

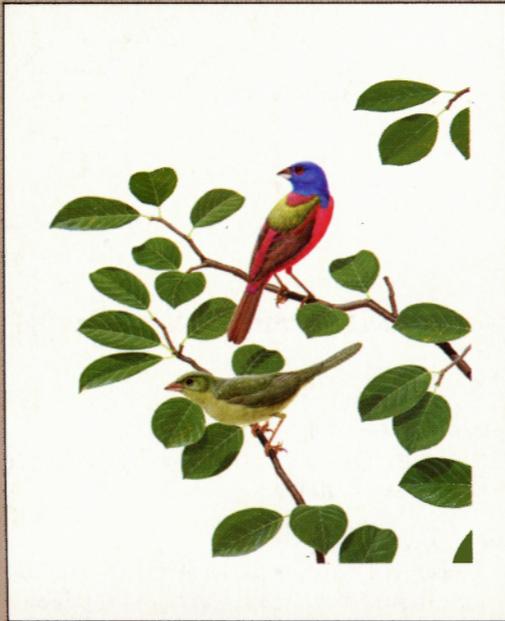
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SOUTH CAROLINA WILDLIFE

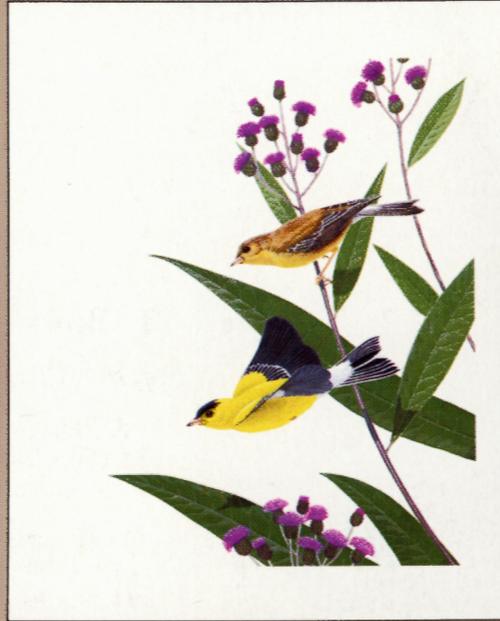
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This initial collection of paintings, which appears in our May-June 1985 issue, contains four lifesize depictions of the favorite, and in most cases, the more colorful, largely seed-eating, southeastern birds. More information on these collector prints is available on the purchase agreement on page 64 of this issue.

SOUTH CAROLINA WILDLIFE

NOVEMBER-DECEMBER 1985, VOL. 32, NO. 6

Dedicated to the Conservation, Protection, and Restoration of Our Wildlife, And to the Education of Our People to the Value of Our Resources.

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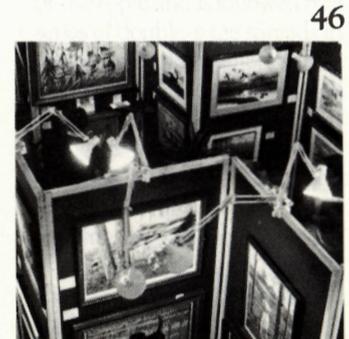
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LITE	M	P	TERRY HERNDON
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BIOSPHERE



Those who continually abuse the resource must be denied access to the "club."

"TWO TURNS SHY O'SNUG, A NUT ON THE LOOSE." That's how my boyhood buddies described any who made a habit of talking to themselves in public.

I wonder how they would describe South Carolina's sportsmen. Sportsmen are in grave trouble, mumbling to themselves about the increasing losses of our public lands, about ethics, sportsmanship and stewardship. Something must be done about it.

If you're one of those who loves outdoor South Carolina — one of those who's mumbling — don't despair about these one-sided conversations. There is hidden value in what some may dismiss as only mutual madness. If we talk loud enough and long enough to ourselves, others — lawmakers and ultimately lawbreakers — will have to hear. In fact, someone already has.

In our last issue, "GMAs — The Crisis At Hand" focused on the governor's Land Procurement and Utilization Committee study of the decline of available lands for public hunting and multiple-use. While deadlines for this issue precluded reporting the committee's final recommendations, "GMAs — A Plan For The Future" provides enough for some hard commitments on our part.

Although I'll admit to oversimplifying a complex issue, the committee's findings point to one basic solution: public access, including access for hunting, can only be preserved through a greater investment from those who use these lands. And that investment includes more than money. We'll have to increase user and license fees to generate funds for outright land purchase as well as increased leases. We'll also have to work out a solution to abuses that now plague our public lands.

While access to the land is a privilege, not a right, we need to emulate the private hunt clubs. Those who call themselves sportsmen, yet exhibit a "Me first, to Hell with you!" attitude can no longer be tolerated. They must be denied membership in our "club."

"If you've leased to a private club," one corporate landowner says, "you know who to talk to when a gate is torn down, trash is dumped, or a road is rutted out. If the club wants to keep that lease for next season, they'll get rid of any member who abuses the property owner's rights."

Legislative statutes governing hunting and fishing violations and wildlife department-controlled Game Management Area rules and regulations provide the basis for a multi-level punishment structure recommended by the committee. Loss of points for game law violations can result in fines and loss of hunting or fishing licenses. And, under item 6 of the general Hunt Unit and GMA Regulations, "...permits may be denied or revoked...when the denial or revocation is in the best interest of wildlife propagation and conservation of Game Management Area lands."

If our public hunting program is to continue, this latter option should be exercised far more often than the forty-odd GMA permit revocations of this past season. If we seriously value our access to the land, those convicted of abusive types of behavior should be fined and made to provide full restitution and compensation to the landowner. If we're really serious about preserving South Carolina's outdoor traditions, GMA permits should be revoked for at least one year, and second and third offenses should carry stiffer penalties and possible prison sentences.

These are some of the ideas the committee is discussing as this issue goes to press. As sportsmen, we'll be talking to ourselves about them, and talking to those elected and appointed to provide for our interests. If the committee's recommendations are followed, we'll have the "voice" to make violators pay heed to the definitions of words like ethics, sportsmanship and stewardship of the land. At long last, those who continue to abuse their fellow sportsmen, the land and our wildlife resource would be well advised to get out of the "club."

Richard W. Riley
Governor of South Carolina

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AN EQUAL OPPORTUNITY EMPLOYER.

FISHERMAN'S GUIDE – Fishes Of The Southeastern United States

By Charles S. Manooch III, illustrated by Duane Raver Jr., North Carolina State Museum of Natural History, P.O. Box 27647, Raleigh, North Carolina, 27611, 376 pages, bibliography, glossary, IGFA all-tackle world records, indexes, copyright 1984.

Anglers, commercial fishermen, nature lovers and devotees of wildlife art will find hours of reading pleasure between the covers of this book. **Fisherman's Guide – Fishes Of The Southeastern United States** is sure to become the Bible of freshwater and saltwater angling and commercial fishing in southeastern Atlantic coastal states. The book, which includes the area from Delaware through Florida, is remarkable for its breadth of coverage and clarity of prose. It is the only book of its kind and includes over 250 species of fish and an artist's beautiful color paintings of 150 of those most often caught by fishermen.

The variety of fishing situations includes mountain streams, ponds, lakes and reservoirs, coastal rivers, inlets, sounds and beaches, offshore reefs and Gulf Stream waters. Detailed accounts tell the reader how to identify the fish, provide life history, habitat and distribution information and present methods of catching and preparing the fish for the table.

Charles S. Manooch III, the author, is a professional fisheries expert long-experienced in the field of fisheries management and technology as is the artist and illustrator, Duane Raver Jr., who is nationally known for his paintings of fish and wildlife.

SOUCIE'S FISHING DATABOOK – Essential Facts For Better Fresh- And Saltwater Fishing

By Gary Soucie, Winchester Press, 220 Old New Brunswick Road, Piscataway, New Jersey, 08854, paperback, 128 pages, copyright 1985.

Soucie, executive editor of *Audubon* magazine, has gathered together in concise and handy format all the hard-core facts and data that every angler needs on virtually every outing but can never seem to remember or to find when needed.

No matter how you fish, or what you fish for, this book has information you need on such subjects as the best trolling speeds and water temperatures, optimum spawning conditions, IGFA angling rules and world-record requirements for freshwater, saltwater and fly fishing, knot strengths, names and nicknames of sport and bait species, and line capacities of different types of reels. Whether you need to match the hatch or set your reel's drag, Gary Soucie's new book is just the ticket.

Written, organized and indexed for easy, fast and ready reference; designed, printed and bound for the tacklebox or the book shelf; **Soucie's Fishing Databook** is about as useful an angling tool as a well-sharpened hook.

BOWHUNTING FOR WHITETAILS

By Dave Bowring, Stackpole Books, P.O. Box 1831, Harrisburg, Pennsylvania, 17105, 340 pages, illustrated with photographs and drawings, copyright 1985.

Bowhunting For Whitetails offers in-depth information on

whitetail deer hunting. Included are such topics as scouting, tree and ground stands, still-hunting, tracking a wounded deer, compound and recurve bows, the hunting broadhead and scents.

A fine photographer, Dave Bowring includes scores of instructive black and white photos, and where drawings make the point, he provides them also.

To improve your bowhunting skills, **Bowhunting For Whitetails** is a must for you to read.

INSECTS IN CAMERA

By Christopher O'Toole, Oxford University Press, 200 Madison Avenue, New York, New York, 10016, 158 pages, illustrated with photographs by Ken Preston-Mafham, copyright 1985.

An exceptional book, **Insects In Camera** is a combination of crisp text and astounding photographs that depicts the lives of insects. The book is based on an evolutionary approach and includes many new observations on insect life-styles. Some of the subjects have never been photographed before.

There are seven sections, each built around a major theme of insect behavior. Each section begins with an introductory essay giving a general overview of the topic and is followed by a series of double-page spreads in which each photograph has a detailed caption. Many spreads illustrate special behavioral sequences and have linked captions, enabling the reader to follow the text and the accompanying photographs without having to leaf through the pages in order to relate one to the other. 🐞

READERS' FORUM

GMA Situation Appalling

Thanks for a wonderful magazine and all the conscientious effort and research that goes with the finished product. I would like to comment on the GMA problem.

I don't really hunt anymore but have had my share of fun at it in years gone by and am fully in sympathy with all those who love the great out-of-doors. I am appalled at the prospect of the average sportsman (hiker, camper, picnicker, etc.) losing so much of the lands set aside for public use due to greed, partly of the companies involved, partly of the semi-professional type of hunter as represented by hunt clubs. I recognize the very hard job facing us all – to find a solution to the problem. It does seem, to me at least, that government, which is responsible for the vast improvement in quantity and quality of hunting in our state (or those who have worked so hard to restock our woods and fields), should have some "say so" on the use of these resources – paid for at least in part by the taxpayer and the average hunter who is not a member of a club. It is unfair that these resources should now be enjoyed by the select few who can afford it and the companies for profit. I realize that the careless and destructive element of the public is at least partly responsible for the problems we now face. No one individual or company likes to have his property abused.

Perhaps a publicity campaign to let the public know more about this situation would help.

Also our legislators might look into the problem, with special emphasis on a possible tax on every acre pulled from public use (due to public ownership of game that has been produced through public effort) to be applied both to the monies received by the companies and to the hunters who have exclusive use of these resources by virtue of hunt club membership. If nothing else, this money could be earmarked for purchase of lands for public use and that might be its best use, since it offers permanent lands that greed could not horn in on! I feel the tax mentioned would be perfectly appropriate since, as I said, game resources of today are available largely due to past efforts that were publicly supported.

I am looking forward to your next article on this problem. Thanks for listening and many, many thanks for "superb" *South Carolina Wildlife!*
R.F. Chancellor
Charleston

Congratulations! I have just finished reading the September-October issue of your magazine and I was pleasantly surprised to find two articles ("Crisis At Hand" by Tom Poland and "Biosphere" by John Davis) devoted to a problem that has long been of concern to most South Carolina sportsmen. Specifically, I am referring to the dwindling acreage in the GMA land program and the demise of the multiple-use concept envisioned by your predecessors at the South Carolina Wildlife and Marine Resources Department.

Admittedly, corporate landowners must attempt to maximize their return on assets employed including the use of lucrative leases to hunting clubs of lands that contain wildlife in harvestable numbers due largely to the efforts of your department. However, these same landowners might be wise in their recognition of hunters, fishermen and other sportsmen as consumers, consumers who purchase products of which some are made by these landowners. Please do not misunderstand me as I am not advocating a boycott. I am simply advocating compromise and a reassessment by all parties involved to remedy the situation.

Corporate landowners might compromise their position by establishing a ceiling on the total number of acres to be withdrawn from the GMA land program in lieu of total acres owned.

Sportsmen might compromise their position by actively seeking to enroll in the hunter safety program offered by the wildlife department as well as using some common sense when enjoying the GMA lands by adhering rigidly to GMA land regulations.

The wildlife department might compromise their position by recognizing the sovereignty of corporate lands and make provisions to acquire GMA lands on a permanent basis with funding provided by special permits (Why not the GMA permit?), increased license fees or possibly a check-off on individual tax returns similar to the nongame check-

off now provided. Moreover, a saturation program of game wardens in problem areas similar to that of the South Carolina highway patrol might entrench regulations in the minds of sportsmen.

Now that all parties have recognized that a problem exists, the time has come for each to contribute to the solution. All we need is a capable leader!

A.W. Lester
Lancaster

No Cavities!

A few months ago, at my dentist office, I found your magazine. I said to myself, "You've got to subscribe to that wonderful magazine."

The dentist gave me such happy news, "no cavities," I danced out of his office and completely forgot about you folks.

Today, I received my vehicle tax return, marked PAID and with it came the offer from you folks. That made me happy!

I'm going on vacation and need every penny I've got, but when I return you'll get your check for \$7.95.

Thank you.
Edna P. Barrett
Columbia

A Beautiful World

Know what makes it a beautiful world? People like you *South Carolina Wildlife*.

I would like to have a copy of your January-February 1985 magazine with a picture in it of the old Hagood Mill near Pickens, South Carolina.
Aaron Boggs
Charlotte, North Carolina

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GAME BIRD OF THE SOUTH

Though more resources and effort have been bestowed upon the quail than on any game, anywhere, this little game bird continues to decline. The bobwhite's history parallels that of the small farmer whose land once supported it in such huge numbers.

by Nancy Coleman

illustration by Ellen Fishburne Seats

Barely a fistful of soft white down and brown feathers, it possesses a knobby head and long scratching feet. Though perhaps no more beautiful than a sparrow or a thrush, this fistful of feathers is no ordinary bird. It is THE bird.

Biologists have spent lifetimes trying to please the palate of this little bird by setting out plants and peering through tree limbs to spy on it during its daily strolls to and from the pea patch. Farmers have sacrificed acres upon acres of field edge to keep it a welcome guest. Many a dog has been decorated and mourned upon dying for its ability to smell and point the little guy. Artists, neglecting greater inspirations, have rendered yet another painting of it on some plantation's walls. Rich Yankees have bought plantations from Georgetown to Georgia and "sacrificed" productive farmland so they can fly down during the winter and tromp through the fields in pursuit of His Majesty, THE game bird of the South, the bobwhite.

The bobwhite's life history follows a structured cycle epitomized by quaint habits designed for survival, but these habits aren't the real reason the quail is so fascinating. It's fascinating because the bird is so darn good for hunting.

Once quail find proper habitat, they populate the place quickly. Dressed in natural camouflage, quail travel in coveys, groups of about fourteen or fifteen, that, historically, freeze when faced by a predator. When the hunter moves in on the covey, it splits with a heart-stopping explosion of wings, and birds fly in all directions.

While the bird has many common names... Virginia, eastern, southern and native quail, folks around here just call it "bird." He calls himself "bobwhite."

