



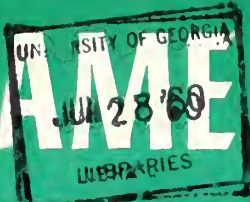




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GEORGIA GAME *and* FISH



FISHING EDITION
1960

GEORGIA GAME AND FISH

Published twice annually by the Georgia Game and Fish Commission in the interest of wildlife and for fishermen, hunters, nature lovers, and conservationists.

STATE OF GEORGIA



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COVER

Male anglers may not agree, but trout fishing is far from being a man's sport only. Nelly Lawrence of Atlanta stepped from her car, onto a rock at Tallulah River and, presto—a nice brook trout.

(Photo by Charles Jackson)

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FULTON LOVELL

Now's The Time To Do Your Part

Sit tight, sportsmen, the celebrated "population boom" is coming and it will effect you just like everybody else. Wildlife experts say pressure on the nation's outdoor recreational facilities will almost double by the year 2000.

If you're a fisherman who spends an afternoon now and then on a "private" hole on a nearby lake get hospitable—company's coming. And if you happen to be a quail hunter who knows where to find a "secret" covey or two, move over—you may have to share your goodies with someone else.

All of this commotion over America's unprecedented population increase has caused state and national conservation agencies to concentrate on development of public lands for hunting and fishing.

The Georgia Game and Fish Department, for example, is advocating more small game hunting on its game management areas.

Multiple-use has become the byword of the U. S. Forest Service. No longer are foresters devoting their time and energy solely to timber growing. They are mapping plans for better game management, camping, hiking and other forms of outdoor recreation.

There are currently one-half million acres of public lands open to hunting in Georgia. These scattered areas are managed by the Game and Fish Commission solely for the hunting public. However, it is easy to see what will happen if public pressure doubles. There'll be too many hunters and not enough areas.

For that reason Game and Fish Technicians have gone all out to acquire more suitable terra firma on which to carry out proven methods of increasing game and fish.

A good example of this are the Suwanoochee and Talbot game areas, set up a couple of years ago. Game technicians say these areas are busting at the seams with wildlife, even though they once were bare of it, except for an occasional squirrel or cottontail.

These two areas will soon be open for controlled public hunting and harvestable game up for grabs to the state's sportsmen.

Federal agencies have strived to gain suitable nesting grounds for waterfowl to assure a continuing supply. Duck stamp money, which is collected by the Department of Interior from all waterfowl hunters, is earmarked for wetland acquisition.

The whole key to the situation, however, lies with landowners. Twenty years from now, when the next generation is able to find plenty of game, they will have farmers and landowners to thank for it.

Successful game management is being practiced on many Georgia farms and the results are beginning to show. It may make a tremendous difference when our population "explodes" and sportsmen are asked to move over and make room for many, many more hunters.

Small game food plants are nurtured in Albany and distributed by the Game and Fish Commission free of charge to landowners interested in improving game populations. If you happen to be one, contact your local wildlife ranger. He'll give you information on how you can get it delivered right to your door and have a trained wildlife technician show you how to get best results.

Conservationists ask that we do our share to insure future wildlife populations. It's not hard to do, they say. All it takes is a little effort and a willingness to work for the future.

After all, who wants Georgia to run out of game when the "explosion" comes?



Quail Hunting in GEORGIA



President Eisenhower

Hunting on Pineland Plantation, Gov. Vandiver visits Eisenhower on bordering Blue Springs home of W. Alton Jones.

Georgia quail have cast a spell over President Dwight Eisenhower, noted golfer, hunter and country gentleman from Gettysburg, Pennsylvania.

Mr. Eisenhower's fondness for quail hunting came to light during a recent trip into south Georgia's quail country, where he and his friends had little difficulty in bagging their limit.

He was so impressed with W. Alton Jones' Blue Springs plantation that he wished for the day he could own a similar chunk of Georgia real estate.

"Nothing would suit me better," he said, "than to have some Georgia quail land to hunt on when I retire."

Mr. Eisenhower and his party were guests of Jones, board chairman of Cities Service, at his plantation in Baker County.

With the president were his personal physician, Dr. Howard Snyder; close friend Charlie Jones, head of Richfield Oil; John H. (Jock) Whitney, and former Secretary of Treasury George Humphrey. Thomasville

plantation owners; George E. Allen of Gettysburg and Washington, and Mrs. Stan Murphy of San Francisco.

The president, clad for the occasion in leather-faced hunting pants, suede jacket and a white turtle-neck sweater, bagged eight birds on his first trip afield. His second try, however, was better. Mr. Eisenhower very adroitly bagged the limit of 12 birds during a seven-hour hunt.

Jones' plantation crew prepared a broiled quail and spare rib lunch for the president and his friends and Mr. Eisenhower appeared to enjoy eating quail as much as hunting them.

The President and Georgio Gome and Fish Director Fulton Love discuss quail situation on Blue Springs Plontation.



Host Alton Jones entertains a guest on his plantation during President Eisenhower's visit to Georgia.



Governor Vandiver

By Bob Short

One of the president's visitors during his trip was Gov. Ernest Vandiver, who hunted on bordering Pineland Plantation with his friends.

Gov. Vandiver and Mr. Eisenhower chatted for almost an hour about such things as quail hunting, budgets, politics and, of course, state and national problems.

Mr. Vandiver arrived at the home of Game and Fish Commissioner Richard Tift after his talk with the president impressed with Mr. Eisenhower's frankness and personality.

"We had a nice, friendly chat," Gov. Vandiver said.

Governor Vandiver exhibiting a keen shooting eye, bagged his quail limit in a few hours.



No stranger to quail hunting, Gov. Vandiver exhibited a keen shooting eye during his hunts on Pineland.

Hunting with Tift, Ports Authority Secretary J. W. (Taxi) Smith and the writer, Georgia's youthful chief executive bagged his day's limit in less than three hours.

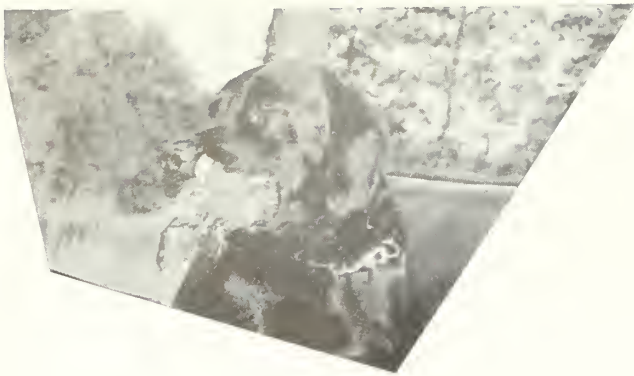
Once, when a covey got up slowly, Gov. Vandiver downed four birds off the rise. It was a neat bit of shooting, some of the finest I have seen in a long time.

Governor Vandiver's party was equally as successful as President Eisenhower's. Besides Mr. Vandiver, Executive Secretary Peter Zack Geer, a native south Georgian with plenty of shooting know-how, plantation owner Tift and Game and Fish Commission Director Fulton Lovell brought home the limit.

Others in the governor's party fared well, too. Game and Fish Commissioners Jim Owen of Griffin, Charlie Davidson, Jr., of Lithonia and James Beverly Langford of Calhoun got their share of birds during the jaunt.

One of the highlights of the trip for both Mr. Vandiver and President Eisenhower was an opportunity to watch a new breed of retrievers in action. Both worked with a brace of jetblack Flint River retrievers, a product of this area bred especially to serve as retrievers of dead birds.

"We are very proud of these dogs," Tift said. "There is now an effort being made to register them as a new



breed with the American Kennel Club. Actually, they're a cross between cocker spaniels and Labrador retrievers. We call them 'Flint River retrievers.'"

The dogs resemble cockers more than Labradors and have all the grace and style of their dominating parents. They possess unusual ability for seeking out dead birds, particularly in thick, heavy cover where scenting ability means the difference between finding or losing a dead bird.



President Eisenhower enjoys eating quail almost as well as hunting them.

This was not Mr. Eisenhower's first attempt at Georgia quail hunting. He has visited the Humphrey plantation near Thomasville in the past and has undoubtedly enjoyed as much success. However, when he talked with the writer, he appeared to be enjoying a new treat.

"I've had trouble this morning on some of my shots," Mr. Eisenhower confessed. "I hope I can straighten it out this afternoon."

The president roamed around the picnic area at lunchtime offering suggestions to the cooks and asking many questions.

"Why are there no rainbow trout in this spring?" he inquired of Fulton Lovell (with reference to the blue spring after which Jones' plantation is named).

"The water is undoubtedly too warm," Lovell replied



Jones' pointers were a big hit with the President.

and went on to explain that trout are coldwater fish and cannot survive in warm temperatures.

At one point during his lunch break, Mr. Eisenhower stopped to open a can for one of the cooks. The can opener was GI style, the kind with which he had much experience during his military career. He handled the job like an old mess sergeant.

When asked if a photographer could make his picture, Mr. Eisenhower replied, "Certainly. I never have been one to turn down having my picture made." However, *Georgia Game and Fish* was unable to accompany the president on his hunting trips and, therefore, could make no action photos in the field. He was completely surrounded by Secret Service agents at all times, even while hunting.

I wouldn't be surprised if Mr. Eisenhower doesn't visit Georgia's best quail country again—and soon. He may come to hunt or he may come to look for that property he would like to hunt on after he retires.

Savannah River



By **BILL BABB**

If Stephen Collins Foster had been a shad fisherman, chances are good that his popular song would have been entitled, "Way Down Upon the Savannah River," instead of the Suwannee.

For the Savannah, especially where it flows through the lock and dam near Bush Field Airport near Augusta, is the habitat of what Webster describes as a "herring-like fish"—the shad.

Scientific name for this fighting finster is *Alosa Alabamae* or Alabama shad.

Veteran shad fishermen have compared this relatively small fish's fighting ability with the tarpon and largemouth bass. But the writer can see no comparison. Once you latch on to a shad, you'll see what I mean.

Springtime is synonymous with shad in that this period of the year, especially when the water warms to 60 degrees, is the time the fish begin their spawning.

Methods of catching the fish vary, but perhaps the most popular way is trolling with a combination of minute spoons and weighted flies or jigs. Though the fish are said not to take any food when on their spawning run, the glittering spoon and dancing jig will almost always provoke a strike, perhaps through sheer meanness on the part of the fish.

Dr. Donald R. McRae, Jr., of Augusta found this to be true last spring when he first was initiated into the sport.

Shad, when taken on hook and line—but not necessarily sinker—will give any angler a battle royal. Like a tarpon, this fish will leap and cavort over the surface of the water, then bore deep. Average size for this fish is three pounds, though bigger ones are known.

To find real sport, try your spinning or fly rod. The lighter the tackle, the more fight the fish will show—as is true with most game fish.

Dr. McRae recalled one outing last spring during which he saw a woman (this is the weaker sex?) using a fly



SHAD



rod and boat and release more than 40 of the fish. The doctor said she was using an unweighted fly and merely letting the current sweep the lure along.

Above all, don't horse the fish—unless you're using heavy tackle or starving to death. Patience is also a key word in this sport. Once you have made your cast, don't remove the lure from the water even if you don't get a strike for 15 or 30 minutes. Let the river's current do the work for you and, sooner or later, a strike will come. A strike from a shad is not like the gentle "tap-tap" of a bream, so make sure your arms are firmly in their sockets and you're not leaning over the gunwale of your craft.

And speaking of boats, they're your best bet for good catches. The writer has known a few persons who have managed catches from the bank, but during a shad run, boat fishing nearly always pays off.

As for the best month to fish, March appears to be most everyone's choice, though some runs have been known to last through early May.

Shad also are synonymous with the Savannah as Bobwhite quail are with Georgia hunters, but this stream is not the only place in the state where one can catch 'em.

The Ocmulgee, Ohoopce, Satilla and Altamaha Rivers also are blessed with the streamlined battler.

So, to test your piscatorial prowess, try the shad. This fish will separate the men from the boys.



GEORGIA GROWS

as boating state



Georgia is a state interwoven with waterways. It also boasts of more than 10,000 lakes, which are used by residents and non-residents as recreation areas.

These impoundments range from two-acre farm ponds to inland seas such as Lakes Allatoona, Clark Hill, Seminole, Burton, Lanier and Sinclair. Most are man-made and most all of the larger lakes are used primarily for two forms of outdoor recreation—fishing and boating.

Boating has made a tremendous impact upon the state—both recreationally and economically.

Though there are less than 300 marine dealers in the state, Atlanta dealers sold 3,300 outboard motors last year. An estimated 91,000 outboards were in use in Georgia by Dec. 31, 1959.

Naturally, if the trend toward the adoption of boating as a major family participant sport continues, the problem of state boating grows with it. It has been estimated that more than 10 million boats will be using the nation's waterways 10 years from now.

Leaders in the boating field argued pro and con over what was the best thing to do in order to set up rules on safety afloat to which boaters throughout the nation could adhere.

In September of 1958, Congress wrote into law the Federal Boating Act.

The law, however, made it possible for each of the 50 states to draw up its own rules and regulations, providing they complied with those of the U. S. Coast Guard.

The 1960 Georgia Legislature passed the Georgia Motorboat Numbering Act—after certain revisions—and asked the Georgia Game and Fish Commission to organize a Motorboat Registration Unit.

This unit (or Boating Division) will see to it that all boats propelled by an engine or motor of more than 10 horsepower are properly registered.

There has been much confusion over certain parts of the law, including those regarding who will enforce it and what boats need registration numbers.

The Georgia registration numbers cover all boats of any size powered by an outboard motor or inboard engine of more than 10 h.p. The Boating Division of the Game and Fish Department has set up a chart of fees for various sized craft. The fees will be used to carry out the program and numbers will be void three years after the date of registration.





The fees:

\$5.25 for Class A boats less than 16 feet in length.

\$7.75 for Class I boats of more than 16 feet but less than 26 feet.

\$10.25 for Class II boats of more than 26 feet but less than 40 feet.

\$15.25 for Class III boats of more than 40 feet.

Georgia will use its abbreviation as a prefix and all boaters are required by the law to number the bows of their craft with block letters not less than three inches high.

Here's an example: GA-123-15. This example will be used by other states. For instance, North Carolina will use NC: District of Columbia, DC: South Carolina, SC, and Florida, FLA.

Unless you operate a documented vessel, you must change any number presently affixed to the bow of your boat to comply with the Georgia law. The law supercedes U. S. Coast Guard numbers, Power Squadron numbers, or those of a private club.

Boaters coming from out of state must record the number with the Boating Division with the date they entered the state. The boating law requires that out-of-staters may operate their craft within Georgia's boundaries for a period of not more than 90 days.

So you want to sell your boat? A new application form must be sent to the Boating Division with the same fee by the purchaser of the boat. He will be assigned a new certificate. If a boat owner should move, he must send the division his new address within 15 days. His registration certificate will be changed as to his address, but the number will remain the same.

What about commercial pond owners using boats that come under the Act? They must register each boat with the division. A fee of \$1.25 will be charged for the first 20 boats and for those in excess of this number, the owner will be assessed 50 cents. Boats owned for the purpose of renting them to others must be plainly marked, "LIVERY BOAT."

The Wildlife rangers of the Game and Fish Department will enforce all rules and regulations covered by the Act. However, county sheriffs, their deputies and other peace officers may make arrests. All have the authority to board any boat at any time without being liable for trespass.

The law authorizes the Boating Division to adopt any safety rules and regulations necessary. These, however, are not intended to block out current water safety rules, but supplement them.

Any person violating the provisions of the bill will be charged with a misdemeanor and punished as provided by law.

The Game and Fish Department will station law enforcement personnel at various lakes and streams. These men will be trained to handle most any situation that arises.

In case of an accident on any waters of the state, the operator of each boat involved must give, in writing, his name, address and registration number of his boat to any person injured and to the owner of the property damaged in the crash. If, however, the accident results in the death of a person or more than \$100 in property damages, it must be reported to the Commission with full details of the accident.

Application of the **BLACK BASS** act

ABOUT THIS STORY

It has been estimated that over two million dollars change hands annually from the sale and transportation of illegally-imported game fish into Georgia. This "peddling" of freshwater game species has become a major problem to the state's wildlife rangers, under whose jurisdiction such practices lie.

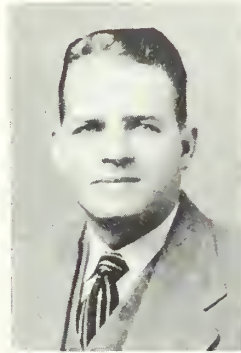
Such practices, naturally, make serious inroads into fish populations. For that reason, and to assure each state of a certain amount of protection for its sport fishery resources, the United States Congress passed the Black Bass Act.

This story diagnoses the purpose of the act, its aims and its application in Georgia and other southeastern states.

Since the earliest times in Georgia and throughout the United States, black bass has been regarded as one of the finest game fishes. Soon after the turn of the century, sport fishermen became alarmed at the inroads on black bass populations made by commercial fishermen, who took them in considerable quantities for sale as food in markets throughout the country. As a result, on May 20, 1926, Congress passed what is known as the Black Bass Act. Although several states, in an effort to protect their sport fishery resources, previously had enacted laws prohibiting sale, barter or exchange of black bass, these laws were operative only within State boundaries.

The Black Bass Act, among other things, was aimed at preventing black bass from being caught, killed or transported in interstate commerce and later sold for food. In 1952, the provisions of this Act were amended to include all species of fish. (The term fish, is limited to aquatic, gill breathing, vertebrate animals bearing paired fins.) The only exception to the Act was steelhead trout legally taken in the Columbia River between the States of Washington and Oregon.

Since World War II, there has been an increasing interest in the construction of both farm and "fee" ponds. As these ponds increased, so did the demand for live fish, especially adult fish with which to stock ponds. This demand resulted in the development of a new industry whose stock in trade consisted of unlawfully



By **D. WARREN LUPTON**

(Editor's note: Warren Lupton is assistant regional supervisor in charge of management and enforcement for the United States Fish and Wildlife Service. Well trained in enforcement work, Mr. Lupton came to the Fish and Wildlife Service's Atlanta office from the State of North Carolina, where he served as chief of enforcement. Previously, he worked as hunting manager of Lake Mottomuskett in North Carolina. As an enforcement agent for the Fish and Wildlife Service, Mr. Lupton has had considerable experience in the application of the Black Bass Act in the Southeast.)

taken state property illegally transported across state lines. Considerable time and effort has been expended by both State and Federal Conservation authorities in curtailing widespread, lucrative, and ever-increasing interstate traffic in unlawfully taken game fish. Until very recently, once live fish illegally taken within the Georgia boundaries were transported beyond the State's boundaries, the State of Georgia was powerless to protect or recover its property.

In recognition of this situation, the Department of the Interior sponsored a bill in Congress to amend the Black Bass Act so as to fill the loophole in the law which permitted those trafficking in illegally taken live fish to operate with impunity. Section 9 of the Black Bass Act reads as follows: "Nothing in the Act shall be construed to prevent the shipment in interstate commerce of any fish or eggs for breeding or stocking purposes *if* they were caught, taken, sold, purchased, possessed, or transported in accordance with the law of the State, District of Columbia, or Territory in which they were caught, taken, sold, possessed, or transported."

In summary, the Black Bass Act makes it unlawful for any person to deliver or knowingly receive for transportation, or knowingly to transport by any means whatsoever from any State, District of Columbia, or through any other State, any black bass or other fish taken contrary to the laws of the state in which they originated.



Ranger W. L. Mixan (left) and Chief Mallory Hatchett of Waycross display illegal fish taken from a truck transporting them into Georgia.

In other words, black bass or other game fish taken anywhere in the State of Georgia in violation of state laws and transported to Florida, South Carolina, or Alabama contrary to the laws of either of these states constitutes a violation of the Federal Black Bass Act.

In the United States District Court for the Southern District of Florida, criminal information was filed on July 20, 1955, against a Florida fish dealer who delivered to the Railway Express Agency, Inc., for transportation from Sanford, Florida, to Macon, Georgia, 150 pounds of fresh water bream, crappie and bass. The transportation of these fish was contrary to the laws of the State of Florida and violated Section 352, Title 16, United States Code. However, the District Court dismissed the information on the grounds that Florida has no law prohibiting the transportation of the fish described in the bill of information. The only prohibition against the same were the rules of the Game and Fresh Water Fish Commission; and the court further opined that the rules and the regulations of the Florida Game and Fresh Water Fish Commission did not constitute the law of the State of Florida. This case was appealed to the United States Supreme Court which ruled contrary to the District Federal Court in Florida. The case was, therefore, remanded to the Federal District Court and is presently pending for trial.

The above case is mentioned to show that a precedent

has been set insofar as regulations promulgated by the Georgia Game and Fish Commission and other game and fish commissions throughout the country coming under the purview of the Black Bass Act. Numerous reports of violations of the Black Bass Act have been received by both State and Federal conservation agencies in Georgia and Florida. Georgia, of course, permits the sale of game fish taken legally from its privately owned fresh water ponds and lakes under permit by the Director. Game fish being brought into Georgia from Florida are often sold under this guise. A concerted effort is now being made to curtail these illegal practices. We wish to point out, however, that we feel that both Federal and State Governments could do a much better job in the protection of fishery resources if there was greater uniformity among the states with respect to fishery laws. We realize, of course, that many of the fisheries' enforcement problems which exists today could not necessarily be resolved by uniform fishery laws between the States, but do believe a move in that direction would be of considerable benefit to all concerned. The provisions of the Black Bass Act provide the following: "In addition to all forfeitures of fish herein provided, any person who shall violate any of the provisions of this Act shall, upon conviction thereof, be punished by a fine of not exceeding \$200, or imprisonment for a term of not more than

(Continued on page 22)



POLLUTION the

When you buy your license to hunt or fish you become a shareholder in a mammoth operation costing, nationally, upwards of \$125 million a year. Thirty-five million men and women last year paid just short of \$100 million for these State licenses, exceeding all records on the fishing side of the ledger. Including license-exempt groups which most States have, there are 30 million fishermen and 20 million hunters in the United States, according to a recent Gallup poll.

Migratory waterfowl hunters paid another \$1.7 million in Federal duck stamp fees. In 1959, the States received \$21 million from excise taxes on sporting arms and ammunition and fishing tackle as Federal aid in their wildlife and fisheries programs. These funds are used to pay for better hunting and fishing.

Blackest villain on the law-abiding sportsmen's list is the poacher—the out-of-season killer or the culprit who exceeds legal bag limits. For years he has been the contemptible object of fiery jabs by sports writers, conservation cartoonists, and lecturers. The first game laws were established to put the unethical game hog out of business.

It's anybody's guess how much our country's wildlife diminished solely because of uncontrolled killing. Even the much deplored overhunting of buffalo only hastened what a changing environment would have accomplished eventually. Game and fisheries management today is based on maintenance of a healthy natural environment for the species.

In this light there is now a poacher in our midst whose destruction of fish and wildlife far outstrips that of the early-day market gunner or fish dynamiter. Pollution is destroying or retarding fish and wildlife in quantities approaching those maintained by the \$125 million invested by hunters and fishermen.

Commissioner A. J. Suomela of the U. S. Fish and Wildlife Service puts it this way: "Pollution of the rivers of the United States continues to be one of the most critical problems affecting the production of game and food fishes. Moreover, with the rapidly growing human

population attended by intensification of agriculture and industry, the utilization of streams for various purposes—including removal of waste materials—will continue to be a problem of greatest importance.

"Although complete statistics are not available, it is considered that *the amount of fish and wildlife habitat rendered unproductive each year is greater than that created by public agencies carrying out programs of fish and wildlife restoration.*

"Pollution may affect fish and wildlife adversely in a direct way or it may make environments untenable through harmful effects on food organisms, plant cover, or other physical features present. The recreational enjoyment of fish and wildlife resources may be seriously impaired or eliminated in polluted situations."

Most conservation measures developed, unfortunately, like "locking the barn door after the horse was stolen." The tragic dustbowl years of the early 1930's frightened a Nation into soil-saving action. At the same time North America's wild duck populations dived to a perilously low figure before breeding-ground restoration was inaugurated. U. S. timber lands were ruthlessly cut and burned over before selective harvest, fire prevention, and replanting combined to save our forests.

But we still abuse and waste a most vital resource, water. Experiments with cloud seeding, salt water conversion, and evaporation control seek to increase available supplies of usable water. Yet we are alarmingly tardy in full implementation of the most economically feasible method to ensure water supplies—treating our wastes to control pollution. As a result, fish and wildlife are drastically reduced, with an accompanying shrinkage of hunting and fishing areas.

The Public Health Service points out that the country as a whole is 30 years behind with sewage and industrial waste treatment construction as related to existing needs. While progress is being made under the Federal Water Pollution Control Act (Public Law 660 passed by Congress in 1956), the needs continue to pyramid because of new pollution created by the explosive population increase, an unprecedented farm-to-city movement of people, and mushrooming industrial expansion.

From records of the Public Health Service in interstate stream investigations the past two years come graphic descriptions of pollution problems in some of our major rivers. Of the Mississippi near St. Louis a city water superintendent said: "Our trouble started years ago. The dairy would come to check . . . we would give them a sample of our filter effluent which is safe to drink because we carry a high chlorine content; you could see their hair almost stand on end from that

WORST POACHER

phenol . . . it would burn your mouth . . . our water filter at times is covered with curds of kitchen grease."

A Missouri Conservation Commission representative testified: "The off-taste and odor in fish has been a major problem since 1944. By 1946 similar reports came from as far as Illinois and since then from throughout the Missouri section of the Mississippi below St. Louis—a distance of 316 miles. A commercial fisherman reported that 90 percent of his catch was not marketable as a result of the taste and odor problem . . ."

The Bear River is the western hemisphere's largest stream which does not reach an ocean. It forms a giant circle from the Uinta Mountains of Utah northward into Wyoming, west into Idaho, then south back into Utah's Great Salt Lake 90 miles from the river's source. For most of its 500 miles the Bear is a beautiful mountain stream. In its lower reaches, however, it receives wastes from a meat packing establishment, vegetable canneries, dairies and beet sugar refineries. Several communities add their raw sewage.

The Missouri River was described by an Iowa Conservation Commission officer in this manner: ". . . the stream could be smelled long distances . . . patches of floating grease solid enough for crows to ride on it in the current . . . catfish inedible because of a kerosene-like taste." Some 1.5 million people depend upon the Missouri River for their water supply.

In the Pacific Northwest the Columbia River is afflicted with *Sphaerotilus*, a slimy filamentous growth nurtured by pulp and paper manufacturing wastes. To fishermen who depend upon the Columbia for their livelihoods, *Sphaerotilus* is a source of increasing economic loss. Clumps of the slime catch on fishermen's nets, clog and sink them. The slimes have a rapid deterioration effect. Sport fishermen, too, are adversely affected. Continued inert acceptance of the Columbia River pollution will mean the eventual end of the salmon industry with its concomitant losses to fishermen, packers, middlemen, and retailers, not to mention those of us who like to eat this delicious fish.

Of the Animas River in Colorado and New Mexico the following appears in records of the Public Health Service ". . . for 40 years has been using the river bank as a city dump . . . raw sewage emptying in . . . every conceivable kind of garbage . . . household refuse, carcasses of dogs, cats, deer, elk, and butcher shop, hotel and restaurant scraps . . . city uses a bulldozer to push this garbage into the Animas . . . the animal carcasses do not disintegrate quickly."

More immediately serious is the recent disclosure that wastes of high radium content from a uranium process-

ing mill were polluting the Animas. Fortunately, investigations by the Public Health Service brought about an agreement by the processors to remove the highly radioactive material from their effluents before channeling to the stream. Nevertheless, here is a new threat to our waters that could pose major problems wherever uranium mills operate.

No part of the country is without its pollution problems. Brines from both natural surface deposits and from oil field drillings often contaminate fresh waters, notably in the Arkansas-Red Rivers basin. The Potomac flowing through our National Capital has been called one of our "most polluted, neglected, and least developed" streams.

Pollution is not confined to fresh waters. A few months ago the *New York Sun* editorialized: "A cheerless prelude to the 1959 bathing season is the disclosure that some of the city's best beaches are threatened by pollution. Only 36 miles of the city's 400 miles of waterfront are still fit for swimming . . ."

(Continued on page 23)



NATURE

as seen through t

Nature as seen through the eyes of a child is a world of wonder and fascination . . . a world of undreamed-of surprises. Through the unclouded lenses of the eyes of children, the most commonplace events of nature are sharply focused on impressionable and receptive minds.

A seed traveling on the wind on a silken parachute . . . a spider web, glistening with droplets of dew . . . the chirping chorus of crickets in the autumn dusk. These are the wonders of nature that capture a youngster's imagination and spark his curiosity.

Where did the seed come from? How did the spider build its web? How do crickets sing? Finding the answers to questions like these helps a child develop the awareness of the complexity and beauty of his world—helps broaden his understanding of the essential value of all living things and of the landscape upon which both he and they depend for life.

But keen though the questing eyes of children may be, their powers of observation alone cannot provide sound answers to the tantalizing questions about nature that arise in their minds. Answer to these very questions have come to mankind slowly. It has taken literally centuries of painstaking observation by a host of naturalists and careful research by many scientists.

Even today, bits of knowledge are steadily being added to gradually clarify some of nature's still existing mysteries.

How, then, can the natural curiosity of a child concerning the world about him best be satisfied and nurtured? How can his eager search for answers, his enthusiastic probing of nature's secrets be encouraged?

One such way is through participation in clubs—junior wildlife, the Audubon Junior Club, Boy Scouts and Girl Scouts of America programs and other organizations whose purposes are to expand a child's knowledge of the world about him.

Conservation education is another way. Classroom activities aimed at probing into nature and its varied conditions and inhabitants awakens young minds and sets them off in the right direction. But many education systems have failed shamefully in providing the instruction and guidance necessary to instill the proper eagerness for nature study in today's youth.

If America's precious natural resources are to be used and conserved wisely, today's youth must develop an appreciation of their importance and basic concepts of proper resource management and development.



eyes of a CHILD



Georgia's best TROUT STREAMS

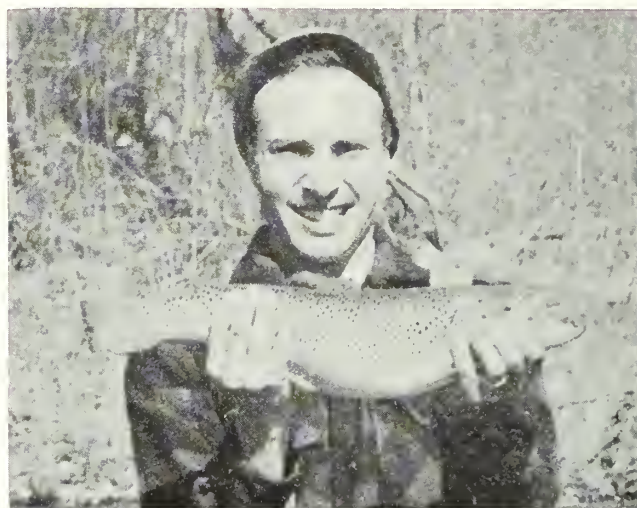
By **TERRY MERKEL**
Trout Project Leader

There was a time, within the memory of some of our trout fishing elders, when it was virtually impossible to take a trout of "keeping" size in the north Georgia mountain streams.

Those days, however, appear to be gone forever, thanks to a sound stream survey and rehabilitation program administered by the Georgia Game and Fish Commission.

There are few streams in the vast network of trout waters where an angler cannot expect to catch fish. Successful re-establishment of brook, brown and rainbow trout and stocking according to a predetermined schedule, based on creel census data, has played a great role in improvement of trout fishing.

Trout angler **Jimmie Wikle** lands three-pound brawnie from Moccasin Creek.



Here's **Jimmie Wikle's** prize—three-pound brawnie from Moccasin Creek.

Singling out the best 10 streams for brook, brown and rainbow trout is like finding a needle in a haystack. However, figures are said not to lie. The information used to compile the 10 best streams for each species was gathered over a five-year period by fishery biologists. It is based on creel census, data, stream survey results and observations of biologists who work exclusively on trout waters.



Rangers **Bob Carnes** (left), **Willis Foster** check **Wikle's** license.



BROWN

Jones Creek
Etowah River
Chattooga River
Soquee River
Chattahoochee River
Conasauga River
Noontootly Creek
Dick & Waters Creek
Hiawassee River
Warwoman Creek

BROOK

Wildcat
Moccasin
Tuckaluge
Chattahoochee River
Darnell Creek
Tallulah River
Rock Creek
Noontootly
Duke's Creek
Smith Creek

RAINBOW

Boggs Creek
Duke's Creek
Holly Creek
Conasauga River
Jacks River
Sahrahs Creek
Noontootly Creek
Chattahoochee River
Wildcat Creek
Timpson River
Tallulah River

Walleye Pike

By **FRED J. DICKSON**
Chief, Fish Management

A top fighting fish from the standpoint of Yankee sports fishermen will be introduced into some of Georgia's larger lakes this spring.

The Walleye, often erroneously called a Pike, sometimes attains a weight of 22 pounds. Because it takes artificial lures readily and is among the finest fresh-water "table fishes," it promises to become a very important Georgia game fish.

Some of the lakes in which small fry (newly-hatched) Walleye will be stocked are Burton, Blue Ridge, Allatoona and Sinclair.

The idea of introducing walleyes into other impoundments that furnish a suitable habitat is not new. Fisheries personnel of the Game and Fish Commission have been seeking to introduce the species for the past several years, especially into lakes where there is an overpopulation of small yellow perch.

Fishery biologists feel that the walleye, a popular Yankee fish, will soon become an important Georgia game fish. These anglers are fishing for them in a north Georgia Lake.





The walleye has done well in previous experiments of stocking it in Southern waters. Stocking of walleyes increased amazingly in numbers and size in the lakes of the Tennessee Valley Authority (TVA).

This spring the Georgia Game and Fish Commission plans to buy two million eggs to hatch and stock into Georgia waters. If these introductions prove successful, adults may be taken and moved to other suitable waters.

The fish's various names, probably because of its numerous, needle-like teeth, include yellow pike perch, walleyed pike, pike and jack salmon. These are all misnomers, because the walleye belongs to the perch family and not that of the pike. Scientific name for this fish is *Stizostedion vitreum vitreum*. It is the largest American member of the perch family.

How can one tell the difference between a walleye and pike? The pike family, including the muskellunge (muskie) and the chain pickerel (jack), has a single dorsal fin located far back toward the tail. The walleye has two dorsal fins which are entirely separate from each other and which is characteristic of the perch family. It can further be identified by a whitish tip on the lower lobe of the tail and a dark blotch on the membranes between the last three dorsal spines. In color, the fish are olive-buff, shading to yellowish sides and white belly. The eye is very large in comparison to the eyes of other fishes.

The walleye appears to prefer moderately deep, cool, clear lakes or rivers, which have rocky shorelines and gravel bottoms. Turbid waters and high summer temperatures apparently prevent the successful introduction of the species.

The fish reproduce when the water approaches 45

degrees Fahrenheit, spawning in shallow water over rocks, gravel and sand bars.

Walleyes do not build nests and are known as random spawners—scattering their eggs haphazardly and then leaving them to their fate.

The number of eggs released per female is great, ranging from 25,000 to as high as 300,000 eggs, depending upon the size of the fish. Approximately 80 per cent of the eggs successfully hatch. The peak of the spawning season usually lasts about two weeks. When hatched, the fry are about $3/16$ of an inch in length.

The fry, after the yolk-sac is absorbed, first feed on microscopic plant and animal life for a few days. They supplement this diet with tiny fry of other fishes or even their own brothers and sisters. Nearly everything that moves will attract the walleye.

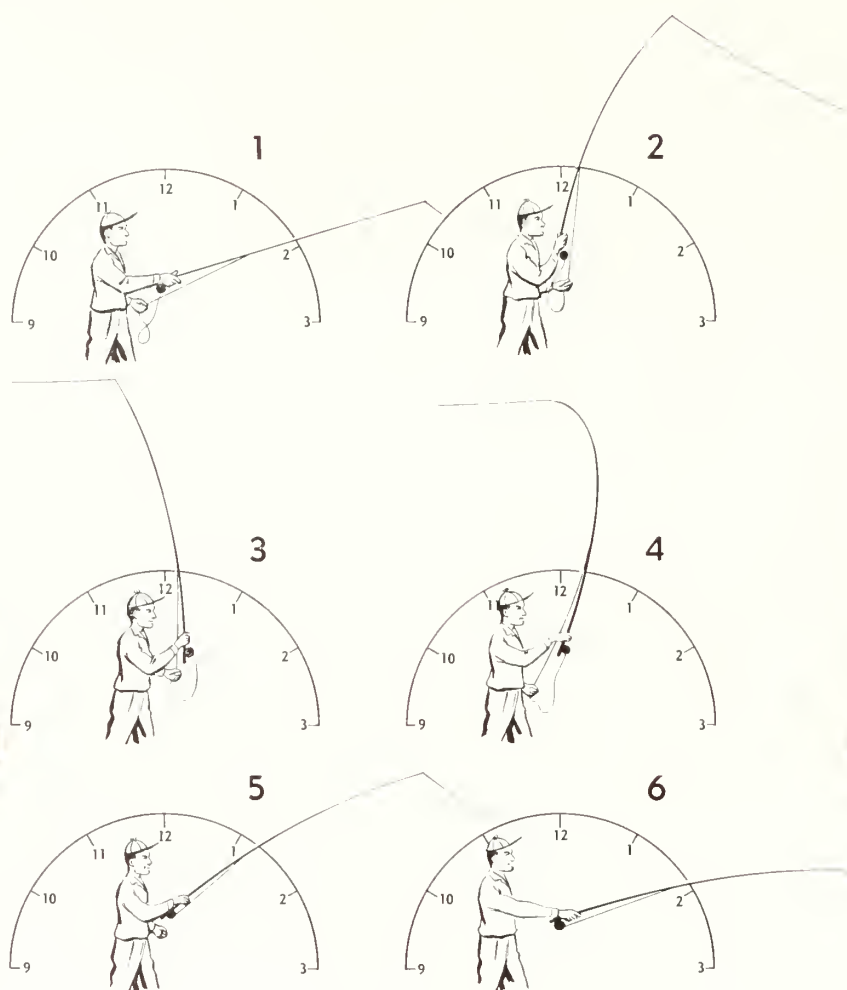
Adult fish feed on shad, minnows, small yellow perch, sunfishes, frogs, crayfish (crawdads), salamanders ("lizards") and insects.

Standard bass-catching tackle is generally used by sports fishermen trying for these fish. Nearly any active underwater plug, particularly one that will run deeper than average and which has a good wiggle at slow retrieve, will take walleye.

Since walleyes run in schools, it is possible to take several on as many casts when a school is found. Remember that it is important to fish or troll slowly. Walleye seldom pursue a fast-moving lure. Most of the feeding of the adults is continued to the hours of dusk, dawn and darkness.

They are usually found in the deeper, shadowy waters among the rocks during the day.

FISHERMAN'S NOTEBOOK



FLY CASTING

While fly casting may appear to be difficult, there is nothing about it which the beginner cannot overcome. It is, for the most part, a result of practice and of coordination. To begin with, strip off about thirty feet of line, laying it out in a straight line. Grasp a coil or two of loose line from the reel in your left hand (1), and point the rod in a 2 o'clock position toward the target. Then, with a smooth but brisk upward movement (2), bring the rod tip to a 12 o'clock position. Pause until you feel the tug of the line as it begins to

straighten out behind you (3); then start the forward cast immediately, pulling down on the line with the left hand to add power (4). The weight of the line will carry the lure out. To gain distance, release the excess line as soon as a forward momentum is gained. Continue with rod (5), moving forward until it nears position (6). Lifting tip of rod slightly just before the lure hits the water removes slack from the line, and makes the lure land more delicately.

1960 TROUT SCHEDULE

BLUE RIDGE MANAGEMENT AREA

ROCK CREEK (Except Mill Creek)

Live bait and artificial lures

Directions from Atlanta: Go to Dahlonega, travel 3 miles north on U.S. 19, turn left on Camp Wahsega Road, go 7½ miles to Three-Notch Gap, turn right and go 3½ miles to Cooper's Gap, turn left and go 4 miles to Hightower Gap, turn right and go 4 miles to checking station.

May	Wednesdays and Thursdays—4-5, 11-12, 18-19, 25-26 Saturdays and Sundays—7-8, 14-15, 21-22, 28-29
June	Wednesdays & Thursdays—1-2, 8-9, 15-16, 22-23, 29-30 Saturdays and Sundays—4-5, 11-12, 18-19, 25-26
July	Wednesdays and Thursdays—6-7, 13-14, 20-21, 27-28 Saturdays & Sundays—2-3-4, 9-10, 16-17, 23-24, 30-31
August	Wednesday and Thursdays—3-4, 10-11, 17-18, 24-25 Saturdays and Sundays—6-7, 13-14, 20-21, 27-28
September	Saturday, Sunday & Monday—3-4-5

NOONTOTLY CREEK

Artificial lures only; no live bait permitted

Directions from Atlanta: Go to Dahlonega, travel 3 miles north on U.S. 19, turn left on Camp Wahsega Road, go 7½ miles to Three-Notch Gap, turn right, go 3½ miles to Cooper's Gap, turn left and go 8 miles to Winding Stair Gap, turn right and go 4 miles to checking station.

