresses. A certification from the local governing authorities of the political subdivisions in which the property is located stating that the applicant's proposal would not violate any zoning law or other local restriction is also required. A fee of \$25 per acre up to a maximum of \$500 is collected from the applicant to help defray the costs of the agency.

Upon receipt of such an application, the Director of the State Game and Fish Commission is directed to notify in writing all adjoining landowners of the use that the applicant proposes to make of the property. If, after ample consideration and time for all those affected by the application to make their opinions known, it is deemed by the agency that the proposed alteration of the marshland property in question shall not be unreasonably harmful to the public interest, the application may be approved.

It is certainly not the purpose of the Coastal Marshlands Protection Act of 1970 to block or halt industrial development or municipal expansion. The act does grant a measure of uniform protection to Georgia's coastal marshlands, and seeks to insure the wise usage of this irreplaceable natural resource in the best interests of all Georgians.

the outdoor world



Help For The Alligator

He's ugly, dull-witted, lazy and at times even sinister, but he's loved by those who really understand him. The American alligator, whose numbers once reached into the millions across the Southeast United States, has really been up against it since civilization began crying out for his hide, but he may yet be saved.

At a meeting of the American Alligator Council held in Waycross recently, Ed Ricciuti of the New York Zoological Society reported on a new law in New York City, which prohibits the sale of alligator products, be they shoes, handbags, belts or any other product made from alligator hide. To carry a good point even further, any merchant who deals in crocodilian products of any species must keep extensive records on where he bought them, where they were originally obtained, and how they were brought into the City of New York. And to prove that the warnings about the plight of the alligator are not going unheard, the Retail Merchants Association in New York City supported the new law.

The City of New York isn't the only place that has heeded the distress call of the alligator. The State of New Jersey now has a similar bill pending in the legislature, and conservationists there say chances for passage are good. Legislators in Massachusetts are working on a bill that would remove all crocodilian products from stores in that state. Texas has recently closed the few remaining counties that were open for alligator hunting, and Louisiana, through its Game Department, is trying to come up with an incentive to landowners to entice them to keep both alligators and alligator habitat.

Georgia law not only prohibits the killing of alligators, but it is also against the law to possess any untanned alligator hide. Convictions for alligator poaching are now easier to get in many of our courts, and it is now possible to positively identify alligator blood, a circumstance which led to the conviction of a poacher in Florida recently when a drop of dried blood was found on the suspect's clothing.

The American Alligator Council is a rather loosely organized group com-

posed of individuals from most of states that have alligators, plus a others who recognize the contribution the alligator makes to the ecological system of the Southern United States. There are no membership fees, and about 40 persons attend the twice-a-year meetings. Although the organization has no money, it does have some members who know what they are talking about and their efforts to save the alligator and his natural environment have met with some success.

The alligator's contribution to his native southland is considerable, but most of nature's gifts, hard to measure. Without doubt, he is the greatest tourist attraction of all time. At times he poses contentedly, like a log with a smile on its face, as his picture is taken from every angle. On another day, this same alligator will rush into the water with speed and power it defies description. Alligators seem to represent just enough danger to be attractive.

The alligator is one of the most important predators in the area he inhabits. To the sportsman, the alligator is of supreme importance. For instance, the alligator is one of the few animals that prey on snapping turtles, which in turn enjoy such prey as baby wood ducks. Alligators do eat fish, and while a sportsman wouldn't refuse a bass or a nice bream, he would be more likely to eat a slower moving fish, such as a carp or gar, which compete with game fish.

Every animal nature put on the earth was put here to do a job. Each animal has a purpose, and while often times mankind isn't intelligent enough to see the contribution of a species, it's there.

By no means has the future of the alligator in Georgia been assured. The Okefenokee Swamp offers both state and federal protection, but alligator poaching, while not the flourishing industry it once was, still continues. Alligator farming is still a question, and one day it may solve the demand for alligator products. But for now, refusing to buy any product made from alligator hide is the greatest favor we can do for our old friend, the American alligator.

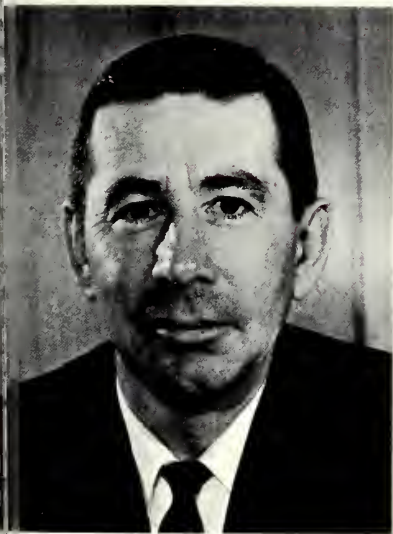
John C. Lee

ROCKFORD A TOP CONSERVATIONIST

Jack Crockford, Assistant Director of State Game and Fish Commission, recently been honored for his work as a professional conservationist with an American Motors Conservation Award in 1970.

These awards are presented annually to 10 professional and 10 non-professional conservationists for dedicated efforts in the field of renewable natural resources. Awards are also presented to national and local groups for outstanding achievement in the conservation field.

Crockford was specifically cited for assistance in the development of an air gun which fires tranquilizer darts used in the humane capture of wild animals for study or relocation. Now known commercially as the Cap-chur



Editorial (continued)

double is, these classes, and editorials such as these, are usually successful in reaching only those persons who are sensible enough that their need isn't great as the "other fellow" . . . We probably not a reckless boater or wouldn't have read this far already. Too often, the "other fellow" won't read this.

Even so, you can still benefit from these classes, and from this reminder to be more aware of your own safety measures while boating.

And you can do one thing more . . . You can open this magazine to this edition and to the article, "Samaritans of the Waterways" by Aaron Pass, in last month's issue, and see that they get the hands of someone you know could benefit from them, some other fellow."

Thanks. We'll appreciate it. And so you, when you can feel more confident that your boating will be safe . . . Pleasant!

Dean Wohlgenuth

gun, the device was designed and perfected in conjunction with the very successful deer stocking program which has resulted in a huntable deer population in many Georgia counties where they were scarce or absent. In addition to the gun, Crockford was commended for his sound overall game management practices in the state.

Joining the Commission in 1947, Crockford became Chief of Game Management in 1951, and Assistant Director in 1963. A native of Michigan, he is a member of the Wildlife Society, and the River Bend Gun Club. He also serves on the Natural Areas Council and the Surface Mined Land Use Board.

He, his wife Eleanor, and daughter Gloria live in Chamblee, son, Bill, attends the Air Force Academy.

The winners of the 1970 awards were announced by Roy D. Chapin, Jr., Chairman of the Board of American Motors. In explaining the purpose of the awards, Chapin said, "It was to focus public attention on the need to safeguard and maintain our natural resources."

—Aaron Pass

A History Lesson On The 4th

There are many traditional ways to celebrate the 4th of July, but Cumming, Georgia has found a way more traditional than most. The Glenn Thomas Memorial 4th of July Parade will reconstruct for modern eyes the agricultural heritage of the North Georgia Community.

The Parade, beginning at 10 a.m., will feature old-time steam engines, horses and wagons, and antique cars as it attempts to recreate the history of the area. The steam engines are of particular interest; these colorful remnants of the past were replaced by the tractor and are becoming rare today. The engines used in the parade will be provided by the local Steam Engine Association. Of course there will be all the usual trappings of an Independence Day Parade, bands, pretty girls, and plenty of excitement.

Local civic organizations will operate concession stands well supplied with food and drink. Rupert Sexton, chairman of the festival, predicts the largest turnout and the best parade since the celebration was started in 1958. This year's parade is named in memory of the founder of the festival, Glenn Thomas. He saw it as a means of preserving the memory of a bygone era on a distinctly American Day—in a distinctly American Style.

—Aaron Pass

Environment Quality Conference Set

Gov. Lester Maddox has set a conference on Planning for Environmental Quality, to be held July 9 and 10 at the Regency Hyatt House in Atlanta. Additional information on the conference may be obtained through the State Planning Department, 524-1521.

King Catfish

It's hard to imagine just how anyone could misplace a 51 pound 15 ounce catfish; but somehow, we managed. It wasn't the fish itself of course—we would have known where that was in four or five days—it was an entry form for the 1969 Georgia Big Fish contest.

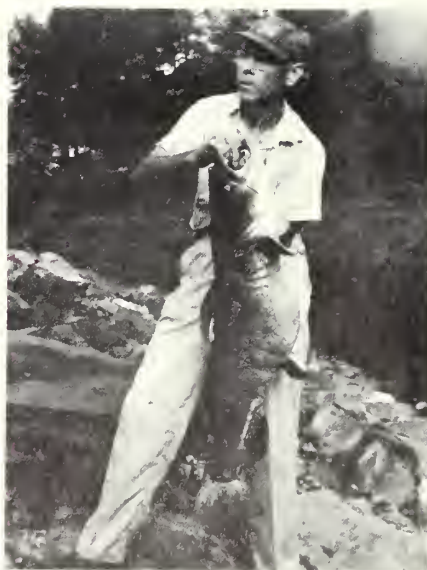
The monster fish, a flathead catfish, was caught by Hoyt McDaniel on June 2, 1969. Mr. McDaniel pulled the fish from Lake Nottely after a one hour and fifteen minute struggle. Just the day before he had pulled a 42 pound flathead catfish from the same lake.

The 42 pounder he caught on June 1 captured the state record for Mr. McDaniel; but he jumped the record the next day almost 10 pounds with that 51 pound 15 ounce monster. Mr. McDaniel obviously has learned the secret for catching these large cat, and we expect to hear he has caught a larger one almost any day.

Mr. McDaniel fishes for these big ones using large minnows and only a 15 pound test line.

Now that his entry form for the Georgia Big Fish contest has been found, Mr. McDaniel moves up to the winners circle in the catfish category, and will be awarded a rod and reel as his well-deserved although belated prize.

—Bob Wilson



Sportsmen Speak...



DOE HUNTING

In reading the April edition of the Georgia Game and Fish Magazine, I came across an article called the Sportsman Speaks. Having met and hunted with some mighty fine hunters from Georgia, I have something to say.

Hunting in Georgia is not different from our hunting here in Colorado when it comes to indiscriminate killing of game.

An area here in Colorado was opened to hunters for does and/or bucks, hunters went into the area, killing both does and bucks, mostly does. When the damage was done the ranchers themselves had to say, bucks only, on their land. It took 14 years to build up the herds to fair hunting again.

In another area that was opened to two deer per license, my two brothers and myself, killed three bucks. The following year we returned to the area, because we had seen so many large bucks. We hunted the area for two days and saw one large doe, where we had seen an abundance of game the year before. We had to move to another area to get our bucks.

It boils down to one solution. You cannot leave the policing of hunting to the State Game and Fish Commissions and their Wardens, although they do a good job on the whole. The hunters themselves have to help. If there is to be an abundance of game to hunt and maybe just enjoy looking at.

May I add, that this magazine comes to me by way of a gift subscription from a Georgian. My thanks to him, I've enjoyed it very much.

I just hope the hunters of this great country will wake up to the fact that the responsibility is theirs, to keep this country a good and enjoyable place to hunt, with the game to hunt.

Sincerely yours,
Raymond W. Pachak
Pueblo, Colorado

You are correct, state conservation agencies must have wholehearted cooperation of the public if conservation laws and efforts are to succeed.

Indiscriminate killing of does where deer populations are not heavy, can be very detrimental to the herd. However, we'd like to point out that hunting doe deer can be very beneficial, in fact necessary, where deer populations are high. There's no possible way a blanket statement can be made on either-sex hunting of most wildlife species... it all depends on the situation.

DURSBAN ISN'T HARD

Your magazine for April 1970 carried an article on pesticides entitled "Death in Small Doses." The caption with the picture showing dead fiddler crabs is not entirely accurate. The crabs shown were killed in an experiment in which potential wildlife hazards of a new mosquito control chemical were being evaluated. Because the test area had a small effect on the food supply of local crabs, the slight

The experiment tested only one formula and method of application. Other tests with Dursban have shown that it can

be used in ways that will not affect fiddler crabs. Dursban is not one of the "hard pesticides" and, in sub-lethal doses, is quickly metabolized by the animal that ingests it. Therefore, there would be no buildup of poison in birds as would occur with a pesticide like DDT.

John C. Oberheu
Pesticide Staff Specialist
Division of Wildlife
Services

MONEY-SAVING STORY!

I have read your splendid article, *How to Carpet a Trout Stream*, by Wilson Hall (April issue) with a great deal of interest.

After studying the directions very carefully, and following each step, I find that this really does work. However, my reason for writing is to thank you and Mr. Hall for saving me so much money.

You see, my wife has been bugging me for three years to carpet the house; but I have not had any money left over after buying two new guns, a bamboo fly rod, several new reels, a Jeep, and considerable tackle and hunting supplies. So after reading your article, I have been able to carpet the bottom of all the shoes of the entire family so that they can have their wall-to-wall carpet; and I have realized a savings of \$1,679.23 after paying for the glue.

Thanks for your money-saving tips. Please print some more.

Sincerely yours,
R. E. Mosby
Tucker, Ga.

ENDORSES STAMP

I would also like to endorse the idea of a trout stamp on fishing licenses instead of the permits. We only get to go fishing for trout about twice a year. It always seems to me that we waste half a day driving down to the ranger station to buy our permits. It is extremely hazardous driving, too, since the management roads are narrow and you have to drive against the traffic early in the morning.

Sincerely,
Mrs. Richard A. York

INCREASE LICENSES

I have read your magazine regularly for three years and enjoy it a great deal.

The purpose for my writing this letter is to let you know my opinion on the license fees.

During the past quail season my uncle and I found three does which had been shot and left in the woods. We found these deer in an area of less than 50 acres near Jackson, Ga.

Recently while fishing in the Gainesville area of Lake Lanier James Hargis and I found 140 largemouth bass some weighing up to five pounds which had been left on the bank to rot. We checked to see if any were alive so that we could release them but none were.

These are just two of the instances which I have run across. However I am sure these things are happening every day.

Being only 17 years old I have not been hunting and fishing regularly but for about two years. Even this short time has made me realize that even though the Commission is doing a great job many violations are still occurring and we need more enforcement. I feel more enforcement will help to stop this type of useless destruction of our valuable game and fish.

If raising the license fees will provide the Georgia sportsman with more enforcement

I am all for it. Many other people who know feel the same way.

David Adamson
Atlanta, Ga.

WILD DOGS

I would like to say that you have a fine magazine, and I have read it for nearly 10 years. I would also like to say that you have failed in one area. A few seasons ago, you did many articles on wild and stray dogs and what their effect has been on our game and wildlife across the state. Since the first of fall, you have not written a feature story on this subject.

To keep sportsmen and the public aware of this great danger of our wildlife and game, I believe we should see more of these articles at intervals. I have owned many dogs in my thirty years, from stray dogs to fine cocker spaniels. I have always tried my best to keep my dogs where they belong, in their own yard, tied to their doghouse. I am sure the people of Georgia would see fewer dogs killed on our highways and sportsmen would see far less dogs running through the woods if people would exercise better control of their dogs. I know for a fact that many of my own friends have gone on vacations or short trips and left their dogs to care for themselves as best they could, and maybe with luck they survive. Not hunger, mind you, but the real hazards of being killed by cars or by being shot by other hunters.

I overheard a hunter talking this past fall at a deer hunt, that one day during a hunt he spotted a deer walking very carefully through the woods. He waited till the deer stopped some distance away before he set the bead on the deer's shoulder. When he had drowned his deer, he found a small deer, but a large, beautiful German Shepherd. How many times does this happen? How many fine dogs are killed on our highways every day? I would say many, many times, and many dogs. I would also say that all starts with less control of these dogs at home. A year ago I happened to see a dog, wild or not, chasing a large doe across a ridge near where I was hunting. I hope she was able to lose them before losing her own life to them. Maybe she was since she was large and healthy, but I think of the small fawns and small dogs that don't lose these dogs so easily.

You could say, "It could be worse." I think it's worse now than it has been in the past, and I think your magazine can help curb this problem, as it has done with other problems.

If I have said something out of line on this subject, please excuse, but there has to be a lot still to be done in this area before everyone can rest their guards.

May I say, "Much continued success with such a fine and reliable magazine." I speak for many other sportsmen and a greater amount of motorists of the highways and roads that have to contend with uncontrolled dogs.

Charles Deaton
Carrollton, Georgia

Thanks for pointing out once again that we do have a serious wild dog problem in Georgia (and also for pointing out that not all dog problems are with wild dogs). You may recall that last year the State Legislature passed a measure to help control dog problems. We're doing the best we can to uphold the law, but it must be emphasized that the problem is a vast one and can not be solved by simply passing laws. It will take quite some time to improve the law to its fullest extent. Things are improving, but as you so aptly point out, there is still much room for improvement.

MANAGEMENT STREAM SCHEDULE

Sportsman's Calendar

SEASONS NOW OPEN

TROUT

Open Stream Season—April 1, 1970 through October 3, 1970.
Quota Limit—Eight (8) trout of all species per day. Possession limit—8.
Management Area Streams—Open on scheduled days, May 2-Sept. 7, 1970.)
Howhead Public Fishing Area April 1-Sept. 31.

Management Area	Stream	May	June	July	August	September
BLUE RIDGE	Jones Creek (Artificial Lures)	Sat., Sun.	Sat., Sun.	Sat., Sun.	Sat., Sun.	(Sat., Sept. 5; Sun., Sept. 6; Mon., Sept. 7)
	Montgomery	Wed., Thurs.	Wed., Thurs.	Wed., Thurs.	Wed., Thurs.	(Wed., Sept. 2; Thurs., Sept. 3; Mon., Sept. 7)
	Nimblewill	Sat., Sun.	Sat., Sun.	Sat., Sun.	Sat., Sun.	(Sat., Sept. 5; Sun., Sept. 6; Mon., Sept. 7)
	Noontootley (Artificial Lures) (Catch and Release)	Wed., Thurs. Sat., Sun.	Wed., Thurs. Sat., Sun.	Wed., Thurs. Sat., Sun.	Wed., Thurs. Sat., Sun.	(Wed., Sept. 2; Thurs., Sept. 3; Sat., Sept. 5; Sun., Sept. 6; Mon., Sept. 7)
	Rock Creek	Wed., Thurs. Sat., Sun.	Wed., Thurs. Sat., Sun.	Wed., Thurs. Sat., Sun.	Wed., Thurs. Sat., Sun.	(Wed., Sept. 2; Thurs., Sept. 3; Sat., Sept. 5; Sun., Sept. 6; Mon., Sept. 7)
CHATTAHOOCHEE	Chattahoochee	Sat., Sun.	Wed. Sat., Sun.	Sat., Sun.	Sat., Sun.	(Sat., Sept. 5; Sun., Sept. 6; Mon., Sept. 7)
	Dukes	Wed., Thurs.	Wed., Thurs.	Wed., Thurs.	Wed., Thurs.	(Wed., Sept. 2; Thurs., Sept. 3)
CHESTATEE	Boggs	Wed., Thurs.	Wed., Thurs.	Wed., Thurs.	Wed., Thurs.	(Wed., Sept. 2; Thurs., Sept. 3)
	Dicks	Sat., Sun.	Sat., Sun.	Sat., Sun.	Sat., Sun.	(Sat., Sept. 5; Sun., Sept. 6; Mon., Sept. 7)
	Waters	Sat., Sun.	Sat., Sun.	Sat., Sun.	Sat., Sun.	(Sat., Sept. 5; Sun., Sept. 6; Mon., Sept. 7)
LAKE BURTON	Dicks	Wed., Thurs.	Wed., Thurs.	Wed., Thurs.	Wed., Thurs.	(Wed., Sept. 2; Thurs., Sept. 3)
	Moccasin	Sat., Sun.	Sat., Sun.	Sat., Sun.	Sat., Sun.	(Sat., Sept. 5; Sun., Sept. 6; Mon., Sept. 7)
	Wildcat	Sat., Sun.	Sat., Sun.	Sat., Sun.	Sat., Sun.	(Sat., Sept. 5; Sun., Sept. 6; Mon., Sept. 7)
LAKE RUSSELL	Middle Broad	Wed. Sat., Sun.	Wed. Sat., Sun.	Wed. Sat., Sun.	Wed. Sat., Sun.	(Wed., Sept. 2; Thurs., Sept. 3; Sat., Sept. 5; Sun., Sept. 6; Mon., Sept. 7)
WARWOMAN	Finney	Wed., Thurs.	Sat., Sun.	Wed., Thurs.	Sat., Sun.	(Wed., Sept. 2; Thurs., Sept. 3; Mon., Sept. 7)
	Saraha	Wed., Thurs.	Sat., Sun.	Wed., Thurs.	Sat., Sun.	(Wed., Sept. 2; Thurs., Sept. 3; Mon., Sept. 7)
	Walnut Fork and Hoods Creek	Sat., Sun.	Wed., Thurs.	Sat., Sun.	Wed., Thurs.	(Sat., Sept. 5; Sun., Sept. 6; Mon., Sept. 7)
	Tuckaluge	Closed	Closed	Closed	Closed	

JULY, 1970

Adjust For Daylight Saving Time By Adding One Hour

Day	A.M.	H.T.	HIGH WATER	P.M.	H.T.	LOW WATER	P.M.
1. Wed.	6:18	5.9	6:42	7.6	12:12	12:12	
2. Thurs.	7:06	5.9	7:24	7.6	1:06	1:00	
3. Fri.	7:48	6.0	8:00	7.5	1:48	1:48	
4. Sat.	8:24	5.9	8:36	7.4	2:30	2:30	
5. Sun.	9:06	5.9	9:12	7.2	3:12	3:12	
6. Mon.	9:42	5.9	9:48	7.0	3:48	3:54	
7. Tues.	10:18	5.9	10:24	6.8	4:24	4:30	
8. Wed.	11:00	5.9	11:06	6.5	5:00	5:12	
9. Thurs.	11:36	6.0	11:48	6.3	5:36	6:00	
10. Fri.			12:24	6.1	6:18	6:48	
11. Sat.	12:30	6.1	1:12	6.2	7:00	7:42	
12. Sun.	1:18	5.9	2:00	6.4	7:48	8:42	
13. Mon.	2:06	5.8	3:00	6.6	8:48	9:42	
14. Tues.	3:06	5.7	4:06	7.0	9:42	10:42	
15. Wed.	4:12	5.8	5:06	7.3	10:36	11:36	
16. Thurs.	5:18	6.0	6:06	7.8	11:36		
17. Fri.	6:18	6.4	6:54	8.1	12:30	12:30	
18. Sat.	7:12	6.8	7:48	8.4	1:24	1:24	
19. Sun.	8:06	7.1	8:36	8.5	2:18	2:18	
20. Mon.	8:54	7.4	9:24	8.3	3:06	3:12	
21. Tues.	9:48	7.5	10:18	8.1	3:54	4:06	
22. Wed.	10:42	7.6	11:12	7.7	4:42	5:00	
23. Thurs.	11:36	7.5			5:30	5:54	
24. Fri.	12:06	7.2	12:36	7.4	6:24	6:54	
25. Sat.	1:00	6.7	1:30	7.3	7:18	7:54	
26. Sun.	1:54	6.2	2:30	7.1	8:12	9:00	
27. Mon.	2:54	5.8	3:36	7.1	9:12	10:00	
28. Tues.	4:00	5.6	4:42	7.1	10:06	11:00	
29. Wed.	5:00	5.6	5:36	7.2	11:00	11:54	
30. Thurs.	6:00	5.7	6:24	7.3	11:54		
31. Fri.	6:48	5.9	7:06	7.4	12:42	12:42	

TIDE TABLE

JULY-AUG. 1970

GEORGIA COASTAL WATERS

HOW TO USE THESE TABLES

The calculations are for the outer bar. Find the reading for the desired tide. In the table below find the number of minutes to add to correct for the place you are going to fish or swim. The outer bar calculation, plus this correction, gives the correct reading for the point desired.

Adjust For Daylight Saving Time By Adding One Hour

CORRECTION TABLE

The times given are for Savannah River entrance (Tybee).

	Hrs.	Min.
Savannah High	0	44
Savannah (Low)	*	57
Hilton Head, S. C.	0	10
Thunderbolt	0	20
Isle of Hope	0	40
Warsaw Sound	0	00
Ossabaw Sound	0	05
Vernon View	0	35
Coffee Bluff	0	55
Ogeechee River Bridge	3	50
St. Catherine Sound	0	25
Sapelo Sound	0	00
Brunswick Bar	0	00
St. Simon Pier	0	25
Frederica Bridge	0	50
McKay Bridge	0	50
Brunswick East River	0	50
Turtle River Bridge	0	55
Turtle River, Crispin Is.	1	10
Humpback Bridge	1	00
Jekyll Point	0	30
Jointer Island	0	55
Hampton River Village Creek Ent.	0	20
Village Fishing Camp	0	45
Taylor Fishing Camp	1	00
Altamaha Fishing Park, Everett, Ga.	4	00
Two-Way Fishing Camp, S. Altamaha	2	00

JULY

2 11 18 25

AUG.

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AUGUST, 1970

Adjust For Daylight Saving Time By Adding One Hour

Day	A.M.	H.T.	HIGH WATER	P.M.	H.T.	LOW WATER	P.M.
1. Sat.	7:30	6.1	7:42	7.4	1:24	1:24	
2. Sun.	8:06	6.2	8:18	7.4	2:06	2:12	
3. Mon.	8:42	6.3	8:48	7.3	2:42	2:48	
4. Tues.	9:12	6.4	9:18	7.2	3:18	3:30	
5. Wed.	9:48	6.5	9:54	7.0	3:48	4:06	
6. Thurs.	10:18	6.5	10:24	6.8	4:24	4:42	
7. Fri.	10:54	6.6	11:06	6.5	4:54	5:24	
8. Sat.	11:42	6.6	11:48	6.3	5:30	6:06	
9. Sun.			12:30	6.7	6:12	7:00	
10. Mon.	12:36	6.1	1:24	6.7	7:00	8:06	
11. Tues.	1:30	5.9	2:24	6.8	8:06	9:12	
12. Wed.	2:30	5.8	3:30	7.0	9:12	10:12	
13. Thurs.	3:42	5.9	4:42	7.4	10:12	11:12	
14. Fri.	5:00	6.3	5:48	7.9	11:18		
15. Sat.	6:00	6.8	6:42	8.3	12:12	12:18	
16. Sun.	7:00	7.4	7:36	8.6	1:06	1:12	
17. Mon.	7:48	7.9	8:24	8.7	1:54	2:06	
18. Tues.	8:42	8.3	9:12	8.6	2:42	3:00	
19. Wed.	9:30	8.4	9:54	8.3	3:30	3:48	
20. Thurs.	10:18	8.3	10:48	7.8	4:18	4:42	
21. Fri.	11:12	8.1	11:36	7.2	5:00	5:30	
22. Sat.			12:06	7.8	5:48	6:24	
23. Sun.	12:30	6.7	1:00	7.4	6:42	7:24	
24. Mon.	1:24	6.1	2:00	7.1	7:42	8:30	
25. Tues.	2:24	5.8	3:06	6.9	8:42	9:36	
26. Wed.	3:36	5.6	4:12	6.9	9:42	10:36	
27. Thurs.	4:42	5.7	5:12	7.0	10:42	11:30	
28. Fri.	5:42	5.9	6:00	7.2	11:30		
29. Sat.	6:30	6.2	6:42	7.3	12:12	12:18	
30. Sun.	7:06	6.5	7:18	7.5	12:54	1:00	
31. Mon.	7:42	6.8	7:48	7.5	1:36	1:42	

Report violations or if you need assistance in the Coastal Area—Call—State Game & Fish Commission, Brunswick, Georgia, Box 1097, Phone 265-1552, Savannah 233-2383, Richmond Hill 756-3679.

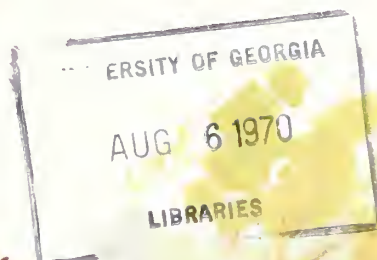
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AUGUST, 1970



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GEORGIA

game & fish

August 1970

Volume V

Number 8

CONTENTS

Trout Angler's Album	Ted Borg	1
Midsummer Trout	Aaron Pass	2
Sharpen Up Your Shooting Eye	Dean Wohlgemuth	5
Flint River Float Trip	Bob Wilson	7
A Dream Come True	J. Hall	11
Carp—Undesirable Aliens	Marvin Tye	14
Sportsmen Speak		15
Outdoor World		15
Sportsman's Calendar		16

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Dean Wohlgemuth
Editor

Staff Writers

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Bob Wilson

John Culler
Aaron Pass

Ted Borg, Photo Editor

Streams Managed for Wild Trout

Outdoorsmen are a unique breed. Most of them agree, for example, that fishing is fine sport. But they'll argue among themselves which is the favored species. Some like trout, others bass, some bream, and so on. Even those who agree on species disagree on which tackle and lures are best.

Because there are so many different tastes in fishing, the State Game & Fish Commission does its best to offer as wide a range of choices as possible to Georgia's outdoor public.

A step has just been made in that direction, a new program has begun that will offer a wider choice to anglers.

This is a wild trout management program being tried for the first time in this state. The goal is to produce higher quality of trout fishing in several selected streams on the wildlife management areas. This concept, if it is successful, will protect wild trout streams, and preserve this type of fishing.

These streams have been dropped from the stocking schedules and set aside to produce fishing for only stream-reared trout. They were selected on criteria which included limited access and generally low fishing pressure, which is necessary for wild trout fishing. The eventual aim of the program is to have at least one good wild trout stream in each management area, in addition to the other waters which will continue to be well stocked with hatchery fish.

The program was initiated to meet a growing demand for quality trout fishing. Many fishermen find it not only challenging to fish for naturally reproduced fish, often called "natives." Setting some streams aside for this type of fishing should provide a better balanced management system which will better fill the needs of different types of anglers. Streams no longer stocked will include at least one on each management area. Finney Creek and Tugaloo Creek on Warwoman, the Coleman River on the Coleman River Area, and Moccasin and Dicks on the Lake Burton Area will comprise the wild trout area in the eastern corner of the state. Dukes Creek will be managed for stream-reared fish on the Chattahoochee Area, as will Waters Creek on the Chestatee Area. The Blue Ridge Management Area will have three wild trout streams, Ice Rock Creek, Noontootley, and Jones Creek. Noontootley will continue as an artificial only, catch and release stream, and Jones will remain artificial only. The fish which were formerly stocked in these streams will be diverted to other stocked streams to take up the pressure.

Tuckaluge is currently closed for renovation, and some of the other wild trout streams are scheduled for the same treatment. The renovation consists of building structures which make the streambed more suitable for natural production, and barriers to prevent stocked fish from moving upstream.

This program should be viewed favorably by those who

Continued on page 17

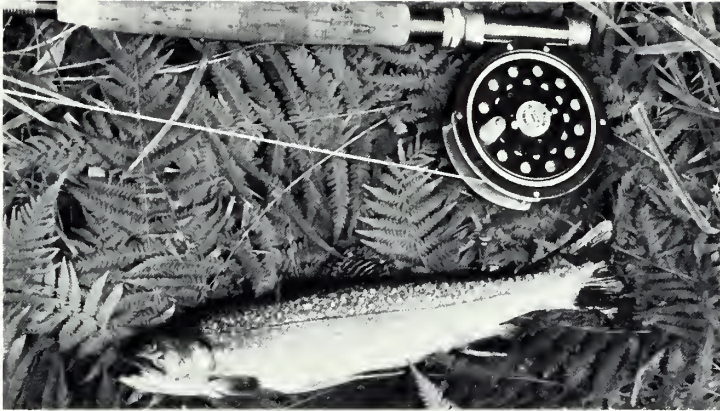
ON THE COVER: The leap of a trout can make the heart of a fisherman leap, too. In these hot dog days, a cool mountain stream can be particularly inviting. These are tough days to catch trout, though. For some insight on better hot weather methods, read the article by Aaron Pass, "Think Small For Midsummer Trout," Page 2 and the "Trout Angler's Album," a photo feature by Ted Borg, Page 1. Edited by George Reiney.

ON THE BACK COVER: For those who don't care for trout fishing, floating a South Georgia river is another fine way to beat the heat and still catch fish. See Bob Wilson's article, "Float the Flint River," Page 7. Photo by Ted Borg.

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TROUT ANGLER'S ALBUM

By Ted Borg



My first trout; and a fighting little devil he was too! It's hard to believe they put up such a fight.



John's trout made the long trip worthwhile. As anyone can tell, he's quite pleased with himself.



Talk about concentration! We had to drag Jimmy away from the stream.



Photo by Aaron Pass

think small for

MIDSUMMER TROUT

By Aaron Pass

■ Well, it's that time again—the summer slump, the trout gap, or just plain dogdays. You can call it whatever you wish, but it boils down to one hard fact, fishing is off. It is a time of short stringers and shorter tempers in the trout fishing set. A long sweaty day of providing a free lunch for the mosquitoes and “no-see-ums” is rewarded with a couple of six-inch trout too naive to distinguish between a Mepps and a meal. All the favorite pools and runs seem deserted, no rises, no bulges, and seemingly perhaps no fish. Perhaps

there is the supreme frustration of watching his highness the trout give you a cold stare and scoot away.

What can you do about the situation? Well, you can take up golf, or you can continue to fish the same old places with the same old lures and the same old luck. Or, you can try to catch more fish. This solution calls for some reorganization in fishing and fishing techniques, but it spells the difference between a full day and an empty day.

The first point to be considered is, naturally, the trout himself. A trout has certain constant needs, such as food and cold water, which the stream provides. Now, if over the course of a season the stream changes, the trout must adapt to the new situation. This often means a change of habits, and the fisherman who would be successful must act accordingly.

As a general rule when the thermometer goes up, the water level goes down. When the spring rains which fill the streams early in the year cease, the trout streams move less water. This low water is a problem for the trout as well as the fisherman. It restricts the trout's habitat, and some areas become unsuitable for his needs. There is less protection, both from his enemies, and on the rising temperatures of summer. Since trout do need cold water, the shallow water heats up rapidly and is going to seek out a more comfortable area.

The lack of rain also allows the stream to run very clear, which is a real threat for the fisherman. First off the trout, always a wary fish, is very picky in the clear water. As most of its enemies come from above and the clarity of the stream makes him more vulnerable. This visibility, however, allows him to see his enemies better, such as the fisherman who suddenly looms over him waving around a long pole. The trout probably isn't very sure just what this strange apparition is, but he is very sure he wants no part of it, so he goes. Lastly, the clear water takes away the trout the opportunity to look for a flaw in the lure or the presentation stands out like a porcupine in a sleeping bag.

Probably the most exasperating thing about trout does in the summer is change in feeding habits. The large hatches of aquatic insects that make up a goodly portion of a trout's diet are mostly over by this time of year. He still eats, but he's picky. The feeding times also change. Usually, there are more feeding periods during the day but they are of a shorter duration. A trout's whole lifestyle changes at this time of year and the successful fisherman makes the proper adjustments.

At this point it might be surmised that the guy who goes to the same pool, using the same tackle and technique that really slaughtered them on opening season is going to have problems. Well, that's pretty good surmising; he is going to have to change his strategy in light of the changed conditions. It's not impossible to catch trout during the hot summer months, but it is more difficult. Simplicity and sophistication are the key factors to this puzzle; the use of smaller



The tiny flies around the dime are called midges; they represent the many small insects found around a trout stream. For comparison that's a #12 Hendrickson at upper left, and a #16 Quill Gordon at the upper right.

Photo by Bob Wilson

tackle and more sophisticated techniques are the jinx-breakers when the fishing is at a low ebb.

First off the tackle, small it has to be. This is where ultralight spinning gear really comes into its own. UL equipment is fun any time, but in low water for spooky trout it is almost a necessity. The delicacy of this tackle and its presentation is just the ticket for reaching wary trout. The light lures hit the water with a minimum of disturbance, and the 2 lb. line will not scare the fish. These lures are often copies of larger lures for regular spinning tackle, and have the added advantage of running more shallow than their big brothers. This shallow depth is a real asset in a summer lowered stream where regular lures will hang up.

A small spinning reel loaded with 2 to 4 lb. lines, and a 5½ foot ultralight spinning rod really fills the bill for this type of fishing. Not only will you catch more fish, but you will get more sport from those you do.

With fly tackle the small lures continue to hold true. In the standard dry fly patterns sizes 16 through 20 are the best bets, particularly in the lighter colors. For the late summer months, however, midges are the answer. These tiny flies are tied on hooks that range in size from 20 to 28, and they require

real skill to use. They represent the many species of almost microscopic insect life that abound around a stream that trout are so fond of at times.

Another very productive type of late summer fly is called a terrestrial. This class of imitation trout fodder represents any form of land insects which inadvertently fall into the water, such as grasshoppers, inch worms, beetles and ants. They range from size 8 grasshoppers down to jassids (ants) in size 18. This is one type of dry fly that sometimes profits from a little induced action. Since they do represent land insects which are out of their element in the water, they can be given slight twitches to simulate panic.

When using these small flies there are some important points to keep in mind. One is that you have to be accurate, with a size 22 midge the fly must pass directly over the fish before he will notice it. When setting the hook on one of these midges take your time, and then only tighten the line. That small hook doesn't need much pressure to penetrate.

The size of the fly dictates the size of the tippet. A 2X tippet tied to a size 20 fly looks like an anchor chain attached to a paper weight. Go down to 5X on flies from 16 to 20, and to 6X or 7X on the smaller midges. Such fine

These are terrestrials; they represent land dwelling insects which sometimes fall into the water. The three on the top are jassids, and those on the bottom are a black beetle and a regular ant, all size #18.



Photo by Bob Wilson



Photo by Ted Borg

leaders require extra care when playing a fish, but they are necessary when using such small flies.

No matter how well your tackle fits the situation it is next to worthless unless your skill measures up too. In no other phase of fishing is technique so crucial as the presentation of a lure to a spooky fish in low clear water. This is where the ability to judge the situation and make the first cast count pays off handsomely. The accurate caster will lay a grasshopper up under the foliage next to an undercut bank and bring out a trout that the half dozen guys before him couldn't reach.

A completely natural presentation is what is needed. The fly and fly line must settle to the water gently, and the spinning lure must "slide" in without a splash. To accomplish this with a fly you aim a yard or so above the water. With spinning tackle a gradual increase in "thumbing" pressure on the line will give you a gentle delivery. When using fly equipment care must be taken to keep the fly line and leader from drifting over the fish before the point of course drag must be avoided.

Don't nail your quarry on the first cast. A gentle pickup is required to get him on the second.

Once he is hooked, accomplished by raising the rod tip, the fly can be pulled back with only a slight

disturbance.