Bob's history in our country parallels that of the small farmer. In prehistoric times, quail dwelled in small numbers in the brush of southern Texas, the Gulf Coast and the Midwest. The hardwood forests of the Southeast were too dense to support many quail. Small sections of these forests were cleared by the first farmers of the Southeast, the American Indians. These early farms provided perfect quail habitat – small fields with transitional edges leading to wooded areas. But the Indians neglected the quail in favor of the larger, meatier and less elusive turkey.

In the 1800s, large-scale timbering created more habitat and, hence, more quail. When the settlers of Pennsylvania burned over half their forests for bison pastures, quail production seemed to increase, and a regulated quail hunting season was established there in 1838.

American quail numbers climbed until 1900 with the area best known for its quail population being the Black Belt, a crescent-shaped prairie of black soil running from central Alabama to northeast Mississippi. Surrounding the large plantations in this belt were the small odd-shaped fields farmed by slaves and tenants. The lime soil of the Black Belt produced an abundance of quail food, and quail expert Walter Rosene says a crack shot could kill forty quail a day back then. With such an abundance of birds, over half a million bobwhites were shipped northeast from Alabama during the winter of 1905-1906.

Transplanted populations thrived elsewhere, and South Carolina also earned a reputation for quail. Rosene, whose life has been spent studying quail, derived much of his statistical data for his famous book *The Bobwhite Quail* from records kept on South Carolina plantations with names such as Groton, Okeetee and Oakland Club.

From 1900 to 1940, quail numbers stopped climbing and stabilized, but since



Ellen Fishburne Seatz '95



As blackberries and other summer food items diminish with the passing of August, quail turn to such foods as the French mulberry. As winter approaches and food becomes scarce in general, the birds may invade each other's territory creating areas of "overlapping" coveys.

that time the "cleaner" methods of larger, mechanized farms have reduced quail numbers. The Black Belt was converted to pastureland while many of its landowners planted timber. For a while, forestry practices restricted the use of fire, and once again, the forests grew dense and edge areas became scarce.

Today, bobwhites live in most states at all elevations with periods of high rainfall extending the quail population's western border and mild winters extending its northern limits.

The bobwhite's life cycle explains its habitat needs for adequate cover near different food plants. Ideally, the bird prefers areas where forest, brush, grass and cultivated lands exist within a forty-acre range.

Life for a quail usually begins sometime from May to September in a small nest of dead grass, stems or pine needles. The embryo uses its egg tooth to pip a small hole near the large end of its egg and continues pecking away until the end of the shell is almost severed. The wet chick squirms, rolls, peeps and kicks free of the shell. The mother broods all her babies dry and then leads them away, usually the same day. After a few days pass, the small quail lose the egg tooth that liberated them from their shells.

The quail family stays together day and night. The attentive parents brood the young until they grow protective feathers in about two weeks. In three to four weeks when the chicks are too large to roost under their parents, they instinctively begin roosting with the adults in the configuration of a disk, tails to center, heads out. Wings are raised and overlapped at the rear, effectively sealing the top of the disk to trap body heat. The colder the weather, the tighter the disk.

During the day, the parents lead their long-legged chicks in search of seeds, small fruits, green forage and during the warm months, protein-laden insects. Quail sometimes drink surface water, but usually their water needs are met by dew, insects and succulent greens.

In addition to locating food, young quail clean their feathers by dusting as most have lice or other external parasites. The quail parents leave their old dusting "cups" to scratch out several more in a new patch of soft soil so that the entire family can dust together. Should one parent die, the other stays with the young until they are reared, a process which takes about six weeks.

In the fall, the families begin to break up anyway. At night, they may divide into two disks of thirty or more and roost near one another. As the nights grow cooler, the fall shuffle ensues with the birds rearranging themselves into smaller groups that search for new ranges where food and cover will sustain them through the winter. In a vertical migration, birds on the grass balds of mountains like the Smokies may move to lower elevations where the winter is milder. At first, individual birds may shift from unit to unit, but when the group is stable and a range is fixed, the little gang of about fourteen birds is known as a covey.

Covey formation usually occurs around the first week of November. These coveys are composed mostly of young birds born that summer as only one in five quail survive until the next year. Every two years, each year-class is almost completely replaced whether the population is hunted or not. A two-year-old quail, then, is quite an old fellow.

Besides human predators, quail have to look out for a long list of other predators...skunks, opossums, foxes, rats, raccoons, weasels, minks, bobcats, squirrels, hawks, owls, snakes, turkeys, crows, blue jays, cats and dogs. Though this sounds like a rough life, some of these predators are rare and all feed on other animals including other quail predators.

With so many predators lurking around, traveling in a group means safety in numbers. Coveys seek out grasses thin enough to permit passage, but they also like to be near thick cover in which to escape. When they find a range they like, a covey will stay in that general area for years although its population, of course, continually recycles itself. And other coveys may be nearby as covey

ranges overlap at times.

Life in a covey goes something like this. In the morning, usually when plants have lost their dew, the covey leaves its roost to feed and walk on the driest, warmest ground it can find, often bare ground where food items can readily be seen. Sometimes, one bird will whistle the covey call as they depart, and other coveys may answer. At midday, they rest under cover and cluck softly.

If the ground is cold and wet, the covey may only feed about thirty minutes, and then return to cover. If food is quite scarce, however, as in late winter, they must eat longer, sometimes searching for seeds from daylight to noon and later from 2 p.m. till dark. If food or cover becomes unavailable, a covey may move into another covey's range. And if enough members of the various coveys die, the coveys may unite.

Birds separated from their covey give the covey call to relocate the group. Sometimes another covey may answer and thus gain a new member. When two or more coveys are flushed, the individuals may mix to form new groups.

At dusk, the covey usually walks to roost on a gentle slope with good drainage. They prefer to be hidden by scattered growth about two feet high but open enough to see the sky above. Burned ground is popular with the birds because the black ashes retain warmth. While roosting in their disk, the quail leave droppings which provide hunters a sure sign that quail are in the area.

When the weather begins to warm in late February, the cocks go a little crazy, becoming less wary of predators and very attentive to the hens. The cocks' weight drops and they begin to "bobwhite" every morning for two hours before sunrise. Whistling coincides with the breeding period continuing through September with its peak occurring from mid-June to mid-July. Rosene states that males seeking mates tend to cluster in small groups and identify themselves with a call every five to eight minutes.

Through studies by Rosene and others, a correlation has been found between the number of whistling cocks in the spring and the number of coveys found in the fall. State biologist Billy McTeer says that in some cases census records on designated sites have proven to be a very reliable predictor of the fall covey numbers.

A male and female pair may feed apart from the covey during the day but rejoin them later. A male that begins to chase other cocks away reveals he has chosen his mate. The pair may then detach themselves completely from the covey by day but continue to roost with them at night. By mid- or late-March, pairs begin to stay away from the covey even at night. In any one covey, there are usually a few more males than females, probably because females are more vulnerable during the nesting season. So by mid-April, all the females are mated, leaving only single males.

During this season of dispersal, a covey may move to a completely new range. After several warm days in late April, the covey may be dissolved but individuals may still roost in the disk for awhile. The males may follow a mated pair, but the other male will drive him off. Injuries rarely occur during these scuffles, however. The male's song and plumage display are intended to tell single males they are unwanted and that he will defend his territory. Females, meanwhile, are convinced of his prowess.

The typical female's weight goes up in the spring as her reproductive organs enlarge. Nesting begins in mid-April and increases with the temperature. Most eggs are laid in early May when ample rainfall provides the moist weather needed for incubation. Nesting quail remain in the same area during the summer, and several pairs may nest on one acre while equally good sites nearby go uninhabited.

The pair build their nest on open ground, often in broom sedge or other grasses so that stems can provide overhead cover. Usually an opening such as a



Quail form a circular configuration for roosting known as a disk. With heads peering out its perimeter roughly at 360 degrees, surveillance is at a maximum. Not only does the covey enjoy security, it also reaps warm benefits from the disk. Overlapping wings seal out the cold while trapping body heat, providing the covey a well-insulated, winterized roost. Circular droppings provide a sure sign that quail frequent the area.



Bobwhite quail, *Colinus virginianus*

Description: Bobwhite quail are of the order Galliformes meaning “chicken-like” birds. Their feet are adapted to scratching and walking. Strong breast muscles and short wings enable them to fly short distances at high rates of speed. Being sexually dimorphic, sexes are easily distinguished by the white eye streak and throat patch on the male, while comparative parts on the female are more buff colored.

Distribution: The bobwhite quail is widely distributed throughout the southeastern United States. Populations remain relatively stable in these states due to adequate rainfall and mild climates. In western states, deficient amounts of rainfall limit population numbers, while in the North, severe climate causes high mortality rates among bobwhite quail.

Habits: Bobwhite quail primarily prefer early successional habitat types like agricultural areas and regenerated forest sites. This type habitat provides an abundance of seeds, small fruits and animal matter necessary to a quail’s diet. In agricultural areas, this habitat can be found around weedy fence-rows, ditch banks, or uncultivated field borders. In forested areas, regenerated sites provide ideal quail habitat for a period of three to five years.

Food: Quail eat a variety of seeds and insects. During the summer months, a variety of insects are important to young quail, since they provide a quality source of protein. As the young chicks mature, their diet changes more to seeds. Waste grains from agricultural crops provide good quality food for quail. In addition, various weed plants such as beggar-lice, partridge pea and ragweed are highly-preferred foods.

roadway is near. Both birds scratch out a deep saucer four or five inches across with a rim of soil around the sides. The hole is filled with dead grass to ground level. To hide the nest, a grass arch is built with an opening so that the hen can come and go. About five days of work completes the construction of the nest.

One or two days after the nest is finished, the first egg appears, and one more is added every day thereafter until twelve to fifteen eggs fill the nest. After laying each egg, the hen goes to the nest’s opening and walks a short distance to meet and feed with her mate rather than roosting on the nest. If she returns and finds the nest destroyed, she will lay her eggs anywhere, sometimes in another bird’s nest.

Except when eggs are being laid, the quail couple remain together day and night.

After approximately nineteen days, the whole clutch is laid. The hen then begins sitting on the nest during most of the day and all night. Her body heat increases the temperature of the embryos and they begin to grow. With her feet, breast or bill, the brooding hen turns the eggs to keep the embryos from sticking to the shell’s membrane. Though the shell membrane is tough, it thins prior to hatching. On the twenty-third day of incubation, all the eggs hatch within a few hours of one another.

Mortality is high for quail with 60 to 70 percent of the clutch being lost for various reasons...predation, inclement weather, nest destruction. Should the first nest fail, the birds will continually try to renest, but their chances for success decrease with time. Clutches get smaller, nests poorer, and the female less attentive. The hot and dry weather of summer makes eggs less likely to hatch, and those chicks that do emerge have sparse feathers when those cool fall nights arrive.

Some people like to claim that quail can rear more than one brood a season. Folklore has it that the hen lays both clutches and the cock incubates one while she sits on another. Another version has it that he cares for the chicks while she renests and cares for a second clutch. The truth is that, yes, two broods from one pair in a single season have been documented, but this is not a common occurrence at all.

Quail populations have dwindled in South Carolina over the past several decades. McTeer says that wildlife department censuses show a reduction both in the number of quail hunters and in their harvests, indicating a lower quail population as well as a scarcity of places to hunt.

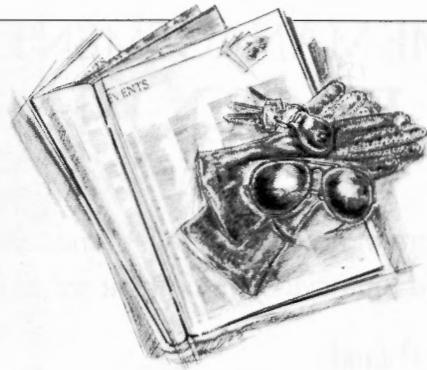
According to McTeer, “Thirty years ago every farmer had quail without trying. Then they started using more intensive farming practices – double-chopping, farming borders. Where hunters used to find ten or twelve coveys on a farm, they’re now finding only one or two. We’re never going to see quail populations like we once had unless for some reason there’s a major change in agricultural policy. For example, the Federal Payment-In-Kind (PIK) program under which farmers were paid to set aside a portion of farm acreage provided an abundance of preferred small game habitat. Unfortunately this program was only in effect for one year.

“But the good thing about quail is that a landowner with 200 to 300 acres can still manage them if he wants.” Bill Mahan, state wildlife biologist, says that corn is the best all-around food source that fans of this little game bird can use for attracting quail to their land. Soybeans and small grains are also good food for quail. In the fall, Mahan suggests planting lespedezas, browntop millet, Florida beggarweed, and in the winter, large partridge pea.

Ironically, then, Mr. Bobwhite’s future depends on those who love to hunt him – that farmer or landowner who gives up a few acres for food and cover, who listens in springtime for the whistling cock, and who strikes out on winter mornings hoping to bring home a few “buhds” for breakfast. 🐾

Nancy Ann Coleman is a former managing editor of South Carolina Wildlife magazine.

EVENTS



NOTE: Because of printing deadlines, dates are subject to change. Before traveling to an event, please call first for specific information.

NOVEMBER 8-9.

Fall Clogging Festival. Enjoy a weekend of authentic mountain clogging, square dancing and down-home bluegrass music; lessons held Saturday morning and afternoon. Place: Oconee State Park. For more information, contact S.C. State Parks, (803) 758-3622.

NOVEMBER 13-15.

Holiday Creations. Learn not only imaginative and fun gift ideas but also how to make the most of your holiday decorations at this two-day workshop. Place: Hickory Knob State Resort Park, McCormick. For more information, contact State Parks, (803) 758-3622 or (803) 443-2151.

NOVEMBER 15-17.

Fourth Annual Dickens' Christmas Show. Show with over 200 artists, craftsmen, exhibitors; Santa's house, "Festival of Trees," "Festival of the Worlds," all types of holiday gifts, arts and crafts; Nov. 15-16, 10 a.m.-8 p.m., Nov. 17, 1-6 p.m. Place: Myrtle Beach Convention Center, Myrtle Beach. For more information, contact Myra Starnes or Nita, (803) 448-9483.

NOVEMBER 23-24.

Holiday Crafts Workshops. Workshops on all kinds of Christmas crafts to enhance your home during the holiday season. Place: Charles Towne Landing, Charleston. For more information, contact State

Parks, (803) 758-3622 or (803) 556-4450.

NOVEMBER 29-JANUARY 5.

Plantation Christmas. Caroling dinners, yuletide brunches, carriages, picnics and candlelight house tours, bird walks, holiday-decorating demonstrations, wreathmaking. Place: Middleton Place, Charleston. For more information, contact Rebecca Des Marais, Middleton Place, Route 4, Charleston, S.C., 29407, (803) 556-6020.

DECEMBER 5-7.

Crafter's Christmas Classic. Over 70 crafters from South Carolina, Georgia and North Carolina exhibit their arts and crafts, 10 a.m.-10 p.m.; door prizes. Place: Sumter. For more information, contact Brenda Holliday, Sumter Crafter's Guild, 109 North Pike West, Sumter, S.C., 29150, (803) 773-9405.

DECEMBER 6-8.

Christmastime In Olde Pendleton. Candlelight tour on December 6; old-fashioned Christmas activities. Place: Pendleton. For tickets and more information, contact Diane Watkins, Junior Assembly of Pendleton, P.O. Box 152, Pendleton, S.C., 29670, (803) 646-3238.

DECEMBER 7.