May	Wednesdays and Thursdays—4-5, 11-12, 18-19, 25-26
June	Saturdays and Sundays—4-5, 11-12, 18-19, 25-26
July	Wednesdays and Thursdays—6-7, 13-14, 20-21, 27-28
August	Saturdays and Sundays—6-7, 13-14, 20-21, 27-28

JONES CREEK (Lower Blue Ridge) AREA

NIMBLEWILL CREEK

Artificial lures only; no live bait

Directions from Atlanta: From Dahlonega, go 9 miles west Highway 52, turn right at Grizzle's Store, go 3 miles to Nimblewill Church, then go straight ahead 3 miles to Jones Creek checking station.

May	Saturdays and Sundays—7-8, 14-15, 21-22, 28-29
June	Saturdays and Sundays—4-5, 11-12, 18-19, 25-26
July	Sat., Sun & Mon.—2-3-4, 9-10, 16-17, 23-24, 30-31
August	Wednesday and Thursdays—3-4, 10-11, 17-18, 24-25

JONES CREEK

Live bait and artificial lures

Directions from Atlanta: From Dahlonega, go 9 miles west on Highway 52, turn right at Grizzle's Store, go 3 miles to Nimblewill Church, turn right at church, and go 2 miles to Jones Creek Checking Station.

May	Saturdays and Sundays—7-8, 14-15, 21-22, 28-29
June	Saturdays and Sundays—4-5, 11-12, 18-19, 25-26
July	Saturday, Sunday & Monday—2-3-4 Wednesdays and Thursdays—6-7, 13-14, 20-21, 27-28
August	Wednesday and Thursdays—3-4, 10-11, 17-18, 24-25
September	Saturday, Sunday & Monday—3-4-5

MONTGOMERY CREEK

Live bait and artificial lures

Directions from Atlanta: From Dahlonega, travel 3 miles north on U.S. Highway 19, turn left on Camp Wahsega Road, go 7½ miles to Three-Notch Gap, turn left and go 1.7 miles to checking station.

May	Wednesdays and Thursdays—4-5, 11-12, 18-19, 25-26
June	Wednesdays & Thursdays—1-2, 8-9, 15-16, 22-23, 29-30
July	Saturdays & Sundays—2-3-4, 9-10, 16-17, 23-24, 30-31
August	Saturdays and Sundays—6-7, 13-14, 20-21, 27-28

CHATTAHOOCHEE AREA

CHATTAHOOCHEE AND SPOIL CANE CREEKS

Live bait and artificial lures

Directions from Atlanta: Travel 3 1/10 of a mile north from Robertstown on Highway 75, then cross the river bridge, turn right and travel ½ mile north to Chattahoochee River Checking Station.

May	Saturdays and Sundays—7-8, 14-15, 21-22, 28-29
June	Wednesdays & Thursdays—1-2, 8-9, 15-16, 22-23, 29-30
July	Saturdays & Sundays—2-3-4, 9-10, 16-17, 23-24, 30-31
August	Wednesdays and Thursdays—3-4, 10-11, 17-18 Saturdays and Sundays—6-7, 13-14
September	Saturday, Sunday & Monday—3-4-5

DUKES CREEK

Artificial lures only; no live bait

Directions from Atlanta: Travel 3/10 of a mile north from Robertstown on Highway 75, then cross river bridge, turn left, travel 3.2 miles west to Dukes Creek Checking Station.

May	Wednesdays and Thursdays—4-5, 11-12, 18-19, 25-26
June	Saturdays and Sundays—4-5, 11-12, 18-19, 25-26
July	Wednesdays and Thursdays—6-7, 13-14, 20-21, 27-28
August	Saturdays and Sundays—6-7, 13-14, 20-21, 27-28
September	Saturday, Sunday & Monday—3-4-5

SMITH CREEK AND McCLURE CREEK

Live bait and artificial lures

Directions from Atlanta: Turn right in Robertstown on Unicoi Park Road, travel 3.1 miles east to head of Unicoi State Park Lake to Smith Creek Checking Station.

May	Wednesdays and Thursdays—4-5, 11-12, 18-19, 25-26
June	Saturdays and Sundays—4-5, 11-12, 18-19, 25-26
July	Wednesdays and Thursdays—6-7, 13-14, 20-21, 27-28
August	Saturdays and Sundays—20-21, 27-28

CHESTATEE AREA

DICKS AND WATERS CREEKS

Live bait and artificial lures

Directions from Atlanta: From Dahlonega travel north 15½ miles on Highway 19 to Turner's Corner Checking Station.

May	Wednesdays and Thursdays—4-5, 11-12, 18-19, 25-26 Saturdays and Sundays—7-8, 14-15, 21-22, 28-29
June	Wednesdays & Thursdays—1-2, 8-9, 15-16, 22-23, 29-30 Saturdays and Sundays—4-5, 11-12, 18-19, 25-26
July	Wednesdays and Thursdays—6-7, 13-14, 20-21, 27-28 Saturdays & Sundays—2-3-4, 9-10, 16-17, 23-24, 30-31
August	Saturdays and Sundays—6-7, 13-14, 20-21, 27-28
September	Saturday, Sunday & Monday—3-4-5

BOGGS CREEK AND CHESTATEE RIVER

Artificial lures only; no live bait

Direction from Atlanta: From Dahlonega travel north 15½ miles on Highway 19 to Turner's Corner Checking Station.

May	Saturdays and Sundays—4-5, 11-12, 18-19, 25-26
June	Saturday, Sunday and Monday—2-3-4
July	Wednesdays and Thursdays—4-5, 11-12, 18-19, 25-26 Wednesdays and Thursdays—6-7, 13-14, 20-21, 27-28
August	Saturdays and Sundays—6-7, 13-14, 20-21, 27-28
September	Saturday, Sunday & Monday—3-4-5

LAKE BURTON MANAGEMENT AREA

WILDCAT CREEK

Live bait and artificial lures

Directions from Atlanta: Go to Clarkesville, take Highway 197 and follow the main road to the bridge at the Lake Burton Fish Hatchery Checking Station where the permits may be secured from the State Wildlife Ranger.

May	Saturdays and Sundays—7-8, 14-15, 21-22, 28-29
June	Wednesdays & Thursdays—1-2, 8-9, 15-16, 22-23, 29-30 Saturdays and Sundays—4-5, 11-12, 18-19, 25-26 Sat., Sun. & Mon.—2-3-4, 9-10, 16-17, 23-24, 30-31
July	Wednesdays and Thursdays—6-7, 13-14, 20-21, 27-28
August	Wednesday and Thursdays—3-4, 10-11, 17-18, 24-25 Saturdays and Sundays—6-7, 13-14, 20-21, 27-28
September	Saturday, Sunday & Monday—3-4-5

MOCCASIN CREEK

Artificial lures only; no live bait

Directions from Atlanta: Go to Clarkesville, take Highway 197 and follow the main road to the bridge at the Lake Burton Fish Hatchery Checking Station where the permits may be secured from the State Wildlife Ranger.

May	Saturdays and Sundays—7-8, 14-15, 21-22, 28-29
June	Saturdays and Sundays—4-5, 11-12, 18-19, 25-26
July	Wednesdays and Thursdays—6-7, 13-14, 20-21, 27-28
August	Saturdays and Sundays—6-7, 13-14, 20-21, 27-28
September	Saturday, Sunday & Monday—3-4-5

DICKS CREEK

Live bait and artificial lures

Directions from Atlanta: Go to Clarkesville, take Highway 197 and follow the main road to the bridge at the Lake Burton Fish Hatchery Checking Station where the permits may be secured from the State Wildlife Ranger.

May	Wednesdays and Thursdays—4-5, 11-12, 18-19, 25-26
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Wore Sheriff R. E. Lee (left) helps wildlife rangers seize truck load of illegal Florida Fish transported into Georgia.

BLACK BASS ACT

(Continued from page 11)

three months, or by both such fine and imprisonment, in the discretion of the Court."

Those persons having knowledge of the illegal transportation of game fish into the State of Georgia as well as from Georgia to another State are urged to report such violation to their nearest State Conservation Officer or to the Bureau of Sport Fisheries and Wildlife, Room 631, Peachtree-Seventh Street Building, Atlanta 23, Georgia. Your co-operation is earnestly solicited and most sincerely appreciated.



POLLUTION

(Continued from page 13)

One example of what pollution does to marine life was given not long ago by the director of the Oyster Institute of America: "From my knowledge of the industry in various coastal States, we estimate there are at least 100,000 acres of oyster grounds and clam beds which are not now being used because of pollution, a loss of probably \$15 million per year to the industry."

One advance in the approach to water conservation is noteworthy. We have learned that all uses and users of water must be considered. In former years, pollution was regarded as a public health concern.

In the three years since President Eisenhower signed Public Law 660 much has been done to encourage and assist the States in fighting pollution.

Research, a network of stream sampling stations, technical assistance, program grants, enforcement in cases of interstate stream pollution, and construction grants to cities for building sewage treatment plants—all are embraced in the Act. State appropriations for pollution control have increased an aggregate 41 percent as a result of the \$3 million annual program grants. Construction grants totaling \$140 million for fiscal years 1957, 1958 and 1959, have resulted in some 1500 new sewage treatment plants completed or under construction. Cities have put up their own local funds in a ratio of better than four-to-one in receiving this Federal aid. Conferences and hearings involving eight major waterways, held under the interstate enforcement function of Public Law 660, have resulted in agreements for building remedial works to abate pollution that will cost over \$400 million.

Despite these important gains, however, much higher levels must be reached if water pollution control is to be brought into balance with new pollution resulting from population growth and industrial expansion. To catch up by 1965, municipalities should spend about \$575 million per year. While needs in industry are not as completely indexed, the Pub-

lic Health Service believes at least an equal expenditure for industrial waste treatment facilities will be required.

No longer can we afford the type of pollution abatement which "locks the barn door after the horse is stolen." The problem calls for prevention rather than cure insofar as new pollution is concerned. States seeking new industry, for example, should make sure the incoming industry guarantees to maintain water quality before operating permits are issued. Interagency planning between State health departments, conservation departments, water resources boards, and industrial relations boards can strengthen the State vanguard against polluted waters.

Pollution is an ugly, creeping menace which often does not make itself immediately evident. Biological changes resulting from this invader in lake, stream, or estuary may be a

long time developing. But once a stream or other surface water dies, an equally long time may be required to restore natural beauty and productivity, even after waste treatment gets under way. The waste treatment itself entails much preliminary planning, paper work, surveying, etc. The cost of complete sewage treatment in the average city is less than 25 cents per person per month, according to the Public Health Service.

You, the fisherman and hunter, invest \$125 million a year in fish and game. At the same time you sacrifice to pollution game bags and fish creels potentially much larger than your present field and stream "take home pay." Industrial and city, State and Federal government leaders need citizen-backing to round out the job of pollution control. Get in the fight for clean waters and, at the same time, help yourself to better fishing and hunting!

This bass could have been caught—but it wasn't—The fish was killed by pollution.



Game and Fish Department Gets Two Unusual Deer Trophies

Two unusual trophies will hang in the offices of the State Game and Fish Commission, both the results of

GAME LAWS ALL HUNTERS NEED TO KNOW

Opening dates begin with sunrise and closing dates end at sundown on dates specified.

It is unlawful to hunt in Georgia while under the influence of any intoxicating beverages.

Each Deer and each Wild Turkey killed must be reported in writing to the Georgia Game and Fish Commission with five (5) days.

Firearms for Deer are limited to shotguns loaded with slugs or No. 1 buckshot or larger, or to rifles using any center fire cartridge .22 calibre or above with the following exceptions: .25-20; .32-20; .30 Army Carbine; .22 Hornet or .218 Bee.

It is illegal to kill or possess the meat of any female deer, except in counties where the taking of doe is legal.

When hunting rabbits, squirrels, opossum, raccoon, it is unlawful to use or have in possession for the purpose of so hunting shotgun shells, if using shotgun larger than size No. 4 shot, or if hunting with a rifle, shells larger than .22 calibre.

Regulations on Migratory Game such as Doves, Ducks, Geese, Brant, Rail and Coot are the same as Federal Regulations, which must be published as soon as established.

Regulations as to hunting, trapping and fishing in the Management Area of the Chattahoochee National Forest, are promulgated jointly by Federal and State authorities and will be published when established.

Shotguns must be plugged to limit them to a capacity of 3 shells on both Native Game Birds and Animals and Migratory Birds.

Hunting hours—Sunrise to Sunset. Exceptions—Raccoons, Opossum and Fox.

a process of nature you often hear about but seldom see.

The heads of two buck deer, found locked in mortal combat, are in the process of mounting and will be displayed to prove such things do happen.

The deer, one an eight pointer, the other sporting 15 points, were found by two Roanoke, Ala., Boy Scouts on Blood Mountain near the state's Chestatee management area.

Larry Crozier, age 12, and Wayne Wilson, age 11, of Troop 26 found the bucks with their racks so tight they were unable to set them free. The eight pointer was dead. The larger deer, however, was quite alive but spent and scarred from the battle.

"We stabbed the larger deer with an icepick to put it out of its misery," the scouts reported. "The other one was already dead, but still warm. The only thing we knew to do was to turn them over to our scoutmaster."

The scoutmaster, Jimmy Jackson, also of Roanoke, took the deer to the Chestatee checking station and turned them over to Game and Fish Commission rangers.

The 15-pointer weighed in at 217 pounds, the smaller one at 182.

"We often hear of bucks locking horns in a fight but very seldom do we see the living proof," said Game and Fish Director Fulton Lovell.

"These trophies will be given to a taxidermist, mounted and put on display in the State Capitol," he added. "We feel that, since this occurred near one of our management areas and is along our lines, we should be the ones to keep the heads and not the Boy Scouts or the Parks Department."

TEETH TELL DEER'S AGE

You can't be sure of a deer's age by the number of points on its antlers. Tooth succession is the best index to age. Every deer that is killed on hunts managed by the Game and Fish Commission is aged by this method.

NEW U. S. FOREST OPENS FOR GEORGIA

A proclamation by the President has established three new national forests: the Oconee (96,000 acres) in Georgia; the Tombigbee (65,000 acres) in Mississippi, and the Tuskegee (10,800 acres) in Alabama.

The U. S. Forest Service, which has its regional headquarters in Atlanta has administered the lands since 1953. The new forests are former land utilization projects administered by the U. S. Department of Agriculture since their purchase in the 1930's for rehabilitation under the Bankhead-Jones Farm Tenant Act.

In the same proclamation, the President also ordered boundary modification of Georgia's Chattahoochee National Forest by adding 11,084 acres to its existing boundary.

The new Georgia forest is located in Jasper, Jones, Putnam, Greene, Oglethorpe, Morgan and Oconee Counties. It was named for the Oconee River which flows nearby.

All of the new acreage added to the Chattahoochee Forest is located in Whitfield County, near the Georgia-Tennessee boundary.

Dub Lovell Wins Toccoa Ranger Award

W. L. (Dub) Lovell, popular wildlife ranger in Rabun and Habersham Counties, has been awarded the Toccoa Deer Hunters Club's annual achievement award.

Presentation was made by Game and Fish Director Fulton Lovell at the Toccoa Club's annual barbecue, held on the Lake Burton management area during the first deer hunt.

Ranger Lovell, 33, has been with the Game and Fish Department for seven years. He resides in the Goshen Community in Habersham County.

The award is given each year to the management area district ranger who has contributed the most toward conservation. Ranger A. C. Abernathy of Robertstown was last year's winner.

May I See YOUR LICENSE Please?

The financial foundation of a state game and fish department as operated today rests upon the power of the state to impose the purchase of a license on any citizen who would hunt or fish.

Tradition has built a strong case for this form of financing, and it will undoubtedly continue despite academic seminars on the theory that such funds should come from the state's general fund.

The universal problem plaguing administrators is that finances do not keep up with demands for expansion.

Resource management becomes increasingly complicated, year by year. With greater hunting and fishing pressures, there comes a demand for more areas dedicated in whole, or in part, to wildlife. This, in turn, creates the need for fish and game managers, biologists, laboratories, and a great deal of expensive equipment. They all add up to a need for more revenue.

In debating all the fine points of managing wildlife and simplifying regulations to make the public happy, the source of funds to carry on conservation activities is often overlooked, not only by those with fuzzy cheeks just out of school, but by some of the old-timers.

The success of collecting license fees lies not so much in the requirement as in the fact there are rangers or conservation officers or game protectors to enforce the law. If it were not for the field warden constantly checking hunting and fishing licenses, revenues would shrink to a pittance.

Negative factors of law enforcement have been argued ad infinitum, the brush cop approach, etc., but in the field of game and fish there are a few facts of life which should be kept in mind by those who wish to see some progress:

Law enforcement, although it has negative aspects, is a part of tool of game and fish management.

Regulations are a rotating device, another management tool, whose compliance is supervised by rangers.

There would be many species of game extinct, for all practical purposes, if law enforcement did not constantly combat commercialization and the greeds of individuals.

The fact that from 25 per cent to 30 per cent of most game and fish budgets are earmarked for law enforcement clearly indicates that many so-called sportsmen are not the conservationists they pretend to be.

The ranger, in spite of his role as enforcement officer, still is a front man in public relations. What he says and does determines to a large degree the standing of the department in his area.

The need for wildlife conservation became apparent during the past century due to the commercialization and ecological changes. At that time



restrictive laws and their enforcement seemed the logical answer. It was a good start, but time has proved that other factors and tools must be considered and become ingredients of the total conservation effort if it is to be a success.

Game and fish managers must be appreciative of what law enforcement contributes and, in turn, the ranger must recognize the necessity of other programs besides his own. All should remember that the source of funds will dry up under the present system of financing unless someone is out in the field asking, "May I see your license, please?"



**COMMANDMENTS OF SAFETY
EVERY HUNTER SHOULD KNOW**

1. Treat every gun with the respect due a loaded gun.
2. Guns carried into camp or home, or when otherwise not in use, must always be unloaded, and taken down or have actions open; guns always should be carried in cases to the shooting area.
3. Always be sure barrel and action are clear of obstructions and that you have only ammunition of the proper size for the gun you are carrying. Remove oil and grease from chamber before firing.
4. Always carry your gun so that you can control the direction of the muzzle even if you stumble; keep the safety on until you are ready to shoot.
5. Be sure of your target before you pull the trigger; know the identifying features of the game you intend to hunt.
6. Never point a gun at anything you do not want to shoot; avoid all horseplay while handling a gun.
7. Unattended guns should be unloaded; guns and ammunition should be stored separately beyond reach of children and careless adults.
8. Never climb a tree or a fence or jump a ditch with a loaded gun; never pull a gun toward you by the muzzle.
9. Never shoot a bullet at a flat, hard surface or the surface of water; when at target practice, be sure your backstop is adequate.
10. Avoid alcoholic drinks before or during shooting.

Spin Casting Popular, Easy to Do

Spin casting follows much the same pattern as bait casting, at least in the forward and backcasts. To start the cast, the lure should hang about six inches below the tip of the rod. Catch the line under your forefinger, and press it firmly against the rod. Depending on your style of reel, back the pick-up finger or the bail to an out-of-the-way position, and you are ready to make the cast. Begin with the rod aimed in the general direction of the target (1). With a quick, firm wrist motion (2), bring the rod up to a 12 o'clock position (3) and stop it there. The weight of the lure will continue to flex the rod backward. You should start the forward cast immediately (4) with a smooth motion, releasing the line from under the forefinger. As the forward cast is made, you should follow through (5) to the starting position. When the lure nears the target, touch your forefinger to the rim of the spool to stop the excess line from peeling off. This completes the cast.

Trout Color Better in Light

Environment has much to do with the color of trout. Those from clear, open streams usually are lightest. Dark or shaded waters produce darker fish. Pink or salmon-meated trout are from waters in which the fish feed on such color-producing food as fresh water shrimp.

License Fees

COMBINATION:

Hunting and Fishing \$ 3.25

FISHING:

Resident 1.25
Resident Shad 1.00
Residents under 16 years of age None
Residents 65 years of age and over — Honorary
hunting and fishing licenses required
Non-resident 2.25
Non-resident Shad 10.00

HUNTING:

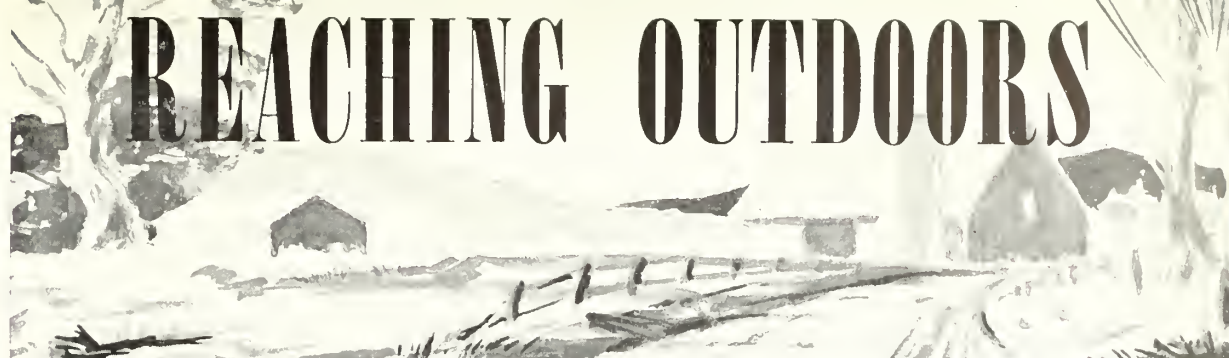
Resident 2.25
Residents under 16 years of age None
Residents 65 years of age and over — Honorary
hunting and fishing licenses required
Non-resident State Season (Small Game) 10.25
Non-resident Big Game 10.25

ROUGH FISH BASKET:

Resident 1.10

TRAPPING:

State Resident 3.00
Non-resident 25.00



REACHING OUTDOORS

By BOB SHORT

Editor, Georgia Game and Fish

Outdoor Writers Win Governor Awards

Outdoor writers play an important role in conservation education but their toil too often goes unrewarded.

Henceforth, however, five of the state's best writers of outdoor stories will be rewarded at the annual Governor's Awards Banquet, sponsored by the Sears Foundation.

The kickoff banquet in June saw John Burke, outdoor columnist for the *Savannah Morning News*; Bill Baab, formerly with the *Augusta Chronicle*; Charles Elliott, *Atlanta Constitution* columnist; Ray Anthony, outdoor writer for the *Columbus Enquirer*, and Bill Allen, beloved conservationist and outdoor writer for the *Atlanta Journal*, receive the first Governor's Awards ever given Georgia's outdoor writers.

From these five regional winners emerged an outstanding outdoor writer, chosen to receive the coveted state award.

The state winner was a big secret at press time and we hesitate to name him in fear that our doing so may spoil a hush-hush secret.

As chairman of the selection committee, I must say it was a difficult task for us to select a state winner from such a distinguished group. Each regional winner has done a tremendous job of teaching conservation through the newspaper medium.

* * *

Here's an outdoor oddity:

Wildlife rangers D. W. Shuptrine and W. T. Hewitt, while patrolling the Altamaha River during high water, spotted a rabbit sitting on a barrel floating in the water.

Forty days later, the same two rangers saw the same rabbit sitting on the same barrel in the same river.

Both said a willow tree just above the cottontail's head was stripped of its foliage.

How long can a rabbit live on a makeshift diet?

Evidently over 10 days.

John Taylor, Jr., a percentage fisherman, says there's a reason why 10 per cent of the anglers catch 90 per cent of the fish.

"It's because that 90 per cent know more than a few tricks of the trade," Taylor insists.

Some anglers may already know these tricks, but if they don't it probably wouldn't hurt to give them a try next time.

If you know that when the barometer is high (above 29.9), with other conditions normal, the best fishing will be on or very close to the surface:

If you know that when the barometer is low (below 29.9), the fish will be at or near the bottom:

If you know that fish are often choosy and that there is no perfect lure:

If you know that varying the pace of retrieving a lure often gets results when a steady retrieve won't:

If you know some of the old stand-by time tested lures for each species of fish:

If you know that in a steady breeze fishing will be best on the lee shores during the first two hours of daylight:

If you know that after the two initial daylight hours fishing will be best on the windward shores:

If you know the temperature ranges most favorable to each species of fish:

If you know the contour of the lake bottom, the bars, the drop-offs, the deep holes, etc.:

If you know or endeavor to learn more of each species of fish, its habits, characteristics, and food preferences—

Then, you, too, can be of that respected, magical and highly successful 10 per cent and say, "Phooey to fisherman's luck."

GEORGIA GAME AND FISH COMMISSION
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The Georgia Game and Fish Commission is interested in information on fishermen and their favorite fishing waters in the State. Please complete the blank below, clip it out and mail to Georgia Game and Fish Commission, 401 State Capitol, Atlanta, Georgia. This will enable us to plan for future needs and help "shorten the time between bites." Please fill in the blanks as accurately as you can.

Mail to:
STATE GAME & FISH COMMISSION
401 STATE CAPITOL
ATLANTA 3, GEORGIA

County_____

Total number of fishing trips each year_____

Number of fishing trips on large reservoirs_____

Number of trips on ponds_____

Number of trips on rivers and streams_____

Number of trips on trout streams_____

Number of saltwater fishing trips_____

Please underline the species you fish for most often:

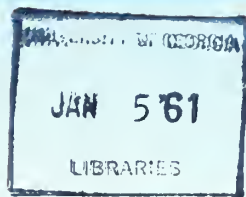
BASS____**CRAPPIE**____**BREAM**____**MOUNTAIN TROUT**____**OTHER**_____

Remarks: _____

Name _____ Address _____

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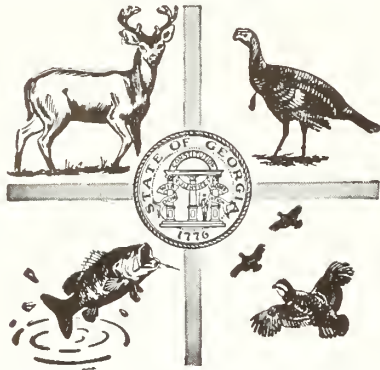


HUNTING EDITION
1960

GEORGIA GAME AND FISH

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COVER

Bagging a dove is one of the biggest thrills ever enjoyed by a Georgia boy. Billy Johnson of Chamblee proudly displays results of an afternoon's hunt in Gwinnett County. (Photo by Charles Jackson.)

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CONSERVATION at the crossroads



FULTON LOVELL

(During the past year Georgia Game and Fish Director Fulton Lovell served as president of the Southeastern Association of Game and Fish Commissioners. This is his address to the Association during its 1960 meeting at Biloxi, Mississippi.)

"Fish and wildlife now enjoy recognition as one of America's greatest natural resources and our citizens have a keen awareness of their economic value."



"We must realize the public's interest as we come face to face with the challenges ahead. As public participation in hunting and fishing grows, so do the problems of managing our wildlife and fishery resources."

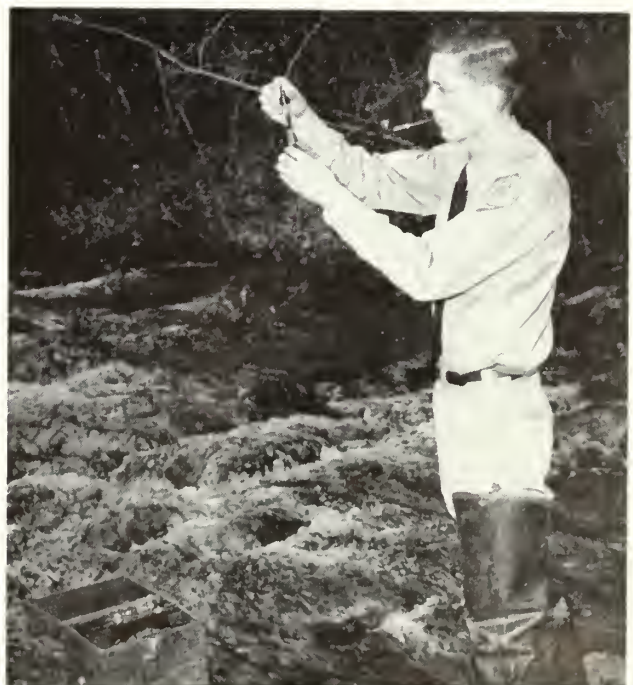
It was just 52 years ago that President Theodore Roosevelt called together the first conference ever assembled to discuss problems of conservation.

At that time, President Roosevelt felt that something should be done to help erase some of the constant problems that plagued America's natural resources.

It could be said that the United States was at a conservation crossroads with no signs directing its millions of citizens to the correct route. We needed guidance and the nation's citizens rallied to provide it for us.

Roosevelt's historic meeting, called the Governor's Conference on Conservation, was the preamble to modern day

(Continued on page 25)





Wildlife rangers learned that stoying with the boot is o good safety rule.

WATER SAFETY

. . . key to your survival

Wildlife Rangers and public profit from intensive training at boating school.

Georgia was free of deaths attributed directly to boating during the summer months of 1960, thanks to strict enforcement of the state's boating law.

The new law, designed to protect and aid the public during its pursuit of the state's top summer outdoor sport, also awoke the awareness of the people.

Wildlife rangers of the State Game and Fish Commission, charged with the responsibility of enforcing the statute, patrolled most of Georgia's major lakes, rivers and reservoirs almost every day during the vacation months.

Though there were several drownings reported, none were attributed directly to boating.

Prior to the opening of boating season, more than 100 wildlife rangers attended a special boating school at Laura Walker State Park near Waycross where they underwent intensive training in small boating handling, rescue methods and first aid.

Swimming also was taught by a competent American National Red Cross instructor. Two other Red Cross instructors handled the boating safety and first aid courses.

Rangers were told the only way to find out if a boat will sink is to sink it. And they did just that, overturning their craft. In most cases, they saw the boats stay afloat, buoyant enough to support all of its passengers as they clung to its sides.

Life preservers and swim suits were the uniforms of the day at the week-long camp during which temperatures rose past the 100-degree mark.

The instructors urged the rangers not to enter the water themselves after a drowning victim if there was another way around it. "Most would-be rescuers are not qualified to perform actual 'contact' work," an instructor said. "A drowning man usually possesses inhuman strength and can sometimes get a death grip on his rescuer. Unless the latter has been taught how to break these holds, it usually is the death of him."

Instructor, left, shows how to boil swomped boat with hands; Rangers Bob Baker, left foreground, and W. H. Anderson, right foreground, concentrate on swimming lesson.





Commission stocked up on new croft, left, to enforce new boating law; at right, R. L. Beasley keeps low as he safely enters boat.

The instructor illustrated the use of other equipment such as oars, ring buoys, paddles, lines, fishing rods and even a man's pants or shirt, all of which could be handed, thrown or extended to the one in trouble.

A boat gasoline can also may be used effectively, while a tree limb could be used to haul in a person from deep waters near a dock or shore.

A written test was given on the last day of the school with certificates and patches awarded to those who passed.

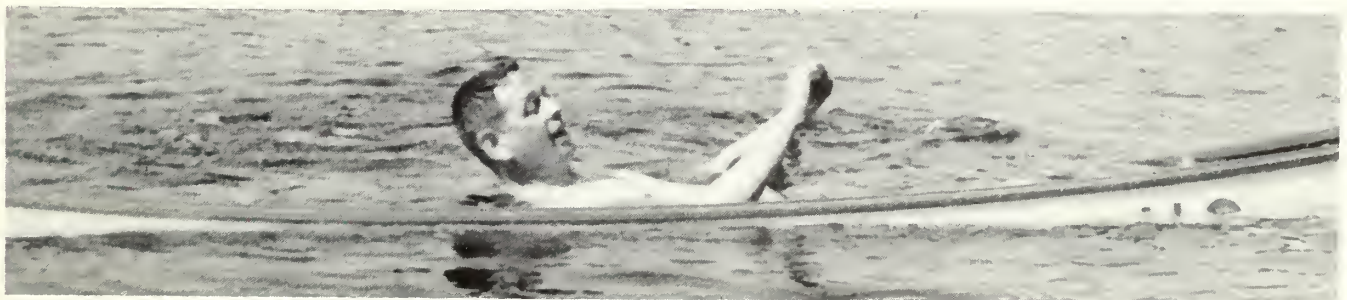
Ware County officials spoke to the men on correct court procedure, while district chiefs instructed rangers on proper enforcement methods.

The success of the boating school can best be seen in the following example which occurred on Lake Lanier above Atlanta this year:

Two fishermen were steering their small craft up a cove when a big cruiser passed them. The men, apparently not knowing how to head their craft's bow into the wake of a larger boat, were dumped from their craft. One man made it to shore, but the other, not knowing how to swim, was swallowing much water.

Management District Chief Hubert Handy of Flowery Branch and Ranger George Forrester of Gainesville happened to be on the spot when the mishap occurred. Forrester threw the struggling man a cushion-type life preserver. Meanwhile, the fishermen's boat was still running, going 'round and 'round in narrowing circles. The rangers put their patrol boat between the struggling man and his craft and finally managed to halt it.

"I'm certainly grateful to you fellows," the man said afterward. "If you hadn't been on the scene and not known what to do, I'd been a goner."



Above, keep low in tippy conoe; below, left, Ranger Bob Boker soved by collar hold; right, Johnny Hunt learns how to tie knots from Bob Forbes.



Grouse hunting . . .

A B C's

Among the red haw berries, the wild grapes and rhododendron thickets of north Georgia lurks one of the greatest, yet least known, game birds of them all—the ruffed grouse.

Southernmost range of the grouse in the United States is in the vicinity of Dahlonega, Georgia. Few hunters know it, but Old Ruff is found rather abundantly in most sections of north Georgia's mountains. The Cohutta mountains in Murray and Fannin counties contain good grouse populations as do the Mulky Gap-Cooper Creek section in Murray and Fannin and the Tallulah River drainage in Rabun County.

Old Ruff is not a bird to cut your hunting teeth on. It can explode from under your feet faster than you can bat an eye and elude even the best of shooters by flying through the thickest obstructions it can find. This is why Ruff has become such a popular game bird.

Many wise hunters have been fooled, faked and even outfoxed by Old Ruff's eccentric actions. Ruffed grouse are fast birds. They seldom, if ever, offer an open target. By combining its swiftness with its ability to maneuver through close thickets, Old Ruff is a formidable opponent for even the truest and most experienced wing shooters.

Ruffed grouse are definitely not a bird upon which to experiment. If your dog is not a good grouse dog, you will not find birds. If your gun is not a good grouse gun, you will miss easy shots. You will miss many shots, anyway. Unless a hunter knows Old Ruff's habits, his chances of finding birds are slim.

Some of the finest quail dogs in the world can't pass the grouse test because the two birds are different as night and day in actions. Quail hold nicely for point . . . grouse run and flush wild. On another day, a grouse may hold tighter than a quail. This overall inconsistency is why Old Ruff demands a special breed of dog, one that has been trained especially to hunt grouse.

The best grouse dogs handle their birds by stopping as soon as they hit the scent and trailing the bird until they are in a position to point. This, of course, requires very careful tracking, since the grouse will run and flash wild if the dog does not handle it properly.

Hunters who use pointers to seek grouse are smart to "bell" their dogs. This makes it easy to know the dog's location at all times. Sometimes a wide and long ranging dog will ruin a grouse hunting trip because you must spend more time looking for your dog than you spend looking for grouse.



Grouse hunting is growing in popularity; Georgia's grouse population is increasing particularly on game management areas.

Setters and pointers with medium speed and about medium range, plus a good nose, make the best grouse dogs. It takes a combination of these three traits to become a good grouse dog. Any two of them usually will not qualify a dog for the tedious task of finding Old Ruff.

Most grouse hunters will tell you that it requires more than a good dog to bring home the birds. A hunter must know where to look for Old Ruff and how to bring him down once he's found him. This is not as easy as it sounds.

Old Ruff prefers the edge of clearings and it is here that he is found most often during the early season. Abandoned houseplaces, grape thickets and around orchards are other early feeding and resting places during early season.

As winter moves in, however, Old Ruff seeks different habitat. Branchheads, rhododendron thickets and laurel patches are good winter locations. In this setting, grouse



may "hole" up for several days before they move in search of food.

Grouse have no set pattern of behavior. They may be found in one setting today, a different one tomorrow. They are known to move about considerably even when food is abundant. Old Ruff may begin feeding near his roosting place early in the morning, wander to a sunhill and bathe in the dust until afternoon and get down to serious feeding just before dark.

A rule of the thumb to follow is to hunt old house-places, orchards and grape thickets around a stand of conifers during the morning, work out into the sunhills and laurel thickets in the afternoon and comb the highlands again as the day draws to an end. Sometime during the day you should spot Old Ruff, although this method is not sure-fire nor is it guaranteed to work every time.

Next to the shooter, the gun and size of shot are the most important things in grouse hunting. Of course, a hunter must be a good wingshot to bag a grouse. Old Ruff seldom presents an easy shot. When he does rise in

North Georgia is the southernmost point of the nation's grouse range. This typical nest was found in Rabun County.



A hoppy hunter shows a plump Georgia grouse.

the open and fly straight, Ruff is no harder to hit than a quail. The trouble is Old Ruff seldom rises in the open and flies straight. If he rises in the open, he immediately gives you a halfback wrinkle and heads for a friendly tree or laurel thicket nearby. If he happens to fly straight, it's straight for the nearest and thickest cover.

Like in any sport, the equipment must agree with its user. A gun that fits is the first prerequisite. One that the hunter admits feels good, whether it looks or shoots good or not.

Usually, 12 or 16 gauge shotguns are most popular, depending on the individual. Never let anyone tell you what gauge gun to use if you are an experienced grouse hunter. Chances are, your adviser knows little about it. He usually reads his information in outdoor stories like this one.

Once you have selected your 12 or 16 (or even 20 if you insist) you have a choice of shot sizes to choose. Most hunters prefer 4s, 6s, 7½s or 8s. Wise hunters may use all sizes. For shots in thick dense cover, 4s work better. For open shots 8s work better. It's always good to carry along all sizes to fit your particular situation.

Many hunters feel that 8s are best for they throw up a bigger pattern on fast shots typical of grouse hunting. In most cases, this is true.

The entire Chattahoochee National forest, with the exception of Game and Fish Department wildlife management areas, are open to grouse hunting during the season. Controlled grouse hunts will be held on the Blue Ridge, Chattahoochee, Chestatee, Burton, Lake Russell, Gum Log and John's Mountain areas on Friday and Saturday through the month of October.

Antlers

BY ARNOLD O. HAUGEN



MAY 23



JUNE 2



JUNE 15



JUNE 27



JULY 19



JULY 31

You can't eat antlers. Why then are sportsmen willing to spend days upon days of effort to bag a buck with a "king size" rack? To be sure, there is no practical value to a mounted deer head hanging over the fireplace. However, did you ever wonder about the usefulness of antlers to the deer? Except for fighting for the possession of a doe in mating season, they are probably without value. The "price" antlers put on a buck's head during the hunting season is certainly of no value to the buck. From a practical standpoint, the nourishment used to grow antlers each summer might better be used for nourishment for the body. However impractical, antlers like Easter bonnets, are here to stay and sportsmen are glad of it. In any event, we will probably never live to see the whitetail develop antlers so large that they doom the deer to extinction as is believed to have been the case with the Irish elk in prehistoric times.

A captive whitetail buck (*Odocoileus virginianus oseeola*) kept for breeding purposes at the Alabama Cooperative Wildlife Research Unit since the early 1950 has provided many interesting facts about antlers. The herd of deer in southwest Alabama (Sumter County from which this buck originated is generally believed to breed in January. The quality of food provided this buck previous to its transfer to Auburn at one year of age is unknown. For about a year, it received a mediocre diet consisting mainly of 9% protein mule feed and poor quality hay. While growing its 2nd, 3rd, 4th, 5th and 6th racks, it was maintained on dairy feed (18% protein), scratch grain, and alfalfa hay. At times it has received mineralized salt. Accordingly, except for possibly the first two years, it has been provided with foods of more than adequate quality.

Growth of the second rack (at two years of age) started in the first week of May. The four racks produced from its third through its sixth year, started growth in the first week of April. A period of about a month or little less usually elapsed between the loss of one rack and the start of growth of the new one. As illustrated by the series of photographs on antler development, growth normally was completed by September 1. The velvet on the basal part of the antlers began "tightening" or "hardening" as indicated by the appearance of a roughened surface about a month earlier. While growth was still taking place, the antler tips were enlarged. The tips tapered to a point as growth stopped. Shortly before the velvet was shed, it loosened near the ends of the points so it could be twisted from side to side like the loose skin on one's finger.

The regularity with which this buck "polished" its antlers is amazing. The start of the process varied only nine days over the six-year period. (September 23 to October 1). Since the buck became 2½ years of age

Away!

The dropping of the antlers each spring has been equally regular, the losses occurring between March 3 and 14. The first antlers, which consisted of spikes, came off on March 23 and 29. Actually, the shedding of the antlers consisted of dropping only the basal one-half inch, including the burr, since the antlers were cut off to that length each fall for safety reasons. In March, when the buck was 1½ years old, both antler bases dropped off while the caretaker was washing the pen. They fell at the base of the post on which the animal was rubbing its head in anger. The buck seemed unusually belligerent during the last few days before the dropping of the antlers. At this time the swollen neck was decreasing in size, and by mid-March it was only slightly larger than normal for the non-breeding season.