Still another facet of summer trout fishing is stealth. Remember that water is crystal clear and the fish can spot you if you are obvious. It is a good idea to wear clothing that blends into the surroundings, and utilize natural cover that is available. Since a fish sees upward through a cone shape area, it is prudent to stay as low as possible, including crawling and crouching from a kneeling position. Keep in mind that you are stalking a quarry that recognizes you for the danger you represent.

Correct wading is also an exercise in stealth. A fish "hears" through vibrations in the water just as we hear vibrations in the air. Careless wading results in splashing and crunching gravel is almost sure to put fish on edge anytime and particularly when they are already nervous.

If you have gotten the idea that trout water fishing is difficult, you are absolutely right. Exacting is perhaps a more descriptive word, however, since it forces one to perform at his best if he is to be rewarded. A sound knowledge of trout habits and the skill to make a natural presentation of the lure are the foremost points, and they can be learned with some effort.

A wild trout is hatched suspicious and the longer he lives the more suspicious he is apt to be. He is a hard judge of the angler's ability, to catch him at anytime is a triumph, but when the water is low and clear it is a tough.

An ultra-light rig like this and small lures get the nod for low water fishing with spinning gear. A light line in the two to four pound class works best on this type of tackle.

This ultra-light fan has found the right combination for the clear water and brushy terrain on the North Georgia trout streams. The small size of the tackle decreases water disturbance, and helps your chances with summer wary trout.

Photo by Ted Borg



SHARPEN UP YOUR SHOOTING EYE

By Dean Wohlgemuth

PHOTOS BY THE AUTHOR



Good fun and friendly competition add the pleasure of getting in some pre-season practice with a shotgun. A portable trap such as this one, throws clay targets accurately. Bob Robin of Stone Mountain draws a bead on a "bird" thrown by his wife Glenda.

■ Ever notice how dove season can sneak up on you? Before you know it, the summer's over, and it's time to dust off the old fowling piece and start looking for a dove field. And right after that comes squirrel, grouse, quail, rabbits, ducks and well, there's plenty of shooting to be done.

That late summer lull can catch us off guard sometimes, though. Not only is that shotgun a little dusty from hanging untouched on the rack, you're likely to find, on opening day of dove season, that your shooting eye is a little rusty, too.

Well, there's no better time than now, about a month before opening day, to start thinking about it. If you want to be reasonably sure your eye is in shape, so that you can get your share of hits when you start shooting at those doves, you'd better get in a little pre-season practice.

The best way to do that is to break a few clay targets. Matter of fact, if you know a beginner, someone who's just learning to shoot, clay birds are an invaluable method of getting technique established. Nowadays, game is scarce

enough that it's difficult if not impossible for someone to learn to be a good wingshot simply by shooting at flying game. When the chance to shoot game is available, you want to be ready!

You say you've never shot skeet or trap before, and have no desire to do so. Maybe there's no gun club near where you live, or if there is, it's private. Maybe it's a little more expensive than you like to shoot at a club. And perhaps, if you've never shot skeet or trap before you'd feel a little embarrassed to try it in front of others.

Well, now, that's not the kind of clay bird shooting we're really thinking about. You don't need a gun club. All you need is a box of clay targets and a hand trap or perhaps a portable target thrower. Of course, you'll need your gun, plenty of ammo and some wide open spaces where you can shoot without disturbing anyone. If you have no place of your own, be sure to get the owner's permission before going on someone else's land.

There's one thing that must be pointed out . . . be absolutely certain



The direction which the target flies can be controlled somewhat by just where on the throwing arm the target is placed. The height of the bird can also be adjusted. This type of trap can also throw doubles and triples.

that where you shoot is not now, or will not in the future, be used for hog grazing. Hogs will eat clay targets, and the clay is poisonous to hogs. It'll kill 'em! That clay stays there for many, many years too.

It isn't impossible to get in clay target practice by yourself, but it certainly makes it a lot tougher. Get your hunting partner, your wife or your teenage son to join in the fun with you! And companionship adds to the pleasure of any sport.

A hand trap is the least expensive way to get into clay target shooting, and it's quick and easy to carry. Hand traps can be tricky to throw, however, and your throws may be erratic. Of course, erratic throwing has its value too . . . you won't know where a wild bird is going, either!

For the sake of getting your shooting eye sharpened up, however, especially in the case of beginners, the portable trap is far better. Several light, small, easily moved traps are available that will do the job well. Most are adjustable and can vary the speed of the target, the direction of flight, and the height of the target. And they are a lot of fun to use.

portable trap is far better ground

anchor that screws into the soil, holding it down. Others can be bolted to the spare tire of your car.

A string releases the catch, letting the bird fly, and it is much easier to shoot by yourself if you have to, holding your gun in your left hand, pulling the string, then mounting your gun for the shot. While this, too, can be good practice, it eliminates the chance of your target operator surprising you by letting the bird go at an unexpected instant.

For starters, though, especially for beginners, the shooter may want to know for each bird, so they'll know exactly when to expect the target to come.

More variation can be obtained by positioning the shooter at different angles from the trap, putting the trap on a high bluff or old building near a river or anything else your imagination can produce.

Another important feature of a portable target thrower is that most of them throw doubles, and some even put out three targets at a time, giving practice at hitting more than one at a time.

Positioning the shooter to one side of the trap will give good practice for crossing shots, and help to get your proper swing in tune, and will be helpful in dove hunting. Standing as close to the target as reasonably possible will simulate the rise of a quail.

If you choose, you can get several hunting companions together, taking turns, as on a skeet or trap range, and keep score for friendly competition.

You'll find that clay target shooting can be inexpensive and fun, something to keep your trigger finger limber between seasons, and will provide a boost in bigger game bags when the shooter is ready for real begins.



FLINT RIVER FLOAT TRIP

By Bob Wilson

PHOTOS BY TED BORG

■ Fish that just don't know when to give up, wild scenic beauty, fast-flowing shoal water, and calm eddies, Georgia's rivers offer them all. Georgia is a state blessed with a number of beautiful rivers that offer excellent fishing. From the wild Chattooga on the northern border of the state, to the Satilla, Altamaha, and the scenic Suwannee on the southern boundary of the state; they are all beautiful examples of nature's handicraft and are tops for fishing. There is still another Georgia river, wild and scenic, with some of the





Helgramites are excellent natural bait and can be found under small rocks along the banks or under clumps of water grass. These fellows have a nasty disposition when disturbed, so watch those pincers!

Along with the helgramites, crawfish form the usual diet of the Flint River bass.



state's hardest fighting fish, that more accessible to more Georgia than all the others put together. As you may have guessed from the title, the Flint River; and a prettier stretch of water would be hard to find.

What may very well be the most beautiful section of the Flint lies in Upson County in the vicinity of Thomaston. Here, the river passes through narrow, steep canyons and gently rolling land. The water is alternately fast-flowing over shoals and calmly sweeping through eddies and pools. In the northern part of the river, steep cliffs of dark rock connect the fast-flowing clear water with the deep blue sky. The dark cliffs are covered with bright green growth, including mountain laurel, which bursts forth in a blaze of color in mid-spring.

The steep canyons give way to gently rolling country on either side of the river in the southern section of Upson County; but the alternation of shoals and calm water continues. In the shoal areas vast banks of dark green water grasses grow along with the water hyacinth. The water hyacinth offers strong contrast with its pure white blossoms amidst the dark green of the water grass.

All right, all right, you say. So it's a pretty river. Fine! Great! But what about the fishing? And another thing, what about those shoals, any danger of getting your boat turned over?

Well, let's save the best for last. First get the transportation, gear and equipment out of the way before we get into the fishing. The section of the Flint River we are talking about is not at all dangerous. In fact, it makes an excellent one or two-day float trip for the entire family. However, the nature of the river does restrict the type of boat and motor that can be used.

The lightest boat possible is best for this section of the Flint, as heavy boats get hung up on the shoals more easily. The light, flatbottomed, aluminum boats are the best. Motors are not required for moving down the river, but are helpful in making sure you arrive at the pre-selected exit point before dark. A five or six horsepower motor with a short shaft is more than sufficient, and smaller motors will prove satisfactory. It is important that the boat and motor be a shallow-water rig. Some spare shear pins are a necessity.

Finally, on to the fishing. The Flint is the home of the Flint River Striped Mouth Bass, a unique type of striped mouth found only in the Flint River drainage system, and justly famous for the splendid fight they put up. The fish put up a struggle worthy of a largemouth twice their size, and they just don't know when to quit.

The Flint is also famous for some excellent bream fishing, with redbreast and bluegill being plentiful. Deep pockets and holes gouged in the river bottom hold good-sized yellow catfish. There are also some largemouth bass in the river. In short, the Flint offers a variety of fish that should make almost any fisherman happy.

Spring and fall are the best seasons for those interested in the bass, both largemouth and smallmouth. As the water warms up in the spring, these fish develop voracious appetites, and will take at almost anything that resembles food. In the fall, the river gets low and the fish congregate in the holes and pockets in the river bottom.

The best baits and lures, as usual, de-

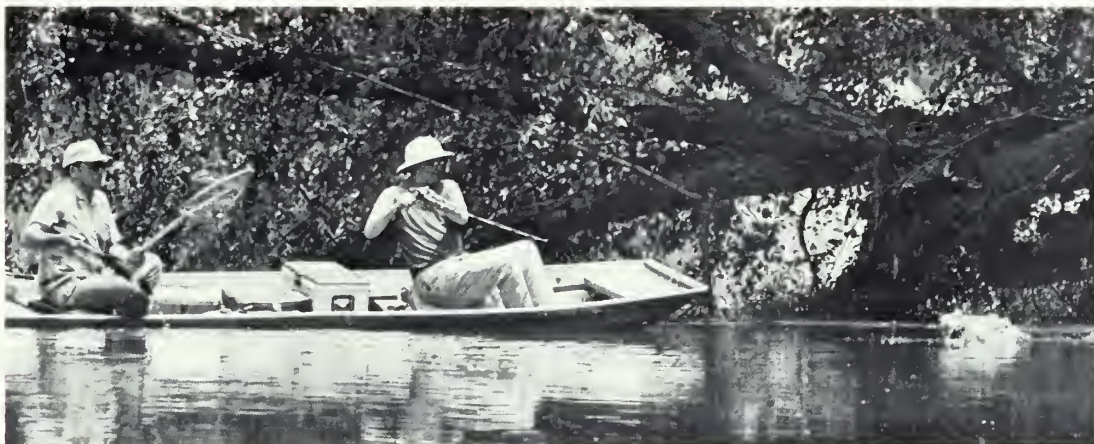
pend on what type of fish you want to catch, and what kinds of baits and lures you are already familiar with. The bream are best taken on crickets and worms. The catfish are most easily caught on worms, either live or the plastic variety. The bass can be taken on just about any natural bait or artificial lure of the proper size.

Two of the best natural baits for the bass are the normal diet staples of the Flint River bass, crawfish and hellgramites. Both the hellgramites and the crawfish may be found in rocky shallows under small stones or clumps of water grass, and both should be handled with care as either of them can give you a painful nip if they get the chance. The hellgramites can also be found in rocky

sections of the shore under small stones. Artificial lures of all types have proven successful in taking bass in the Flint. Top-water plugs, spinners, spoons, diving plugs, and the whole range of plastic lures have been good performers. The top water and shallow running lures are perhaps the most successful of the artificial lures.

When the river is not low, the most successful method of fishing is that of drifting close to the bank, casting a top-water or diving plug right up to the shore and varying the retrieve. Casting right next to bushes, and next to or over submerged logs and brush is a surefire bass catching technique on any river, and the Flint is certainly no exception.

*Cliff Nelson of
Maston hooks one
of those fighting
smallmouth bass. . . .*



*. . . his partner,
Reverend Bill Conine,
nets the fish. . . .*



*. . . and they add
another nice two and
half pounder to
the ice chest.*






Wading the shoals to fish holes is a good bet when the water is low.

When a smallmouth bass of the Flint River variety rips into a top-water or shallow-running plug, an angler just knows he is in for some sport. These fish really make a reel sing, and will put a rod to a test. With medium tackle, a fisherman will have an enjoyable experience that he will not soon forget.


Until recently, getting to much of the Flint River has necessitated a long float trip as much of the shoreline is privately owned, and the general public has had limited access to the river. Now however, with the cooperation of the Georgia Power Company and some private landowners, Upson County is creating campsites and parks at a number of sites along the river.

This program of development will open up much of this beautiful river with such truly great fishing to a large number of Georgians as it is within a short driving distance from Atlanta, Savannah, and Columbus. The Flint has something to offer almost everyone, whether it be for beauty, and wild-ness, or just for the fish. It would make a great day's fishing for one or two people, or for the whole family. 

Reverend Conine checks over a fine stringer of Flint River bass, the end result of an enjoyable day's fishing.





last "Good-by" to New Orleans. At the Camcraft shipyards, where she was built, workmen stow  and supplies aboard the GEORGIA PRINCESS," readying her for the long journey home to Georgia. The 77 foot vessel is powered by twin V-12, 500 diesel engines which push the "PRINCESS" to a top speed of more than 28 knots.

A DREAM COME TRUE

By J. Hall

PHOTOS BY THE AUTHOR

The boat was dark now, only the minor lights winking. The big engines were silent, and only the throbbing of the generator motor broke the stillness of the early morning quiet. Phillip and I stood in the shadows, and above us, in the darkness, reared the ghostly ruins of Fort Macomb, its grim walls softened now by that same moonlight that seamed through its long-empty gun ports and gleamed on the big white boat riding lightly on the swift flowing water. My old friend and I had never seemed

so close as at that moment, for somehow, I sensed that something of his soul was there, almost tangible between us. Certainly there were awe and wonder in his voice as he breathed, "Isn't she beautiful!"

Somehow I felt that this mood was appropriate now, after all that had gone before. Now was the time for reflection, for anticipation, for savoring the feelings of happiness which we shared. He continued, musingly, "I still can't really believe it's true. But you know, I don't

think I would feel the same way about her if she was going anywhere else but to Georgia." Not daring to break that mood, I made no reply. I simply laid my hand on his shoulder. Truly, no reply was needed nor adequate. I think he understood.

It was later the next day, as we stood on the stern, watching the salt spray dashing itself into foam on the trim bow as we knifed through the heavy swells of the Gulf of Mexico, that Phillip could lean close to my ear, shouting



Another "step" in the trip to Jekyll. From New Orleans to the Gulf and on the route across Florida, the "PRINCESS" had to go through a number of locks. This one, near Ft. Myers, Florida, put the big boat into the waterway to Lake Okeechobee. In some places, boats were lined up for a mile or more, and we had quite a wait for our turn to "lock through."

over the sound of the wind and the snarling engines, "Many times I have dreamed of this day."

Now for this man, and for many Georgians who may never have thought of it, his dream was coming true. Its fulfillment was this boat, the GEORGIA PRINCESS, now well embarked on the long journey that would take her home.

Actually, the dream began many years ago with Phillip Smith. He's always lived close to the sea. Long the captain and owner of a shrimp boat, the LOTA, named for his beautiful daughter, Phil owns and manages Kip's Fish Camp at Shellman Bluff, between Brunswick and Savannah on the Georgia coast.

Since I had known Phillip, we had often talked of the thousands of Georgians who left their state to go to Florida, of the millions of tourists who annually pass through this state, attracted by the facilities and accommodations found south of us. Phillip thought it was a waste that Georgia could offer so little to attract these people who could bring in so much needed revenue.

"We're throwing opportunity away," he maintained. "This coast needs help. Coastal cities, the people on the coast, we've got to realize it. We've got to make Georgia one of the great fishing areas in the country. It's going to work . . . and it's going to do it. The facilities for

sport fishing on our coast haven't begun to be scratched. You can catch just about any type of game fish along our coast that you'd care to name, and plenty of them! But people don't know that, and we haven't the accommodations for them if they did. We've certainly got everything Florida has to offer, but they haven't wasted their time sitting around wishing something nice would happen to them. They've made it happen. They've invested money in hotels, motels, restaurants and resorts. They've spent millions just advertising what they've got and what they're doing. And I don't need to tell you or anyone that it's paid off. But they didn't get there by just wishing and saying they had something nice, hoping that somebody might overhear 'em and believe it."

Like any true man of vision, Phillip has the foresight to know that development must be controlled according to a plan. He is strenuously opposed to the destruction of marshlands, and he wants the coastal islands to be utilized for the benefit of the greatest number of people. He speaks glowingly of the future of Georgia's coastal area, but his first love is the fishing, and the key to that is people. Phillip knows that if the facilities are made available for people, they'll soon find out about the fishing and they'll come, just as they have to Florida.

One of the big attractions which

Florida offers is its "party boats" or "head" boats, large enough to carry 50, 60 or more people out for deep sea fishing. These big boats can carry enough passengers to make the fare cheap enough for almost anyone, large enough to handle the 70 or more miles of blue water out to the snapper banks for a day of bottom fishing. And this was Phillip's dream for Georgia. A head boat that could equal or better anything any other state had to offer.

But dreams such as this don't come cheap. (The GEORGIA PRINCESS was constructed at a cost of \$226,000) and what can one man . . . a man of average means . . . hope to do to overcome such tremendous obstacles? But fortunately, men such as Phillip are not alone. Georgia is fortunate to have many such men of vision who also dream big dreams. If enough of those men get together and act, those dreams can come true. And thus was the GEORGIA PRINCESS born.

The big boat was built in New Orleans, and 18 of us went to bring her home. It was a motley crew, but a fine group of fellows you could never hope to meet. Most of us were real "land lubbers," and even for me, a stretch in the Navy was far enough in the past to make me seasick the first day we hit rough water. The GEORGIA PRINCESS was built by Camcraft, and is completely aluminum throughout. She is 71 feet long and powered by twin V-12 diesel engines. On her trial run, she clocked out better than 28 knots!

The big boat carries 72 fishing passengers and a regular operating crew of three. Additional deck hands go along to assist the fishermen. Nothing has been spared to make the boat safe and comfortable. The main cabin, which has comfortable airplane-type seats for 42 passengers, is air conditioned. Stereo music is piped in, and tables are available for those who'd rather play cards than fish.

Up forward in the pilot house is all the most modern equipment useful and necessary for the operation of a boat this big. Radar, its scanner revolving watchfully above, immediately shows the presence of other boats or objects in the vicinity for many miles in any direction. Electronic navigation equipment permits course plotting and following with pinpoint accuracy. Sonar not only gives an accurate reading of the depth of the water, but draws a chart of the bottom and its contours, enabling the captain to locate the best possible fish grounds. Radio equipment and ship to shore radio telephone placed at the captain or any of the passengers' fingertips permits instant communication with any telephone in the world.

The GEORGIA PRINCESS is a dream boat in many ways. On the long trip

ome, all of us were greatly impressed the way she handled and took to the water. Except for the passage across Florida, the entire trip was made "outside" in open sea. We crossed the Gulf of Mexico from New Orleans to Sanibel, followed the coast to Ft. Myers and took the Okeechobee Waterway across the state, through Lake Okeechobee and out to the east coast. There, we "poured the coal" and made all speed to Jekyll Island where the PRINCESS will be berthed at the new Jekyll Basin. From Jekyll, the PRINCESS will become a hard working lady. She will run daily to the Gulf Stream where the snapper banks, a distance of some 80 miles from the island, but those powerful engines will make quick work of that trip. There, Georgians and other coastal visitors will find some tremendous fishing. Red snappers 30 and 40 pounds are frequent catches. Drum, croaker, bonito and other species are abundant, for these waters along the Georgia coast are virtually virgin fish-

ing grounds, while in other areas they have been fished hard for years. That won't be the end of her working day, however, for on her return to Jekyll in the evening, the PRINCESS may be chartered for moonlight cruises through the islands to Savannah, an evening's jaunt that will no doubt be popular for many groups in the state.

All these were plans that had been made long ago, even while the PRINCESS was still on the drawing board. And certainly, we thought long about the future and what it would bring, as we moved into the last hours of our long journey. But in the pilot house of the PRINCESS, all was quiet. There was no sound except the wheezing of the steering apparatus, but all eyes were keenly searching the horizon. We were searching for the buoy marking the passage through to Jekyll Island.

Capt. Williams had just turned to peer into the radar scanner, looking for the "blip" that would denote the buoy, when Phillip broke the silence. "What's

that over there?" he asked. For several moments, none of the rest of us saw anything, then finally made out a tiny speck far in the distance, almost too small to be seen. Phil studied that atom for a moment or so longer, then chuckled, "Gentlemen, that's home! That's the water tower on Jekyll Island!"

At first, we couldn't believe it. Phillip had picked up and identified that tiny spot on the horizon at a distance of more than 20 miles, but as we came closer, we all saw that it was so. Now it was only a matter of time, and as the miles foamed behind us in the churning wake of the PRINCESS, we all felt our hearts beating faster in excitement. Then it was over. One last bridge to open, a triumphant scream from her horn to the crowd that had gathered at the pier to welcome her, pictures to be taken, wives to be greeted and hugged, a gala bottle of champagne smashed on her bow, and the dream had become a reality. The GEORGIA PRINCESS has come home.

Storm clouds building, but smooth sailing ahead for the "GEORGIA PRINCESS." This view of the boat shows the pilot house and some of the radar and navigation equipment aboard the boat. The main cabin, below, is fully air conditioned, with comfortable air plane-type seats. The "PRINCESS" carries 73 passengers in addition to her crew.



CARP

undesirable aliens

By Marvin Tye

PHOTOS BY THE AUTHOR



Mrs. Elizabeth Capes of Covington, Rt. 5, admires her first carp of the afternoon on a spring outing at Lake Ann near Lithonia. A number of similar lakes throughout Georgia furnish carp fishing for a fee.

■ The carp is one of the best examples of what can go wrong when man tampers with the balance of nature. This giant of the minnow family was unknown in North America until around 1876 when 345 of them were introduced into this country from Germany.

Now millions of carp can be found in almost all of the United States plus portions of Canada and Mexico. Their abundance certainly is not because they are desirable. In most cases, the carp infests large reservoirs and other bodies of water despite efforts of the local human population to exterminate them.

The carp's dietary habits are his chief drawback. The fish are omnivorous, which means that they feed upon both plant and animal life. Their primary food sources are insect larvae, plankton, and aquatic vegetation. When feeding, the carp often uproots plants and muddies the water. Put several thousand or millions of these fish in a small body of water and you soon have a muddy mess. Not only does this ruin the scenic value of a lake, but it often makes the habitat unsuitable for more desirable game fish.

The food value of the carp is something that can be debated. Most fishermen say they would as soon eat fried mud as carp fillets. One favorite story of many fishermen is that of the angler who broiled a large carp on a wooden board. After an hour or two, the fisherman discarded the fish and ate the

board.

Despite its poor reputation as a food fish, over 19 million pounds of carp were sold in a recent year in some large U. S. cities. In some European countries the carp is raised commercially. It is also regarded as a game fish by many Europeans.

On the plus side, the carp is a rough customer for the angler who seeks him out. In addition, they are usually plentiful and ready feeders. There is no bag limit and fishermen are encouraged to remove as many of them as possible. Best baits are worms, cheese, corn, and dough-balls. A number of anglers who fish large impoundments such as Lake Lanier or Lake Allatoona bait a portion of the lake with pieces of corn then use individual grains of bait, covering the point of a number hook with corn and letting it sink over the baited area. As soon as they feel the carp on the line, they set the hook and enjoy the battle. The carp is surprisingly strong fish and gives a good account of himself. A four-pounder puts up a dogged fight that makes you think that you have hooked a real lunger. When you realize that carp in excess of 50 pounds have been caught in some waters you can see the angling potential.

The ultimate enjoyment from carp fishing can be derived from a light whippy fly or spinning rod with leader or line in the eight to ten-pound test sizes. When fishing in snag-infested waters or in a river with a strong current, stiffer rods and stronger lines are required to land large fish.

There are a number of lakes in the Atlanta area and at other points across the state that are stocked with carp, and offer fishing for a fee, usually about \$1.00 a day. The fish has gathered an enthusiastic following. One of the group is Mrs. Elizabeth Capes of Rt. 5, Covington. You're likely to find her almost any spring or summer afternoon at Lake Ann near Lithonia. She will be sitting in a folding lawn chair with two or three spin-casting outfits baited and waiting for a hungry carp. She mixes fresh dough and onions into a ball that covers her hook then casts this offering out and lets it sit on the bottom until it is gobbled up.

I had the pleasure of watching her action this past spring while making the photographs that illustrate this article. She cut onions and mixed her special carp-catching concoction on the spot then landed a nice carp of about 10 pounds after a brief fight on light tackle.

The one group of sportsmen who are probably most interested in carp are bowfishers. When the big fish move into the shallows in the spring they usually find a number of bowfishermen waiting.



A lady's bait is a mixture of fresh dough and onion slices that must smell like a banquet to a hungry carp. Using the basic raw materials, this concoction can be prepared right on the edge of the lake.

them. Although shooting a fish in shallow water may sound easy, it's a more complicated than it sounds. Refraction, the bending of light rays when they enter the water, makes the fish appear nearer the surface than it actually is. The archer must aim beneath the fish in order to hit it. The exact distance to allow for refraction depends on several things such as depth of the water, distance from the archer, and size of the fish. The ability to judge this effectively comes with practice. Even the most skilled bowfisherman will miss several shots during an hour or more of fast action.

In addition to the requirement for accurate shooting, the archer must approach his intended quarry with the same stealth that he would use in approaching wading game on land. The archer knows that he is in an exposed position in shallow water and will dash to deeper water at the slightest disturbance. The man who can stand still in the spot where the carp are likely to be is more likely to get some shooting than the man who tries to wade to a group of spawning fish.

If you would like to try bowfishing, you'll need a fishing arrow and a reel with line attached. The reel is taped or glued to the back of the bow, the side of the bow from the archer, and the end of the line is attached to the arrow. At the moment the arrow pulls line from the reel in the same way a lure pulls line from a spinning reel. The archer retrieves the line by stripping in the line with his fingers. If a big carp is on the end of the line, this can be quite an exciting tussle. Fishing arrows are made of heavy

fiberglass to permit deep penetration. They have no feathers but are fletched with rubber stabilizers or plastic vanes that will withstand the rough treatment that they will be subjected to. The points are barbed to hold fish. These barbs are either reversible or removable so that the line does not have to be cut each time a carp is landed.

The bow fisherman must have a current Georgia fishing license in his possession. He cannot fish with conventional tackle or have it in his possession while bowfishing. Only rough fish such as carp, gar, bowfin, suckers and similar fishes are legal targets for the bow-

fisherman. Bowfishing is not allowed within 150 feet of any sport fisherman. Archers may not shoot fish from a bridge or public road. Bowfishing is allowed only from sunup to sundown. Arrows must be barbed and attached by a line to the archer or his bow. There is no minimum pull required for bowfishing, but the bow must be capable of shooting an arrow 100 yards.

Skin divers can take carp and other rough fish in fresh water, provided the diver is completely submerged and uses a spear attached with a line to his body or weapon. A special spear fishing license is required in addition to the regular state fishing license. Spear fishing licenses are available only from the Atlanta office of the Game & Fish Commission and cost \$2.25 for residents, \$3.25 for non-residents and \$1.25 for a non-resident three-day license.

Although this method of catching carp is not as popular as either bowfishing or conventional angling, 55 Georgia residents bought spear fishing licenses last year.

There is practically no way to eliminate carp in a large impoundment. When they begin to dominate a smaller lake or pond and crowd out more desirable game fish, the lake is poisoned with rotenone. This kills all the fish in the lake and the owner then restocks the lake with the species of fish that he would prefer to have.

It is unlikely that the carp will ever be completely exterminated. Since he is here we may as well make the best of the situation and keep his numbers somewhat in balance by fishing for him. You will be pleasantly surprised at his sporting qualities and may enjoy broiled, fried, or smoked carp. Tastes vary. The only way to be sure is to give it a try.

The most effective method of fishing for carp is to let your bait sink to the bottom, then wait for the fish to pick it up. These undesirable aliens ruin the habitat for a number of game fish, but can furnish excitement and a good fight for those who seek him out.



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CONTENTS

Dove Retriever	Charles M. Marshall	1
Tactics for Whitetails	Marvin Tye	3
Check That Choke	Bob Wilson	8
Learning About Our World	Aaron Pass and Marvin Tye	10
Sportsmen Speak		15
Outdoor World		15
Sportsman's Calendar		16, 17

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ALL THAT GLITTERS IS NOT GOLD

This seems to be the year of conservation. Conservation is a popular subject, and conservationist is a popular title. It is the crusade of the decade and theme of a dawning era. Lo, many are the voices raised in behalf of The Cause. Everyone connected with the use of our natural resources is defining himself as a conservationist. A basic problem lies in this definition, however, for the word conservationist seems to cover a multiplicity of goals.

The time honored use of the word conservationist means someone engaged in the conservation of our natural resources. This general definition is in most cases valid, however, the question of which resources are to be conserved and by what methods is where the path separates for the men who call themselves conservationists. For each will, according to his point of view, outline which set of conservation practices will result in a high quality environment for mankind, and once again the problem of definition arises. Due to the diverse needs of individuals, that which constitutes a high quality lifestyle for one could be a vision of Hell for another.

A meeting on land use planning for rural areas was recently held at the University of Georgia consisting of representatives of the conservation-oriented agencies of this area. At this meeting there was a panel discussion on priorities of land use, with the panel made up of authorities in the various uses of rural land. Agriculture, industry, forest, transportation and wildlife were all represented. Each member was asked to present a "pure" concept of his organization's land managing system, with no thought to other needs or to compromise.

These pipe dreams of good management and conservation were in most cases entirely different and often contradictory. Several of the speakers began by introducing themselves as conservationists, and the difference in their views serves to point out their different definitions of conservation.

What constitutes good conservation practices? To one it is a good practice to drain a swamp, and make more land available for man's own uses. To another good conservation means acres of intensively cultivated cropland with clear borders, and no brush or idle land to mar the continuity. Yet another would conserve by devoting large tracts of land to a monoculture of fast growing pines, creating an ecological desert incapable of supporting any other life. Finally, the last view is an area of cropland interspersed with brush and fallow areas to provide game cover, streams with trees on their banks to keep the water cool enough for fish, and woodland with both areas of pines and hardwoods which would produce both timber and game.

There are as many definitions of conservation as there are agencies which bear the name; all of them conserve, but they conserve different things. The modern sportsman should take a critical look at the conservation scene to find out where the wild game he hunts, and the fish he catches rank on the priorities of land use list. He should then make his individual and collective voice heard to

Continued on page 16

ON THE COVER: It's time to turn to school books and from fishing poles for the youngsters, finds Jamie Brown, 7, of Cochran, and his dog. It isn't an easy thing to do . . . he had to make a stop by the creek on the way to school. Photo by Ted Borg

ON THE BACK COVER: If you see a man or a group of men peering suspiciously over brush such as this, gun in hand, this month, don't worry about whether there's an invasion. There is . . . but it's on the Dove season ushers in this year's hunting. Read Charles Marshall's story, "Dove Retriever," Page 1. Hunting seasons are listed in Sportsman's Calendar, Pages 16-17. Photo by Dean Wohlgenuth

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Dove Retriever

By Charles M. Marshall

PHOTOS BY THE AUTHOR

Lady and her master, George B. Sturgis wait in the shade for some action.

Retrieving doves for my Dad was a great thrill during the early thirties. It was quite common back then to have a "pick-up" boy who performed duties of carrying a half case of shells in the original wooden box, which was used as a seat, and to retrieve all the doves killed by the gun man.

You don't see this much anymore. Doves come in cardboard cases and school teachers nowadays think youngsters should be in class instead of hiding behind a clump of broom sedge waiting for a dove to hit the ground. I guess I'll get accustomed to cardboard cases, and agree with the educators, but this still leaves the hunter without an extra pair of legs at his disposal.

There are ways of getting around having your own flesh and blood retrieve or miss school. Ironically, it was a former teacher who showed me a method he has used for many years. George Sturgis, a science consultant for the State Department of Education, invited me to a dove hunt in Emanuel County to educate me in this regard.

I had met George at the Georgia Natural Resources Institute two summers ago when I was teaching ecology and game management. He told me about his favorite dog, a ten-year-old English setter which would retrieve doves, tree squirrels, trail possums, and point quail, as well as rabbits and woodcock.

Well now, when a fellow brags this much about a dog, you can't help but call his hand. Since dove season was scheduled for the following month, he suggested that I come and see his dream dog, Lady, in action. The temptation was too much, so I agreed to accompany him.

George arranged for us to shoot a narrow peanut field snuggled between a patch of woods and a large corn field. To make certain I could see all the action and get a few shots myself, I chose a stand by a hill-top hedgerow which paralleled a rusty hog wire fence. We settled down to wait for the first birds to arrive.

Lady sat obediently at her master's

side awaiting instructions. It didn't take long before we had some action.

A lone dove came drifting into the opposite side of the field and headed directly toward George. He dusted this one off with his full choked Model 12 Winchester. The bird crumpled and fell in a nearby briar patch.

I had been so interested in looking for other birds that I forgot to watch Lady's reactions until she came out of the brush with the dove held carefully in her mouth. Her owner took the bird, patted her lovingly on the head, and gave me a gloating smile.

Big deal. She retrieved a bird. So what?

In the next three hours or so, I found out what he had been boasting about. That little dog made one amazing retrieve after another.

As I sat there under a small sassafras and watched George get his limit while never losing a wounded bird, I wondered why more people don't use dogs for dove retrievers. They would certainly cut down on the crippling loss, as

well as aid in finding stone dead birds which fall in high grass. One of the things that impressed me most was that George could shoot a bird out of a flock and then proceed to draw a bead on another while Lady bee lined it to the first kill. He would mark the second location, and send her to it after completing the first portion of her assigned duty.

After the hunt was over, George and Lady demonstrated another advantage of a good retriever. This was to find lost birds killed by other hunters during the afternoon. On one such occasion, the year before this, she disappeared under some honeysuckle and came trotting back with an even dozen freshly killed doves, neatly packaged in a plastic bag! After that trick, a nearby hunter vanished into the woods and was last seen driving a fast car just ahead of a cloud of dust.

Retrievers that pick up birds killed by other hunters may be a little unpopular, but it sure does up your kill per shell ratio (some of us could use some improvement in this department). Most of the time, any ruffled feathers can be smoothed by informing your hunting neighbor that you have his birds and will hand them over whenever he wants them.

Of course, everyone can't use canine retrievers at the same time, due to possible confusion caused by some dogs snitching other hunter's doves or getting into fights over dead birds, but why wait until they beat you to the draw? Try one before everyone else does.

Before releasing this article, I dis-



"Good shot, now watch me."



"I know, I know, I know," Lady said.

cussed with several State Game and Fish Commission representatives possible law enforcement problems that might be caused by using dogs during the first season's hunt when nothing is open. Director George T. Bagby informs me that if hunters choose to use retrievers, they should be very careful not to hunt quail or any other game except doves. If you plan to use a bird dog as a retriever and are concerned about the possibility of getting fined for hunting quail out of season, then confine your canine retrieving to the second season when practically everything is open. After having picked up for yourself in September, it will make you better appreciate man's best friend during the December season.

It is my understanding that dogs are easily trained to perform this task, and that it doesn't take a high priced hunting dog to be successful. A common mutt, handled by a capable master, can perform this task as well as a high bred dog.

I hope to have a pup trained by the December dove season. So if you see a brown and white Heinz streaking toward a downed bird with retrieval on his mind, look close, because I may be in the next hollow reloading my loader and watching for another feathered missile.

Tactics for Whitetails

By Marvin Tye

According to statistics gathered by the State Game and Fish Commission, one of the most popular game animals in Georgia is the whitetail deer. The number of hunters seeking this challenging trophy is growing each year.

Hunting the whitetail is in most cases a job that takes skill and a thorough knowledge of the animal's habits and habitat. Most new hunters do not have this skill or knowledge. Until they

The moment we all dream about . . . that big beautiful buck, and here we are, all set to make it our prize, with a nice rack for the mantle, and venison for the freezer. To realize this situation, however, means some advance planning and preparation.

Photo by Ted Borg





Photo by Ted Borg

To increase your chances of getting a real trophy like this one, hunt in areas that have produced large racks regularly in the past. Joe Page looks at this one taken by his brother Jerry near the State Game & Fish Commission's Walton Hatchery.

acquire it, their hunting will be mostly a series of unproductive trips afield, as far as meat on the table is concerned. They can learn by experience, but a bit of reading before the hunting season begins could help to shorten the learning time and help them to bag that buck sooner.

For example, let's say that you have hunted small game such as rabbits or squirrels. If you are already proficient with a small caliber rifle, you are one step ahead of the man who has never hunted before. If you don't have a suitable firearm for deer hunting, your next step is to purchase one. Georgia regulations limit deer hunting guns to 20 gauge or larger shotguns loaded with slugs or buckshot, muzzle-loading rifles .40 caliber or above, and rifles using any center fire cartridge with expanding bullet .22 caliber or larger with the following exceptions which are illegal for deer hunting: .25-20, .32-20, .30 Army Carbine, .22 hornet, .218 Bee, .22 Remington Jet Magnum, .221 Remington Fireball, .256 Winchester Magnum, and special All .22 caliber rimfire cartridges are illegal.

The .30-06 and the .30-06 are the most popular rifles for deer hunting. Either is adequate but the .30-06 is the most accurate and is recommended for its greater killing power, es-

Oaky Woods Game Management Area is a good spot to find good sized deer. That's where Newan Moore found prime deer habitat that yielded this nine-pointer.

Photo by Ted Borg



pecially if a bad hit is made. Another point to consider is that the .30-06 is powerful enough to use on practical any North American big game. If you should someday get a chance to hunt in Canada, Alaska, or some of our Rocky Mountain States, this gun could be useful while the .30-30 would not be recommended.

Unlike quail or dove hunting, you cannot expect to shoot just at the deer and expect to bring it down. The shot must be placed in the vital area to kill the animal quickly and humanely. To do this most effectively, you should aim for the rib cage where most of the deer's vital organs are located. The shot should be placed low in the chest immediately behind the front leg to strike the heart. If your shot should be a bit higher it will strike the lungs or perhaps the spine, which is a good hit. Toward the rear of the rib cage are the kidneys and liver, a hit in either one will put an animal down in short order. If you don't have a chance to hit either of these organs, it is usually best to pass the shot and wait for something better. A hit in the deer's mid-section, a so-called "gut shot" will probably kill the animal eventually but even the most powerful cartridge made will not kill instantly and it is likely to escape and not be recovered. If an artery in a portion of the deer's body is struck, it will die quickly. A larger diameter bullet gives the hunter a better chance of striking an artery should his hit be far back.

One of the best shots possible for a rifleman is the quartering away shot which the deer is facing away from the hunter and is standing off to one side. This is the situation in which the

passed the point at which he would standing broadside to the hunter. In that position, the deer should not be hit behind the shoulder but just a little behind her back. A good rule of thumb here is to aim through the chest at the leg or shoulder on the far side of the deer, being careful not to hit behind the last

A shot in the head or neck can be fatal, but unless placed just right such a shot can also wound the deer and should be avoided if a chest shot can be obtained. A head-on shot into the chest can be effective providing that you are using a cartridge powerful enough to push through the shoulder bones into the vital organs.