Toys-for-Tots Square Dance. A combination of Christmas spirit and Upcountry square dancing offers an evening to remember. This annual event is held to benefit the Greenville area Toys-for-Tots effort. Admission to the event is a new toy to be donated to underprivileged children in the area. Cash donations will be

accepted at the door in lieu of a toy. This will certainly increase your Christmas spirit as well as help create the true spirit for others. Place: Table Rock State Park, Pickens. For more information, contact State Parks, (803) 758-3622 or 878-9813.

DECEMBER 8.

Rose Hill Christmas Open House. This antebellum cotton plantation opens for the holidays decorated in the style of a bygone era. Costumed hostesses and period holiday music provide the proper atmosphere for ushering in the Yuletide season in the Carolina Upcountry. Place: Rose Hill State Park, Union. For more information, contact State Parks, (803) 758-3622.

Christmas Carolighting.

Choral singing, seasonal program, Christmas tree lighting. Place: Cayce. For more information, contact Greater West Columbia-Cayce Chamber of Commerce, P.O. Box 2172, Cayce, S.C., 29171, (803) 794-6504.

Annual Candlelight Tour of Homes.

Tour, 4 p.m. until 9 p.m., will begin at the Camden Archives; tickets available. Place: Camden. For more information, contact Sharon Wright, Camden Junior Welfare League, 1814 Kennedy Drive, Camden, S.C., 29020.

DECEMBER 10-13.

Memories of Christmas House Tours. Evening tours of three 19th-century houses. Place: Columbia. For more information, contact Linda Morgan, Historic Columbia Foundation, 1616 Blanding

Street, Columbia, S.C., 29201, (803) 252-7742.

DECEMBER 14-15.

Winter Backpacking Trip.

Backpack in the Mountain Bridge Wilderness Area ranging from half-day walks to overnight backpacking trips. Pre-registration required. Place: Caesars Head State Park. For more information, contact State Parks, (803) 758-3622 or 836-6115.

DECEMBER 23, 26, 28, 30, 31.

Children's Days. Five days of educational fun activities for children during the Christmas break, 10 a.m.-4 p.m. Place: Charles Towne Landing, Charleston. For more information, contact Charles Towne Landing 1670, 1500 Old Town Road, Charleston, S.C., 29412, (803) 556-4450 or 758-3622.

FEBRUARY 14-16.

Southeastern Wildlife Exposition '86. Art show, arts and crafts exhibits, sporting goods displays, duck-calling contest, state waterfowl stamp contest, original paintings or limited prints, cast sculpture, taxidermy, wood carvings, decoys and collectibles, savory recipes and foods, turkey-calling contest, dog handling and other events. Place: Charleston. For more information, contact Exposition '86, 606 Old Trolley Road, Summerville, S.C., 29483, (803) 875-3170. 🐾

To list an event, please send information three months in advance of publication date to Tricia Way, South Carolina Wildlife, P.O. Box 167, Columbia, S.C., 29202, (803) 758-0001.

A PLAN FOR THE FUTURE

As the era of abundant GMA lands ends, access to South Carolina's woods and waters will require an increased financial commitment by all who use public lands.

by Tom Poland

"Game Management Areas, The Crisis At Hand, Part I," chronicled the rapid decline of GMA lands, discussed the negative trend toward private leasing and introduced Governor Riley's Land Procurement and Utilization Committee. This committee was created in October 1984 to investigate ways to insure the provision of adequate wildlife lands for public use as well as the methods for protecting unique natural areas and important habitat in South Carolina.

While this committee's final recommendations were not available at press time, their intensive investigation of the problem has made it clear that an era is closing. To assure continued access to South Carolina's woodlands and waters will require an increased financial commitment by all who use those lands.

AT his usual turnoff into the woods, a small sign blocked the way. "Posted, No Hunting, Fishing or Trespassing."

The hunter was irate. Upon reaching the nearest phone he called the wildlife department. "That property has been Game Management Area since I started hunting deer. How in Hell can it be posted?"

The caller was shocked and demanding, but his dilemma is not new to the agency. This type of inquiry, in fact, has become rather commonplace as lands formerly leased under GMA cooperative agreement for public hunting are withdrawn in favor of private leases.

While users of our wildlife resources are expected to increase during the next twenty-five years, habitat and the amount of acreage open to the public is being reduced. Dwindling public game lands leased under the GMA program have been forcing more people onto smaller acreages, thus intensifying competition among hunters and others for places to pursue outdoor recreation.

The U.S. Census Bureau predicts the population in the southern part of our nation will increase 16.3 percent between 1980 and 1990, and that South Carolina's population will increase 14 percent during the same period. The state's Division of Research and Statistical Services estimates an even faster rate of growth for South Carolina, an increase of 20.7 percent for the same period. More people will be seeking outdoor recreation than ever.

What, then, can be done to maintain our land holdings so that they can receive professional wildlife management for years as was done with the GMA program... land holdings that can support various forms of outdoor recreation and preserve vital habitat?

The governor's Land Procurement and Utilization Committee invited twenty-three organizations representing a broad spectrum of outdoor interests to voice their concerns over the problems facing all of the wildlife department's land programs. Groups represented include such diverse organizations as the South Carolina Nature Conservancy, the Sierra Club, South Carolina Coon Hunter's Association, the South Carolina Forestry Association, various hunt clubs, the South Carolina League of Women Voters and others.

The Land Procurement and Utilization Committee is not only working diligently with these organizations, they are also studying other states' successes at saving outdoor recreation for the public.

The first fact their research has shown is that we must face reality. We are losing habitat to increased development, and we are losing access to private groups willing to pay the price for prime game lands.

"Loss of habitat is a very real problem in this state," said Brock Conrad, director of the wildlife department's Division of Wildlife and Freshwater Fisheries.

"Indications are that by the year 1990, South Carolina's population will grow from 14 percent to 20.7 percent. If you apply the conservative figure to our license holders, there will be 28,000 more hunters out there. And the land is being continually developed. The price of maintaining our quality of hunting and access to the lands is going to go up just like everything else has."

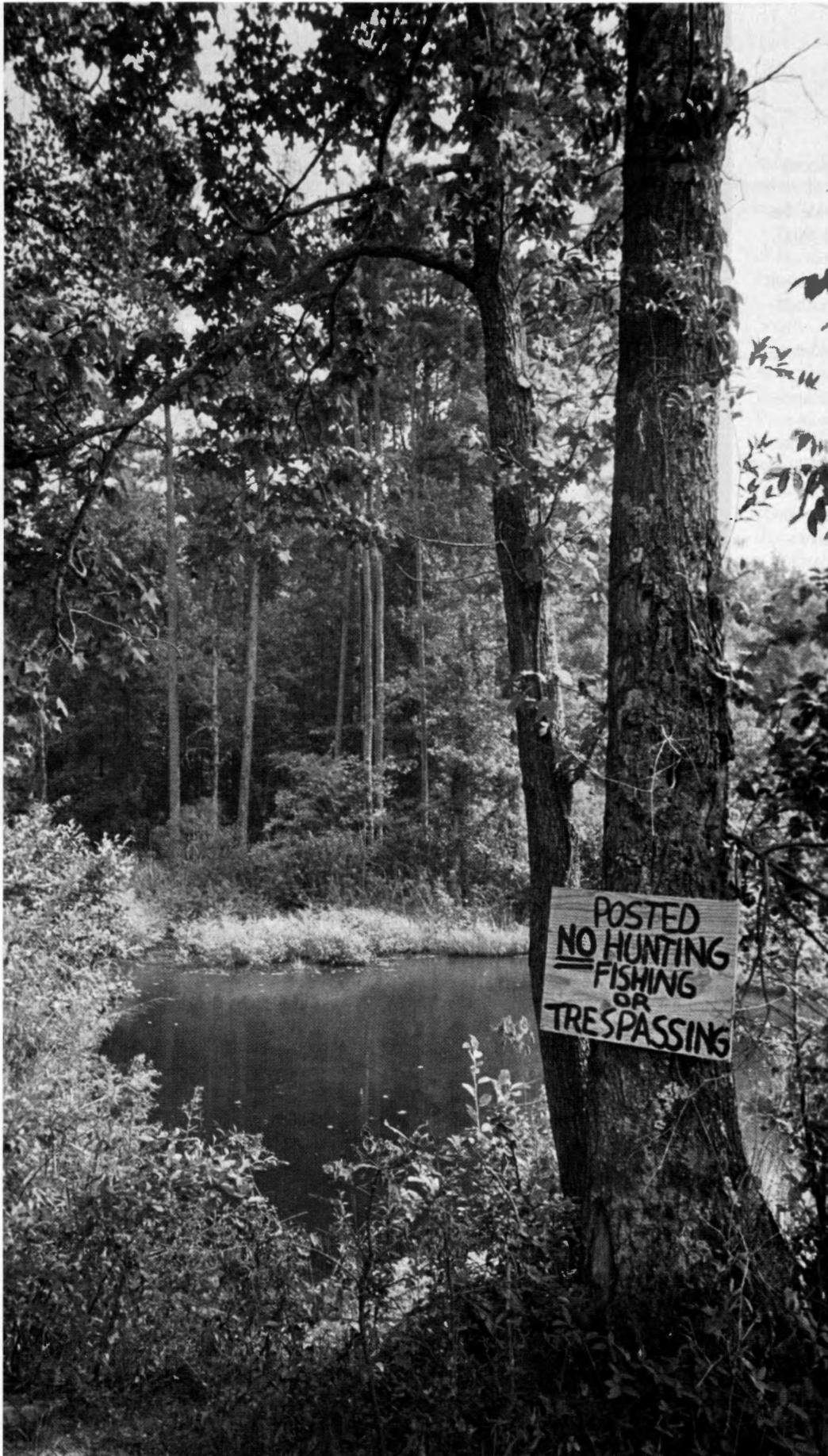
QUALITY is not without cost. If you intend to enjoy South Carolina you can expect to pay more money to preserve that privilege.

Hunters and fishermen have traditionally paid the way, and they will be called upon to increase their share. All sportsmen can expect higher license costs to become a reality. While sooner or later, these general fees most likely will go up, specific use fees will definitely increase, i.e., the GMA permit. "Specialized" users can expect to bear more of the burden for specific programs that cater to their individual preferences.

As Porter Rose, chairman of the Land Procurement and Utilization Committee's Recommendations Subcommittee, states it... "Selective fees make sense. If the public hunter, for example, wants quality hunting lands, he's going to have to pay."

The non-hunting and fishing public utilizing these same lands and resources also will be asked to shoulder a part of the financial responsibility. This institution of multiple user fees would provide another method of maintaining land for public access, whether people come to hunt or to observe.

A variety of people enjoy public lands for recreation apart from hunting. The hiker or bird watcher previously has had no way to contribute to the leasing and upkeep of land. In the near future, such interest groups will



While posted signs are already familiar outdoor sights, their presence on lands recently in the GMA program comes as a shock to many hunters.

be provided the opportunity to contribute just as the hunter has done.

Leased lands will continue to provide the majority of our access to the resource. And, such fees will help to pay for continued GMA leasing so that all who use these lands will have a place to pursue their specialized interests.

Professional wildlife managers, however, have for years noted that maximum productivity can only be achieved on lands under permanent management.

"Lands under a yearly lease basis such as we have in our GMAs cannot receive the intensive management available on long-term lease or department-owned lands," said John Frampton, the wildlife department's chief of game. "In the final analysis, land that is leased to the state for long periods of time and lands owned outright by the state are the only lands we can intensively manage for maximum benefit to the resource and the resource user."

Dan Dobbins, the wildlife department's liaison to the Land Procurement and Utilization Committee, sees but one final solution to the future of South Carolina's land access problems. "South Carolina will have to move into a program of land procurement, land that we can be sure will exist for game and fish and nongame species management."

The GMA lease program is extremely important, but Dobbins notes that the Land Procurement and Utilization Committee's findings show a very precarious position for South Carolina from the standpoint of lands owned fee simple. The state is the lowest in the Southeast in terms of state-owned lands available for public hunting... 1.7 percent.

"Recently, I met with a citizens group, and I was struck by the breadth and depth of the concern these people showed for the quality of life in South Carolina and the outdoor pursuits that make their life here enjoyable," said Dobbins. "As they see it, the inaccessibility of land threatens their way of life. I think these people are willing to pay the price to protect that heritage. While the idea of land acquisition by the state is always unpalatable to some, it is also the only sure means of ensuring that a multiple-use concept can be carried out."

Land acquisition is an expensive undertaking, but a beginning for that concept has already been provided. This



ROBERT CLARK

past year the General Assembly's passage of the Heritage Trust Fund Act included a one-time appropriation of \$400,000 to acquire lands deemed unique under the state's Heritage Trust Act. The Wildlife and Marine Resources Commission will request similar, but continued funding of some \$500,000 annually for purchase of lands for the Heritage Trust Fund. If such funds were made available, lands allowing potential development for true multiple use could be considered for purchase. Water, roads, trails, camping and hunting opportunities would ideally exist for the land to satisfy these criteria. User fees and other available sources also could aid in the purchase of such lands.

Another thrust of the Land Procurement and Utilization Committee's study toward maintaining public access to the outdoors is education of all outdoor users to the "rules of the game." Proper outdoor conduct, and how improper behavior hurts the resource, the sport and the availability of land must be stressed.

ENFORCEMENT of the game laws and the probability of stiffer penalties are likely to follow on the heels of this educational thrust. "If a particular act or type of activity is causing a large part of the problem in maintaining our public lands, I believe we're going to recommend for full prosecution," said subcommittee chairman Rose.

It shouldn't matter whether it's the land or the wildlife that's being degraded. People must realize that destructive activities on GMA lands cost the landowner and threaten the program. The same would hold true on leased or acquired lands.

Providing more "bite" in the laws and regulations will necessitate more emphasis on providing law enforcement and enforcement equipment. It will also necessitate the enactment of stiffer penalties for those who ignore the good of all South Carolinians in favor of their own selfish motives. Abuse of land and abuse of the game laws have become a watermark of the eroding GMA program. Penalties must be

When it comes to state-owned lands that assure public outdoor recreation, South Carolina has a firm lock on last place when compared to southeastern and outlying states. South Carolina must initiate a land acquisition program if future generations are to enjoy the privilege of outdoor recreation.

	Fee Title Acres
Missouri	456,545
Louisiana	429,525
Arkansas	300,000
Virginia	177,814
Texas	170,671
Tennessee	169,619
Oklahoma	130,500
Florida	124,085
Georgia	97,900
West Virginia	78,219
Mississippi	77,806
North Carolina	61,836
Kentucky	39,759
Alabama	31,687
South Carolina	18,432

increased to the extent that they represent a real deterrent to such activities.

The recommendations of the Land Procurement and Utilization Committee are expected to form a beginning for this new era in South Carolina's love affair with its outdoors. The day when you could step out the door and be welcomed on just anybody's land is over. The free hunt is over as well.

As district game biologist Bill Mahan prophetically stated this past year... "The 'man on the street' who enjoys hunting without regard for others does not realize it, but he is part of the process which may doom South Carolina (present status) as a state of uninhibited outdoor recreation."

Findings of the Land Procurement and Utilization Committee's Ownership and Statistical Subcommittee report, issued as this article went to press, indicate that South Carolina has done a credible job of providing recreational land for its citizens. With the problems now plaguing the GMA

program, doing a credible job of providing future recreational lands will be a challenge. Increased user fees and the increased state ownership of land appear the only realistic means to guarantee public access to the state's rich outdoor heritage.

While our GMA cooperative lease program has been recognized as outstanding, it must keep pace with escalating lease costs. South Carolina must also come from behind in the comparison to fifteen predominantly southeastern states with state-owned lands available to public hunting. Our low standing is due to the fact that almost all public hunting here has been provided by one-year lease agreement. Only 18,432 acres out of our approximately 1.4 million in the GMA program are department-owned.