The operation of "dehorning" the buck each October as a sobering experience. A minimum of five well-matched men wrestled the belligerent animal to the ground and held him while the antlers were sawed off. He objected strenuously to being held down and bellowed in a low pitched, guttural tone. "Dehorning" did not result in loss of blood or pain to the buck, because mature antlers that have shed their velvet consist of only dead bone with no blood or nerve connections.

Between the times of shedding its velvet in late September and dropping the antlers in March, the animal has been especially belligerent toward everyone. It is during this season, the rutting period, that its neck swells each year. Since the animal became two years old, the caretakers have not considered it safe to enter its pen any season.

A series of photographs of successive racks of this buck show that it has produced excellent racks each year since it was two years old, at which time it sported eight points. A maximum of eleven points was produced in the 4th year, and the heaviest rack was grown in the 5th year. There is no direct relationship between age and number of antler points. Observations from this study show that a well fed, physically mature deer (2½ years old) can produce a respectably large rack of antlers, and that irregular points are common. The animal reached its maximum live weight of 175 pounds at five years.

CHANGES IN SIZE OF ANTLERS OF CAPTIVE BUCK—SIX-YEAR PERIOD

Age of Deer	Number of Points	Antlers spread in inches	Antlers weight in ounces
1	2		0.9
2	8	13½"	21.4
3	8	17½"	41.1
4	11		49.6
5	9	18½"	51.6
6	10		47.9



AUG. 16



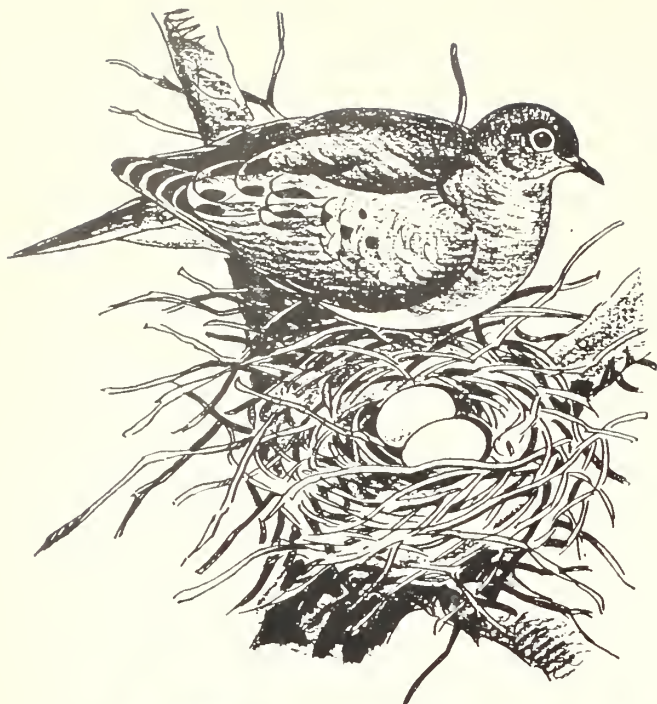
SEPT. 1



SEPT 15



SEPT. 25



Facts about

Mourning doves (*Zenaidura macroura L.*) are the most widely distributed game birds in America. They are also the most controversial.

Although they are considered migratory, doves are produced and harvested on every farm in Georgia. They are known to nest in every state in the United States.

LIFE CYCLE

Doves begin mating activities during the first warm weather in late winter or early spring. Normally, two eggs are laid. The male assists in the incubation of the eggs, usually keeping them during the daytime. In about 15 days, the eggs hatch into a nestful of scrubby youngsters that are completely helpless for about 16 days. After this time, the young doves leave the nest but are supervised by their parents until they are able to care for themselves.

FOOD

Doves prefer to feed in fields where grain and weed seeds are plentiful. Their primary foods are corn, wheat, ragweed, cowpeas, millet, oats, barley and crab grass.

RECREATION AND ECONOMIC VALUE

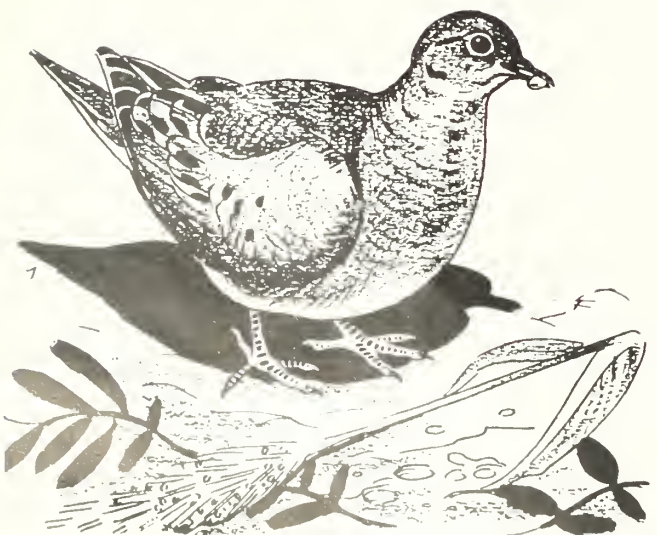
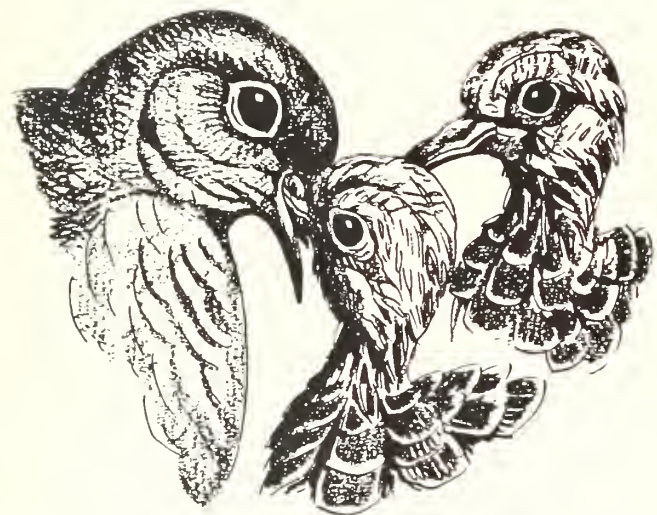
The mourning dove is a favorite game bird among Georgia hunters. For that reason, it plays a vital role in the state's recreational picture. Of course, the thousands of dove hunters spend many dollars purchasing items necessary to hunt. This plays an important role in the state's economy.

WHY ARE DOVES CONSIDERED MIGRATORY BIRDS?

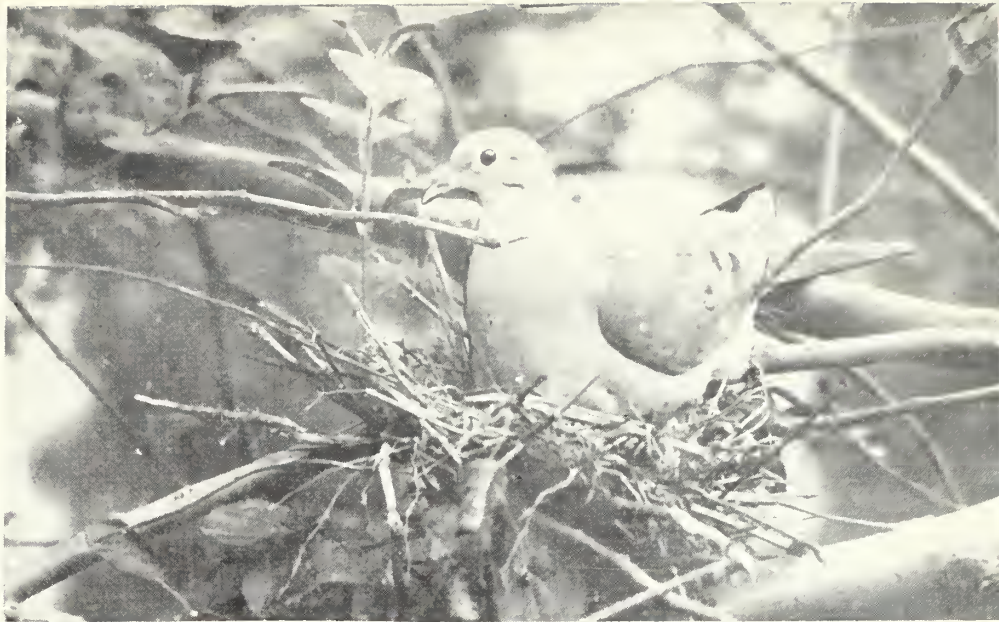
All doves have been classed as migratory, even though many of them never leave the state in which they are born. Georgia is fortunate in having a large, home grown population which never leaves the state. In cold weather, many doves migrate into Georgia from other states while some pass through the state en route to other places. This is why doves are considered migratory although, in most cases, they are not.

WHAT IS THE MIGRATORY BIRD TREATY ACT?

Migratory birds, those that move across state and national borders, are considered international resources and



DOVES



Sitting on a fragile nest of twigs balanced precariously on forked branch, momo dove worms up a few of next year's feathered targets.

are conserved on an international basis. The Migratory Bird Treaty Act between the United States, Canada (Great Britain) and Mexico gives the Secretary of Interior power to adopt rules and regulations governing migratory birds.

WHO SETS THE SEASON ON DOVES?

The State Game and Fish Commission is given a "framework" from which to choose a dove season. In 1960, this "framework" consisted of a choice between 70 consecutive half-days of shooting or two periods totaling 70 half days. The later choice was made.

WHY ALL THE FUSS OVER A SPLIT SEASON?

Because of Georgia's unique geographical situation, it is necessary to have an early season for north Georgians. This brings howls of protests from south Georgians.

This happy twosome bogged their limits early.



Two primary objections usually voiced against an early dove season are "hunters kill other game" and "doves are too small to hunt in early September."

WHY A SPLIT DOVE SEASON?

Previous studies have proven that north Georgia counties have excellent dove populations in September and October. In southern counties, the population is not at its peak until later. Therefore, a split season allows an equal chance of shooting in all areas.

WHY IS IT ILLEGAL TO BAIT DOVES?

Most conservationists object to baiting because they feel it will result in overharvest of doves. Game Technicians believe that legal baiting would not make doves easier to hunt or more concentrated. Numerous baited fields bait would only scatter the doves, they say.

WHERE IS IT LEGAL TO SHOOT DOVES?

The U. S. Fish and Wildlife Service recently announced their interpretation of baiting regulations. According to the Service, it is legal to shoot doves and migratory birds:

Over grain fields seeded in a normal agricultural manner.

Over standing crops.

Over flooded standing crops of grain or other feed, including aquatics.

Over grain crops properly shocked on field where grown.

Over standing grain or other feed crops grazed by livestock. Example, hogged down cornfields.

Over grain found scattered solely as a result of normal agricultural harvest.

Over weed fields, pasturelands, wooded or other areas where salt, grain or other feed have not been scattered or placed to lure migratory birds.

Over fields where grains or other crops have fallen to the ground from natural causes.

Over burned areas from which crops have been re-

(Continued on next page)

moved, or on which no agricultural grain or seed crops were grown during the current year.

Over farm ponds or other water "holes" which have not been baited.

It is illegal to hunt migratory game birds, according to the U. S. Fish and Wildlife Service:

Over bait or by means, aid and use of bait, or on or over any area where grain, salt or other feed capable of luring or attracting such birds is placed, deposited, distributed or scattered except as a result of a normal agricultural planting or harvest.

Over feed lots where grain is present as a result of feeding livestock.

Over areas where grain crops have been cut down, dragged down, knocked down, burned over or otherwise manipulated and left on the ground.

WHAT CAN BE DONE TO HELP THE DOVE SITUATION

Due to geographical conditions, Georgia hunters would profit from a "zoning" system with a separate season for each zone. It has been suggested that the state be divided into northern and southern halves around Macon with a season for each half. The U. S. Fish and Wildlife Service, policymakers for migratory birds, has failed to go along with the idea. Until this or some other zoning system is established, the only solution is a split season such as Georgia now has.



BILL CLINE

Cline Named State's Wildlife Ranger of Year

The State Game and Fish Department has named its Cherokee County ranger "Wildlife Ranger of the Year."

Bill Cline, 30-year-old native of Waleska, has been chosen outstanding enforcement officer for the Department.

Cline was honored during the Southeastern Association of Game and Fish Commissioners' annual convention at Biloxi, Mississippi.

Cline won an expense paid trip to the convention, donated by the Law Enforcement section of the Association. He was presented a plaque naming him Georgia's finest ranger at the Biloxi meeting.

A veteran enforcement officer, Cline previously served as an employee of the Soil Conservation Service. He has also worked with Lockheed Aircraft Corporation.

Cline is married and has one son. He resides with his family in Waleska, where he attended high school and Rhinehardt Junior College.

Quail Course Offered At University of Georgia

A short course on native quail and stocked quail will be offered at the Center for Continuing Education, at the University of Georgia in Athens April 9-12.

The course is designed for landowners who wish to develop better quail habitat.

It is open to the public and will be sponsored by the Georgia Game and Fish Commission, U. S. Fish and Wildlife Service, Soil Conservation Service, University of Georgia, Wildlife Management Institute and the Sportsmen's Service Bureau.

Noted quail expert Herbert E. Stoddard will be on the program, along with George Moore of the Georgia Game and Fish Department and others.

Information on the course, plus a complete program may be obtained after Jan. 1 by writing Jack Caldwell, Center for Continuing Education, University of Georgia, Athens.



Lt. Gov. Byrd, right, congratulates top outdoor writer Allen.

Governor's AWARDS



Robert Wright, III, proudly displays junior conservationist trophy, certificate.

Director Fulton Lovell, right, presents Regional Game and Fish Trophy to Judge Horley Langdole of Valdosta.



Blanchard, left, gets high honors for conservation work.

John Pierce Blanchard, noted Columbia County conservationist, walked off with the state game and fish conservation award at the first annual Governor's Awards banquet in Atlanta.

James L. Gillis, Jr., of Soperton, won the coveted *Conservationist of the Year Award* for 1960.

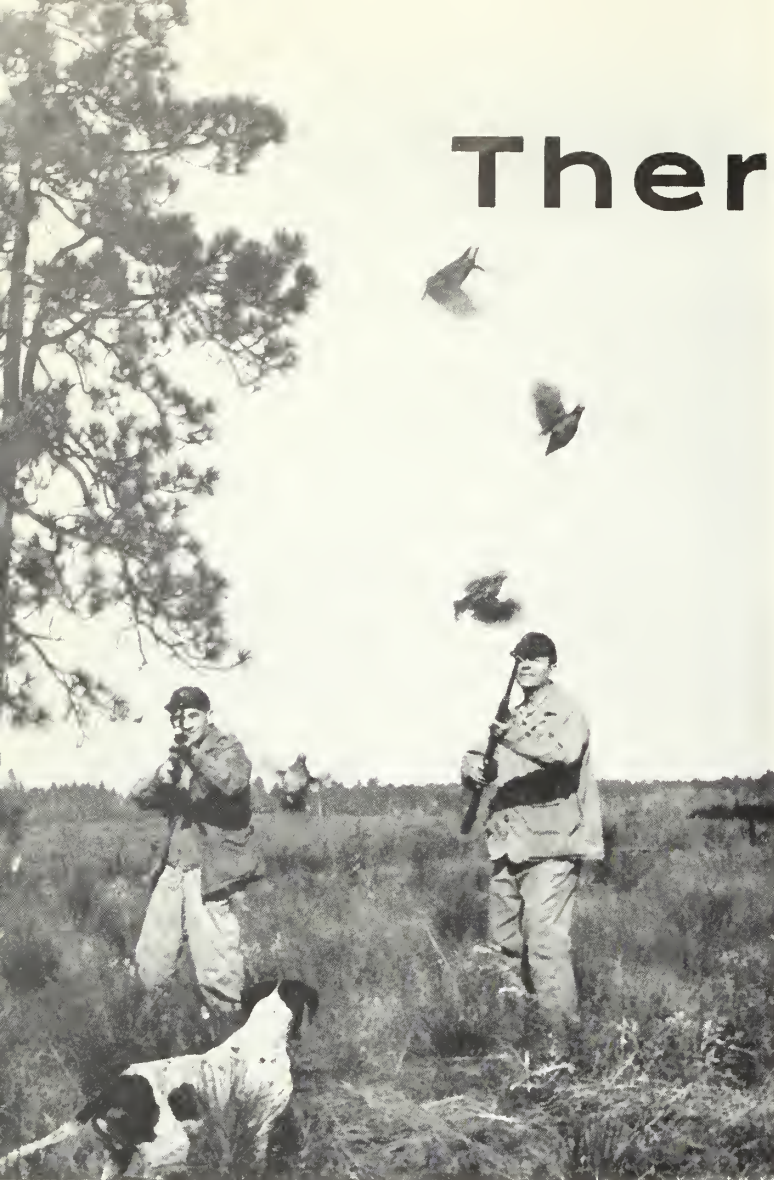
Others who received state awards from Lt. Governor Garland T. Byrd at the fete were co-winners of the Junior Conservationist of the Year award Robert Wright III and Larry Joyner; Miss Susan Myrick, Macon, Soil and Water Conservation; Judge Harley Langdale, Sr., Valdosta, Forestry; Atlanta Journal outdoor columnist Bill Allen of Young Harris, outdoor writers award; Extension Agriculture winner S. F. Yelton; Vocational agriculture winner C. Fred Ingram.

FFA Club Conservation, Bobby Perkins; 4-H Club conservation, Carlton Griffith and Georgia Sportsman's Federation club public relations award, Georgia Sportsman's Association of Savannah.

Noted outdoor cartoonist Ed Dodd, creator of Mark Trail, received a special award from Lt. Gov. Byrd.



There's nothing GEORGIA



A covey of quail flushes suddenly in front of James Bentley and Senator Herman Talmadge.



Senator Talmadge waits under walnut tree for the doves to start flying.

Open pine woods shooting is typical of much of Georgia's quail hunting at the Pinevale Quail Preserve at Millen.



ke QUAIL HUNTING

By CHARLIE DICKEY

When Senator Herman Talmadge returns from Washington to his native Georgia each fall he temporarily forgets the political wars by hunting quail and doves. Although his time is limited, he manages to get in a few hunts each winter.

One of his favorite hunting areas is the Pinevale Quail Preserve near Millen. It's owned and operated by the three Pierce brothers—Winton, Stanton and Bill. The Senator's steady hunting companion is James Bentley, who was his executive secretary when he was governor and is currently a blossoming figure on the state political scene.

Sportsmen at Millen really lay out the welcome mat. Besides the quail hunting at the preserve, they always put on a dove shoot and that's followed in the evening by a game dinner of quail, rabbit, 'coon and turkey.

The Senator amazes everyone with his expert marksmanship. He no longer has much time afield but he hasn't lost his shooting eye. He quickly bagged a triple last year at Pinevale, with Winton Pierce guiding. And, just to prove that it wasn't luck, he did it again later in the day.

Senator Talmadge also hunts at Mike Moneymaker's Preserve near Dacula, where another famous Georgian goes for relaxation—Senator Dick Russell. Evidently the leaders of the state can find plenty of relaxation afield. Governor Vandiver also shoots sometimes with Money-maker.

Georgia leads all Southern states in the number of quail preserves open to the public. They're not only good drawing cards for Yankee dollars, but the folks at home like them too.

Pointer gives a back foot point as the Senator moves in on a single.



A single in the dense wire grass caught the Senator and Bentley by surprise and flushed behind them.



Hunters seem happy about the size of birds at Pinevale Quail Preserve, Millen. Left to right: James Bentley, Winton Pierce, one of the owners of the preserve, and Senator Tolmodge.

This quail seems to be wrapping Bentley up in knots as Senator Tolmodge concentrates on another.

Did you ever

sit up with a



S. C.'s Jim Webb and Arkansas' Nelson Cox examine tapeworm removed from dog at University's vet school laboratory.

Frank Hayes watches a deer left groggy from drug's effects.



Can you imagine a deer with tuberculosis, a quail with bronchitis or a squirrel with a common cold?

It may sound a little strange, but animals do have such diseases just like human beings. Of course, many of the illnesses are known by other names but their effects are just as uncomfortable to animals as they are to humans.

The wind can carry bronchitis from quail to quail just as it carries disease germs from human to human. And unfortunate quail that catch Newcastle's disease probably will wind up with "tired blood" and a very poor appetite.

Conservation people were not too concerned with animal diseases until mysterious epidemics felled many deer throughout the southeast a few years ago.

When this happened, eleven southeastern states joined hands to investigate deer diseases and founded what is today the nation's only cooperative study of animal sickness.

Headquarters for the study is in Athens, under the watchful eye of Dr. Tom Jones, dean of the University of Georgia's school of veterinary medicine, and the project's leader, Dr. Frank Hayes.

"We are very happy with the progress Dr. Hayes and his staff have made since we accept the responsibility of this program," Dr. Jones said in his thick, Scottish accent. "We think he has done a remarkable job considering the few staff members he has had to assist him."

Dr. Hayes is a natural for the job of project leader. He has an outstanding background in veterinary medicine and is interested in all types of wildlife. He is recognized as a pioneer in the field of deer diseases, having examined many specimens that died from unknown causes in various states.

At first, Dr. Hayes and his staff concentrated on diseases of deer. In particular, they were interested in disproving the theory that whitetails transmit brucellosis to cattle.

Although he has never gone on record as saying that the theory is wrong, Dr. Hayes' studies have eliminated most beliefs that deer are responsible for spread of the disease.

Since he first organized the study, Dr. Hayes had investigated almost every imaginable disease known to animals. Needless to say, he has found many interesting cases among Mother Nature's inhabitants.

A wild turkey brought in from Francis Marion Preserve

SICK DEER?



Georgia Commission Director Lovell, left; Cox, center, and Virginia's Chester Phelps view equipment used in study.



Drugged "dart" felled this youngster; scientists keep close watch on velvet-ontlered buck.

in South Carolina could have been suffering from rheumatism; A yearling doe taken from the Chestatee Game Management area in Georgia was nursed back to good health following a cerebral concussion; a complete laboratory analysis of a deer from Talbot County (Ga.) revealed that the animal was killed by an automobile, although it showed no outward signs of being struck.

One day in June, Dr. Hayes and some of his student assistants delivered a baby for a suffering young doe.

"The animal was observed at the Memorial Park in Athens," Dr. Hayes recalls, "and we were summoned to make an investigation.

"We captured the animal by the remote delivery of a drug and took her to the School of Veterinary Medicine. A close examination revealed that she was having trouble with her baby so we gave her as much comfort as possible, delivered the dead baby and confined her to the 'hospital.'"

"The following day, the doe seemed healthy enough so we released her in a wooded area near Athens."

At the recommendation of Dr. Hayes, the Southeastern Association of Game and Fish Commissioners unanimously voted to change the study from one of deer diseases only to a study of all animal diseases. A budget of \$27,000 has been approved for the coming fiscal year.

In addition to Dr. Hayes, the study will employ a fulltime ecologist and laboratory technician, clerical help and four part-time study research assistants. Other students will be employed on a part-time basis for special projects.

Officials of the conservation agencies supporting the work were given a glimpse of the project when the school conducted a forum on the different phases of studies.

They found that there are over 30 animal diseases in the world transferrable to man.

"But we have little to fear," said Albert L. Kleckner,

head of the Dept. of Microbiology and Preventative Medicine at the University, "There are few types of these diseases in the United States."

Hughes M. Sims, poultry pathologist in Kleckner's department, has done considerable work with bobwhite quail diseases. Chief quail illnesses, Sims reports, is crop capullarium worm and Newcastle's disease. The first illness irritates the bird's crop, causing it to lose its appetite and eventually die. Newcastle's disease causes quail to suffer from "tired blood" and a poor appetite, also resulting in ultimate death if the disease is not stopped in time.

These symptoms, Sims added, are similar to those of other diseases in wild birds. A chronic respiratory disease sometimes hits entire coveys of birds, causing runny noses and hoarse breathing. Quail bronchitis can be spread by the wind and infected birds to other quail and sometimes poultry.

Hayes has done considerable work with deer but until the Southeastern Cooperative study got underway he had not encountered many of the diseases and parasites that harass the animals.

Among his most unusual discoveries is brainworm, a long, slender worm that is found in a deer's brain. Many of these worms may be found in a single deer's brain. Its effects are many times fatal. Kidney flukes, tumors and pneumonia are all common deer diseases which Dr. Hayes has examined many times.

In his annual report to the Southeastern Association of Game and Fish Commissioners, Dr. Hayes recommended that as many unusual deer deaths as possible should be investigated.

"Far too little is known of deer diseases," Dr. Hayes said, "and for that reason as many deer deaths as possible should be investigated, especially if there is any chance of an epizootic."



Although Georgia is not located on a major flyway, waterfowl hunting in the coastal marshes offers sporting recreation.

Conservation Woe: WATERFOWL LOW

Are ducks destined to be doomed?

Both federal and state conservation agencies are being asked that question today and both must admit that the duck situation is growing progressively worse.

Present duck problems are the most acute in history. Only time can tell what will ultimately happen to America's waterfowl population. While there is no indication that ducks are threatened with total extinction presently, every duck hunter has the right to be alarmed.

"The crux of the whole situation lies in suitable habitat in which ducks and other waterfowl can winter, rest and reproduce," a Georgia Game and Fish Commission spokesman says.

Jack Crockford, federal aid coordinator, says that much of the waterfowl breeding grounds, which must contain a suitable water supply, has all but disappeared. Losses of this land came from drought and agricultural drainage.

Other causes are laid to industry and pollution. The reduction is so gradual that it is commonly overlooked, yet it constitutes a major threat to such wildlife as ducks and geese. Mammals such as muskrats and beavers also are threatened.

But let's explore the duck situation.

Figures from the U. S. Fish and Wildlife Service show that during the 1958-59 season, hunters killed only one-half of the total kill registered the previous season.

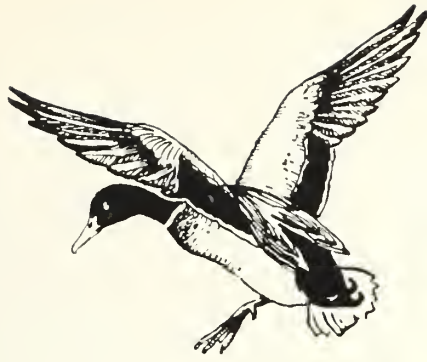
Twenty per cent less breeders appeared on prairie breeding grounds in 1960.

The story behind the methods used to obtain such figures makes interesting reading.

Most important facet of the study is the breeding ground survey, conducted in May and July. An inventory of the waterfowl population on the wintering ground in January immediately following the close of the hunting season also is taken. Most biologists feel the wintering ground and the later May surveys are almost useless, since only a minute measurement of potential breeding birds is produced. The July survey gives the index to the production of young birds.

Experimental breeding ground surveys were begun in 1947 in an effort to find statistically sound ways of measuring annual changes in production. Experiments continued through 1950, and the information gleaned from the studies was used to guide decisions affecting regulations. In 1951, the surveys became an integral part of waterfowl management.

Planes, each carrying a U. S. Fish and Wildlife Service pilot-biologist and an observer, fly at an altitude of about 100 feet. The observer counts the birds seen from his side, while the pilot takes care of those on the other side. Each man counts birds in a strip approximately 200 yards wide on his side of the plane. A voice recorder or dictating machine is used to count the numbers. This count is far from accurate.



Four reports for administrative use are made each summer to the Washington office by the field crews in the breeding ground survey work. Report No. 1 contains general information on weather, water, arrival dates of waterfowl, but no actual survey data. Report No. 2 is a forecast of breeding ground conditions. It contains information on changes in breeding populations, water conditions, and an uneducated guess of probable fall flights.

Report No. 3 is very similar to the first one. In addition to weather and water reports, the emergence of young ducklings and conditions of habitat are given.

A final forecast of breeding ground conditions is given in Report No. 4. It is on these conditions that the Secretary of the Interior will base the shooting regulations. The report also includes a summary of weather and water conditions during the brood period together with a production forecast.

Although the prairie breeding grounds supply—under normal conditions—from 50 to 70 per cent of the continent's duck population and birds from it migrate to all our flyways, the principal flights are down the Mississippi, Central and Pacific flyways. Fewer and fewer birds go to the Atlantic Flyway, on which Georgia is located.

Fish and Wildlife Service spokesmen say survey techniques have not yet been perfected for measuring goose production in the Far North and the bulk of the black duck population in scattered areas of eastern Canada.

Final reports of production success arrive in Washington in late July. They are consolidated and analyzed. The information is considered by a waterfowl regulations committee of the Bureau of Sport Fisheries and Wildlife, which develops recommendations for regulations. At the same time, as much survey information as possible is submitted to those Flyway Councils which are holding meetings. These councils are made up of State Game and Fish departments.

The Fish and Wildlife Service's Waterfowl Advisory Committee, composed of members of the National Waterfowl Council, and representatives of national conservation agencies then meets. Summary of the breeding

ground data developed by the intensive surveys and the forecasts for the fall flight are presented at this meeting.

Many proposals, arguments and recommendations are made by this committee. The director of the Bureau of Sports Fisheries and Wildlife bases his decision on regulations for the upcoming season for these recommendations. They are submitted through channels for approval. Then they go to the Secretary of the Interior for his approval. Once the length of the season and daily bag and possession limits options have been approved by him, the states make their selections of shooting dates within the overall period when hunting is permitted. These dates are incorporated in the final regulations.

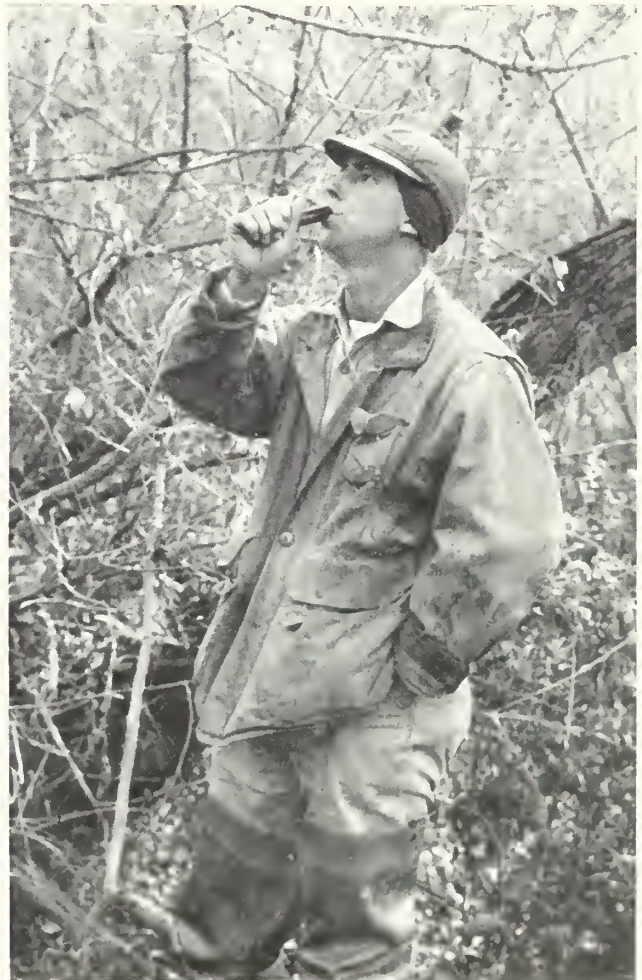
There you have the story in a nutshell.

Can the national duck picture be brightened? Yes, say Georgia Game and Fish Dept. biologists. George Moore, chief of the department's Game Management Division, says an increased program of land purchases for waterfowl nesting sites, wintering grounds or stop-over places is urgently needed. Land, he says is not getting any cheaper and also is becoming hard to purchase.

Here, says Moore, is where the Fish and Wildlife Service has run against snags. First of all, a committee must approve each bit of land either donated or purchased for use by waterfowl. "This is a bottleneck," he says.

(Continued on next page)

Beside floating for ducks, Georgia hunters also lure waterfowl into range with a caller, from their hideaway in a blind.





Former Georgio Bulldog, Wayne Dye, left, his brother Pat, right, All American guard, and Syd Newton of Augusto offer a successful day.

Conservationists feel that land already approved by Fish and Wildlife Service technicians should be grabbed immediately.

Then comes the duck stamp story. Since the sale of these "stamps" began in the '30's, at the cost of one dollar, revenue drifted from the sales was supposed to go toward the acquisition of new homes for ducks. In the past this money wasn't always used to do this. Congress specifically outlined uses of these monies in a much-needed bill passed last year. The recipients are to spend it on wetlands and breeding areas only.

The solution to the whole problem lies in the preservation or present duck nesting, feeding and stop-over grounds and the speedy acquisition of new lands.

Here's proof that waterfowl nest in Georgia. This Mallard was photographed on the Clark Hill Management Area near Thomson.



To Shoot or Not to Shoot? New Guide Answers Queries

A new guide for dove hunters, issued recently by the U. S. Fish and Wildlife Service, outlines "baiting" regulations for doves and other migratory birds.

According to the Fish and Wildlife Service, **IT IS LEGAL TO HUNT MIGRATORY GAME BIRDS:**

1. Over grain fields seeded in a normal agricultural manner.
2. Over standing crops.
3. Over flooded standing crops of grain or other feed, including aquatics.
4. Over grain crops properly shocked on field where grown.
5. Over standing grain or other feed crops grazed by livestock. Example, hogged down cornfields.
6. Over grain found scattered solely as the result of a normal agricultural harvest.
7. Over weed fields, pasturelands, wooded or other areas where salt, grain or other feed has not been scattered or deposited so as to constitute a lure or attraction for such birds.
8. Over fields where grains or other crops have fallen to the ground from natural causes.
9. Over burned areas from which crops have been removed, or on which no agricultural grain or seed crops were grown during the current year.
10. Over farm ponds or other water areas which have not been baited.

IT IS ILLEGAL TO HUNT MIGRATORY GAME BIRDS:

1. Over bait—or by means, aid and use of bait—or on or over any area where grain, salt or other feed capable of luring or attracting such birds is placed, deposited, disturbed or scattered except as the result of a normal agricultural planting or harvest.
2. Over feed lots, where grain is present as a result of feeding livestock.
3. Over areas where grain crops have been cut down, dragged down, knocked down, burned over or otherwise manipulated and left on the ground.

Experimental Hunt Slated

An experimental hunt on the Southland Forest near Bainbridge has been filed, the Game and Fish Department said today. The hunt is scheduled to begin December 6.

A Department spokesman said no more hunters will be allowed to take part in the hunt due to space limitations.

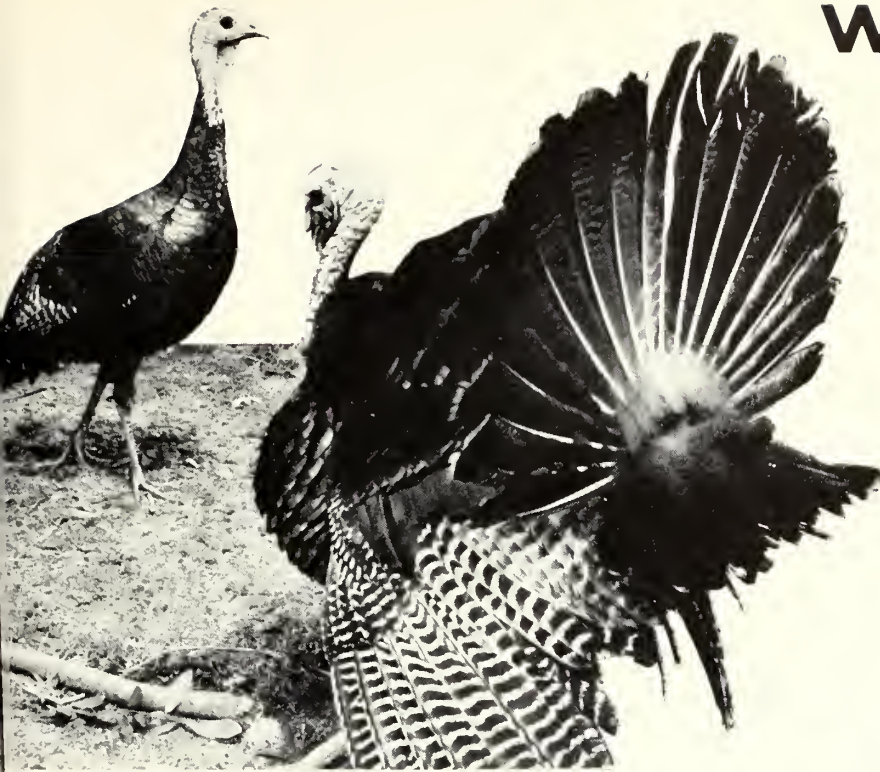
The hunt will be conducted as an experiment by the Game and Fish Department. Game biologists hope to determine the effect of "either sex" kills on deer populations during the hunt.

Southlands Paper Company is cooperating in the hunt. "Since the number of acres is limited it was necessary to limit the number of hunters for safety reasons," Pittman-Robertson coordinator Jack Crockford of the State Game and Fish Commission said.

"As of now the hunt is full and no more hunters can be allowed to participate for safety reasons."

Wild TURKEY

By GUY C. GERMANO



Tam, right, struts toward future mate, but she ignores him.



Skill paid off for this hunter, who still can't believe his eyes.



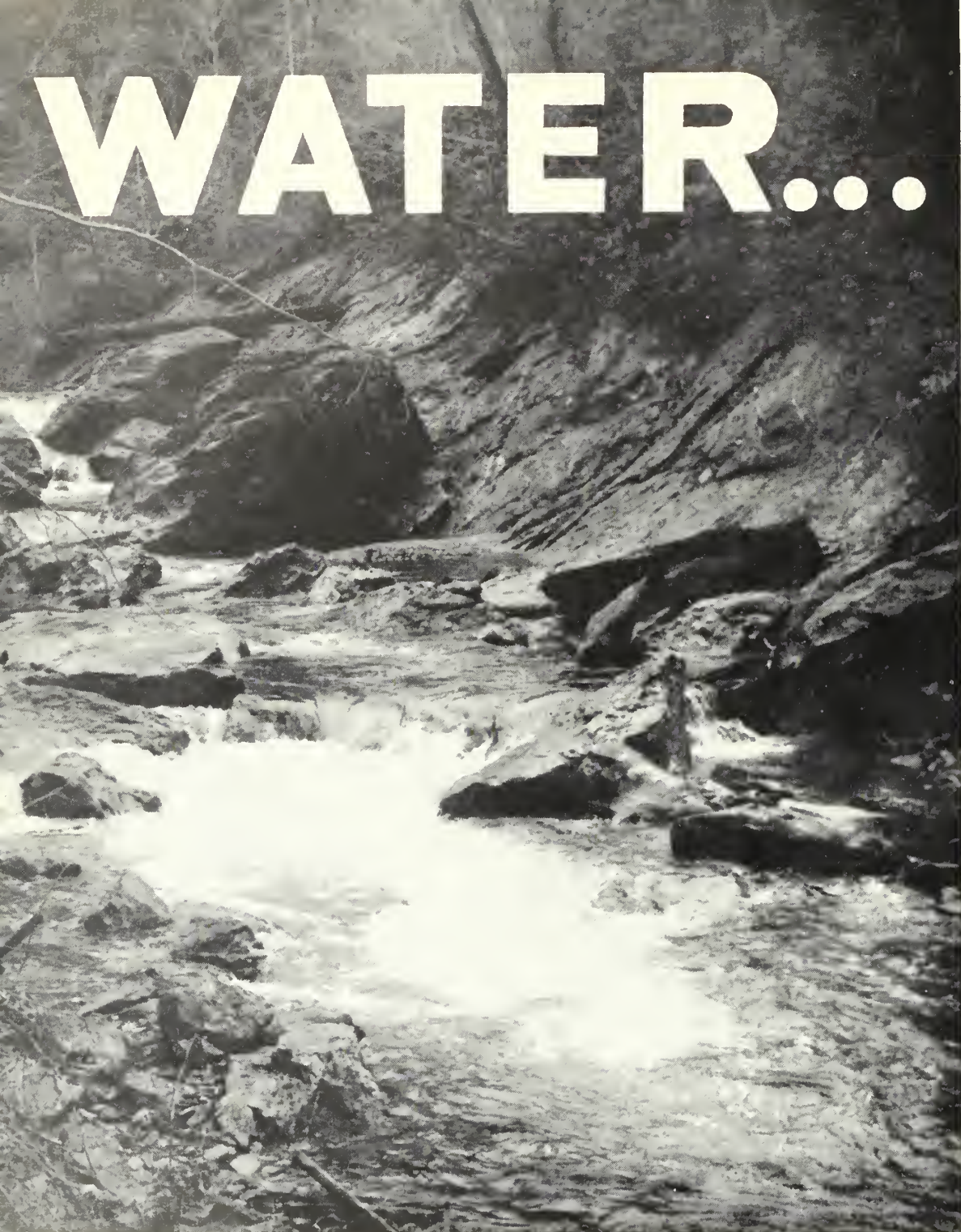
Here is a portion of last year's harvest of some 3,500 wild gabblers.