In any way, I have put the cart before the horse in explaining shot placement before giving tips on how to locate the deer, but I believe that information of this sort is valuable and should be passed. No amount of knowledge of deer habits will do you any good if you do not place your shots properly.

Deer are found in hardwood forests where they feed upon acorns, leaves of many plants, twigs, shrubs, weeds and tree fruits. Honeysuckle, rye grass and clover also attract deer if placed near a forest border. They feed primarily late in the afternoon, at night and in the early morning hours. In order to get a shot at a deer the hunter is most likely to be successful if he takes a stand near a known feeding area. He should go on the stand before daylight and stay until mid-morning and then return in mid-afternoon and stay until the end of legal hunting hours.

Obviously, a stand just anywhere in the woods will not pay off. Pre-season scouting is the best way to locate a good position for a stand. Look not only for places which the deer would use, but also for tracks, droppings and other indications that deer are in the area. A trail leading from feeding to bedding areas is a good location for a stand. Deer usually bed down in thick cover during the middle of the day.

When selecting a stand near a deer you will be sure to get downwind so that the deer cannot get your scent. Don't stand in or too near the trail since human scent can be detected several days after you have passed by.

Deer are extremely wary creatures and will flee as soon as they get your scent or hear any unnatural noises or see any sudden movement. By hiding in dead brush you can eliminate the possibility of being seen, but still have to be careful about scent and movement. An elevated tree stand helps to eliminate many of these problems. You have more freedom of movement, are less likely to make noise and your scent is well above ground level.

Creeping up on a bedded deer is al-



PHOTO BY JIM MORRISON

It's always a thrill to see deer in the woods, but these doe deer don't present targets unless it's either sex day or archery season. And a running shot is a mighty tough one for archers.

most impossible because of the deer's keen senses of smell and hearing and alertness for sudden movement. A good woodsman can sometimes accomplish this task when a light rain is falling because the sound of the rain muffles any noises that he might make and makes it harder for the deer to see or smell him. Also, the rain makes the deer uncomfortable and it is more likely to get up and wander around during the middle of the day.

Obtaining permission to hunt on privately-owned land is difficult unless you have friends who own or lease large tracts of timber land. Public hunting areas such as the national forest lands and wildlife management areas administered by the State Game and Fish Commission are the best bets for the hunter without connections.

If you want to bag a buck big enough to make the record books, you might be in for a big disappointment. Of the 25,000 or so deer taken in the state each season only one or two qualify for listing in the Boone and Crockett record book. Scoring is done by a relatively complex measuring system in which the antlers are rated by assigning points for size and symmetry of the rack. It takes a minimum of 170 points to qualify.

If you have your heart set upon such a trophy, the best method to prepare for it is to hunt the area that has produced the largest number of trophy racks in the past and to pass up shots at smaller bucks until that dream animal walks near your stand. It is an interesting point to notice that each of the hunters who killed prize-winning deer in the first two years of Georgia's big buck contest had never before bagged another. They struck it rich with their first successful deer hunt. All of these deer were taken in the central Georgia Piedmont region. The Oconee National For-

est, Cedar Creek Wildlife Management Area, Piedmont National Wildlife Refuge and Oaky Woods Wildlife Management Area seem to produce some of the best trophy racks of any lands open to the general public. The Clark Hill Wildlife Management Area is in the same geographical region as these areas but it does not produce the same high-quality racks, perhaps because of low-quality food. Management programs now underway should improve the situation in the near future.

Although deer are common in the north Georgia mountains and in the southern part of the state, they are generally smaller and have smaller antlers than their cousins in the Piedmont region.

The largest typical whitetail deer on the Boone & Crockett Club's record book for which the details of the kill are known was a monstrous buck bagged near Peoria, Ill. by Mel Johnson. His weapon was a bow and arrow. The largest non-typical buck in the book for which details of the kill are known was also killed by a bow hunter. Del Austin killed this monster whitetail near Hastings, Neb. with a 45-lb. bow. Johnson used a 70-pound weapon to bag his record breaker.

From these statistics, it might appear that the archers have the best chance of bagging big deer. As in a lot of other cases, things are not exactly as they appear. In Georgia, bow-hunters usually have a pre-season, getting to hunt deer during most of the month of October. In most parts of the state, the firearms season starts in November. The archers usually get the first crack at the deer. If an individual archer is a skilled shot as well as an expert woodsman and experienced hunter he would have a better chance of bagging that large buck than a fellow archer who was not as well



Photo by Marvin

Whether you hunt with gun or bow or both, it's best to get in as much preseason target practice as possible, such as these archers are doing. If you're a beginner, an expert can help. Charlie Petty, left, and Bill Brasher, right, show a group of novice archers how to score on simulated animal targets.

trained for the job. Still, that archer would not be in as good a position to score as he himself would be if he were hunting with a rifle.

The reasons for this are obvious to anyone who has tried hunting with both weapons. The rifle can be fired from any position and with little motion required. The archer must make considerable motion to shoot at a deer. The rifleman can shoot from cramped quarters while the archer must have room to move his bow without striking overhanging branches or other obstructions. The smallest twig in its path will deflect an arrow and cause an otherwise perfect shot to miss its mark. A skilled rifleman can hit a deer 50 to 100 yards away with little problem. Not only is it difficult for an archer to hit a deer at that distance, but he would have to aim above the animal to allow for the drop in the arrow's trajectory at that distance. Such shooting would be almost impossible in our thick forests.

Bow hunting is advanced hunting. It takes considerably more skill and patience to kill a deer with a bow and arrow than with a rifle or shotgun. The chances of scoring down chancy shots are slim. The deer is usually in a thick screen of brush, and the archer must be in a good position to make a shot.

his shot. Then he must move quietly and slowly—but not too slowly and shoot straight into the deer's vital area. If the deer hears, sees or smells the hunter at this range, it will be gone before he has a chance to score.

If an arrow strikes the proper spot, it will kill as humanely and almost as quickly as a well-placed bullet. A bullet or arrow in a non-vital area will produce a wound that may heal or may allow the deer to escape only to die later and be unclaimed. The hunter, rifleman, or archer, owes it to himself and to the deer to pass up any shot that he is not reasonably sure will hit a vital organ.

If your deer does not fall when you shoot, be sure you missed it before moving on. If you are bow hunting, find your arrow. Look for hair or blood on the shaft. Follow the direction of the animal's flight for some distance looking for blood or hair on the trail, sure signs of a hit. A well-placed bullet will dislodge a lot of hair and you can tell from this and the color of the blood where the deer was hit. The lightest hair comes from the deer's underside and legs. The hair is slightly darker on the side and darker still on the back. Bright red blood comes from arterial bleeding and darker blood from venous bleeding. Bubbles in the blood signify a hit in

the lungs. Green matter indicates a hit in the paunch.

It is best, in most circumstances, to wait a half hour or more before trailing a wounded deer. If it is gut-shot, should wait at least four hours, preferably longer. Move slowly and be ready for a finishing shot if it is required. Gut-shot animals leave little blood trails and are not easy to locate. If pushed, they will run and be much more difficult to find than they would be if left alone for several hours. Then they will either be dead or too weak to move.

If a deer is hit in a vital area and does not fall immediately, it will usually travel only a short distance before falling. In most cases a heavy blood trail will lead the hunter right to it. If you should have difficulty locating your game, don't give up easily. Keep looking ahead of the last sign and try to pick up the trail or locate the downed animal. If you have a hunting buddy, two nearby get them to help you, and be sure to give such assistance if you are asked.

A heavier weight bow provides deeper penetration than a lighter weight weapon and in the case of a poor shot could be the difference between wounding and killing a deer. A 40-pound bow will kill a deer if the shot is placed



PHOTO BY DAN KEEVER

effectively. Weight, in this case, refers to the pressure necessary to draw the bowstring 28 inches, the length of most hunting arrows.

One of the most important aspects to consider when bowhunting is that the point of the arrow, the broadhead, could be sharp enough to shave hair on your arm. If it is not, you should never shoot it at a deer. There is a saying among archers that "he who shoots a dull head has two". A really sharp broadhead will sever arteries, veins and capillaries and bring death quickly, even when the deer is hit in a less desirable spot than the chest cavity. A three or four-edged point makes a bigger hole than a two-edged point and is thus more likely to hit an artery if the shot is placed outside the chest cavity.

The first year archery licenses were sold in Georgia, 157 hunters bought them. That was in 1960. During 1969, 1,556 archery licenses were sold. Another sport that is gaining in popularity is the hunting of deer with primitive weapons. This is usually interpreted to mean muzzle-loading rifles. These weapons are capable of killing a deer if the shot is well placed. A challenge is added to this sport because the hunter has only one shot and must be able to make it count. Special primitive weapon only deer hunts are held each year in a number of Georgia's wildlife management areas.

Choices for the deer hunter are many, as indicated by some of the various types of ammunition displayed here. Of these, only one can really get a hearty recommendation. That's the .30/06 cartridge on the left. Next to it is a .222 Remington, which is legal, but could not be considered desirable for Georgia deer hunting. The remaining cartridges are illegal for deer. They are, in order from left, .30 caliber M-1 carbine, .218 Bee and .22 Hornet.

If you take an outstanding whitetail, why not enter it into the Game & Fish Magazine contest? Bring it by the Game & Fish Commission's office and have it officially measured. Jack Crockford, Commission assistant director, measures this rack for a lucky hunter. Details of the contest will be announced in this magazine next month.

In certain southeastern Georgia counties, deer are hunted with dogs. While this can be an exciting experience, it does not require the knowledge of deer habits nor the shooting skill required by still hunting. Usually, a large number of hunters take stands at intervals along the banks of a river or other natural barrier while their companions release dogs to drive deer by these standers. The hunters use shotguns loaded with buckshot. At close range, buckshot can be extremely effective; however, studies indicate that more deer are crippled by buckshot than any other weapon. At ranges over 30 yards or in really dense brush at closer range the deer may never receive enough of the buckshot pattern to be fatally injured. There is a tendency for the inexperienced marksman to aim at the entire deer, thus causing hits in non-vital areas. Buckshot is not allowed on wildlife management areas because of the high crippling losses it produces when compared to other weapons.

How do you bag that buck this fall? To sum it up as briefly as possible, you should hunt with a weapon you are familiar with, get in as much practice as possible under actual hunting conditions, study deer habits and movements in your chosen hunting area, pick your stand and hunting area with care, and hope for a large dose of hunter's luck.

Photo by Marvin Tye



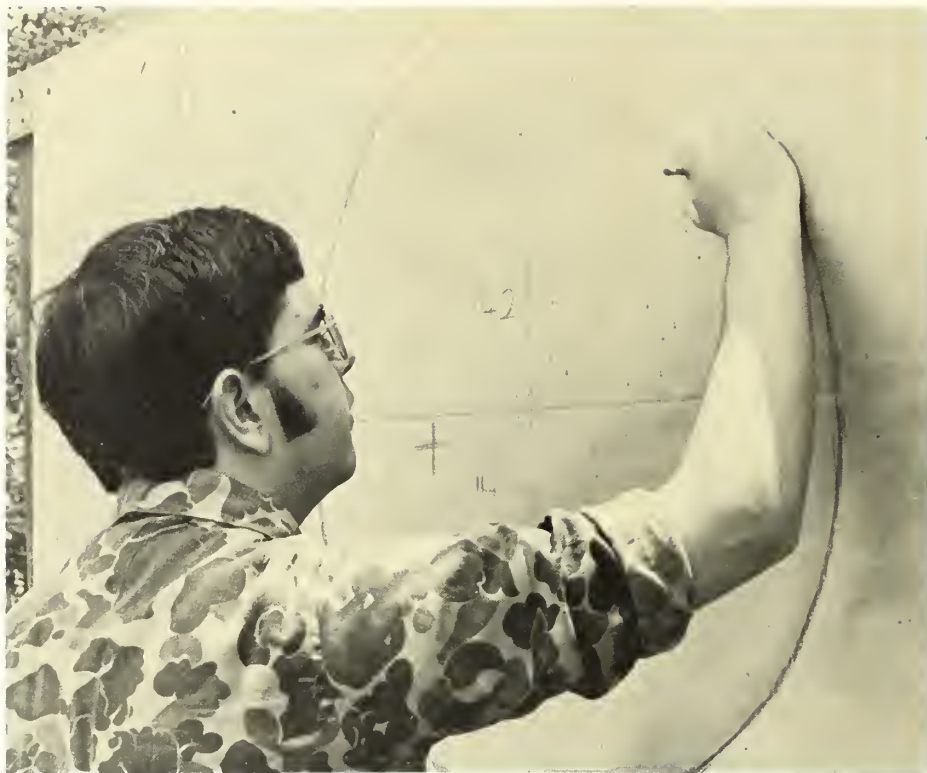


Photo by Aaron Pass

Hitting what you aim at with regularity is no accident. To assure more and better hits, patterning will tell you what your gun is doing. After shooting onto a sheet of plain paper at the proper distance, draw a circle around the greatest number of holes, then start counting.

CHECK THAT CHOKE

By Bob Wilson

■ If you are satisfied with the number of doves or quail you managed to get last season, read no further. This article is for those of us who would like to do better than four or five doves per box of shells, and perhaps one quail per covey. To get full enjoyment out of your hunting time and expense, and to enjoy some great eating, you have to be able to bring home the game.

A little effort and a very small investment in late summer or early fall will produce results in the bird season in the form of a heavier game bag. When those doves come singing in, you must get your shot off in one smooth, quick motion, knowing you should get a hit, before the silver-grey birds flit off in a new direction and out of range. If you fail to regularly get at least one quail or one covey rise, there is something wrong with either your shotgun or your aim.

It takes little effort to find out what your gun is doing. After shooting on a sheet of paper at the proper distance, draw a circle around the greatest number of holes, then start counting.

trate on the shotgun itself, and save the work on shooting form for later.

The average shotgun owner just does not know what his gun will do. Oh he knows it is a Lefever of sixteen gauge using any 2³/₄" load, and stamped right on the barrel it says it has improved cylinder and modified chokes. So far so good, but Mr. Average still has no idea as to exactly what his gun can and cannot do. He knows that for his usual five boxes of shells a year he can count on getting a number of rabbits, maybe ten or twelve doves, and about a dozen quail. He also knows that his gun will fill an oil can full of holes at what he believes is 35 feet.

The first thing Mr. Average needs to do is get a good look at just what his shot looks like where it hopefully meets the target. Just what do improved cylinder and modified chokes mean?

Supposedly, a full choke will deliver at least 70% of the shot in a 30 inch circle at 40 yards; a modified choke should put 60% of the shot in a 30 inch circle at 40 yards; and an improved cyl-

inder choke is supposed to place 45% of the shot in a 30 inch circle at 40 yards.

What were all those words like "supposedly" and "should" doing in there when we were talking about patterning? Well, the old saying about not everything you read being true certainly applies to the choke markings stamped on shotgun barrels. Frequently, the choke indicated is at least one step removed from the way the gun really shoots. Two guns from the same maker and marked as having the same choke may vary considerably. Ammunition makes a considerable difference too, with a one-half to one step variation in effect, the choke being possible with different brands and types of shells.

So how do you find out exactly what kind of effective choke your particular gun gives with the type of ammunition you use? Patterning is the only way. Patterning? Patterning! All you need is a place to shoot, your gun, some ammunition, and a roll of wrapping paper.

All you need to do is to cut several

yard squares from the roll of wrapping paper, mark the approximate center, hang it on a fence or tree, measure 40 yards, and fire away. It is important to use the same ammunition that you expect to use later on during the hunting season. For example, if you normally use number 8 shot on dove, number 7½ on quail, and number 6 on bit, it is necessary to test the patterns for each shot size. Changes in powder charge can also affect the effective pattern, even if the same size shot is used. Patterns, to be of any practical use, patterning must be done with exactly the same ammunition you will use in the field. It is necessary, of course to change the target paper after each shot. Five to ten shots are required to determine the average performance of any ammunition.

Using a piece of string 15 inches long, with one end fixed at the most central portion of the pattern, and the other end attached to a pen, a 30 inch diameter circle should be drawn. After another tedious session counting shot holes, the percentage of hits in the circle can be computed and the effective pattern determined.

What about a variable choke? Well, we relate the sad but true tale of one in particular. The gun was a nice Winchester Model 50 in 12 gauge.

by Ted Borg

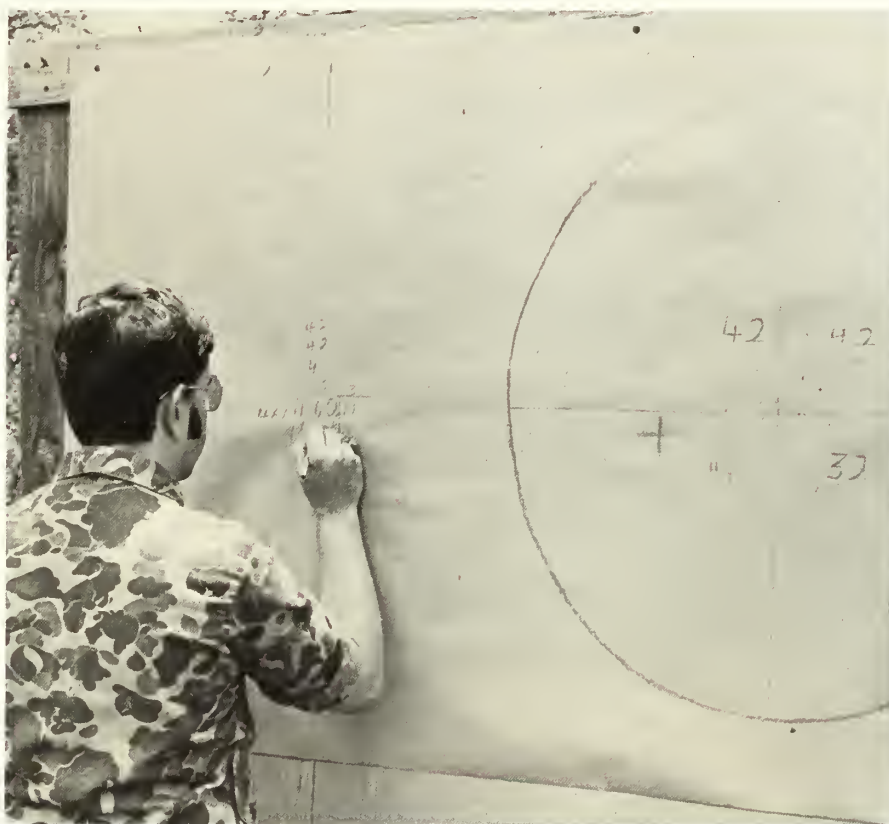


Photo by Aaron Pass

With the number of shot holes determined, the patterning percentage is figured by using the number of shot as listed in various loads. Such listings can be obtained from major ammunition manufacturers.



Here are the kind of dividends you can realize from patterning—a good day in the field, with a good number of birds in the bag.

Since it was to be a multi-purpose gun, the owner decided to install a popular collet-type choke. With good reason, he then decided to pattern the gun on the various settings. On the "improved cylinder" setting the choke produced a 45% pattern, a bare minimum, and the shot pattern was centered eight inches high. Set on the "modified" position it gave a 53% pattern, somewhat below standard, ten inches to the right. At what was supposed to be "full" choke, the pattern produced was 58%, centered twelve inches low, not even an effective modified.

Needless to say, he was disgusted with these results. Replacing the collet-type adjustable choke with a tube-type adjustable choke, he tried again. The results were much better, with the center of the patterns with various chokes remaining on the center of the target. However, while the previous device had failed to produce tight enough patterns, the second device produced patterns tighter than indicated. The new adjustable choke gave patterns of 52% on improved cylinder, 74% on modified (effectively a full choke), and an extremely tight 93% on full choke.

All right, so you determine just what kind of effective choke your gun has and just what it does, will you be able to put more game in the bag? Well, if you don't you can't blame your shotgun any longer.





Photo by Ted Borg

SUMMER IS FOR

LEARNING ABOUT



Photo by Aaron



OUR WORLD

By Marvin Tye and Aaron Pass

Learning... *FOR SAFER FUN*



Photo by Ted Borg

Each year since 1952 an average of 500 boys have gathered at Camp Safety Patrol on the shore of Lake Jackshear to learn first aid, traffic and pedestrian safety, water safety and related skills.

The program is administered by Lt. Lloyd Hartsfield of the Georgia Highway Patrol. At a cost of \$15 per week per person, the boys stay in eight brick barracks on a 25-acre plot of land on the east shore of the scenic lake, adjacent to the Veterans Memorial State Park.

This summer, for the first time, State Game and Fish Commission Rangers have been instructing the boys in water safety. Two different rangers each week are assigned to conduct the classes. They stress the importance of wearing life preservers and inspect the safety equipment of each youngster before he is allowed to board a boat.

Proper handling of the boat is demonstrated as well as safety rules such as sailing right of way and avoiding swimmers. After a short boat ride, the boys return to the shore. From this vantage point they watch the rangers demonstrate what to do in case a boat capsizes. One important point that they stressed was staying near the boat. The rangers joined hands over the boat to show that they could float in that position. They then picked up floating items such as water coolers, gas cans and life preservers and demonstrated how these could be used to stay afloat. The rangers then turned the boat upright and showed inside to show that although it was almost filled with water, the craft would still float if the two men would relax and distribute their weight properly.

As soon as this session was completed the boys hopped in the water and tried the various flotation devices themselves.

Not only has the school proved beneficial for the young students, but residents of the area have noted that the boys always wear life preservers and have become more aware of this safety device themselves.

It's a proven fact that public education on boating safety reduces the number of accidents on the water. It seems logical to assume that the more boys who attend this course, the better our chances of having safe water recreation areas when these youngsters are old enough to own their own boats. In 1964 there were 146 "water deaths" recorded in Georgia. These were from various causes including drownings while swimming. Fifty-six of these were caused by boating accidents. The next year strict

enforcement of water safety regulations and public education programs reduced the total number of water deaths to 99 and the total number of deaths caused by boating deaths to 31. During the first seven and a half months of 1970 the State Game and Fish Commission received reports of 81 drownings in Georgia. Many of these were drownings in small farm ponds. Some were related to boating accidents while others were caused by swimming in areas beyond the abilities of the swimmers. A number of these boating accidents, if not all of them, could have been prevented if the victim had worn a life preserver.

Training of the sort offered at Camp Safety Patrol can save lives by impressing the youngsters with the dangers to be found on the water and the need for adequate precautions.

—Marvin Tye

The rangers demonstrated that an overturned boat would support their weight if they could lock their hands over it. Sgt. James Sherling of Sylvester explains the procedure to the youths.



Photo by Ted Borg



Photo by Ted Borg

Learning...

■ Many college students are talking about the mess that the world's environment is in these days. Too often though, talk is about as far as it gets; high sounding words and phrases are tossed around, but no one does anything. This being the case it is both refreshing and rewarding to see a group of students preparing themselves for a career in which they can actively do something to aid in the conservation of our natural resources.

One such group of students is enrolled in a new course of study being offered at Abraham Baldwin Agricultural College. The course lasts two years, and grants the graduate an Associate Degree in Wildlife Management. This degree qualifies a graduate to work as a biological aide assisting wildlife biologists in field and laboratory work. The courses which make up the program are designed to insure that a graduate can competently perform the duties of the job calls for.

The program is headed up by Charles Baker, a former agent with the Game and Fish Commission and Assistant Director of the South-Cooperative Wildlife Disease

The Associate Wildlife Management course offers practical field instruction in techniques used in wildlife biology. Here students learn from instructor Charles Marsh to take a lake sample by using a net.

FOR A PROFESSION

Part of the summer program includes instruction on various facets of work in conservation agencies. Here Bob Baker from the Game & Fish Commission lectures on Law Enforcement.



Photo by Ted Borg



Photo by Ted Borg

These students are conducting various water tests on one of the ponds near the ABAC campus; much the same as they will later do as biologist aides.

dy. With this experience he knows that a biologist requires in a good aide. According to Marshall the program is technology oriented toward the specific techniques required of a biological aide. The practical aspects of the job are stressed rather than pure theory. Some of the "How-To-Do-It" instruction includes age determination in game animals, how to look for parasites, how to operate vehicles and equipment, and many of the other functions of which an aide must be capable.

Although only in its second year, the program seems to be meeting a need as evidenced by its expanding enrollment. The idea was originally conceived by Leon Yow, Head of the ABAC Forestry Department and has been initially successful. The program is still growing and further expansion is likely.

This program is a part of ABAC's overall rural development plan, in which outdoor recreation has a large share. The concept was explained by J. Clyde Rogers, President of the college. "It is essential to preserve and propagate our outdoor resources by sound wildlife development and management to meet an increased demand for this rural type of resource base. This requires well trained, qualified people. I feel that our college is in an excellent position to provide this type of training."

The course consists of two years and one summer. The first year is much like the first year of any course of study, with English, math, and science. The second year is well packed with courses which directly relate to the conservation work the students will do after graduation. These include wildlife biology, forestry surveying, and forest recreation.

The summer quarter is used for practical application of the classroom level. The activities consist of two field trips and two working camps. At the camps the students will get the chance to live and work for a week both on a wildlife management area and at a fish hatchery or lake, giving them the chance to decide which type of work is

most individually suited to them.

There are about 35 students enrolled in the Wildlife Associate Program, and they seem to really enjoy their studies. They have a high regard for both the course work and the instructors, an attitude that is increasingly rare these days. Steve Plymale, one of the students, pretty well summed up the feeling of the group. "The material is practical in nature, and we are shown how to do it. Mr. Marshall takes the time to explain why we do something, and that makes it more interesting."

On the distaff side there is Hilda Haskins, one of the fairer members of the fairer sex, and the only coed in the Wildlife Associate course. When asked why she chose such a predominantly masculine field, she replied, "I've always loved the outdoors. What my father wanted was a boy, and what he got was two girls, so he raised me to be a tomboy and I guess it stuck." The guys agree that Hilda is not only nice to have around, but that she pulls her end of the group work load. One of them said, "Hilda is just like one of the boys — Uh, with certain obvious differences of course."

—Aaron Pass



Coed Hilda Haskins is the only girl in the Wildlife Associate Management Course. Raised to enjoy the outdoors, she is looking forward to a career in conservation work.

Photo by Aaron Pass



Photo by Bob Wilson

Learning... *TO PLAN LAND USE*

■ "We no longer have land to waste" was the dominant thought at the Land Use Planning Symposium held this summer at the University of Georgia. Representatives of the various planning and conservation agencies met to discuss the need for better land use planning in the rural and non-urban areas of Georgia.

Long range planning for "rural" land is a relatively new concept in land planning. Up to now most planning effort has been directed toward the urban centers of population because this type of land was generally considered more valuable than the open land outside the city. However, an increasing population is causing an increasing demand on this open land to the point where it is clear that some type of orderly planning must be done if we are to continue enjoying the benefit of this land and its resources.

The urgency of such planning was emphasized by both the speakers and the topics presented during the course of the Symposium. The speakers represented the different organizations and groups concerned with planning for and managing land of a rural character. Topics such as agriculture, forestry, industry, transportation, and wildlife conservation were all discussed by experts in their fields in regard to the future needs of a growing population.

During the symposium, conflicting points of view were presented. A wide cross section of interests was represented. J. D. Strange, retired from the U.S. Forest Service pointed out that

the modern world now realizes that natural resources are limited, and as a result there will be growing competition for those resources which remain. This competition further points out the need for an organized planning process by which land will be put to its best and most practical use.

The Symposium began by establishing a case for rural land use planning. This type of planning would provide for the maximum utilization of rural resources, and allow for an orderly transition from a rural to urban setting.

One day was devoted to a panel type discussion on establishing priorities on the uses of undeveloped land space. The panel consisted of authorities in the various fields which directly compete for the use of undeveloped land.

Each panel member was given the opportunity to speak on his particular organization's land use practices, and out-

line the projected needs of the future in light of those practices. The conflicting points of view soon became apparent and they served to illustrate that a planning system will be necessary to resolve these conflicts and provide the benefit of all the functions to the population.

The planning would provide a framework for development through which some of the needs of the population might be met. These needs are as varied and complex as the population itself, including both the economic and the esthetic, the productive and the pleasant. The modern world has reached a point at which it must carefully husband its resources or they could be lost forever. There is a growing realization that a high quality life style will depend upon the totality of man's environment.

—Aaron

Photo by Bob Wilson



Sportsmen Speak...



RECKLESS BOATERS

After reading your editorial in the current issue of your magazine, "Are You The Other Fellow?", we decided to address this to you. Head of the Law Enforcement Division with a request that you pass it along to them if they agree with us that something needs to be done.

During the summer of 1962 we built our first planned "retirement" home in the Chatuge Shores section of the Friendship Community, a few miles west of Hiawassee, Georgia. Since then many more such homes have been built. These are not "summer cabins" but mostly complete year around homes in the 25 to 50 thousand dollar class. During the first few years here we enjoyed excellent fishing and bream fishing and wonderful swimming in the clear, clean water from the North Georgia mountain streams. Nearly everyone had their fishing boat, mostly in the 5 to 7 1/2 foot class. Life was very good.

A few years ago we experienced our first accident with a ski boat hot rod. Only a small circle prevented death or severe injury to my wife and two young daughters of about 12 years of age. We reported that incident to the Law Enforcement Division. As we finally turned over in our light weight 12 HP aluminum boat we sold it and purchased a larger and heavier boat.

Yesterday, July 19th, at about 10:30 am, my grandson and I left our dock in our 14 foot heavy aluminum fishing boat powered by a 9.8 HP Mercury outboard motor, proceeding at about 10 miles per hour a short distance westward to the cove in which Mr. & Mrs. Lynch have their docks. After entering the cove and about half way to their docks we were suddenly and without warning pushed on our port side by a boat pulling a skier at high speed. We were only about 40 feet from the dock and about 25 yds. clear of the skier when this boat cut across our bow without reducing their speed. The skier dropped his skis and thus prevented serious injury from the skier crashing into either our boat or the dock. Again, without reducing the speed, the skier's boat circled and, with tow rope trailing, crossed our bow, this time from right to left and so close to us that the tow rope became entangled in our motor. The sudden pull pulled together with their wash nearly pushed our boat and they finished their dash between us and the dock. Their boat bore a registration number from North Carolina. They had to use a knife and cut the tow rope to remove it from our motor. Fortunately our transom held and the motor appeared to be undamaged. Of course there was some unseen damage to both motor and boat. The main thing, however, was that no people escaped death or injury at the hands of the same type characters who have been at a slaughter house of our highways. This report we would have made to the Law Enforcement Division.

Most of us residents of Chatuge Shores are settled and responsible retirees who want to enjoy the peace and quiet we feel we have after a long working life and battle with the rat race of the city. Are we being unreasonable?

Very truly yours,
H. Gilbert Stewart

the outdoor world

Georgia Hosts Game and Fish Association

The Georgia Game and Fish Commission will host the 24th annual meeting of the Southeastern Association of Game and Fish Commissioners this month in Atlanta. Representatives of the game and fish departments of 16 states will attend this meeting September 28th through the 30th.

These meetings allow an interchange of ideas and a discussion of common problems of the conservation departments of the various states. Some of the topics which will be discussed will include wildlife management in even-aged timber stands, endangered wildlife species, and the role of the conservation agency in environmental involvement.

In addition to these topics, programs will be presented on technical functions performed by game and fish departments. Sessions on game and fisheries management, law enforcement, and information and education will be held by experts in the various fields. These discussions are aimed at increasing the understanding and cooperation among the states on their technical programs.

This meeting will emphasize the growing need for wildlife conservation and development.

—Aaron Pass

New Rules at Piedmont Refuge

Deer hunters are urged to take note of several new regulations which will be in effect at Piedmont National Wildlife Refuge this season. The rule changes will apply mainly to the securing of permits for the refuge hunts.

Applications for gun hunting will be handled by computer this year, so the application must be received no later than September 11, 1970. All hunters will be required to have permits this year, including bow hunters. No previous application is necessary on the Archery hunt. Permits can be picked up at refuge headquarters before hunting.

The Archery hunt will run from Oct. 1 through Oct. 11. The gun hunt dates are: Trophy Buck hunt, Nov. 3 through Nov. 7; Bucks-only hunt, Nov. 12 through Nov. 14; and the Either-Sex hunt: Nov. 28, 30, and Dec. 2.

Pre-season scouting will be permitted on September 26 and 27 during the daylight hours only. The camping area will be open for the hunts for one day before and one day after the hunt dates for each hunt.

Further details and hunt applications

may be obtained by writing the Refuge Manager, Piedmont National Wildlife Refuge, Round Oak, Georgia 31080. A stamped, self-addressed business size (9 1/2 x 4 inches) envelope must be enclosed.

—Aaron Pass

New Forms Required For Quota Applications

This year for the first time all applications for quota hunts on wildlife management areas must be made on special forms furnished by the State Game and Fish Commission. These forms can be secured from any office of the commission and from some license dealers.

A public drawing will be held in Atlanta on October 27 to determine which hunters will be able to participate. Letters of application must be postmarked on October 5 through October 19, 1970. Checks or money orders for \$5.00, the cost of the permits, must be included in the envelope. Details of the locations and times of quota hunts can be obtained from the 1970 Georgia Management Areas booklet available from any commission office.

—Marvin Tye

Power Squadron Holds Boating Classes

Neophyte boating enthusiasts may make plans to enroll in the boating classes being given by the Atlanta Power Squadron this month. The first class meeting will be held at 7 P.M., September 14 at Dykes High School.

The course is called Basic Piloting, and will consist of 15 classes. These classes will cover boat maintenance, navigation, and boating safety. It is a basic course designed for the inexperienced boater to help make him a competent and safe sailor.

—Aaron Pass

Dove Seasons Set

The dove season this year will be divided into three separate shooting periods to better equalize the hunting for Georgians all over the state. They will be from Sept. 5 through Sept. 26, 1970, from Oct. 21 through Nov. 7, 1970, and from Dec. 17, 1970, through Jan. 15, 1971. The daily bag limit shall be 18 and possession limit 36. Daily shooting hours will be from noon until sunset, prevailing time.

Editorial

NOT GOLD—Continued

sure that these things he values and cherishes are included among these which are to be conserved. He must also understand that all things which are called conservation do not necessarily conserve his sport.

Just because it reads "conservation" on the label, the sportsman shouldn't buy the product until he sees how it tastes.

—Aaron Pass

Sportsman's Calendar

SEASONS NOW OPEN

TROUT

Open Stream Season—April 1, 1970 through October 3, 1970.

Creel Limit—Eight (8) trout of all species per day. Possession limit—8.

(Management Area Streams—Open on scheduled days, May 2-Sept. 7, 1970.)

McDuffie Public Fishing Area open until Oct. 31. Arrowhead Lakes Public Fishing Area open Wed., Sat., until Oct. 31, also open Labor Day.

HUNTING SEASONS

SECTION 21

DEER: (1) (Archery Hunt) October 10 through October 24, 1970, in the following counties: Banks, Barrow, that portion of Ben Hill County lying northeast of Ga. Highway #182 and U.S. Highway #319 and between those two highways and the Ocmulgee River; Bartow and Cherokee counties except that portion between Knox Bridge and Stamp Creek, south of Ga. Highway #20 to Allatoona Reservoir, Carroll, Chattooga, Clay; that portion of Coffee County lying north of Ga. Highway #206 and Ga. Highway #268, Colquitt, Dade, Dawson, Dooly, Douglas, Fannin and Gilmer except that portion of these counties containing the Cohutta Wildlife Management Area as follows: beginning at the Murray-Fannin County line and the Georgia-Tennessee State line; thence running easterly along said line to Tumbling Creek Road (FSR-22); thence southerly down Tumbling Creek Road to Watson's Gap, thence continuing in a southerly direction down Three Forks Road (FSR-64) to Dyer Gap, thence down Flat Top Mountain Road (FSR-64A) to Flat Top Mountain; thence in a southerly direction down the ridge of Flat Top Mountain to Fowler Gap to Wolfpen Gap to Wolfpen Gap Road; thence in a southwesterly direction down Wolfpen Gap Road to East Mountaintown Creek Road; thence southwesterly along East Mountaintown Creek Road to the Mountaintown Creek Road; thence westerly along Mountaintown Creek Road to Holly Creek Gap Road (FSR-90); thence northwesterly along Holly Creek Gap Road to Potato Patch Road (FSR-68); thence westerly along Potato Patch Road to Murray-Gilmer County line; thence northwesterly to the Fannin-Gilmer County line; thence westerly along said line to the Murray-Fannin County line; thence along said line to the point of beginning; Floyd, Forsyth, Franklin, that portion of Gordon west of Highway I-75, Gwinnett, Habersham, Hall, Haralson, Jackson, Irwin, Lumpkin, Madison, Paulding, Pickens, Polk, Quitman, Rabun, Randolph, Stephens, Sumter, Tift, Towns, Union, Walker, White, Wilcox, and Worth. Bag limit one (1) buck and one (1) doe or two (2) bucks. Hunting with dogs prohibited.

(2) (Archery Hunt) **Buck Only:** October 10 through October 24, 1970, in the following counties: Brooks, Lanier, except that portion lying north of the Seaboard Coastline Railroad and east of the Alapaha River and southeast of U.S. Highway #221; and Lowndes. Bag limit two (2) bucks. Hunting with dogs prohibited.

(3) (Archery Hunt) October 1 through October 14, 1970, in the following counties: Brantley, Bryan, Bulloch, Burke, Camden, Candler, Charlton, Chatham, Effingham, Emanuel, Evans, that portion of Dodge County west of Ga. Highway #230 and south of U.S. Highway #280; Glascock, Glynn, Jefferson, Jenkins, Liberty, Long, McIntosh, Screven, Tattnall, that portion of Toombs south of U.S. Highway #107, Ware, Washington, and Wayne, that portion of Wilcox County EXCEPT that portion lying in the southeastern corner of the county, bordered on the north by the Seaboard Coastline Railroad and on the east by

Suwannee Creek which is closed and EXCEPT that portion of Clinch County lying north of the Arabia Bay Wildlife Management Area and between U.S. Highway #221 and U.S. Highway #441 which is closed. Also open is that portion of Echols County lying east of U.S. Highway #129 and south of Ga. Highway #187; also open is that portion of Lanier County lying north of the Seaboard Coastline Railroad and east of the Alapaha River and southeast of U.S. Highway #221; also open is that portion of Pierce County lying south of U.S. Highway #82, east of Ga. Highway #121, and west of Ga. Highway #32. Bag limit two (2) bucks or one (1) buck and one (1) doe. Hunting with dogs prohibited.