"This situation is combining with other factors to create a crisis that threatens the availability of land in general, not just hunting lands," said Dobbins. "This is another reason why the wildlife department must look into ways to acquire land, fee

simple. The only land that people can count on in the future will be lands owned by the state."

Although some may not welcome the changes recommended by the governor's Land Procurement and Utilization Committee, the importance of preserving South Carolina's natural resources and cultural heritage hinges on broad public acceptance and support of the resource. A viable land acquisition program, increased lease monies via higher user fees and strict enforcement of respect for the land and its wildlife will grow in importance as the trends toward private leasing and land development increase. The preservation of that outdoor heritage which we associate with South Carolina is at stake.

Mahan's words echo the concern that many people with an interest in South Carolina's future feel but are unable to articulate....

"With increasing human populations, urban expansion, increased industrialization, intensification of forest management and intense agricultural land uses, the increased demand upon wildlife habitat and concomitant habitat loss on public and private land will be significantly increased. Equally affected by these changes will be lands currently in the GMA program. Not only is increased future loss of land from the GMA program likely, but increased demand for the land and the resources it provides will further reduce wildlife management potential as well as our influence on how these areas should be managed.

"Experience with our current program clearly illustrates that wildlife considerations are frequently the least important when pitted against economic necessities both in resource management practices and in retaining land for wildlife use. Only on lands where wildlife is the first and foremost management priority can optimum results be obtained with that resource.

"If we are to ensure that our generation as well as future generations of South Carolinians will continue to enjoy and utilize our wildlife resource, it is important that steps be taken immediately to provide for the acquisition, protection and management of wildlife habitat where management of the wildlife resource is the primary objective." 🐾

REMEMBRANCES OF

christmas

Remembrances of Christmas live on as the most cherished memories of childhood. Though the gifts of long ago are seldom remembered, the togetherness, holiday banquets, family hunts for trees and game and other customs of a bygone era create a deep nostalgia this time of year.

by Pat Robertson

DAWN, Christmas Eve 1947. The smells of Christmas fill my grandparent's house. Fresh country sausage frying and homemade biscuits baking in the black wood stove mingle with the crisp fragrance of a freshly-cut red cedar. Evergreen boughs add to the aroma.

I stuck my foot from beneath a heavy stack of quilts and blankets only to pull it away from the sting of a bitter cold room. The knowledge that I'd be left behind if I didn't get up sent me on my way to the kitchen two rooms away.

I was a red-haired, freckle-faced nine-year-old boy celebrating another Christmas in my grandparent's big, wood framed, clapboard house. Not one coat of paint ever graced that house, and years of rain, wind and sun had turned it gray. There was no telephone and no television; entertainment was provided by a static-prone AM radio and a stack of shiny, brittle 78 rpm records that were played on a hand-cranked Victrola. And there was no central heat.

Christmas always seemed much colder then when everyone gathered in the kitchen with their feet up to the stove. The men sat around the kitchen table while the women cooked, cleaned and exchanged the community's latest gossip. The kitchen was for drinking coffee, rolling cigarettes, reading the paper and the *Reader's Digest* and listening to the Breakfast Club while at night the sounds of Jack Benny and Amos and Andy filled the room.

The kitchen was also a place where my grandmother kept the goodies...biscuits and sausage patties left over from breakfast, warmed-up sweet potatoes, homemade jellies and preserves and this time of year (if there were enough money) a Christmas fruitcake from the country store just down the road.

It was the day before Christmas, and I burst into this cozy haven with the anticipation of going with the men on the annual Christmas hunt. World War II, the war to end all wars had just ended, so this Christmas and this hunt were very special. Men we hadn't seen in a long time had come home, my two uncles among them. This was our first Christmas together since Uncle Flack and Uncle Earl, my mother's brothers, had departed for Europe. Today they would carry shotguns in lieu of automatic weapons, and birds, rabbits, squirrels and ducks would be their targets instead of men who spoke strange languages and looked different. I, too was ready; my Daisy air rifle stood in the corner.

Grandmother Bridges was busy at the stove while dad and my uncles sipped steaming coffee as they planned the day's hunt. I draped my clothes over the back of a chair close enough to the stove to soak up the warmth radiating from it. Standing near the stove, I pulled my pajamas tight to feel the heat. Nearby, my mother dressed my little three-year-old sister assuring her that Santa knew we were spending the night at Grandma's house. They were the words a three-year-old spending Christmas Eve away from home needed to hear — and often.

For me, the anticipation of the hunt was far more exciting than the thought of Santa Claus. This would be my first Christmas hunt. Daddy and my uncles decided we'd hunt the bottoms along Steven's Creek at Clarks Hill. The hunt would take us out Firetower Road and lead us upstream, a good long walk that would bring us back home by late afternoon.

"Done or raw, it'll fill the craw," laughed grandmother. Breakfast was ready. I jumped into my flannel shirt and faded dungarees and found a seat right in front of a big pan of hot biscuits. Mother brought in freshly-churned butter and fig preserves from the ice box as grandmother began spooning generous portions of grits. Eggs were fried to order in a cast iron





Left, detail from "Winter Hideaway-Cottontail" by Theresa Marschel.
Overleaf, detail from "Evening Flight-Mourning Doves" by David Hagerbaumer.

skillet as we buttered biscuits and ladled red-eye gravy into the grits. Grandfather urged me to eat hearty... "A fellow's going to need a lot of fuel for the hunt." I needed no encouragement, and after breakfast it was time to hunt.

Mother drove us to a spot where Firetower Road crossed the creek and let us out. White spires of frost spurted from the red clay ditchbank. I plinked at pine cones and sweetgum balls with my air rifle while the men thumped out patches of honeysuckle and frost-killed blackberry vines. In no time, their hunting coats began to bulge with rabbits and an occasional bobwhite dropped when a covey would explode from cover.

Approaching a slow bend in the creek we heard the low cackle of mallards. A plan was quickly worked out to surprise the ducks. Daddy and Uncle Flack would circle upstream and hide along the creek bottom. Granddaddy and Uncle Earl would slip downstream before taking their position. My assignment was to stay put until both groups whistled their readiness, then I would walk in on the ducks. The strategy worked perfectly. When I ran up on the creek bank making as much racket as I could, the ducks flushed in both directions. Upstream and downstream, shotguns barked, and we bagged a half-dozen ducks for the Christmas dinner.

The morning passed quickly and though my legs ached, I walked stride for stride with the men. Lunch was a welcome respite. The pockets of our hunting jackets yielded sausage biscuits, pan-fried streak-o-lean from the smoke house and sharp cheese cut from the big hoop at the country store. Several canteens of sweet wellwater washed it all down, and for desert we munched on crisp red apples and sucked the juice from oranges. Daddy and my uncles settled back against a huge oak tree for a smoke while granddaddy and I scouted the creek for fish.

It was past noon and getting hot when we moved on for the second leg of the hunt. Our plan called for working the creek bottom hardwoods for squirrels. Evidently, most of the squirrels were stretched out on high limbs catching the winter sun for they were hard to spot, but one squirrel flashed down a tree and out onto a low limb. Granddaddy motioned me to come over to him. Taking my air rifle, he handed me his single-barreled

"Woodcock Creek-Whitetail Deer" by Herb Booth.



Upstream and
downstream, shotguns
barked, and we
bagged a half-dozen
ducks for the Christmas
dinner.



*Detail from "Mallard Hideaway" by
Robert K. Abbett.*

Abbett

Seldom are the gifts remembered; what shines bright and clear through the years is the atmosphere of Christmas...

shotgun. Shouldering it was hard and my finger barely reached the trigger. "Shoot straight," he cautioned. "Make it a clean kill."

I aimed down the long barrel and pulled the trigger. I carried my squirrel by the tail and held him high when we came into the yard so my mother and grandmother could see it. First Christmas hunt, first squirrel. I did not then recognize that I had undergone a significant rite of passage. All I knew was that I had become one of the men in the family ready to take my place on all future family hunts.

While daddy and my uncles dressed out the game, granddaddy brought in short sticks of firewood. Soon, a blaze was going in the wood heater in the living room. After a supper of oyster stew and crackers, we moved to the living room to

enjoy the Christmas tree and to sing carols along with the radio. My little sister drifted off to sleep on the couch. After a little eggnog, I, too, was ready for bed.

AMONG the most cherished memories of any adult's childhood, those memories of Christmas stand out. Seldom are the gifts remembered; what shines bright and clear through the years is the atmosphere of Christmas... moments of family togetherness and love. And among those Christmas memories, certain things stand out vividly... the holly with its bright red berries lining the mantle and the holly welcome wreath on the front door. Mistletoe dangling from a chandelier is a part of those memories. But special among those memories is the Christmas tree.

Although we always spend Christmas at grandmother's, we always had our own tree at home, too. From the time I was old enough to tag along, daddy and I always hunted for the perfect tree. The best cedars grew at the edges of straw fields where they could get the sun on all sides making them round and full.

Daddy would gauge the height of the tree circling it several times to make sure its shape was perfect. Those with dead or missing limbs or bent trunks were rejected. Once the selection was made, he would unfold a very sharp pocket knife and, disregarding the prickly needles, reach in and cut the tree down. Dragging the tree home, we'd stop at a ripe holly tree to cut off some limbs to spread around the house for decorations. Mistletoe was easy to find but hard to get since it usually grew high in an oak or a poplar. The best way to get it down was to shoot a tightly-patterned shotgun into a clump. One good shot would bring down enough mistletoe for us and all the neighbors.

Christmas has sure changed a lot since my childhood days. Most of the trees today are grown on a farm and sold off a lot, or they are made of artificial material and stored in a box all year until Christmas. Even holly and mistletoe are made of plastic, and the all-important Christmas dinner doesn't seem as home-style as those of 1947. Turkeys and hams now come wrapped in plastic from the supermarket and homemade biscuits have been replaced by packaged rolls. Finding good country sausage is hard and hardly anyone eats fried squirrel anymore.

Christmas hunts like the one of '47 are rare, and besides there are fewer places to hunt small game anyway. A lot of the areas we used to hunt are now covered by shopping centers and subdivisions. Every generation, I suppose, must endure such changes. There are still places to hunt, and the woods now are

Detail from "Bobwhite Quail" by David A. Maass.





Detail from "1984 Wild Turkey Stamp Print" by Richard Plasschaert.

full of deer, something we never saw in those days.

The act of celebrating Christmas has changed, too. A lot of time is now spent riding the highways to visit scattered family and friends. There is no time to hunt.

More often than not, Christmas Day afternoons are spent watching football games. What hasn't changed is the essence of Christmas — families celebrating their love for one another. The moments of family togetherness are what I remember most, and I hope my two sons will, too, someday. By today's standards we would probably have qualified for welfare, but we all were very happy.

Santa did come that Christmas Eve in 1947 though for the life of me I can't remember a thing he brought or what any of the brightly-wrapped presents contained. I do remember that my little sister and I didn't spend much time in the living room admiring our gifts that morning. The fire in the heater had gone

out, and we retreated to the kitchen for warmth.

Grandmother was busy again popping a fresh batch of biscuits into the oven. On the table a platter of fried squirrel, rabbit and quail was stacked high. Beside it was a large bowl of cream gravy made from the drippings. Granddaddy didn't like his biscuits to get too brown so as soon as they were almost done, we grabbed a couple from the oven and split them open. I spooned thick gravy over my biscuit and grabbed a crisp, brown squirrel leg.

It was a Christmas to remember. 🍄

Pat Robertson is a regular contributor to South Carolina Wildlife. He is outdoor editor for The State newspaper and has had numerous articles published in both regional and national magazines.

Artwork courtesy of Wild Wings, Lake City, Minnesota, 55041, and the artists.

JACKS, or better

Just when you think Old Man Winter has dealt you a hand that closes down your fishing fun, you might discover that all you need to open the fishing season is jacks, or better.

by Pete Laurie

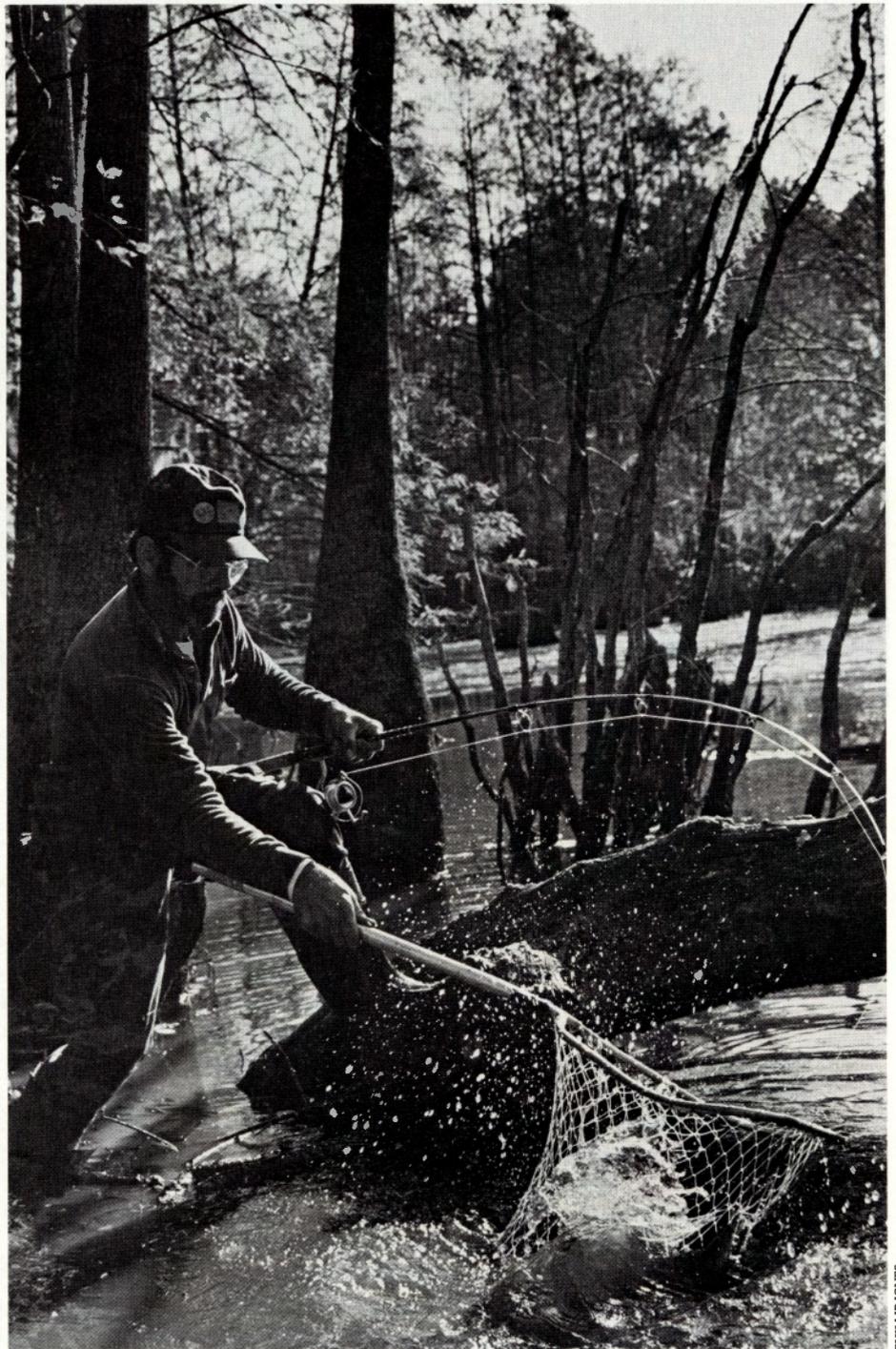
A feisty fish lurks in the shallows along the quiet backwaters of the coastal plain. Knowledgeable anglers realize this, and when late winter fishing grinds to a halt, they seek the toothy jackfish.