As wary as an Indian
And silent as a ghost,
Where the water moccasin
And rattlesnake are host;
Where the swamp is thickest
And the wildcat lurks around—
That's the kind of country
Where Ol' Gobbler can be found.
While the stars still twinkle
And the pale moon lights the way,
While skeeters still are buzzin'
Before the break of day:
Staunch breakfast and black coffee,
And with shotgun safe in hand
You wind through soggy bushes
To take your turkey stand.
You stretch your ears to listen,
You strain your eyes to see,
Until you hear the SWOOSH of wings
Take off from roosting tree.
Come daylight, take your caller,
Let out a "cluck, cluck, cluck,"
Hold still, don't bat an eyelid;
Don't breathe, just pray for luck!
Then you squat down to wait,
And wait, and wait some more;
You concentrate and watch
For movement aft or fore;
But just as you've decided
You were "taken for a ride,"
When, lo!—the sovereign of the swamp
Appears on your left side!
The rest is up to you, sir:
If you're quick upon the swing,
It's gobbler for your table,
Tale to tell, and songs to sing;
But if you're more like me, sir,
All a-shaking, paralyzed—
He'll vanish quick as blazes
Leaving you in dumb surprise.

"Sovereigns of the swamps" race for the nearest cover.



WATER...



PROBLEMS AHEAD?

The City of Atlanta alone uses 65 million gallons of water daily. At this rate, conservationists feel problems are ahead unless proper steps are taken to conserve this vital resource.

A serious water problem may be sneaking up on the United States, one of the world's richest natural areas.

Problems in many areas are so acute that Congress has authorized river basin study commissions to probe into the problems from Maine to California.

These commissions are expected to provide the data necessary for establishing a long-range use program so that future generations can take advantage of water resources, rather than create problems for themselves.

The Southeast River Basin Study Commission, headquartered in Atlanta, has begun its tedious task of

surveying Georgia's liquid assets. This is no easy job. There are 14 major rivers in the state, plus myriad small streams, creeks and branches.

Beginning in the western part of the state, there are the Oostanaula, Etowah, Chattahoochee, Flint, Ochlockonee, Suwannee, St. Marys, Satilla, Ocmulgee, Altamaha, Oconee, Ogeechee, and the Savannah rivers. This, of course does not include tributaries of these mighty streams.

Upon looking closely at Georgia's water resources, one could hardly imagine that there will ever be a problem.

From the towering red oaks of the Appalachians to Sidney Lanier's "Marshes of Glynn," the picture for the future looks bright. But one has only to consider the plight of Los Angeles, for example, to quickly see that problems can arise—and fast.

Several years ago, Los Angeles was a city with slightly more than one million people, about the same as Atlanta. Now this burgeoning metropolis has spent millions of dollars getting water for her people. California is now studying a 10-billion dollar plan to pipe water from the northern part of the state to Los Angeles.

Fortunately, many of the Nation's — and Georgia's—larger cities were established near large rivers. Atlanta, the largest, is not on a principal river, neither is Gainesville nor Athens. But each is located near enough to a principal stream to have an adequate supply.

The City of Atlanta and its suburbs probably use more water than any other area in the south. The city requires 65 million gallons a day, taken from the Chattahoochee river; DeKalb county, Cobb county and the City of East Point take approximately 26 million more gallons from the river and its tributaries.

Georgia's rainfall, of course, plays an important part in its water picture.

The state averages getting 50 inches of rainfall a year. The wettest area, the north Georgia mountains, gets 65 inches a year. The driest area is Augusta, which gets only 44 inches. However, the Savannah river, formed in the mountains and full of steam by the time it reaches Augusta, flows almost through the center of town.

Georgia's hidden water is a source that is never seen, but always underground if needed to supply fluid to farm families or well-diggers.

Geologists report that Georgia's underground water supply is not dwindling, despite rumors to the contrary. Only in coastal areas, where many wells are constantly pumping gallons upon gallons of water, is there a decline. Geologists offer as an example an experiment conducted in an unusual well near East Point where a day-by day record of the water table has been kept since 1944.

The lowest water mark was 25 feet below the surface during the drought of 1944, and only 13 feet down during the rainy spring of 1958. In the past 15 years, they report, it dipped under 15 feet only twice, in 1954 and 1955.

Like many eastern states, Georgia has serious pollution problems. This has become a serious hindrance to the industrial growth of the state. Creation of pollution problems in the Altamaha and Chattahoochee rivers, the Satilla and the Savannah in recent years have added to the awesome picture.

Failure of President Eisenhower to sign the Blatnik Water Pollution Abatement bill is felt by many to be a setback toward campaigns to clean up municipal wastes in streams. There are serious municipal waste problems throughout the state. One is located in Atlanta, where city sewage and other wastes pollute the South river from the city limits clear to Jackson Lake.

Fishery biologists report that it is impossible for fish to survive in such polluted waters. Following the appear-



ance of several dead fish in the river last summer, one biologist said he was surprised that even "rough" fish could live in the sewage-syrupy river.

Since Georgia has no current water problems, it lacks legislation to clean up pollution. However, needed laws will probably come when clean water gets scarce or loss of human life results from pollution.

Georgia's 40,000 farm lakes are watershed projects that lend a helping hand during drought periods or when rainfall is slack.

Many farmers, particularly tobacco and peanut growers, use small farm lakes as sources of irrigation. Livestock farmers, also usually try to provide at least one small pond on their land for watering purposes.



Of course, industry has assisted Georgia to secure a storeroom of water. Georgia has a great wealth of electric power reservoirs and navigation projects: an inland port at Bainbridge and soon one at Augusta, Columbus and maybe even Atlanta.

Outdoor recreation on Georgia's impounded waters, large rivers and coastal area is growing by leaps and bounds. Lake Lanier, near Gainesville, was third in the nation in attendance, according to the U. S. Corps of Engineers. Lake Seminole, Clark Hill and Allatoona, to mention a few more, were not far behind.

So it's easy to see that Georgia's water resources will become even a more vital part of the state's wealth in years to come. And, while it may not seem apparent just now, it's not too early to sit down and survey the water situation to see how we stand for the future.

None will deny that Georgia's industrial and economic future depends on its supply of clean, fresh water.

It is the duty of the Southeast River Basins Study Committee to provide accurate figures on water resources in this section so that industry will know where suitable locations are and what to expect when it gets there.

Department's Macon Office To Move from Courthouse

The State Game and Fish Department has moved its Macon office from the Bibb courthouse to space provided in the Georgia Forestry Department building, director Fulton Lovell said today.

Lovell said chief ranger J. W. Thomasson and his office staff occupied air-conditioned quarters furnished by the Forestry Department on Nov. 1. Thomasson's office is now located in a jury room of the Bibb courthouse.

A spokesman for the Commission said the decision came after a directive from the Dept. of Civil Defense required all state agencies with two-way radios to provide a generator at each station for emergency purposes.

Both the Game and Fish Department, the Forestry Department and the Highway Patrol receive aid from Civil Defense in the form of radio equipment and funds. All three are part of the Conalrad Alerting System.

Lovell said his department will join the Forestry department in providing a generator in Macon, stating that it will save both departments money.

The game and fish director also said an agreement has been reached between his department and the Highway Patrol permitting both agencies to use generators in cities where both have radio stations. This would be in Waycross, Gainesville, Manchester and possibly Savannah.

The Forestry Department and the Game and Fish Department now share a similar arrangement atop Stone Mountain.

Lovell said Game and Fish personnel have checked out the new quarters and found them much more suitable than the present location.

Free Preserve Directory

A free directory of Georgia Shooting Preserves may be obtained by writing the Georgia Game and Fish Commission, 401 State Capitol, Atlanta 3, Georgia. The directory lists the best preserves in the state which are open to the public.

Most of the preserves specialize in bobwhite quail hunting, but some offer ringnecked pheasant, chukar partridge, and mallard ducks. Because they depend manly on pen-raised game that is stocked, the preserves have a season of six months—Oct. 1 through March 31.

Game Laws Hunters Need to Know

Opening dates begin with sunrise and closing dates end at sundown on dates specified.

It is unlawful to hunt in Georgia while under the influence of any intoxicating beverages.

Each Deer and each Wild Turkey killed must be reported in writing to the Georgia Game and Fish Commission within five (5) days.

Firearms for Deer are limited to shotguns loaded with slugs or No. 1 buckshot or larger, or to rifles using any center fire cartridge .22 calibre or above with the following exceptions: .25-20; .32-20; .30 Army Carbine; .22 Hornet or .218 Bee.

It is illegal to kill or possess the meat of any female deer, except in counties where the taking of doe is legal.

LOVELL—(Continued from page 3)

discussion of mutual problems by individuals, states and other conservation agencies.

It went a long way toward providing some of the answers American conservationists needed to provide "The greatest good for the greatest number for the longest time," as Gifford Pinchot predicted.

This conference helped open the eyes of Legislators in our National Congress.

It also helped form the background for the passage of many conservation acts that have benefited sportsmen throughout the nation.

The Dingell-Johnson Act, Pittman-Robertson, Migratory Bird Treaty Act, Coordination Act of 1946 — all of these were gigantic steps forward in conservation.

And they are the results of tremendous effort on the part of organized professional conservation groups like our Southeastern Association.

The Migratory Bird Treaty Act is an example of how nations can cooperate to protect and conserve a resource that otherwise could be misused.

By the same token, many important and forward steps have resulted from action taken right here in the southeast by this association.

Our joint, region-wide dove study was commendable . . . our cooperative deer disease study opened the eyes of the nation . . . our present wildlife and game bird disease study is certainly one of the most progressive programs ever initiated in America.

Our close friendship with each other has resulted in expansions of fish and game programs in every state. The southeast as a unit now has more technical personnel than any other area of the nation.

During the past two years the reservoir committee of this association has made great strides in standardizing methods in reservoir management in the southeast.

The sharing of information gathered in this cooperative endeavor certainly will have an effect on maximum utilization of later resources in the future.

To me, one of the greatest advances the Southeastern Association has made has been the field of deer diseases. We have at the University of Georgia, in Athens, Georgia, facilities and a staff that are second to none.

Although it was only small and insignificant at the start, the Southeastern Association's cooperative wildlife disease study is one of the greatest contributions ever made to conservation on a national level.

I am also proud of this Association's contribution in promoting and bringing about better understanding of wildlife and fish management programs and the role it has played in gaining favorable legislation in Washington.

Many of our citizens have come to depend on wildlife and fish as our greatest recreational asset. Hunting, fishing and boating are now prominent sports and occupy a high place among the nation's participant sports.

We must realize this as we come face to face with the challenges ahead. As public participation in hunting and fishing grows, so do the problems of managing our wildlife and fishery resources.

America as a nation and the southeast as a region is

again at a conservation crossroads. We must join together and consider the most appropriate route to take, just as they did during Teddy Roosevelt's time.

Today, however, we have been given ample warning of what's ahead.

The Southeastern River Basin Study Commission estimates that the population in the State of Georgia will double within the next 40 years.

Your state will probably gain as many new citizens as Georgia. Many of them will gain more.

But, regardless of how many or how few new faces we see between now and the year 2,000, our task as an association, as an individual State Game and Fish Department and as a conservation voice in America will become extremely important.

As I look back through the past 10 years that I have been associated with conservation as a State Game and Fish Department Director, I can see progress in every field of endeavor.

The caliber of technical and administrative personnel has improved—more finances are available—enforcement has improved—research has come into being and the public has become more conscious of conservation.

Each of you, your state departments, the federal government and other conservation agencies have had a part in this progress.

This Association can be proud of its accomplishments—but we cannot rest on our laurels.

There is still work to be done.

Our dove study was a success, there is no denying that fact. But, all of our dove problems are not solved. We have yet to convince federal agencies of our beliefs.

I feel that it is time we face the issues that have been plaguing us for years. It is time we made some headway with regards to the management of mourning doves.

The State of Georgia went on record several years ago as favoring a zoning system for its dove shooters. Recently, Louisiana petitioned the Bureau of Sport Fisheries and Wildlife for a similar zoning system.

I sincerely hope Louisiana has better luck than Georgia. We have been turned back every time we approached Washington with the suggestion.

Now, I do not feel qualified to say who is right in this running dove debate.

I am simply a Georgian, who has hunted doves in Georgia for many years and who has a first-hand knowledge of Georgia's problems.

But this does not qualify me.

I am not a Washington bureaucrat who has never been to Georgia, so I am not qualified to say what's best for Georgia.

But as I see it, it is time we faced this issue squarely and ask for at least an opportunity to see whether or not Georgia, Louisiana, or any other state that knows its own problems, are right or wrong.

Our country was founded on that basic principle.

The surface has only been tapped—as research programs uncover more and better ways to do things, we can certainly add to the richness of our natural resources and continue to provide enjoyable recreation to the millions of people who inhabit this area.

1960-61 GEORGIA GAME LAWS

Seasons and Bag Limits

RESIDENT GAME	OPEN DATES (Inclusive)	DAILY BAG LIMITS	WEEKLY BAG LIMITS	POSSESSION LIMITS
Bear (a)	November 1, 1960-January 5, 1961	No Limit		
Deer (See Below)				
Quail	November 20, 1960-February 25, 1961	12	30	
Ruffed Grouse	November 20, 1960-January 5, 1961	3	3	
Rabbits (b)	November 20, 1960-February 25, 1961	10		
Opossum (c)	October 15, 1960-January 31, 1961	No Limit		
Raccoon	October 15, 1960-January 31, 1961	No Limit		
Alligators	June 2, 1960-January 31, 1961	No Limit		
Sea Turtles	No Open Season			
Squirrels (d)	November 1, 1960-January 5, 1961	10	10	
Wild Turkeys	See Below			

MIGRATORY BIRDS

Rails, Gallinules	September 6, 1960-November 14, 1961	15		30
Ducks	November 29, 1960-January 7, 1961	4		8
Geese (Except Snow Geese)	November 7, 1960-January 7, 1961	2		4
Coots	November 29, 1960-January 7, 1961	6		12
Doves	(See Below for Split Season)	12		24
Woodcock	November 20, 1960-February 25, 1961	8		8
Wilson's Snipe	November 20, 1960-February 25, 1961	8		8

TRAPPING SEASONS

Fox	November 20, 1960-February 25, 1961	No Limit		
Muskrat	November 20, 1960-February 25, 1961	No Limit		
Skunk	November 20, 1960-February 25, 1961	No Limit		
Opossum	November 20, 1960-February 25, 1961	No Limit		
Raccoon	November 20, 1960-February 25, 1961	No Limit		
Beaver, Otter, Mink	November 5, 1960-January 15, 1961	No Limit		

EXCEPTIONS

(a)—All counties in the State closed to the hunting of bear except Echols, Clinch, Charlton, Ware, Brantley, Camden, Glynn, Wayne, McIntosh, Long, Liberty, Bryan and Chatham.

(b)—Bag limit for rabbits 5 daily north of the following counties: Howard, Coweta, Spalding, Butts, Jasper, Putnam, Hancock, Glascock, Warren, McDuffie and Richmond.

(c)—Coweta County season opens Oct. 1, 1960-Jan. 31, 1961. No Bag Limit.

(d)—Except Fannin, Gilmer, Pickens, Union, Lumpkin, Dawson, Towns, White, Habersham, Rabun and Stephens counties where season will be from Sept. 15, 1960-Jan. 5, 1961. Banks, Baldwin, Barrow, Bartow, Bibb, Butts, Carroll, Catoosa, Chattooga, Cherokee, Clarke, Clayton, Cobb, Coweta, Columbia, Crawford, Dade, DeKalb, Douglas, Elbert, Fayette, Forsyth, Floyd, Franklin, Fulton, Gordon, Greene, Gwinnett, Hall, Hancock, Haralson, Harris, Hart, Heard, Henry, Houston, Jackson, Jasper, Jones, Lamar, Lincoln, Macon, Madison, McDuffie, Meriwether, Monroe, Morgan, Murray, Newton, Oconee, Oglethorpe, Paulding, Peach, Pike, Polk, Putnam, Richmond, Rockdale, Schley, Sumter, Spaulding, Talbot, Taliaferro, Taylor, Troup, Upson, Walker, Walton, Warren, Whitfield and Wilkes counties season will be from Oct. 15 1960-Jan. 5, 1961. Bag limits 10 daily, 10 weekly.

DEER SEASONS

Paulding, Haralson, Polk, Floyd counties Nov. 17-18-19. Bag limit—One buck with visible antlers per season. Dogs prohibited.

Baldwin, Banks, Butts, Chattooga, Dade, Dawson, Fannin, Gilmer, Habersham, Hancock, Jasper, Jones, Lumpkin, Monroe, Murray, Pickens, Putnam, Rabun, Stephens, Towns, Union, Walker and White counties seasons open Nov. 5 1960 and close Nov. 20, 1960. Bag limit—One buck with visible antler. Dogs prohibited.

Two bucks or one buck and one doe are legal in Baker, Calhoun, Dougherty, Grady and Thomas Counties.

Nov. 1, 1960-Jan. 5, 1961—The following counties are open to the taking of deer: Appling, Bacon, Baker, Ben Hill, Berrien, Bleckley, Brantley, Brooks, Bryan, Bulloch, Burke, Calhoun, Camden, Charlton, Chatham, Chattahoochee, Clay, Clinch, Coffee, Cook, Crisp, Candler, Decatur, Dodge, Dougherty, Early, Echols, Effingham, Emanuel, Evans, Glascock, Glynn, Grady, Irwin, Jeff Davis, Jefferson, Jenkins, Johnson, Lanier, Laurens, Lee, Liberty, Long, Lowndes, Marion, McIntosh, Miller, Mitchell, Montgomery, Muscogee, Pulaski, Quitman, Randolph, Screven, Seminole, Stewart, Sumter, Tattnall, Terrell, Thomas, Tift, Toombs, Truetlen, Twiggs, Ware, Washington, Wayne, Webster, Wheeler, Wilcox, Wilkinson.

Bag limit—Two bucks with visible antlers, except in Baker, Calhoun, Dougherty, Grady and Thomas counties where two bucks or one buck and one doe are legal.

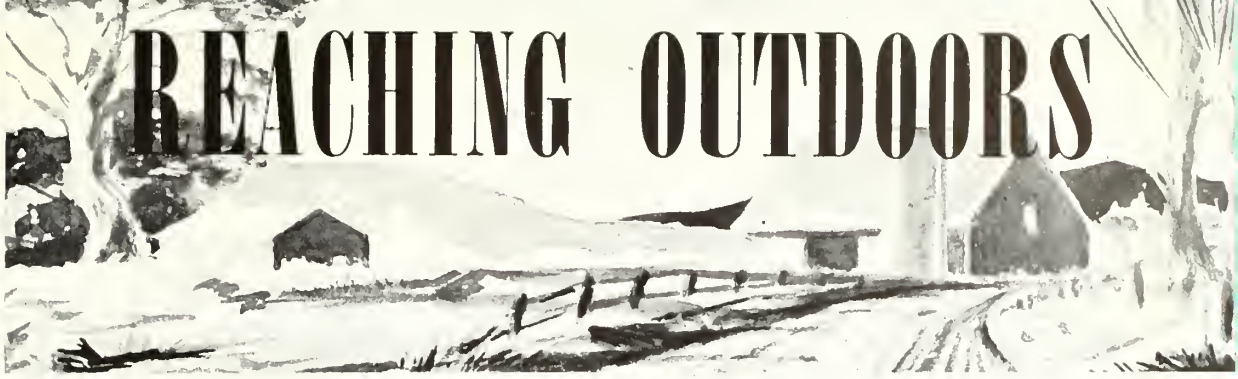
MOURNING DOVES

Seasons on Mourning Doves will be split. First half opens Sept. 15, 1960, and closes Oct. 1, 1960. Second half commences Nov. 23, 1960, and ends Jan. 14, 1961. Shooting hours 12 noon to sunset. Bag limit 12, possession limit 24.

WILD TURKEYS

Wild turkey season will begin Nov. 1, 1960, and end Jan. 5, 1961, in the following counties: Baker, Ben Hill, Berrien, Brooks, Calhoun, Chattahoochee, Clay, Colquitt, Cook, Decatur, Dougherty, Early, Grady, Irwin, Lee, Macon, Marion, Miller, Mitchell, Muscogee, Quitman, Randolph, Schley, Seminole, Stewart, Sumter, Terrell, Thomas, Webster, Wilcox and Worth. Bag limit is two gobblers per season.

Wild turkey season will begin Nov. 1, 1960 and end Jan. 5, 1961, in the following counties: Appling, Bacon, Brantley, Bryan, Bulloch, Camden, Candler, Charlton, Chatham, Clinch, Coffee, Echols, Effingham, Evans, Glynn, Jeff Davis, Lanier, Liberty, Long, Lowndes, McIntosh, Montgomery, Screven, Tattnall, Telfair, Toombs, Ware, Wayne and Wheeler. Bag limit is two gobblers per season. The remainder of the state is closed entirely.



REACHING OUTDOORS

By BOB SHORT

Editor, Georgia Game and Fish

Clouds of Confusion Surround TRESPASS LAW

On a quiet Saturday afternoon two fishermen paddled their boat along the Flint River in a mid-Georgia county, casting their plugs from side to side as they drifted along.

The sun was boiling down. With each stroke of the paddle it became hotter. Finally, one suggested that they stop and rest beneath the shade of a big oak tree along the sandy bank.

As they paddled their boat toward the shore, a man stepped from behind the tree and informed them they were trespassing.

The man called the sheriff.

A few minutes later the sheriff arrived and placed the two fishermen under arrest. Naturally, they protested.

"Under arrest for what?" one demanded. "We didn't put our foot on this man's land until after he told us we were trespassing. We have a perfect right to fish in this river. He doesn't own the water — it belongs to the taxpayers."

The sheriff tried to explain the law to the irate fishermen, but they would not let him. So, he carted them off to jail at the county seat.

This was another in a series of little dramas that never fail to leave a foul taste in the mouths of anglers, a soreness they never seem to forget.

Just who owns water? Who has a right to fish where? Can a landowner prosecute for trespass those who fish on his land without permission?

These questions are asked thousands of times each year, usually by

fishermen who were nabbed by landowners for fishing without permission. Let's examine the issues.

Can a property owner bar fishing in a stream that runs through his land even though the stream is navigable by boats?

The Georgia Supreme Court ruled in the case of *Thompson v. Tennyson* that "the owner of land adjoining a non-navigable stream is the owner of the soil to the center of the thread of the stream and of the fishing rights to the center of the thread on his side of the stream."

"If one proprietor owns the land on both sides of the stream, he has the exclusive right of fishing therein."

It is clear, in this case, that landowners have a perfect right to bar fishing in non-navigable streams if they own both sides of the stream.

But what about streams that are navigable?

According to the same decision, one gathers that owners of land on both sides of a navigable stream have the same exclusive fishing rights as the owner of a non-navigable stream. Therefore, the landowner can legally bar fishing even though the stream is passable by boat.

Water, as the fisherman suggested, does not belong to the taxpayers.

Section 35-1301 of the Georgia Code Annotated says running water, while on land, belongs to the owner of the land.

"But," it continues, "he has no right to divert it from the usual channel, nor may he so use or adulterate

it as to interfere with the enjoyment of it by the next owner."

These laws have been on the Georgia books for quite a number of years. Yet, few anglers really know and understand them.

Of course, there are many unusual situations that develop in connection with the application of these laws. Each case may be different. However, there is one sure way to guard against prosecution for trespass while fishing and that is to secure permission of the landowner before fishing in the stream.

The Game and Fish Department does not enforce trespass laws, unless it is asked to do so by property owners. This job usually falls to local enforcement officers.

Most landowners who do not wish fishermen to use their property hang posted signs. Some have gone as far as to stretch a cable across the stream and erect signs warning against fishing. This has resulted in mass furor in some sections of the state.

Many fishermen favor establishing a clear cut, concise law that tells them in black and white just where they can and cannot fish. This, of course, must be done by the Georgia General Assembly. It is extremely doubtful if such a law will ever be passed.

The angler must accept the burden and go more than half way to cooperate with landowners. Simply asking may help solve some nasty situations. If the landowner refuses, then go elsewhere. Don't invite a court suit — they can sometimes be unpleasant.

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The University of Georgia
Athens, Ga.

Waterfowl hunters **DON'T SHOOT** **REDHEADS or CANVASBACKS** this year

OBSERVE WATERFOWL CAREFULLY BEFORE SHOOTING!

These ducks are fully protected by law during the 1960-61 season. Now in short supply it is necessary to get as many of them as possible back to the nesting grounds next spring.

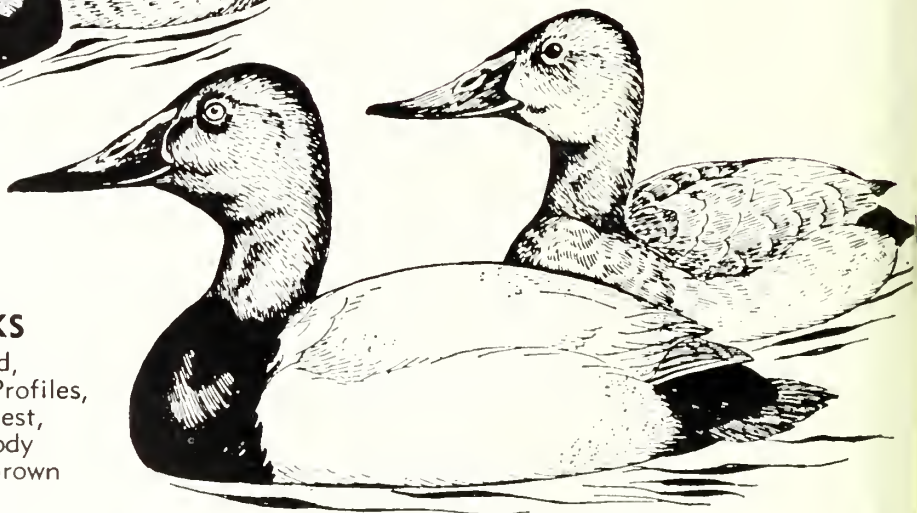


REDHEADS

MALE: Round, Red Head,
Black Chest,
Gray Body
FEMALE: Gray Brown

CANVASBACKS

MALE: Red Head,
Sloping Profiles,
Black Chest,
White Body
FEMALE: Gray Brown



The Redhead and Canvasback are diving ducks — they run across the surface of the water before taking flight — are found in salt water bays and fresh water lakes.



GEORGIA GAME *and* FISH

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Flint River Bass

A Decade of Progress

FISHING EDITOR
1961

GEORGIA GAME AND FISH

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A DECADE OF PROGRESS in conservation



FULTON LOVELL

BY FULTON LOVELL

Director Game and Fish Commission

Conservation is a word that is often used, but seldom really understood. Taken literally, it could mean to save . . . to hoard. But conservation in terms of natural resources is far from saving or hoarding. In this sense, it simply means to use wisely.

Like the old miser who hoards his money and gets little use from it. He's as bad off as the spendthrift who goes recklessly through his possession. The REAL conservationist is the man who invests his money wisely and puts it to work for him.

So, conservation is really an investment.

When Georgia's first settlers landed, the state was a vast and untapped region whose forests were filled with

game and whose streams teemed with fish . . . an honest-to-goodness wonderland of natural resources whose conservation was provided by nature herself.

It was an unexplored region, as yet unhampered by the intervention of man. That is, almost.

For in those days, Georgia had already become a frontier in the new world for settlers in the community of Savannah. And soon, their numbers increased as more and more people found homes in this beautiful and resourceful land of milk and honey.

In the very beginning, these new Georgians, like their pioneer brothers up and down the Atlantic coast, found they must depend on natural resources for their own survival.

—Continued on page 24

Quite a change has occurred in Georgia's Wildlife Rangers during the past decade . . . they're better equipped to do a better job.





Biologist's Aide Doug Heddon stocks Oliver Lake while others watch.

Georgia's new resident THE SA

By BILL BAAB

A streamlined, flashy fish that fights tenaciously and tastes even better than it fights, has been released in five major Georgia reservoirs.

The sauger (*Stizostedion canadense*) a kissin' cousin to the walleye (*Stizostedion vitreum*) were borrowed from Tennessee in Alabama for release in Georgia waters.

The tailwaters of Hartwell, Sinclair, Oliver, Goat Rock and Bartletts Ferry now contain "experimental" stockings of the fish. These stockings were made after studies by Georgia Game and Fish Commission biologists showed that some of the state's waters were suitable for them.

It may be years before the fish becomes established. Commission biologists can only take care of stocking—after that, Mother Nature takes over.

Of course, adding such fish as bluegill and bass to lakes or rivers in which numbers of the same species

abound is worthless. However, when biologists find more forage fish than game fish, it is practical to see if the addition of a new species—either new to the state or the waters in which it is stocked—is worthwhile. Forage fish are those upon which game fish feed.

Studies made by biologists on the waters into which sauger were stocked showed there were enough of these "food fish" to support another game fish.

Fisheries Biologist Howard Zeller pointed out that the white bass, also stocked as an experiment, came out in force last year while this year's forecast is for a "bumper crop."

If you happen to be one of those anglers who never heard of the sauger, you might ask, "Why was the sauger stocked?"

Well, there is no one reason for the stocking. The sauger, popular with fishermen along the Tennessee River, is predominantly a "winter-biter"; that is, it is caught in the greatest numbers between November and March.

Commission biologists felt the sauger would greatly supplement winter fishing in the state. It is during these cold months before the sauger starts its "runs," finally congregating in large numbers below dams.

In all, biologists stocked more than 700 spawning sized fish—weighing between one and three pounds. A five-pound sauger would be a lunker. World record for the fish is eight pounds, three ounces.

Little is known about this fish's habits. It is true, however, that sauger make spawning runs up tributaries and small rivers. Biologists say its spawning methods are a great deal like the walleye's.

Walleye are haphazard spawners, scattering their eggs here and there and leaving them to their fate.

Unlike walleye, sauger prefer comparatively warm, swift-moving waters to frigid, rockbound lakes. It is sensitive to light like its cousin and stays in the dark, deep depths during the summer months.

If you were to place a sauger and walleye side by side, you'd probably think both were one and the same fish. However, if you looked closely at the dorsal fin—the fin on top closest to the head of the fish—you would see that the walleye's is clear, while the sauger's has many dark spots. The sauger's body also has deep, chocolate-brown splotches not found on the walleye.

Deborah Williams, 7, of Fortson, Ga., finds sauger's teeth sharp.



ER

Costleberry, right, points out
difference between the wolleye W.
h holds and sauger.



And so, the sauger, if successfully established, could well be on the way of becoming an old favorite with Georgia fishermen.

This fish, however, is not the only "new fish" that has been added to Georgia waters. During the past 10 years, the Game and Fish Commission has provided three others for which the angler may cast.

Let's take a brief look into the past to see just what has occurred in the state's waters.

The white bass, very popular in fishermen's circles, was first introduced into 10 reservoirs and one river back in 1953. Compared to other game fish, its size is small. Its popularity stems from the fact that it "pulls" like a tarpon. Average weight of this fish is two and one-half to three pounds.

This year's runs are expected to be king-size as compared to 1960's.

Lake Blackshear and the Broad River in upper Clark Hill Reservoir should provide the ultra-ultimate in sport to seekers of this fish.

Another "experimental stocking" program took place some seven years ago when biologists introduced a major

"Yankee" sportsfish into two north Georgia lakes, Burton and Blue Ridge.

The muskie apparently did not "catch on" in Burton, but Blue Ridge fared well.

Then we come to the walleye, main subject of a stocking program started in July of 1955. Lakes Burton, Blue Ridge, Allatoona and Rabun were among the first to supply homes for this fish.

Few walleye have been caught since the stocking took place, but biologists say the fish will not have reached its potential as a game fish until two or three more years have passed.

Game and Fish Commission biologists are continuing their never-ending search for "new" gamefish for Georgia game fishermen.

A glance into the future shows untroubled waters lie ahead.

But getting back to the sauger, we see one doubtful fact about this fish, one we'll let you decide for yourself.

And that is: whether it tastes better than channel catfish.

Left photo shows Ranger David Costleberry, Chief Ranger L. P. Cotton, Muscogee County Policeman J. H. Green and Police Copt. C. B. Poisson examining sauger at Oliver Lake; fish at right missed bucket being filled by Corlton Nichols, but was unharmed.



THE TRUE MEANING



By FLANNERY POPE

The author, a member of the Georgia Game and Fish Commission, is one of the state's foremost conservationists and sportsmen. He believes citizens of today must face up and solve problems of our natural resources if future generations are to enjoy them.

North America once possessed an abundance of wildlife unsurpassed by any other continent. What has happened to it, what uses it has, and will, serve in American civilization are matters of both practical and sentimental interest.

Conservation agencies have taken a realistic viewpoint toward natural resources, based on more than a quarter of a century of experience gained in dealing with preservation of one of the nation's greatest natural assets.

Three concepts are considered to form the basis of the conservation movement: (1) that soil, water, forest and wildlife conservation are only parts of one inseparable program; (2) that wildlife must have an environment suited to its needs if it is to survive and, (3) that any use that is made of a resource must be limited to not more than the annual increase if the essential seed stock is to be continually available.

These three concepts are the basis of present wildlife and forest conservation programs. A multitude of details remain to be worked out. It is essential that the techniques and tools of the future be radically altered from time to time as knowledge increases and conditions change. It is my belief, however, that no amount of research and study will change these three basic concepts.

Despite his tools, his machines and all his progress through the ages, man has always been, and still is, dependent on plants and animals for subsistence and protection against the elements.

Fruits, vegetables and seeds of many kinds are his essential foods and cotton, flax and other plant fibers are indispensable for clothing. Meat, fish, shellfish and many other products of the animal world are part of his diet and wool, hair and the skins of animals provide his clothing and shoes, as well as a multitude of other necessities.

Primitive man gathered such wild fruits, seeds and tubers as chance provided and depended on his skill in the chase to obtain meat and fish. The various Indian tribes of this country, which had advanced to the new stone age when white man first saw him, gathered the seeds of wild rice, smartweed, tubers of the groundnut and of the wapato or arrowhead lily, as well as the starchy roots of the bitter root.

Some tribes cultivated small patches of corn, potatoes and other vegetables and developed great skill in hunting the variety of wild animals and birds that provided their fleshy food.

Modern man has developed numerous varieties of cultivated plants and have a great range of foods from which to choose. He has also developed a complex and rapid transportation system that enables him to enjoy the seasonal products of not only one community, but also those located thousands of miles away.

He gets his meat, eggs, hides, wool and other commodities from domesticated mammals and birds. Animal and plant life from all over the world are available at a price to any community desiring them.

The combination of man's development of domestic varieties and of a mighty transportation system tends to obscure the fact that he still is dependent on plants and animals for his continued existence. If all plant and animal life were to become unavailable, human life would quickly vanish from the earth.

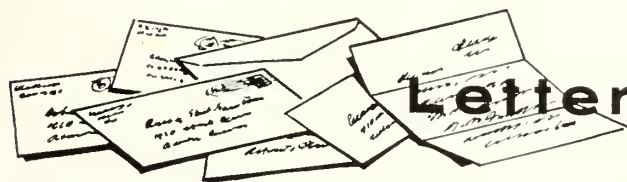
Wildlife has helped to write American history. The early colonists, after a long voyage across the Atlantic, reached American shores almost without food. When they found the great forests full of deer, moose, partridges, wild turkeys, ducks and pigeons, they felt real cause for thanksgiving.

In early diaries, explorers tell of trout, river shad,

herring, bass, pike and leaping salmon so abundant that they could be scooped from the water with little effort. Wild game and fish provided much needed food for the pioneers.

When virgin forests, prairie and swamps are transformed into farmland, the day by day existence of wildlife are thrown into confusion. Big game, particularly, begins to disappear.

As our nation expanded in population, sight was lost of the true value of natural resources. Precious water was drained and became polluted; mighty dams prevented the annual spawning runs of migratory fish—these facts, plus man's thoughtless waste of fish and wildlife so depleted them that President Theodore Roosevelt became concerned over the final results and called together the first conference ever assembled to discuss problems of conservation.



Letters to the EDITOR

LANIER LUNKER



One of the largest bass reported from lake Lanier this spring was caught by JOHN C. FORKNER of Avondale Estates. Mr. Forkner caught his prize—10 pounds, one ounce—while trolling with a yellow bomber near Baldridge creek. Mr. Forkner, incidentally, is next door

neighbor and fishing companion of Game and Fish Commissioner CHARLES DAVIDSON, JR. of Avondale Estates.

Speaking of Lake Lanier we received the following letter from Paul Goza, 2030 Briarcliff Road, Atlanta:

Dear Sir:

There were several reports last week of two fishermen at Lake Lanier catching and keeping over 700 crappie in one day. There were also numerous reports of catches of over one hundred crappie per man per single day.

None of these reported catches were witnessed by the writer and it is perhaps a very good thing that I did not see any of the catches as I probably just might be in serious trouble now.

The State of Georgia law limits the catch of crappie to 40 per man per day. But, there doesn't seem to be anything further done about it.

SEEKS TO HELP

Is there anything you know for any of us to do that might help to prevent such happenings? Real sportsmen resent slaughter of any game. No two men and their families could possibly use or give away that many fish. First, gamehogs of this kind just couldn't have many friends, anyway. Also, even though the fish are stored

Today, many of our citizens have come to depend on wildlife and fish as our greatest recreational asset. Presently, there are more hunters and fishermen than football, baseball, golf, and tennis fans combined.

We must realize this as we come face to face with the challenges ahead. As public participation in hunting and fishing grows, so do the problems of management.

One could hardly do better than Kubla Khan of old, who Marco Polo said, not only forbade that game be killed during the months from March through October, but even went so far as to order that millet be planted along roadsides and in waste areas to encourage the propagation of quail and partridge.

Although there are dark spots in the past, the future of wildlife today is bright. Where wise conservation has been applied for a few years, results are already apparent.

in a deep freeze they would get old before they could be eaten.

It is impossible to shame men like that into obeying the law or getting them to think of all the other fishermen that would have like to have caught even less than their limit of these fish. But, something should be done! What?

Well, Mr. Goza, something IS being done. While I wouldn't put it past some people to catch 700 crappies a day, I seriously doubt if this is true. Game and Fish rangers on Lake Lanier do a good job of patrolling and checking fishermen. Also, there is a creel census man who checks the stringers of many fishermen. Unless an angler in keeping his luck a "deep, dark secret," ranger or creel census clerks will find out about their "success."

SHRIMP MEASURE

Action is pending on a bill in Congress to control imports of shrimp.



Several Southern congressmen, including Georgia's Sen. HERMAN E. TALMADGE, have introduced a measure which would place an annual duty on free imports of shrimp in an amount equal to the total import of processed and unprocessed shrimp in 1950.

Processed shrimp would be subject to a 35 cent ad valorem, with a minimum duty of 35 cents a pound.

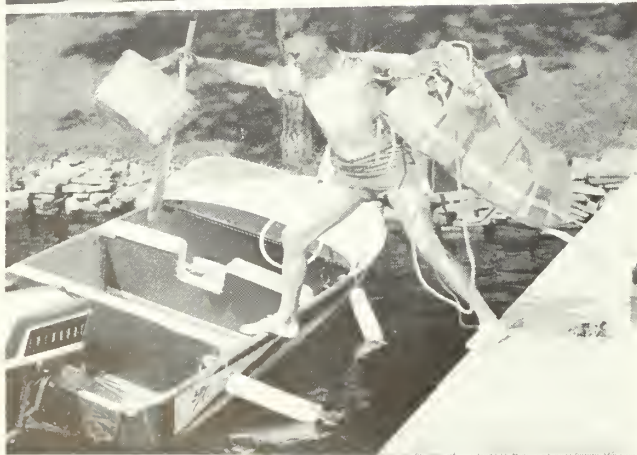
The solons said, in a prepared statement, that the proposal "is not intended to effect a cutback in the United States' import of shrimp, but simply to provide controls to runaway importations that have depressed prices beyond the point where producers can profitably operate."

Several Georgia processors have voiced sentiments in favor of some method of controlling imports.



BOATING

with
David Gould



Common sense tells one how to properly board a boat. Step as near as possible to the center of the boat, with gear piled close at hand on the pier. Then, while seated, lift the gear into the boat. It might save you from an unexpected dunking. The man at the bottom is in trouble. He stepped on the gunwale of his boat at the pier with his arms loaded with gear and the boat slid away, leaving him in a bad predicament.

The "Rules of the Road" in boating are old stuff to many boaters and most novices have read and studied them. Still, it's amazing to observe the great majority of boaters who fail to practice them.

These "Rules of the Road" were established for all boaters to follow, just as auto drivers observe traffic laws. In boating, just as in driving, it is essential that all skippers know the right thing to do in heavy traffic.

Every boater, regardless of whether he's a weekender or an everydayer, should know these basic boating "Rules of the Road":

Always bear to the right when meeting another boat to avoid collision. A boat should always give way to another in its "danger" zone by altering its course. For you landlubbers, the danger zone is that area from dead ahead to two points abaft the starboard beam—in other words, a boat approaching from the right.

If a boat approaches from your left—or port—side, you have the right of way and the other craft must yield. Always be sure, however, that the other fellow intends to yield before you take anything for granted. In meeting a boat to your portside, it is advisable to reduce the speed of your craft until you are sure of the other skipper's intentions.

When overtaking or passing another boat, always steer clear of the boat you are overtaking. If your craft is larger or has a deep draft, it is good manners for the skipper of the smaller boat to pull over and let the larger craft pass. This is one situation where it is not wise for the outboard skipper to insist on the right of way.

All skippers, young and old, know that sailboats have the right of way over power boats. Some of them do not know, however, that in the unlikely possibility of a power boat being overtaken by a sail, the power boat has the right of way.