(4) (Archery Hunt) October 1 through October 24, 1970, in the following counties: Appling, Atkinson, Baker, Baldwin, Berrien, Bleckley, Butts, Calhoun, Chattahoochee, Clarke, Columbia, Coweta, Crawford, Decatur, Dougherty, Early, Elbert, Fayette, Grady, Greene, Hancock, Harris, Heard, Henry, Houston, Jasper, Jeff Davis, Johnson, Jones, Lamar, that portion of Laurens north of U.S. Highway #80, that portion of Lee west of U.S. Highway #19, Lincoln, Macon, Marion, McDuffie, Meriwether, Mitchell, Monroe, Montgomery, Morgan, Muscogee, Newton, Oconee, Oglethorpe, Peach, Pike, Pulaski, Putnam, Richmond, Rockdale, Schley, Seminole, Spalding, Stewart, Talbot, Taliaferro, Taylor, Telfair, Terrell, Thomas, Troup, Twiggs, Upson, Walton, Warren, Webster, Wheeler, Wilkes, and Wilkinson. Bag limit two (2) bucks or one (1) buck and one (1) doe. Hunting with dogs prohibited. (260-2-26 Amended)

SECTION 22

DEER: Buck Only: November 7 through November 21, 1970, in the following counties except as otherwise provided in Section 23: Atkinson, Banks, Barrow, Berrien, Bartow and Cherokee counties except that portion between Knox Bridge and Stamp Creek, south of Ga. Highway #20 to Allatoona Reservoir, which portion will be open during the managed hunt schedule, also that portion of Ben Hill County lying northeast of Ga. Highway #182 and U.S. Highway #319 and between these two highways and the Ocmulgee River, that portion of Coffee County lying north of Ga. Highway #206 and Ga. Highway #268, Brooks, Carroll, Chattooga, Clay, Colquitt, Coweta, Dade, Dawson, Dooly, Douglas, Fannin and Gilmer except that portion of these counties containing the Cohutta Wildlife Management Area as follows: beginning at the Murray-Fannin County line and the Georgia-Tennessee State line; thence running easterly along said line to Tumbling Creek Road (FSR-22); thence southerly down Tumbling Creek Road to Watson's Gap, thence continuing in a southerly direction down Three Forks Road (FSR-64) to Dyer Gap; thence down Flat Top Mountain Road (FSR-64A) to the Flat Top Mountain; thence in a southerly direction down the ridge of Flat Top Mountain to Fowler Gap to Wolfpen Gap to Wolfpen Gap Road; thence in a southwesterly direction down Wolfpen Gap Road to East Mountaintown Creek Road; thence southwesterly along East Mountaintown Creek Road to Mountaintown Creek Road; thence westerly along Mountaintown Creek Road to Holly Creek Gap Road (FSR-90); thence northwesterly along Holly Creek Gap Road to Potato Patch Road (FSR-68); thence westerly along Potato Patch Road to Murray-Gilmer County line; thence northwesterly to the Fannin-Gilmer County line; thence westerly along said line to the Murray-Fannin County line; thence along said line to the point of beginning; Fayette, Floyd, Forsyth, Franklin, that portion of Gordon west of Highway I-75, Gwinnett, Habersham, Hall, Haralson, Heard, Irwin, Jackson, Lanier except that portion lying north of the Seaboard Coastline Railroad and east of the Alapaha River and southeast of U.S. Highway #221; Lowndes, Lumpkin, Madison, Meriwether, Paulding, Pickens, Polk, Quitman, Rabun, Randolph, Stephens, Sumter, Tift, Towns, Troup, Union, Walker, White, Wilcox, and Worth. Bag limit two (2) bucks. Hunting with dogs prohibited. (260-2-20 Amended)

SECTION 23

DEER; Either Sex: November 21, 1970, only, in the counties of Floyd, Haralson, Paulding, and Polk. Bag limit two (2) bucks or one (1) buck and one (1) doe. Hunting with dogs prohibited. (260-2-.67)

SECTION 24

DEER; Buck Only: November 7 through November 28, 1970, in the following counties: that portion of Dodge County west of Ga. Highway #230 and south of U.S. Highway #280; Jeff Davis, Johnson; that portion of Laurens north of U.S. Highway #80; that portion of Montgomery north of U.S. Highway #280 and north of Ga. Highway #107, Pike, Telfair, and Wheeler. Bag limit two (2) bucks. Hunting with dogs prohibited. (260-2-.68)

SECTION 25

DEER; Buck Only: November 7 through November 28, 1970, in the following counties: Appling; that portion of Montgomery south of U.S. Highway #280 and south of Ga. Highway #107; and that portion of Toombs south of Ga. Highway #107 and Ga. Highway #56. Bag Limit two (2) bucks. Hunting with dogs allowed. (260-2-.15 Amended)

SECTION 26

DEER; Buck Only: November 7 through December 5, 1970, in the following counties except as otherwise provided in Section 27 and Section 28: Baldwin, Bleckley, Butts, Clarke, Columbia, Crawford, Elbert, Greene, Hancock, Harris, Henry, Houston, Jasper, Jones, Lamar, Lincoln, Macon, McDuffie, Monroe, Morgan, Newton, Oconee, Oglethorpe, Peach, Pulaski, Putnam, Richmond, Rockdale, Schley, Spalding, Talbot, Taylor, Taliferro, Twiggs, Upson, Walton, Warren, Wilkinson, and Wilkes. Bag limit two (2) bucks. Hunting with dogs prohibited. (260-2-.14 Amended)

SECTION 27

DEER; Either Sex: December 4 and 5, 1970, only, in the counties of Baldwin, Columbia, Greene, Hancock, Jones, Lamar, Lincoln, McDuffie, Monroe, Putnam, Talbot, and Wilkes. Bag limit one (1) buck and one (1) doe or two (2) bucks. Hunting with dogs prohibited. (260-2-.22 Amended)

SECTION 28

DEER; Either Sex: December 5, 1970, only, in the counties of Butts, Crawford north of U. S. Highway #80, Henry, Jasper, Morgan, and Newton. Bag limit one (1) buck and one (1) doe or two (2) bucks. Hunting with dogs prohibited. (260-2-.69)

SECTION 29

DEER; Either Sex: January 1 and 2, 1971, only, in the counties of Chattahoochee and Muscogee. Bag limit one (1) buck and one (1) doe or two (2) bucks. Hunting with dogs prohibited. (260-2-.70)

SECTION 30

DEER; Buck Only: October 15, 1970, through January 2, 1971, in the following counties except as otherwise provided in Section 31: Brantley, Bryan, Bulloch, Burke, Camden, Candler, Charlton, Chatham, Effingham, Emanuel, Evans, Glascock, Glynn, Jefferson, Jenkins, Liberty, Long, McIntosh, Screven, Tattnall, Ware, Washington, Wayne, and all of Clinch County EXCEPT that portion lying in the southwest corner of the county, bordered on the north by the Seaboard Coastline Railroad and on the east by Suwannee Creek which is closed and EXCEPT that portion of Clinch County lying north of the Arabia Bay Wildlife Management Area and between U.S. Highway #221 and U.S. Highway #441 which is closed. Also open is that portion of Echols County lying east of U.S. Highway #129 and south of Ga. Highway #187; also open is that portion of Lanier County lying north of the Seaboard Coastline Railroad and east of the Alapaha River and southeast of U.S. Highway #221; and also open is that portion of Pierce County lying south of U.S. Highway #82, east of Ga. Highway #121, and west of Ga. Highway #32. Bag limit two (2) bucks. Hunting with dogs allowed. (260-2-.13 Amended)

SECTION 31

DEER; Either Sex: October 15, 1970 through January 2, 1971, the islands, except Sapelo and Blackbeard, and marshes lying east of the Intracoastal Waterway in Bryan, Camden, Chatham, Glynn, Liberty, and McIntosh counties will be open for the taking of deer of either sex. Bag limit two (2) bucks or one (1) buck and one (1) doe. Hunting with dogs allowed. (260-2-.37 Amended)

SECTION 32

DEER; Buck Only: November 19, 20, and 21, 1970, only, in that portion of Atkinson County lying south of the Seaboard Coastline Railroad and east of U.S. Highway #221; that portion of Berrien County lying east of U.S. Highway #129, south of the Alapaha River, north of Ga. Highway #76 and west of Ga. Highway #135; and Wilcox County. Bag limit two (2) bucks. Hunting with dogs allowed. (260-2-.23 Amended)

SECTION 33

DEER; Buck Only: November 13, 14 and November 20, 21, 1970, only, in Colquitt County. Bag limit two (2) bucks. Hunting with dogs allowed. (260-2-.43 Amended)

SECTION 34

DEER; Buck Only: November 7, 1970, through January 2, 1971, in the following counties: Decatur, Early, Grady, Marion, Mitchell, Seminole, Stewart, Terrell, Thomas, Webster, and that portion of Lee County lying west of U.S. Highway #19. Bag limit two (2) bucks. Hunting with dogs allowed. (260-2-.17 Amended)

SECTION 35

DEER; Either Sex: November 7, 1970, through January 2, 1971, in the following counties: Baker, Calhoun, and Dougherty. Bag limit one (1) buck and one (1) doe or two (2) bucks. Hunting with dogs allowed. (260-2-.39 Amended)

SECTION 36

DEER; Buck Only: November 7, 1970, through December 31, 1970, in the counties of Chattahoochee and Muscogee. Hunting with dogs prohibited. Bag limit two (2) bucks. (260-2-.19 Amended)

SECTION 37

GROUSE: January 16 through February 27, 1971. Bag limit three (3) daily; possession limit six (6). (260-2-.30 Amended)

SECTION 38

OPOSSUM: October 17, 1970, through February 27, 1971. Statewide season. Exception: Coweta County will be open September 26, 1970, through January 23, 1971. No bag limit. (260-2-.31 Amended)

SECTION 39

QUAIL: November 20, 1970, through February 27, 1971. Statewide season. Bag limit twelve (12) daily; possession limit thirty-six (36). (260-2-.32 Amended)

SECTION 40

RABBIT: (1) November 20, 1970, through January 30, 1971. The counties of Carroll, Fulton, DeKalb, Gwinnett, Barrow, Jackson, Madison, Elbert, and all counties north of those listed will be open for rabbit hunting. Bag limit five (5) daily.

(2) November 20, 1970, through February 27, 1971, in all counties south of the above listed counties. Bag limit ten (10) daily. (260-2-.33 Amended)

SECTION 41

RACCOON: (1) October 17, 1970, through February 27, 1971, in Carroll, Fulton, DeKalb, Gwinnett, Barrow, Jackson, Madison, Elbert, and all counties north of those listed. Bag limit one (1) per night per person.

(2) All counties south of the above named counties are open year round for the taking of raccoons. No bag limit. (260-2-.34 Amended)

SECTION 42

SQUIRREL: October 15, 1970, through February 27, 1971. Bag limit ten (10) daily. (260-2-.35 Amended)



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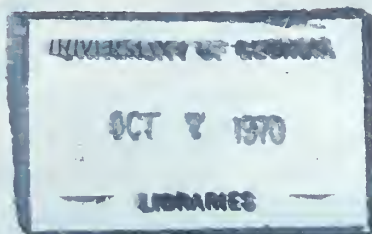
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OCTOBER, 1970





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CONTENTS

Don't Pass the Salt	Bob Wilson	1
Drawing A Bead On '70	Marvin Tye	4
Set Your Sights On Success	Aaron Pass	7
Yours For Using	E. V. Richards	11
Sportsmen Speak		15
Outdoor World		15
Sportsman's Calendar		16

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Ted Borg, Photo Editor



MOUNTAINS OF GLASS

And then there are the mountains. A great range called the Appalachians; beginning far to the north, they find their southern terminus in northern Georgia. Made up of colorfully named smaller ranges like the Adirondacks, the Alleghenys, the Great Smokies, and the Blue Ridge, the whole Appalachian region is a place of incomparable beauty and great fascination to the outdoorsman.

Bear, deer, grouse, and wild turkey still roam the forested slopes much as they did when a trapper named Boone led settlers through Cumberland Gap to the rich lands beyond. Today these green hills and valleys, ridges and coves comprise the last significant upland wilderness area in the populous east, and hold tremendous potential in terms of recreation and scenic value.

There is a strange magnetism about the mountains that draws people to them for many reasons. In the fall hunters search the ridges for grouse and deer, and in the spring fishermen probe the cold, clear streams for trout. Many people, who neither hunt nor fish, are happy to just hike through the mountains for the scenic beauty the mountain environment affords.

This magnetism is best understood by those who feel it. It is, in part, the desire to gaze at a mountain simply because it is a mountain, or to drink from a cold brook to slake a thirst deeper than that for water. Such a wilderness experience in the mountains goes soul deep, and is quite indescribable in mere words. The hunters, fishermen, hikers, and primitive campers are all seekers; they seek a union with nature and the pursuit of their sport in wild solitude away from the reminders of man.

The fact that the mountains have retained some wilderness quality at all is due to their rugged terrain, which to now has made development economically unfeasible. That has been changed recently by an increasing demand for outdoor recreation, and now the mountains present a lucrative opportunity for commercial development. They stand on the verge of a large scale "Recreation Rush", which if

Continued on page 11

ON THE COVER: Nature dons her most beautiful garb during the fall season, giving an extra bonus to the outdoorsman. Forests are resplendent with color, such as they are in this scene of Unicoi Lake in the Chattahoochee National Forest in North Georgia. Forests provide hunting, fishing, camping and all manner of opportunities for recreation. See "Yours For Using," Page 11, by E. V. Richards. Photo by Dean Wohlgenuth.

ON THE BACK COVER: Modern day Robin Hoods greet October eagles as it's their time afield. Archery hunting has grown rapidly, not only because of its challenge, but because it adds length to the deer season and provides a chance to get in some preseason scouting for the fall hunts. Richard Parker of Forest Park, former president of Georgia hunters Association, is one of Georgia's most enthusiastic bowmen. For a forecast of what hunting is expected to be like this year, see Marvin Tye's article, "Drawing A Bead On '70," Page 4. Photo by Dean Wohlgenuth.

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■ We are just now beginning to tap Georgia's saltwater fishing potential. The fishing is good now, and it should be even better in a few more years. The improvements that are necessary are better facilities for offshore fishing, and a means of insuring larger and more numerous concentrations of fish. Private enterprise will take care of improved facilities, and the State Game and Fish Commission is working on the fish concentrations.

Let's take a look at the current situation on Georgia's offshore fishing, and save the improvements for later. Generally adequate facilities for offshore fishing exist at Savannah, Shellman Bluff, and the Brunswick-Darien area.

Fish camps, boats, launching facilities, bait, and other facilities are strung out all along U.S. Highway 17; but individual locations may not have complete facilities. An accompanying chart lists the most current information available. Rental equipment is generally of a suitable type and maintained in good condition. A good number of launching ramps and lifts are available for those who have their own seaworthy boats.

Those who do use their own boat would be well advised to pay careful attention to navigation if they are determined to not use a guide. Much of our coastal area consists of low-lying saltwater marshland with shallow, winding channels. One section looks very much



DON'T PASS THE SALT

By Bob Wilson

Photo by Ted Borg



The action gets fast and furious when a school of Spanish mackerel is located. This fish runs in large schools and is one of the most popular species off the Georgia coast.

Photo by Ted Borg

like any other sections and the best offshore fishing is way offshore—and there aren't many other boats to help you if you get in trouble. A good compass and recent charts are necessities, and ship-to-shore radio can be helpful. Charts may be obtained from the U.S. Coast and Geodetic Survey, Washington, D. C.

Sounds like a lot of trouble. Is it really worth it? You better believe it is. Just ask anyone who has pulled in Spanish mackerel until he was exhausted, or fought a hard fighting gamester such as the cobia. You'll get a quick answer—and an affirmative one.

The most common offshore species found in Georgia water include cobia, Spanish mackerel, king mackerel, little tuna, barracuda, bonita, red grouper, red snapper, black sea bass, bluefish, and an occasional sailfish. Although usually considered inshore species, flounder, weakfish, and sheepshead are sometimes found offshore.

Trolling is by far the most popular method of fishing for most offshore species. However, some of the offshore species such as red grouper, black sea bass, sheepshead, and flounder are bottom dwellers, and most offshore species can be taken by bottom-fishing at night or early morning. Since trolling techniques are discussed frequently, let's turn now to look at other techniques.

What is needed by the offshore fisherman is a boat that he has a boat, and some appropriate tackle. For the larger, offshore species, a boat classed 20

to 30 pounds and a reel capable of holding 400 to 600 ft. of braided line. A length of 80 pound test leader is sometimes used to absorb the initial shock of these hard-striking fish. A steel lead and a bait or lure complete the rig. Sometimes a weight is added one or three feet below the bait, and multiple hook rigs are frequently used.

Ah, but what to put on those hooks is the question. For trolling, baloo (bait hoo), cut bait, plugs, jigs and large spoons are commonly used, with baloo cut bait and jigs being favorites. For still fishing, spoons and medium weight saltwater spinning gear are used for Spanish mackerel and bluefish, while various baits are effective on bottom-dwelling species.

Every fisherman has his favorite baits, but the most common for bottom fishing are shrimp, bait fish, cut bait and squid. Of these, squid is probably the best for night fishing, and shrimp generally favored as the best all-round bait. Shrimp, squid, and fish for use as cut bait can be caught by the individual fisherman for his own use, although it is frequently less irritating to purchase bait.

At times, and noticeably so the first part of this year, bait shrimp may be in short supply. Any fisherman may use a power-drawn net, with a mouth not exceeding 10 ft. in width, offshore or in any open sound, to gather bait shrimp. Shrimp taken in this method may not be sold, and possession of such shrimp

Trolling is a favorite method of fishing the offshore water.

This medium trolling rig is about right for most of Georgia's saltwater fishing.

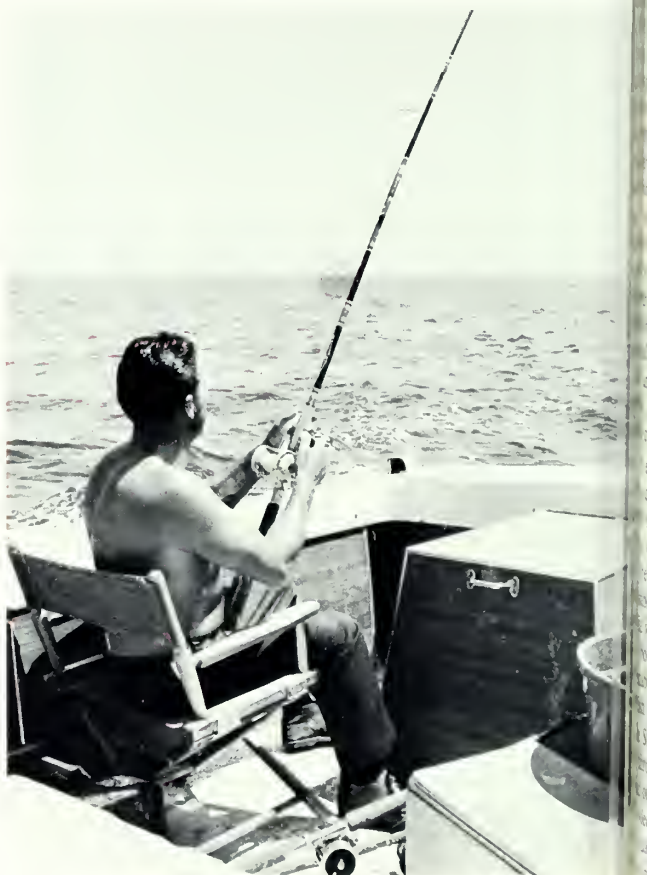


Photo by Ted Borg



King mackerel are among the larger game fish sought by offshore fishermen. These fish weigh from 7 to 25 pounds and provide excellent sport on medium tackle.

Photo by Bob Wilson

ed to two quarts per person with a maximum of four quarts per boat, regardless of the number of occupants.

If the fish are out there already, how can the fishing be improved? Well, it is admittedly a futile proposition to stock any portion of the ocean and expect to catch them again in the same location. The solution is to improve the bottom in order to create more favorable habitat capable of sustaining a larger fish population in a high concentration.

ture, while providing Georgia's offshore waters with a rich food supply. Warm waters, failed to provide an even bottom which fish seek out as a suitable habitat. Fish congregate around natural irregularities in the bottom and shipwrecks and other debris will provide fish with hiding places and a concentrated supply of food.

On extensive coastal marshlands provide a continual rich food supply to the fish and offshore waters. Marine life thrives wherever it can attach itself safely, being covered by the shifting bottoms and. If man can provide the marine life with a place to survive above the bottom, the conditions are right for establishing thriving marine colonies and fish havens.

The State Game and Fish Commission through its Brunswick office has been conducting extensive research, including the collection of marine life samples and actual underwater examination and topography, and has selected three lo-


cations for initial test sites of artificial reef materials. Artificial reefs have proven successful in the offshore waters of New Jersey, South Carolina and Florida. Georgia, with the same type of marine life and waters, should enjoy similar success.

A number of artificial reef materials have been tested with varying degrees of success. Obviously, the best materials are those which perform satisfactorily at the least cost. Such cast-offs of modern society as wrecked automobiles immediately come to mind. Other factors be-

sides ready availability must be considered however. Any number of apparently harmless waste objects of our day to day life carry polluting agents that can prove harmful to marine life. Further, there is the problem of transporting and placing artificial reef materials at the desired locations.

Based on studies of previous artificial reef programs, the State Game and Fish Commission will use old automobile tires as the material for its initial test reefs. The tires are readily available at little or no cost, are easy to transport even in a small boat, and do not decompose or injure the marine life. The tires will be assembled in units of six or seven tires stacked and connected by iron rods. Cement weights in the bottom tire will cause the units to settle on the bottom in an upright position, being in effect, a hollow column rising four to six feet above the seabed.

Soft corals, sponges and other marine growth already found on the live bottom off Sapelo Island are expected to quickly attach themselves to these structures. The fish, both small and large will seek out such crevices and holes to hide in. Fish bigger still will be attracted to the area by the opportunity to prey upon the smaller fish. Gamefish that are not strictly reef dwellers should be found in the vicinity of such food supply areas.

If such artificial reefs prove successful in the test locations, and there is every reason to believe they will, a number of full-scale artificial reefs will be constructed. These improvements added to our present offshore fishing potential should round out Georgia's fishing attractions. Georgia holds the world's freshwater records for large-mouth bass and chain pickerel, has the southernmost trout streams east of the Mississippi, and the saltwater fishing potential is just plain great. 



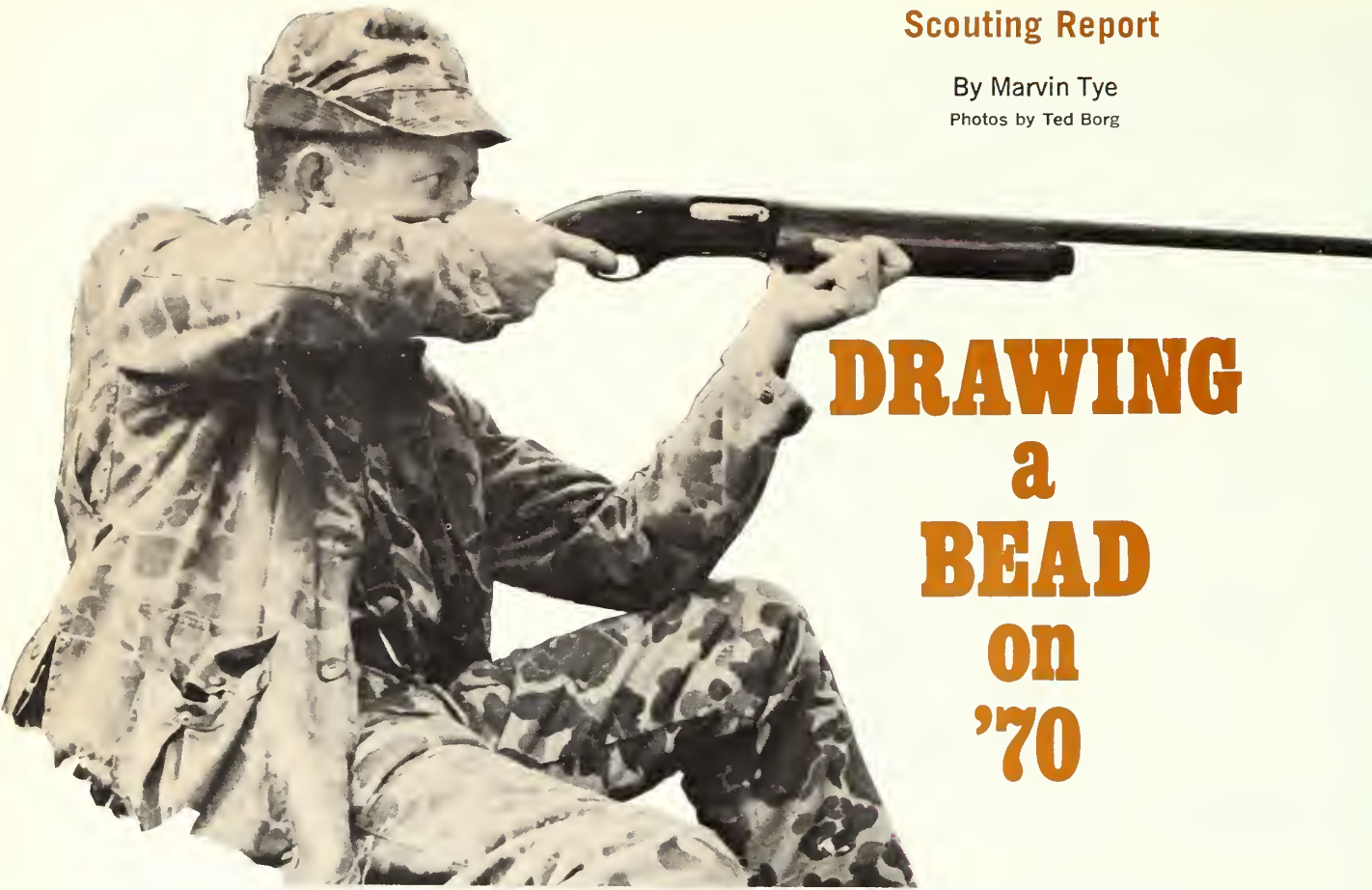
This is an average catch of Spanish mackerel for two boats in a day's fishing. These fish are excellent food fish and are very sporty on light tackle.

Photo by Ted Borg

Scouting Report

By Marvin Tye

Photos by Ted Borg



DRAWING a BEAD on '70

■ The Georgia hunter who doesn't mind doing a little traveling should be able to find good hunting for his chosen species of game somewhere within the state. He doesn't have to leave the state to find excellent hunting for deer, ducks, doves, squirrels or rabbits. A little scouting around right here should turn up the best places for him to score on each species.

As the custom has been for the past few years, GEORGIA GAME AND FISH has interviewed wildlife biologists in all sections of the state to determine which areas will produce the best hunting during the 1970-71 season.

Starting at the top of the state and working down, we first talked to Jim Scharnagel in the Gainesville District Office. In the northern mountain counties that he covers, Jim reported that squirrels are coming back after their numbers were decreased tremendously by the emigration of a few seasons back. Although squirrel hunting is better than last year in the mountains, Jim still rates that region as only fair.

This biologist rates the grouse situation as not much better. In Jim's opinion, grouse hunting this season will be fair. He says that not much reproduction of grouse was evident this year by sighting of young birds. Grouse hunters should score about as well this year as last year.

The deer hunting picture in North Georgia is somewhat brighter according

to Jim. He says that the newly-opened Pigeon Mountain Wildlife Management area near Summerville should provide one of the best opportunities to take a big buck of any managed area in North Georgia. This is due to the fact that this will be the first season that public hunting has been allowed on the Pigeon Mountain Area. Lake Russell Wildlife Management Area is reported to be the best bet for a hunter who simply wants to kill a deer. More deer are killed there each year than on any other North Georgia management area. Jim says that the Lake Burton Wildlife Management Area is over populated with deer and needs hunting pressure to balance the herd. A number of North Georgia counties that have only recently been opened to deer hunting have an increasing deer population. These include Hall, Gwinnett, Forsyth, Jackson and Madison. The only problem for the average deer hunter is finding a place to hunt as most of the good deer hunting is on privately owned land.

Dove hunting should be good in North Georgia this year. Jim reports that call counts seemed to indicate a slight increase in breeding. As in deer hunting in some counties, the problem is in finding a place to hunt. There are not a large number of fields to hunt on.

Moving down to middle Georgia, we find that the top attractions here are rabbits, deer, and squirrels with fair to good hunting for most other species. Bi-

biologist Dick Whittington of the Fort Valley District Office said that rabbits are as plentiful as they usually are in this section of the state and should provide really good hunting. The North Georgian who is not able to find such good rabbit shooting in his section of the state should come down to middle Georgia and enjoy this abundance of bunnies—if he has the proper contacts. Most of the good rabbit hunting here is on private land.

The traveling hunter from North Georgia will also find better squirrel hunting than in his home county. A lot of the good squirrel hunting here will be found on managed areas and National Forest land open to the public.

Dick rates the deer hunting as better than last year, which should mean that there will be some exceptional hunting here. This part of the state generally produces the largest deer and the deer with the largest antlers. The length of the season as well as the number of days allowed for hunting deer of either sex have been increased this year in middle Georgia.

According to Dick, the deer herds have been building up in those counties that have had hunting for only a few seasons. Included in these are Upson, Wilkes, Heard, Troupe, Taylor, Wilkes, Talbot, Crawford, Pike, Moravia, Oglethorpe, Clarke and Oconee. Deer hunting should be good in all of the old standby counties such as Jones, Wilkes, Putnam, Monroe, Wilkes, Warren, Green, McDuffie, Hancock, Baldwin, Washington, Burke and Jefferson. Management areas that have provided fine hunting here in recent years include Oaky Woods, Cedar Creek and Piedmont Experiment Station. The Federally administered Piedmont National Wildlife Refuge also provides good deer hunting. If you applied for permits prior to Sept. 11 you will be able to hunt on this Federal area during the 1970 season. Otherwise you must confine your hunting to other areas. This regulation applies to firearms hunters



Pigeon Mountain Wildlife Management Area near Summerville will probably offer the best chance for the North Georgia hunter to bag a deer with a rack like this one. The reason is that this is the first year Pigeon Mountain will be opened to public hunting. The deer outlook for middle Georgia is better than last year. This should mean some outstanding hunting.

only. Those who hunt with archery equipment may pick up their permits on the day they wish to hunt during the archery season on the refuge. For more details on Piedmont National Wildlife Refuge, write to the refuge manager Round Oak, Georgia 31080.

Dick says that dove hunting in middle Georgia should be good this year but not exceptional. He said that quail hunting this year might be slightly affected by heavy rains last spring but this should not seriously affect the hunting.

Biologist Frank Parrish of the Bowens Mill office says rabbit and squirrel hunting in his area should be good to excellent this year. He rates quail hunting as good in locations where proper management practices are observed. The Alapaha area has been rated as

very good for quail hunting. The other management areas in this portion of the state also have available quail hunting but the terrain and the hunting is rougher than on Alapaha.

The Chickasawhatchee Wildlife Management Area is rated excellent for squirrel and fair for quail. Rabbit hunting is available on this area but rabbit hunting dogs are not allowed. Pointing dogs for quail hunting are allowed.

Possibly the best quail hunting in South Georgia is on private land where permission for hunting is most difficult if not impossible to obtain.

Wood duck hunting is good in beaver ponds along river bottom swamps of the Satilla and Alapaha Rivers.

Frank says that deer hunting will be good in most places in South Georgia with the best being in the southwestern section followed by the south-central, with the coastal area where dog hunting is permitted being the least productive.

The Chickasawhatchee Wildlife Management Area is rated the best for deer hunting. Bullard Creek is fair to good for deer. Suwanoochee has some deer hunting and more wild hogs than any other South Georgia management area.

Doves are plentiful and should provide good hunting.

At least fair hunting for any species legally hunted on the management areas, with the exception of bear, will be found on one of the six areas located in this portion of the state. These are Suwanoochee, Arabia Bay, Waycross State Forest, Alapaha, Bullard Creek, and Chickasawhatchee. In addition



Squirrels will be abundant in much of Middle and South Georgia where public hunting is available. In addition, they are coming back in the North Georgia mountains.



Wood ducks should be plentiful in the river bottoms of a number of South Georgia streams. Mallards and pintails are also at their highest level in 10 years or more.

there are public hunting areas such as Lake Seminole Waterfowl Area and Grand Bay Public Hunting area. Bear hunting is permitted on Waycross State Forest, but the species is not overly abundant.

Good turkey hunting is available on privately owned land in Southwest Georgia.

Duck season is set for December 2 through January 20. Oscar Dewberry of Darien reports that pintails and mallards seem to be up quite a bit over last year. Mallards are reported to be at their highest since 1958 and pintails at their highest since 1960. Good duck hunting in Georgia will depend on several factors, primarily weather conditions. Dewberry believes the hunting will be as good or better than last year if conditions are favorable.

This will be the fourth year of hunting on the Brunswick Pulp and Paper Company Area. Hunting on this area will be at least as good as last year. Improvements in small game habitat should have a favorable effect on this year's hunting. Deer hunting on this area should be as good as last year.

That is the outlook for the major species hunted by the majority of Georgia outdoorsmen. Other species such as marsh hens, woodcock and snipe provide good hunting for those who are willing to get out and look for them. These birds are found primarily around marshes and swampy areas.

A list of all the managed hunts is included as an illustration accompanying this article. A permit fee is required in addition to a hunting license on some of these hunts. Detailed information can

be obtained from the Managed Hunt booklet published by the State Game and Fish Commission.

A hunting license is required for hunting in Georgia unless you are hunting on your privately owned land in which you reside. A duck stamp is also required in addition to the hunting license if you hunt migratory waterfowl.

All National Forest Land that is included in a Wildlife Management Area or National Wildlife Refuge is open to the hunting of any game that may be legally hunted in the county where the forest land is located. No permit or special permission is required to hunt on this land.

If you're properly equipped and have the necessary license, stamp and permit, you should enjoy excellent hunting this year in the peach state.





SET YOUR SIGHTS ON SUCCESS

By Aaron Pass

Photos by the Author

■ "There he was, no more than twenty yards away, standing out in the open," recounts the hunter to the group around the campfire. "I could count every point on his rack, and man, was he a beauty. I put the sights on his shoulder and fired," the hunter continues, as everyone leans forward intently, "and he was gone into the brush."

"Did you find any blood?" someone asks as the fire is prodded back into life. "Not a drop," answers the hunter, "the entrance hole must have plugged up." There are chuckles around the fire. "Well, the bullet might have hit a twig, and been deflected," our hunter counters bravely.

"I thought you said he was out in the open," someone unkindly points out. Laughter. "The blasted rifle must be shooting off!" Loud laughter. Miraculously a knife appears, and a shirt-tail is



Dick Kennedy, of the Gunroom, lines up a scope by using a collimator. This device aligns the sights with the bore and can save the shooter a good deal of time and trouble. Once the sights have been collimated the rifle can usually be sighted in with only a couple of adjustments.

amputated as a red-faced hunter vows that he will check his rifle first thing in the morning. Could be that morning light will show that the rifle is indeed off, but at such times there is very little comfort in being right.

Each year many hunters go into the woods as unprepared to kill anything as if they were carrying an unloaded gun. Due simply to the fact that they failed to sight in their rifles, they cheat themselves out of game, and many lose the chance at "once in a lifetime" trophies. Worse yet, some hunters using poorly sighted weapons manage to wound their quarry and let it escape to die in misery. Why does anyone hunt with ill prepared equipment? Well some people are just too lazy to do anymore than the bare essentials, but many others are put off by a lack of understanding and general confusion about how to sight in a rifle.

Actually there's nothing mysterious or difficult about sighting in a rifle. Greatly simplified, it is the process of adjusting the sights so that they are on the same point where the bullets are striking. This is done by firing the rifle at a specific point to determine where the bullets are striking.

Next the sights are adjusted so that they are aligned on the bullet impact area. Since the sights are now fixed on the same point the rifle groups the bullets, when the sights are realigned on the bullseye the bullets will also strike there. A very old, but apt description of a well sighted rifle is one which "shoots where she looks".

Understanding the term "bullet group" is very important to sighting in a rifle. It is the pattern of bullet holes made when a rifle is fired several times at the same point without moving the sights. This cluster of bullet holes, by its distance from the aiming point, indicates how far the sights will have to be moved and in what direction. Its size also tests how accurate the rifle is. By measuring the widest spread holes from center to center the rifle's consistency is determined. This consistency is synonymous with accuracy, so the smaller the group the more accurate the rifle. A rifle which will group into one inch at 100 yards is extremely accurate, two to four inches is average, and four to five inches is adequate for eastern deer hunting. Since the group is a test of the rifle and sights alone, every effort should be

made to minimize the human error. Using the right equipment is tremendously important in this respect.

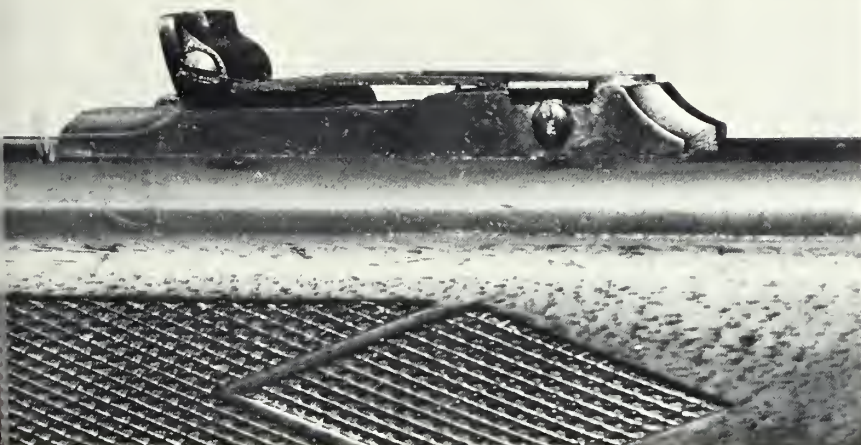
The most important of this equipment as far as accuracy is concerned is a good solid rest, and some type of pad to fire the rifle from. It may be a specialized benchrest and sand bag arrangement designed exclusively for shooting or just an old table and a rolled sleeping bag. For all practical purposes the latter serves just as well. Incidentally, when shooting from a rest, it is best to place your hand on the rest to cradle the rifle rather than to lay the forend of the weapon on the pad itself. The rifle might group differently when fired from the direct contact with the rest than it will when fired from the hand as in hunting.

At this point some observer is sure to ask you if you intend to carry the rifle to your deer stand with you. If you feel this deserves any answer at all, just reply that you are making sure of the rifle's ability now, and that you will worry about your own skill later. If you were to just pick up the rifle and blaze away standing up on your hind legs you could never be sure if the misses were being caused by an error in the sight or an error in the shooter.