Whereas another month will pass before largemouth bass, crappie and bream will move from the deeper water, jackfish are quick to move into the shallows to spawn as lakes and streams warm beneath the early spring sun. Jacks spawn when the water temperature reaches 55 degrees Fahrenheit. Where their ranges overlap, jacks sometimes hybridize with other members of their family such as northern pike, muskellunge and walleye.

The eggs hatch in six to twelve days depending on the temperature of the water. Generally, they spawn for the first time at two years of age and by three years they may be 14 inches long. Young jacks grow at widely varying rates based on environmental conditions and food supplies. Jacks run long and lean with a duck-like snout and rank as the next-to-smallest member of the pike family. Their color varies but the typical jack appears green to bronze with a black chain pattern adorning its sides.

A jack in an aggressive mood will attack almost any bait, making angling skill less of a prerequisite for success. The fish seek cover near weeds, brush and other protective areas away from the current. There they wait for passing prey, a small fish or perhaps a crawfish. Jacks find it difficult to resist a small spinner flipped in their face or retrieved at a fast pace past their hideout. A noisy topwater plug such as a Bang-O-Lure also proves effective with jackfish.

Jacks are not large fish, and most locally-caught jacks weigh less than 2 pounds although the state record is 6 pounds, 4 ounces. Ultralight tackle and small lures combine to add exciting sport to jack fishing though the jackfish will not hesitate to slam into a lure half its size or larger.



PHILLIP JONES

Their array of needle-sharp teeth and their habit of swallowing a lure right up to the swivel make unhooking jacks a greater challenge than hooking them in the first place. Large lures with gangs of treble hooks cause so many problems experienced anglers choose smaller lures with less hooks. A 1/2-ounce or even 1/4-ounce Mepps makes an ideal jack lure, and a short length of wire leader will reduce the number of lures lost to the toothy jackfish.

Up North, the jackfish is called the chain pickerel. I remember catching many a jack in my grandfather's quiet mill pond back in the North on an ancient, huge red spoon complete with a faded red skirt that concealed a set of giant treble hooks. The large size of the treble hooks prevented the jacks from hopelessly hooking themselves. My grandfather always ordered me to release jacks over the dam because he felt they ate the trout he occasionally stocked in the pond. Actually, no self-respecting trout would have spent the night in those stagnant pond waters, but it was perfect jackfish habitat.

Any quiet slough or shallow backwater with weeds, lily pads or brush cover is ideal for jackfish. They also like to hang out in eddies and just below sandbars, close to the current but not in it. Unlike bass, they do not prowl from place to place seeking prey; instead they remain hidden awaiting potential food to come to them.

When fishing for jacks from a boat, cast parallel to the shoreline or weed beds. The retrieve should place the lure right in front of several jacks per cast. When obstructions such as tree limbs and other impediments get in the way, cast right up to the bank as jacks are likely to be in 1 to 7 feet of water but seldom deeper.

To find the fish, keep moving because the fish will not move to you. If you get a strike but miss the fish, come back to the same spot later. More than likely, the jack will give you another chance to redeem yourself. Jacks prefer heavy cover, so weedless lures



PHILIP JONES

work best, especially with a fast retrieve. If you see jacks following your lure to the boat without hitting it, try increasing the speed of your retrieve. Jacks, in general, are unpredictable. One day they will hit anything, the next day nothing.

Live baits, especially small fish, even small jacks and crawfish, will often entice these voracious fish into action. Young jacks up to 6 inches long feed mostly on insects, but later their preferences turn to vertebrates. While they will consume almost anything that moves such as frogs, mice and snakes, fish constitute 45 to 85 percent of their diet.

The jackfish's streamlined body, needle-sharp teeth and camouflaged appearance well-equip it for life as a predator. As with most predators, its diet varies depending on what is available. A West Virginia study on the stomach contents of 143 jackfish revealed they consumed in order of abundance minnows, sunfish and suckers. These particular prey occurred in the relative same abundance in the stream

Jacks slam the bait, assuring a good hookup, and will usually put up a hard fight that includes at least one tail-walking jump. Be wary when unhooking and check the line before making another cast.

where the study took place.

Although jacks compete against largemouth bass for the same food, apparently, jacks consume few bass. They do, however, indulge in the practice of cannibalism. One 19-inch jack that was captured was discovered to have another jack 12 inches long in its stomach. Jacks usually consume their prey headfirst and may hit a lure with the tail of their last meal still protruding from their toothy mouth. Jacks feed night and day throughout the year, and that makes them ideal year-round sport for anglers throughout their range.

Jackfish occur mainly south of the range of the larger pikes in an area from Maine to Texas and north to the Great Lakes. They are a favorite of that hearty breed of anglers who fish through the ice from New England to the Midwest. Jacks live throughout South Carolina, but are more abundant below the fall line. Uncommon in the upper part of the state, jacks avoid swift-flowing streams and deep lakes. They will inhabit an occasional beaver pond or other sluggish, shallow waters.

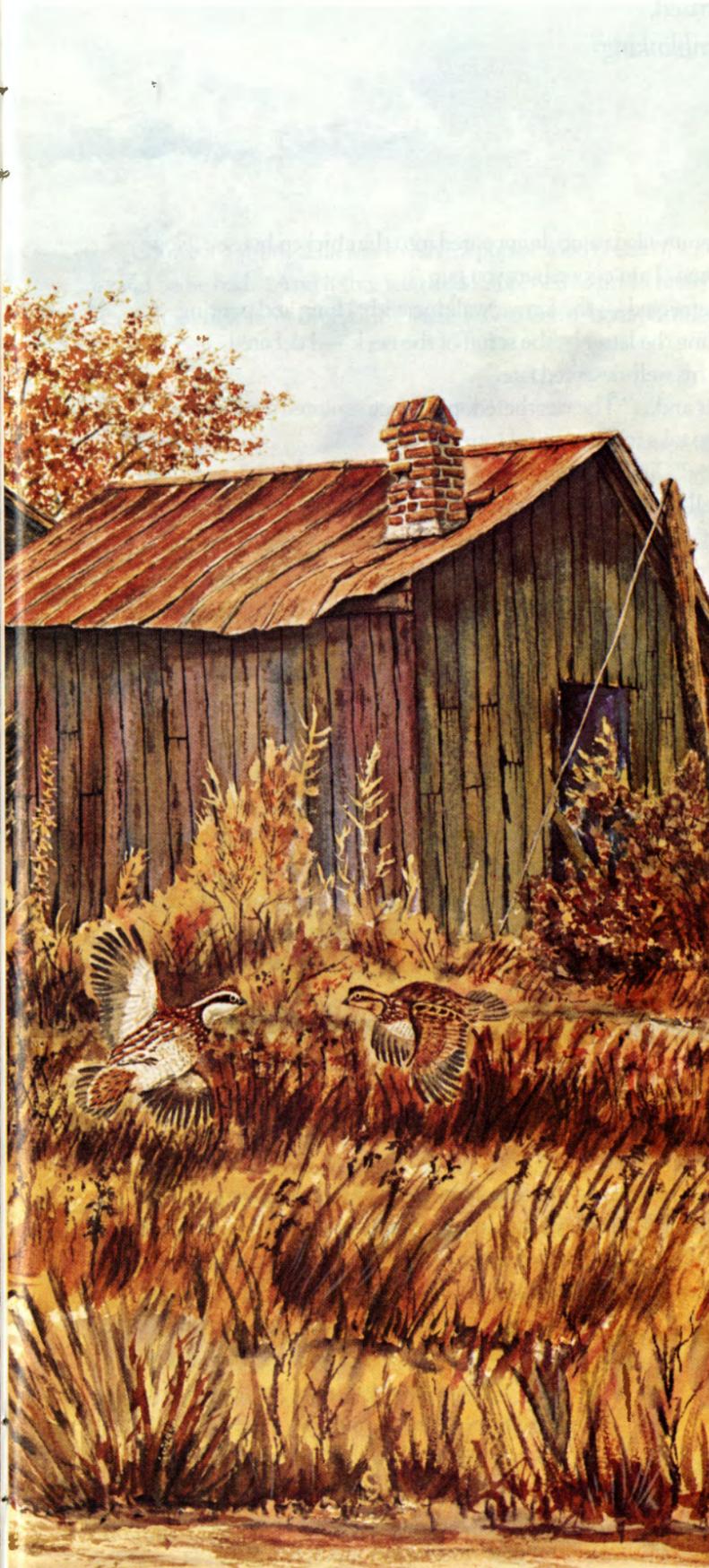
To the surprise of many fishermen, jacks make delicious eating if properly prepared. The flesh is sweet, firm and delicately flavored. A jack is simply a small pike, and in Europe the pike is a delicacy to be served at the most elegant occasions.

Unfortunately, like many primitive fish, jacks possess intramuscular bones that filleting will not remove. The trick is to score the fillets with a sharp knife, cutting across the bones before frying. Like all members of the extremely slimy pike family, jacks can be scaled easier if scalding water is first poured over them.

Because the jackfish hits hard, usually hooking itself, it can provide plenty of angling fun for youngsters who lack the patience or expertise for more sophisticated fishing. But even a grizzled old veteran will discover that in late winter before the fishing for bass, crappie or just about anything else starts, it's jacks, or better. 🐟



Detail from "Washpot Covey" by Prescott Baines



*The small covey held
until I stepped among them, then burst
beautifully like a Roman candle.*

THE WASHPOT COVEY

*by John Davis
artwork by Prescott Baines*

It was Jack's first real hunt and my first solo in the car and for quail. My father had given directions to a small tract of land owned by one of his accounts. "Probably won't find many birds, but there should be enough to keep you and that pup busy for an afternoon." Nodding, I eased the green Plymouth into reverse, effectively negotiating our freedom. "And don't go past the branch. That's the property line."

Within an hour Jack had his first point on wild birds. The big covey's eruption unnerved us. I missed, and Jack, yipping joyously with each bound, followed the sailing birds into the branch. No amount of hollering would prevail. I hesitated, then plunged after him into the forbidden tangle.

Ahead, on the far side of the branch's cypress and bay depths, penned hogs grunted and squealed, Jack barked, and chickens clucked and squawked. "Great-God-o' Moses! Git the Hell'outta my hens," a voice like thunder rumbled above the din. "Darn fool pup! I gotcha now."

Dodging through the now-frantic hogs, I slogged out of the branch to see a large man stooped low before the opening of a ramshackle structure. "You can't hide from me you little son-o'-Satan." His roar lowered to a coaxing

*Three more bold steps and his body tensed,
head tilted slightly so that the eyes shown unblinking
on the birds within the grass.*

plea as its owner's denim-clad rump disappeared into the chicken house. "Now don't you bite ole Oren. I ain't gone hurt you pup."

As man and dog emerged — the former walking with a limp and panting mightily while holding the latter by the scruff of the neck — I debated abandoning Jack to his well-deserved fate.

"We'll just us wait and..." The weathered, puffy face squinted against the sunlight, straining to take in this second intruder.

"This'un yours boy?" The old man picked Jack up, then hobbled away toward the farmhouse. "Well I guess you know you're both trespass'n. I got every right to call the sheriff. Less, o'course, we can tie up this ferocious, no-count chicken chaser long enough to come to some agreement." This last statement was delivered with a pause. I followed, hoping somehow to escape the image of Jack and myself spending the night in jail.

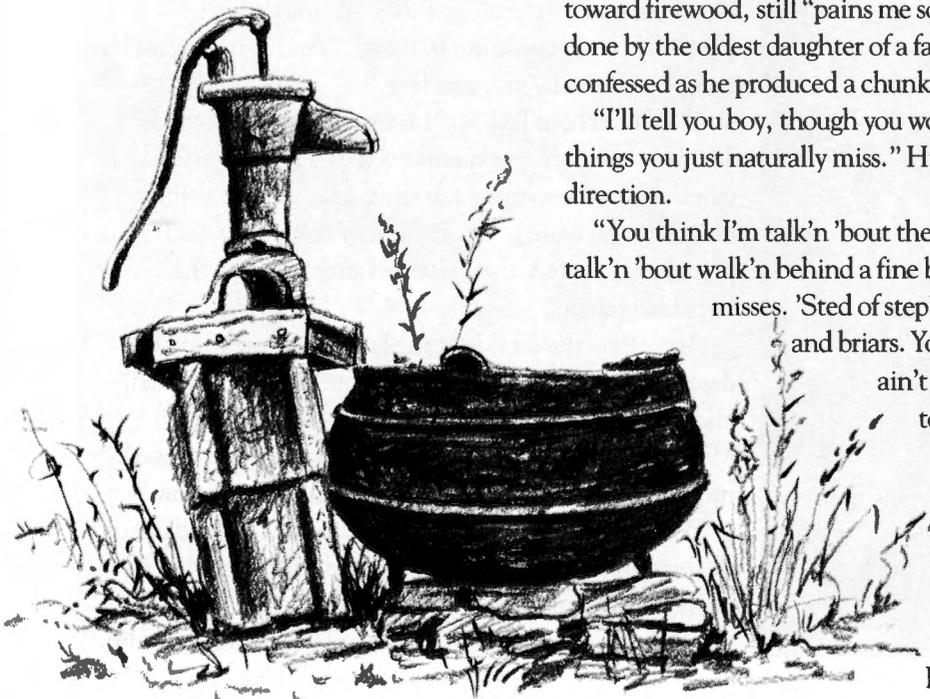
With a totally humiliated Jack securely tied to a chinaberry, our unwanted host pursed his lips and spat. He demanded my name and scowled throughout an explanation of our uninvited visit, went inside — to call the law, I supposed — and came back with two cups of the strongest black coffee I'd tasted, before or since. We sat on the front steps. He asked questions and I supplied answers. They must have been the right ones, for after nearly half an hour no sheriff had been notified and Oren was answering my inquiries.

A bachelor for all of his 73 years, he'd worked the farm his folks had left; the farm on which he'd been born "in that oak four-poster right in yonder." His sight wasn't so good anymore, and his right leg, caught by a tree on its trip down toward firewood, still "pains me some." Most of his cooking and cleaning were done by the oldest daughter of a family that worked on the place — this last was confessed as he produced a chunk of pineapple-upside-down cake.

"I'll tell you boy, though you won't believe it. When you get old there's certain things you just naturally miss." His heavy-lidded eyes cut slightly in my direction.

"You think I'm talk'n 'bout the pretty women don't you? Well, I ain't. I'm talk'n 'bout walk'n behind a fine bird dog. Yessir, that's somethin' ole Oren really misses. 'Sted of step'n over, your feet get tangled in the honeysuckle and briars. Your wind don't come so easy; puff'n and huff'n ain't no proper way to hunt potridges." The old man took off his hat and wiped its sweat-stained band.

"Oh well, things ain't what they used to be in most any sense of the word, potridges included. Most folks 'round here been cleaning up the fields; lots of 'em going to cattle farm'n, or plant'n the land in pine trees. Ain't much future for ole Bob and his kin in such times.



“Course if a young fella was to have a pup of good breed’n, a pup with the fire my old Sadie had... And if that fella also happened to find a really good friend, a friend that knew most everything there was to know ’bout potridges and train’n dogs...”

My face must have beamed at the offer. Oren stood and tossed the last of his cake. Jack wolfed it down in one drooling, all-forgiving gulp.

“Bring that pup ’round to the side of the house. We’ll take us a look-see at what he’s got.” The old man’s hobbling gate noticeably improved as he led the way. “But don’t take that tie off him, ’til he’s sure of his manners.”

I followed with Jack straining at the rope until Oren stopped near the kitchen. A hand pump and weathered washpot, long retired to the role of stock waterer, stood out in weeds. “Take him in there, but make him go easy.” Our leader’s tone was almost conspiratorial.