If you ever happen to have an occasion to pass closely to a sailboat, do so slowly and on the leeward side (the

side on which the sail is carrying its main boom). This helps to avoid disturbance from your wake.

Courtesy always requires that racing sailboats be given a wide berth.

One of the biggest gripes fishermen have against boaters is their failure to use caution when approaching anglers' boats. Fishing boats with nets, lines or trawls out, whether anchored or underway, should be passed with caution.

Fishermen can do their share to make the situation more harmonious by never throwing anchor in a channel or fairway. Nobody has right of way in these areas unless they are "just passing through."

When leaving docks, slips, piers or wharves, boaters must proceed with caution. No skipper can claim right of way for his boat until it is in open water—entirely clear.

Boats going downstream or down current in moving water have the right of way over boats moving upstream.

Power boats actually have the right of way over tugs and barges, but wise skippers yield to these types of vessels because of their poor maneuverability and lack of speed.

Good skippers always investigate any hint of trouble in case of accident or mishap. While this is not a written rule of the road, it is the courteous thing to do, even if the mishap is not serious. Serious accidents, of course, demand immediate action on the part of the skipper.

One rule that cannot be outlined or perhaps even explained is that one that insists boaters use common sense, whenever and wherever possible.

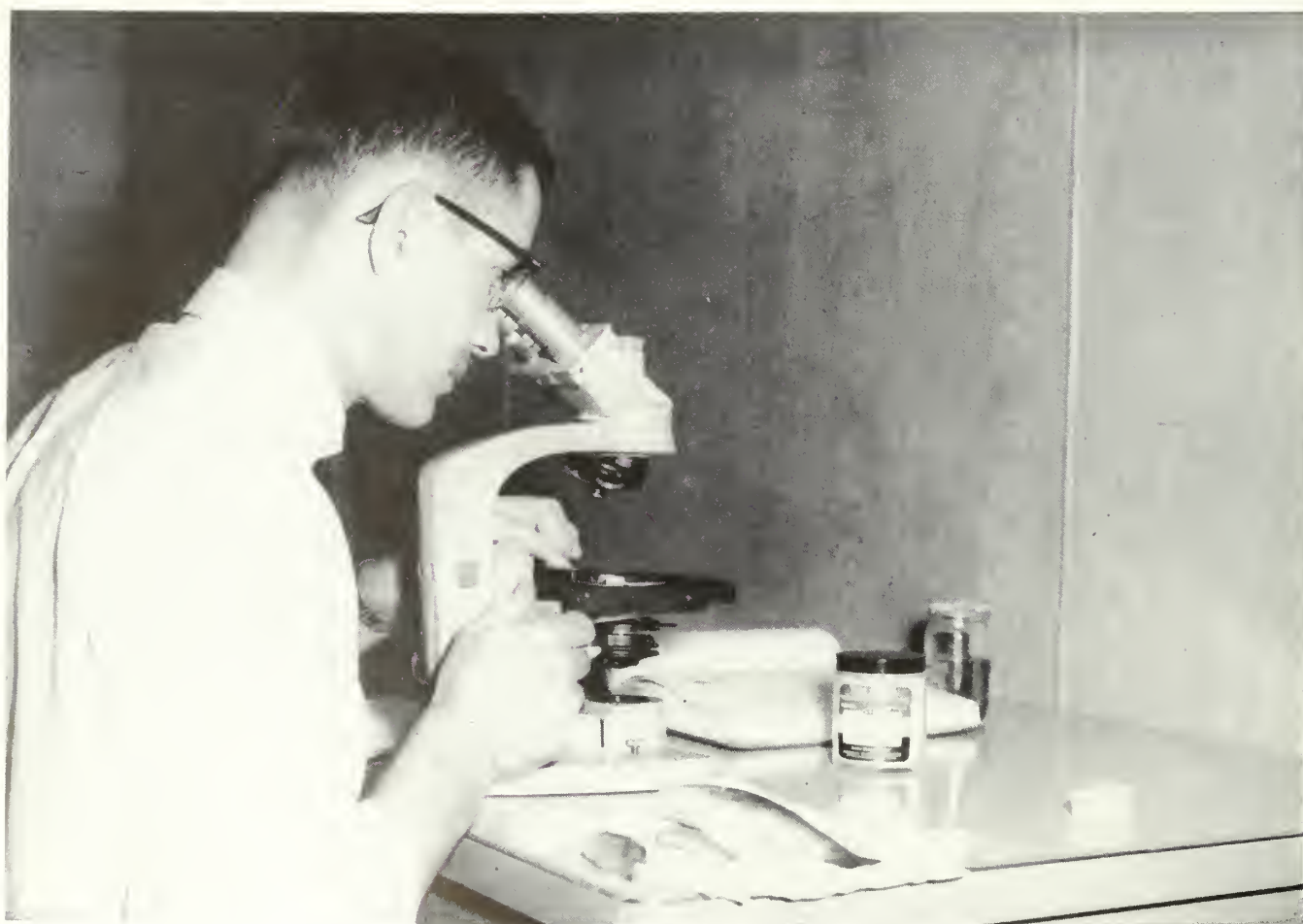
Yet, use of common sense afloat is the basis of every safety tip and feature that can be offered.

A water skiing flag, designed as a safety measure for water skiers, has been approved by the American Water Ski Association. The flag flies amidships opposite the driver's seat and indicates to other boaters that the boat in which it is flying is busy pulling water skiers.



Biologists

WAGE WAR



Biologist Howard Zeller gets closeup view of harmful fish bacteria.

● against FISH DISEASES

Fish blight statistics have mounted at an alarming rate during the past few years, literally scaring the day-lights out of hundreds of the nation's most avid anglers.

But now comes word from fishery biologists that, happily, dampen some of the fears. Blight, they say, may be no worse than it was 50 years ago. The old-timers just didn't keep the best sort of records on numerous diseases common to almost every stream and river in the country. Today's biologists do.

They are backed by an increasing demand by anglers throughout the country for better fishing and healthier catches. Georgia is in the forefront among the states that are upgrading fishing yields through biological research.

Fish kills resulting from various diseases spring up in Georgia occasionally, the latest ones on Lakes Blackshear, Clark Hill and Seminole and hundreds of farm ponds, where blights caused anglers undue alarm.

An epidemic of bacterial disease struck Blackshear recently and with it came widespread alarm that the lake's fabulous fishing would be ruined.

A thorough investigation of the situation by fishery biologists, however, revealed only a slight outbreak of a bacterial disease that soon cleared up without damage to the fish population.

It could be compared to an epidemic of measles or mumps among humans.

Fish kills are caused by many things—pollution, natural causes, diseases of various types and sometimes simply by water fluctuations.

Most shad kills result from severe temperature changes in water. These fish are affected by the slightest amount of pollution and even slight temperature changes.

Many fish die from diseases caused by bacteria, virus, water molds and parasites.

Parasites such as copepods (water animals) and glochidia (larvae stage of fresh water mussels) prey on the gills and bodies of fish, causing them injury.

There are also many types of internal parasites that prove the undoing of fish.

Most common fish diseases in Georgia are Columnaris, red sore, fungus diseases, fin rot, external parasites, blood and virus diseases.

Columnaris, a bacterial disease most commonly found in summer, is one of the leading fish destroyers in the state. This infection causes sores on the body of the fish

and is recognized by the "cotton" inside the affected fish's mouth.

Red sores caused by a bacterial infection are one of the most gruesome diseases found anywhere. It causes unsightly sores and boils that are repulsive to fishermen. Fish that are severely infected will have pinkish skin with hemorrhages under the skin. This particular infection is most common in spring and fall.

Fungus diseases usually occur following epidemics of bacterial diseases. This type of infection also may be found among fish that have sustained injuries or have been handled extensively. It causes a greyish or brownish growth, usually fuzzy, from the affected spot.

Fin rot is another gruesome and unsightly fish disease. While it does not appear as cancerous as red sores, it causes a progressive degeneration of fish fins and sometimes is so bad that it is almost too gruesome to see. Fin rot is caused by a bacteria and may turn up during any part of the year.

External parasite, too, take their toll of game fish that could wind up on the stringer of some happy fisherman. These parasites are hard to see and usually show up as little black specs on the gills or fins of fish.

Kidney ailments, anemia and various nutritional diseases are more common in brown, brook and rainbow trout than other varieties found in Georgia.

Anemia is more a symptom to disease than a disease in itself. Any factor that lowers the resistance increases the possibility of disease. Anemia is one of the leading causes of low resistance.

Ichthyophthirius is another fish crippler but, unlike many of the other diseases, is difficult to treat. Fish infested with this disease may show signs of distress by rubbing on the bottom of a lake or pond. Its body may have grayish-white pimples or irregular patches. During the disease's later stages, the fish may become sluggish and lie quietly at the edge of the lake or pond.

The State Game and Fish Commission will soon be equipped with the facilities to investigate and possibly eliminate almost all types of fish diseases.

An ultra-modern laboratory is under construction at Fort Valley. The new edifice with its scientific equipment will be the headquarters for the Commission's fishery research unit.

This will mean bigger and healthier catches for Georgia anglers through modern fishery management.



Six-year-old Mickey Murphy of Atlanta and Smokey the Bear get along famously.



KIDS

Kids are fascinated by wildlife.

And, Nature's wild creatures seem to show affection for kids.

This was dramatically proven at the State Game and Fish Commission's outdoor exhibit during National Wildlife Week.

Smokey the Raccoon captured the show, but the entire menagerie appealed to the children. From crib-sitters to near-grown thumbsuckers, all enjoyed the unrehearsed antics of the native Georgia game and fish displayed by the Commission's Education and Information division.

The exhibit was erected for a purpose — to emphasize the theme of Wildlife Week "Multiple Use of our Natural Resources."

Included in the exhibit was a waterfall that supplied water for a lake, teeming with bass, bream and shell-crackers; Georgia's native game in their natural environment; a properly equipped boat from the Commission's water safety unit; Smokey the Bear, emphasizing the hazards of forest fires and an exhibit from the State Parks Department.

But the animal stole the show, as far as kids were concerned. While they may be too young to understand the complexities of conservation, they were all willing to admit that animals are fun whether they hunt them or not.

Smokey the Raccoon likes vanilla wafers and finds friend in Atlantian Stanley Hurder, 10.

Opposite page: "Ohhhhh! Just listen to him hiss!" Albert the Alligator fascinates and scares these children.

Linda Davis, 8, of Atlanta, finds
mounted trophy buck almost alive.

nd wildlife



—Photos by Darrell Thompson



Fishing Flies for Georgia Trout

Trout referred to in this article are the cold water fish found in the north Georgia mountains. They are not the coastal Sea Trout (weakfish) or the south Georgia green trout, the name some anglers gives basses of the sunfish family.

HISTORY

Fly fishing is a very old sport. Earliest records on angling for trout with wet and dry flies date back to around 400 B.C. in Macedonia. When Roman Legions captured this area, fly fishing was one of the top sporting events. The idea spread into other countries and was soon discovered by the Franks, Gauls, Normans and Celts.

Fly fishermen through the years have developed four principal ideas of approaching wily trout. They are with (a) attracters, a fly that does not represent anything but aggravates the fish for a strike; (b) deceivers, flies that represent a "goody" so trout are usually willing to gulp them down. These flies usually represent water insects; (c) sunken flies, which are fished on the bottom of a stream. This type is usually an attracter; and, (d) floating flies, which are fished on the surface and can be considered deceiver flies.

TROUT FOODS



Stone Creeper

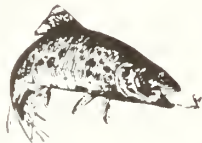


Caddis Worm



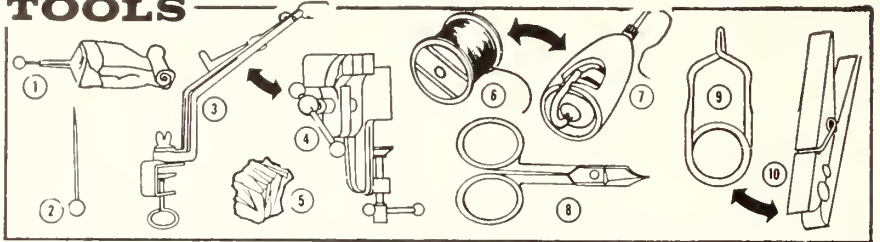
May Fly (Dunn)

Trout are coldwater fish. This means that, during the winter months, they do not slow down their feeding habits. A trout's winter food supply comes in the form of three ancient insects: stone creepers, caddis and may flies. The stone creeper is an insect found in swift streams, usually hanging



to the bottom of rocks. The caddis fly, or stick bait, lives in drifts, clinging to submerged sticks and stones. May flies closely resemble the stone creeper in the nymph stage. They are considered a real delicacy by trout. During hatching, the nymph comes to the surface, sheds its old skin and takes on its flying stage of development. Trout may be seen during this period leaping from the water to feed on this insect. During warm weather, trout feed on ants, minnows, crayfish and many forms of land life.

TOOLS



Many of the tools for fly tying can be found around the house.

(1) Plastic airplane model cement has a tendency to melt nylon tying thread and thus makes a good bond.

(2) Straight pins, taken from a new shirt, are used to pick out wrapped down hackles and open cemented eyes on hooks.

(3) Fly tier's vise.

(4) A shop vise can substitute but

requires considerably more work space.

(5) Bee's wax waterproof thread.

(6) Nylon thread, the smaller the size the better.

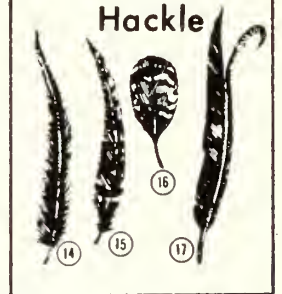
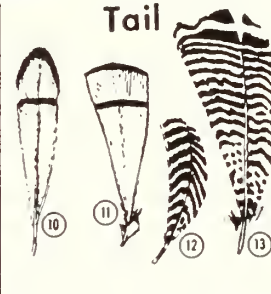
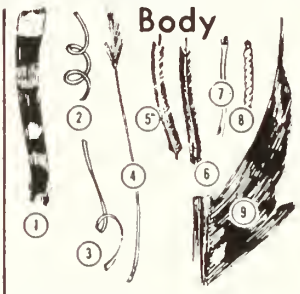
(7) Bobbin holds thread and makes neater wrappings.

(8) Cuticle scissors for cutting.

(9) Commercial pliers for many jobs.

(10) Clothes pins sometimes substitute for pliers.

MATERIALS



Every fly tyer should have the following materials:

(1) Squirrel hair.

(2) Size .025 lead wire.

(3) Tinsel, size .015.

(4) Hackle stem, stripped and flattened, makes a good insect body imitation.

(5) and (6) Peacock and Ostrich plume for wooly worm types of bodies.

(7) Silk floss makes a smooth, glossy body, which is usually wrapped with tensil.

(8) Wool.

(9) Turkey tail.

(10) Lady Amherst Pheasant, white

and black barred.

(11) Golden Pheasant, yellow, gold, black barred.

(12) Teal or Mallard duck feathers.

(13) Wood or Mandarin duck feathers.

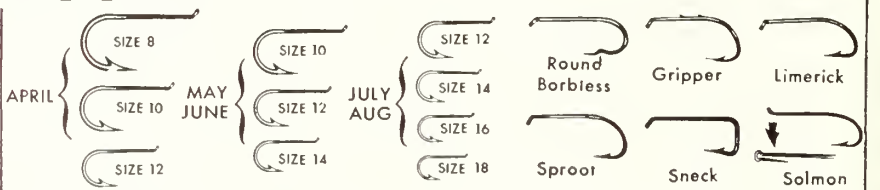
(14) and (15) Rooster hackle, taken from three-year-old bird. Hackles are found on the neck and side or saddle.

(16) Partridge or grouse hackles.

(17) Yellow hammer, English Plover or Scotch Grouse Pointer quills. These should be soaked overnight, stripped and split.



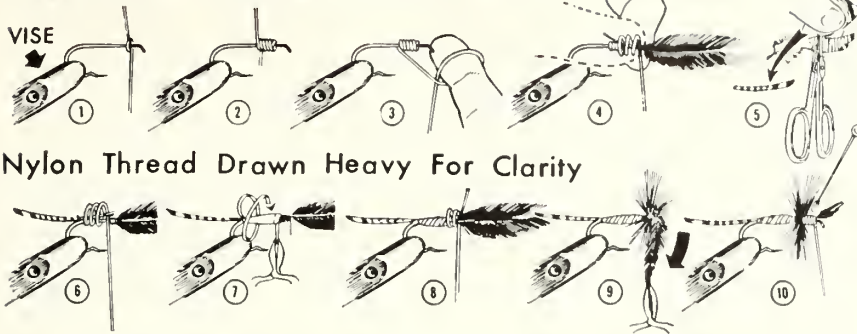
HOOKS



The best makes of hooks for fly tying are those manufactured by the English and Norwegians. Ordinarily, hooks made in the United States are soft tempered and do not come in the desired bend and size. The first three columns give an idea of what size hook to use

in a given month on six to nine-inch trout. Usually larger hooks are used in high water. Although every angler has his own idea on what shape of hook to use, the round bend ones are more commonly used.

TYING THE DRY FLY

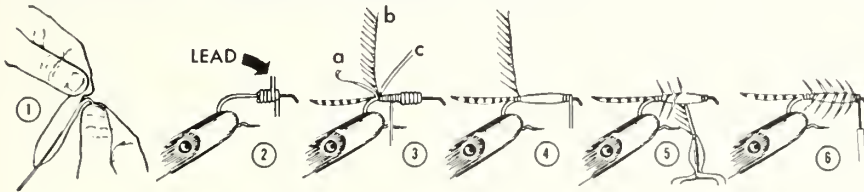


To tie dry flies, an angler should follow this procedure:

(1) Place hook in vise. Make one turn clockwise with waxed thread. (2) Make four more winds, keeping the nylon thread in neat ovals. (3) With index finger, make loop in thread and tie down. Two or three of these knots should be made after each step to keep the fly from unraveling. (4) Take a rooster hackle and wrap three turns around the base of the feather. Pinch it with your left thumb and index finger. Draw the thread tightly around the hook. Take several more turns of thread

and knot it as in Step 3. (5) Cut tail piece from feather. (6) Tie down as in Step 4. (7) Wrap wool clockwise on two-thirds of the hook. (8) Then, wrap tinsel over the top of the wool to give it a ribbed effect. (9) Grasp end of hackle with pliers or clothes pin and wind clockwise until most of hackle is used up. (10) Tie hackle tip down with thread and knot it several times to secure the fly. Apply several coats of cement. The cement will tend to melt the thread and form a firm head on the fly. Two or three hackles may be tied to give the desired color effect.

TYING THE WET FLY



Wet flies are tied in the following manner:

(1) Soak pointer quills overnight to soften them. Then, split back fibers off, leaving some of the quill for support. (2) Wrap lead wire around hook as illustrated. WARNING: do not use more than THREE OR FOUR turns of wire. In fly casting, the weight of the line, not the lure, assists in the cast. A heavy lure is uncontrollable and often dangerous. Follow steps One, Two,

Three, Five and Six in tying the dry fly. (3) Tinsel is tied down, then the back fibers of the pointer quill. Be sure to leave enough base to hold the fibers. Wool is tied down. Wrap thread around the lead to give a body shape. Tinsel is then wrapped around the hook and tied down. When this has been done, wrap with wool and (4) tie. (5) Wind down the pointer quill and (6) tie. The head of the fly is then cemented down as in the dry fly.

A leader is the connector between the line and hook. In Georgia, trout streams are usually fairly small so a three or four-foot leader is sufficient to fit most occasions. On larger streams, such as the Chattahoochee and Chattooga Rivers, six to nine-foot leaders are a good bet. The reason for tapered leaders is to have a thorough tapered flow for easy casting and to have the smallest size of nylon next to the fish.

The illustration pictured on this page shows the minimum size leader for hot, summertime small stream fishing. Trout are usually shy during the hot weather, low water period so nylon is recommended.

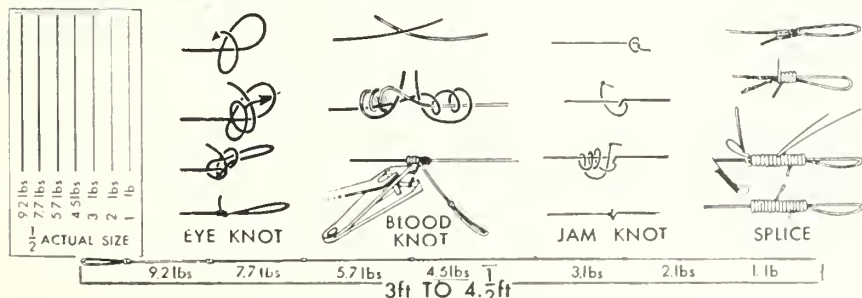
The knots pictured are standard leader knots. The eyeknot is a non-slip direct pull knot. The blood knot is the best connector that has ever come along. The two dangles make good droppers for using two or more lures. Fingernail clippers are the best thing for close trimming of knots. The splice is for loops on the end of fly lines. It works best on small and tapered lines. Large lines make it too bulky.

IN CONCLUSION

To catch a fish on a lure, particularly one you have made yourself, gives you a feeling of personal accomplishment. It is not just taking something home to show the folks, but a genuine feeling of accomplishment when you have outwitted a clever creature like the shy and spirited trout. To catch such a wily little fellow demands all the tricks of the trade—spying, stalking, and a great skill for casting. All of these things combine to make fly fishing for trout one of the greatest outdoor sports.

Fly fishing has lost popularity over the years due to the high cost of the lures. But with the do-it-yourself age came a new outlook for a bright and prosperous future. All it takes is a few squirrel tails from last fall's hunts and a visit to the hen house to borrow feathers to put you in a very enjoyable business.

LEADERS





Flint River BASS

By BOB SHORT

I asked C. B. Cox, the shooting preserve operator from Camilla, to show me where I could find some Flint River "smallmouth" bass. He took me to a place just a few bends in the river from his place and introduced me to some of the finest fishing a man could ask for.

At the time, the experts were disagreeing over our quarry. Some said it was a true smallmouth bass, while others insisted it was an offspring of the famed Chipola River bass. Dr. Reeve Bailey, the coosae expert, positively identified it as the Coastal Plain Coosae (redeye).

Regardless of what you call it, this Flint River bass is worth looking up. They grow up to eight pounds and fight with amazing strength, resisting every inch from the time they take the lure until they are on a stringer. The most amazing thing about them, however, is that they are caught consistently and do not have the stubborn traits of their largemouth cousins.

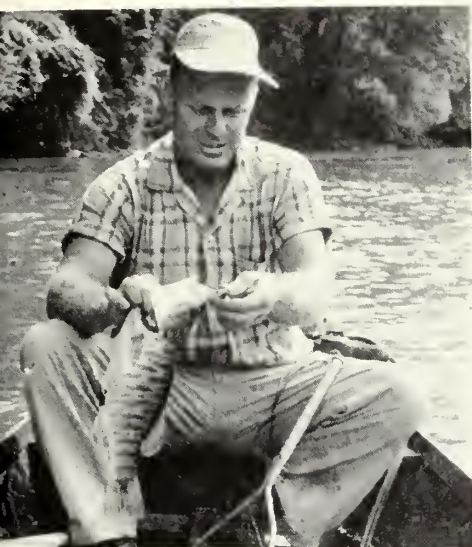
Although there is no particularly "best" time to fish for the famed fighters, both C. B. and Fishery Biologist Howard Zeller recommend the months between October and January, when the river is low and clear.

Any type of bait seems satisfactory. Many anglers use plugs, while others are equally successful with plastic worms and live bait.



...almost in!

Donald Hays, RFD 1, Camilla, Ga., lands a five-pound Coosa on the Flint River. Note distinctive markings of Coosa bass. Picture was used under microscope for scale count and positive identification.



Jim Carson, Atlanta, nets one for C. B. Cox, owner of Riverview Quail Preserve, Camilla.





The RUBAIYAT of AMERICAN WILDLIFE

By GUY G. GERMANO*

Still shines the sun that years ago beheld
Abundant fauna on the American veld,
Spread gen'rous warmth on game and plants below
So habitat and balance be upheld.

The wondrous game that in glad yesteryear
Was wont to grace our prairies and frontier
Is well-nigh gone, and so are they who slew
It needlessly, nor shed a penitent tear.

God's creatures roamed our land from north to south,
Rested on lakes, wallowed in river mouth,
Darkened the skies in migratory flight,
Or sought green pastures to escape the drought.

The bison, monarch of the western plains,
By millions roamed in search of grass and rains,
Frightened the countless antelope that grazed,
Moved north and west to ease their growing pains.

Passenger pigeons in their awesome way
In flight were wont to make a night of day;
Wild geese and ducks were legion in the sky,
White crane and heron on the flats held sway.

The wolf and grizzly haunted bison flanks,
Sniped snow-mired moose and caribou in the shanks;
The wolverine in his pernicious way
On the unlucky played voracious pranks.



—U. S. Forestry Service Photo by Donald O. Todd



Oregon Game Commission

While bighorns on the rocky crags and peaks
 Raised fruitful flocks on guard against such sneaks
 As predatory cougar, coyote, lynx,
 Which, lurking 'round, to ease his hunger, seeks.

And mountain goats in dress of snowy white,
 With beard and horns were a most thrilling sight
 In habitat where elk is tyrant prince,
 And vigor, size and strength determines right.

Sleek, busy beavers dammed the lowland streams,
 Deer by the million—as in sportsmen's dreams;
 Wild turkey, boar, the black bear and the fox—
 All shared the wildlife paradise, it seems.

Rabbits and squirrels—like leaves upon the trees;
 Plump dove and quail—like swarming hives of bees;
 So were they then, before the *onslaught* came;
 But now, where does one see the like of these?

Look: grouse and martin, mink and prairie chicken
 So numerous to make the sport heart quicken;
 Plus walrus, musk ox, brown and polar bear;
 Once gone, will not our puny conscience sicken?

Such was the North America of yore
 With unpolluted stream and clean lake shore.
 Wild fowl and game in generous supply—
 Now disappearing, to be seen no more?

For, as the growing, greedy centuries turned
 Prairies were lacerated, forests burned,
 The mountains tunneled and the rivers spanned—
 Too little for *earth's* future has man yearned.

As fact-ries spring and railroads cross the plain,
 Shacks, mines and lumber camps mar the terrain;
 Dark smoke and fumes pollute the once-pure air,
 Foul chemicals add poison to the rain.

Our wildlife of the air, or stream, or field
 Had, inch by inch, its habitat to yield;
 Were sacrificed in name of "progress," "growth"—
 The need for restoration stands revealed.

Still shines the sun, but it may shine still less
 On majesties and fauna of wilderness:
 Our heritage wanes, may be full-spent, except
 Widespread game management we now impress.

* Author of articles or verses in *Education*, *Georgia Game and Fish*,
Pen, *The Hunter's Horn*, *North Dakota Outdoors*, *Tennessee Conser-*
vationist, *School Executive's Magazine*, *Guns and Hunting*.





Angler snags big 'un in quiet cove.

Lake SEMINOLE

KEY TO PUBLIC FISHING WATERS

- FISHING CAMP, WITH BOAT RENTALS, FISHERMEN FACILITIES AND LAUNCHING RAMPS.
- HARD SURFACE BOAT LAUNCHING RAMPS.
- OTHER BOAT LAUNCHING RAMPS.
- PUBLIC ACCESS TO WATER. NO LAUNCHING RAMPS.

— HARD SURFACED PAVED ROADS.

- - - IMPROVED ROADS.

..... UNIMPROVED ROADS.

1 0 1 2
SCALE IN MILES



Lady Luck helped land 6½-pound largemouth.

Small fry finds
two pounder big.



Fishermen can cast for bass from one side of their boat and spin for bream from the other in Georgia's newest and best year 'round fishing heaven.

Perhaps this is stretching the point just a little, but 37,500-acre Lake Seminole is known throughout the state for its fantastic bass and bream populations.

Fish make a habit of going early to bed and rising early in the lake, located in the semi-tropical climes of southwest Georgia where the Flint and Chattahoochee Rivers merge.

It is a shallow lake, compared to others in the state. This accounts for the excellent bream fishing found there all year long. Bream beds are not measured in feet at Seminole, but in acres.

Bass start hitting a little earlier here than in the more northern lakes. Best catches are made during April and May, but good to excellent bass fishing extends on into fall and early winter.

Average weight of Seminole black bass is not known,

ishing HOT SPOT



Veteran guide Floyd Miller helped land these beauties.

but confirmed reports of 10 and 14-pound-plus bass have been received. Earlier this year, an unconfirmed report of a 15-pound, four-ounce largemouth was delivered to the home office of the Game and Fish Commission in Atlanta.

An avid angler armed with flyrod and popping bug can devastate the bream during the spawning season of April, May and June. Acres and acres of shallow, grassy flats make up the bream's nursery during that period and those seeking their first limit of 70 panfish can usually fulfill that wish in a day's outing.

It is these beds, however, that the angler would do well to mark for future reference.

Largemouth bass make early morning, evening and night raids upon these spawning areas seeking food in whatever shape or form they can get it.

Wise fishermen, after having marked the beds with luminescent tape attached to a nearby tree so they can find it with the aid of flashlight after dark, return to the area and ply the waters with noisy, top-water plugs.

It is in Lake Seminole, too, that anglers weary of hauling in bass and bream can seek out the hiding places of the chain pickerel, better known as "jack."

The large acreage of grassy flatlands averaging from two to four and one-half feet in depth literally swarm with these streamlined fighting fish. "Jack" of 24 to 30 inches in length continually fill up the boat wells.

Local anglers have found the silver spoon and pork-rind combination to be the best lure for these fish. By holding the rod tip high and reeling like crazy, the angler can make even the most lazy of this clan rush forward with tooth-filled jaws agape and strike.

White bass make their homes in this lake, too, going on their spawning runs in April when anglers make their best catches. However, quite a few are caught year 'round.

—Continued on page 24



Farm POND



By WAYNE THOMASTON and PHILLIP PIERCE

Fishery Biologists

The fisherman cast his spoon far out into the pond, waited a few moments and started his retrieve. Seconds later, he raised his rod tip sharply and exclaimed, "I've got a strike!"

The "strike," however, did not behave like a fish. It came in slowly, without offering the slightest amount of battle.

The angler's face wrinkled in disgust and he muttered a few choice epithets as he saw the "coontail" moss dangling from the treble hooks of his lure.

This poor fisherman suffered from an angler's headache that occurs numerous times each year. There's no doubt about it, weeds are the bane of the fisherman's existence.

Fisheries biologists of the Georgia Game and Fish Commission realize this and are busy all year attempting to control weed problems in farm ponds and small lakes throughout the state.

The job, however, is much more complicated than it may seem. The problems are so great in many instances that they are almost uncontrollable. For that reason, subduing obnoxious water weeds has become an important research objective in the Commission's program of ferreting out methods of simple, effective control.

There are least ninety-four varieties of aquatic plants found in Georgia water. These include such weeds as "coontail" moss, parrot feather, needlerush, water lillies, bullrush, cattail, spike rush, duck weeds and some species of water hyacinth.

All types of water weeds are undesirable. Not only do they interfere with fishing, but they also foster breeding of mosquitoes, hide little bluegills from carnivorous bass, thus causing an unbalanced fish population, and they use up the pond's fertility.

Basically, leafy water plants are divided into three classifications.

1. *Submerged weeds*—those that grow below the water surface. Fertilization goes a long way toward starving out this type. If not, chemicals are available to do the job.



WEEDS

2. *Emergent weeds*—this type either grows or stands above the surface of the water.

3. *Floating weeds*—this type is not rooted to the bottom. They float freely upon the surface of the water.

There are many ways to control water weeds. The first method of control comes when the pond is constructed. Builders should eliminate shallow edges and marshy conditions. The pond's edge should be deepened to at least two feet.

Builders should also cut brush and trees from the pond's edge to assure unhampered wind action. The edge should also be mowed or grazed to keep undesirable growth out of the water.

Weeds also become a problem in ponds that are not properly fertilized. Clear ponds almost always contain weeds in all but the deepest water.

Fertilization causes the water to darken with heavy growth of tiny microscopic plant and animal life. This growth prevents sunlight from reaching the bottom of the pond. Sunlight is the pond's best friend.

Weeds usually get the upper hand and the pond's fish population is thrown out of balance if it is not fertilized properly and with the right amount.

The standard application of fertilizer is 100 pounds of 8-8-2, or 50 pounds of 20-20-5, for each surface acre of water. Ponds that receive nutrients from nearby pastures or groves, naturally, will not require as much as those that receive no assistance in this manner.

First application should be made during the first warm weather of spring, or around mid-February to early March in Georgia. If properly fertilized, the pond's color will become a green or brownish-green, due to the growth of tiny microscopic plants. If this change does not occur, further applications of fertilizer should be made every week or ten days until the brown or green cast appears.

Ponds should be fertilized whenever the water begins to lose its green or brown color or when it becomes clear enough for your hand or the pond bottom to be seen at a depth of 12 to 18 inches below the surface. This usually requires an application every three to five weeks until cold weather in the fall.

Too much fertilizer can be costly since it indirectly removes too much oxygen from the water during the night or on cloudy days and fish may die from lack of oxygen.

Many ponds have weed problems too tough for proper fertilization to handle. In this case, chemical control may be necessary.

Although chemicals are perhaps the best way to thwart weed growth, there is no perfect one on the market today—so great care should be taken to select the right one for the job.

Here's where fishery biologists come in. They are available for consultation by request. Georgia's staff of biologists have worked with chemical companies in the search for improved and economical ways of weed control.

No owner should attempt to rid his pond of weeds until he has consulted a fishery biologist or a major chemical company for the type of chemical to use and how to apply it.

Weeds get good dosage from Pierce as Thomaston guides boat.



Actually, game and fish provided them with the necessities of life. When their cupboards became bare they cleaned their shooting irons, filled their powder horns, packed their provisions and set out on the serious business of hunting down enough food—and maybe a buckskin coat or two—to see the family through a few hard weeks of uncertainty.

It is easy to see, then, that these honest, hardworking, sincere men of integrity were not conservationists. No need for conservation then. There was plenty of game and fish for everybody—a real good deal.

But, how long can a good deal like this last? Obviously, as the colony grew so did the problems. Cutting forests destroyed valuable wildlife habitat . . . plowing and farming led to erosion and overhunting threatened to eliminate the abundance of animals and fish that, at first, seemed to be an endless supply.

So, these early Georgians, thinking ahead, laid the groundwork for an understanding referee between the hunter and the hunted and, in doing so, organized the first regulatory conservation program.

Many of today's hunters don't realize it, but they enjoy the benefit of a sound, well-rounded conservation program. Wildlife and fish are managed scientifically and their numbers increased through many programs that benefit today's hunters and fishermen.

Habitat improvement, reseeding depleted areas, curbing wildlife diseases, introduction of new species—all these factors dramatically add to the pleasure of today's sportsmen.

There were no such programs in Colonial times.

Of course, simply having a conservation program without proper protection of animal and fish life is not effective. For that reason, Georgia's wildlife resources are protected from over-exploitation by a trained force of wildlife rangers. These dedicated men enforce the laws deemed necessary to conserve wildlife by the State Game and Fish Commission.

During the past decade, the Commission has been an understanding and helpful referee between these hunters and the hunted. Its foresighted thinking and understanding of the state's conservation problems have resulted in a concise, progressive program of game and fish management in every nook and cranny of the state.

The Commission, with the help of the Georgia General Assembly, laid the groundwork for a constructive enforcement program in the mid-fifties when it completely reworked the state's conservation laws and adopted a clearer code for sportsmen, eliminating antiquated laws and adding those needed to insure game and fish for future generations.

The commission's boldness in accepting recommendations from its staff of skilled biologists over public protest curbed management problems in many areas and set a precedent that will surely result in more liberal game and fish laws in years to come.

The Commission, the many skilled game and fish technicians and a cooperative public played a vital role in the progress pictured in this special salute to conservation during a delightful ten years that saw Georgia's con-

servation program gain a prominent place among the great programs of the nation.

Enforcement of Georgia's game and fish laws really got rolling around 1950 when, for the first time in history, wildlife rangers were issued the proper equipment to do their jobs. Before that time, a ranger patrolled his assigned territory in whatever transportation he might have — a horse, a motorcycle, his personal "Sunday" car, a buckboard. In short, he made little contribution to the state's conservation program. But this was not his fault.

A ranger was lucky to arrest three or four violators a month under those circumstances and when he did, the courts usually failed to indict them. It's no secret that during this period, wildlife rangers were unpopular among the state's hunting and fishing public. This situation, fortunately, does not exist today.

Public understanding and a thorough training program has made today's wildlife ranger an asset to any county. He is closely supervised, has modern equipment and is dedicated to his job.

With the coming of the State Merit System came a new frontier in wildlife enforcement. More capable men, selected by a firm and effective testing system, joined ranks as wildlife rangers. They were better educated but, more important, are much more than political appointees who serve at the pleasure of local politicians. They are, indeed, career men with assurance that as long as they perform their job adequately they will keep.

Fish management progress saw the creation of many new programs that will benefit, not only today's fisherman, but those yet to come. Research projects, like the recorded. This opened the door for improved Fish Management Techniques.

SEMINOLE—Continued from page 21

Seminole has a wider variety of fish and a greater number of distinct species than any other of Georgia's lakes.

Eleven different species of game fish, plus three varieties of catfish are found living here.

And biologists are planning an intensive study this summer on another popular fish—the striped bass—which may turn the lake into a bonanza like South Carolina's Santee-Cooper reservoir chain.

Biologists' studies have revealed that these fish spawn in tributaries of Seminole, such as Spring Creek, and the young stripers are trapped in the lake.

An occasional fish is taken in the lake now at sizes up to 40 pounds. Biologists are optimistic to say the least that this species will become landlocked in time.

Seminole further attracts anglers with the fact that there are no less than seven fishing camps on the lake. These facilities include boat rentals and launching ramps.

Another fact is called to the attention of the lake's veteran fishermen and future anglers. Seminole has yet to reach its potential as far as fishing is concerned. In other words, the fishing peak has not been attained.

Seminole is legend among south Georgia fishermen. If its fishing continues to improve, it will soon become the same to every angler.

Fisheries work has made great strides during the past ten years, but few people fail to recognize the advances made in the fields of fishery research and development.

A decade ago, Georgia had only scratched the surface in scientific fishery management; the state was grossly understaffed with biologists and the public was not aware of the needs of fish management.

New methods, however, soon converted a poor program into a good one with fishery biologists available for consultation to private landowners and always eager to improve the fishing conditions in large lakes and reservoirs.

This they have done through many Dingell-Johnson and state-financed programs of fishery research and development.

Establishment of more public management areas and a splendid waterfowl area for migratory birds were the big achievements in game management. In addition, the Southeastern Cooperative wildlife disease study came into being and brought with it a new frontier in conservation.

In the field of public information and education, new programs aimed at keeping Georgia's hunters and fishermen enlightened and to inform them of the state's conservation program.

The state's trout fishing program doubled, almost tripled, during this decade. This was helped along considerably by the complete renovation of the Lake Burton hatchery. The Commission is now producing more trout than ever before.

So, conservation is a big word with a multitude of meaning. And, a big job with a multitude of purpose.

This has been a brief summary of progress made by the department during the "fabulous fifties." I personally wish that space would allow a complete discussion of every accomplishment of the department. But, of course, this is impossible.

The best way to measure the past decade in terms of game and fish management is to simply look around you and see the things that have Georgia a good place in which to live, to hunt and to fish.



Left: Two-way radios help rangers. Center: Georgia's old quail hatchery. Right: Rangers' appearances have changed, although fish traps haven't.

1961 TROUT SCHEDULE

BLUE RIDGE MANAGEMENT AREA

ROCK CREEK (Except Mill Creek)

Directions from Atlanta: Go to Dahlonega, travel 3 miles on U. S. Highway No. 19, turn left on Camp Wahsega Road, go 7½ miles to Three-Notch Gap, turn right and go 3½ miles to Cooper's Gap, turn left and go 4 miles to Hightower.

May	Saturdays & Sundays—6-7, 13-14, 20-21, 27-28
June	Wednesdays & Thursdays—7-8, 14-15, 21-22, 28-29
July	Saturdays & Sundays—1-2-4, 8-9, 15-16, 22-23, 29-30
August	Wednesdays & Thursdays—2-3, 9-10, 16-17, 23-24, 30-31
September	Saturday, Sunday & Monday—2-3-4

NOONTOOTLEY CREEK

Directions from Atlanta: Go to Dahlonega, travel 3 miles north on U. S. No. 19, turn left on Camp Wahsega Road, go 7½ miles to Three-Notch Gap, turn right and go 3½ miles to Cooper's Gap, turn left and go 8 miles to Winding Stair Gap, turn right and go 3 miles to checking station.

May	Wednesdays & Thursdays—3-4, 10-11, 17, 18, 24-25
June	Saturdays & Sundays—3-4, 10-11, 17-18, 24-25

July	Wednesdays & Thursdays—5-6, 12-13, 19-20, 26-27
August	Saturdays & Sundays—5-6, 12-13, 19-20, 26-27

JONES CREEK REFUGE OR LOWER BLUE RIDGE AREA NIMBLEWILL CREEK

Directions from Atlanta: Go about 9 miles west of Dahlonega on Highway No. 52, turn right at Grizzle's Store, go 3 miles to Nimblewill Church, turn right at church, and go 2 miles to Jones Creek Checking Station.