As for errors in the shooter, flinching is easily the most common. Flinching is caused by anticipating the gun's blast and recoil and moving just as the gun fires. In its milder forms it is characterized by blinking the eyelid or slightly tensing the muscles. At its worst the shooter will jerk the trigger, or even move his whole body. It is the enemy of accurate shooting, and its effects are even noticeable off a benchrest. Since the noise and recoil of rifles adequate for deer hunting can affect even veteran shooters, it is wise for anyone firing such a weapon to take steps to counteract the effects of muzzle blast and kick.

The use of earplugs is highly recommended. All centerfire rifles make enough noise to become unpleasant after several shots. The shooter begins to dread the noise of the shot and starts to flinch. More important, however, is the fact that the repeated firing of a large caliber rifle can damage the sense of hearing. Ear protection in the form of a set of earplugs designed for shooting is cheap insurance.

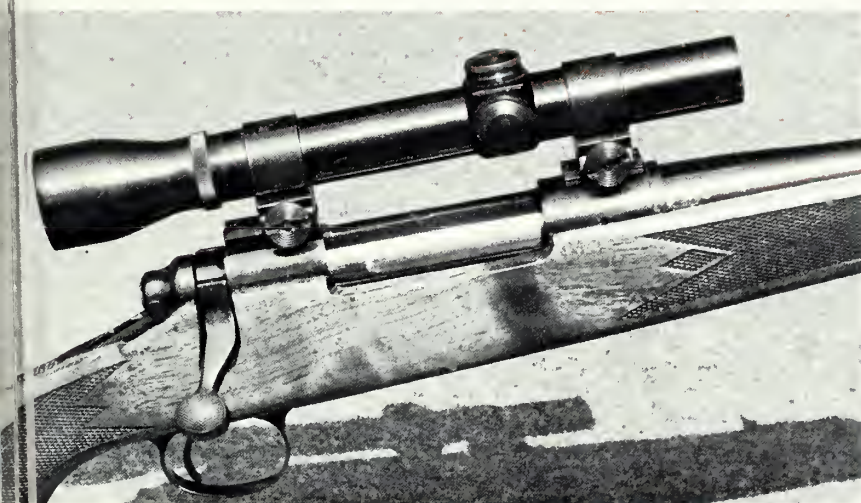
Another device which will help a shooter flinch is some type of recoil absorber. A piece of foam rubber, a sand bag, or even a rolled up towel will work wonders in reducing apparent recoil. Unfortunately this simple experiment has been nicknamed a "sissy bag" and many shy away from its use because of the name. It is wise to remember that while the body furnishes its own recoil reduction in the excitement of the hunt, the recoil of even a .30



The V-notch rear sight is factory equipped on most rifles. It is simple and rugged, but lacks the precision required for best accuracy.



The aperture or "peep" sight is both sturdy and accurate. Its quick handling properties have established it as a long standing favorite with woods hunters.



The telescopic sight is currently gaining favor with many hunters. It is the most precise and accurate of the hunting sights. For woods and brush hunting pick one with low magnification and a wide field of view.

will become very noticeable in the static target shooting situation where several shots may be fired. The best way to cure flinching is to never start, and the best way not to start is to soften recoil.

Eye protection in the form of shooting glasses is often overlooked. They not only allow you to see the target better, but they offer protection if a pierced primer or a ruptured case ever sends hot gas out the breech. A man could shoot all his life and never need shooting glasses, but the one time he does they are worth their weight in gold.

Now that you have all the equipment, all you need is a place to shoot. This often isn't easy as it sounds, for in this crowded world the number of places where a large caliber rifle can be safely fired are growing increasingly rare. If you don't have a friend who owns a large tract of land, your best bet is to contact a local gun club. Many of these clubs host a "Sighting-In" day each fall as a public service to hunters in the area.

Having found a place to shoot, and assembled the accessories, you are ready to begin the sighting in procedure itself. The first problem is known as "getting on the paper". If you are installing a new sight, or if the present sights are badly off, there is a chance that you will miss the entire target at normal hunting ranges. There are two methods of dealing with this. One is to do a preliminary sighting at a very short range, and then fire at hunting range to correct.

Another method is to use a collimator, an optical device which aligns the sights with the bore of the rifle. This "bore sighting" is no substitute for actual firing, but it will put the bullets reasonably close to the target. These devices are rather expensive, but most gunshops will bore sight your rifle with one for a nominal fee.

Now all you have to do is put a target out at the longest range you expect to fire at game; 100 yards is a good distance in the east. Then return to the benchrest and fire three or four rounds with the sights held exactly where you want to hit. Go back to the target, and there should be a group of holes somewhere on the target. Measure their distance from the bull both vertically and horizontally, and then adjust your sight accordingly. The rule is to move the rear sight in the same direction you wish to move the impact of the bullets.

Today most rifles come from the factory equipped with an open rear sight of the V-notch type. It is a simple and a sturdy sight, but it leaves much to be desired in both accuracy and precision of adjustment. Elevation changes are made by sliding a sliver of metal with a series of steps of increasing height under the notch until the desired elevation is reached. A windage adjustment

to move the point of impact horizontally is not usually found on sights of the V-notch type, but a rough adjustment can be made by tapping the entire sight sideways in its slot in the barrel with a brass hammer. About the best you can do with this type of sight is to use the trial and error method until you get near the bull. To get the best accuracy and to facilitate sighting in the use of a more precise sight is highly recommended.

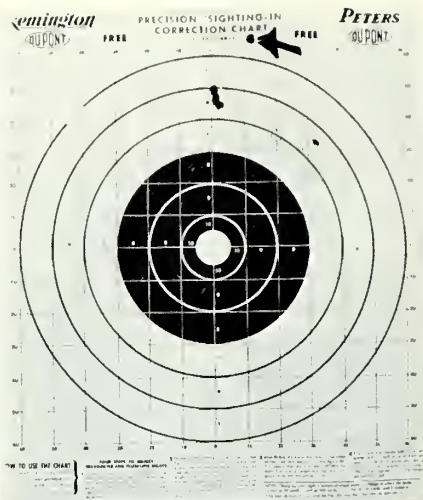
The peep sight has long been recognized as a fine hunting sight in wooded areas. It is as rugged and simple as the V-notch type, but is more easily adjusted and is much more accurate. This type of sight costs around \$15 and is a wise investment for anyone wanting to get the most out of his rifle.

The ultimate in accuracy and precision is a scope. This type of sight is rapidly gaining popularity among hunters because of its excellent sight picture and target magnification properties. A low magnification scope of 2½X or 3X is generally considered to be the best bet for woods hunting. Sighting in a scope is probably the easiest of all because of its inherent accuracy and exact adjustments.

Most modern adjustable sights are graduated in steps of a minute of angle, or fractions thereof. A minute of angle represents one inch of linear distance of 100 yards. Therefore, after you fire the first group you will need to measure its distance from the bull both vertically and horizontally and make appropriate calculations to move your sight the same amount. If the sight is marked in ¼ minute clicks, and the first bullet group at 100 yards is six inches high and one inch to the right. To move the impact area to the bull, move the sight 24 clicks down and 4 clicks to the left. It is always best to fire another group to check the zero after such an adjustment to check your math.

If you don't know what graduations your sight is marked in, it's best to do a preliminary sighting in job at 25 yards. Assume that it is marked in ¼ minute graduations and work from there. After you get the group near the bull, move the target out to 100 yards and finish the job. Remember, at 25 yards one minute of angle only represents ¼ inch so it will take 16 one quarter minute clicks to move the bullet group one inch.

Before he begins the foregoing sighting-in festivities there are several small details a wise shooter will attend to. Checking the bore for obstructions or a build up of grease is a very good idea. A heavy coating of grease inside the barrel can cause pressures dangerously high. The weapon must be clean. Another item to remember is to check all the screws with proper size screwdriver: loose stock



This three-shot group indicates that the sights should be set down five inches. The uppermost bullet hole (see arrow) is not in the group and was caused by flinching.

screws are a common cause of a formerly good rifle's going "sour".

There are other reasons for a rifle to suddenly change its point of impact. Stocks have been known to warp, or sights get knocked out of alignment during storage, either of which would alter the rifle's zero. Even if you sighted in your rifle last year, you should still check it before this season rolls around.

There are many advantages to be gained by spending the time and effort to check your sights. The most obvious of course, is having a rifle that truly does "shoot where she looks". In addition, sighting-in session, while not target practice in the truest sense, does give the hunter some very valuable familiarization with his weapon. It is also a good way to check-out the firearm's mechanical functioning while there is still time to have any malfunctions corrected before the season starts. And lastly there is the feeling of confidence in the rifle that adds so much to the enjoyment of the hunt.

Unfortunately, the sighting-in procedure is to some extent troublesome and inconvenient. It is also to a degree expensive, since it can use up 15 to 20 rounds of ammunition. But there is just no known way to sight in a rifle without actually firing it, and it is far better to use 15 rounds on the target and own one to get the game than vice versa.

With the problem of finding a place to shoot, buying the ammunition, and the time spent shooting, many people undoubtedly find an excuse not to go. All the trouble. But what good are excuses when you lose all of your shooting tail, a good deal of your pride, and most important, that trophy buck you waited so long for.



Sighting equipment is not difficult to assemble. A sleeping bag or pillows will serve as a rest to support the rifle. A selection of screwdrivers, shooting glasses, earplugs, and a foam rubber recoil absorber will make the job much more pleasant.

YOURS FOR USING

By E. V. Richards
Wildlife Staff Officer
U.S. Forest Service

Are you aware of the hunting and fishing opportunities awaiting you on your National Forests? Many people are not. In fact, some folks are only slightly familiar with Georgia's two National Forests—The Chattahoochee and Oconee.

Spreading over 700,000 acres, along the mountainous northern tier of counties, the Chattahoochee National Forest borders the Carolinas and Tennessee.

Photo by U. S. Forest Service



The smaller, Oconee National Forest is located southeast of Atlanta. It contains 103,000 acres of Piedmont pine country, well known for bird hunting, float trips and fine deer herds.

The Chattahoochee, so named after the river which begins its long run to the sea from within the forest, is a land of many uses. It is an area of spectacular beauty, where over 1.3 million visitor days were registered last year.

Here large reservoirs, small lakes and over 800 miles of mountain streams beckon the trout fisherman.

Ranging along the rugged Blue Ridge mountains, where only the hardest hunter or hiker would venture, the Chattahoochee contains points in excess of 4500 feet. It rises to Brasstown Bald, 4784 feet—the highest point in Georgia. From there it stretches eastward to the

wild scenic Chattooga River, which separates Georgia and South Carolina. Here a finger of the forest stretches southward to near Cornelia and is home to the Lake Russell Game Management Area deer herd which annually attracts thousands of big game hunters.

All wildlife living on the Chattahoochee National Forest is managed cooperatively, with the Georgia Game and Fish Commission and the U.S. Forest Service acting as a team.

As manager of the land, the Forest Service is responsible for manipulating the forest habitat, while the State is charged with regulating the harvest of fish and game. Through cooperative agreements, these two agencies work toward a goal of producing more for you, the hunter-fishermen.

Fish and game habitat conditions are

improving forest-wide. State and Forest Service crews plant newly created forest openings to wildlife mixtures, establishing food and cover trees, and revegetating logging roads and log landings.

Both agencies cooperate in developing springs and small water holes. Additional effort is spent releasing and pruning trees, vines and shrubs of value to game birds and animals.

Presently, 10 game management areas are established under agreement by the State Game and Fish Commission on National Forest land. Within these areas, intensive habitat management and protection is given fish and game populations and different seasons and bag limits often prescribed in an effort to build up populations. Outside management areas, the National Forest is open to hunting and fishing according to statewide regulations.

Through agreement with the Forest Service, the State Game and Fish Commission has restocked areas of National Forest lacking deer and turkey and has provided the necessary law enforcement and dog control to allow these populations to build up.

Success or failure of such restocking areas will depend upon public acceptance and law enforcement.

There is much to enjoy on your National Forests. As an angler, you can fish hundreds of miles of streams heavily stocked by State and Federal hatcheries. Or perhaps you wish to get away from people and are the adventurous type, then search out one of the hidden streams, with rushing white water and deep pools in which to lose the cares of civilization. Here, you can fish for the wild reared, brook or rainbow trout or perhaps entice that large brown trout from beneath an overhanging stump.

The hunter, too, will find a variety of opportunities to test his skill. You can try your luck for the wily white-throated quail along a mountain ridgetop or venture through the hickories to fill out your limit of squirrels. Entice a wild turkey gobbler to you during a spring gobble hunt or try for the feathered bombs of the ruffed grouse.

If you are a bow enthusiast or fancy the muzzle loader, then hunt with the Warwoman Game Management Area during the special primitive weapon hunt.

Raccoon, fox, quail, rabbit, wild turkey, cock and doves also await you. Even bears are present in the National Forests but are protected to build up their numbers.

Truly a happy hunting ground. Georgia's two National Forests represent some of the largest public hunting areas left in the state where you can hunt with a minimum of restrictions.

Because of the increased pressure of urban sprawl, with subdivisions following



Photo by U. S. Forest Service

...for recreational pastimes pursued by sportsmen in Georgia.

*Truly a happy hunting ground.
Georgia's two National Forests
represent some of the largest public
hunting areas left in the State.*



Deer are one of the most popular game animals found on the National Forest land. An effective wildlife management program insures excellent hunting on these public lands.

Photo by U. S. Forest Service



ing the bulldozer into areas where hunters roamed 10 years ago and with private land more heavily posted each year, your National Forests will assume a greater role in providing the common man—a place to hunt or fish, an area for bird watching or an opportunity to just view nature's wild creatures.

Presently, 28% of all visitor days on the Chattahoochee and Oconee National Forests are for hunting and fishing. This will increase.

Perhaps you like to camp while you hunt or fish. Sure, go ahead! The National Forests are open to year around camping. Some developed camping areas may not have their water systems winterized, but we're working on that! All that is needed to camp is the desire, and proper equipment. Please leave a clean camp and use care with campfires.

So, Mr. Sportsman, become more familiar with Georgia's National Forests. There are many hunting and fishing opportunities awaiting you—but there is also much more to enjoy. ➤



Photo by U. S. Forest Serv

Hikers along the Appalachian trail are rewarded with many scenic views. This hike, looking over quite an expanse of the Chattahoochee National Forest from Spring Mountain.

Editorial (cont'd.)

MOUNTAINS OF GLASS



controlled, will result in the destruction of the wilderness setting that makes them so desirable for recreation in the first place.

Plans underway for "Recreational Development" are many, and most seem to forget what outdoor recreation really means. Large scale transportation networks are planned to open up the area to auto-bound explorers, unable and unwilling to walk or even drive around curves to the scenery. There will be massive campsite development for X number of campers that some socio-engineer has computed will be screaming for tent pads with hot water and electricity in 1980. Motels and restaurants will be provided for those who prefer their wilderness experiences in minimal doses. Lastly, and most pathetic, will be the souvenir stands and amusement areas for those who don't care for the beauty of nature, and prefer the artificiality and tinsel of the "mountain" from whence they came.

Development of this type is dangerous to the ecology of the region. Construction sites on the mountain sides will destroy great seats of the steep slopes

which will erode and the muddy runoff to the stream will replace the trout with silt. Continued road building will compartmentalize the wilderness breaking up the game habitat, and drive away both the game and the outdoorsman seeking to escape from concrete and exhaust emissions for a while. Developments of the amusement park variety are out of character with the setting and represent the worst kind of hucksterism—that which degrades a high quality environment.

As rugged and vast as those mountains are, they are not indestructible. They support an ecosystem as delicately balanced as any in nature, and a complex interrelationship of natural factors makes the mountains more critical of habitat alteration than most natural systems. It is doubtful if the ecology of the Southern Appalachians can survive large scale development without serious impairment.

Most recreational and economic development plans are designed toward maximum usage of the resource. Lake Spivey is a good example of an outdoor recreational facility which approaches maximum utilization. When speaking of

wilderness resource, however; the maximum usage it will endure is lower tremendously. A wilderness which has been manipulated and developed is no longer a wilderness.

The mountains offer a wilderness environment that is rapidly vanishing from the contemporary scene, and they are now in grave danger of being overdeveloped and commercialized. A long close look should be taken at any plan for development in regard to how much they tend to undermine the essential wild and natural qualities of the region. With natural areas becoming more scarce day by day, it would be a gross disservice to ourselves and to future generations to ruin the Southern Highlands with shortsighted planning which takes little thought to the highest and best use of a unique and beautiful area.

It is paradoxical that the scenic and recreational values of the mountains could so easily be lost by trying to make them easier to enjoy, but it is true. Their environment is fragile like a fine crystal goblet, and like the goblet, once it is broken it can never be restored.

—Aaron P.

Sportsmen Speak...



the outdoor world



MORE ABOUT MIREX

I would like to reply to J. E. Collier's criticism (*Georgia Game & Fish*, August) of Margaret Tucker's article on chemical pesticides (*Ibid*, April).

The U. S. Dept. of Agriculture is planning a 200 million dollar, 12-year program to control (no longer eradicate) the fire ant population in nine southeastern states. The project is based upon aerial, widespread distribution of mirex-coated corn grits; a total of 50 million pounds of poison bait may be applied to about 120 million acres (*Environmental Action*: 1 August 1970, p. 11).

The limited research on mirex, and this itself is an important point, indicates: (1) it accumulates in the fatty tissue of birds and shellfish (*Poultry Science* 44: 865, 1965), reminiscent of DDT, and (2) mirex produces malignant tumors in varied laboratory animals. Available evidence argues against the selective consumption of this bait by fire ants (Jeff Nesmith, *Atlanta Constitution*, 19 March 1970). Quite reasonably, it may well attract numerous herbivores and omnivores, including wild birds, mammals, and domestic animals. The Bureau of Sports Fisheries and Wildlife (U.S. Dept. of Interior) will not allow mirex application until research studies on field animals are complete. The ARAK Commission report to the Secretary of Health, Education and Welfare has recommended minimal human exposure.

It is apparent that this poison is not pest-specific and in view of the present controversies about 2,4,5-T, DDT, endrin and other broad-spectrum pesticides (*Science*: April 1970, P. 453, 456; 15 May, p. 864; 12 June, p. 1322) extensive research programs in comparative animal and plant sensitivity are mandatory before any decision is made for or against the wide dispersal of a chemical or biological pesticide. This is especially important when it is realized that 50 to 90 percent of the pesticide, distributed as aerial sprays or particles, may contaminate non-agricultural areas (President's Science Advisory Committee, Environmental Pollution Panel. Restoring the Quality of Our Environment. Washington, D. C., November, 1969, p. 5).

The fire ant is a second-rate nuisance to man (as compared to the brown recluse or black widow spiders for example) and has little effect on his agriculture; it primarily feeds on other insects. The 12-13 year program of eradication, including 50 million acres treated with mirex since 1962, has been singularly unsuccessful; its justification and expense are open to question.

Dr. D. Ferguson, a zoologist at Mississippi State University, has suggested that mirex application be limited to mound-to-mound treatment. Such activity could be executed during the planting and/or harvesting season by farm workers. This selective distribution would prevent contamination of crops, soil, natural wildlands and waterways. Fortunately, the nest-sites could be sprayed with kerosene from a safe distance and set afire.

Miss Tucker may have been guilty of partial subjectivity, but so was a remarkable man named Rachel Carson.

Sincerely,
John W. Parker, Ph.D.
(Stanford University, 1967)
Atlanta, Georgia 30306



Georgia State Game & Fish Commission wildlife exhibit won first place in the government agencies category STAY AND SEE GEORGIA WEEK held recently at Lenox Square. Ranger C. P. Palmer, Georgia State Game & Fish Commission, accepts the Blue Ribbon first place award from Chess Lagomarsino, chairman of the Georgia Chamber of Commerce Travel Council. He is accompanied by lovely Laura Shouse, the 1970 Miss STAY AND SEE GEORGIA WEEK.

Hunter-Fishermen Boat Course Set

Even though the traditional summer boating season is now drawing to a close, hunters and fishermen will still be using their boats throughout fall and winter seasons. Since most of these boats are generally small, and weather conditions during these seasons are often unfavorable, some water-borne sportsmen might be interested in a course being presented by the Coast Guard Auxiliary specifically for hunters and fishermen. It's called the Hunter-Fisherman Basic Boating Course, and covers many topics worthwhile to a hunter or fisherman who uses a boat. It primarily outlines the elementary principals of small boat handling, such as, common sense, courtesy, and care. Other subjects, such as, boats for the

outdoorsman, boat motors, knots, weather, and government regulations will also be discussed.

The course is presented in one two-hour lesson by qualified members of the Coast Guard Auxiliary. These instructors are all experienced boatmen and understand the techniques of safe boating.

It's estimated that hunters and fishermen are involved in approximately 30 per cent of all water accidents. This course is designed to cut down that percentage and help outdoorsmen enjoy their sport more safely. For further information contact the director of the Coast Guard Auxiliary district nearest you.

—Aaron Pass

Sportsman's Calendar

SEASONS NOW OPEN

TROUT

Open stream season closes October 3, 1970.

HUNTING SEASONS

MOURNING DOVES: October 21 through November 7, 1970; and from December 17, 1970 through January 15, 1971. Daily bag limit is 18. Shooting hours noon till sunset, prevailing time.

MARSH HENS (rails): September 12 through November 20, 1970. Daily bag limit 15. Shooting hours from ½ hour before sunrise to sunset.

SECTION 21

DEER: (1) (Archery Hunt) October 10 through October 24, 1970, in the following counties: Banks, Barrow, that portion of Ben Hill County lying northeast of Ga. Highway #182 and U.S. Highway #319 and between those two highways and the Ocmulgee River; Bartow and Cherokee counties except that portion between Knox Bridge and Stamp Creek, south of Ga. Highway #20 to Allatoona Reservoir, Carroll, Chattooga, Clay; that portion of Coffee County lying north of Ga. Highway #206 and Ga. Highway #268, Colquitt, Dade, Dawson, Dooly, Douglas, Fannin and Gilmer except that portion of these counties containing the Cohutta Wildlife Management Area as follows: beginning at the Murray-Fannin County line and the Georgia-Tennessee State line; thence running easterly along said line to Tumbling Creek Road (FSR-22); thence southerly down Tumbling Creek Road to Watson's Gap, thence continuing in a southerly direction down Three Forks Road (FSR-64) to Dyer Gap, thence down Flat Top Mountain Road (FSR-64A) to Flat Top Mountain; thence in a southerly direction down the ridge of Flat Top Mountain to Fowler Gap to Wolfpen Gap to Wolfpen Gap Road; thence in a southwesterly direction down Wolfpen Gap Road to East Mountaintown Creek Road; thence southwesterly along East Mountaintown Creek Road to the Mountaintown Creek Road; thence westerly along Mountaintown Creek Road to Holly Creek Gap Road (FSR-90); thence northwesterly along Holly Creek Gap Road to Potato Patch Road (FSR-68); thence westerly along Potato Patch Road to Murray-Gilmer County line; thence northwesterly to the Fannin-Gilmer County line; thence westerly along said line to the Murray-Fannin County line; thence along said line to the point of beginning: Floyd, Forsyth, Franklin, that portion of Gordon west of Highway I-75, Gwinnett, Habersham, Hall, Haralson, Jackson, Irwin, Lumpkin, Madison, Paulding, Pickens, Polk, Quitman, Rabun, Randolph, Stephens, Sumter, Tift, Towns, Union, Walker, White, Wilcox, and Worth. Bag limit one (1) buck and one (1) doe or two (2) bucks. Hunting with dogs prohibited.

(2) (Archery Hunt) **Buck Only:** October 10 through October 24, 1970, in the following counties: Brooks, Lanier, except that portion lying north of the Seaboard Coastline Railroad and east of the Alapaha River and southeast of U.S. Highway #221; and Lowndes. Bag limit two (2) bucks. Hunting with dogs prohibited.

(3) (Archery Hunt) October 1 through October 14, 1970, in the following counties: Brantley, Bryan, Bulloch, Burke, Camden, Candler, Charlton, Chatham, Effingham, Emanuel, Evans, that portion of Dodge County west of Ga. Highway #230 and south of U.S. Highway #280; Glascock, Glynn, Jefferson, Jenkins, Liberty, Long, McIntosh, Screven, Tattnall, that portion of Toombs south of Ga. Highway #107, Ware, Washington, and Wayne, also all of Clinch County EXCEPT that portion lying in the southwest corner of the county, bordered on the north by the Seaboard Coastline Railroad and on the east by

Suwannee Creek which is closed and EXCEPT that portion of Clinch County lying north of the Arabia Bay Wildlife Management Area and between U.S. Highway #221 and U.S. Highway #441 which is closed. Also open is that portion of Echols County lying east of U.S. Highway #129 and south of Ga. Highway #187; also open is that portion of Lanier County lying north of the Seaboard Coastline Railroad and east of the Alapaha River and southeast of U.S. Highway #221; also open is that portion of Pierce County lying south of U.S. Highway #82, east of Ga. Highway #121, and west of Ga. Highway #32. Bag limit two (2) bucks or one (1) buck and one (1) doe. Hunting with dogs prohibited.

(4) (Archery Hunt) October 1 through October 24, 1970, in the following counties: Appling, Atkinson, Baker, Baldwin, Berrien, Bleckley, Butts, Calhoun, Chattahoochee, Clarke, Columbia, Coweta, Crawford, Decatur, Dougherty, Early, Elbert, Fayette, Grady, Greene, Hancock, Harris, Heard, Henry, Houston, Jasper, Jeff Davis, Johnson, Jones, Lamar, that portion of Laurens north of U.S. Highway #80, that portion of Lee west of U.S. Highway #19, Lincoln, Macon, Marion, McDuffie, Meriwether, Mitchell, Monroe, Montgomery, Morgan, Muscogee, Newton, Oconee, Oglethorpe, Peach, Pike, Pulaski, Putnam, Richmond, Rockdale, Schley, Seminole, Spalding, Stewart, Talbot, Taliaferro, Taylor, Telfair, Terrell, Thomas, Troup, Twiggs, Upson, Walton, Warren, Webster, Wheeler, Wilkes, and Wilkinson. Bag limit two (2) bucks or one (1) buck and one (1) doe. Hunting with dogs prohibited. (260-2-.26 Amended)

SECTION 22

DEER: Buck Only: November 7 through November 21, 1970, in the following counties except as otherwise provided in Section 23: Atkinson, Banks, Barrow, Berrien, Bartow and Cherokee counties except that portion between Knox Bridge and Stamp Creek, south of Ga. Highway #20 to Allatoona Reservoir, which portion will be open during the managed hunt schedule, also that portion of Ben Hill County lying northeast of Ga. Highway #182 and U.S. Highway #319 and between these two highways and the Ocmulgee River, that portion of Coffee County lying north of Ga. Highway #206 and Ga. Highway #268, Brooks, Carroll, Chattooga, Clay, Colquitt, Coweta, Dade, Dawson, Dooly, Douglas, Fannin and Gilmer except that portion of these counties containing the Cohutta Wildlife Management Area as follows: beginning at the Murray-Fannin County line and the Georgia-Tennessee State line; thence running easterly along said line to Tumbling Creek Road (FSR-22); thence southerly down Tumbling Creek Road to Watson's Gap, thence continuing in a southerly direction down Three Forks Road (FSR-64) to Dyer Gap; thence down Flat Top Mountain Road (FSR-64A) to the Flat Top Mountain; thence in a southerly direction down the ridge of Flat Top Mountain to Fowler Gap to Wolfpen Gap to Wolfpen Gap Road; thence in a southwesterly direction down Wolfpen Gap Road to East Mountaintown Creek Road; thence southwesterly along East Mountaintown Creek Road to Mountaintown Creek Road; thence westerly along Mountaintown Creek Road to Holly Creek Gap Road (FSR-90); thence northwesterly along Holly Creek Gap Road to Potato Patch Road (FSR-68); thence westerly along Potato Patch Road to Murray-Gilmer County line; thence northwesterly to the Fannin-Gilmer County line; thence westerly along said line to the Murray-Fannin County line; thence along said line to the point of beginning: Fayette, Floyd, Forsyth, Franklin, that portion of Gordon west of Highway I-75, Gwinnett, Habersham, Hall, Haralson, Heard, Irwin, Jackson, Lanier except that portion lying north of the Seaboard Coastline Railroad and east of the Alapaha River and southeast of U.S. Highway #221; Lowndes, Lumpkin, Madison, Meriwether, Paulding, Pickens, Polk, Quitman, Rabun, Randolph, Stephens, Sumter, Tift, Towns, Troup, Union, Walker, White, Wilcox, and Worth. Bag limit two (2) bucks. Hunting with dogs prohibited. (260-2-.20 Amended)

SECTION 23

DEER: Either Sex: November 21, 1970, only, in the counties of Floyd, Haralson, Paulding, and Polk. Bag limit two (2) bucks or one (1) buck and one (1) doe. Hunting with dogs prohibited. (260-2-.67)

SECTION 24

DEER: Buck Only: November 7 through November 28, 1970, in the following counties: that portion of Dodge County west of Ga. Highway #230 and south of U.S. Highway #280; Jeff Davis, Johnson; that portion of Laurens north of U.S. Highway #80; that portion of Montgomery north of U.S. Highway #280 and north of Ga. Highway #107, Pike, Telfair, and Wheeler. Bag limit two (2) bucks. Hunting with dogs prohibited. (260-2-.68)

SECTION 25

DEER: Buck Only: November 7 through November 28, 1970, in the following counties: Appling; that portion of Montgomery south of U.S. Highway #280 and south of Ga. Highway #107; and that portion of Toombs south of Ga. Highway #107 and Ga. Highway #56. Bag Limit two (2) bucks. Hunting with dogs allowed. (260-2-.15 Amended)

SECTION 26

DEER: Buck Only: November 7 through December 5, 1970, in the following counties except as otherwise provided in Section 27 and Section 28: Baldwin, Bleckley, Butts, Clarke, Columbia, Crawford, Elbert, Greene, Hancock, Harris, Henry, Houston, Jasper, Jones, Lamar, Lincoln, Macon, McDuffie, Monroe, Morgan, Newton, Oconee, Oglethorpe, Peach, Pulaski, Putnam, Richmond, Rockdale, Schley, Spalding, Talbot, Taylor, Taliferro, Twiggs, Upson, Walton, Warren, Wilkinson, and Wilkes. Bag limit two (2) bucks. Hunting with dogs prohibited. (260-2-.14 Amended)

SECTION 27

DEER: Either Sex: December 4 and 5, 1970, only, in the counties of Baldwin, Columbia, Greene, Hancock, Jones, Lamar, Lincoln, McDuffie, Monroe, Putnam, Talbot, and Wilkes. Bag limit one (1) buck and one (1) doe or two (2) bucks. Hunting with dogs prohibited. (260-2-.22 Amended)

SECTION 28

DEER: Either Sex: December 5, 1970, only, in the counties of Butts, Crawford north of U. S. Highway #80, Henry, Jasper, Morgan, and Newton. Bag limit one (1) buck and one (1) doe or two (2) bucks. Hunting with dogs prohibited. (260-2-.69)

SECTION 29

DEER: Either Sex: January 1 and 2, 1971, only, in the counties of Chattahoochee and Muscogee. Bag limit one (1) buck and one (1) doe or two (2) bucks. Hunting with dogs prohibited. (260-2-.70)

SECTION 30

DEER: Buck Only: October 15, 1970, through January 2, 1971, in the following counties except as otherwise provided in Section 31: Brantley, Bryan, Bulloch, Burke, Camden, Candler, Charlton, Chatham, Effingham, Emanuel, Evans, Glascock, Glynn, Jefferson, Jenkins, Liberty, Long, McIntosh, Screven, Tattnall, Ware, Washington, Wayne, and all of Clinch County EXCEPT that portion lying in the southwest corner of the county, bordered on the north by the Seaboard Coastline Railroad and on the east by Suwannoochee Creek which is closed and EXCEPT that portion of Clinch County lying north of the Arabia Bay Wildlife Management Area and between U.S. Highway #221 and U.S. Highway #441 which is closed. Also open is that portion of Echols County lying east of U.S. Highway #129 and south of Ga. Highway #187; also open is that portion of Lanier County lying north of the Seaboard Coastline Railroad and east of the Alapaha River and southeast of U.S. Highway #221; and also open is that portion of Pierce County lying south of U.S. Highway #82, east of Ga. Highway #121, and west of Ga. Highway #32. Bag limit two (2) bucks. Hunting with dogs allowed. (260-2-.13 Amended)

SECTION 31

DEER: Either Sex: October 15, 1970 through January 2, 1971, the islands, except Sapelo and Blackbeard, and marshes lying east of the Intracoastal Waterway in Bryan, Camden, Chatham, Glynn, Liberty, and McIntosh counties will be open for the taking of deer of either sex. Bag limit two (2) bucks or one (1) buck and one (1) doe. Hunting with dogs allowed. (260-2-.37 Amended)

SECTION 32

DEER: Buck Only: November 19, 20, and 21, 1970, only, in that portion of Atkinson County lying south of the Seaboard Coastline Railroad and east of U.S. Highway #221; that portion of Berrien County lying east of U.S. Highway #129, south of the Alapaha River, north of Ga. Highway #76 and west of Ga. Highway #135; and Wilcox County. Bag limit two (2) bucks. Hunting with dogs allowed. (260-2-.23 Amended)

SECTION 33

DEER: Buck Only: November 13, 14 and November 20, 21, 1970, only, in Colquitt County. Bag limit two (2) bucks. Hunting with dogs allowed. (260-2-.43 Amended)

SECTION 34

DEER: Buck Only: November 7, 1970, through January 2, 1971, in the following counties: Decatur, Early, Grady, Marion, Mitchell, Seminole, Stewart, Terrell, Thomas, Webster, and that portion of Lee County lying west of U.S. Highway #19. Bag limit two (2) bucks. Hunting with dogs allowed. (260-2-.17 Amended)

SECTION 35

DEER: Either Sex: November 7, 1970, through January 2, 1971, in the following counties: Baker, Calhoun, and Dougherty. Bag limit one (1) buck and one (1) doe or two (2) bucks. Hunting with dogs allowed. (260-2-.39 Amended)

SECTION 36

DEER: Buck Only: November 7, 1970, through December 31, 1970, in the counties of Chattahoochee and Muscogee. Hunting with dogs prohibited. Bag limit two (2) bucks. (260-2-.19 Amended)

SECTION 37

GROUSE: January 16 through February 27, 1971. Bag limit three (3) daily; possession limit six (6). (260-2-.30 Amended)

SECTION 38

OPOSSUM: October 17, 1970, through February 27, 1971. Statewide season. Exception: Coweta County will be open September 26, 1970, through January 23, 1971. No bag limit. (260-2-.31 Amended)

SECTION 39

QUAIL: November 20, 1970, through February 27, 1971. Statewide season. Bag limit twelve (12) daily; possession limit thirty-six (36). (260-2-.32 Amended)

SECTION 40

RABBIT: (1) November 20, 1970, through January 30, 1971. The counties of Carroll, Fulton, DeKalb, Gwinnett, Barrow, Jackson, Madison, Elbert, and all counties north of those listed will be open for rabbit hunting. Bag limit five (5) daily.

(2) November 20, 1970, through February 27, 1971, in all counties south of the above listed counties. Bag limit ten (10) daily. (260-2-.33 Amended)

SECTION 41

RACCOON: (1) October 17, 1970, through February 27, 1971, in Carroll, Fulton, DeKalb, Gwinnett, Barrow, Jackson, Madison, Elbert, and all counties north of those listed. Bag limit one (1) per night per person.

(2) All counties south of the above named counties are open year round for the taking of raccoons. No bag limit. (260-2-.34 Amended)

SECTION 42

SQUIRREL: October 15, 1970, through February 27, 1971. Bag limit ten (10) daily. (260-2-.35 Amended)





GEORGIA

game & fish



NOVEMBER, 1970



CONTENTS

Don't Bet Your Life	Aaron Pass	1
Now What?	Bob Wilson	5
A Quality of Wildness	John Culler	8
Bucks For The Book	Marvin Tye	11
Outdoor World		14
Sportsmen Speak		15
Sportsman's Calendar		16

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A TURNING POINT

A year or so ago, after a notably successful quail hunt had some pictures made of myself, my companion, and birds. When asked why, I cynically replied, "to better plain what quail hunting was like to my grandson."

At the time I was 22, and I figured by the time I had a grandson that most types of hunting and fishing as I knew them would be a thing of the past. Of late, however, my view has been altered somewhat.

Recently I have seen not only the beginning of a new decade, but a large scale awakening of national concern over matters of conservation. Phrases like "ecological crisis" and "environmental pollution" are now competing with "mismanaged systems" and "Vietnamization" over the breakfast table. What is even more important is that this concern is coming from people who can barely distinguish between a dry season and a duck blind, not just the hardcore conservationists. In the long last efforts of those vitally interested in our natural heritage are paying off, and people are starting to listen.

They are listening because the problems of a man's ecology are being brought home to everyone. The suburban dweller who never ventures beyond the suburbs is faced with the sobering prospect of suffocating due to air pollution, if water pollution doesn't poison him first. The doorsman, formerly lulled into apathy by the idea that there would always be woods and streams, is realizing that these resources are not necessarily limitless after all.

Whether one is motivated by the basic needs of air to breathe and water to drink, or the more aesthetic need for a place to enjoy the grandeur of nature, it is a help to the cause of conservation. In a democracy such as ours, a large number of people voicing interest on a single issue tends to generate action. The relatively small number long concerned with the use and misuse of our environment has already effected noteworthy advances.

The federal government and many state governments are now taking steps to regulate air and water quality more closely. Many industrial practices which formerly damaged or wasted natural resources are under close scrutiny, with legislation pending. Areas of primitive wilderness are being set aside and protected from development which would destroy their natural beauty.

All this is just a start of course, toward protecting ourselves, but at least the problem has been recognized. There remains much more work to be done, but recent developments favoring conservation, and a growing public awareness of the problems are steps in the right direction. We seem to be at a turning point in man's relationship with nature, by acting now we have an opportunity to save some of our natural resources, not only for ourselves but for future generations. By all means let us take

—Aaron ^{ESS}

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ON THE COVER: When the brown leaves are falling in November, thousands of Georgia outdoorsmen can think only of deer hunting. In fact, some 150,000 thousand persons hunted deer in Georgia last year. This issue is in its entirety, we think, of interest to the hunter. Some of the articles, however, apply no matter what you like to hunt. Photo By Ted Borg.

ON THE BACK COVER: Hunting is a lot of fun, if you come safe and sound. These fellows aren't likely to. If you want a enjoyable trip, you'll get some insight on how to do it by read Aaron Pass' story, Don't Bet Your Life, Page 1. Photo By Ted

The helpful hunter on the left has correctly set his gun aside to help his buddy up the bank, a good, safe idea. Grabbing the business end of a shotgun is not such a good idea however; if that gun discharges, he's dead it.