We had not gone five yards when Jack’s head lifted and his tail began to quiver. Three more bold steps and his body tensed, head tilted slightly so that the eyes shown unblinking on the birds within the grass.

“He’s got ’em, Oren. I know he has!”

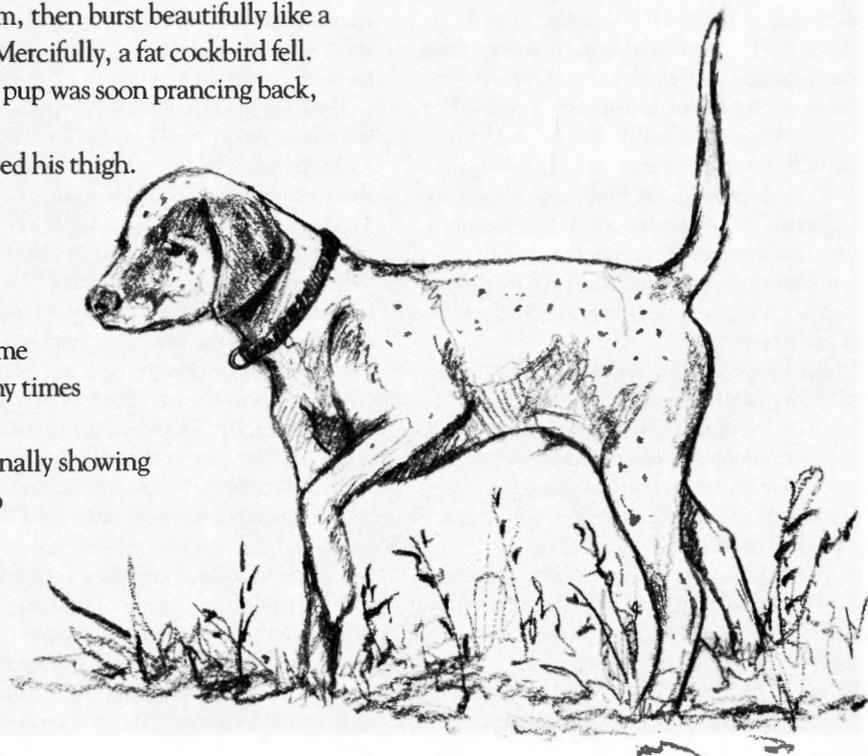
“That he has, boy! Gi’me that rope now. Don’t you dare miss when they rise, but don’t you kill more’n one bird. That’s my washpot covey. They’re most like family, you know.”

The small covey held until I stepped among them, then burst beautifully like a Roman candle. I fired too soon, then fired again. Mercifully, a fat cockbird fell. Jack tugged at his lead and the old man let go. The pup was soon prancing back, head held proudly, with his first fresh-taken quail.

“That’a boy! And that’a boy again!” Oren slapped his thigh.

“Did you see it; the fire in his eyes? He talked to ’em, soothed ’em, like a master of his trade! Yessir, you just might make a potridge dog, Mr. Jack; not some no-count chicken-chase’n hound. And you did right proud too, young John.” It was the first time he called either of us by name; the first time of many times the three of us shared, far too many years ago.

Perhaps they hunt together now — Jack occasionally showing some hardheadedness just so Oren can launch into one of the no-count speeches that often marked our beginnings. I like to imagine them that way. It’s a scene I remember, especially when the “potridges” are hard to find — a crusty old bachelor, a firey-eyed pointer pup and the washpot covey. 🐾



QUEST FOR CHAMPIONS

For sheer drama and intensity, nothing tops the sight of a finely-tuned champion bird dog on point. As ideal quail habitat declines, South Carolina's bird hunters are finding field trials a popular proving ground for their favorite pointers and setters.

*by Billy McTeer and Pat Robertson
photography by Robert Clark*

There may be no finer sight in the outdoors than a good bird dog, steady on point. Every point is a brush drama that builds with silent intensity with each second that ticks off the clock. The birds, more than likely hidden in the grassy underbrush, are ready to flush at the slightest hint of danger. The dog holds them there somehow, back straight, tail rigid, his eyes quietly mesmerizing the little feathered bombs. But, it is his keen nose, softly drafting in the bird scent that keeps the dog locked on his prey. Both dog and birds are bound inexorably to the earth by some inherent trait of nature until man enters the scene, flushing the quail towards presumed safety. Only then, if he is a good one, does the bird dog allow himself to move.

Bird dogs have been a part of country life in America since the days of the early settlers. In rural South Carolina a farmyard was not complete without a pointer or setter or two laying around, just waiting for somebody to come out the door toting a side-by-side shotgun, and say, "Let's go hunting."

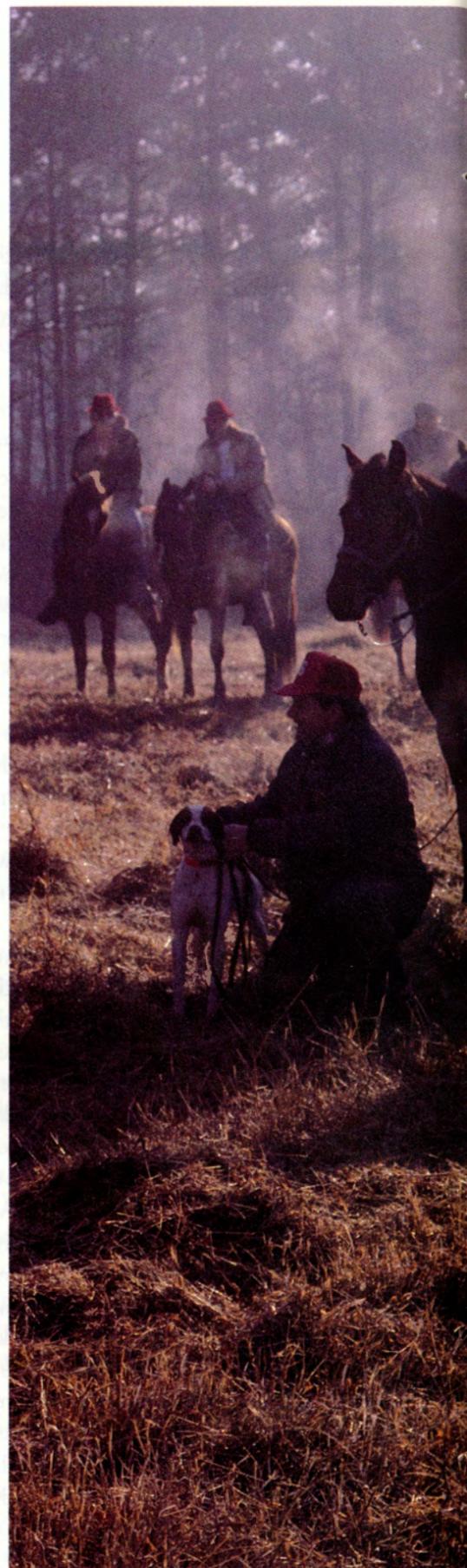
South Carolina still has its fair share of bird hunters today, although their places of quality quail hunting have slowly disappeared with the passing of time. Smaller farm tracts which are ideal quail habitat because they contain so much

"edge," have been gobbled up into larger and larger farm operations. Or, they've been lost to urbanization or forestation.

The hunter is left then with a decision. He can hunt the clearcuts and powerline rights-of-way which do harbor good populations of birds, though the hunting is exceedingly hard. Or, he can pursue his sport in another arena — organized field trials.

Bird dog field trials have been around since long before quality quail habitat began to disappear. The first trial was held more than a century ago near Memphis, Tennessee. Organized bird dog field trials have been a traditional sport in South Carolina for nearly half a century. The Gamecock Field Trial Club, which is still in existence, was the first organization to hold bird dog competition in the state. Started near Sumter in the late '30s by H.Q. Jones and the late Will Plowden, the Gamecock Club has been one of the leading amateur field trial clubs in the United States.

But, even before the Gamecock Club was organized, there was much interest in the area for bird dog competition. Professional trainers from across the country had discovered that the pine plantations of Lowcountry South Carolina and similar areas in Georgia, Alabama and Mississippi were prime locations to train their dogs in





Classic which are normally held at the Webb Wildlife Center near Hampton. Another big event for horseback trialers is the Heritage Shooting Dog Classic held at Medway Plantation.

Newman became active in field trialing in the early '40s, not long after the Gamecock Club was organized and he served as the first club's president for a number of years. He later helped organize Region Three, which is comprised of the Carolinas, Maryland, Virginia and the District of Columbia, and served as its president for a number of years. He also served on the board of trustees of the Amateur Field Trial Clubs of America, the parent organization for bird dog field trials in America.

Long recognized as a highly-regarded field

trial judge, Newman will be one of three judges for the most prestigious field trials in the country — the National Open All Age Stake which will be held on the Ames Plantation at Grand Junction, Tennessee, in February. Qualifying for the national is so stringent that only about thirty dogs are able to compete in this championship stake each year. "These," said Newman, "are the thirty best dogs in the world."

Some of the best birds dogs in the world are kenneled right here in South Carolina. The 34th National Amateur Shooting Dog Championship was held at the Webb Wildlife Center the last week in December 1984, and when the dust from a near mid-winter drought had cleared, a pointer female owned by West Columbia dentist Dr. Billy

Last year's National Amateur Shooting Dog Championship, overleaf, left and below, represents the pinnacle of traditional horseback trialing. Mounted handlers, judges and gallery follow the dogs in hour-long braces where judging is based on handling, hunting and pointing style and steadiness to the gun. Since only blanks are fired the dogs are not judged on retrieves.



the winter. So, many of the top professionals in the business moved to the Palmetto State, and many of the top bird dogs in the United States were trained here. It is a tradition that carries on to the present day, with many of the highly-regarded trainers residing and working here.

With the best bird dogs in the country being trained here, the South Carolina fanciers had a ready supply of high quality bird dogs to work with from the beginning. Many of today's most successful field trial bird dogs, for instance, trace their bloodlines back more than thirty years to Newman's Delivery Dan, a pointer male campaigned by his owner, Ernest Newman of Sumter. Dan, who won ten major championships and was listed in the Top Ten in the nation, was such a big name in bird dog trials that *The State* newspaper carried a big article on him when he died.

The rich tradition of bird dog field trials continues to be popular in South Carolina, and as hunting opportunities for wild quail decline, the interest in field trials is increasing. As a matter of fact, Dr. James A. Timmerman Jr., executive director of the South Carolina Wildlife and Marine Resources Department, in an address to the annual meeting of the Association of South Carolina Field Trial Clubs earlier this year said, "Field trials with hunting dogs may be

the wave of the future as more and more of our public hunting lands are lost."

The Association of South Carolina Field Trial Clubs encompasses a dozen field trial clubs that compete in the traditional "horseback" trials. Two other field trial organizations that are geared more toward the "walking" field trials have established clubs in the state in the last few years — the United States Complete Shooting Dog Association which began in the Carolinas and the National Bird Hunters Association which has clubs in thirty-one states now.

In horseback trials, no birds are killed, so the ability to retrieve is not judged. The dogs are required, however, to remain steady as blank cartridges are fired while a handler flushes the birds. In the walking trials, pen-reared birds are set out and when they are flushed they are shot. The dogs must retrieve the downed birds. In the horseback trials, the judges, handlers, and many of the gallery are mounted. In the other trials usually only the judges and a field marshal ride.

Sumter's Newman has seen the horseback trials grow in South Carolina from one club to a statewide organization that holds eighteen to twenty field trials each year. Every club in the Association of South Carolina Field Trial Clubs holds at least one trial a year on its home grounds, and the state organization sponsors at least two other major trials each year — the South Carolina Open Shooting Dog Championship and the South Carolina Amateur Shooting Dog





McCathern was declared the new national champion.

McCathern acquired Doc's Haven Babe when she was 16 months old and hunted her on wild quail until last year when he decided to enter her in some field trials. Babe, trained by Gilbert Barkley of Sumter, said McCathern, "is a really good retriever." Babe "knocked on the door" at the Region Three Championships in 1984 and she did an excellent job at the South Carolina Shooting Dog Championship. But, she finally hit her stride in one of the most prestigious trials in the country.

Dr. Frank Hines, a Columbia dentist who has been actively field trialing for more than twenty-five years, served as co-chairman of the amateur championship which had fifty-two entries. Hines was the first secretary of the Association of South Carolina Field Trial Clubs which was organized in the early '60s with six field trial clubs.

Hines, Newman and McCathern all agree the bird dogs of today are superior to most of those from past years because of highly selective breeding programs. "The dogs of today are much more sophisticated," said Hines. "The quality of our dogs continues to go up," agreed McCathern. Newman pointed out that years ago the



The National Bird Hunters Association gears its competitions toward those who prefer to hunt and trial on foot. Dogs, mounted judges and field marshals run a half-hour course. Since birds are actually shot, dogs are also judged on retrieves. Spectators can observe from gallery trucks and are treated to an eight-minute "bird field" exhibition at the end of each brace.

amount of land and quality of quail habitat was so good that the dogs were expected to "run big" and horses were needed to keep up. As the amount of good grounds diminished, the emphasis moved towards "shooting dogs," which don't have to cover as much terrain.

"A horseback shooting dog," said Hines, "has to hunt the terrain, hunt it with

intelligence, find birds and point. Shooting dogs have to have a lot of class and style and they must find birds and show a lot of intensity."

The National Bird Hunters Association was begun as an alternative to the horseback trials because many dog owners just can't afford to keep horses and special trailers and the other equipment necessary for horseback

trials. "We have the same running rules as for the horseback trials," said Bill Cameron of Abbeville, first national vice-president of the organization. "But, our handlers are on foot and we do kill the birds because the dog not only has to point and back, he must also retrieve."

Cameron said that while the judges and gallery may ride horses, the handler is on



Another foot-trialing organization, the United States Complete Shooting Dog Association, runs its dogs on a one-and-a-half-mile course with pen-reared birds. Dogs are judged under conditions simulating actual hunts. Field marshals – who govern situations on course and assure safety – and judges are mounted, while gallery wagons are provided for spectator enjoyment.

foot and the dog must work within the range of his handler. "It's all right for a dog to run big," he said, "but he can't run bigger than a man on foot can handle." Cameron said the National Bird Hunters Association "is geared toward a man who loves to hunt with bird dogs, but may have only a pickup truck and a dog box. Many of our dogs are used for both field trials and for hunting," he noted.

The National Bird Hunters Association was organized about five years ago in Arkansas and has now spread to thirty-one states. There are eight clubs in South Carolina and C.C. Smith of Laurens is president of the Palmetto State organization. Cameron said a lot of the horseback trialers also compete in the National Bird Hunters Association.

One reason he believes the walking trials have become so popular is that "we're family-oriented. We welcome children and wives." A gallery wagon is provided for spectators to ride in. "At the end of a 30-minute stake we have a bird field with birds set out in various locations. The last eight minutes of the course the spectators can watch the dogs perform on these planted birds."

The South Carolina Bird Hunters Association sponsored the National Bird

Hunters Association's Regional Championships in January on the James Tate Farm near Abbeville, and a South Carolina dog walked away with the top prize. Sea Island Buttons, a pointer female owned and handled by M.C. Littlejohn of Johns Island, took first place in the open stake. The winner of the derby class was Colt, a pointer male owned by Stanley McJunkin of Easley and handled by Mike Wrenn of Greenville.

The American Field just this year authorized the other major walking dog organization, the United States Complete Shooting Dog Association, to hold a National Championship Stakes. The championship will be held in February or March 1986, probably at West End, North Carolina, with plans to bring it to South Carolina the next year, according to James L. Alford of Dillon.