May	Saturdays & Sundays—6-7, 13-14, 20-21, 27-28
June	Saturdays & Sundays—3-4, 10-11, 17-18, 24-25
July	Saturdays & Sundays—1-2, 8-9, 15-16, 22-23, 29-30
August	Wednesdays & Thursdays—2-3, 9-10, 16-17, 23-24

JONES CREEK

Directions from Atlanta: Go about 9 miles West of Dahlonega on Highway No. 52, turn right at Grizzle's Store, go 3 miles to Nimblewill Church, turn right at church, and go 2 miles to Jones Creek Checking Station.

May Saturdays & Sundays—6-7, 13-14, 20-21, 27-28
 June Saturdays & Sundays—3-4, 10-11, 17-18, 24-25
 July Wednesdays & Thursdays—4-5-6, 12-13, 19-20, 26-27
 August Wednesdays & Thursdays—2-3, 9-10, 16-17, 23-24
 September Saturday, Sunday & Monday—2-3-4

MONTGOMERY CREEK

Directions from Atlanta: Go about 9 miles West of Dahlonega on Highway No. 52, turn right at Grizzle's Store, go 3 miles to Niblewill Church, turn right at church, and go 2 miles to Jones Creek Checking Station.

May Wednesdays & Thursdays—3-4, 10-11, 17-18, 24-25
 June Wednesdays & Thursdays—7-8, 14-15, 21-22, 28-29
 July Saturdays & Sundays—1-2, 8-9, 15-16, 22-23, 29-30
 August Saturdays & Sundays—5-6, 12-13, 19-20, 26-27

CHATTAHOOCHEE AREA

CHATTAHOOCHEE & SPOIL CANE CREEKS

Directions from Atlanta: Travel $\frac{3}{4}$ of a mile North from Robertstown on Highway No. 75, then cross the river bridge, turn right and travel $\frac{1}{2}$ mile north to Chattahoochee River Checking Station.

May Saturdays & Sundays—6-7, 13-14, 20-21, 27-28
 June Wednesdays & Thursdays—7-8, 14-15, 21-22, 28-29
 July Saturdays & Sundays—1-2-4, 8-9, 15-16, 22-23, 29-30
 August Wednesdays & Thursdays—2-3, 9-10, 16-17, 23-24, 30-31
 September Saturday, Sunday & Monday—2-3-4

DUKES CREEK

Directions from Atlanta: Travel $\frac{3}{4}$ of a mile North from Robertstown on Highway No. 75, then cross river bridge, turn left, travel 3.2 miles West to Dukes Creek Checking Station.

May Wednesdays & Thursdays—3-4, 10-11, 17-18, 24-25
 June Saturdays & Sundays—3-4, 10-11, 17-18, 24-25
 July Wednesdays & Thursdays—4-5-6, 12-13, 19-20, 26-27
 August Saturdays & Sundays—5-6, 12-13, 19-20, 26-27
 September Saturday, Sunday & Monday—2-3-4

SMITH CREEK & McCLURE CREEK

Directions from Atlanta: Turn right in Robertstown on Unicoi Park Road, travel 3.1 miles East to head of Unicoi State Park Lake to Smith Creek Checking Station.

May Wednesdays & Thursdays—3-4, 10-11, 17-18, 24-25
 June Saturdays & Sundays—3-4, 10-11, 17-18, 24-25
 July Wednesdays & Thursdays—5-6, 12-13, 19-20, 26-27
 August Saturdays & Sundays—5-6, 12-13, 19-20, 26-27

CHESTATEE AREA

DICKS & WATERS CREEKS

Directions from Atlanta: From Dahlonega travel North 15 miles on Highway No. 19, turn left and go $2\frac{1}{2}$ miles to Checking Station.

May Saturdays & Sundays—6-7, 13-14, 20-21, 27-28
 June Wednesdays & Thursdays—7-8, 14-15, 21-22, 28-29
 July Saturdays & Sundays—1-2, 8-9, 15-16, 22-23, 29-30
 August Wednesdays & Thursdays—2-3, 9-10, 16-17, 23-24, 30-31
 September Saturday, Sunday & Monday—2-3-4

BOGGS CREEK & CHESTATEE RIVER

Directions from Atlanta: From Dahlonega travel North $15\frac{1}{2}$ miles on Highway No. 19 to Turner's Corner Checking Station.

May Wednesdays & Thursdays—3-4, 10-11, 17-18, 24-25
 June Saturdays & Sundays—3-4, 10-11, 17-18, 24-25
 July Wednesdays & Thursdays—4-5-6, 12-13, 19-20, 26-27
 August Saturdays & Sundays—5-6, 12-13, 19-20, 26-27

LAKE BURTON MANAGEMENT AREA

WILDCAT CREEK

Directions: Go to Clarkesville, take Highway No. 197 past

LaPrade's Camp and pass the first creek, go to the top of the first hill, turn left, travel to checking station where permits may be secured for Wildcat Creek.

May Saturdays & Sundays—6-7, 13-14, 20-21, 27-28
 June Wednesdays & Thursdays—7-8, 14-15, 21-22, 28-29
 July Saturdays & Sundays—1-2-4, 8-9, 15-16, 22-23, 29-30
 August Wednesdays & Thursdays—2-3, 9-10, 16-17, 23-24, 30-31
 September Saturday, Sunday & Monday—2-3-4

MOCCASIN CREEK

Directions: Go to Clarkesville, take Highway No. 197 past LaPrade's Camp and pass the first creek, go to the top of the first hill, turn left, travel to checking station where permits may be secured for Moccasin Creek.

May Saturdays & Sundays—6-7, 13-14, 20-21, 27-28
 June Saturdays & Sundays—3-4, 10-11, 17-18, 24-25
 July Wednesdays & Thursdays—5-6, 12-13, 19-20, 26-27
 August Saturdays & Sundays—5-6, 12-13, 19-20, 26-27
 September Saturday, Sunday & Monday—2-3-4

DICKS CREEK

Directions: Go to Clarkesville, take Highway No. 197, travel past Lake Burton Fish Hatchery to the first creek where permits may be secured from the State Wildlife Ranger.

May Wednesdays & Thursdays—3-4, 10-11, 17-18, 24-25

WARWOMAN AREA

TUCKALUGE CREEK & FINNY CREEK

Directions from Atlanta: Go to Clayton on Highway No. 23, turn right on Highway No. 76 and go only one block, then turn left on Warwoman Road and go $3\frac{1}{2}$ miles to Checking Station which is located at Finny Creek.

May Wednesdays & Thursdays—3-4, 10-11, 17-18, 24-25
 June Saturdays & Sundays—3-4, 10-11
 July Saturdays & Sundays—1-2-4, 8-9, 15-16, 22-23, 29-30
 August Wednesdays & Thursdays—23-24, 30-31

WALNUT FORK & HOOD CREEKS

Directions from Atlanta: Go to Clayton on Highway No. 23, turn right on Highway No. 76 and go only one block, then turn left on Warwoman Road and go $3\frac{1}{2}$ miles to Checking Station at Finny Creek.

May Saturdays & Sundays—6-7, 13-14
 June Saturdays & Sundays—17-18, 24-25
 July Wednesdays & Thursdays—5-6, 12-13
 August Wednesdays & Thursdays—2-3, 9-10, 16-17
 September Saturday, Sunday & Monday—2-3-4

SARAH'S CREEK

Directions from Atlanta: Go to Clayton on Highway No. 23, turn right on Highway No. 76 and go only one block, then turn left on Warwoman Road and go $3\frac{1}{2}$ miles to Checking Station located at Finny Creek.

May Saturdays & Sundays—6-7, 13-14, 20-21, 27-28
 June Wednesdays & Thursdays—7-8, 14-15, 21-22, 28-29
 July Wednesdays & Thursdays—5-6, 12-13, 19-20, 26-27
 August Saturdays & Sundays—5-6, 12-13, 19-20, 26-27
 September Saturday, Sunday & Monday—2-3-4

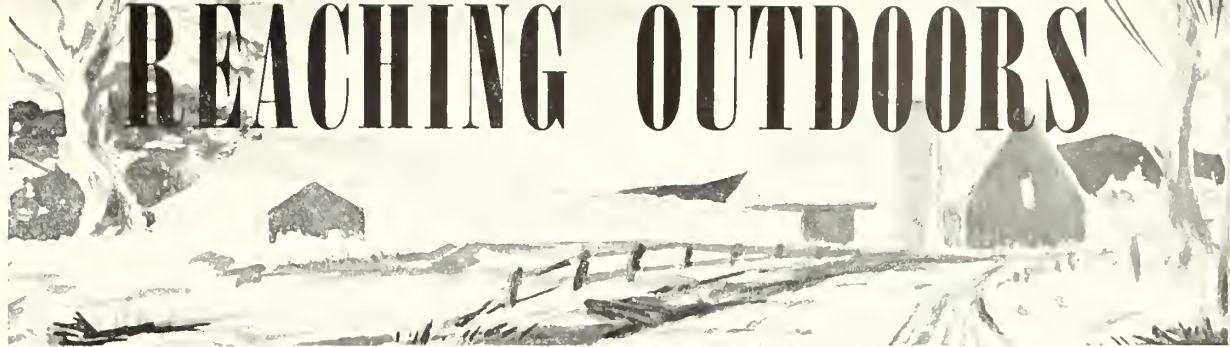
COHUTTA MANAGEMENT AREA

JACKS RIVER AND CONASAUGA RIVER shall be open for fishing from April 1 through September 15, 1961. No permits will be required on these streams.

DOCKERY LAKE

THE CHESTATEE AREA will be open to fishing on Dockery Lake only to children who have not reached the age of sixteen (16) between the hours of 1:00 P.M. and 6:00 P.M. on the following dates. No fees will be charged for the privilege of fishing on Dockery Lake.

June Saturdays—3, 7
 July Saturdays—1, 15
 August Saturdays—5, 12, 26



REACHING OUTDOORS

By BOB SHORT

Editor, Georgia Game and Fish

Farm Ponds win

POPULARITY POLL

A recent Game and Fish Commission survey reveals that over one-third of the fishing trips made by Georgia anglers are to farm ponds.

Of the 8,120 angling expeditions reported in a survey conducted by *Georgia Game and Fish*, 3,140 were made to one or more of Georgia's 40,000 farm lakes.

Large reservoirs finished second in the poll, closely followed by rivers and streams, trout streams and salt water.

A total of 2,251 trips to large lakes were reported by participating anglers and 1,691 junkets were made to rivers and streams during the six-month period covered by the survey.

While fishery biologists admit that the poll was too skimpy to offer any definite statistical data, they feel it gives an accurate picture of what Georgia anglers prefer in the way of fishing.

Just as everyone suspected, largemouth bass emerged the most popular sport fish, polling 38 per cent of the vote.

Bream (29 per cent), crappie (19), mountain trout (9) and other species (5) followed bass in the fish popularity contest.

Biologists attributed popularity of farm and neighborhood ponds to their accessibility and number.

This information, skimpy as it is, points out the fact that the Game and Fish Department is justified in expanding its farm pond management program. It also points up the need for maintaining properly managed fish hatcheries.

There's no doubt about it, the state's farm fish pond management program has grown by leaps and bounds during the past decade. Fishery biologists deserve a well-earned pat on the back for successfully teaching pond management and weed control to farmers and landowners. This has been the key tonic in the growth of farm pond fishing in Georgia.

Introduction of several species of game fish in Georgia reservoirs is certain to help angling and thus make the state even a better piscatorial spot.

Announcement of the release of white bass, sauger, walleyes and several forage fishes was greeted with loud hurrahs by anglers the state over.

The latest release, sauger, may well become a very popular game fish. It thrives in tail waters of reservoirs and is held in high esteem by anglers in other states.

The sauger is a peppy fish, although it does not attain a big size. The world's record is eight pounds, three ounces. The record smasher was taken in Garretson Reservoir in 1957.

In doing research for news coverage on the sauger, we ran into a complete list of world's records of all major game fish.

This is sure to settle a few arguments (and maybe create some):

The world's record northern pike was taken in Sacandaga Reservoir, New York, in 1910. The biggest walleye ever weighed scaled 25 pounds and was caught in 1960 in Hickory Lake, Tennessee.

Georgia claims the largest bigmouth bass, a 22-pound, four-ounce lunker taken from Lake Montgomery on a June afternoon in 1932.

Santee-Cooper Reservoir in South Carolina, famous for its landlocked striped bass fishing, surrendered the world's largest channel catfish. The monster weighed in at 57 pounds. It was taken in 1960.

Biggest blue cat ever caught was a 91-pound, six-ouncer hooked in South Dakota's James River. Santee-Cooper also yielded the record black crappie. It was caught in 1957 and weighed five pounds.

The world's record brown trout has stood up for many years. Lock Awe, Scotland, produced it in 1866, and the fish tipped the scales at 39 pounds, eight ounces. Biggest brook trout (the species native to Georgia) came from Nipigon River in 1916. It weighed 11 pounds, eight ounces.

Pend d'Orielle Lake, Idaho, surrendered the record rainbow trout, a 37-pound whopper caught in 1917. The large carp ever recorded came from Clearwater Lake, Minnesota, in 1952; the largest yellow perch from Bordentown, New Jersey (four pounds, three ounces, caught in 1916); the record white crappie, a five-pound, three-ouncer, came from Enid Dam, Mississippi, in 1957. Ketona Lake, Alabama, yielded the record blue gill (four pounds, 12 ounces) but the date it was caught remains unknown.



BLACK CRAPPIE

Black Crappie may be distinguished from White Crappie by different characteristics, such as lengths and composition of dorsal fins. Black Crappie has 7 or 8 dorsal spines and Whites have 6. Length of dorsal fin equal to distance to eye in Black Crappie while White Crappie has dorsal fin, the length of which, is less than distance to eye.

Crappie are one of Georgia's foremost sports fish, claiming attention and greater number of anglers on lakes and providing sport throughout the year. Many fishermen prefer crappie as a food, maintaining it excels in flavor and meat quality. Black Crappie are more widespread and found in most lakes and streams.

Popular Crappie

and confusing



WHITE CRAPPIE

Jigs are favorite Crappie lures in late winter and early spring. Minnows are popular bait. Fishing docks and piers, brush shelters are favorite fishing spots for Crappie anglers. Spawning season draws attention to more shallow waters. THE DAILY LIMIT IS FORTY.

Crappie are very similar in appearance, quite often thought to be same specie, an erroneous impression. One distinguishing difference is darker color and irregular spots on Blacks. White Crappie have distinguishable stripe pattern on sides.

GEORGIA GAME AND FISH COMMISSION
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IN THIS ISSUE

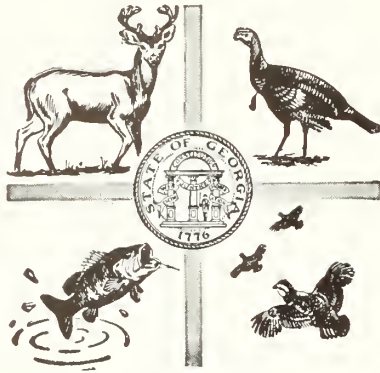
**WHERE—TO—GO
WHAT—TO—TAKE**

HUNTING EDITION

GEORGIA GAME AND FISH

Published twice annually by the Georgia Game and Fish Commission in the interest of wildlife and for fishermen, hunters, nature lovers, and conservationists.

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FULTON LOVELL

Editorials

By FULTON LOVELL

Director, Game and Fish Commission

TSI Multitude of Sins

The Knudson-Vanderburg Act, which is complete and invaluable in many ways, covers a multitude of sins.

Out of this legislation grew a project known as "Timber Stand Improvement."

Its application in southern forests has resulted in the destruction of great numbers of oaks, hickories, beeches and other hardwood trees that provide mast and food for many types of forest game.

The U. S. Forest Service, under the provisions of the act, has sold and will continue to sell vast amounts of hardwoods, using the profits to "improve" the government-owned forests.

Its program of tree girdling has been accepted in Georgia about like Atlanta greeted Sherman.

For you who are not familiar with this term, girdling is a process in which the forest service cuts a band around hardwood trees to eliminate them from the forest.

Naturally, this band disrupts the natural processes of the tree and as a result the tree dies.

Combined with the ill effects of the hinden moth in the North Georgia forests, this program has contributed greatly to the decrease of wildlife habitat.

Sooner or later, sportsmen will force the Forest Service into a clear explanation of this program. So far, it has been sugar coated with a mass of meaningless words. For that reason, the Forest Service must someday face up to its sins. That day is not far off.

Field and Streams Are Tourist Paradises

The golden fields of Georgia, her rich woodlands, lakes and streams have captured the fancy of the out-of-state hunters and fishermen.

Wise use of these outdoor havens by visitors should be encouraged by every one of us. Tourists mean dollars and dollars mean a more prosperous Georgia.

Georgia has much to offer the tourist. Besides excellent hunting and fishing, historical sites, state parks, the Golden Isles and thousands of other attractions make visits here pleasant, educational and worthwhile.

The state has done a magnificent job of attracting industry. However, greater strides are needed to induce tourists and keep them in Georgia for longer periods.

Deer Face Food Shortage

The State Game and Fish Commission is gravely concerned over the critical food shortages that plague Georgia's deer herd. To help solve the ever-increasing problem, the Commission constantly increases food patches throughout the management areas in north Georgia, where deer browse and food is noticeably decreasing due to the expanding number of deer.

Game technicians are busy in their attempt to offset the shortage of acorns and other deer foods in state managed areas. These areas are becoming more and more important as the state's population grows and greater numbers of hunters look for hunting sites.

Ostensibly, the deer problem results from poor harvest. Deer hunters are not killing enough deer. This is wasteful since deer left to fend for themselves on a critical food supply are susceptible to malnutrition, disease and eventual death.

It is shameful to waste such a valuable resource. It's time more deer are harvested through controlled doe hunts and other tools of management.

Sportsmen Must Police Themselves

The modern day sportsman is an individual who is interested in wise resource use as well as sport. Far too many, however, pay too much attention to the sport and not enough to the concepts of conservation.

There is no place in conservation for the sportsman who exceeds the ethics of his fellow hunters and fishermen by violating the principles and laws of game and fish management.

Today's sportsmen must police themselves. It is the duty of hunters and fishermen to take appropriate action against those who would squander wildlife resources. Only by such action can we expect to pass on to future generations the rich wildlife heritage our forefathers bestowed upon us.



The WHITE TAIL

By SAM SANDERS

It was still dark when I reached the base of the big chestnut tree. Though it had been dead for many years, it was still strong and steady.

This was the fifth year I'd spent November days sitting against the old tree, waiting for a whitetail buck to come down the well-used trail that leads from a high "hog back" on Hell Hole Mountain into Hell Hole Gorge on the Lake Burton area. I'd been lucky the past four seasons. Four Novembers, two bucks.

As I shined my light close to the ground and kicked back the leaves, I wondered what the next three days would bring. These are the most exciting days in the year for me. About the middle of July every year, I begin waiting for the whitetail season to come to Georgia.

I sat down and broke out my thermos for hot coffee. I still had a full half hour before daylight would slowly creep into the woods and the forest would come alive. These are the hours I most enjoy, as the first birds begin to stir, and the squirrels begin to come to the ground to feed on acorns and other nuts that can be found.

If I were lucky again, I'd see deer—maybe all does, but this alone is well worth the time and effort. If real luck was with me, a good buck would be hanging in front of the house before the hunt was over.

I sipped the coffee and loaded my Sako .308. I thought of all the time I'd spent on that rifle, selecting the proper

handload and zeroing it in and keeping it clean through the long summer months. All for that instant when I'd catch sight of the buck and let reflex take over. With every deer I ever killed. I never remember taking the gun off safety, bringing it to my shoulder and after the shot, chambering a new bullet. But for months after a kill, I remember the crosshairs of the scope coming down on the shoulder of the buck and remember the split second before squeezing off the shot.

Dawn was beginning to break and life began to come to the woods. A bird began to sing, a chipmunk gave a whistle and squirrels jumped in the leaves behind me. An hour passed with no sign of deer, then nine o'clock and a little breeze began to blow and sent chills up my spine. Even insulated underwear won't keep out the chill of those north Georgia mountains.

Just then I heard the leaves stir up the trail and I slowly turned my head. Two does were feeding down toward me. I was afraid they would wind me and disappear but they turned off the trail and vanished into a laurel thicket. I watched the thicket for a long time until another noise, from the ridge behind me this time, startled me. I looked around the old tree trunk and there he was—a fine four pointer with his girl friend. Reflex again took over and the buck fell at the sound of my shot. I hit him high in the shoulder and cut his spine.

(Continued on page 37)

DEER



Proud hunters admire a trophy buck taken at Lake Burton, one of the state's best game management areas.





SUN SAFETY

Early on a sharp November morning, a deer hunter will shoulder his .30-30 and start the long climb to his stand high on the mountain ridge or low in the swamp. His heart will sing with the joy of the outdoors and the approaching moment when he will pit his patience and skill against the cunning and natural instinct of a wily buck. This man is happy, completely at peace with the world.

By nightfall, he will be dead.

Each year, with the regularity of the seasons, hunters enter the wilderness to enjoy their sport and return on a litter or a jeep—a victim of the sport they love so well.

It may have been a stray bullet, fired from the gun of a true nimrod who does not know the basic rules of woodsmanship. It could have been the result of a "sound" shot, fired by a hunter who was unsure of his target. Or, he could have been the victim of an accident caused by a faulty gun or a hunter who failed to snap his safety.

A mounting increase in hunting fatalities has pointed up the fact that the sport is not simply squeezing the trigger on a shotgun or rifle and bagging what you aim at. It is more than that. It is a complicated and demand-

ing endeavor requiring skill, knowledge and common sense—and a will to survive.

It is the responsibility of the hunter to respect and protect the wilderness he enters, the game it harbors, his companions on the next ridge or in the duck blind across the slough and himself.

Most hunters have a genuine regard for all these things and their precaution and knowledge make them seemingly safe from themselves. But, what about the other fellow? This is the problem.

The true outdoorsman should labor long and hard to improve himself and enhance his skill and woodsmanship. This does not begin at the time of legal opening on the first morning of hunting season. His desire for knowledge and self-improvement should be a continuous thing.

The true outdoorsman should also be as conscious of fellow hunters as he is of himself. It is only natural for him to respect his tools—his gun, his compass, his knife, his match box, his boat. Naturally, he respects the implied damages of being far from camp alone or with companions. He will do nothing without thought and full awareness of the possible consequences and inherent danger to himself and others—that is, almost.

vival-

n field and woodland

Hunters who learn to safely handle guns early in life seldom victimize others.



TEN COMMANDMENTS OF SAFETY

1. *Treat every gun with the respect due a loaded gun.* This is the first rule of gun safety.

2. *Guns carried into camp or home, or when otherwise not in use, must always be unloaded and taken down or have actions open; guns always should be carried in cases to the shooting area.*

3. *Always be sure barrel and action are clear of obstruction and that you have only ammunition of the proper size for the gun you are carrying. Remove oil and grease from chamber before firing.*

4. *Always carry your gun so that you can control the direction of the muzzle, even if you stumble; keep the safety on until you are ready to shoot.*

5. *Be sure of your target before you pull the trigger; know the identifying features of the game you intend to hunt.*

6. *Never point a gun at anything you do not want to shoot; avoid all horseplay while handling a gun.*

7. *Unattended guns should be unloaded; guns and ammunition should be stored separately beyond reach of children and careless adults.*

8. *Never climb a tree or fence or jump a ditch with a loaded gun; never pull a gun toward you by the muzzle.*

9. *Never shoot a bullet at a flat, hard surface or the surface of water; when at target practice, be sure your backstop is adequate.*

10. *Avoid alcoholic beverages before or during shooting.*

No hunter wants to be a killer. His desire is to enjoy his sport safely and without incident. But this is not always possible. A misplaced shot, a snipe at an unsure target or a careless mistake can make him the taker of a life.

The Ten Commandments of Safety may be old hat to most hunters, yet unless they are obeyed the door has been opened to trouble.

Hunters who train themselves properly not only assure themselves of possible danger from their own mistakes but also other outdoorsmen.

Good basic instruction in the use of guns is available from the National Rifle Association. Since 1926 this dedicated group of gun users has been working to familiarize young and old with firearms. A course in gun handling instills in hunters respect for rifle and smooth bore, the kind of respect that assures safety afield for all.

Hunting is fun and a priceless way to spend hours of peace with the outdoors. But hunters, regardless of their experience with guns, cannot afford to sit in a duck blind wondering where the green heads are. They must think—think to survive.

WE HUNTED

or: through toil and

By CAVANAUGH MURPHY

To our east and southeast Friday Cap Creek, then through Buttermilk Sound to Egg Island out toward deep water or turning south Wally's Leg at the head of the Mackay. Behind us and surrounding General's Island and Champney and Broughton and shadows of history, of Oglethorpe and Spanish dreams of conquest and the early Scots who settled the town of Darien just by the tidal waters of the Altamaha.

We were on the lower Georgia coast, county McIntosh, and close by the boundary markers of the waterfowl management area at Butler Island. Our thoughts were on waterfowl, not history, as Sammy and I pushed our 14 footer away from the South River Camp docks, cranked the 15 horse and followed our hand lamp beacons out into the predawn fogs of the South Altamaha. For the fourth year we were trying to solve the riddle of these duck-choked waters and skies that promised so much and gave so little. History could wait for breezeless July nights or storm-filled September Sundays; it was December and we were here for mallards and canvasbacks and blacks and maybe—if the gods that guide the fortunes of waterfowls were willing—for geese.

In the years that had passed we had hunted these waters, Sammy and Bill and Chuck and Ken and I, hugging the shores of the refuge, watching ducks by the thousands explode up out of the rice fields, singing out in steady streams for somewhere but always high, high beyond the reach of the tightest shot patterns and the heaviest loads. Each year we had shot less, slowly realizing that no Winchester or Browning or Parker or any smooth bore ever forged could reach these birds so high in the Georgia sky.

This year was different: we were old hands now, leaving the close islands and marshes to newcomers. We were following the ducks out to the sound or deeper water. The plans were carefully laid, made and broken and remade over charts and maps and aerial photographs. This time Sammy and I were the advance party, scouts—to find the heavy flocks, to study them and mark the charts and guide the others when they arrived a day later. For this we were up before dawn, and before breakfast pushed out with the receding tide toward Friday Cap Creek and Little Friday Cap.

This day we hunted hard, first throwing out the blocks near the mouth of Friday Cap, still to see with the rising

sun the ducks, craws stuffed with rice, trading high above us in twos and threes and twenties and thirties, heading out—high and out. The safeties on Sammy's Model 50 and my Parker slid back and forth a hundred times but neither of us fired a shot, remembering those hulls of years gone by covering the bottom of the boat and flooring our blinds.

Back at last to South River Camp and refueling and breakfast at The Shanty; Mr. Davis was up by now to welcome us back and pile our plates with country ham and eggs and wheat cakes such as the Florida-bound tourists at the next table never saw. With coffee and tobacco came more confidence for our depleted stock. The plans were re-forged and with our duffel loaded with ham sandwiches as thick as gun stocks and the coffee bottles filled we headed out again, again to Friday Cap, going in now with the tide, the motor off, floating the ducks. For thirty minutes the only sounds were the splashing dip of the paddles and the clunking change-of-position sounds as we alternated at the bow, peering with gun half-raised into the reeds and marsh grass as the creek twisted and narrowed its way deep into Broughton Island. Once, far ahead of us, three mergansers, perhaps remembering us with half-concealed contempt from years before, ran into the air and left us again with safeties off and clean bores. The creek

Successful duck hunters usually carry decoys—and plenty of clothing.



IN HISTORY

Double-to the green-wing teal

Chuck Childs admires
his daily limit.

at last burrowed itself into the marsh and we tied up a twisted oak, striking out in hip boots toward the hog-wallows and pot holes inked in on our maps a year before late on the last day of the season by a local hunter who had followed his nose to four mallard drakes, big and beautiful beside the small pile of blue-bills our five guns had brought down. We followed the wild pig trails back through the black gumbo, going over our boots every ten paces, quietly into the first of the small wallows and on further into the big ones, surprising two wild sows as large as barnyard pigs. They faded into the reeds more silently than we could think and left us. The hunter had inked in the pot holes but we looked at the map again—he had not inked in four mallard drakes.

Lunch then in the boat and back out of Friday Cap fast, with gas enough in the two cans for Egg Island and Little Egg. No ducks were trading as we cut into Buttermilk Sound and followed the buoy markers past the marsh islands toward bigger water. As we passed the 203 marker, a flock of cans barreled out of the shore reeds and led the boat, raising others as they flew. Following the channel and watching the time for legal closing we pulled just off Little St. Simon's Island in briny water with Egg to our north and east. As we placed the stool, flinging out the blocks almost without pattern, five teal inspected our decoys, liked what they saw and went back for others. As we pulled the boat into the reeds and sat down on our shell boxes a brace of cans flashed by at thirty yards. We were set now, with clean bores, a full shell box and an hour to hunt. As we waited for the teal to return with their friends, Sammy whistled softly and pointed east out toward the bigger water. I fished out my glasses and focused almost unbelieving as a convoy of shrimp boats surrounded by gulls, nosed into the channel pointed toward our decoys. We relaxed then, pulled out tobacco and watched the boats come by, moving fast toward the docks at Darien and supper. Our time was fast running out, but the fifth and last boat would clear us with thirty minutes left to shoot.

The last boat seemed to move more and more slowly and crossed our line of sight at 90 degrees; then—God help us—the skipper dropped anchor. I watched him so hard the eye-piece of the glasses bit into my sockets as he tossed out the second anchor, scratched and walked



to the back of his boat to the cargo hold. A helper appeared from the shack, both pulled up boxes, sat down and began to do whatever shrimp fishermen do, separating the salable catch from net trash. No jury in tidal waters with one duck hunter enpaned would have convicted us if we had run our boat into the channel and opened up with number 4 magnums on the captain and his mate. Instead, Sammy and I exchanged frozen smiles, kicked the boat and out of the reeds, picked up the bobbing blocks and headed in over the long black water to South River Camp and a bitter supper.

* * *

The light was on in our room at the Highlander Arms as we braked to a stop. We knew that Chuck and Bill were in, with Ken down from New York for the big shoot, all sitting, glasses in hand, waiting for our return and the report on which of these 20,000 acres of rice and wild celery surrounding us held the key for tomorrow. A small boy then chancing by holding four Canada geese could have paid his way through med school on the price we would have paid for his bag. Instead, we went in empty handed to face our inquisitors. The let down was gentle and phase two of our operation was planned over supper—two boats now and five guns. Chuck unlimbering a new Luigi Franchi, Bill back again with a Model 12 after trying to like two barrels superposed and failing. Ken, with an airline baggage check stub still strung to his gun case, would try three shots this year through a single tube. The Parker, both barrels extra full, had failed the test the year before and his new light weight Model 50 was a twin of Sammy's.

If Sam and I had learned anything from our day of

(Continued on page 40)

UNWANTED DEER HUNTERS

These whipworms are attached to the lower digestive tract of an Alabama deer. Over a hundred of these parasites have been found in a single animal, but in general they are relatively rare.

Large American liver flukes, deer crippers, are found within thirteen endemic areas of the Southeast.

Four years ago wildlife conservation authorities of 11 Southeastern states joined forces with the U. S. Fish and Wildlife Service to seek out an unwanted "deer slayer."

They wanted to know what caused periodic "die-offs" in the region's white-tailed deer herds—die-offs which sometimes claimed so many animals that hunting was poor for years to come if not absolutely prohibited because of the shortage of animals.

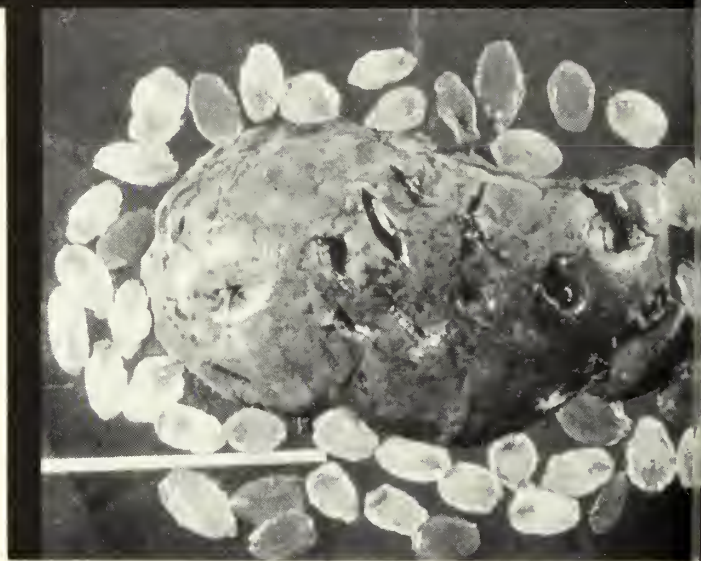
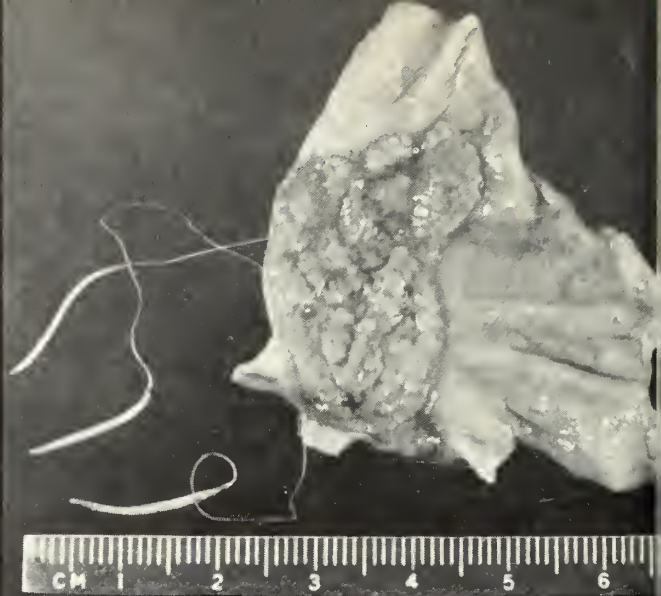
The agency the states set up to investigate these baffling die-offs was the Southeastern Cooperative Deer Disease Study. This regional organization is sponsored by Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, South Carolina, Tennessee and Virginia, with headquarters at the University of Georgia's School of Veterinary Medicine.

The search began; clues were collected and fitted together; and now answers are beginning to emerge.

Officials at the Study—which now substitutes "Wildlife" for "Deer" in its title because its activities have been greatly broadened—are careful to say "beginning to emerge," for there may be new evidence to turn up later, but at least they feel that they are on the right track.

It appears that there is not just a single killer, but many. They are parasites, the major offenders being round worms, tape worms, flukes, bot flies, and lice which with a host of other organisms work their way into an animal until it sickens and dies.

In all the deer die-offs in recent years in the Southeast, significant numbers of both internal and external parasites have been found. They gain their best foothold in deer when the deer themselves become so num-



erous that the area they occupy is inadequate to supply their needs. When the natural browse and mast crops, or acorns, are gone and deer get hungry, the parasites have a good opportunity to move in and take over. They seldom miss the chance.

The staff of the Southeastern Cooperative Wildlife Disease Study has been looking for these deer killers all over the Southeast from the bayous of Louisiana to the highest mountains of the Carolinas. They call them "a new kind of deer hunter," which abides by no laws, recognize no seasons, and are governed only by their voracious appetites.

To date 12 different kinds of potential deer killing parasites have been found in the Southeast. They are brain worms, gullet worms, stomach worms, nodular worms, whip worms, lung worms, tape worms, liver flukes, nasal bots, biting lice, and ticks.

All can be deadly. In the first place parasite infection results in a marked reduction in the deer's body weight and antler size. In the second, they take a heavy toll on the vitality and reproductive potentialities of these animals. Finally, they take the animal itself. Dr. Frank

A. Hayes, Director of the Study, estimates that within the past year stomach worms and lung worms alone have harvested more deer in certain areas than all the hunters put together.

In the Southeast last year there were three significant instances of deer mortality in isolated areas of Maryland, Mississippi, and North Carolina. In each case the mortality appeared to be intricately associated with heavy parasitic infections, and on each occasion there were more deer in the area than there was natural food available for them to eat.

In Maryland, for instance, the deer died as a result of the combined effects of starvation, stomach worms, biting lice and a bitter cold winter. The deaths were concentrated among young deer which could not compete for the remaining food, deer crippled by automobiles, and those animals weakened by nature. A long siege of deep snow triggered the die-off.

All of the animals which died in the Maryland area were extremely emaciated and a marked absence of abdominal and kidney fat was evident. Very significant differences were shown by a contrast of the bone marrows of these animals with those of the healthy animals that were taken for comparative studies. The lipid content from the bone marrow of the animals that died varied from 2.5 to 11.3%, whereas those of the healthy animals ranged from 39 to 83%. According to confirmed accounts from earlier workers, a bone-marrow-lipid-content of less than 10% affords substantial evidence of malnutrition and subsequent starvation. Comparative studies also strongly suggested that stomach worms and enormous numbers of biting lice contributed

greatly to the mortality rate.

During December, 1960, on a private hunt club in the delta region of Mississippi, a five-and-a-half year old doe was found in an extremely weakened condition. Because of obvious signs of illness, this animal was killed and a careful necropsy was performed. A large number of adult lung worms were found in the air passages and a diagnosis of verminous pneumonia was later confirmed in the central laboratory. The lung tissue were riddled by the larval forms of this parasitic species. A few months later, approximately 30 dead fawns were found in the immediate area.

Several weeks after this mortality, an investigation was conducted to determine the possible cause of deaths. Heavy stomach worm infections were found in three subjects that were examined and in all animals collected, the walls of the stomach were greatly thickened and there was marked inflammation. It later appeared that both lung worms and stomach worms had contributed to the deer deaths.

In late winter and early spring of this year, 73 dead deer were found in three lonely and isolated coves in the North Carolina mountains. Although an investigation was inadvertently delayed until six weeks after the peak of mortality, nine representative deer specimens were procured and the lungs of each were found to be torn apart by the larval forms of lung worms. This was considered evidence enough to hypothesize that these parasites had contributed heavily to the mortality. Stomach worms were also found with as many as 6,000 being collected from a single deer.

It is of particular interest that there was a definite

Medical Technician Glorio J. Dills, Field Veterinarian Theodore R. Ridgeway and Field Biologist Charles M. Marshall conduct laboratory tests on deer from North Carolina.





Field Biologist Charles M. Marshall (left) and Project Director Frank A. Hayes observe a small segment of deer from a combination of malnutrition, starvation and parasitism in Maryland.



Senior Research Assistant Annie K. Prestwood discusses "avian scars" with Dr. Llyad G. Webb of Clemson College, South Carolina, and other biologists.

correlation between the number of stomach worms found and the bone-marrow-fat-content of each deer; the more stomach worms present, the lower the percentage of bone marrow fat.

Members of the Wildlife Disease Study staff were on hand to investigate each of these instances of deer mortality. They collected animals that had died and made complete or partial necropsies of each. All gross lesions were recorded, and tissues from many organs were preserved for microscopic examination at the Central Laboratory.

They also looked for systemic fungi infections, attempted isolations of infectious bacterial and viral organisms, and searched out toxic substances in either the stomach contents or animal tissues. Many parasites were also collected from each animal and these were later identified.

From these methodical and rather extensive studies, only the parasites could be singled out as the cause of the three consecutive white-tailed deer die-offs. The significance of these guileful and insidious creatures was apparent: they are the "unwanted hunters" in the Southeast, hunters which are sure to play a significant role in game management practices in the future.

Before the Georgia veterinarians and biologists began their study of deer diseases in 1957, very little was known about deer parasites in this region. There are still many unanswered questions. Where do the parasites come from? How are they carried? How do they get into deer? What can they mean to deer hunters in this region? The answers lie in intensive research.

Such research is expensive, too expensive for one state to carry on alone. That's why 11 Southeastern states and the U. S. Fish and Wildlife Service joined forces to support a regional program. The staff of the Study now includes, in addition to the director, a full time field veterinarian, Dr. Theodore R. Ridgeway; field biologist, Charles M. Marshall; biological aide, James F. Smith; medical technician, Gloria J. Dills, and business manager, Lounette Wheelchel. George R. McCahan and Annie K. Prestwood are also employed as part-time senior veterinary student research assistants.

These specialists are ready to go anywhere in the 11-

state region at any time to investigate mysterious wild animal deaths. They have already located a primary killer in the parasites, and they think they know why these killers have gained such a strangle hold in some areas.

They say it's overpopulation.

The theory, of course, must have a proof so the Study is now conducting a region-wide parasite survey. They are collecting and thoroughly examining 10 deer taken at random from potentially critical areas within each participating state. State biologists set up the field laboratories and general facilities. They make the tables, get running water and electrical current, and collect specimens. Water can often be pumped in from a nearby river, but power sometimes has to be supplied from long distances. They also furnish coffee for the study team, for the research work goes on far into the night and sleep is a luxury they can seldom afford.

The state biologists also participate in all phases of work conducted in these crude but efficient wilderness laboratories and exchange ideas with the representatives from other states who are often present.