Photo by Aaron Pass

DON'T BET YOUR LIFE

Aaron Pass

If you are an average Georgia hunter you will probably spend your days afield this season very safely. The odds are long that you will not have a hunting accident, but consider for a moment the day when the odds are short.

(Please turn page)

Basic Gun Safety

1. *Learn about your firearm, particularly how to load and unload safely. Make checking the chamber an automatic first step each time you pick up the gun.*
2. *When carrying a firearm, keep the muzzle pointed in a safe direction.*
3. *Keep the safety on and your finger off the trigger until you are ready to shoot. Always identify the target before you fire.*
4. *Keep the maximum range in mind when shooting. Remember, that in the event of a miss, the bullet or shot charge keeps on traveling.*
5. *When you clean and store your firearms, put them away unloaded and store the ammunition in a separate place.*



Always check the chamber and magazine immediately when you pick up a gun. This simple step can prevent the accidental discharge of an "unloaded" weapon, which is a major cause of gun accidents in the home.

Essentially hunting is a safe sport with an accident ratio which is comparable with most other forms of participant recreation. For example, of an estimated 600,000 hunters in the state last season there were only 6 fatalities, which breaks down to 1 per 100,000, not bad compared to highway deaths. In the light of these figures it is safe to say that one is in less danger while hunting than while traveling to the hunting area on the highway. But even so, these statistics are distressing because all 6 fatalities and the 22 total injuries could have been easily avoided by observance of simple safety precautions.

Unfortunately there seems to be a widespread belief that accidents only happen to other people, and for this reason it is difficult to get a message dealing with safe hunting across. Cloaked in the false security of personal invulnerability, many hunters pay only scant attention to the basic principles of firearm safety. Every year, however, gun related accidents do occur, both in the home, and in the field, and usually they happen to those who were in effect betting that they would happen to someone else. Most often they are caused by equal parts of ignorance and carelessness, the ignorance of a safe practice or the carelessness not to use it.

Guns and hunting are a part of the traditional American way of life, and most of us tend to feel that this cultural heritage somehow makes us naturally knowledgeable about the outdoors. This feeling is often mistaken. We sons of the pioneer are no more adept at

Watch that muzzle! If this view looks familiar to you, perhaps you should look for a new hunting partner. If you don't, he will probably have to later.



Photo by Ted B.



Photo by Aaron Pass



Photo by Aaron Pass

Using modern smokeless powder shells in obsolete guns built for black powder is a risky proposition. The twist steel and damascus barrels of these old guns are not strong enough to stand up to pressures developed by modern shells.

Perhaps the worst way to begin any hunting trip is by bagging yourself. Yet it seems that this hunter is trying to do just that. Picking up a gun by the muzzle is an unsafe practice that led to one fatality in 1969.

Photo by Aaron Pass



woodcraft than the offspring of a pilot is a born flyer. Safe hunting practices and good gun sense are also the results of experience and common sense rather than any inborn qualities.

That experience is an important safety factor was demonstrated in the 1967 hunting season when 20 of the 31 people involved in hunting accidents were under 21. This might cause some to conclude that youngsters should be banned from hunting, but things have changed. What the young hunters lack in experience they seem to make up for by having open minds and a willingness to learn. There has been an increased emphasis on hunting safety by outdoor publications, state conservation agencies, and interested private groups in the light of recent trends toward anti-gun legislation, and the kids seem to have profited from it. In the 1969 hunting season 42 Georgia hunters were involved in hunting accidents, but only 14 were under 21.

Experience which leads to overconfidence is possibly more dangerous than raw inexperience. The standard response of the overconfident to simple gun safety precautions generally sounds something like, "Those rules are good ideas for the beginner, but I'd never do something stupid like that." And each year several hunters do something stupid, precisely like that, and it results in another accident which could have been prevented. Overconfidence prompts us to take those small chances which hold potential accidents just waiting for an opportunity to happen.



One of the easier methods of carrying a gun is called the trail carry. Grasping the gun at its balance point it hangs naturally at your side, ready for quick action. If someone is walking along the trail in front of you, it is also a reliable way to commit manslaughter.

Photo by Aaron Pass

Brush shooting is the leading cause of hunting accidents in Georgia. An excited, over-anxious hunter hears movement in the brush and fires at the sound. His failure to positively identify his target before shooting can result in death to another hunter, and did three times in 1969 alone. Eight other hunters were luckier that season, they were wounded in this manner but survived. Brush shooting is perhaps the most inexcusable type of hunting accident since it represents gross carelessness in its worst form. It violates a basic tenet of hunting safety—be sure of your target before you fire.

A stumble or a fall can be bad enough in its own right but add a loaded gun being carelessly carried with the safety off and you have the makings for a first class disaster. The wounds sustained from this type of accident are often severe because of the extremely close ranges involved.

Even without a fall the crossing of obstacles with firearms is a touchy proposition. Four casualties and one death occurred this way during the 1969 season. For maximum safety when crossing any considerable obstacle, such as a ditch or a fence, unload the gun, if possible lay it down and retrieve after crossing. In any case keep the muzzle pointed in a safe direction at all times since most of our hunting

occurs in terrain where falls are frequent if not common.


A very basic point of firearms and hunting safety is being familiar with your gun. It is both surprising and tragic how many accidents stem from neglecting this obvious point. Each year guns go off while being loaded, unloaded, cleaned, and simply inspected, and in 1967 two people were killed as a result. A knowledgeable gunner can be spotted the moment he picks up a gun. His first move will be to open the action to see if it is loaded, and even if it is unloaded he will keep the muzzle pointing in a safe direction out of habit. If you don't know how to open the action by all means don't experiment, ask to be shown. Never, repeat never, take someone's word that a gun is unloaded, no intelligent shooter will be offended when you check the action yourself, but instead will be favorably impressed.

Whether to keep a loaded gun in the home is a loaded question in itself. Those who advocate this policy are quick to point out that the knowledge that a gun is unquestionably loaded makes them automatically more careful with it. On the other hand a loaded firearm in the home is an invitation to disaster when children and non-shooters are present. The best idea by far is to leave the gun unloaded, but to treat it as if it were.

Mechanical failure accounts for small percentage of the total number gun accidents, and is often used as excuse for irresponsible actions on the part of the shooter. Modern firearms are soundly engineered and well built and with a reasonable amount of care they can be expected to deliver years trouble-free shooting. Nevertheless guns fire unexpectedly each year because of safeties that aren't safe, sears which stick and stuck or broken firing pins. Admittedly, mechanical failure which causes a gun to fire is unavoidable, but a resulting accident definitely is. By keeping the muzzle pointed in a safe direction a shooter and his companions can escape such a mishap with no worse consequences than a case of frayed nerves. It is, of course, much better to prevent an accidental discharge than experience it. Good maintenance procedures are a large step in this prevention and a couple of pre-season shooting sessions will bring out any malfunctions which are determined to crop up.

Another type of mechanical failure which is not so easy to correct is the one which belongs to the shooter. You do not have to be a firearms expert to enjoy safe sport, but a good working knowledge of your gun is highly recommended. Some of the common mistakes like using modern smokeless ammo in obsolete guns with damascus barrels and firing a gun with an accumulation of grease or crud in the barrel, can be avoided with such knowledge.

A thorough listing of gun and hunting safety rules would run on for pages depending on how minutely accurate the rules were to be. The characteristics of a safe hunter, however, can be summed up in one word—RESPECT. He respects himself, others, and his weapon. He realizes that the gun he carries has no conscience and judgement, only he can supply the qualities. He also realizes that his gun, depending on how he uses it, can bring both great pleasure or great tragedy. Respect for himself and others is important in that it will not permit him to endanger either his life or the lives of others with careless or irresponsible actions. This quality makes him a courteous and safe companion whether in a deer blind or on a deer trail.

Hunting accidents are individual, some are tragic, some are merely painful, and some are even grimly humorous, but all are avoidable. This season too will have its share of deaths and injuries in the field, caused principally by hunters who figure that accidents will happen to the other guy. But are we you and me, the other guys taking the small chances and using questionable judgement unknowingly waiting for the day when the odds catch up? 

So you bagged your buck...

NOW WHAT?

By Bob Wilson



...you've got him. Darn right you're proud—just look at that rack! Now what are you going to do? There's a lot of good meat there, which you will be able to enjoy if you properly field dress that deer NOW!

At last! After seemingly endless struggles to get a permit, spending a day scouting a week before the hunt, and many hours of preparation and travel, you are set up overlooking a well-used game run as the sun just begins to come up. Perhaps half an hour later, as you are beginning to notice the chill and getting ready to shift around a little to ease your muscles, you look up and there he is! A nice small buck; four, maybe six points. It wouldn't really matter to you if he had only spikes. He stops about thirty yards away, turns his head, and points his ears right at you. You wish your heart would quit beating so loud, he's going to hear it any minute.

It seems like hours have passed when, moments later, he looks forward again and starts to move down the trail. A few more yards and he will be in a clear spot. You feel like giving a sigh of relief but you know it's still too soon. Despite the chill a few minutes ago, you are sweating now. Just a few more steps! You draw a bead as he moves from behind the large oak tree directly in front of you. Now! A quick jerk of the trigger instead of the slow squeeze that you know is correct, the loud crack and the sharp shove of the gun that you hardly notice, the smell of gunpowder, oil, and dry leaves, but you hit him!

He's down; and you can breathe again! You walk over to him and find that, despite your excitement, your aim was true and the deer was killed almost instantly. You note with pride that your first deer is indeed a six-point buck,

This hunter is correct in field dressing his deer as soon as possible, even though darkness is falling. After carefully making a small starting incision, he has placed the middle and index fingers of his free hand on either side of the blade to prevent the point from piercing the organs.



even if two of the points are barely more than nubs.

As you stand looking at this deer you have bagged, your breath begins to come regularly again, you notice the chill is still in the air and wonder why you were sweating a few moments ago. A few minutes more of gazing in partial awe at the rewards of the hunt, and the reality begins to sink in. What are you going to do with a dead deer?

There it lies at your feet, over a hundred pounds of game, perhaps two-thirds of it usable venison, and one-third waste, and all still hot and wrapped up in skin, somewhat like a steer that has never seen the inside of a butcher shop. What you do in the next few hours will mean the difference between many meals of excellent venison and a full garbage can of inedible meat, or even a deer wasted and left in the field.

The first thing to do is to make absolutely certain that the deer is indeed dead. A buck's antlers are obviously dangerous, but no more so than the sharp hooves of any deer, buck or doe. It is best to approach no closer than three feet and watch for any sign of life for several minutes. If the deer is still breathing, it is not dead, and it is quickly by shooting it again. It is not possible to attempt to

dispatch a wounded animal with a knife.

Okay, now what? You take it home and look for a friendly neighborhood butcher to take care of it for you, right? Wrong! Unless you want to gamble on the chance of getting tainted meat, or at best, winding up with meat with a strong "gamy" taste. What do you do then, and why? Well, read on, that's what we're here to tell you.

The first thing you must do won't affect the flavor of the meat at all, but it may affect the flavor of your hunting trip if you forget to do it. Georgia law requires that a deer tag be attached to an animal immediately after it has been killed. These deer tags are affixed to the hunting license, and bear the number of the license. The tag must be attached to the deer by string or wire. Further, each deer kill must be reported in writing to the State Game and Fish Commission within five days.

Right, now we have a deer with a tag attached to its ear with a piece of wire or string, and we are still remarkably close to where we were when we started. Next, we begin to field-dress a deer; and at this point is where the "authorities" begin to disagree on just what is correct.

Some authorities, including the

HUNTER'S ENCYCLOPEDIA, maintain that the first cutting to be done is to remove the so-called "musk glands" or metatarsal glands from the hind legs of the deer. These are surrounded by tufts of upraised hair. These authorities correctly point out that fluid from these glands will contaminate meat with which it may come into contact. These glands may be removed relatively easily with a sharp knife by cutting down the bone at least three-fourths of an inch away from the gland and slicing along the bone.

Other "authorities" claim that it is best to not remove these glands as they are likely to contaminate your hands and knife in the process. Vigorous washing with strong soap and water is necessary to remove the musk from a hunter's hands or knife. Since these will likely be unavailable in the immediate area where the field dressing will be carried out, we recommend that hunters not attempt to remove the glands.

Three major causes of venison contamination are: Fluid from the musk glands coming into contact with the meat; intestinal fluids or matter coming into contact with the meat; and decomposition of blood that has been permitted to collect between layers of muscle.

We have already covered the first.

Careful and thorough field dressing will prevent the other two major causes of venison contamination. Before beginning the actual process of field dressing, the deer should be placed on sloping ground with the head uphill or draped over a rock or bush, or even better, hung up by the head or antlers. Some hunters make a practice cutting the jugular vein to bleed the deer before starting the field dressing process. This may make it difficult or even impossible for a taxidermist to mount the head in the best position. Even if the head will not be mounted, cutting the jugular vein usually results in draining off only a small amount of blood. A normal killing wound will permit enough bleeding into the body cavity to drain the bulk of the blood, and this blood will be removed when the chest and body organs are removed.

To hold the deer's hind legs apart to facilitate field dressing, it may be helpful to use nearby saplings or bushes and some rope to secure the legs in a spread position. A sharp strong knife is essential if you are going to field dress a deer quickly, cleanly, and without a great deal of wasted effort. A knife with a fairly short, thick blade is preferred by many hunters for this purpose.

Now, you are finally ready to make the first cut. Two main cuts of the skin are involved, and it really doesn't matter which one is made first. One cut is made from the breastbone or brisket down to the pelvis, forking the incision on both sides of the genitals if the deer is a buck. In order to prevent cutting too

deep and possibly puncturing the intestines, stomach or bladder, the knife should be held with the cutting edge up. The other hand is placed under the back of the knife to prevent the knife from digging in and piercing the abdominal wall.

Once this first incision has been made, it is important to insure that the meat is not touched by the liquid from the musk glands or the hair on the hide, as this will give the venison an unpleasant "gamy" flavor. If the meat is inadvertently contaminated in this manner, prompt washing may minimize the damage.

After the hide has been cut, the stomach muscles must be cut to expose the internal organs. The same method of cutting should be used to prevent accidental contamination of the meat caused by piercing the intestines, stomach, or bladder. Again, if accidental contamination should occur, prompt and thorough washing of the area affected is necessary.

The second major cut that must be made is around the anus. From the base of the first cut, a circle is cut around the anus to the tail. It is necessary to cut the anus free and tie it off with a cord. It is also a good practice to tie off the bladder to prevent contamination from this source. The alimentary tube can then be pulled into the body cavity through the pelvis or the pelvis can be carefully chopped through, so that the tube can be removed.

The next step is to cut the internal organs free from the body cavity so that they can be removed. The chest dia-

phram is cut next to the ribs. Reaching up into the chest cavity, the windpipe is cut. Grasping the windpipe and pulling down and out, the internal organs are rolled out of the body cavity onto the ground. Be sure to bury them.

Fine, so now you can drag it back to camp, tie it on your car, get a good night's sleep and a late start in the morning, and cart your deer home to your local butcher—with maybe just a short stop over at the brother-in-law's house to gloat a little—right? Wrong again! That is unless you want to take a chance on all that venison going bad.

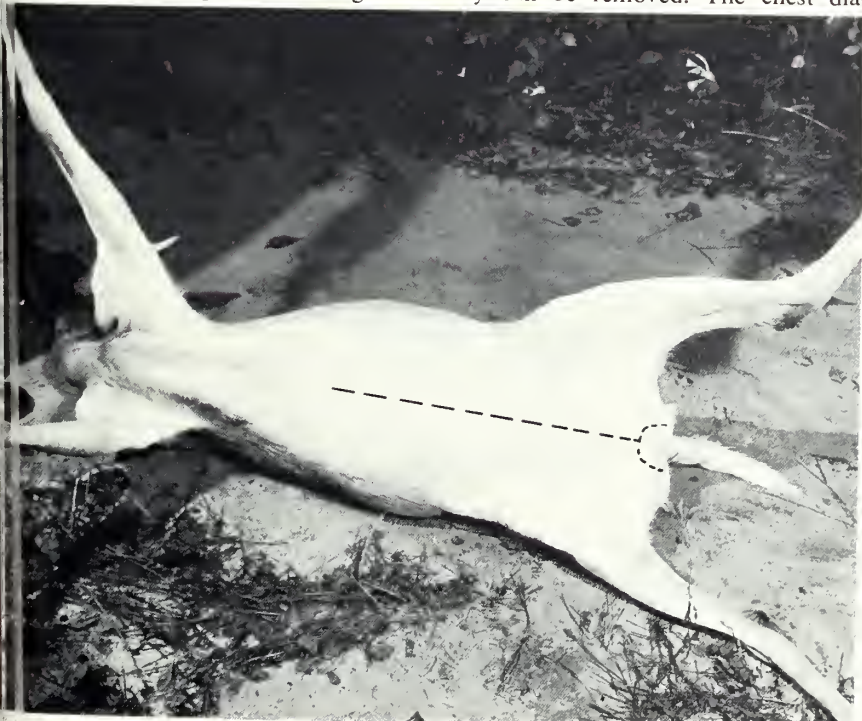
Obviously, you do have to drag the deer back to camp or to a road, and its only common sense to try to keep it clean and protected from dirt and debris. A thick plastic sheet about four by six feet is excellent for wrapping the deer to protect it from dirt and debris, and it also makes it much easier to drag. If the deer must be moved a great distance it is carried more easily slung under a small sapling and carried by two men.

Once the deer has been transported back to camp, it must be hung up by the head, antlers, or front legs to cool. Short sticks should be inserted into the body cavity to hold it open and permit more rapid cooling. With the deer hung up for cooling, damaged portions of the meat may be trimmed away more easily. The body cavity should be wiped with clean rags. Some hunters try to leave a thin film of blood which dries to form a glaze which they feel protects the meat from flies and other insects and possibly even bacterial action. Some hunters give the body cavity a liberal rubbing with black pepper as a further protection. Others press a layer or two of cheesecloth on the meat while the surface is still wet.

The final step usually carried out by the hunter is to transport his deer to the cold locker. This should be done as quickly as possible. Meat spoilage frequently occurs while the game travels from the hunting area to the cold storage locker. Placing a carcass over the hood of a car should be done only as a last resort; the trunk is much better, especially if it can be left partially open to provide ventilation.

The skin should be left on the carcass to prevent excessive drying of the meat. A deer should be allowed to age approximately eight to ten days. Skinning and cutting up the carcass are rather involved processes that we will cover in later articles.

As important as getting that deer may be to you, if you are any kind of sportsman, you haven't finished when he stops breathing. A proper job of field dressing, done quickly and correctly will insure you of some of the best game meat anyone could ever have. 🐟



Field dressing a deer is really just about as simple as cutting along the dotted lines. Of course, there are more steps, but there is nothing difficult or mysterious about it. Proper field dressing is important in preventing meat wastage through spoilage.



*Numerous creeks and streams in which native wild trout can still be found add to the beauty of Pigeon Mountain.
This is rugged beauty at its scenic best.*

A QUALITY OF WILDNESS



Up in the northwest part of our state, where the earth reaches up to the sky, lies a mountain. Most mountains are animate things, fulfilling their role as lookouts for the surrounding countryside or perhaps merely holding the earth together; but this mountain is different. It breathes, it cries, and it has the enviable ability to bring an emotional response from those who visit, sending them away with a new appreciation of the natural, wild and free.

Her majesty the mountain—named Pigeon Mountain sometime back before man's greed and his lust for killing eliminated the passenger pigeon—resides in the northwest Walker County, about 30 miles above Rome, and only 3 miles from LaFayette. The name came from the thousands of passenger pigeons which roosted on the mountain back in the good-old days. Some say the wide variety of wild flowers found on the mountain are there because of the pigeons, which gathered the seeds from all over, and in turn, deposited them on the little soil of Pigeon.

It seems almost as if God had great things in store for the mountain when He was building it, but He was called away before He was through and never got around to finishing the job. He didn't get a chance to round off a side of it, and left some magnificently rugged cliffs. Nor did He break all the rocks up into small pieces, and some

By John Culler

Photos by the Author

rocks are left that qualify as small mountains in their own right. But the best giveaway of all is the top. It's not pointed or round like mountains are supposed to be, but flat. In fact, in the 1920's and 30's there was quite a thriving little settlement on the top of the mountain whose inhabitants made their living farming in the clouds. If Her Majesty were out West, she would be known as a "mesa" because of her flat top, but in Georgia she's simply known as "a mountain with a flat top."

It has been guessed that at one time there was a few gallons of moonshine run off up on Pigeon; but when this is mentioned to the mountaineers in the region they immediately take on a puzzled look, "Why would anyone want to say anything like that?"

Pigeon Mountain is actually a nine-mile arm of Lookout Mountain, which is so big it counts residence in three states. Because of its flat top, it's not as high as Lookout and only five states can be seen from her summit; but like the

ugly girl who knows she must offer more to qualify, Pigeon rises to the occasion. She is covered with hardwoods, magnificent red, white and scarlet oaks, hickory and sweetgum. There is Virginia and shortleaf pine, huckleberries, wild strawberries and fragrant honeysuckle. In autumn the mountain roars with the flame of the coming conflict between the cold hand of frost and life; and is matched each spring by the quiet blooming of her thousands of wildflowers.

She also offers caves, small rivers and waterfalls; each flavored by the mountain, giving all of them a little extra. An explorer feels an air of suspense, because no matter how many times one is the guest of the mountain, she always manages to give just a little more of herself. Some of the caves have been mapped by area spelunkers, one for more than eight miles. In another a 500-foot drop was found, not surprising since the mountain rises abruptly almost 1,000 feet at one point.

Allen Creek, perhaps the largest creek on the mountain, roars along mightily for miles only to disappear into the ground rather suddenly leaving on-lookers standing in a waterless riverbed wondering where all the water went. As far as anyone knows, it never resurfaces. There is a rumor that the mountain heard the cries for water from somewhere far below and responded, but the rumor hasn't been verified. For



One river roars along for miles, then suddenly disappears into the mountain. Standing in the dry river bed, observers are dwarfed by the huge rocks. Note the former water line.

the discerning there is no end to the delights of the mountain or in the manner which they are presented.

The mountain is owned by several private individuals plus some large company holdings, with approximately one-third of the area under some type of timber management. The owners all realized the mountain had a certain quality of wildness and was unique; so in 1960 to protect the natural resources of the mountain while at the same time to provide a place for others, early in 1961 the area was turned over to

the Georgia Game and Fish Commission for management. Thus was born the 22,000 acre Pigeon Mountain Wildlife Management Area, the state's most unusual management area.

The deer and wild turkeys on Pigeon Mountain were all killed out many years ago, but deer were restocked on the area in the late 1940's; and there were approximately 100 deer killed there last year. Walker County has had a deer season only for the past three seasons; but Commission biologists say the area is potentially one of the best

deer producing areas in Georgia. Also because of Pigeon Mountain's remote and isolated condition, plus a fine mast crop produced by some of the taller residents of the mountain, the area is excellent turkey habitat. Turkeys will be introduced on the area as soon as possible.

Although the deer herd on the mountain now is moderate, there are several trophy bucks tipping about, and biologists say with proper management the area should produce an annual kill between 150-250 deer per year. There is a very serious wild dog problem on the area, as it is in most of north Georgia. Efforts to control the dogs have already been started, and plantings of grain, blue color lespedeza, winter rye, oats and fescue have been made. Controlled burning will be done on some of the area to encourage new growth for deer, quail and other small game. Plans are to have a deer hunt every November, plus small game hunting during the season possibly three days per week.

Although the area will be managed toward maximum production of game species, Game and Fish personnel there know they are the guardians of the mountain's beauty as well as its wildlife and it will be kept as close as possible to a pure wilderness state. The attraction of the area will not be the quick kill, the hunter looking for the easy buck will be disappointed. But for the sportsman who can appreciate the natural aesthetics and inner peace the mountain provides, while at the same time have a chance to get a nice buck, this would have to be the place. This will be real wilderness hunting, and some of the best deer hunting will be on the top of the mountain, which will only be available to those who care enough to walk up there. In fact, if a hunter is willing to walk there are certain areas he would have all to himself. A long walk always thins out the crowd.

Camping will be permitted during the hunts, and a hunter could walk in, set up camp, get his buck and pack him out the next day.

The area is open most of the year to hikers, photographers and sightseers but unless you have a four-wheel drive vehicle or don't mind walking much of the area will be inaccessible to you.

In keeping with the mountain's philosophy of constant amazement, there is a herd of wild goats that call Pigeon home. Several years ago a herd of 100 odd domestic goats were set free on the mountain, and they must have adapted quite well. A local fellow said he saw one a few months ago whose horns had grown into a full curl.

If you get a chance to visit Pigeon Mountain to hunt or just to look around, spend a few quiet moments, jump at the chance. It's a good place to find your soul. 🐾

BUCKS FOR THE BOOK

By Marvin Tye

Photos by the Author

J. P. Flournoy's prize-winning buck scored 173½ points on the Boone and Crockett measuring system and qualified for listing in that organization's record book. The deer, taken on the Tallassee Plantation near Albany had the largest typical rack entered in this year's Big Deer Contest.



A nine-point buck with a whopping 26-inch spread typical rack and a 210-pound (field dressed) buck grabbed the honors in last year's Big Deer Contest sponsored by Georgia Game and Fish Magazine and the Georgia Sportsman's Federation.

J. P. Flournoy of Albany nailed the biggest rack prize with a deer that made 173½ points on the Boone and Crockett scoring system, qualifying the head for listing in that organization's record book. The deer was taken on the Tallassee Plantation near Albany, where Flournoy is plantation manager.

Richard Emmett of Flowery Branch got his heaviest buck of the year in the Oconee National Forest near Greensboro, when he got down from his stand to take a lunch break and, while walking back to his car, spotted the deer with its head down feeding.

This marked the first time in the three years of the contest that veteran hunters were able to take top honors in both categories. All previous winners were hunters, who had entered the first deer they had ever killed.

Sort of a "brides-maid" in this year's contest was R. H. Bumbalough of Stone Mountain, whose deer with a non-typical nine-point rack that scored 197¾ Boone and Crockett points, and was a new Georgia record for non-typical racks. Unfortunately, for Bumbalough, the rules of the Big Deer Contest state that a non-typical rack must score at least 25 points more than the best typical rack entered in the contest . . . and his deer fell short by ¾ of a point. Nonetheless, it goes into the books as the record in that category.

Flournoy made an extremely difficult 200-yard shot, made even more unlikely since he was shooting a .30-30 . . . but he hit his prize winner in the heart. His trophy ran 100 yards before falling. The 58-year-old hunter had bagged a number of deer in previous hunting seasons, and added a smaller one during the 1969 season.

Hunting on Raymond Evans' Tallassee Plantation, Flournoy knew that he had an exceptionally large deer, but didn't think of entering it in the contest until he was urged to do so by Game

and Fish Commission Ranger Herbert Adams and Biologist Ron Simpson.

Emmett was hunting the Oconee National Forest with his brother-in-law Francis Collins when they sighted the deer eating a lunch that proved to be fatal to the big buck. The deer saw the hunters at the same time and began to run, but Emmett reacted quickly enough to score with 00 buckshot at a range of about 45 yards.

Emmett's deer had 23 points, but the non-typical rack was not in the running in antler category. It was so heavy, however, that the two gave up trying to drag

the deer to the road, and finally had to enlist the aid of three other men. They dragged the buck to the edge of Appalachian River then waded the stream to get it to the other side. Another hunter commented that anyone who would wade a river on that cold November day for a deer deserved to win a prize. Emmett will . . . a new rifle. Ironically, he had just purchased a new rifle when notified that he had won the contest.

Bumbalough's state record head that didn't win him a prize was shot with a .30/06 automatic rifle, that he had bought Tuesday night before the season

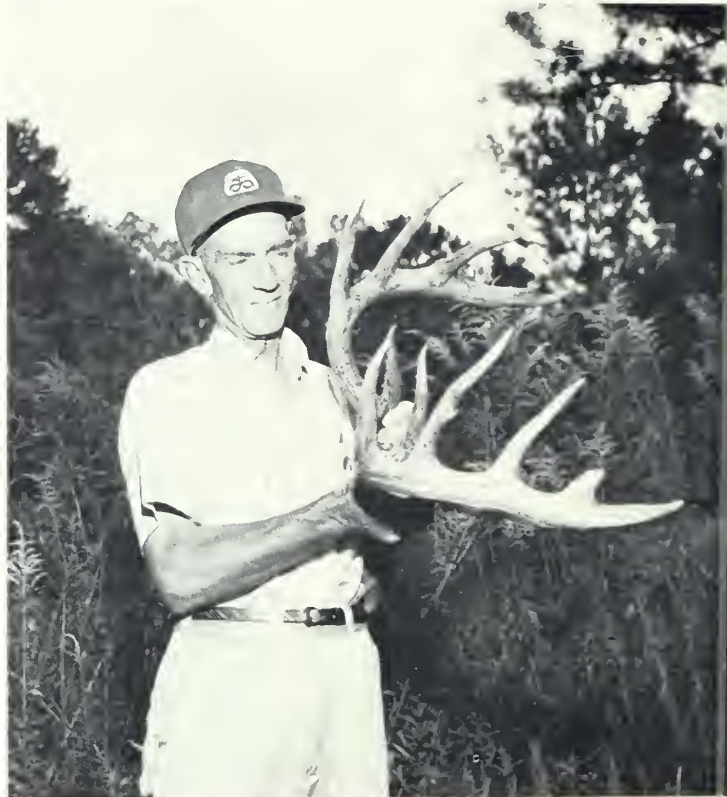
opened, complete with a four-power scope. Thursday night, he fired the gun several times, wisely being certain that it was properly sighted in, and that he was familiar with the rifle.

Two days later, Saturday, found him hunting on privately owned land in Newton County. At 6:30 a.m., he spotted a large buck some 200 yards away from his stand. He took careful aim and fired, but when the buck ran away he assumed he had missed.

Just to be sure, he walked over to the spot where the buck was standing when he shot, and followed the direction the



Richard Emmett's big buck field dressed 210 lbs. and took top honors in the weight division. The Oconee National Forest near Greensboro produced this fine trophy.



This buck taken by R. H. Bumbalough set a new state record for a non-typical rack at 197½ points. A non-typical head must score at least 25 points higher than the nearest typical head to win the trophy contest. Unfortunately this was not a prize winner, but it is a trophy to be proud of.

deer had taken. Just as he was about to decide that his shot had indeed missed, he spotted the fallen buck. The bullet had struck the heart and lungs at a measured distance of 203 yards. The new rifle had opened the new season with a deer that put Bumbalough's name in the record books. A week later, he returned to the same scene and killed a 10-point deer whose typical rack was not enough to be a strong contest contender.

Bumbalough had both deer mounted by James Greer of Stone Mountain, who said the record rack was the largest he'd ever mounted. He agreed to do a rush job of mounting so that the head would be available for official measurement. After one of Bumbalough's employees told him to enter it in the contest.

This year 11 hunters entered deer in the annual contest. Unfortunately some

of them did not know how to weigh their deer. One youngster killed a monstrous buck and had it weighed before it was field dressed. For this reason, his entry was disqualified. The rules state that field dressed weight only may be entered.

A number of deer which were entered in the antler classification might have been prize winners if entered in the weight division. Any hunter who bags a deer that scores more than 150 typical or 175 non-typical points on the Boone and Crockett scoring system or weighs more than 200 lbs. field dressed is eligible for a Master Hunter's Certificate from GAME & FISH Magazine and the Georgia Sportsmen's Federation. The largest deer entered in the weight classification and largest entered in the antler classification bring the successful

hunter a new rifle. Awards are presented each year at the Georgia Sportsmen's Federation meeting in Macon.

If you bag an exceptionally large buck that you think might score high in the contest, bring the mounted head or the rack by the Atlanta office of the State Game and Fish Commission so that Jack Crockford can measure it and enter it into the contest as well as for consideration for Boone and Crockett recognition. The deadline for entries in the 1970-71 contest is May 10, 1971. A 30-day drying period is required before a rack may be officially measured for Boone and Crockett scoring.

Be on the lookout for that big buck this season. Who knows . . . you might kill a record breaker or the best deer of the year. Follow directions for entering the contest and you won't be sorry.

the outdoor world



Peace Officer Award Given Ranger Ramsey

His part in a tragic drama has earned a high honor for a State Game and Fish Commission Wildlife Ranger. Sergeant Sam Ramsey, who is in charge of Public Information and Education for the Macon District, has been named Peace Officer for the Year 1970 by the Petroleum Council of Georgia.

He was selected from the 10,000 membership of Georgia Peace Officers Association for his efforts to save the life of a fellow ranger. Along with two other men, he applied mouth to mouth resuscitation and chest pressure actions for more than 40 minutes until an ambulance could arrive.

Ramsey received a plaque from U.S. Representative William S. Stuckey, Jr., (eighth district), and his name was inscribed on a plaque which is placed in the Georgia Police Academy in Atlanta. In addition he will receive a week's all-expense vacation plus car expenses.

The 13-year veteran of the State Game and Fish Commission answered a radio distress call to assist Ranger A. B. [Name obscured], who had suffered a heart attack. "I had seen him pass in his truck [Name obscured] before and spoken to him on the [Name obscured]," Ramsey said. "He was on his last work day before retiring from the

Commission, and was on his way to Atlanta to turn in his equipment."

Ramsey said Briscoe apparently had a heart attack near Gray, en route to Atlanta, and two Georgia Power Company employees who were behind him, came to his aid. The Georgia Power men used the radio in Briscoe's vehicle to call for help. Ramsey was soon on the scene.

The three of them exerted every effort to keep Briscoe alive until an ambulance arrived, some 40 minutes later. Tragically, Briscoe was pronounced dead on arrival at an Eatonton hospital.

J. W. Bruce, chairman of the Petroleum Council's Executive Committee praised Ramsey for his quick thinking and courage.

The native of Chattanooga, Tenn., finished his schooling in Hammond, Indiana, then came to Georgia in 1941. He joined the State Game and Fish Commission in 1957, and was nominated for the Commission's Ranger of the Year Award in 1966. He and his wife Agnes have a daughter Donna, 12. They live in Milledgeville.

—Dean Wohlgenuth

Cold Storage Deer

This issue of *GEORGIA GAME & FISH* contains a very informative article, *So You've Got Your Buck—NOW WHAT*, which outlines the proper field care of a freshly killed deer. This field care is the most immediate need, and must be done immediately if good venison is to result. The job is not over after the deer is out of the woods, however, as the carcass must still be aged and butchered.

The recommended aging process consists of hanging the deer with hide on in cold storage at a temperature of 32°-35° for one or two weeks depending on the size and age of the animal. For best results seek expert advice from a cold storage facility which deals in meat aging. The next step is skinning, butchering, and freezing. When using commercial cold storage facilities the deer carcass must meet certain reasonable requirements set up by the Food and Drug Administration. According to the Meat Inspection Section of the State Department of Agriculture the carcass may be stored with the skin on, but must be cleaned of all dirt, dried blood, and leaves and it may not be hung in contact with any other carcass in storage. There are no other restrictions as long as no nuisance is involved, such as

parasites and spoilage.

The butchering process is best left to a professional, and most freezer plants will take care of the butchering for a nominal fee. If you wish to do your own butchering it is strongly advised that you contact someone with experience in meat cutting to prevent excessive waste.

After butchering the meat can be frozen until needed. The next logical step is eating, and no one should require advice on that.

—Aaron Pas

Game & Fish Hunter Safety Course

To promote safe hunting and good sportsmanship, the *GEORGIA GAME & FISH* Magazine sponsored a Hunter Safety Course at the Triple H Gun Club in Locust Grove last month. This course was endorsed by the State Game and Fish Commission and presented in cooperation with Winchester and the Triple H Gun Club.

The Program consisted of films, talk and practical demonstrations illustrating the basic principles of safe gun handling in the field. This course gives the new or young hunter an excellent opportunity to get started on the right foot without resorting to the somewhat more chancy trial-and-error method.

The staff of Georgia *GAME & FISH* attended this course and recommended it highly to all hunters regardless of experience. It is informative, and makes a significant contribution to safer hunting. The cost was \$2 per person to cover the ammunition and targets used, only \$1 for those shooters using their own ammunition.

Another program held at the club was the Winchester Learn To Shoot Course. This is a basic course designed to help the beginning shooter get a good start in claybird shooting. The course includes basic shotgun shooting technique as used in skeet and trap. The instruction consists of films, lectures, and personal shooting instruction by qualified Winchester shooters, which helps the novice break birds from the first class meeting.

The range itself is well designed. There is a clubhouse, complete with lounge and a pro shop where gun shells, and other shooting accessories are available. There are six regulated trap and skeet fields, four of which are lighted for night shooting. Ample parking and a playground for children are added conveniences.

Both the Hunter Safety and the Learn To Shoot courses were very successful last fall and more are planned. For further details contact the Triple H Gun Club, Locust Grove, Georgia. Phone 957-5098.

—Aaron Pas

Sportsmen Speak...



AND MORE MIREX

Have just read the August issue of Georgia Game and Fish and cannot resist a comment on the letter from Mr. J. E. Collier in "Sportsmen Speak."

I have not read the article by Margaret Jucker in your April issue, but would like to throw out a little substantiated data regarding Mirex as outlined in the Sport Fisheries Institute Bulletin.

Relatively little research has been done on Mirex, which is cause enough to encourage caution. D. D. T., probably the most studied insecticide, was used 25 years before a 5 ppm tolerance was placed on residues in commercial fish for human consumption.

First, a few findings on the effects of Mirex. A report on pesticides made to the Secretary of Health, Education and Welfare by a special scientific commission lists Mirex as a carcinogen, a cancer causing agent, that induces tumors in mice. (Report of the Secretary's Commission on pesticides and their relationship to environmental health. 1969. U.S. Government Printing Office, Washington, D. C.)

Ten parts per million (ppm) of Mirex in the diet of mice caused 100 percent mortality in 30 days. (Ware, G. W. and E. E. Good. 1967. Effects of insecticides on reproduction in the laboratory mouse. Toxicology and Applied Pharmacology 10:54-61).

Gills and kidneys of Mirex exposed goldfish developed lesions beginning 56 days after treatment and the numbers of those fish surviving were inversely related to treatment level. In these investigations, experimental fish quickly accumulated high levels of Mirex residues, which showed little decline up to 30 days after treatment. (Van Valin, C. C., K. Andrews and L. L. Eller. 1968. Some Effects of Mirex on Two Warm Water Fishes. Trans. Amer. Fish. Soc. 97:185-186).

A single granule of Mirex bait when consumed by shrimp caused 50 percent mortality. During a three week test, one-tenth of a gram per 1,000,000,000 (billion) Mirex in sea water killed 11 percent of the shrimp tested and an additional 25 percent died after being transferred to clean sea water and observed for two weeks. Livers of treated shrimp accumulated 24,000 times as much Mirex as was present in sea water in which the shrimp were kept. (Bureau of Commercial Fisheries. Quarterly reports for the Biological Field Station at Gulf Breeze, Florida. April 1-June 1969; October 1-December 31, 1969).