Alford is a prime mover behind the Dillon County Bird Hunters Association, an affiliate of the United States Complete Shooting Dog Association which began in North Carolina about four years ago. "We try to have our trials be as close to actual hunting conditions as they can," said Alford. "We have designated shooters for

safety, and that leaves the handler to spend all his time handling the dog."

He said the dogs are run on a one-and-a-half-mile course which has pen-reared birds planted along the way. "Our dogs don't run as big as the horseback trial dogs," he said. While the dogs must run with class and style, "they are not only field trial dogs, they are also hunting dogs." He said the dogs are under judgment "75 percent of the time."

A gallery wagon is also provided for the complete shooting dog trials so that spectators can see everything that is going on. However, no bird field is provided at the end of the course. Only the two judges and the field marshals are on horseback. "Our dogs hunt with you, you don't hunt with the dog," he said.

The five United States Complete Shooting Dog Association clubs in South Carolina hold a South Carolina State Classic each year. Last year the classic was won by Frosty, a setter female owned by Robert E. Lee of West End, North Carolina, secretary-treasurer of the national organization. In 1986 the South Carolina Classic will be hosted by the Swamp Fox Club in Marion.

While the field trials are a big part of the organization, said Alford, the main



MARK
THE
objective of the national and local clubs is "to replenish the wild birds." The Dillon County Bird Hunters Association annually plants more than a ton of seed in the local area. "We give the seed to landowners, plus the local club this year raised a thousand dollars to pay to have land plowed and seed planted on power lines, gas lines, unproductive lands and even set-aside lands." The plantings effort, he said, "is really paying off."

The South Carolina clubs, said Alford, hold judging seminars so the people who judge the trials will know what rules they are to follow and what they are to look for in a good bird dog. They also hold an annual awards banquet and the Puppy of the Year Award this year went to Swamp Fox Rebel, a pointer male owned by Johnny Atkinson of Marion, president of the state association.

In all, there are nearly thirty local bird dog clubs in South Carolina offering a variety of field trial sport to the pointing breed fancier. Participation in all facets of field trialing is on the increase. "We've seen a definite increase in horseback trials since the foot dog events got started," said McCathern. As the wild quail habitat and hunting area continue to diminish, the bird hunters are turning to field trials to enjoy their dogs.

For information on the horseback field trials which are held by clubs in the Association of South Carolina Field Trial Clubs, call Richard Wood in Gaston, secretary of the association, at (803) 791-0634, or call Dr. Frank Hines at 254-0982 or 359-3733, or Dr. Billy McCathern at 795-8741.

For information on the National Bird Hunters Association, call Bill Cameron in Abbeville at (803) 459-5023.

For information on the United States Complete Shooting Dog Association, call James L. Alford in Dillon, vice-president of the national organization, at (803) 774-2923, or call Johnny Atkinson in Marion, president of the South Carolina association, at (803) 423-2726, or John Fisher of Marion, secretary-treasurer of the state organization, at (803) 537-6347. 🐾

Billy McTeer is small game biologist with the wildlife department.





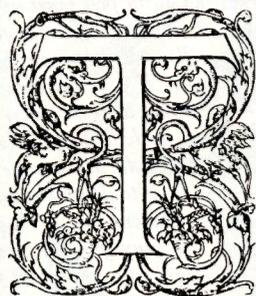
Rana maxima

Helleborina

26

MARK CATESBY

THE FORGOTTEN NEW WORLD EXPLORER



though he should rank beside Audubon and Bartram, few people recognize the name Catesby. This self-made botanist's name

lives on, however, in the scientific classifications of species he discovered in colonial South Carolina... the wood duck, the bullfrog and Catesby's lily.

by Scott Derks

It was the early spring of 1722. The Yamasee War was still a vivid, brutal memory, and most of colonial South Carolina was an untamed wilderness fit for little except bears and bison and trappers and fools — the perfect place for a quiet, reclusive English botanist by the name of Mark Catesby.

This was his second trip to America, and few people, including Sir Francis Nickolson, Governor of the Province, who met the Englishman at the dock, would have dreamed that the book Catesby would later write and illustrate, *The Natural History of Carolina, Florida and the Bahama Islands* (1731-43), would become the most comprehensive book on natural history of the New World. Catesby's would be the first book on American birds illustrated by colored plates, a book produced in such a grand style, it was hailed at the time of its appearance as "the most magnificent work" since the art of printing had been discovered.

Fewer still would realize that despite the fame that would come to Catesby during his lifetime as the discoverer of dozens of birds, plants and fish, he would fall into obscurity.

No portrait of this significant explorer is known to exist. Until recently, even his

birthdate was a mystery. Though his efforts should be mentioned in the same breath with John J. Audubon, John Bartram, Quaker botanist; and Alexander Wilson, the father of American ornithology, little is known about Englishman Mark Catesby who came to Charleston in 1722 to study the New World.

It was Catesby's misfortune that his work was completed in the turbulent days before the American Revolution. Few in England were eager to learn why the old could learn from the new; how America's plants and customs might be better than English, even though Catesby became convinced the wealth of the New World was such that the colonial policy of England should be directed away from the old conflicts of Europe and toward the infinite promise of America. And in America, few could afford his exceptional book — although Bartram was known to have bought one of three sold in America.

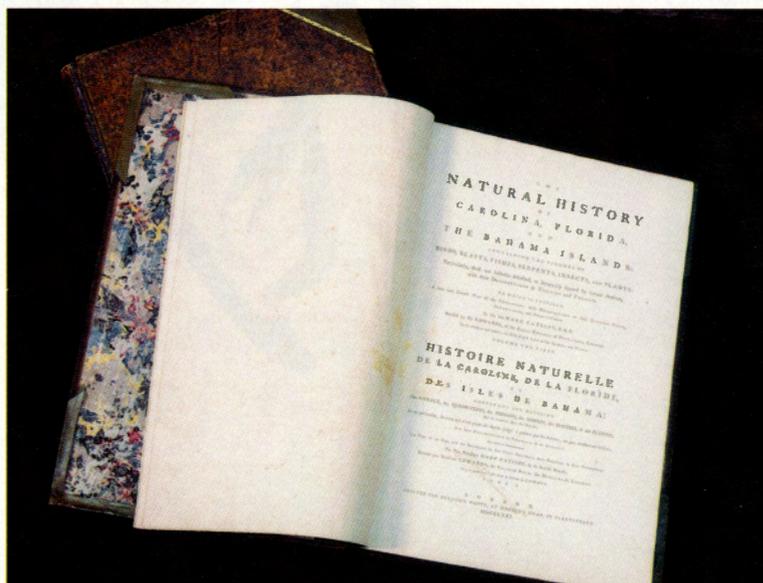
Unfortunately, none of the original edition of 156 sets was known to have been sold in Carolina to the affluent plantation owners with whom Catesby spent so much time and contributed so much.

Catesby is believed to have planted the

Left, the bullfrog's Latin name has been changed from *Rana maxima* to *Rana catesbeiana* in honor of its discoverer. The plant behind the frog is a Lady's Slipper. Below, the two volumes that comprise *The Natural History of Carolina, Florida and The Bahama Islands* with the frontispiece of Volume I heralding the "figures of birds, beasts, fishes, serpents, insects, and plants, particularly those not hitherto described or incorrectly figured by former authors..."

Overleaf, the great ivory-billed woodpecker. Catesby's text reveals that even then men were causing problems for this bird. In the background is the willow oak.

Catesby's plates and text reproduced through the courtesy of Thomas Cooper Library, University of South Carolina.



ROBERT CLARK

PICUS Maximus rostrō albo.

The largest white-bill Woodpecker.

Pic de la première grandeur au bec blanc.

WEIGHS twenty ounces; and is about the size, or somewhat larger than a Crow. The bill is white as ivory, three inches long, and channelled from the basis to the point: the iris of the eye yellow: the hind part of the head adorned with a large peaked crest of scarlet feathers: a crooked white stripe runs from the eye on each side of the neck, towards the wing: the lower part of the back and wings (except the large quill feathers) are white: all the rest of the Bird is black.

The bills of these Birds are much valued by the *Canada Indians*, who make coronets of them for their Princes and great warriors, by fixing them round a wreath, with their points outward. The *Northern Indians*, having none of these Birds in their cold country, purchase them of the *Southern* people at the price of two, and sometimes three buck-skins a bill.

These Birds subsist chiefly on Ants, Wood-worms, and other Insects, which they hew out of rotten trees; nature having so formed their bills, that in an hour or two they will raise a bushel of chips; for which the *Spaniards* call them *Carpenteros*.

CET Oiseau pèse vingt onces; et est de la grosseur d'une Corneille, ou même un peu plus gros. Il a le bec blanc comme l'ivoire, de trois pouces de long, et cannelé depuis la base jusqu'à la pointe, l'iris de l'œil jaune, le derrière de la tête orné d'une grande crête de plumes écarlates, et une raye blanche croquée à chaque côté du cou depuis les yeux jusques vers l'aile: la partie inférieure du corps, et les ailes (excepté les grandes plumes) sont blanches: tout le reste de l'Oiseau est noir.

Le bec de ces Oiseaux est fort estimé des *Indiens du Canada*, qui en font des couronnes pour leurs Princes et pour leurs grands guerriers, en les enchassant de manière que les pointes s'élevent en dehors. Les *Indiens du Nord*, n'ayant point de ces Oiseaux dans leur pays froid, les achètent des *Indiens du Sud*, et donnent jusqu'à deux et même trois peaux de daim pour un bec.

Ces Oiseaux se nourrissent principalement de fourmis de vers, et d'autres insectes qu'ils tirent des vieux arbres pourris; la nature ayant formé leur bec de manière que dans une heure ou deux ils peuvent faire un boisseau de copeaux; c'est pour cela que les *Espagnols* les appellent *Carpenteros*.

Quercus Anpotius; Ilex Marilandica, folio longo, angusto, salices. Raii Hist.

The WILLOW OAK.

THIS Oak is never found but in low moist land: the leaves are long, narrow, and smooth edged, in shape like the Willow: the wood is soft and coarse-grained, and of less use than most of the other kinds of Oak. In mild Winters they retain their leaves in *Carolina*; but in *Virginia* they drop.

Le Chêne Saule.

ON ne trouve jamais ce Chêne que dans les fonds humides: les feuilles en sont longues, étroites, et unies aux extrémités, de la même forme que celles du saule; le bois est tendre, et le grain en est gros, et il est moins bon pour l'usage que celui de la plupart des autres espèces de Chêne: quand les Hivers sont tempérés, les feuilles de ces arbres ne tombent point à la *Caroline*, mais elles tombent à la *Virginie*.

Willow Oak.

Large White Bill Woodpecker.



magnificent avenue of live oaks at Ashley Hall in Charleston. Without question he spent a lot of time at the plantation of Colonel Bull on the Ashley River, where he found the dahoon holly "in a bog much frequented by alligators." He discovered the purple-berried bay tree farther up the Ashley in the town of Dorchester — a settlement of wealthy refugees from Puritan New England.

The fossils he discovered along the Stono River, described as the "grinders of an elephant," were the earliest American record of an American vertebrate fossil. Of the more than 100 birds he discovered and illustrated, fifty-eight were from the rivers and plantations around Charleston.

And one of his most harrowing adventures took place at the Newington

Plantation outside Charleston. As the servant was making up his bed one winter morning, she found a rattlesnake between the sheets. The snake had sought warmth during the night, and Catesby wrote "how long I had the company of this charming Bedfellow, I am unable to say." Catesby was to write extensively about rattlesnakes, observing at one point that "when the bite is slight the Indians sometimes suck the wound with good success, but the recovered person never fails to have annual pains at the time they were bit."

Catesby first came to the American colonies in 1712, and stayed seven years at his married sister's home in Virginia. There he explored the New World wilderness, collecting birds, plants and animals — anything and everything that was native to

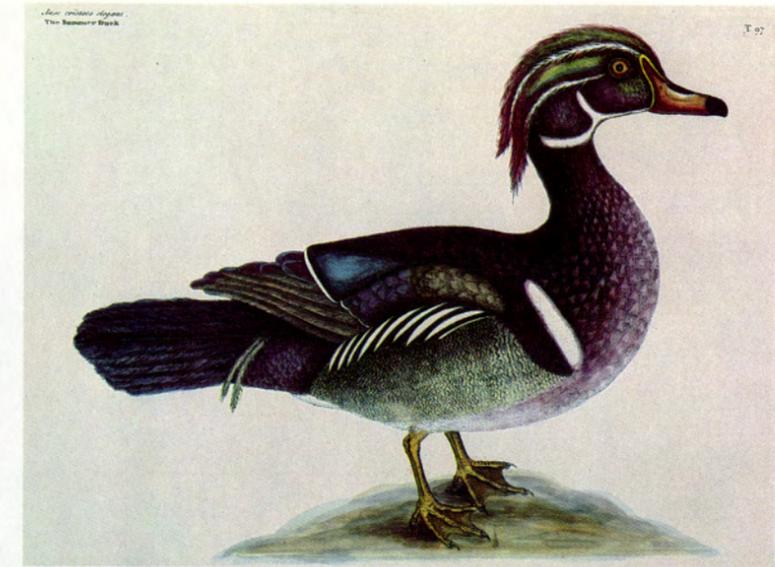
the American continent. He was constantly stuffing his pockets — to the amusement of the Americans — with feathers, roots, seeds, berries, acorns and cuttings for shipment back to England. And it was not at all uncommon to find him "wasting" his time painting commonplace subjects like the delicate purple flowers that bloomed on sweet potato vines.

All of scientific England was eager to learn more about the New World and much of the work of the Royal Society was directed toward discovery. Catesby, despite little education, was a keen observer and lover of nature. During his stay, he became haunted by the thought of converting American wild flowers and shrubs and trees into garden plants — great avenues of live oaks and banks of begonias and azaleas that

would make the gardens of the New World the most beautiful in existence.

Later, Catesby was to introduce and grow a number of American plants in England, including dogwood, sassafras, locust and laurel. He came to discover that the New World was vastly different than man believed in Europe.

The general impression prevailed in England that the American climate was stormy and cold, the forests gloomy and dank, the wild creatures savage and dangerous. Catesby told of a different world — a land where the southern woods, dense with the luxuriant summer foliage became more beautiful as the leaves dropped. Masses of shining black berries formed on the sassafras trees, attracting multitudes of birds. The berries of the yaupon turned bright red, a



shade they would retain all winter. Laurel trees brightened with purple and scarlet seeds and pods...of the red oval berries of the dogwood and the dark glistening berries of the tupelo that were as brilliant as flowers.

He talked of how the men sat enjoying the cool night while teasing ground frogs with the bright coals of their cigars which the frogs confused with fireflies. He intrigued England with tales of the night birds that moved overhead making wild sounds; owls that hooted in the swamps; and slowly there grew in the mind of the artist the conception of an immense unspoiled wilderness, adorned and enriched with unknown wild plants and animals and surely "no contemptible Scene of the Glorious Works of the Creator."

Catesby went back to England in 1719 determined to return. His years spent along the James, the York and the Rappahannock were excellent preparation for his days along the Cooper, Ashley and Savannah, and a trip to the colony for the purpose of collecting gained considerable enthusiasm in the scientific circles of England. Eventually, twelve sponsors were found including "The Honorable Colonel Francis Nicholson, Governor of South Carolina," which proved to be very beneficial to the visitor. The relationship of the governor with the people of South Carolina was still in a honeymoon stage, and Catesby, as a protégé of Nicholson was accorded cordial entree to the homes of the best people of the colony. The names of Moore, Blake, Bull, Johnson, Waring and Skene appear in his works for providing both access to all things natural in the Carolinas and bed and board when away from Charleston.