When deer are brought to these stations they are aged, weighed and examined for external parasites. Then, after the hides have been removed, they are placed on a necropsy table and meticulously dissected. Careful records of gross lesions are made and all suspicious tissues are preserved for later histopathologic examinations. The contents of the entire intestinal tracts are "fixed" and the parasites kept for future identifications. Both femurs are removed and frozen for fat analysis studies.

So far, worms have been found in the nasal passages, brains, pharynxes, gullets, lungs, livers, stomachs, small and large intestines and the abdominal cavities. In some localities various species of lice and ticks are also quite common.

Complete surveys have already been conducted in Alabama and Louisiana, in localities where heavy deer concentrations existed. Similar surveys will be made in the nine remaining states.

Overpopulation continues to crop up as the real cause of trouble.



Field Biologist Charles M. Marshall observes work of Clayton P. Jahnston, Nedrick L. Jahnston, David B. Walrath and Paul W. Chapman in deer disease laboratory.

Every incidence of deer die-offs last winter occurred in greatly overpopulated herds. Sometimes there were twice as many animals in an area as the range could possibly accommodate. The food supplies got low; sometimes the weather became severe; animals grew weak; and the full fury of parasitism moved in.

The Southeast's wildlife veterinarians and biologists say that steps must be taken to alleviate the overcrowded conditions that now exists in many deer herds.

The light mortality noted in recent years should be interpreted as a precursor of a "major die-off" within a few years to come. The time of such a die-off will be governed by several factors: 1. when deer populations within a certain area exceed the range carrying capacity of that area; 2. when adequate numbers of worm and insect parasites enter the picture; 3. when animals become starved, stunted and weakened until their body resistance is at a low ebb; and 4. when environmental conditions such as an extended winter complicate an already difficult situation.



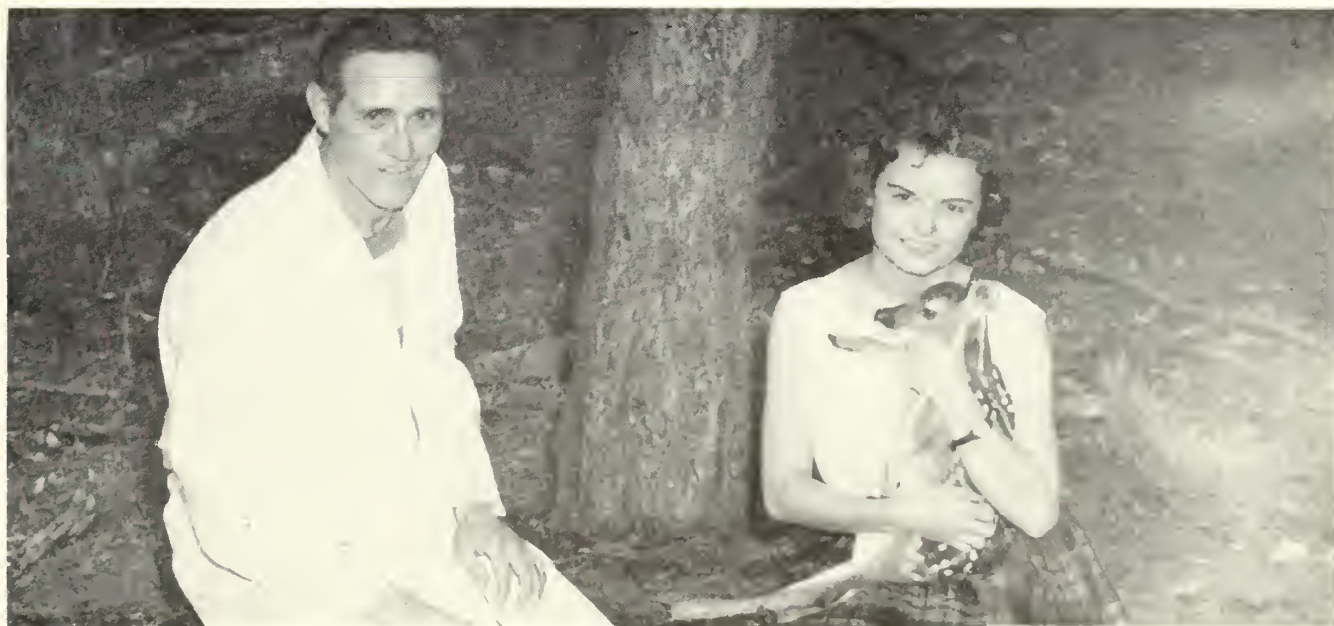
Veterinarian Theodore R. Ridgeway (seated) searches livers for large American liver flukes.

In short, overpopulation among deer results in malnutrition; partial starvation is the forerunner of parasitism; and the worms and their associates then move in and make a major set-back in the number of white-tailed deer available for the hunting public.

The logical solution to the problem of parasitism in white-tailed deer, the Wildlife Disease Study experts say, is the reduction of deer populations to comply with the specific range carrying capacities. This should be done through legal deer harvests. In many overstocked areas, it is becoming imperative that hunters take more animals, and this must include does, before the number of animals ever can be retained at a safe level.

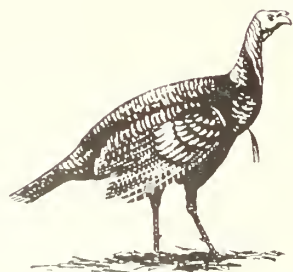
"If this is not accomplished by sportsmen, the parasites and their accomplices will do so without invitation or hesitation," Dr. Hayes says. "A few parasites do not exert harmful effects on either the animal's health or its venison, but when they are present in great numbers, they become the unwanted hunters."

Senior Research Assistant George R. McCahan and Medical Technician Gloria J. Dills check newly born fawn from the research deer herd of the Southeastern Cooperative Wildlife Disease Study.





The **TURKEY**



The picture illustrating this piece has appeared many times in many places. The reason for this is that pictures of dead wild turkeys are collectors items and hard to come by.

The turkey is American and as wily as a Shawnee Indian. He is wise in wood lore and knows more about

the ways of man than man knows about him. Turkey hunting is more a south Georgia sport, November to February; limit two gobblers per season. The bird can be found in quiet, distant places where there are pine trees to supply seeds for food.

In recent years a managed spring gobbler hunt has been offered in the Lake Burton and Blue Ridge Game Management Areas only. The gobbler picture was taken in a spring hunt in the Eli field in the Burton area. The bird was shot with a load of No. 4 magnum pushed through the 30-inch barrel of a 12 gauge Browning automatic. The range was just under 40 yards.

Spring turkey hunts offer an opportunity to get into the woods when life is beginning to come back into the forest after lying dormant for four to six months. It's a nice time of year and cuts down the long waiting period from the end of quail hunting to the middle of September when doves fall to your shots. This is also

the time when the gobbler is at his best, the mating season. Hear him on a ridge at daylight one time in early spring—calling, and you'll be back year after year trying to outsmart this wise old woodsman.

The second picture shows a turkey call which is a difficult instrument to play. Many men call, few turkey gobblers respond.

The most common problem in calling a gobbler is using the call too much. After you have mastered the tones and strokes you need to know, don't chase your turkey away. Call him one time, wait at least fifteen minutes before you call him again. Once you get a response, keep quiet. He'll find you. Just don't move or breathe. He'll be in range before the hour passes.

It takes a lot of practice to master the call, but once you call a gobbler and gun him, you'll be proud of every hour you worked to reach the perfection it takes to fool him. Those who use the electronic call to kill turkeys miss the true value of hunting. Ever shoot a quail on the ground? It's about as sporting as calling a gobbler with a $33\frac{1}{3}$ long play record.

The best advice to give to turkey hunters is this—

Find a real old timer who knows the way of the turkey. Offer him a fill of your city tobacco. Fill your own pipe and sit back and listen.



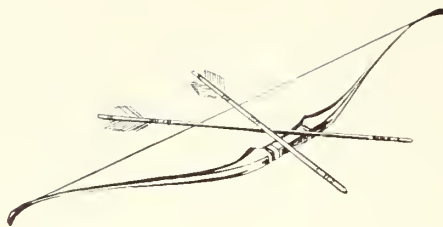
Sam Sanders with a wily turkey taken in north Georgia.

a wise old woodsman

The turkey caller, a delicate instrument, is difficult to master.



Five years



and FOUR

By DAN QUILLIAN

Fifteen years ago I went on my first deer hunt. As I recall, I chose the Chestatee Game Management area because at the time I felt my chances of bagging a buck were greater there than anywhere else. As beginner's luck would have it, I somehow stumbled over a nice eight pointer and the team of a .30-30 and myself did the trick.

From that moment on, I have been hooked for good—a deer hunter for life. The ensuing years have found me anxiously waiting for the opening of deer season. Somehow, however, my luck just never held out and for nine years I stalked in vain. But the worm turned when I took up archery hunting. And, since that time my trips have been filled with excitement and good fortune.

During those years of rifle hunting, I often stared in wonder and amazement at the bowhunters we met after they finished their annual hunt at Rock Creek. I often wondered just what motivated archers, since my experiences with deer hunting had been noticeably fruitless and I was armed with a weapon much more powerful and accurate than a bow and arrow. I finally decided that hours spent in the woods and fields probably would be just as enjoyable with a bow as with a rifle.

So, a few months later I purchased myself a real archery outfit and began the long process of becoming adroit enough to hunt deer with it.

A month later I still didn't know how to shoot but I was going into the woods just off Rock Creek, I felt a little silly carrying a batch of sticks, when suddenly about fifteen yards in front of me, out stepped the prettiest eight pointer I had ever seen. I pulled back and let fly. The arrow hit about four feet in front of the deer; he jumped into the air, came down and stood looking at me. I pulled another arrow. Off it went over his head. He jumped into the air again, came down and still did not run. The third arrow went winging on its way. This one went in front of him. I guess the old

boy at this time thought, "This fellow could be dangerous," so he turned and very stately walked away.

I walked up the hollow, cussing my luck and wondering why this hadn't happened to me with my trusty .30-30 in my hand. While I was mentally kicking myself over the ridge, up came three more deer. During the day and a half I hunted, until I became disgusted and went home. I shot eleven times at deer. I had never seen anything like it but I knew one thing for sure, before I went back hunting again, I had to learn to shoot that thing.

A month later, I met Dick Ardell, who had moved to Georgia from Michigan, where people know how to use the bow. When he showed me how to shoot correctly, I started to put them where I wanted them.

Come January I was on Blackbeard Island, in a live oak tree. I'd gone out in the dark to find my stand and had finally settled down just before dawn. At daybreak, a deer appeared to my right. This time, with much confidence, I pulled back and let go, but that was about all. The arrow struck the sand and the deer left in overdrive. Then the parade started. In an opening about thirty yards away a procession of deer started going across. But there was only one trouble. Just above the line of sight between me and the deer was a large limb, and I knew that any arrow I shot would end up stuck in the limb, because of the trajectory of my arrow in flight.

Suddenly, one of the biggest deer across the clearing was spooked by something. He turned and ran straight towards me. Without even thinking, I pulled and released the arrow. At the same time the deer turned and the arrow struck it in the hind leg and penetrated the other hind leg. I was very disappointed. I thought, "Well, I wounded one," so I stayed on my stand until 9:30 and climbed down in hope of recovering my arrow,

DEER

but with no hope of recovering the deer. When I started looking for the arrow, I saw a few drops of blood. Suddenly, the few drops became a blood trail two inches wide. By then I was at a full run and almost tripped over my deer, lying less than fifty yards from where he had been hit.

Another year, another hunt, I was in the Blue Ridge Refuge with a cold wind blowing out of the west. My buddy and I were sitting around the camp fire with a geodetic survey map, trying to decide where we would go if we were deer and wanted to get out of the wind. We finally picked a slope facing the southeast, well protected from the wind.

I had been easing along over the hogbacks for about an hour when I saw a deer about a hundred yards away. As I watched, seven deer came in sight. For about half an hour I watched them feed. Suddenly they decided to move out and cross the ridge I was on, below me. Straight down the ridge offered a clear but long shot. The deer stepped into the open and I drew my bow and released my arrow. There was a sound as loud as two boards being slapped together. The deer jumped and stopped. As I put my second arrow in the bow I could see the fletching of the first arrow protruding from the deer's hip. I drew and shot the second arrow. This one struck a limb, ricocheted and hit the ground about twenty yards from the deer. The deer trotted over, smelled the arrow and went back to feeding. I was amazed! I had read about this but it was the first time I had seen it. Here was a deer, with an arrow sticking out of his hip, first displaying curiosity and then calmly going back to feeding. I sat down to watch. In a few minutes the deer calmly bedded down within my sight. When a few more minutes went by and I could stand the tension no longer, I decided to light a cigarette. As I struck the match, the deer jumped up. My heart sank,



Dan Quillian with one of the four deer he has taken with a bow and arrow.

but in just a few steps, down he went and I had my deer. As I carried him back to camp, I thought, "Won't my buddy be surprised," but when I came in sight of camp, I was surprised, for there hanging in a tree was a deer he had shot about fifteen minutes after I had left him.

My next hunt was on Blackbeard Island, where I bagged one of the biggest bucks ever killed on the island. And the following year it was a nice spike.

But what about that fifth year? Well, that's when I made my most serious mistake. I used up half my hunting time by making a trip north and leaving Georgia. Hunting was good up there, but I couldn't produce as I can at home.

All of this has really brought home to me one thing — if you really want to see deer and enjoy hunting, get a bow, find a successful bowhunter to teach you how to shoot it, and go to the woods during the archery season. I'm not sure why you'll see so many deer. Possibly it's because there's no gun fire to disturb them, but during the bow season, they're like street cars — if you miss one there'll be another along in a few minutes.



COTTONTAIL and

Rabbit and squirrel hunting in Georgia is the most popular of all hunting sports. Quail, deer and doves are talked more and more around the fire place, and the glamor hunters may look down their noses at the country boys who follow the beagles, or stake themselves out under a hickory tree waiting out the speedy little grey warrior. None the less, more people hunt these two species of game than anything else in Georgia.

Rabbits and squirrels can be found anywhere in the state. Take a small patch of woods in any county and if any hickory, oak, or beech trees are there you will also find a few squirrels. Any thicket may conceal a rabbit.

SQUIRREL

Squirrels can be hunted with either shotgun or .22 rifle. The same method is generally used with either gun, and any small patch of hardwood trees will produce a squirrel or two for dinner.

Find your spot in October and November when nuts are still available. get there by daylight and conceal yourself as much as possible. Clothing in subdued colors helps. Soon after daylight the limbs will begin to shake and squirrels will be all around you. Squeeze off your shot and you'll take home some good meat for the table.

There are many varied opinions on how to squirrel hunt. Some men use a dog; if you have a good squirrel dog, you'll get your limit every time you go out. The use of a dog is generally more effective when all the leaves are off the trees, and nuts and acorns on the ground. That's where you'll find Mr. Grey. During the early part of the season just sitting and waiting will bring you a lot of pleasure and success.

Fortunately, predators do very little damage to the squirrel population but enemies do exist. Between the mass destruction of hardwoods (timber stand improvement), the Botfly (wolves) and the span worm, these little animals are leading a miserable life. We are finding the city squirrel population on the increase while the rural population is declining. The little fellows are becoming city slickers.

Squirrel hunting has lost a lot of its popularity in recent years, and a lot of hunters are missing a great sport. The deer season is short and the limit low; squirrel hunting, especially with a .22, will sharpen your eye and lengthen the pleasant hours in the woods.

Let the grey warrior entertain you during October and early November. You'll love every minute you spend trying to bring down this speedy little animal—and your wind will last longer in November when you start up that long ridge after a white tail.

RABBIT

While squirrel hunting is a peaceful and sedentary sport, rabbit hunting is just the opposite. Rabbits can be found in any rural area. Find a farm, easy enough to do in Georgia, and get permission to hunt (chances are the farmer will go with you if you own a couple of beagles). Now you're ready for an exciting day of shooting.

Rabbit hunting is the number one hunting sport in America. More men hunt rabbits every year than go to baseball games. Hard to believe maybe—but true. It has been estimated that 240 million pounds of rabbit meat are put on American tables every year.

The rabbit has survived and thrived on the increasing human population and the decrease of rural areas in this country. One reason is that rabbits have supported most predators for years. With the coming of new sub-divisions, highways and shopping centers, predators move out of the area. The cottontail goes across the street to the hedge thicket and goes on with the job of raising a family.

Hunting with beagle hounds is the most popular way to take rabbits. Real beagle owners have reached the point where they now only run the rabbits with dogs and never shoot. This is becoming a popular sport: it's a great thrill to see and hear a good pack of hounds hot on the trail of a cottontail. The rabbit's worst enemy now is probably the common house cat, although foxes, bobcats and wild dogs take quite a few every year. The rabbit bounces back and the closed season Georgia now has, has done a lot to increase the population.

Some duck and quail hunters think that the rabbit doesn't make a good target for the scatter gunner. This is not true. It takes good, fast reflexes and a sharp eye to consistently kill rabbits.

Find a friend with some beagles and go hunting with him a couple of times. Chances are that by spring you'll be building dog pens in the back yard.

GREY WARRIORS



EQUIPMENT AND COST

WEAPON

Any shotgun or .22 rifle—cost from \$12.00 up. A single shot .22 will put a lot of meat in the pot.

CLOTHING

For rabbit good briar-proof pants and jacket. For squirrel, camouflage clothes help but not necessary—stay away from bright colors. Cost not over \$25.00.

INCIDENTALS

Not many needed—a small sharp pocket knife, a can of potted meat and some crockers make a fine day.

WHERE

Anywhere in Georgia outside incorporated areas.

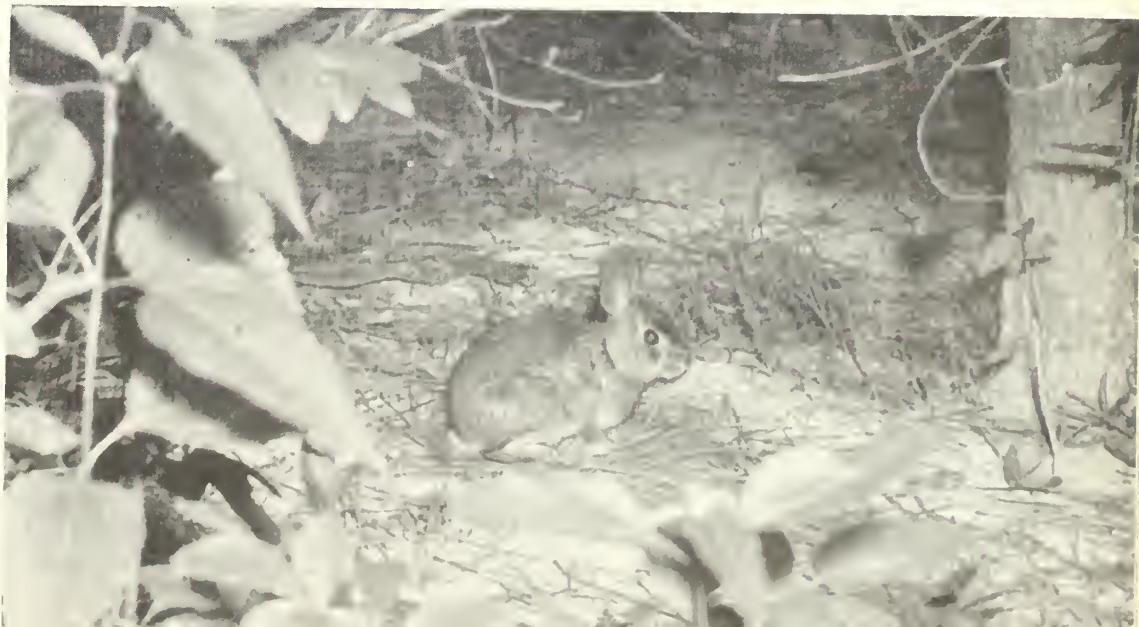
DOGS

For rabbits, three or four small beagles. Squirrel dogs are of many varieties—training is the important thing.



Beagling, a sport for both men and dogs, has captured the hearts of many rabbit hunters.

Cottontail rabbits are found on almost every form in Georgia.



The GAME HOG



By Ed Dodd

In the past two or three years I have had some rather heated arguments with several of my good friends about overshooting of game. The conversation usually goes somewhat like this:

"Look, Old Boy, I get to hunt doves only once or twice during the year and I don't see any harm in shooting a few more than the limit. Other guys go eight or ten times a season . . . so what's the difference?"

"The difference is," I try to point out, "that you're breaking the law, you're setting an example of poor sportsmanship not only for other adults but also for children. Not only that, but you must admit if everyone did what you advocate, the small amount of game now left would soon be depleted."

I actually call "game hogging" a bad word, and the bad word is STEALING. The person who overshoots is stealing from his own sons or his neighbor's sons. The Federal Government and the State Government, working through the U. S. Fish and Wildlife Service and the Game and Fish Commissions of the several states, do a pretty good overall job in protecting our game and at the same time providing shooting and fishing for us sportsmen. This is not to say that these agencies haven't made mistakes. They certainly have, and yet over the years their programs and regulations no doubt account for the fact that we still have doves and turkeys to shoot and fish to outwit.

The trouble, it seems to me, with local sportsmen around the country is that they think in terms of only their small hunting and fishing areas. They curse the Federal and State authorities for this or that regulation, or for split seasons, or for certain limits, and they fail to realize these restrictions are imposed by people who study the overall picture, by trained experts who are in a position to know what's best for the country and the game as a whole.

As I write this I hear that the duck situation is very bad, and that Arkansas, where I hunt greenheads every year, will have a limit of two ducks a day. This is indeed discouraging to duck hunters and to me personally, but I'm perfectly willing to go along if it means your children and mine will have a few ducks to shoot at twenty years from now.

The game hog is a menace, and I hope you who read this will do all you can to discourage him. Overshooting is nothing but childish selfishness, and those who do it should begin to grow up!





Investigations show that walking hunters see more deer, get less shots.

Deer Hunting...

SPORT AND SCIENCE

The old argument of whether a deer hunter's chances are better with or without a dog will probably last forever, but technicians are drawing a bead on the answer in a new project designed to study the mechanics of deer hunting.

By ROBERT L. DOWNING
Game Technician

Hunting is one of the best known methods of keeping deer herds balanced with their food supply. This, of course, is pleasing to Georgia's hoards of hunters. It probably would be pleasing to the deer, too, if they had a mind of their own. Unfortunately, many of them who are smart enough to evade the peep sight of a sporting rifle wind up dead anyway. Much too often deer that escape hunters fall victim to starvation caused by food shortages.

The biggest problem in deer management is one of numbers. If hunters kill too many deer, as was the case with early settlers, there is not sufficient breeding stock remaining. Thus, the herd may be eliminated or greatly reduced in number.

On the other hand, if hunters harvest too few deer, as is often the case these days, the herd will become too large and the food supply will become permanently damaged to the point that it will support only a small portion of the deer that's left.

Since the aim of the Georgia Game and Fish Commission is to provide the best hunting possible at all times, either situation is poor from a game technician's point of view.

Legal hunting as we know it today has never resulted in over-harvest of deer. The main problems arise from harvesting too few. For that reason, the Game and Fish Commission has undertaken studies to determine better ways to hunt in hopes that its findings will be used to the greatest satisfaction of all.

A 760 acre enclosure on the Marine Corps Supply Center near Albany is the site of one study. The Commission maintains a herd of 30 deer (guinea pigs in this case) for use in this and other studies.

The high productive rate within the enclosure requires that 10 to 15 deer be removed by hunters each year. Each hunter is required to report how many deer he sees, sex of the deer, and his method of hunting. To find out how hunting pressure affects the herd, the Commission is experimenting with three ratios: a hunter to every 120 acres; a hunter to 60 acres, and a hunter to every 40 acres. Game technicians have never before had an opportunity to experiment with hunting in areas in which the variables, number of deer, number of hunters and length of the hunt can be so carefully controlled and observed.

Similar hunts are held each year on the International Paper Company's Southland Experiment Forests in Bainbridge. International's Forest Wildlife Specialist C. J. Perkins and Wildlife Coordinator Raymond Moody have also conducted experimental hunts during the past three years to determine the relative merits of "stalk" and "dog" hunting.

Information gathered on these hunts is compiled by International and the Game and Fish Commission to supplement the data collected during hunts on the Marine Corps enclosure.

Several hunters on the Clark Hill Game Management Area during the past two seasons have participated in the project by recording how many deer they saw and their methods of hunting.

Information collected so far shows that hunters who walk quietly through the woods see more deer than those who sit and watch a likely trail or feeding area.

However, deer seen by hunters using this method usually see or hear the hunter first and hightail it for protective cover. Since a running deer presents a very

formidable target even to the most accurate shooter, the walking hunter has less chance of bagging one than the hunter who just sits and waits.

On the question of dogs vs. stalking, information gathered at Southland's experiment forest indicates that hunters have better chances of bagging a buck during a stalk hunt than they do by using dogs.

The largest difference in these two popular methods of hunting has been that fact that hunters actually see more bucks during stalk hunts. This may be true simply because stalk hunters get a better look at a deer and, therefore, are better able to identify bucks.

But to answer the question conclusively, the Commission plans to experiment with hunts in which any deer is legal game, either buck or doe. This should help to clarify the situation.

Deer hunters have the strong desire to hunt in areas where they have little, or preferably no, competition. While this seems to be the thing to do in the very best hunting circles experiments show that more deer are seen when hunting pressure is greatest.

For example, an even dozen hunts during the past two seasons at the Marine Corps Center in which hunting pressure was varied between a hunter on every 120 acres, a hunter on every 60 acres and a hunter on every 40 acres show that more than twice as many deer are seen during a typical day when one hunter is assigned to every 40 acres.

In other words, tripling the number of hunters has more than doubled the number of deer seen by hunters.

Most hunters fear that too many people in the woods greatly increase the possibility of hunting accidents. Actually, most accidents are the result of a hunter mis-

taking a man for a deer and shooting what he thinks is a deer.

Naturally, hunters are much more cautious and sure of their target when they are aware of the number of hunters surrounding them. No area in Georgia has ever had so many hunters that it is excessively dangerous to hunt. Most areas would probably benefit from even greater numbers, since this would make the deer move around more freely and increase the harvest.

To implement its study of deer harvests, the Commission has trained a dog to track injured deer. This could possibly provide specific information on deer losses due to injury or crippling. Data also will be obtained comparing the relative efficiency of rifles, shotguns and bows for taking deer.

Other studies to refine present methods of counting deer and determining harvestable numbers are presently being conducted in Albany, Bainbridge and on all state game management areas.

Illegal hunting, predators and parasites are now so well under control in many areas of the state that the problems involved in maintaining a healthy deer herd over a long period of time is now basically avoiding overpopulation that could permanently damage food supplies.

The solution, happily, lies in harvesting a larger portion of each herd annually. Just how large a portion remains a mystery but upon completion of present studies, all the facts will be known and some specific recommendations will be made.

Georgia hunters are sure to benefit from these projects. By continuing their research, game technicians are sure to uncover even more information on the mechanics of hunting and their relations to a healthy deer herd.

Left: Field hunter interviews reveal excellent information in new project. Right: Author Downing stalks wounded deer with help of his trained dog.





Field Cleaning

When the sharp crack of a rifle brings a big buck tumbling to earth, the main objective of deer hunting has been attained. But the time between that glorious moment and the time a hunter arrives at home with his deer are very important hours. Important, that is, if the proud hunter expects to have venison for his family and friends.

Many hunters fail to properly field dress their animals, which results in wasting pounds of tasty venison that could supply a normal American family with enough steaks, chops, roasts and stew for two months.

Here's how to avoid that waste:

After the deer has been downed, approach it carefully from the back. Many hunters have been injured by sharp hooves for failing to be cautious. When you approach the animal and find it still alive, put a shot through its neck just under the ear. This will kill the animal cleanly and help to bleed it, since it severs the vein.

A deer should be bled as soon as it is killed. Failure to do so impairs the quality of the meat. To bleed the animal, insert a sharp knife at the base of its neck (where it joins the chest—brisket) and cut the artery. Keep the wound open and free of clotting blood.

Accurate shooting provides the best venison. When a wounded animal runs off to die at a distance, his physical exertions send blood coursing through his body into his muscles. This makes meat tough and coarse. If the lucky hunter doesn't reach the deer until some time after the animal dies, all or almost all of the blood may remain in its body, further toughening the meat and making it more likely to spoil.

If the deer can be dressed immediately, bleeding, though still advisable, is not quite so necessary. Dressing can be accomplished with greatest ease by hanging the deer by his head or placing it, head up, on sloping ground. With a stout rope, hunters can pull deer up over a limb or work it up on a tripod. If the deer is dressed out while lying on the ground, a piece of rope can be used effectively to tie one hind leg to a bush or rock and keep it out of the way while the hunter is working.

A good, sharp hunting knife is necessary to complete field dressing the deer. It's best to make a cut through the hide and belly muscle at the point just short of its tail. Hunters should be careful not to puncture any of the organs while making the incision. Cut around the genitals on both sides and cut the hide in a complete circle around the anus.

Next, pull out the large intestine. The genitals and anus will come out with it. If you have an axe handy—and all good deer hunters should—cut the pelvic bones. This will help you to remove the intestines and permits the carcass to cool more rapidly.

Remove the heart, lungs and other organs. The deer's windpipe should be severed at the sticking point. Clean out the inside of the animal to remove any remaining free blood, using a dry cloth or clean moss and leaves.

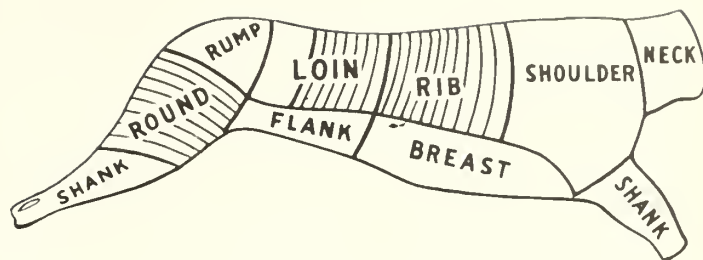
(Note: don't use water. Some oldtimers carry a piece of clean cloth or burlap to clean inside their deer.)

Heart and liver are ready for cooking as soon as they are cleaned and cooled. Usually, hearts and livers make good camp meat and give hunters an opportunity to serve their friends campstyle immediately after the kill.

Torn and bloodshot meat around the wound should be separated from the rest of the carcass and saved. It can be soaked for about ten hours in cold, salted water and served as ground meat or stewed.

This will leave no waste, providing, of course, that the whole process is clean and orderly.

DEER



Carelessness or delay in dressing a deer quickly and failure to cool its carcass are things every hunter should avoid. Two sticks should be inserted in the animal's body between the walls of its body cavity to permit free circulation of air.

The deer's hide is an excellent insulation layer and unless cool air can flow freely to the open flesh, cooling may take many hours.

Now that the deer is dressed, it's time to get it to the highway or to camp. The easiest way is to drag him, especially if you're hunting on bare terrain. A short rope, even a belt, fitted with a handle, will make dragging easier. Cut the skin and flesh just behind the lower jawbone and pass the line or belt through the slit. Sometimes, a deer will drag easily if a rope is simply tied around the base of the horns.

Dragging will cause some wear and tear on the animal's skin so, if you want to save the hide, hoist the deer to your shoulders and carry it. One man can usually carry an average buck on his shoulders but if there's a friend around, let him help you carry it home by hanging the animal from a pole between you.

If the deer is too large for you to carry, it can be divided into two loads by cutting it in two sections at the quartering point. This can be done with a knife.

Following the rear rib, cut up to the backbone on each side. Cut the tendons at the backbone and separate the vertebrae at that point. Now, your deer has been transformed into two loads instead of one.

Don't be bashful while carrying or dragging your deer. It's much safer to sing, whistle or make some sort of human noise so that some other hunter won't fail to notice you. Always tie a piece of red cloth on the deer's antlers.

When you reach your destination, the deer should be hung immediately and his sides propped open to continue the cooling process.

Much meat spoilage occurs while the carcass travels from the hunting area to its final destination. Never ride the carcass on the hood of your car or even on

the fender, unless there is no other place to transport it. Traveling under these conditions subjects the carcass to undesirable heat and dirt.

It's wise to be prepared to bring home a buck—whether you actually do or not.

Wise hunters take along a saw, hatchet and cheese-cloth to make sure they're equipped just in case they bag a deer.

Once he's dressed, the deer should be skinned and quartered and each quarter wrapped in clean cheese-cloth. This gives protection from flies and dirt.

Don't put the quarters in the trunk of your car with the door closed. This encourages spoiling and subjects the meat to more dirt and insects.

The deer should be skinned before butchering. If you plan to use the hide for shoes or clothing, cover the flesh side with a thorough coat of salt. After a day, remove the coating and put on a fresh one. Then fold the hide with the flesh side in and ship it to a taxidermist unless you plan to tan it yourself.

If you plan to butcher the deer yourself (many hunters take it to their butcher shop and let an expert do it) hang the carcass by the hocks and saw it in half down the backbone. An ordinary handsaw will do if a meatsaw is not available. Then take each half and cut according to the accompanying diagram.

Once this is done and it has been refrigerated properly, you will have plenty of good venison—one of the choicest of all meats.

Field dressing a deer is not difficult if it's done in a proper and orderly fashion. If it isn't, you have little chance of enjoying the venison you bring home.

A little extra effort in the field will guarantee many hours of pleasure at your dinner table. One taste of properly prepared deer steak and gravy with roasted potatoes will prove that your time was well spent.



SHOOTING

As the bulldozers and graders work into the pine thickets and laurel, game birds retreat and regroup. To the city dweller, each year presents new problems in where to hunt and how to get there in the limited time available.

One solution in Georgia, as in all parts of the nation, is the shooting preserve. A combination of posted land and the increasing distances from home to game have sent many sportsmen to the shooting preserves where they are welcomed and feted—for a price.

The preserves are generally operated by true outdoorsmen who know game management and love their work. Through careful husbandry they make available to the gun toter a place to go and birds to shoot. They will also supply dogs and clean the birds.

Many old time hunters tend to scoff at preserve shooting, but in many cases a hard pressed city dweller would be denied the pleasures of the field if it were

Most Georgia preserve owners raise and release quail under supervision of the Game and Fish Commission.



Although "wild" quail are abundant in Georgia, Bobwhites remain the most popular bird on shooting preserves.

PRESERVES

not for a nearby preserve. The efforts of the preserve owners supplement the work in game bird propagation done by the state, and in the long view tend to improve field conditions for all of us. The Game and Fish Commission oversees preserve management to assure strict compliance with the letter and the spirit of existing game laws.

The tourist en route from Boston or New York to Florida can spend a few happy days in Georgia enriching his peace of mind for the price of a night on the town in Miami Beach. In this way both the state and the tourist benefit.

If you have never visited a hunting preserve, pick out one near you and drive over with your oldest boy. Chances are that you and the preserve manager smoke the same brand of pipe tobacco and speak the same language.



GEORGIA QUAIL PRESERVES

Briar Creek Hunting Lodge, Thomson; Hutchin's Shooting Preserve, Lithonia; Whistling Wing Shooting Preserve, Cordele; Callaway Gardens Hunting Preserve, Pine Mountain; Pine Center Hunting Preserve, Baxley; Dogwood Plantation, Thomson; Sportsman Shooting Preserve, Metter; Jones Hunting Preserve, Alma; River-view Shooting Preserve, Camilla; Union Mission, Savannah; Indianola Shooting Preserve, Valdosta; Aucilla Shooting Plantation, Thomasville; Marsh Hunting Preserve, Statesboro; Herrmann's Hunting Preserve, Soperton; Freeman's Shooting Preserve, LaGrange; Alma Quail Farm, Alma; Sowega Shooting Preserve, Arlington; Crabapple Preserve, Crabapple; Cherokee-Forsyth Shooting Preserve, Canton.

Quail propagated for preserve use are checked for diseases and quality by officers of the Game and Fish Commission.



The Bob White

QUAIL

The Southern Bobwhite is a handy little bird, much respected by men who hunt him. The Bobwhite is a member of a family widely distributed throughout the United States, but it is this bird of the southern woodlands and thickets that causes men to leave comfortable homes in Connecticut or desert New York apartments to seek him. They spend many hours in travel and then many more in the saddle, in jeeps or on foot waiting for the moment of truth when the dogs freeze on point and they walk slowly forward into the covey waiting to explode beneath their feet.

The primary attribute of the Southern Bobwhite as a game bird is his inherited willingness to stand to a point. His western cousins are more spooky and run before approaching dogs or hunters, taking to wing only as a last resort. The Bobwhite, when discovered by dog or man, holds steady and then makes his bid for escape by sudden and swift flight. A newcomer to quail hunting tends to shoot into the brown mass as the covey explodes. He quickly learns that this will lead only to dinners of beef and pork. The more experienced hunters

select their individual targets carefully, move with the bird, swing the gun beyond him, shoot and then wheel to draw down on another bird just before he reaches the pine thicket and escapes. The old timers with cool eye can select these birds from the vanishing covey and shoot only cocks—distinguished by their white and black markings.

Quail have survived the rigors of drought, harsh winters and encroaching civilization by their adaptability and the hardiness of the species. Their diet is simple wood seed, insects, fruit, buds, greenery, which is usually readily available. Over-cultivation and too intensive use of farm land push the coveys into distant places or they find refuge in small thickets by-passed by tractors. The wise farmer, with a love for this November sport and the Bobwhite, leaves cover in hedge rows or rough edged fields so that the easily pleased quail can raise his family in peace and near food. Coveys in insufficient cover can be depleted by probators. Their enemies are many wild house cats, weasels, hawks, and the nest itself, with usually some 15 eggs, is target for crows and snakes.

The quail is a family man and gregarious. Coveys consist of 25 to 30 birds and remain together for food, water and nesting. They do not range very far afield and unless overshot, will remain for years in the same general area. Quail are seldom found near cattle as the area is usually overbrowsed, but many coveys have taken up residence near a deserted farm house, living a bountiful life off old garden truck, gone wild, and droppings from old fruit trees.

A patient hunter who knows his trade can work without dogs. True field success and maximum pleasure come when hunter and well-trained dog, pointer or setter, work together. Quail, when shot in mad flight for cover,

A day's hunt has ended as two mighty proud hunters show off their work.



The sight of a motionless pointer never fails to quicken the pulse of a quail hunter.





The golden fields of Georgia become olive during quail season because Mr. Bobwhite is King in the "Quail Capitol of the World."

tend to drop in briar patches or thickets and a retriever with a good nose is almost a necessity to bag what you shoot.

The training of a good bird dog is a complicated art, requiring much time and patience. In Georgia and across the South, there are many experienced kennel owners and dog handlers who have this savvy. The extreme pleasure in quail hunting is shooting over a registered dog of good blood lines which you have trained yourself. Because of the time demands of twentieth century living, most city hunters leave this to the professionals.

Field trials for many years have provided extra sport and pleasure for quail lovers. Here the science of dog

handling reaches its peak, as dogs of many blood lines meet to show their masters and other onlookers what they do best—locating coveys and retrieving downed birds.

Quail hunting can be a simple, inexpensive sport, as simple as walking into the corn patch behind the barn. It can be as involved as a safari to Kenya with land cruisers, gun bearers, dog handlers, portable kitchens and tents. Either way, simple or sophisticated, quail hunting is a sport of much grandeur and much pleasure. If you have yet to sample this brand of shot-gunning, be prepared for a change in your way of life. Quail hunting, once it enters your blood, is there for life.

No closer bond of friendship exists than that between a quail hunter and his dog.

EQUIPMENT AND COST

WEAPON

Shotgun—single barrel, double barrel (side by side or superposed), pump or semi-automatic. Ignore bolt action guns. Choose a choke with moderate spread, improved cylinder is good, cost—\$50 to \$5,000; good guns are available at low cost. Use number 8 or 9 shells.

CLOTHING

Dependent on weather—briar resistant pants, waterproof coat with game bag, leather lace-up boots—mid-calf high, cap or hat, light worm shirt, wool socks, gloves with trigger finger, duo-fold long johns for December to February. Cost—\$75.

DOG

Setter or pointer, yours or a friend's—preferably yours and trained at home. Cost—free, to \$2,000.

INCIDENTALS

Not many as you are usually close to car or civilization. Possibly a stainless steel thermos for coffee, canteen, camera, pocket flask for day's end, pipe, tobacco.

WHERE

Best from say the Cedartown-Athens line south, very best from Albany south to the Florida line.



DOVES

...a real target



The first time this season you fire your 12 gauge Browning superposed you are going to miss a little grey dove. If you don't tire easily and can afford the price of 75 shells, number 7½ or number 8, you may bring in your limit by dusk.

Dove season opens early and is now usually divided in two parts. In September, still hot in Georgia, the scatter-gunner has his first chance to put meat on the table. The dove is a swift and deceptive bird and the things he teaches you in September, things about lead and follow through, will serve you well in November when you change shells and go off after quail and duck.

The dove is coming back after many years of over-shooting and depletion. Thank the State Game and Fish boys for this. Men who deeply respect the quail and the deer, never exceeding the legal bag limit, go into coma in a millet field and shoot doves until dark, or until a green-uniformed ranger interrupts them to count their bag and check their automatic for shell capacity.

It's hard to respect the dove as a game bird. Separated from food and water by a field full of hunters, the dove continues to fly in. It may take 12 or 15 hunters to kill him but he is going to come back until he dies. Nature has given the mourning dove little protection. His instincts of survival are bad and the only thing that protects him is his speed and his irregular, completely unpredictable flight pattern. Many good quail or skeet shooters have walked into a dove field in early afternoon and came out at dusk with the gray ashes of defeat in their mouths. The dove is hard to hit, period.