Secondly, how long does Mirex persist?

In Oktibbeha County, Mississippi, 1.25 pounds Mirex bait per acre was applied in October, 1968, and again in April, 1969. In the spring of 1970, about a year after the second treatment, the amount of Mirex in the fat of additional 25 percent died after being observed animals was measured by gas-liquid chromatography and, in several instances, confirmed by infra-red spectrophotometry. Robins tested has between 35.14 to 53.4 ppm Mirex. Blue Jays, 5.10 to 104.39 ppm Catfish, 5.98 to 11.25 ppm. (Agricultural Research Service, USDA. 1969. Quarterly report of research and methods improvement for the imported fire ant. Report No. 69 (3). September 30, 1969).

When Mirex was put in ponds at the recommended rate, the concentration of residues in soil, water, and vegetation were relatively constant for over 300 days, illustrating that the chemical is highly resistant to degradation or removal. (Van Valin, et. al. *ibid*).

The Plant Pest Control Division of the Agricultural Research Service (USDA) and state agencies in nine southeastern states have proposed a \$200,000,000 12-year campaign to "eradicate" the imported fire ant. The plan calls for three aerial treatments of about 120,000,000 acres with 1.25 pounds of Mirex bait per acre per treatment, totaling 3.75 pounds per acre. The bait is applied by airplanes to the land surface—including streams, rivers, ponds, woodlands, cultivated fields, cities.

In view of the foregoing, I would like to pose a few questions to Mr. Collier to be answered by substantiated research:

1. How long will Mirex persist in a toxic form within the biosphere?
2. What is its long range effect on all animals?
3. Will it get into the estuaries which are the breeding grounds for shrimp, oysters, crabs and most salt water fish? What will be the result?
4. What will be the tolerance level for Mirex in foods for human consumption? How will this effect the commercial catfish farmers and people with farm fish ponds? People who eat the fish they catch in rivers and reservoirs?
5. How much Mirex will be in the milk of cows whose pastures have been treated?
6. Why can't interested people apply Mirex to fire ant mounds on an individual basis? The "eradication" program in the late 1950s in which dieldrin and heptachlor was applied from airplanes did not succeed.
7. How long were mercury compounds dumped into the Savannah River before it was found to be harmful? How much lead are we consuming each day?

This is not to imply that I am opposed to all insecticides. On the contrary, they are useful and necessary. But it is imperative that we know what we are doing before dumping 450,000,000 pounds of it on ourselves and our land and water. To act and then wait for the results would be like looking down the muzzle of a shotgun and pulling the trigger to see if it is loaded.

There are better ways.

Sincerely,

Joe Kight
Wildlife Biologist

TIDE CHART

The main reason I liked your magazine was the tide chart you published each time. I really miss it and wish you would please continue to have it.

Also, I might say I do like the front and especially the back covers of your magazine. You have some beautiful scenes.

I fish a lot and would like to have the benefit of your tide chart again.

Carl Lewis
Waycross, Georgia

We received four or five letters and a few phone calls from readers who missed the Tide Table. We had felt that interest in the tide table was limited to a very small percentage of the readers, thus not warranting so much space in the magazine. If enough readers use it, we'll certainly consider re-instating it. In the meantime, we'll try to keep a few tide tables on hand in the Atlanta and Brunswick offices of the State Game and Fish Commission to send out on request.

GRAVE DIGGERS

I have read the article in Outdoor Life Magazine, entitled The Grave Diggers. Also the one in the Atlanta Journal paper in which Phil Landrum states that the proposed Alcovy project should not be of any interest to people living outside the area in which the "grave digging" is to be done. He also states that the land is useless as it now stands.

For my part, I think this proposed ditch digging is of interest to many people in this State, and mostly those living on, or that have lots and cabins, and fine homes on Lake Jackson.

This proposed dredging of the Alcovy River, resulting in a muddy ditch, 80 miles long, will completely destroy the fishing in this lake. Not to mention the wildlife. I'm sure that a lot of sportsmen could not agree with Mr. Landrum that the land is of no use as it stands.

There is lots of talk about polluted rivers and lakes, but mostly it's all talk and no action.

This proposed 80 mile ditch will not help end pollution, it will only create more by killing most of the fish in the Alcovy and destroying a lot of hardwood trees which produce food for our wildlife.

If this proposed dredging of the Alcovy goes through as planned, it will take 20 years or more for fishing to improve in Lake Jackson.

People living down here on the lake will have to move out and some will become sick after smelling the dead fish that will be washed down the 80 mile mud ditch.

Property on the lake will become useless and values will drop so low that people will be unable to sell their lots and cabins.

Why do the farmers need more land? They don't use what they have now. Most of it is put in a land bank and they are paid not to plant it.

L. Winburn
Monticello, Ga.

SQUIRREL HUNTER

I have enjoyed the superior and well written articles over the last several years. Hope you will find space and time for additional articles on squirrel hunting. I would appreciate any statistics you have on the male-female ratio among squirrels as my game bag has held only 3 male squirrels—all the rest female... in several years of squirrel hunting. Also, what is the reason for the change in the early squirrel season?

Best wishes for your continued success.

R. G. Caswell
Atlanta

Your experience of bagging so many more female than male squirrels is unique... the male-female ratio in squirrels is just about an even 50-50 proposition. Maybe other hunters are getting a lot more males, to balance things out.

We've had an early squirrel season in the mountains for the past few years, largely because people in that area like to follow the tradition of hunting them during the hickory nut season. Later on, when food is scarce, they don't care to hunt them. This fits in fine with the ecology of the situation, since if there is plenty of food, there'll be plenty of squirrels. If there isn't much food to begin with, it's wiser to harvest the squirrels than to let them starve to death when times get hard later in the year. In south Georgia, the situation is different, so there is no reason for an early season.

Keep reading... we're planning a squirrel story within the next few months.

Sportsman's Calendar

MANAGED DEER HUNTS SCHEDULE

(Hunts marked "QH" with a number are limited quota hunts. Number of hunters allowed is indicated. Drawings have already been held, but the dates of quota hunts are included for the information of those whose names were drawn.

PRIMITIVE WEAPONS

Dates	Areas
Nov. 2-6	Piedmont Exp. Station (Buck only)
Nov. 16-21	Suwanoochee (Either Sex)
Nov. 13-14	Chickasawhatchee

ARCHERY (EITHER SEX)

Dates	Areas
Nov. 2-6	Lake Russell
Nov. 2-6	Bullard Creek
Nov. 9-14	Blude Ridge

BUCK ONLY

Dates	Areas
Nov. 23-28	Pigeon Mt.
In Season	Altamaha, Lake Seminole, Grand Bay, and Whitesburg
Dec. 14-19	Arabia Bay
Nov. 23, 24, 25	Allatoona (QH 500)

Date	Areas
Nov. 23-28	Cedar Creek
Nov. 23-28	Piedmont Exp. Station
Nov. 23-28	Blue Ridge, Chattahoochee, Chestatee, Clark Hill, Coleman River, John's Mt., Lake Burton, Lake Russell, Oaky Woods, Swallow Creek, Warwoman
Nov. 30-Dec. 1	Waycross State Forest
Dec. 4-5	
Dec. 4-5, 18-19	Chickasawhatchee (QH 300 each 2 days)
Dec. 7-11	Suwanoochee
Nov. 30-Dec. 5	Bullard Creek

ANTLERLESS ONLY

Dates	Areas
Nov. 28	Allatoona (QH 200)
Dec. 28	Cedar Creek (QH 1,000)
Dec. 28-29	Piedmont Experiment Station (QH 500)
Dec. 28	Clark Hill (QH 300)
Dec. 7	John's Mt. (QH 200)

EITHER SEX

Dates	Areas
Dec. 7	Blue Ridge (QH 400), Chattahoochee (QH 300), Chestatee (QH 300)
Dec. 19	Lake Russell (QH 500)
Dec. 12	Suwanoochee
Jan. 2	Lake Burton (QH 400)

HUNTING SEASONS

DOVES

Season—October 21, 1970 through November 7, 1970 and December 17, 1970 through January 15, 1971.

Bag Limit—18 daily, possession limit 36. Shooting hours: 12 noon until sunset, prevailing time.

MARSH HEN (RAIL)

Season—September 12, 1970 through November 20, 1970.

Bag Limit—15 daily possession limit 30. Shooting hours from ½ hour before sunrise to sunset.

BRANT

Season—November 16, 1970 through January 24, 1971.

Bag Limit—6 daily, possession limit 6.

DUCKS, MERGANSERS AND COOTS

Season—December 2, 1970 through January 20, 1971.

Bag Limit—*Ducks*: 4 daily, including no more than 2 black ducks, 2 wood ducks, 1 canvasback or 1 redhead. Possession limit 8, including not more than 4 wood ducks, 1 canvasback or 1 redhead or 4 black ducks. *Mergansers*: 5 daily including no more than 1 hooded merganser; possession limit 10 including no more than 2 hooded mergansers. *Coots*: 15 daily, possession limit 30. An additional 2 scaup daily and 4 in possession may be taken during the regular duck season in those portions of Chatham, Bryan, Liberty, McIntosh, Glynn and Camden counties lying on the Intracoastal Waterway only.

GALLINULE

Season—November 7, 1970 through January 15, 1971.

Bag Limit—15 daily, possession limit 30.

WOODCOCK

Season—November 20, 1970 through January 23, 1971.

Bag Limit—5 daily, possession limit 10.

TURKEY

Season—November 20, 1970 through February 27, 1971 in Baker, Calhoun, Decatur, Dougherty, Early, Grady, Maier, Mitchell, Seminole, and Thomas counties only.

Bag Limit—2 per season.

BEAR

Season—November 7, 1970 through January 2, 1971 in Brantly, Clinch, Charlton, Echols and Ware counties only.

Bag Limit—1 per season.

SECTION 22

DEER: Buck Only: November 7 through November 21, 1970, in the following counties except as otherwise provided in Section 23: Atkinson, Banks, Barrow, Berrien, Bartow and Cherokee counties except that portion between Knox Bridge and Stamp Creek, south of Ga. Highway #20 to Allatoona Reservoir, which portion will be open during the managed hunt schedule, also that portion of Ben Hill county lying northeast of Ga. Highway #182 and U.S. Highway #319 and between these two highways and the Ocmulgee River, that portion of Coffee County lying north of Ga. Highway #206 and Ga. Highway #268, Brooks, Carroll, Chattooga, Clay, Colquitt, Coweta, Dade, Dawson, Dooly, Douglas, Fannin and Gilmer except that portion of these counties containing the Cohutta Wildlife Management Area as follows: beginning at the Murray-Fannin County line and the Georgia-Tennessee State line; thence running easterly along said line to Tumbling Creek Road (FSR-22); thence southerly down Tumbling Creek Road to Watson's Gap, thence continuing in a southerly direction down Three Forks Road (FSR-64) to Dyer Gap; thence down Flat Top Mountain Road (FSR-64A) to the Flat Top Mountain; thence in a southerly direction down the ridge of Flat Top Mountain to Fowler Gap to Wolfpen Gap to Wolfpen Gap Road; thence in a southwesterly direction down Wolfpen Gap Road to East Mountaintown Creek Road; thence southwesterly along East Mountaintown Creek Road to Mountaintown Creek Road; thence westerly along Mountaintown Creek Road to Holly Creek Gap Road (FSR-90); thence northwesterly along Holly Creek Gap Road to Potato Patch Road (FSR-68); thence westerly along Potato Patch Road to Murray-Gilmer County line; thence northwesterly to the Fannin-Gilmer County line; thence westerly along said line to the Murray-Fannin County line; thence along said line to the point of beginning; Fayette, Floyd, Forsyth, Franklin, that portion of Gordon west of Highway I-75, Gwinnett, Habersham, Hall, Haralson, Hart, Heard, Irwin, Jackson, Lanier except that portion lying north of the Seaboard Coastline Railroad and east of the Alapaha River and southeast of U.S. Highway #221; Lowndes, Lumpkin, Madison, Meriwether, Paulding, Pickens, Polk, Quitman, Rabun, Randolph, Stephens, Sumter, Tift, Towns, Troup, Union, Walker, White, Wilcox, and Worth. Bag limit two (2) bucks. Hunting with dogs prohibited. (260-2-20 Amended)

SECTION 23

DEER; Either Sex: November 21, 1970, only, in the counties of Floyd, Haralson, Paulding, and Polk. Bag limit two (2) bucks or one (1) buck and one (1) doe. Hunting with dogs prohibited. (260-2-.67)

SECTION 24

DEER; Buck Only: November 7 through November 28, 1970, in the following counties: that portion of Dodge County west of Ga. Highway #230 and south of U.S. Highway #280; Jeff Davis, Johnson; that portion of Laurens north of U.S. Highway #80; that portion of Montgomery north of U.S. Highway #280 and north of Ga. Highway #107, Pike, Telfair, and Wheeler. Bag limit two (2) bucks. Hunting with dogs prohibited. (260-2-.68)

SECTION 25

DEER; Buck Only: November 7 through November 28, 1970, in the following counties: Appling; that portion of Montgomery south of U.S. Highway #280 and south of Ga. Highway #107; and that portion of Toombs south of Ga. Highway #107 and Ga. Highway #56. Bag limit two (2) bucks. Hunting with dogs allowed. (260-2-.15 Amended)

SECTION 26

DEER; Buck Only: November 7 through December 5, 1970, in the following counties except as otherwise provided in Section 27 and Section 28: Badwin, Bleckley, Butts, Clarke, Columbia, Crawford, Elbert, Greene, Hancock, Harris, Henry, Houston, Jasper, Jones, Lamar, Lincoln, Macon, McDuffie, Monroe, Morgan, Newton, Oconee, Oglethorpe, Peach, Pulaski, Putnam, Richmond, Rockdale, Schley, Spaulding, Talbot, Taylor, Taliferro, Twiggs, Upson, Walton, Warren, Wilkinson, and Wilkes. Bag limit two (2) bucks. Hunting with dogs prohibited. (260-2-.14 Amended)

SECTION 27

DEER; Either Sex: December 4 and 5, 1970, only, in the counties of Baldwin, Columbia, Greene, Hancock, Jones, Lamar, Lincoln, McDuffie, Monroe, Putnam, Talbot, and Wilkes. Bag limit one (1) buck and one (1) doe or two (2) bucks. Hunting with dogs prohibited. (260-2-.22 Amended)

SECTION 28

DEER; Either Sex: December 5, 1970, only, in the counties of Butts, Crawford north of U. S. Highway #80, Henry, Jasper, Morgan, and Newton. Bag limit one (1) buck and one (1) doe or two (2) bucks. Hunting with dogs prohibited. (260-2-.69)

SECTION 29

DEER; Either Sex: January 1 and 2, 1971, only, in the counties of Chattahoochee and Muscogee. Bag limit one (1) buck and one (1) doe or two (2) bucks. Hunting with dogs prohibited. (260-2-.70)

SECTION 30

DEER; Buck Only: October 15, 1970, through January 2, 1971, in the following counties except as otherwise provided in Section 31: Brantley, Bryan, Bulloch, Burke, Camden, Candler, Charlton, Chatham, Effingham, Emanuel, Evans, Glascock, Glynn, Jefferson, Jenkins, Liberty, Long, McIntosh, Screven, Tattnall, Ware, Washington, Wayne, and all of Clinch County EXCEPT that portion lying in the southwest corner of the county, bordered on the north by the Seaboard Coastline Railroad and on the east by Suwannee Creek which is closed and EXCEPT that portion of Clinch County lying north of the Arabia Bay Wildlife Management Area and between U.S. Highway #221 and U.S. Highway #441 which is closed. Also open is that portion of Echols County lying east of U.S. Highway #129 and south of Ga. Highway #187; also open is that portion of Lanier County lying north of the Seaboard Coastline Railroad and east of the Alapaha River and southeast of U.S. Highway #221; and also open is that portion of Pierce County lying south of U.S. Highway #82, east of Ga. Highway #121, and west of Ga. Highway #32. Bag limit two (2) bucks. Hunting with dogs allowed. (260-2-.13 Amended)

SECTION 31

DEER; Either Sex: October 15, 1970 through January 2, 1971, the islands, except Sapelo and Blackbeard, and marshes lying east of the Intracoastal Waterway in Bryan, Camden, Chatham, Glynn, Liberty, and McIntosh counties will be open for the taking of deer of either sex. Bag limit two (2) bucks or one (1) buck and one (1) doe. Hunting with dogs allowed. (260-2-.37 Amended)

SECTION 32

DEER; Buck Only: November 19, 20, and 21, 1970, only, in that portion of Atkinson County lying south of the Seaboard Coastline Railroad and east of U.S. Highway #221; that portion of Berrien County lying east of U.S. Highway #129, south of the Alapaha River, north of Ga. Highway #76 and west of Ga. Highway #135; and Wilcox County. Bag limit two (2) bucks. Hunting with dogs allowed. (260-2-.23 Amended)

SECTION 33

DEER; Buck Only: November 13, 14 and November 20, 21, 1970, only, in Colquitt County. Bag limit two (2) bucks. Hunting with dogs allowed. (260-2-.43 Amended)

SECTION 34

DEER; Buck Only: November 7, 1970, through January 2, 1971, in the following counties: Decatur, Early, Grady, Marion, Mitchell, Seminole, Stewart, Terrell, Thomas, Webster, and that portion of Lee County lying west of U.S. Highway #19. Bag limit two (2) bucks. Hunting with dogs allowed. (260-2-.17 Amended)

SECTION 35

DEER; Either Sex: November 7, 1970, through January 2, 1971, in the following counties: Baker, Calhoun, and Dougherty. Bag limit one (1) buck and one (1) doe or two (2) bucks. Hunting with dogs allowed. (260-2-.39 Amended)

SECTION 36

DEER; Buck Only: November 7, 1970, through December 31, 1970, in the counties of Chattahoochee and Muscogee. Hunting with dogs prohibited. Bag limit two (2) bucks. (260-2-.19 Amended)

SECTION 37

GROUSE: January 16 through February 27, 1971. Bag limit three (3) daily; possession limit six (6). (260-2-.30 Amended)

SECTION 38

OPOSSUM: October 17, 1970, through February 27, 1971. Statewide season. Exception: Coweta County will be open September 26, 1970, through January 23, 1971. No bag limit. (260-2-.31 Amended)

SECTION 39

QUAIL: November 20, 1970, through February 27, 1971. Statewide season. Bag limit twelve (12) daily; possession limit thirty-six (36). (260-2-.32 Amended)

SECTION 40

RABBIT: (1) November 20, 1970, through January 30, 1971. The counties of Carroll, Fulton, DeKalb, Gwinnett, Barrow, Jackson, Madison, Elbert, and all counties north of those listed will be open for rabbit hunting. Bag limit five (5) daily.

(2) November 20, 1970, through February 27, 1971, in all counties south of the above listed counties. Bag limit ten (10) daily. (260-2-.33 Amended)

SECTION 41

RACCOON: (1) October 17, 1970, through February 27, 1971, in Carroll, Fulton, DeKalb, Gwinnett, Barrow, Jackson, Madison, Elbert, and all counties north of those listed. Bag limit one (1) per night per person.

(2) All counties south of the above named counties are open year round for the taking of raccoons. No bag limit. (260-2-.34 Amended)

SECTION 42

SQUIRREL: October 15, 1970, through February 27, 1971. Bag limit ten (10) daily. (260-2-.35 Amended)





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CONTENTS

Deer's Public Enemy Number One	Marvin Tye	1
Custom Rod—Cut Rate Price	Aaron Pass	5
Duck Identification Chart	Don Pfitzer	8
How Many Deer?	Dick Whittington	10
How To Save Your Hide	Bob Wilson	13
Sportsmen Speak		16
Outdoor World		16
Sportsman's Calendar		17

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HAVE A "HOW TO" CHRISTMAS

Have you recently plunked down a giant wad of hard earned money for a new gun, some stockwork, or a new rod? Have you rushed home and opened the factory box and discovered the checkering on your new gunstock looking like it had been done with a 10 penny nail and a ballpeen hammer? Have you picked up a "new" fishing reel and found loose windings?

Out trout fishing earlier this year, we saw a very surprised angler whose new pack rod had worked apart in the midst of a series of false casts. As if that wasn't enough to take the edge off his satisfaction with the rod, this rod was a factory replacement for a previous rod which was also poorly built.

This winter season is an excellent time for the sportsman to start a "do-it-yourself" program. With a few simple tools, some patience, and the leisure time forced upon us by winter's unruly weather, the outdoorsman can build or modify equipment to fill his specific needs, often with considerable saving.

In this issue, "Custom Rod—Cut Rate Price," tells how a fisherman can build a rod suited to his specific needs without great expense. "How To Save Your Hide", relates the steps needed for the successful deer hunter to have his own buckskin with which he can make a number of useful and practical items of outdoor equipment. More articles along these lines are planned for future issues of Georgia GAME & FISH to help sportsmen learn how they can do it themselves and enjoy doing it!

If you know a sportsman who takes pride in top notch equipment, but has a limited budget, a do-it-yourself kit of hand tools would make an excellent Christmas gift. Knives, gunstocks, fishing rods, lures and flies, muzzloader, and bows and arrows are among the array of sporting goods that come in kit form nowadays. Patience, time and a little old-fashioned pride in craftsmanship will result in a high quality piece of equipment that anyone could take pride in using.

But all that fine gear isn't going to be much good if there's no game or fish to be had, or no land open for hunting and fishing. What about these? For more game on your own land or land leased for hunting, read and apply the practices spelled out in the Game and Fish Commission's award winning booklet, "How To Have Small Game on Your Land". The Commission's Fisheries Division stands ready to advise and assist in fish pond management.

What really takes a do-it-yourself approach is keeping hunting and fishing areas open. Cooperation with landowners gets down to an individual person-to-person relationship. Common sense, understanding, and simple courtesy are the key components to this kit.

This carries over on a larger scale when we are dealing with the wildlife management areas and the game and fish stocking programs operated by the Game and Fish Commission. These are only the pieces in the kit. Cement:

Continued on page 17

ON THE COVER: This is the season for deer hunters to hit the woods. When they get there they may find they've been preceded by hunters who know no season . . . the deer poacher. The season ON poachers is a year-long one, too, for the State Game and Fish Commission's wildlife rangers. See "Deer's Public Enemy Number One" by Marvin Tye, Page One. Cover painting especially for Game & Fish Magazine by George Reiney.

ON THE BACK COVER: December means duck hunting to many a Georgia sportsman. Two of the most popular species for Georgia are the mallard and the wood duck. The colorful woodie is a native Georgia bird. Hunters will benefit from the duck identification chart by Don Pfitzer, U.S. Bureau of Sport Fisheries and Wildlife, on Pages 8 and 9. Photo by Ted Borg.

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WANTED



JACK LIGHTER

Alias "SPOT" LIGHTER

"THE TORCH"

"NIGHT OWL"

"SHINER"

FOR DEER POACHING

This Man Is A
Dirty Lowdown Coward
Who Steals Deer From You

DEER'S PUBLIC ENEMY NUMBER ONE

By Marvin Tye
Photos by Ted Borg

Huddling deeper into the insulated warmth of his sleeping bag, the Georgia wildlife ranger peered into the night. The piercing cold from the frost-covered ground penetrated the thick bag and the icy wind made his face feel numb. He began to think how nice it would be to go home to a warm bed.

Crunch! Crunch! Crunch! His thoughts were interrupted by the footsteps of men slipping down a trail through the pine thicket



Georgia Wildlife Rangers Leroy Hackley and Loy McNeal move in to arrest a pair of the state's number one menace to the deer herd, the poacher. Actually innocent persons modeled for these photographs to demonstrate the situations encountered by the rangers in actual field work. Game and Fish Commission representatives estimate that as many as 10,000 deer are killed here each year by poachers.

where he lay. A glance at his watch told the ranger it was just 20 minutes past midnight.

He peered through the underbrush. Three men, carrying shotguns and wearing battery-powered lights strapped to their heads, walked only a few feet from where the ranger lay, completely oblivious to his presence.

In a moment, they broke out of the woods into a newly-cut cornfield, where several deer had been feeding nearly every night. The lights of the three men began carefully probing the field, in search of deer.

In the meantime, the ranger had slipped out of his sleeping bag and signaled two other rangers nearby. The three of them took separate positions around the poachers.

"Hold it right there! You're under arrest!" shouted one of the rangers, and all three rushed forward.

Knowing conviction on a charge of illegal deer hunting meant loss of their car, guns and equipment, plus a stiff fine, the poachers took off on a dead-end stumbling through the darkness. They knew the woods well, but the rangers did too, and the lawmen could use their wits. Working around the poachers, the rangers soon had their quarry cornered. One of the nighthunters

stepped into a puddle of water, and almost instantly his pantslegs were frozen stiff.

The frenzied chase soon ended when two of the men realized chances of escape appeared dim. By 2 a.m., the pair of deer bandits were at the county jail. The rangers' long vigil, which had begun at 4:30 the previous afternoon was over.

This time it was successful. Often it is not.

Incidents of this type are not at all unusual for Georgia wildlife rangers. District Chief, Mallory Hatchett of Waycross reports that 18 arrests were made for night hunting from July 1, to October 7, this year. Rangers working out of his office confiscated five vehicles and about a dozen guns during the period. They took three .30/06 rifles and one shotgun on a single case. Two dead deer were found in one of the vehicles.

Most arrests are made without serious incidents. When an incident does occur, it's likely to be a dilly. Rangers D. W. Shuptrine and Dan Roberson spotted two men hunting from the back of a truck. Instead of submitting to arrest, the driver hit the gas and sped away. At the end of a hectic chase that carried them several miles the rangers found that the skilled driver of the vehicle was a 16-year old girl, the wife of one of the hunters. They were arrested and their truck confiscated.

In another incident last fall Rangers L. C. Taylor and Marshall James stopped two men. The suspects were men they recognized, so the rangers did not treat them with the usual caution they would use in such a situation. One of the men suddenly grabbed a carbine and pointed it at the rangers,

threatening to shoot them if they tried to interfere with their escape. The rangers swore out warrants for the two men later, and brought them to trial.

Ranger George Hancock was not so lucky. He was lying in wait for night hunters when he found himself directly in the glare of a bright light. Suddenly a shot rang out and he fell to the ground, critically wounded by a load of buckshot from a shotgun blast. Ranger Hancock, with Hancock on the investigation, rushed him to the hospital, saving his life. They apprehended the hunter who claimed that he thought he was shooting at a bobcat.

Night hunting is one of the most serious problems facing the state's deer herd. To the average sportsman poaching may seem to be a minor factor. But all the habitual poachers were caught everytime they shot an illegal deer and if this were to put an end to each poacher's career, this would make poaching a small factor indeed in the overall picture.

However, that is not the case. Law enforcement officials have no way of knowing how many illegal deer are killed each year. All agree that the number of apprehended poachers could be compared to the visible portion of an iceberg. There is a lot more of poaching beneath the surface that cannot be seen.

In addition, if a ranger catches a poacher with dead deer, that does not tell the complete story. He may have already killed a dozen or more before being caught. After paying a fine, he may return to this illicit practice and further damage the deer herd.

Legal deer hunting will not damage the deer population. In fact it is a help

tool of wildlife management. If the deer were left alone to live and multiply without control they would soon reach the point where there would not be sufficient food on the range to support them. They would eat all the available browse and then be subjected to starvation or disease. Worse still, the size of the deer herd would build up faster than the depleted range. This would leave the deer in a stunted or diseased condition for many years.

Legal deer hunting can be controlled so that the bag limit includes the surplus that exceeds the carrying capacity of the land. This keeps the deer herd healthy, protects the range, and prevents killing too many deer. When the poacher enters the picture this is changed drastically. Good hunting results when poachers are controlled. Otherwise, deer can be hard to find, and in extreme cases all the deer in an area can be destroyed.

Hubert Handy, chief of wildlife management for the State Game & Fish Commission, estimates that at least 10,000 deer are killed by poachers each year. With a total of 30,000 deer taken legally by hunters, this large illegal kill eats deeply into the huntable population. The true impact of this large kill can only be realized when you consider that the poacher kills pregnant does, fawns or healthy bucks indiscriminately. In addition, they do not always produce clean kills. Shooting in poor light at night the poacher often only wounds the game and it is never recovered, sometimes dying a slow, lingering death. Handy believes that there is as much more poaching done by hunters in the daytime. These are often hunting all game and do not refuse to take a shot at any deer they happen to see. A small caliber bullet or bird shot rarely produces a clean kill.

In addition to the obvious game damage done by the poachers, there is the added expense of law enforcement efforts to apprehend them. In the inci-

Spotlighting at night is one of the most serious poaching offenses.

Deer are not frightened by light. Instead of fleeing from it, they either stare at the light or continue feeding as if nothing were wrong. Shooting them under these conditions is taking advantage of the weakest flaw in their defense ability.



dent described at the beginning of this article, I mentioned three rangers stationed near the cornfield where the poaching was expected to take place. According to District Chief J. D. Atchison, there were six more rangers in vehicles patrolling the area and keeping in radio contact with the rangers on foot in an effort to catch all of the poachers involved.

Chief Atchison believes that the 1962 law that provided for the seizure and sale of any automobile, boat, animal or gun used in poaching deer at night has helped to cut night hunting. He says that at least it makes the violator walk more and makes him harder to catch. Others would disagree, but all seem to agree that night hunting is at its worst in spots where enforcement is lax or low fines are given upon conviction. Handy quotes a law passed by the Virginia legislature that provides a \$250 fine for killing a turkey and makes the violator pay for replacing the bird. This

can cost an additional \$50 or more. Georgia has no such law.

In many sections of Georgia the fines for illegal night hunting rank too low for the amount of damage done according to Handy.

However, Deputy State Law Enforcement Chief Bill Cline knows of cases where offenders have been fined as much as \$500 and had their automobiles confiscated. Cline feels that heavy fines tend to reduce poaching.

Arrests for poaching sometimes lead to solutions of other criminal cases. Cline reports the arrest of five persons for illegally hunting at night. Two of these were driving in one car and shining a light while three others in another car manned the guns. According to local authorities, the second car contained five guns that had been reported stolen. One was a .38 pistol that had been reported stolen from the U.S. Army Corps of Engineers.

District Chief Mallory Hatchett re-

Wildlife rangers put in many hours of night work to apprehend the poacher. Several teams of rangers in vehicles as well as others on foot often cooperate to capture the night hunter. Roadblocks are most effective in the mountain counties where the number of roads leading into an area is limited.



ports that the stiffest fine he remembers was one of a man who was fined \$500 and sentenced to six months in prison. This was the third time that particular man had been charged with illegal hunting that year. Hatchett said that the man left the county after he was released and hasn't been heard from again.

Possibly the most severe sentence ever passed on anyone for illegal deer hunting in Georgia was recently handed down by Superior Court Judge Frederick Kennedy in Appling. The Columbia County Judge found three men guilty of a number of charges and fined them \$1,000 each and placed two of the men on three years probation and one on two years probation. In the probationary period, the men were not allowed to go hunting, to possess firearms or to be away from their homes at night. One of the men involved had been charged with night hunting in an earlier case, but the case had been nolle prossed by the solicitor in another county.

In this particular case, District Chief Drew Whittaker along with Rangers Irving Knox and Ray Ferguson investigated reports of illegal activity and heard a gun shot. They stopped the vehicle seen at the site of the shooting, but two men in the car jumped out and fled on foot. There were two .30-30 rifles in the back seat of the car, but no deer. The driver was released and the rangers returned to the scene of the crime for a thorough search. They found three doe deer in a ditch, ejected cartridges from .30-30 rifles and a lot of blood on the ground. The law enforcement officers waited in hiding until the two men who had fled earlier returned in another car to pick up the deer at 5 a.m. the next morning.

Ballistics checks proved that the cartridges had been fired from the two guns in the back seat of the first vehicle. Both cars as well as guns were confiscated and all three men arrested.

Chief Whitaker believes that such a stiff penalty and the publicity it received have done much to prevent further deer poaching in his district. It has not completely eliminated the problem, but there have been considerably less violations since this sentence was passed out.

The times when night hunting activity is heaviest vary from one section of the state to another. According to Drew Whitaker, mid-September through the end of deer season is the worst time for poaching in his area. J. D. Atchison says that poaching activity usually begins in June in his area with his most violations taking place from August through January. His theory is that a number of hunters claim to be looking for lost dogs at night during

the hunting season when they are actually hunting deer. When the people have a logical excuse for being in the woods at night with a gun, proving a violation has been committed is more difficult. When the corn is cut in October, deer often gather in the fields to feed and are easy targets for the night hunter. In the North Georgia mountains night hunting activity is likely to be heavy from February through April when as many as 30 or 40 deer may be seen at one time feeding on grass planted around the roadside. Chief Johnnie Hunt at Brunswick has had experience working both the coastal areas and the mountains and says that there seems to be more illegal deer hunting in the mountains. He claims, however, that violators are somewhat easier to catch in the hills as there are fewer roads to take, with often only one way out. Roadblocks can be used more effectively there and with fewer personnel and vehicles than are required by the maze of roads in some South Georgia areas.

Hunting deer at night has been prohibited in Georgia since colonial times. Then it was known as jacklighting or fire hunting because Indians and early settlers used lighted torches to spot deer. For some unknown reason, deer are not frightened by light, but either stare at it as if hypnotized or continue their feeding without showing any signs of alarm. Hunting them at night with a light is really taking advantage of the animals and striking at their weakest flaw. This type of hunting could hardly be considered sporting. If uncontrolled,

such hunting could completely destroy a deer population.

Good law enforcement and court officials who regard poaching as the serious wildlife threat that it is, do a lot to overcome the problem. Equally as important as these factors is public opinion and the attitude of the sportsman. The sportsman should consider the game law violator as a thief. He would not stand by and watch a man rob his home or his place of business. Neither should he stand by and not report the man who shoots deer at night or out of season.

It is a proven fact that when an activity such as poaching is looked upon as a crime and dishonorable activity by the majority to the citizens in a county it is discontinued. This is the way the average sportsman can help. Report any violators to the Game and Fish Commission as soon as you learn of them. Also resist the temptation to shoot at a deer with a weapon inadequate for the job. Don't go rabbit hunting and shoot at a deer even if it is legal game at that time of year. Chances are that you will be armed with a gun that just isn't designed for deer slaying.

If all of the night hunting and other illegal deer killing were eliminated, biologists estimate that hunters could legally harvest many more deer and perhaps have longer seasons and more liberal bag limits. In addition, deer would be more plentiful and perhaps healthier.

Such a goal can be achieved only one way. That is through cooperation between the game biologists, wildlife rangers and you the sportsman.



Rangers know poachers can be dangerous persons and treat them accordingly. The convicted poacher can lose his vehicle, gun, lights and other equipment used in night hunting for deer. In addition he may be fined and jailed on a number of charges. Three men were fined \$1,000 each in a case in Columbia County this year and placed on strict probation. More sentences of this type could do much to lessen the amount of poaching in Georgia.

The middle of winter can be a trying time for the fisherman. Once the cold weather clamps down for the duration, the angler is forced indoors to stare out at a cold and cheerless drizzle remembering the highlights of the past season. A good portion of this enforced leisure time is also spent rummaging through the tackle supply and planning what equipment will be needed before the next season rolls around. New lures, new line, and perhaps even a new rod will be on the list — especially that new rod, a subject near and dear to the hearts of most dyed-in-the-wool fishermen.

It seems that no matter how many rods a fisherman may have, he is always in desperate need of a least one more. In fact rod-waving is becoming a favorite hobby of wintered-in anglers. To play this charming little game, you go to a fishing rod display at any sporting goods store, and stand around making imaginary casts with the various rods. There is no need to be embarrassed as you will generally have plenty of company. The game is usually played by the fisherman starting with the most expensive rod on the rack and working his way down to one which his conscience and his wallet will accept.

Actually there is a better way to acquire a first-rate rod, and at a fraction of the price such a rod costs off the store rack. Rod building, many dedicated anglers are finding, is a far more satisfying pastime than fighting with their conscience over the price of a high quality fishing rod. Building your own rod is not as difficult as it first appears; actually it is a fairly simple process which does not require any expensive equipment to get started. More important, however, is that by building your own rod you can get high quality without sending yourself to the poorhouse in the process. This economy factor is in fact one of the major reasons anglers begin to build their own rods, later to discover that it is a rewarding hobby in itself.

There is quite a bit of satisfaction in fishing with a rod that you have built yourself, as it seems to add a sense of personal achievement to your sport. The pride of ownership of such a rod is not to be discounted either, for you have in effect a custom built rod, designed expressly for your type of fishing.

This article is not a precisely detailed instructional text on building a rod, nor is it intended to be. It is merely intended to give a general idea on what is involved in this interesting and satisfying hobby, for actual instructions you should write one of the concerns which deals with rod parts and kits.

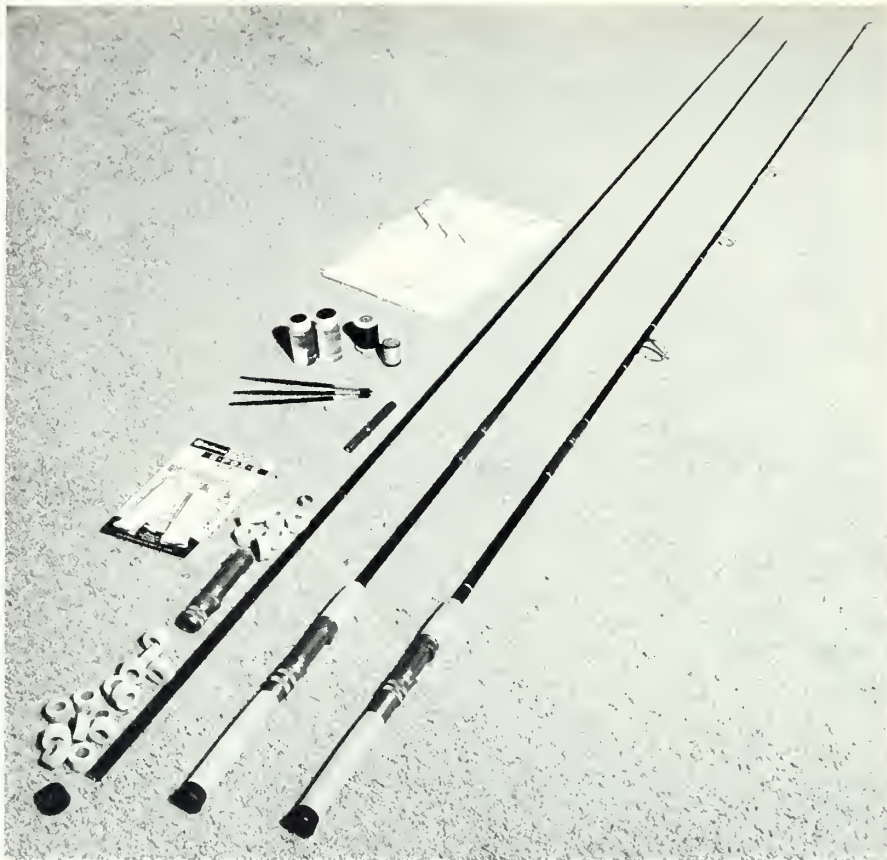


Rev. Bill Conine finds rod building almost as interesting as fishing. Here he spaces and tapes on the guides of a casting rod with the aid of a guide spacing chart.

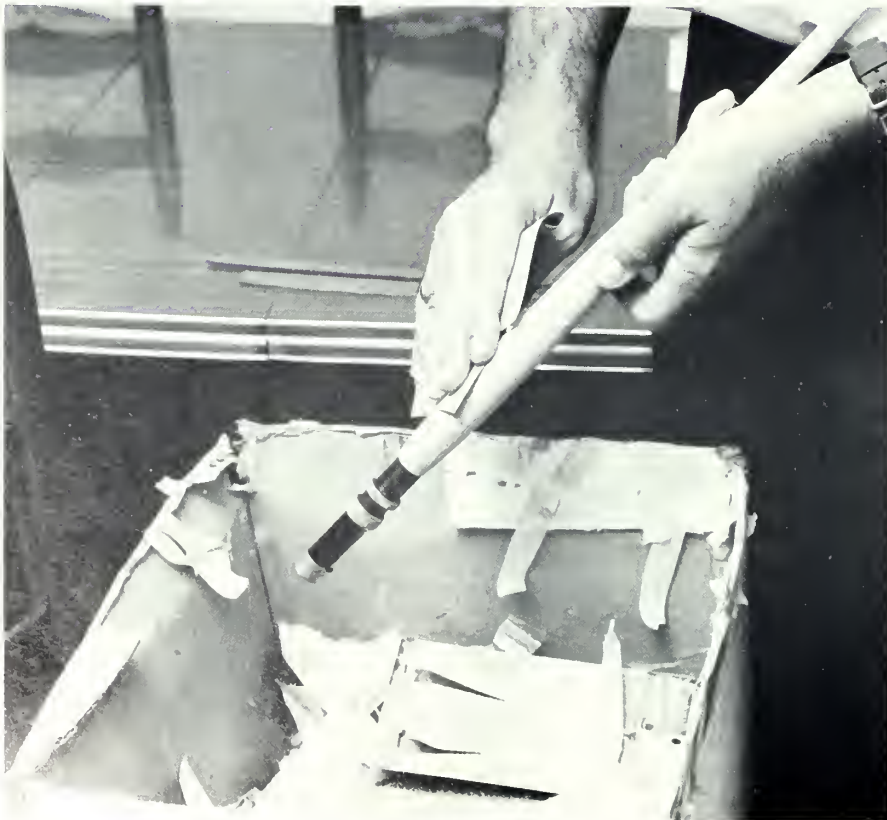
Custom Rod-Cut Rate Price

By Aaron Pass

Photos by Ted Borg



Before and after. That jumble of unidentifiable pieces on the left are the components which will eventually make up a finished spinning rod like the one on the right. The semi-finished rod in the middle is what you should expect if a rod building kit is ordered.



and the correct number of cork cylinders to make up the grip. A file, rasp, and finally sandpaper are used to shape the grip.

It is very helpful at this point to have a friend who builds rods to advise you on the best way to get started. Ask around among your fishing pals because chances are good that one of them has built a rod before. The next best alternative is to write one of the manufacturers or outlets which supply rod components for a parts catalog and a list of the parts needed for whatever type of rod you have in mind. Such catalogs and instructions are generally available from the suppliers, and they are of great value in determining just what components you will need.

After you have decided what type of rod will fill the bill, you must still decide whether to begin with a kit or order all the components separately. For your first venture into home rod building it is recommended that you start with a kit. It will consist of a rod blank already cut and ferruled (unless it is a one piece rod), with the handle and reel seat, attached. All of the other parts will be included, and all you have to do is assemble the kit as you would a model airplane.

If you start from scratch by ordering all of the components separately, remember that the quality of the components determines the final quality of the rod. Of the major expenses there are the rod blank and the guides; to try to cut costs on either of these parts is false economy and will result in a less than satisfactory rod. Buy the best quality blank you can afford, and get tungsten carbide or rustproof mono guides and you will have an excellent start on an excellent rod.

The basic material list for the beginning rod builder should start with a good quality fiberglass rod blank (which some suppliers furnish already cut and ferruled). A sturdy reel seat or reel bands, and an adequate amount of cork for the grip will make up the handle. The best guides and tip top you can afford are none too good as they make up a critical portion of the finished rod. Winding thread, color preservative, varnish, epoxy, and Elmer's Glue-All make up the list of accessories you will need to assemble your rod.

The tools required are neither elaborate nor are they expensive, in fact you probably already have some of them around. A hacksaw will be needed to trim the rod butt. A rat-tail file to enlarge the holes in the cork arbors which make up the grip, and a rasp and some sand paper will be necessary to shape the grip once it is mounted. Finally, some small paint brushes to apply color preservative and varnish to the windings will complete the inventory of tools. With these few simple tools and the components listed above you are ready to start building a custom fishing rod in your home.

There are only four basic steps to building a rod from scratch. Cutting and installing the ferrules is first. As this is a somewhat tricky proposition due to the precise measurements and the need to have the ferrules perfectly aligned, it is suggested that the novice builder order a blank with the ferrules already installed. The next major step consists of installing the cork handle and reel seat. This is accomplished by determining the placement of the reel seat, and then adding enough of the cork cylinders to build up the grip to the proper length. After the seat and the cork have been cemented in place with epoxy, use the rasp and sandpaper to shape the grip to the desired contours.

The next step is to epoxy the tip guide to the end of the rod, and when this is done you have exactly what you would have received had you ordered a kit. All that remains to be done is winding on the guides and varnishing the windings. At this point you will need a guide spacing chart to help you determine the correct distance between the guides. Most rod building instructions include such a chart, but if they don't, be sure to get one, as guide spacing is very important to casting ease and accuracy.

To position the guides measure from the tip on the tip section, and from the ferrule on the butt section. Tape each guide in its proper place with the tape around the "foot" pointing toward the tip, and wrap from the butt forward with size A or D nylon thread. Tension

Using a single action fly reel with the drag adjusted to keep tension on the thread, Rev. Conine winds on the guides. Those three fine bass in the background prove that rod building doesn't cut into his fishing time.



must be maintained on the thread as you are wrapping and a simple method of doing so is to pass the thread through a heavy book. It's not a bad idea to make a few practice wraps and tie offs before you start on the rod itself. Try

to keep each turn of the thread as tight as possible against the preceding one, as this will add much to the final appearance of the rod.

It is a good practice to begin the wrap at least 1/4 in. from the end of the lower guide foot, and to extend it the same distance beyond the forward one. The knot used to tie off the wrap is described in the instructional booklets on rod building, and care should be taken to make it secure.

Now that the guides are wrapped, there are only a few finishing touches and you have your rod. If brightly colored thread was used for the windings a couple of coats of color preservative should be applied. Otherwise, use just varnish as it helps to bond the guides, windings, and rod together. Two or three light coats should be sufficient, allowing 24 hours for each coat to dry. And there you have it, a hand built, custom fishing rod costing 40 to 50 per cent of what it would cost if factory built.

Suppliers of rod components and kits:

The Orvis Company, Inc.
Manchester, Vermont 05254

Reed Tackle Company
Box 390
Caldwell, N. J. 07006

The Sportsman's Den
P. O. Box 24
Collegedale, Tenn. 37315

For other outlets check the ads in a national outdoor magazine.



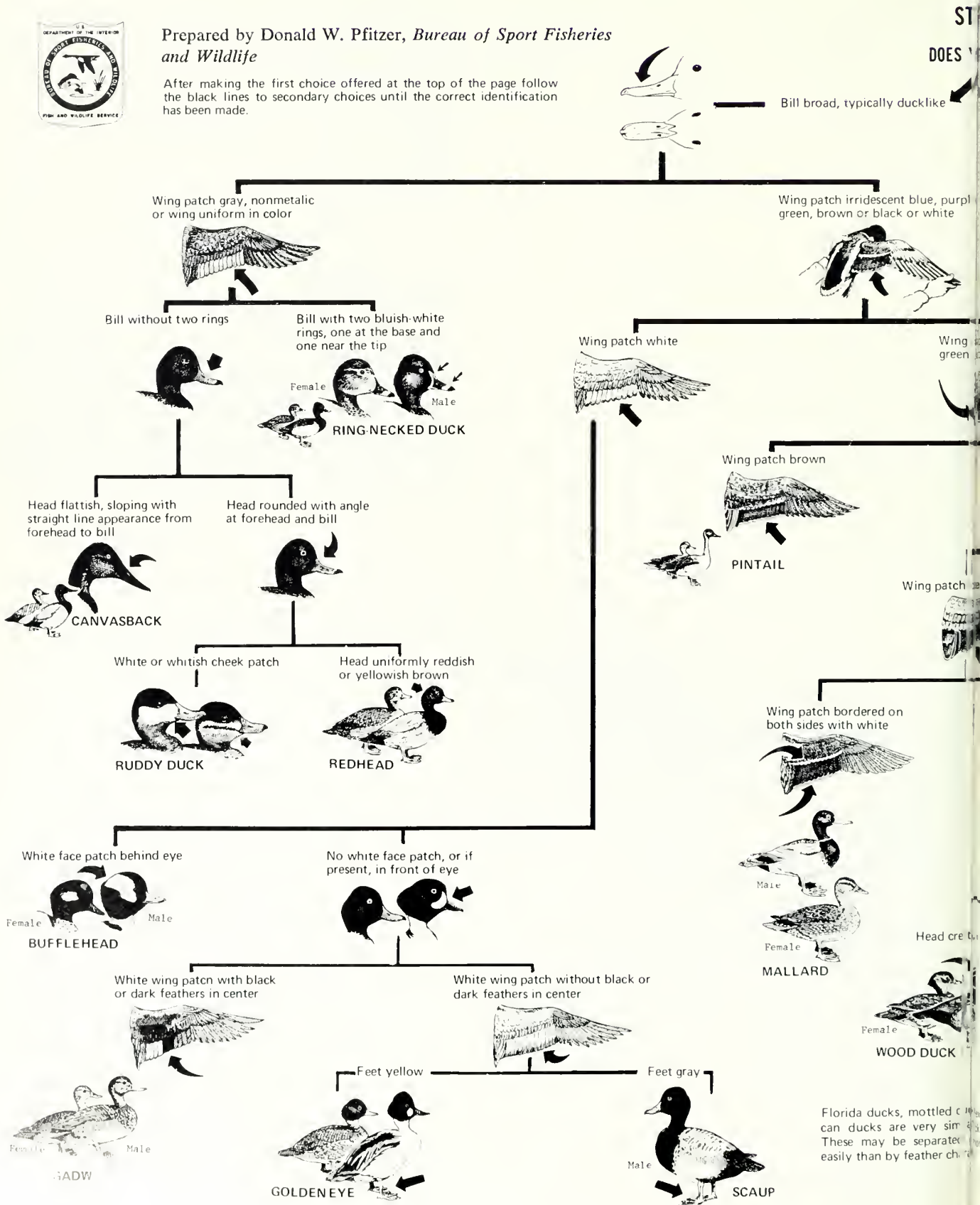
The final step of rod assembly is applying a varnish finish to the guide wrappings. The varnish should be applied in several thin coats and allowed to dry thoroughly before successive coats are applied.

DUCK IDENTIFICATION



Prepared by Donald W. Pfitzer, *Bureau of Sport Fisheries and Wildlife*

After making the first choice offered at the top of the page follow the black lines to secondary choices until the correct identification has been made.

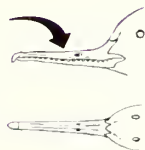


GUIDE FOR HUNTERS

RE

K HAVE

Bill slender, pointed, and toothed



Feet yellow or yellowish-gray

Feet pink or reddish



HOODED MERGANSER



COMMON MERGANSER



RED-BREASTED MERGANSER

c blue, purple, black

g patch blue, purple, green or black



Wing patch without white border
white only at feather tips



Head not crested, feet
orange-red or coral red

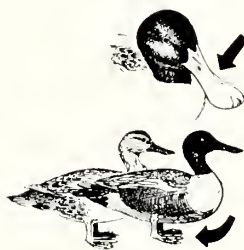


BLACK DUCK



Florida Duck

Bill very large and
broad, feet orange
or coral-red



SHOVELER

Cinnamon teal is similar to blue-wing teal except that male cinnamon teal is reddish on head and underparts. The female is virtually identical to the female blue-wing teal.

Bill normal, feet yellow



BLUE-WINGED TEAL

Wing patch green or black



Blue patch on shoulder of wing



Patch on shoulder of wing not blue

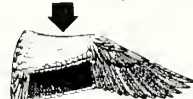


Shoulder of wing
gray or brownish



GREEN-WINGED TEAL

Shoulder of wing
with white patch



AMERICAN WIDGEON

Female American widgeon has brown breast and flank. Female green-wing teal has gray speckled breast and flank.

This pictorial aid is designed to assist in recognizing ducks in the hand after they have been bagged.

The shape of the bill, wing markings, color of feet or head crest are some of the typical characteristics used to identify ducks in the hand. This is quite different from identification of ducks in flight or sitting on water. When flying or on water other identifying features are used such as silhouettes, mannerisms of flight, wing beat, speed of flight or color patterns on body and wings. Every effort should be made to learn to recognize ducks before they are shot. By doing this the hunter is able to take much greater advantage of his sport.

Although occasionally seen inland, sea ducks are not included in this key. They are most frequently found in open salt water areas.





HOW MANY DEER?

By Dick Whittington
Region II Game Supervisor

Photos by Ted Borg

■ If you have hunted deer with any frequency, you probably have spent days wondering if there were any deer in your area. On other days, you may have seen so many deer that you wondered how many there were in the same area.

The question of how many deer are in a particular area is asked of game managers many times during the season. One who attempts to place a number on a deer herd without any data to back up is placing himself at the very long, thin limb. In plain and simple terms, there is no easy way to

Because of the many questions about

numbers of deer and the need for information on percentages of a herd that can be legally harvested, I decided to take a census in 1969 on a portion of a Game Management Area. The area chosen was 2,400 acres of the popular Clark Hill Game Management Area. This study area is known to hunters as compartments 4, 5 and 6 at Clark Hill. It is bounded on three sides by Clark Hill Reservoir.

Movement of deer onto and off the study area during the census period was a major concern of mine. However, a close look at previous radio telemetry (radio tracking—see Feb. 1968

Game & Fish) data showed that most deer at Clark Hill have a very small range and that apparently the lake serves as a barrier to movement off the area. Since there is no noticeable buildup of deer on the area after hunting commences on the outside, it was assumed that the lake is also a barrier to movement of animals onto the study area. With these minor problems solved and the research project approved, work was begun in July, 1969.

The method of census chosen was the "Lincoln Index" type count which is accepted by Wildlife Biologists as one of the more accurate census techniques.

The method involved trapping and tagging deer on the area and releasing them at the same site. These tagged deer were later counted as they are brought through the checking station as legal kills during the managed hunts. The census was made by comparisons of tagged to untagged deer.

Two types of live traps were used in capturing deer. One type was constructed of a pipe framework and covered with four-inch mesh nylon netting. The other type was a large plywood box with dropping doors on both ends. The nylon net traps could be folded and were very easy to move to different locations. Sixteen traps were used in the study during the September and October trapping period.

Deer were baited with salt, shelled corn, acorns and honeysuckle prior to the traps being set up. Whenever a particular baited area was being used regularly by deer, a nylon net trap was moved to the area and set. The plywood box traps were set up over the permanent salt licks.

The baited areas were not used regularly at first and only three traps were set the first day. District Biologist Dan



Counting noses of deer in a certain area isn't a simple matter of merely adding them up. Game biologists Dan Marshall, left, and Dick Whittington began by trapping as many deer as possible on the Clark Hill Wildlife Management Area. The more deer trapped, the more accurate the final results would be in the census study.

Marshall, Area Manager Joe Smallwood and myself waited with anticipation. The first study to accurately census a deer herd in Georgia was underway at last. I had expected to catch at least two deer in the three traps the first night, but to my surprise, one young buck decided to catch an afternoon snack at one of the traps. Needless to say, he was the first victim and was swiftly removed from the trap. This trap was baited and set with a hair trigger and scored again during the night. The other two traps also contained deer the next morning.

During the course of this scientific study, there was one operation that was not so scientific; namely, restraining and removing the deer from the trap. The technique consisted of crawling under a door, grasping any part of the deer's anatomy (preferably the hind feet) and holding on for dear life. To avoid injury to the trappers, bucks with antlers were chased from the trap into a section of nylon netting made into a loose bag with a drawstring. Then they were wrestled on the ground for tagging the same as were the does.



In order to keep records of those deer trapped, tags were placed on the ear of each animal.

To be certain a lost tag wouldn't throw off the final results, a second tag was placed in each ear.





Tagging complete, the deer was released. Scared but unharmed the deer was happy for the opportunity to head for home! Results of the hunt were tabulated according to how many tagged and how many untagged deer were harvested. From these figures, an estimate of the total population was obtained.

Metal tags were affixed to both ears of each deer captured. The tags were consecutively numbered for left and right ears for future identification. Each deer was released immediately at the same location it was captured. A hasty retreat to the nearest cover was the general rule, sometimes with a couple of loud snorts to let us know that wrestling and ear tagging were not their idea of fun. However, all but one deer were good sports about the whole procedure. The one bad sport was a six point buck who gouged the eye socket of a temporary helper with an antler. The buck escaped none the worse for wear but a few stitches were required to patch up the wound he inflicted.

Some difficulty was experienced with doors to new traps langing and other malfunctions of various types. Add to this a very good acorn crop and the trapping success was not as good as was anticipated. Forty-three deer were trapped and tagged and about 14 of these were caught a second time. A few of the deer became "hooked" on corn and were caught several times. It seems that the procedure they were subjected to wouldn't have been worth the double handful of corn, especially so with acorns raining down with each puff of wind.

With the tagging operation completed, the wait at the checking station began. It didn't last long as the first deer was brought in before noon on opening day. Very shortly after this, a

tagged deer was brought in and the number was recorded. During the bow and arrow hunt, 18 deer were killed on the study area, four of which were tagged. The following week during the two-day either-sex hunt with firearms, 77 deer were killed and 12 of them were tagged. So far as we could determine, not a single tagged deer was killed outside of the study area.

After the hunts were completed and all the data tabulated, the census formula was used to compute the number of deer that were on the area before the hunts. The principle of the technique works on the theory that the rate at which the tagged deer were killed was the same as with untagged deer. For example, if exactly one-third of the tagged deer had been killed, it must be assumed that exactly one-third of the total number of deer present were killed. In such a case, the total number of deer killed could be multiplied by three to obtain the number of deer before the hunts. It is easily seen that the accuracy of the census increases with the number of deer that are trapped and tagged. In this study, a minimum of 30 deer would have given an accurate census.

The big question was finally answered. There were 255 deer on compartments 4, 5 and 6 before the hunts. This works out to be 68 deer per square mile, or one deer per nine and four-tenths acres. With a population like this, it is no wonder hunters are so successful at Clark Hill.

Of particular interest to biologists is the percentage of a deer herd that can be harvested and still maintain the same population level from year to year. Theoretically this percentage is the same as the annual increment to the herd through reproduction. Without knowing exactly how many deer were added into the herd during the summer of 1969, we had to figure a conservative 30 to 35 percent. This meant that the allowable harvest for the 1969 hunting season could be exactly the same. Since we did not know the number of deer present before hunting season, the question of how many deer to harvest had to be dealt with by using many years of experience in regulating deer harvests.

In addition to the six-day bow and arrow hunt, a firearms hunt was proposed to allow 300 hunters to hunt deer of either-sex for two days. These hunters removed 95 deer from the study area which was a fraction over 37 percent. Since all my estimates have turned out so close, it might be appropriate to mention that my estimate of the population before hunting was 250 deer. I just five off the figured 255!

It can be seen that during the 1969 season, deer were plentiful at Clark Hill. Through continued management practices and, hopefully, many more estimates of populations that are reasonably accurate, we intend to harvest adequately at Clark Hill and continue the good hunting that so many sportsmen enjoy.

HOW TO SAVE YOUR HIDE

By Bob Wilson

Photos by Ted Borg



Many a hunter disposes of his deer hide because he doesn't know what to do with it. Taking proper care of it, as soon as it is removed from the deer is important if you want to use it to make buckskin leather. It isn't difficult, and the end result is well worth the slight effort of following steps outlined in this article.

■ If you were lucky enough to bag a deer or even two this season, you probably noticed right away that these animals come wrapped in a rather tough layer of skin with fairly coarse hair on the outside. If you were wise, you left the skin on the carcass while it aged in cold storage, as this helps prevent the meat becoming too dry.

When it came time for cutting and wrapping the meat, the hide was left over as a by-product of a successful deer season. You were absolutely right if it crossed your mind that there ought to be some way to make something use-

ful out of that raw hide. There are a large number of useful things that you can make out of that skin, *after* it has been tanned. There are even a few applications for using the raw hide; but it cannot be allowed to get wet, or it will deteriorate.

Interested in a nice soft leather that you or someone else can use to make a number of useful and attractive items? If you got your deer, you have the start of it, but only the start. The skin must be carefully removed, prepared, and shipped off to the tanner before you can start work with it. Many useful



With the carcass hung up, a flap of hide is carefully separated from the neck or hind legs.



Grasping the flap firmly and pulling downward with a steady pressure will generally peel the skin from the flesh.

items can be made from buckskin, as the finished leather is called. The purpose of this article is to let you know how to get the skin ready to send off to the tanner.

The first step, obviously, is removing the skin from the carcass. With the deer hanging head up, a cut is made around the neck. In the case of a buck with a good rack that may be worth having mounted, the cut is made around the base of the neck, down to the legs on the front, and across the shoulders on the back, leaving as much of a cape as possible for the taxidermist to work with. If the deer is a doe, the cut is

made at the top of the neck.

Using a sharp knife, the skin may be separated from the flesh for about six inches, forming a flap. Holding this flap firmly with both hands and pulling downwards with a steady pressure, the skin may be peeled from the flesh. Where the skin sticks to the flesh tightly and causes the flesh to tear, the knife should be used to separate the two for a distance of about two inches below the bottom of the spot of torn flesh.

The skin may be started on the legs in the same fashion as on the neck. The whole skinning process may be carried out with the deer hanging head

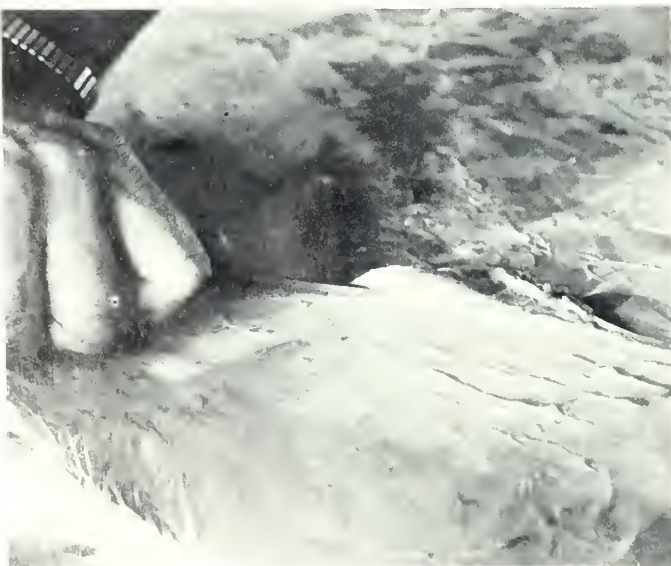
down as shown in the accompanying photographs, with the pulling flap started with the hind legs.

After the skin is freed from the carcass, there is still much work to do. Small patches of flesh will remain stuck to the hide, and some areas of the hide will be covered with a thin layer of fatty flesh. These must be removed with a sharp knife. Careful work is called for here to avoid slicing through the skin or making a thin spot in it.

When the hide has been "fleshed out" it may be salted and stored until enough hides have been collected to send off to the tanners. While a single hide may be sent off for tanning, many hunters wait until they get their season limit of two and get together with several friends in order to collect a decent bundle of hides to send off. Hides may be safely stored for long periods by salting and storing in a freezer.

With all excess flesh removed, the hide is liberally rubbed with rock salt which will absorb moisture from the skin. The hide may then be folded and rolled and stored in a freezer. Storing the hide in a plastic bag, while not really necessary, may please the chief-of-the-freezer, and is required around my house.

When you are ready to send the hides off to be tanned, they must be dried in the shade until the flesh side of the skin feels dry. Then wrap them up in burlap, drop them into a burlap



The skin must be "fleshed out" to remove patches of fat and flesh still clinging to the skin. Care must be taken to prevent cutting into the skin during this process.

bag, put a tag on the bag, and ship them off. Commercial carrier is the most economical method of shipping more than two hides, while one or two may be sent reasonably by parcel post. Where to send them? A list of reputable tanning firms appears at the end of this article. Local taxidermists will sometimes offer to have hides tanned for hunters; but then they collect up a bundle and ship it off to these same tanners.

If you want to have the hides tanned with the hair on, a note to this effect should be attached to the hides. The same holds true if you want some special color or surface finish on the finished leather. Keep in mind, however, that the finished product may be stained later on.

All right, so back comes anywhere from one to a dozen hides (if you have been able to talk your hunting buddies out of theirs) all nicely tanned. All this has been a great deal of wasted effort if you aren't going to do anything with all that nice soft strong leather. Fear not! Our faithful readers with piles of buckskin will be rescued by later articles on how to work the buckskin into a number of items useful to the outdoorsman.

Some small-scale tanners are unable to insure constant quality in finished leather, but the three listed below are relied upon by professional taxidermists and leather suppliers. The cost for having a single hide tanned varies from \$4.50 to \$6.00, and the price drops as the quantity increases.

New Method Fur Dressing Co.
131 Beacon St.
South San Francisco, Calif. 94131

Jonas Brothers, Inc.
1037 Broadway
Denver, Colorado 80203

Clearfield Taxidermy
603-605 Hannah St.
Clearfield, Pa. 16830



Rock salt is rubbed into the skin thoroughly to absorb moisture from the skin in order to prevent deterioration.

After salting, the skin is folded and tightly rolled for storage or shipment.

While a burlap bag should be used for shipping hides to a tanner, wives are generally happier with a plastic wrapped hide if it is to be stored in the home freezer before being sent off.

Sportsmen Speak...



Letters of general interest will be used as possible. Letters must be brief and to the point. The number of letters received prevents us from using all letters. When several letters on the same subject are received the editors reserve the right to use only those which cover the subject best.

JACKSON POLLUTED

No doubt you read in the *Atlanta Constitution* paper a few weeks ago the article concerning the pollution of Lake Jackson by the cities of Atlanta and Decatur. Also, Fulton and DeKalb Counties caused by dumping of sewage into South River.

If this mess is allowed to continue, this lake will soon become so filthy that it will be a health problem for people living in Newton, Butts, and Jasper Counties. At the writing of this letter the water in this lake already stinks.

My house is 3 miles above where South River empties into the lake and it stinks here too. Fish are already starting to die, you can see them floating and washed up on the shores. It's going to get so bad down here that boating and swimming will have to be discontinued altogether. The fish will become unfit to eat so fishing will be stopped too.

The cities talk about pollution, but do nothing. It looks to me like they could build a sewage treatment plant large enough to take care of all the sewage, or find some way to burn or dry it up.

The SCS and the government want to dredge the Alcovy River and mess it up. I say if they are in such a hurry to spend money why don't they spend it where it will do some good . . . like cleaning up South River and helping the cities get rid of their sewage problems.

Clean up the first mess, before you make another one.

L. Winburn
Monticello, Georgia

The Georgia Water Quality Control Board reports that South River is one of the most polluted streams in Georgia. Poor water quality in South River is a result of a number of factors. Inadequately controlled development combined with failure on the part of local governments to plan and install the sewers and wastewater treatment facilities to meet the needs of the area have contributed greatly to the problem.

Natural streamflow during dry weather available for dilution of treated sewage is also a factor. Since most of the water supply for the area comes from the Chattahoochee River and is diverted to the South River as wastewater, the flow in South River may be over 50% wastewater during dry weather. The problem is compounded in wet weather by combined sewers discharging untreated sewage to South River.

The Water Quality Control Board has completed a study of South River, Yellow River, Alcovy River, and Jackson Lake in cooperation with local and Federal agencies. A report is presently being prepared which will assist in the development of a comprehensive basin plan for pollution abatement; however, urban development combined with residual pollution from wastewater treatment facilities will continue

to present water quality problems in the basin. This is another example of man abusing his environment.

DOESN'T LIKE LEASES

I think it is time someone spoke out against leased hunting rights, involving paper company land. The State and Federal Government have, in the past, stocked areas for hunters in districts owned or controlled by the State and Federal Government, where game has multiplied and of necessity, have spread out onto the paper company property. Now, I do not take exception to the fact, that a property owner has the right to lease his land, if he so desires, however in the case of the paper industry, their land is used for profit, (every time I spend money to buy products that their pine trees were used to produce, I create a profit for them, as does every other hunter) and should be made available to all hunters who pay for a license, which in turn, pays for most of the game that is to be found in areas owned by the paper manufacturers. (I do not know of any stocking programs that are maintained by the paper producers).

I have enjoyed deer hunting on one particular area of paper company land, in Jones County, for the past several years, however, this year the land has been leased. My hunting companions leased it and I could have joined in, but now the hunting on this land is limited to 14 hunters where before it was open to all. Why could not the State and Federal Government work out a leasing program on the land? It would seem that even a permit plan could be worked out. I realize that some of their land is incorporated in State and Federal area. I certainly would not object to a reasonable fee to be charged by the paper company for hunting rights on their land but I do not think you should be limited to one area of their land.

Do you agree or disagree?

James M. Stanley
Decatur, Ga.

Many hunters, like you, object to paper companies leasing hunting rights on their land. We have to realize that, like a small farmer, a timber company is a private landowner who raises a crop for profit. The farmer raises corn (and other crops) to sell, and we buy the products. If a landowner, large or small, wants to keep the public off his land, that is his right. I think you'll find, by and large, timber companies are allowing hunters to use their land more readily than most other landowners. As you pointed out, many of the lands operated by the State Game and Fish Commission as Game Management Areas are leased from timber companies. Some lands are open by timber companies on a fee basis as you suggested they do. Some lands are leased to clubs, as are many lands owned by farmers. And a great deal of paper company lands are open to the public free, if only hunters will ask permission. One paper company confided to us that one reason they lease lands to a club is because the general public abuses the privilege by damaging trees and dumping trash. How can we argue with them? It's their land . . . they may do as they wish. Nonetheless, we think they've been quite generous.

SHORT ON TURTLE LAWS

I have enjoyed your magazine for years, and still enjoy it although I am not able to follow a dog anymore.

The following is something I hope your conservation department will take up, and I don't want you to refer me to the local Game & Fish Department. They very likely know what's going on.

Since the sounds have been opened to shrimping commercially practically every day the Public Works Dept. has had to bury dead sea turtles on the beaches. There is

one I reported just now in front of Cedar St.

These turtles have been killed with an ax or other means. Most of them are hacked up pretty bad.

The people concerned at the pier think they are killed by the shrimpers after being caught in their nets.

I talked to one of the Public Works men just now and he said 75 were killed last year on St. Simons alone.

We saw none this year until the sounds were opened for shrimping. It would be pretty hard to catch anybody doing this, but the sounds could be kept closed.

J. H. Edwards
St. Simons Island, Ga.

It is true that some dead turtles have washed ashore on the Georgia coast. It is also probably true that most of them were caught in shrimp nets. After being dragged in nets for some time, some of the turtles will drown. Shrimpers throw all the turtles back, whether dead or alive. Unfortunately, there is nothing the Commission can do to prevent this harm to turtles, even though state laws protect them. We have no way of keeping turtles out of nets. Soon, however, the turtles should move offshore and eliminate this problem. Apparently, they're staying inshore later than usual this year. They normally nest on beaches during late spring and summer.

the outdoor world

Big Fish Deadline Set

A deadline of January 10, 1971 has been set on entries for the 1970 Georgia Big Fish Contest. The deadline has been set as early in the year as possible in order that the winners may be announced in the Georgia GAME & FISH magazine without a long delay.

The contest is jointly sponsored by the Georgia GAME & FISH magazine and the Georgia Sportsman's Federation. Top winners in six categories will win rod and reel outfits. The six categories are black bass, white bass, crappie, bream, mountain trout, and catfish.

Contest entry forms can be obtained from the State Game and Fish Commission, 270 Washington St., S.W., Atlanta, Georgia 30334. Entries must be postmarked no later than January 10 to be eligible.

—Bob Wilson

Editorial (cont'd.)

Do It Yourself

together with strong support by individuals as well as groups, this kit will make for some of the finest hunting and fishing in the nation. Write your legislator, report violations of conservation laws. Don't rely on the other fellow doing it for you, he may just not give it the time needed to do it properly do-it-yourself.

—Bob Wilson

Sportsman's Calendar

HUNTING SEASONS

MOURNING DOVES: December 17, 1970 through January 15, 1971. Daily bag limit is 18. Shooting hours noon till sunset prevailing time.

BRANT

Season — November 16, 1970 through January 24, 1971.
Bag Limit — 6 daily, possession limit 6.

DUCKS, MERGANSERS AND COOTS

Season — December 2, 1970 through January 20, 1971.
Bag Limit—Ducks: 4 daily, including no more than 2 black ducks, 2 wood ducks, 1 canvasback or 1 redhead. Possession limit 8, including not more than 4 wood ducks, 1 canvasback or 1 redhead or 4 black ducks. *Mergansers:* 5 daily including no more than 1 hooded merganser; possession limit 10 including no more than 2 hooded mergansers. *Coots:* 15 daily, possession limit 30. An additional 2 scaup daily and 4 in possession may be taken during the regular duck season in those portions of Chatham, Bryan, Liberty, McIntosh, Glynn and Camden counties lying on the Intracoastal Waterway only.

GALLINULE

Season — November 7, 1970 through January 15, 1971.
Bag Limit—15 daily, possession limit 30.

WOODCOCK

Season — November 20, 1970 through January 23, 1971.
Bag Limit—5 daily, possession limit 10.

TURKEY

Season — November 20, 1970 through February 27, 1971 in Baker, Calhoun, Decatur, Dougherty, Early, Grady, Miller, Mitchell, Seminole, and Thomas counties only. *Bag Limit*—2 per season.

BEAR

Season — November 7, 1970 through January 2, 1971 in Brantly, Clinch, Charlton, Echols and Ware counties only. *Bag Limit*—1 per season.

MANAGED DEER HUNTS SCHEDULE

BUCK ONLY

<i>Date</i>	<i>Areas</i>
Dec. 4-5	Waycross State Forest
Dec. 4-5, 18-19	Chickasawhatchee (QH 300 each 2 days)
Dec. 7-11	Suwanoochee
Nov. 30-Dec. 5	Bullard Creek
Dec. 14-19	Arabia Bay
In Season	Altamaha, Lake Seminole and Grand Bay

ANTLERLESS ONLY

<i>Dates</i>	<i>Areas</i>
Dec. 28	Cedar Creek (QH 1,000)
Dec. 28-29	Piedmont Experiment Station (QH 500)
Dec. 28	Clark Hill (QH 300)
Dec. 7	John's Mt. (QH 200)

EITHER SEX

<i>Dates</i>	<i>Areas</i>
Dec. 7	Blue Ridge (QH 400), Chattahoochee (QH 300), Chestatee (QH 300)
Dec. 19	Lake Russell (QH 500)
Dec. 12	Suwanoochee
Jan. 2	Lake Burton (QH 400)

SMALL GAME MANAGED HUNTS SCHEDULE

<i>Dates</i>	<i>Areas</i>
Reg. Season	Lake Seminole, Whitesburg, Allatoona, Altamaha (except Butler Island), Cohutta, Grand Bay, Brunswick Pulp and Paper Co. (except during dog deer hunts)
During waterfowl season, by permit only	
Dec. 4-5, 11-12	Altamaha (Butler Island)
Dec. 9-Feb. 27	Lake Russell
Dec. 11-Feb. 27	Coleman River
Jan. 22-23	Chestatee
Jan. 29-30	Lake Burton
Dec. 9-Feb. 27	Piedmont Exp. Sta.
Dec. 9-23 & Jan. 2-Feb. 27	Cedar Creek
Jan. 22-23-Feb. 5-6, 19-20	Chattahoochee
Dec. 9, 12, 16, 19, 23, 26, 30 - Jan. 2, 6, 9, 13, 16	Bullard Creek
Jan. 4-9	Suwanoochee
Jan. 22-23-Feb. 5-6, 19-20	Blue Ridge
Jan. 11-16	Arabia Bay
Dec. 9-Feb. 27	Oaky Woods
Jan. 2-30	Clark Hill
Jan. 22-23-Feb. 2-6	Warwoman
Jan. 4-9	Alapaha (E. of Ga. 135)
Feb. 4, 5, 6, 11, 12, 13	Waycross State Forest
Jan. 9, 11, 12, 13	Chickasawhatchee

SECTION 37

GROUSE: January 16 through February 27, 1971. Bag limit three (3) daily; possession limit six (6). (260-2-30 Amended)

SECTION 38

OPOSSUM: October 17, 1970, through February 27, 1971. Statewide season. Exception: Coweta County will be open September 26, 1970, through January 23, 1971. No bag limit. (260-2-31 Amended)

SECTION 39

QUAIL: November 20, 1970, through February 27, 1971. Statewide season. Bag limit twelve (12) daily; possession limit thirty-six (36). (260-2-32 Amended)

SECTION 40

RABBIT: (1) November 20, 1970, through January 30, 1971. The counties of Carroll, Fulton, DeKalb, Gwinnett, Barrow, Jackson, Madison, Elbert, and all counties north of those listed will be open for rabbit hunting. Bag limit five (5) daily.

(2) November 20, 1970, through February 27, 1971, in all counties south of the above listed counties. Bag limit ten (10) daily. (260-2-33 Amended)

SECTION 41

RACCOON: (1) October 17, 1970, through February 27, 1971, in Carroll, Fulton, DeKalb, Gwinnett, Barrow, Jackson, Madison, Elbert, and all counties north of those listed. Bag limit one (1) per night per person.

(2) All counties south of the above named counties are open year round for the taking of raccoons. No bag limit. (260-2-34 Amended)

SECTION 42

SQUIRREL: October 15, 1970, through February 27, 1971. Bag limit ten (10) daily. (260-2-35 Amended)

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