Manufacturers of shotgun shells pay dividends to their stockholders from the profits made in dove fields across the South. If you average two quail per three shells or

one mallard per two shells you are going to borrow shells from your friends before you fill your limit on doves.

Doves can be shot in corn fields at dusk. More doves can be shot in millet fields near dairy farms. Here the action is all day and you should wear sun glasses to protect your eyes from pellets lobbed over by your companions across the field.

Doves are good to eat if properly prepared to preserve their natural juices. A strip of bacon helps and, as small as they are, they can be stuffed as you stuff a turkey. Figure two birds per invited guest. Claret or Burgundy is a good wine for the mildly gamey, dark meat of a dove.

Many dove hunters use 20 gauge guns. Many hunters prefer a 12 gauge which generally assures dead birds at your feet rather than wounded birds flying off to die in the pines.

You need two birds per guest; the big limit is 12. Take a minimum of two boxes of shells, number 7½ or number 8—high velocity.

EQUIPMENT AND COST

WEAPON

Any shotgun will do. Use your quail or duck gun as dove shots are widely varied. Full choke is good. Cost—\$500 to \$5,000, \$100 should do it. Use Number 7½ or 8 shells.

CLOTHING

You can shoot doves in a business suit; dove hunting is a sedentary and relaxed sport. Any comfortable clothing is O.K. Boots for walking to your stand are optional. A wide brimmed hat or cap for shooting into the sun, sunglasses and you're in business. Cost—you probably have it in your closet.

DOG

Unnecessary, go and pick them up yourself.

INCIDENTALS

Shell box with revolving seat, canteen or vacuum bottle, shoulder game bag or war surplus gas mask bag. Cost—\$15.

WHERE

Anywhere in Georgia, best mid to south Georgia. Doves are classed migratory and do move about. The best place is a fresh mown millet field near a dairy farm. Bring enough friends to cover the field and keep the birds moving.

Flighty doves offer a real challenge to sportsmen.



Let's go along with the EXPERTS

There are an awful lot of sportsmen in Georgia. A lot of them are hunters and consider themselves experts in their field. A man who has been hunting deer every November for years thinks he knows a lot about deer, their habits and how to hunt them. Chances are he does. He also knows that the Georgia Game and Fish Commission exists, because he must buy a license every year. But that's about as far as it goes.



Above: Hunters review the remains of a deer that starved to death. Below: Wildlife technicians say that habitat improvement results in more and bigger game birds and animals.

Now a big problem has come up in the Chattahoochee National Forest that most deer hunters don't like—doe hunting. When first exposed to the theory they are insulted. "They expect me to kill a doe, not on your life." Many hunters said it. They don't always stop to think that the real experts in the state have done a lot of research on this problem. If true hunters were asked not to hunt in a certain area because there were too few deer, they wouldn't hunt there. Now, they are asked to kill does in certain areas to help out the population.

This is why:

From around 1905 to 1928 there were no deer at all in North Georgia. Now there are too many. Look what the experts have done in only 33 years.

As recently as 1946, deer that came from state game management areas were real beauties. Now, every year more and more spikes and small racks hang in front of the checking stations.

Fulton Lovell says "In some areas the average dressed deer weighed 135 pounds a few years ago. Now, in the same areas they weigh 89 pounds."

Not much meat considering all the time, work and money spent by the hunters.

The Georgia Game and Fish Commission has spent a lot of time, work and money developing a strong, healthy herd. Its technicians have done their part to put venison on our tables. Let's not let them down now. Too many deer now may result in no deer at all later. They have always been subject to disease caused by malnutrition. An over-population is certain to end up in disaster, and set the deer herd back many years.

During the season, you will be asked to harvest does in certain areas. If you normally hunt there, go back, find yourself a nice big doe and bring her in. You'll be doing yourself a favor. Maybe next year, you'll bring in a ten pointer.



MARSH HEN

hunting

Whoever pegged the marsh hen as a game bird went a long way toward sending him down the same trail as the buffalo. If someone hadn't put in some pretty strict rules, the slow flying rail would have become the midget version of the whooping crane.

Twenty years ago, a man and boy could have gone to the St. Mary's River on the Georgia coast, spent three high tides in a flat-bottomed, motor-driven boat and brought home one hundred and fifty marsh hens.

Back in those days, a hunter had no trouble bringing down seventy-five birds with four boxes of number 7½ shells. This was the legal limit at the time—twenty-five birds daily. Regulations and limits were so loose that it was almost as though a sign should have been on the docks—HELP STAMP OUT MARSH HENS.

Eventually, and luckily, the federal authorities decided to save marsh hens from total extinction. They reduced the legal limit to ten, shortened the season and made motor boats illegal. Now, the rail is well on the road to recovery.

The federal regulations against use of motor boats for marsh hen hunting proved very unpopular with hunters.

Cries of "foul play" arose and hunters shouted that without motor driven boats marsh hen hunting has become a sport for the very rich and the very poor. They contend that either you be rich enough to hire someone to pole your bateau or poor enough and hungry

enough to pole it yourself.

While these claims are a bit facetious, the fact remains that marsh hen hunting under present conditions has detracted from the popularity of the sport. However, there are plenty of marsh hens along the Georgia coast waiting for the sportsman.

The most important facet of marsh hen hunting, naturally, is the tide. Select any high tide during season and set out for the marshes. The rest is up to you. Since rails are relatively slow fliers, don't expect an explosion like the rise of a covey of quail.

Once scarce, marsh hens now provide excellent hunting along the Georgia coast.

EQUIPMENT AND COST

WEAPON

Any shotgun from .410 to 12 gauge pump, automatic, etc. Cost from \$30.00 up—don't spend too much—salt water and marshes are no place for an expensive gun.

CLOTHING

Any good hunting clothes will do and don't worry too much about the cold. A good jacket and wool shirt will keep you warm. Waders are not necessary but a good pair of hip or high top rubber boots will keep your feet and legs dry.

INCIDENTALS

Boat and guide and a careful attention to tide tables.

WHERE

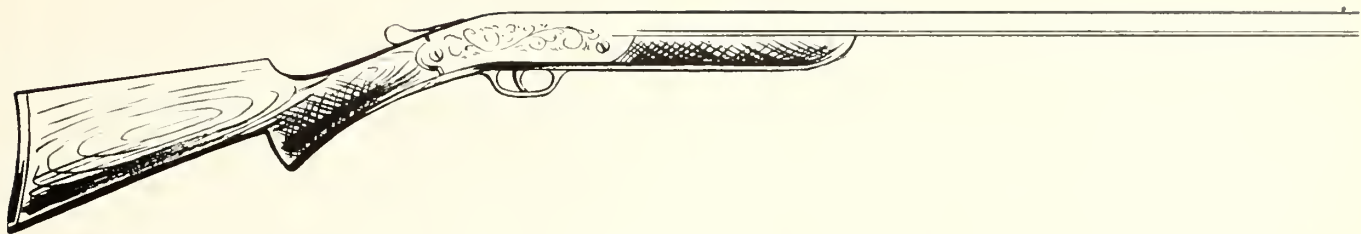
St. Mary's River, St. Simons Island, or any of the Georgia coastal area.

DOG

None required.



GUNS



...and gun care

The true deep woods hunter, as contrasted to the drug store or shooting gallery sport, has deep respect for his equipment. Special care is given to the basic tool of his trade, his rifle or shotgun. As with all worldly goods, the performance and dependability of a firearm are based completely on the knowledge and integrity of the manufacturer. Cost is important only up to a point. Beyond this variable point the gun purchaser is spending his good money for window dressing.

A hunter's best friends are his gun merchant and his gunsmith. Fortunately, there are a number of very knowledgeable professional gun vendors. The men in these stores are doing a job they know and love, and they can help the green horn if he will admit that he is green and not pretend to knowledge he has not. These vendors are backed up by the manufacturers, primarily American, who supply quality firearms in a wide range of prices. Many of the fine old names are sadly missing. Hand craftsmen such as Parker, Le Fever and L. C. Smith could not survive competition with larger, automated factories. Many good names are left—Winchester, Browning, Colt, Remington, Savage, Weatherby, Ithaca and a welcome newcomer, Strum Ruger, out of New Haven, Conn. Trust these names and trust your gun merchant. Selecting the proper firearm for your intended purpose is important to your end result—meat on the table. Even old timers who remember black powder seek advice from the pros.

Good gunsmiths are as hard to find as blacksmiths, but can be found. Ask around the gun shops. When you find a good man with respect for his tools and your firearms befriend him, gain his confidence, cherish your relationship. If he seems sickly and pale insist that he have a complete physical. Your success in marsh and field may depend on this man—especially if you use a repeater, a semi-automatic weapon.

Gun care is simple and based on common sense. A well blued gun, if properly care for, can survive the

rigors of upland hunting for many years with rudimentary attention to the bore and steady oiling of the working parts. Waterfowling is much harder on firearms and requires pre-exposure treatment as well as the conventional cleaning after firing. A rust inhibitor should be applied to internal parts as well as exposed metal before you go after the ducks and geese or marsh hens. Several silicon-base preparations are available, some in spray cans. For the stock, linseed oil rubbed in by hand will preserve the wood and enhance the beauty of your piece.

After firing or exposure to the elements your rifle or fowling piece should be promptly cleaned. A simple kit can be assembled to be carried in your gear bag or shell box for field care or superficial maintenance in the car on the way home. The basic components of your cleaning kit are store-bought patches—home-made flannel ones are better—a good break down brass rod with brass attachment, Hoppe's Number Nine and oil. Modern ammunition is kind to your bore but in my book any firearm needs swabbing with a solvent.

A single or double barreled shotgun is a simple mechanism and simply maintained. The mechanics supplying three rapid shots are more complex. A weed seed or a grain of misplaced sand can turn a Sweet Sixteen into a single or no shot piece, and cost you game and exposure. Careful hunters break down their automatics and tooth brush key functional parts.

If you are putting your firearms away for any extended period do not trust oil. Oil dries out and disappears to be replaced by a light coat of rust. Once again go to a heavier lubricant such as Rig.

To sum up—possessing a functioning firearm is a simple and pleasant thing. Decide what you want to shoot, count your money or see a friendly banker, seek advice from those competent to give it, give your gun the care it deserves and if it is ill take it at once to a crack gunsmith. This gun will bring down game for you, for your son and your son's son.

MAST



... and

Don't look for deer on Georgia's mountain tops where the principal crops are snow, ice and rocks.

The whitetail deer likes to browse on grasses, weeds and other plants.

The deer, however, do not subsist entirely on shrubs and other woody, understory plants. Acorns, berries and some nuts make up the animals' diet in addition to seed crops utilized—which irritates farmers—during the fall and winter months.

Other plants preferred by deer in north Georgia include the strawberry bush, greenbriar, Japanese honeysuckle, ash, poplar, black locust, sassafras, sourwood, dogwood, yellow poplar and maple.

Blue Ridge Game Management Area biologists found that rhododendron, which abounds throughout the area, was being browsed more heavily than was common in regions where it was less plentiful.

This example shows to what degree deer will browse a certain species of plant.

Weather also plays an important role in the feeding habits of deer. A severe winter, when snow and sleet cover the ground for lengthy periods, will cause the deer to munch on less preferred and less nutritious plants such as the laurel. This plant—when eaten in large quantities will be the death of the deer.

Mast—acorns, berries, leaves, nuts—provides a large percentage of the deer's food during the long winter months since timber contains many mast producers.

The Georgia Game and Fish Commission's personnel on management areas also assist the deer's diet by planting corn or orchard grass and clover food plots throughout the areas.

Roads in the areas which are little used are seeded to fescue (a species of grass) as are road banks where

Game technicians and foresters make periodic checks of available deer food.



a balanced **DEER HERD**

it prevents erosion. This provides the animals additional forage material. This seeding program is undertaken by Game and Fish Commission personnel.

Food plots are checked to determine how often they are utilized by game. A growth and usage study is sometimes conducted to find out the amount of food taken by deer.

Availability of deer food is determined by watching the height of the browse line on trees and taller shrubs. If the line—that is, if leaves and berries and such are nipped off to a height of more than five feet—the browse becomes unavailable.

This method also is used to show when a deer population reaches a number in excess of what it should be. Another indication of overpopulation in a deer herd is to compare the average weight of deer killed on area hunts each season.

Steps to maintain a normal population of deer must be carried out. Too many deer in one area will cause all to starve to death. One plan is to harvest (shoot) surplus animals. Another is to increase the food supply and increase the carrying capacity of the area in which the herd makes its home.

There is only one way to reduce the deer population and that is to hold hunts during which any deer—bucks and does alike—may be slain. If this were not done, the supply of harvestable bucks would be quite small and the ratio of does to bucks too large.

Both yearlings and old does would suffer most during severe winter weather conditions when browse is limited.

This is a phase of hunting all too often overlooked by the average deer hunter, intent only in bringing in a buck. The state and the hunter are both deeply involved.

Plenty of food and mast result in bigger deer, like these bucks taken on the Chattahoochee area.



Sportsmen speak out on GAME MANAGEMENT AREAS



Game management areas offer excellent small game hunting during the special "small game hunts."

Ask a hunter one question and you can count on at least two answers. But when it comes to hunting sites, sportsmen solidly support State Managed Areas.

A survey taken by the Game and Fish Department personnel during fall hunts reveals that Georgia sportsmen are pleased with the results of deer and turkey management on state-controlled or state-leased land.

Most hunters favor a special "big game" license with revenue earmarked for development and management of more areas.

Department Director Fulton Lovell is in full accord.

"We are striving diligently to obtain, through lease agreements, more land that can be used for deer and turkey management," said Mr. Lovell. "Georgia hunters are entitled to good deer hunting and we are trying our best to give it to them."

"We feel that our management area method is the best way to do it, since we are much more capable of protecting game from poaching and other conditions that would reduce their population in numbers. We have been successful with our program in the Chattahoochee National Forest for many years. However, the time has come to expand."

The survey was dreamed up by Lovell and his staff to find out what hunters think about controlled deer and turkey hunts.

Comments were good for the most part, but some called for improvements:

"The roads on the areas are terrible," one hunter complained. "The hunting's fine but you land in a mess of trouble traveling over some of these roads."

"I've been trying for several years to get a map of a certain area," another griped. "Someone should see to it that we get them."

"Campers ruin hunting," yet another opined. "I am in favor of restricting camping areas to one designated spot."

"I would like to compliment the wildlife rangers," one hunter said. "I feel they are doing a wonderful job of enforcing the law."

That answer came from a question asking if hunters felt law enforcement is adequate.

"I am definitely in favor of a 'big game' license or stamp like they have in other states with funds used to develop more lands for public hunting," one hunter offered.

For the most part, the Game and Fish Department does little road work. That responsibility rests with the U. S. Forest Service, owner of the land.

Under a cooperative agreement signed by the Forest Service and the Game and Fish Department, the federal government manages the forest, the state its wildlife resources.

"We are proud of the progress Georgia has made in public hunting areas," Lovell said. "But this is only the beginning. We must carry our program further."

During the period covered by the survey, 5,014 hunters bagged 492 deer during the management-area hunting period. This does not count deer taken outside management area lands during the regular season.

Much time and money is being spent on area management. The State Game and Fish Commission welcomes comment, pro or con, on the job it is doing. It works for you.

Left: Camping on special sites within management areas is popular with hunters—some even bring their families. Right: They may not hove venison, but they're eating anyway.



WHITETAIL DEER (Continued from page 4)

I didn't know what had happened to the doe and didn't care as I rushed over to dress out the deer. I shucked off my coat, rolled up my sleeves, and made the cut with my knife. For some reason, I looked up and the doe was standing not fifty feet away—watching my every move. She was curious about what had happened to her mate.

Four hours later, after a lot of sweat and with the help of Bill and Chuck, the buck was back at the cabin.

The cabin at Lake Burton borders the refuge in Rabun County. Burton is one of six game preserves in the Chattahoochee National Forest. Burton has fifteen thousand of the one hundred seventy-four thousand acres of wildlife management area in north Georgia.

Unlike the western states, deer are hard to come by in Georgia although they are known to inhabit nearly every county in the state.

In south Georgia they are hunted with dog and shotgun, and from the Piedmont area (around Macon) north, they are hunted with rifle. The "still hunting" method is most popular.

The season in Georgia varies with the county in which you hunt, but the management hunts start late in November and go into early December.

Select the area you want to hunt in, plan your trip ahead, and contact the Georgia Game and Fish Commission at the State Capitol for the time to hunt and the permit you need. Until 1960 permits cost \$5.00, but now they are free.

Along with the refuge hunts, Georgia has millions of acres of deer infested land.

In north Georgia, there is some ten times as much public land as refuge. In south and middle Georgia there

is land owned by the pulp and paper industry. Most of this land is open to the hunter though some is posted. If you want to hunt on the outside, hunt on government land, or get the permission of the landowner.

The work is hard, the season is short and your chances of bringing home a buck are about one in seven. The reward is worth the time and money it takes to bring off a hunt.

Take advantage of the hard work that the Georgia Game and Fish Commission has put in to get the deer herds built up to what they are today. Go deer hunting, maybe you'll be that one in seven.

EQUIPMENT AND COST

WEAPON

Any type 12 gauge shotgun with rifle slug of .00 buck shot. Rifle caliber .243 to .35 with muzzle energy not less than 1800 pounds and preferably not in excess of 3200 pounds. Cost \$50.00 to \$300.00. A good rifle can be purchased for around \$125.00. Scope sight not necessary but available for those who prefer it at around \$50.00 extra.

CLOTHING

A red cap, good soft weave hunting coat and pants, insulated underwear and leather boots. Cost around \$60.00.

INCIDENTALS

Knife, compass, handwormers, thermos and 20 feet of 3/16 nylon cord.

WHERE

North Georgia from Cornelio across to Rome, north to state line. South Georgia, Piedmont area (Groy, Macon and surrounding territory). Also from Savannah across to Albany south.

DOGS

In south Georgia only—only common hound trained for deer rather than coon or bear.

HUNTER AND WIFE

Irresistible Force vs.
Immovable Object



She may be boss at home but in the woods it's a man's world—sometimes!

New York state grants divorces for one reason only—adultery. Obviously, in New York state wives of hunters use techniques other than threat of divorce to control their booted, powder-mad mates.

There are many ways for the hunter to combat the problems at home. The neophyte hunter or neophyte husband invariably first approaches the problem in this way: He talks of the lure of the outdoors and the good affect of fresh air on complexion. He elaborates on the "togetherness" of man and mate sharing a duck blind or deer stand. When his lovely bride succumbs, he outfits her completely in field gear and buys her a nice little field grade 20 gauge shotgun. This is wrong, as

he quickly learns. He does not achieve his goal and loses money when he trades the 20 gauge in on a deer rifle for himself. The gear may fit his son in 10 years if it does not lose out to dry rot.

Wives vary. No one technique is best, but this one works in some households. Get your wife a large ledger book and after settling on a point system, train her to enter points for and against you. Between hunting seasons work long and hard to accrue points "for" yourself.

Possibly a trip to visit your in-laws could count as 20 points. A week long visit by your in-laws to your home might count for 50 points on the plus side. A few other point gainers might be painting the kitchen in July, attending with your wife a lecture on abstract painting, transplanting the rose garden, hosting your wife's bridge club at dinner in a better restaurant, and many others. Canning and timing are important here. There are only so many days to build up points between the spring turkey shoot and the first day of dove season. Then points score "against" you.

If the ledger is kept accurately—always double check this—you can easily fill out in doves, quail, duck and deer through a long, sweet, smokey Autumn with no feeling of guilt or contrition. Just tell her to check the ledger.

CHATTAHOOCHEE National Forest

The Chattahoochee National Forest, located in north Georgia's picturesque mountains, is widely acclaimed for its hunting and fishing. Also available to recreationists in this mammoth area are facilities for hiking, camping, picnicking and fishing.

The Georgia Game and Fish Commission, in cooperation with the U. S. Forest Service, helps nature provide excellent hunting and fishing in the forest. Many of the state's game management areas are located in the wide expanse that makes up the forest area.

Available for hunters are deer, turkeys, wild hogs and all species of small game, including ruffed grouse. Trout fishing is excellent in the myriad streams of the forest during season.



The Chottahoochee is o hoven far youngsters who wont to leorn more about nature.

HANDY REFERENCE TO RECREATION AREAS IN THE CHATTAHOOCHEE NATIONAL FOREST



Raccoons, like this shy one, abound in the forest, offering sport and thrills for everyone.

Below: Wild boor hunting is o popular sport on game management areas ond other parts of the forest.



Recreation Area	Picnicking	Camping	Swimming	Boating	Horseback Riding	Shelters	Concessioner	Camp Trailer Parking	Sanitary Facilities	Hiking Trails	Drinking Water	On Lake	On Stream
Andrews Cove	•								•	•	•		•
Annie Ruby Falls	•								•	•	•		•
Barnes Creek	•								•	•	•		•
Brasstown Bald	•	•				•		•	•	•	•		•
Brasstown Bald Summit	•								•	•	•		•
Chenocetah	•					•			•	•	•		•
Cold Springs	•	•						•	•	•	•		•
Conosauga Lake	•	•				•		•	•	•	•	•	•
Cool Springs	•	•				•		•	•	•	•		•
Cooper Creek	•	•	•			•		•	•	•	•		•
Cooper Creek Extension	•	•						•	•	•	•		•
Deep Hole	•	•						•	•	•	•		•
DeSoto Falls	•	•						•	•	•	•		•
Dockery Gap	•		•					•	•	•	•		•
George Washington Carver	•					•		•	•	•	•		•
Enoto Glades	•					•		•	•	•	•		•
Fern Springs	•					•		•	•	•	•		•
Frank Gross	•	•						•	•	•	•		•
Lake Winfield Scott**	•	•		•	•	•	•	•	•	•	•	•	•
Morganton Point	•	•	•	•				•	•	•	•		•
Mulky	•	•	•					•	•	•	•		•
Nancytown Lake	•	•	•			•		•	•	•	•	•	•
Narrows	•	•						•	•	•	•		•
Panther Creek	•		•			•		•	•	•	•		•
Pigeon Creek	•	•						•	•	•	•		•
Pocket	•	•						•	•	•	•		•
Raburn Lake	•	•		•		•		•	•	•	•	•	•
Russell Lake	•	•					•	•	•	•	•	•	•
Russell Lake Trailer Camp	•	•	•					•	•	•	•	•	•
Soque River	•	•	•					•	•	•	•		•
Spring Creek	•	•	•					•	•	•	•		•
Tallulah River	•	•						•	•	•	•		•
Track Rock	•	•						•	•	•	•		•
Unicoi Gap	•							•	•	•	•		•
Worwoman Dell	•					•		•	•	•	•		•
Waters Creek	•	•						•	•	•	•		•
Woody Gap	•							•	•	•	•		•

*A family unit consists of a fireplace, gorbage receptacle, table, ond porking spur or oreo.

** At Lake Winfield Scott horses are available for horseback riding. Rental cabins are available through reservations from concessioner. A \$1.00 per night fee is charged for camping to cover firewood and cleanup. All other oreos are free of charge with no reservations needed.

RECIPES

ROAST WILD DUCK

Plucking a duck is hard work but paraffin helps. Hand pick the heavy feathers, clip the wing tips and pop the duck into hot water with melted paraffin (about $\frac{1}{4}$ lb. to 6 quarts of water). The bird is then removed and allowed to cool. The wax and feathers then break off easily.

Methods of preparation and cooking vary widely. The specie of duck, to a large extent, will affect the kitchen technique—some ducks are gamier than others and even the feeding pattern within a specie will alter the flavor. A good basic method is shown. An imaginative cook can modify this to individual taste and improve on the standard recipe.

1. Cook as early as possible after the duck is bagged. Refrigeration increases dryness.
2. Dry the bird thoroughly and rub the inside with salt. Sprinkle with salt and pepper.
3. Stuff with your usual poultry stuffing enhanced with chopped apples or onion.
4. Cover the breast with strips of bacon and place in an uncovered roaster. Butter brushed on lightly could replace the bacon.
5. Roast at 325 degrees—10 to 15 minutes per pound for rare duck, 15 to 20 minutes per pound for well done.
6. Baste frequently with the juices; a small amount of claret or burgundy can be added but don't overdo this and destroy the subtle gamy flavor.

BROILED QUAIL

This is a good method; there are others.

1. Cut off head and feet; pick; split down the back with a short bladed knife; eviserate.
2. Dust lightly with flour.
3. Place birds breast down on rack at moderate heat of 350 degrees. Broil, turning once.
4. Allow 10 to 15 minutes to serve well done .
5. Baste often with melted butter.
6. Season with salt and pepper.
7. Serve on toast with light gravy made from the drippings.
8. Wild rice is always good as is a rose wine; Almaden Vin Rose, domestic and cheap, is hard to beat.

COOKING DOVES

The dove can be cooked using the same techniques as for quail. Dove is dark meated and gamier than quail but either bird can be broiled, roasted or served southern fried. Frying is perhaps the easiest method of preparation but does conceal some of the delicate game flavor. Follow the same method you would for fried chicken but cook more slowly and, of course, for a shorter period because of the bird's smaller size. Golden brown fried dove cooked slowly for tenderness is a delicious meal on a winter night. If you and your friends have had a good day's shoot, combine your bags and try a dove supper. The wives will appreciate the chance to vary the routine of daily meal planning, and eating what he shoots adds flavor to the hunter's plate.

ROAST WILD TURKEY

The perfect Thanksgiving dinner is America's own wild turkey roasted to perfection, bulging with chestnut dressing and served with wild rice and gravy.

If you are fortunate enough to bag a fall or spring gobbler turn him carefully over to your wife with these instructions:

1. Prepare for the oven like domestic turkey.
2. Stuff with a combination of chestnuts, a cup of bread crumbs, two tablespoons of butter and salt and pepper. The chestnuts, three cupfuls for the average gobbler, should be cooked until soft and tender, then put through a collander. The dressing can be softened with sweet or sour cream.
3. Truss the stuffed bird and roast for about two hours at 450 degrees. As with all game birds, baste frequently.
4. Enjoy a feast gourmets dream about.

ROAST VENISON

If you bring in a fine buck, properly field dressed, you can have delicious eating for a long time. It is usually best to work with your neighborhood butcher in preparing the meat for the freezer locker.

To roast the loin or shoulder portions follow these general instructions:

1. Wipe clean and dry and season to taste.
2. Put in pan, fat side up, and do not cover or add water. Steaming detracts from the deep woods flavor.
3. Baste for flavor and tenderness. Bacon strips on the venison helps here.
4. Roast slowly at 300 to 325 degrees for 20 to 25 minutes per pound of meat.



Ken Gammoge's smile is accounted for by his keen shooting.

WE HUNTED DUCK (Continued from page 9)

advance scouting, it was that we must move out even further from the boundaries of the refuge. The ducks we had seen off Egg Island were casuals, not the big flocks, but they were within range. By the second day of the season the flights learn to approach the feeding grounds on Butler high and then drop in fast after they have passed far above the guns of hunters in shore blinds and reed-covered boats near the refuge.

The subtle swiftness of these tidal waters made a lot of our decisions for us, and we decided to cut again through the South Altamaha with both boats, this time into the Mackay River south to Wally's Leg. Here was enough water to ride out the tide changes and, if our plans were true, to catch some of the big flights before they swung up high for the approach to Butler.

The talk was good and the hour late when we turned in; Bill snored once and the alarm sounded, bouncing us again into the pre-dawn chill of the Georgia marshes. The lights in The Shanty penetrated only a few feet into the heavy fog as we pulled in again for breakfast and lunch packs for the long day. It was early, but there was a lot of water between the South River docks and Wally's Leg. We wanted time to place our stool as enticingly as possible to convince these high flyers that Walley's Leg had as much to offer as the free lunch at Butler Island.

Chuck Childs tries his duck call at Butler's Island.



We were less than a mile through the South Altamaha when our plans sputtered and coughed out with the motor on Bill's boat. He and Ken in the smaller boat had been keeping pace with Chuck and Sammy and me. Suddenly they were falling back in black clouds of smoke and becalmed as the motor quit. It had pushed through many miles of mud creek and fresh water coves and sloughs in upland Georgia, but the salt air and heavy tide had stopped it. The night before a shrimp boat had cost Sammy and me our evening gunning, and now a dead engine did the job for the five of us on the morning shoot. The jinx was sticking. Sammy remembered back to the previous winter when his lovingly hand-loaded .308 had snapped dead at an 8-point buck during the refuge hunt at Lake Burton. The sun was well up; and we had heard distant shots when Bill threw down his pliers, warmed the chill air with a few final words, and we began the long tow back to camp, glancing up occasionally at the ducks headed for our rendezvous in Wally's Leg.

The rental motor was old and ill-tempered but running as we headed out again at slower speed in two-



The author, his face smeared with smut, sights an incoming flock.

boat convoy, retracing our morning route. The afternoon sun had caught the mood of the morning and disappeared as we worked our way slowly into the white caps of the Mackay. The wind and tide were fighting us now, but the sky was a chill steel gray, disgorging frequent spatters of rain as we swung out into the wide water where the Frederica River swam south away from the Mackay. At last the signs were good. Far ahead of us thick groups of black specks rode the bouncing water, and ducks of some species strange to us ran off ahead of our boats. I put the glasses on them, shrugged questioningly and passed the binoculars to Chuck, who doubles as champion caller and identification expert. The cosmopolitan waters of this coast had shown us in years gone by species foreign to our usual fresh water haunts; we settled for *scoter*; exact species unknown.



In duck hunting, the call's the thing!

We were approaching the entrance to Wally's Leg when Bill and Ken, after a moment's consultation, cut away and coaxed their surly motor toward a smaller creek. With luck they would be positioned to work in tandem with the three of us in keeping the birds moving—with luck.

The tide was changing and the day disappearing as we cut into the big creek or small river that is Wally's Leg. About 70 yards wide at low tide it promised fair pass shots at any flocks following the water toward Butler Island. The heavy saw grass and thick reeds of this coastal region makes the banks of every creek a prefabricated duck blind. As usual I chose the moist but reasonably stable footing of the shore in preference to the dry instability of the boat. I pushed out of the boat and back a few feet into the reeds to wait out this last hour of our second day.

From a hundred yards further down I heard the first tentative rasps as Chuck cleared his throat and his duck call. He and Sammy were in the boat, pushed hard into the reeds on a rising tide, and waiting as I was for the first shot of this three-day hunt.

The rain was steady now, trying to find its way into my parka: and I shivered with cold and anticipation, waiting for something to happen. The day was almost over, and after thirty minutes I had despondently moved out toward the water's edge to yell to Chuck and Sammy for taxi service when the sound began. Suddenly thick flocks of small swift ducks—surely teal—beat through the wet air in a strong rushing sound I'd never heard before, aimed straight over my head toward Butler Island. There was no need for concealment; the high grass at my back shielded me as I stood in the black mud and stared up at the flocks of twenty, thirty, fifty teal streaking thirty yards over my head. After four long years of search I had landed in the exact middle of a narrow duck-choked path with scant minutes to shoot. Finally I shook off the wonder of it all and threw down on a straggler in a flock of twenty and dropped him with the right barrel. I threw the left shell ten feet behind a second and fumbled two more number 4's into the Parker as I heard Chuck and Sammy open up—shooting toward the hole in the sky above my head that was releasing this steady stream of ducks. Another teal veered slightly away from his flight and the right barrel

dropped him into the blackening waters of Wally's Leg. He fluttered and tried to rise as the second load of shot met him. The steady sound of wing beats continued, but I looked at my watch and broke my gun. I watched as the flight continued against the blackening sky until the sound of the motor cranking up veered them away from us.

Sammy ran the boat in to pick me up, and we cut out into the swifter water to pick up the ducks we had dropped—green-wings. Chuck and Sam had dropped two each: one of Chuck's rode out a magnum load to fall, irretrievable, deep in the marshes. We had five green-wings in the boat and headed back into the quick darkness to meet Ken and Bill and compare bags before the long, wet ride home. They had not seen the heavy flights but had gunned down one each in quick pass shots at birds we had sent them.

Again we rode tow back to South River Camp as the other motor, feeling its years, coughed out. We didn't feel the cold or the salty wet on the long trip back through the buoy-marked blackness. We had found one key to the mysteries of these Georgia marshes, and there was another day to come. The teal might never fly that course again, but we had meat in the boat and tomorrow—maybe canvasback. Ahead of us at last, lights and a forgotten jinx washed out by seven green-wing teal and glasses of warm whiskey.

EQUIPMENT AND COST

WEAPON

Shotgun, ideal is double-barrel with right barrel modified, left barrel full or extra full. For single barrel guns a choke lets you adjust to the conditions that prevail, pass shooting or shooting over decoys. Cost—\$200.00 absolute tops; banging from boat or blind is hard on a shotgun so don't over-buy. Again \$50.00 will do it. Use number 4 or 6 magnums.

CLOTHING

Dress like a duck, in layers, waterproof and warm; insulated underwear, light wool shirt, sweater, waterproof pants with rubberized knees and seat, waterproof coat or parka, boots, waterproofed by science or a good rubber/leather combination, hat or cap with ear flaps, all in camouflage colors and **water proof**, not water resistant. Add to water proofing with a spray can of Gard. Warm gloves, two pairs.

DOG

Good if you can afford it. Labradors, Golden Retrievers, Newfoundlands, Weimaraners, even Spaniels make good heavy-coated water proof blind companions—if properly trained and simpatico.

INCIDENTALS

Endless—duck call, thermos, canteen, binoculars, duffel bag with dry sacks and shirt, revolving seat shellbox, rubberized parka and pants, waders, camera, hand warmers, hand warmer kidney belt, rubberized gloves, knife, life preserver, boat—fiberglass best to take 12 horse motor, boat trailer, and **decoys**. The decoys can cost \$88 or \$10.00. A good set of blocks, up to 50, can be had for \$100 and will last for years. Try the local merchant. Follow the instructions as to rigging the blocks and tossing them out. Ducks are smart and sharp-eyed; they don't like phonies.

WHERE

Ducks like food and water. Try the Chattahoochee, Lanier, Allatoona, Jackson, Sinclair, High Falls, the Altamaha and Tugaloo Rivers, Woodruff. Aim eventually for Stuttgart, Arkansas, or Mattamuskeet, N. C. Get up early; the best shooting is at day break and dusk. Buy a duck stamp at the post office and sign it.



Enforcement Chief Cliff Palmer makes a routine check of dove hunters for license violations.

Sportsmen in **UNIFORM**

A familiar sight in a Georgia dove field is a State Fish and Game Ranger and his partner quickly and efficiently moving from stand to stand, checking licenses, and dead birds.

The true sportsman is always glad to see these men. For the most part the rangers are courteous and dedicated public servants enforcing the written rules. If a hunter pays his state license fee, contributes to water fowl propagation by buying a duck stamp, shoots no more than three times without reloading and scabbards his gun when he fills out, he likes to think that somebody appreciates him. These homely virtues game wardens do appreciate.

There are a few hunters who react badly when they see a game ranger. They desperately try to plug their automatics or start flinging dead doves into the cane brake. Fortunately, those game bandits are few, but it's good to know there is organized, intelligently administered opposition to flagrant violation of game regulations.

Behind the wardens in the field is a complex organi-

zation of scientists, administrators, chemical workers, publicists and all of the personnel required to try to please politicians and public, informed and uninformed. Game and Fish people are fallible; like anyone they make about as many bad decisions as they make good. Generally, they succeed and for this they should be appreciated.

Enforcement of game regulations has become increasingly complex with the advances of science. The ranger can still spend a week on horseback, packing his grub deep into the mountains to seek out violators. Don't be surprised though to see him skimming over your stool of decoys in a modern amphibious plane. Flexibility in communications through the intelligent use of radio has thwarted game robbers as well as bank robbers. The rangers are well equipped and well trained. They work hard to protect the public's wildlife and to educate this public on the value of this priceless possession.

When next you see a truck with Department markings—state or federal—driving down a mud rutted road, wave your hand. These men deserve recognition.

Left: Wildlife rangers are constantly in touch with trouble areas via two-way radios. Right: Chief J. D. Atchison issues instructions from his base radio station in Metter.





REACHING OUTDOORS

By BOB SHORT
Editor, Georgia Game and Fish

From the Mountains to the Sea

The outdoorsman, whether he is hunter, fisherman, or camper is a lucky mortal. Georgia outdoorsmen who have hunted and walked the woods of this state as boys and then as men are even luckier mortals. They learned from their fathers to love and respect these woods. Their fathers, as boys, had kicked up coveys of quail where now stand pavement and houses.

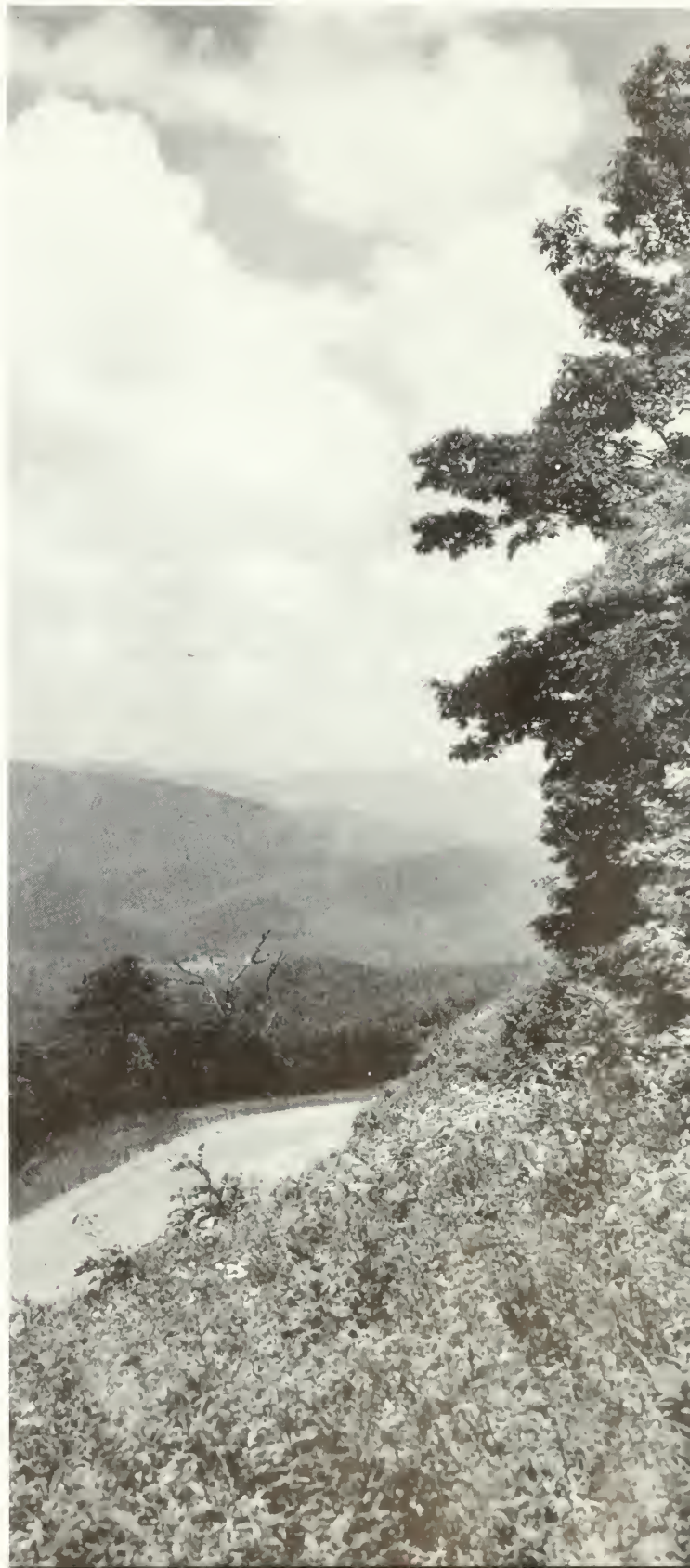
As our sons grow to manhood, we should teach them, as we ourselves learned, what the woodlands and marshes of Georgia offer. These woodlands are shrinking: yesterday's deer stand is today's drive-in theatre. Progress is inevitable but eventually there must be a pause. Something green must be preserved for us, and for newcomers arriving with the very industries which tend to restrict the available woodlands as they enrich the communities they join.

Georgia is a large state, the largest east of the Mississippi, and Georgia is a rich state—less in actuality than in potential. There is in Georgia every variety of woodland and marsh to offer sustenance and cover for many forms of wildlife. We have only to recognize this fact and appreciate it to open up to ourselves and our children a rich reserve of pleasure and adventure.

From Hell Hole Gorge in the Georgia mountains to the Altamaha River on the Georgia coast, we have waiting for a variety of hunting and outdoor living that few states can match. Take your choice of the cold crispness of the Eli Field high above Lake Burton or the salt-stained air of Wally's Leg off the Mackay River near Darien. Take your choice of a .308 Sako for the 8-point buck at Burton or a 12 gauge Parker smooth bore for the teal at Butler Island. The fun and richness are there for the taking, for you and your children.

Men with love and respect for the wilderness and its creatures must unite in spirit to preserve what we have and pass on this legacy, unimpaired.

To this end the special hunting edition of the Georgia Game and Fish Commission Magazine is dedicated.





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