For three years he collected plants, animals and fossils, shipping barrels of seeds and specimens back to England for his

Catesby's book describes the "summer duck" in great detail, and a comparison with a photograph of today's wood ducks confirms the accuracy with which he illustrated it, above. Of the wood duck Catesby said, "They breed in Virginia and Carolina, and make their nests in the holes of all trees (made by Woodpeckers) growing in water, particularly Cypress trees... The female is all over brown."



TED BORG

patrons who were eager to experiment with American plants. An exceptional collector, Catesby gathered botanical specimens that had to be sent alive from the site in special saddlebags, then transferred to special tubs of dirt for their three-month journey across the ocean. Snakes, frogs and small birds were sent preserved in rum in large mouth jars, although many failed to reach their destination when the rum was discovered by sailors, who tossed away the specimens bound for England.

His three years of adventures in South Carolina carried him to the plantations within sixty miles of Charleston, the sea islands to the south and as far north as the headwaters of the Savannah, probably near the border of present-day Tennessee, in the midst of the Cherokee settlement.

There he saw the yellow-breasted chat and the indigo bird, and he wrote of the purple martins... "they breed in Lockers prepared for them against houses and in gourds hung on poles for them to build in; they being of great use about houses and

yards for pursuing and chasing away Crows, Hawks and other vermin from the Poultry."



long the way he also encountered an impressive run of spawning sturgeon, near the rapids now submerged by Clarks Hill Reservoir, discovered water ash, the wild camellia and Indian pink, and came back reporting that the "savages were much addicted to drunkenness, a vice they never were acquainted with til the Christians came among them."

He was the first man to draw the wood duck and explain how it nested. Catesby's drawings of the pitcher plant were the earliest drawings of a carnivorous plants in America and he was the first to tell the New World about the cleverness of the "Mock-Bird."

Like many later observers, he came to believe that the song of the mockingbird was the loveliest in nature, relating in his spectacular work that the Indian name for the "mock-bird" was *concontlatolly*, which means 400 tongues. Ironically, it took ornithologists 200 years to confirm what the Indians knew instinctively — that about 400 species of birds live in the southern woods.

Catesby's natural history was also filled with folklore. About parakeets he said, "their guts are certain and speedy poison to cats." He related that Indians of the day believed that daubing their bodies with the juice of the purple bindweed would allow them to handle even the deadly bite of a rattlesnake without harm from its venom. He also reported the coachwhip snake could by a jerk of its tail "separate a man in two parts," and the horn snake could with its horny tail strike a tree and cause it to "instantly wither, turn black and die."

Catesby also wrote that the Indians of the area probably came from Asia, an

interesting observation now supported by scientific studies of the land migration patterns of the early Indians.

But when he returned to London he faced ruin. He had contracted to give his subscribers colored plates of his work, and in making arrangements with artisans in Amsterdam he discovered he would be liable for far greater costs than his subscribers had paid. So he learned engraving himself.

The final document was issued in two volumes. They were large, almost 2 feet long, with 100 plates in the first volume and 120 in the second. Catesby colored each plate by hand, and since there were 156 subscribers it appears that he had to color 156 copies of 220 engravings or 34,320 plates. The work took twenty years.

Few men have left a prouder monument.

Unlike others artists of the day, Catesby's plates showed the plant or flower in relationship to the bird. He wrote: "In designing the Plants, I always did them while fresh and just gathered: and the animals, particularly the Bird, I painted

while alive." It was a revolutionary achievement that quickly spread throughout all of Europe. And since it was published in both French and English, Catesby quickly gathered a large audience of sufficient size that he was able to support his wife and two children with his book.

At his death in 1749 *Gentlemen's Magazine* wrote in its obituary that he was greatly lamented as the "truly honest, ingenious and modest Mr. Mark Catesby." By the time of his death the conflicts of the colonists and the mother country were reaching serious proportions. It no longer made sense to talk of a fusion of their societies. For Americans he was a transient visitor who could not qualify as American. To England he was a man who wrote about a land they were less and less interested in hearing about. 🐾

Scott Derks is a part-time freelance writer from Columbia whose work regularly appears in South Carolina Wildlife and other state and national publications.



D.J. JOHNSON



D.J. JOHNSON

At Expo's Preview Night, donors are given a private showing of art, sculpture and carvings, then invited to an auction of one-of-a-kind art and collectibles in the Francis Marion Hotel ballroom. Prior to last year's auction, Governor Riley presented Ducks Unlimited life sponsor pins as Expo founder Dicky Trotter and Ducks Unlimited President David Rodwell looked on. The Francis Marion's Sky Terrace Ballroom offers entries and winners in the South Carolina Duck Stamp Competition.



D.J. JOHNSON

Art, crafts, collectibles, events and exhibits — with an opening date of February 14, 1986, the fourth annual Southeastern Wildlife Exposition in Charleston promises to be...

A VALENTINE FOR WILDLIFE

by John Davis

"There's a fourteen, a fourteen," the auctioneer's voice sang out, then hushed for effect. With one silent inhaling several hundred donors, artists and guests wandering beneath the chandeliers of Charleston's Francis Marion Hotel paused and held their breath.

"Afourteenonce, a fourteen twice, and you've missed your chance because it's SOLD, for fourteen thousand dollars!"

The sale of Mario Fernandez' original painting for print of the year, "Sunbathers," claimed high bid honors for the Preview Night Exhibit and Auction that brought in approximately one dollar for each of the more than 30,000 who attended the third annual three-day Southeastern Wildlife Exposition in Charleston.

"Last year's show exceeded our goals for attendance, participation and fund-raising. We hope to make the '86 show an even better success," said Expo president, Dicky Trotter.

Only those for whom the '85 Expo was a first would dare dismiss Trotter's comments as standard promotional hype. The first Expo in February 1983 drew more than 12,000 paying wildlife enthusiasts to the holy city. And following that immodest birth the '84 edition brought approximately 20,000.

The event has become a Charleston tradition, gladdening the hearts of merchants and innkeepers as Expo goes, many bedecked in camouflage and other traditional outdoor attire, stalk the ancient city's cobblestoned streets. "In terms of daily crowd participation, it's like Spoleto," one shopkeeper beamed while decorating his store front for Expo's window display contest. "It's the best way anyone could imagine to generate financial support for wildlife. And everybody's here to have fun."

Such was the original hope of Trotter, W.D. Morris and Marvin Davant, Expo's "founding fathers," to create an event that would support the preservation and enhancement of wildlife programs through a festival of wildlife-related arts and crafts. Artists, craftsmen and others who attend similar expositions throughout the country attest to the fact that the Southeastern Exposition has gone beyond those original hopes to become one of the most important, most enjoyable of its type held anywhere.

Be it original paintings or limited prints; cast sculpture, taxidermy, or wood carvings; decoys and collectibles, or functional wildlife gear; savory recipes and foods, or events such as turkey calling, the South Carolina Waterfowl stamp competition, dog handling, or a variety of wildlife art and crafts exhibit, the '86 Expo will offer all. Charleston will quake with activity from the center of its peninsula near the Francis Marion to the South Carolina Ports Authority docks on the Cooper River.



Art LaMay's "Majesty of the Marsh" has been selected as the '86 print of the exposition.



ROBERT CLARK



ROBERT CLARK



PHILLIP JONES



PHILLIP JONES



PHILLIP JONES

The variety of displays and the grouping of exhibit buildings allow each individual to wander afoot, participating at his or her own pace.

Southeastern Wildlife Expo '86 is being billed as "a valentine opening for wildlife goers." And that it surely will be. Tens of thousands of outdoor enthusiasts and some of the giant names in flat art, sculpture, carving, taxidermy and other wildlife-related crafts are sure to be there, February 14-16. But the variety of displays and the grouping of exhibit buildings allow each individual to wander afoot, participating at his or her own pace.

Arthur LaMay of Daytona Beach, Florida, has been named "Artist of the Year" for the 1986 Exposition. His painting, "Majesty of the Marsh," has been selected as the 1986 print.

"It's a real honor. I'm still walking on clouds," said the Pennsylvania native who has long been recognized along the Eastern Seaboard for his work. Easton, Maryland's Waterfowl Festival and the World Championship Waterfowl Festival in Salisbury, Maryland, are just two of the other festivals that have honored the painter whose work has appeared in *National Wildlife* and *Ducks Unlimited* magazines.

Another of LaMay's paintings, "The Boys," depicting five mallards sitting on a log, has been chosen as the Exposition's poster.

"One of the changes we're making this year is an expansion of our carving and sculpture area," said Expo executive director, Ray Morris. "We've also chosen Habbert Dean as "Carver of the Year." His work and accomplishments in the field are amazing, especially when you consider that he only began carving full-time three years ago."

A Maryland native, Dean has won blue ribbons at the World Championship competition in the open class at Ocean City, Maryland, and has numerous other awards at the United States National Decoy Contest in New York and the Mid-Atlantic Waterfowl Competition at Virginia Beach, Virginia.

Both LaMay and Dean will offer works for sale during the three-day event. One of Dean's personal favorites, a life-size carving of a pair of hooded mergansers will be sold, as will LaMay's original painting of the Expo print at the Preview Night Auction.

If Expo continues to build as it has since its beginnings, you can bet there'll be an even greater inhaling of breath than last year among those present in Charleston and the people supporting wildlife programs through the Southeastern Wildlife Exposition.

Tickets for this year's Exposition are \$6 for one-day entry into all exhibits except the Levi Garrett Regional Turkey Calling Contest and the South Carolina Duck Calling Competition. A three-day pass, good for all events, can be purchased for \$15 prior to the show or on February 14. Children under 12 are admitted at no charge. Those wishing to purchase tickets or acquire more information on the 1986 Southeastern and the funding it provides for the resource may write to Southeastern Wildlife Exposition, 606 Old Trolley Road, Summerville, South Carolina, 29483, or call (803) 875-3170.



ROBERT CLARK

Original art and carvings, window displays by Charleston's shopkeepers, turkey- and duck-calling competitions, wildlife arts and crafts ranging from handmade knives to inexpensive art prints, displays and seminars by conservation groups and outdoor merchants, special Lowcountry tastes and a celebration of Audubon's 200th anniversary are just a few of the treats Expo '86 will offer.

field trip

November-December 1985 Volume 32, Number 6

Nature's Engineer – The Beaver

Beaver ponds provide natural wildlife habitat. Ponds built by the beaver furnish food, water, shelter and cover for many kinds of wildlife including mammals, waterfowl, reptiles, amphibians and fish. South Carolina's only native duck, the wood duck, prefers to build its nest on beaver ponds where a good supply of food and cover exists for the hen and her ducklings.

In addition to providing wildlife habitat, beaver ponds help minimize erosion by slowing the run-off from drainage areas. Old, filled-in beaver ponds are some of the most fertile lands available for growing crops. Furthermore, beaver ponds can provide water for livestock during periods of drought.

Even though beaver ponds provide good habitat for many species of wildlife, especially waterfowl, they can harm trees by flooding and killing hundreds of acres of valuable commercial timber. Beavers may also cut or flood agricultural crops such as corn or soybeans, and they may dam up drainage ditches causing the flooding of highways, railroad tracks, bridges and septic tanks.

Identifying Beaver Ponds

Beaver ponds are easy to identify if you know what signs to look for. Their ponds are usually several acres in size, 2 to 4 feet deep and impounded along outlets of wooded drainages, small tributaries and streams. Trees within and along the edge of the

pond drown. Tree stumps should be present with cone-shaped tops, and if you look closely, you will see beaver teeth marks. Sometimes, trees are girdled or partially cut, while twigs and branches stripped of their bark lying on the shore indicate the presence of beavers.

A lodge in the bank or in the middle of the pond is another indication that beavers are, at least, in the area. A dam constructed of sticks, logs and mud across a stream or creek is clear evidence beavers are present. It doesn't take long for the beaver to build or rebuild a dam, den or lodge. The structures are very sturdy and are one of the true wonders of the animal world.

The beaver decides by instinct rather than intelligence where to build its dam. Often, it's built along a small stream near ample trees and saplings. Most dam building occurs in the spring when young beavers leave to establish a colony of their own. To escape its enemies, the beaver needs deep water and, thus, constructs its dam about 2 feet above the level of the stream and about 12 feet across. In just a couple of nights a dam can be built. As times goes by, the beavers enlarge the dam.

Although the beaver is most active during the early morning and late afternoon, they carry on most of their construction activities at night. When building a dam, beavers drag branches to the dam site and place them in place with the stub end facing upstream. Mud and rocks are



LEONARD LEE RUE III

A cone-shaped mound of gnawed-off sticks and logs, the beaver lodge offers no entrance above the waterline, an obvious measure of security.



A few well-placed limbs repair the small leaks that occasionally wash through the beaver's dam.

placed upon the branches to add weight with layer after layer of branches, mud and rock added to hold the dam in place. Once the dam is built, mud and leaves are packed on the face of the dam to hold back the water.

Most dams average about 5 to 7 feet high and about 75 feet long, although some dams may be over 10 feet high and over 2,000 feet long depending upon the size of the stream bed in which it is located.

A Natural Architect

As a woodcutter, architect, mason and engineer, the beaver's talents are best displayed in its lodge with passageways, a living

chamber and a ventilation shaft. Two types of lodges are found in beaver ponds. Bank lodges are built by digging tunnels into the side of a stream bank leading to a common chamber about 3 feet in diameter. Since beavers are air-breathing animals, the chambers of their dens must be above the waterline. Later, the beavers may pile wood over the top of the tunnels to form a more secure bank lodge.

The typical beaver lodge is a mound of logs, sticks, mud and rocks constructed in the pond rising 5 to 6 feet above the water level in a cone-shape resembling a castle. When this construction is completed, the beavers dive underwater and cut their way to its center where they cut out a

chamber in a circular pattern above the water. Lined with wood fibers and other soft material, the chamber features two levels, one for living and rearing young, the other for feeding and draining excess water from its fur. Other tunnels will be built under the water into the lodge to provide the beaver a means of escape if danger threatens.

Because beavers do not hibernate during the winter months, they must store food supplies. By wedging short tree limbs in the stream bottom near their lodge and weighting them down with mud and rocks, the beaver is certain to have enough food to last when fresh supplies are scarce. However, if its food supply runs short, it must leave the

warmth and safety of the lodge to search for food.

Although the beaver is a fascinating animal, it can be both a benefit and a burden to man. Throughout history it has played an important role by making men rich or causing financial hardship to others. During the 18th century, the demand for beaver fur for hats and coats led to extensive trapping of the beaver across North America. In some areas, beaver pelts replaced money as a form of exchange giving the valuable pelts the nickname "brown gold." Twelve beaver pelts would buy a gun while six pelts paid for a blanket. By the mid-19th century, however, the popularity of silk hats reduced the great demand upon the nearly-extinct beaver. Federal laws protecting the beaver were later introduced that allowed it to repopulate its habitat within a short period of time.

When a beaver finds conditions to its liking, it will claim the property and is nearly impossible to remove except by trapping. As beavers build dams, they may flood needed pastureland, kill valuable timber, destroy trout streams, flood roads and create other harmful effects that cost farmers and landowners thousands of dollars. The destruction of a beaver dam or lodge makes the beaver abandon its selected site, but most often, the beaver will rebuild in one night all that it took a person one day to destroy.

Considering the beaver's ability to multiply and its reputation to alter the environment to suit its own needs, the best method for controlling the beaver is to keep it from overpopulating or for men to learn to live with the natural wildlife habitat it creates.

The most common method of

preventing the beaver from overpopulating an area is to allow trappers to take some of the beavers for furs. Although trapping is criticized by various animal rights' organizations, it effectively manages beaver populations and reduces the number of beavers in an area. Several types of traps are available for capturing beaver, one of the most popular being the Conibear trap. In South Carolina, the trapping season for beaver and other furbearing animals is January 1 to March 1. Beaver may also be taken from March 2 through December 31 if the beaver is a direct cause of damage to private or public land. For more information on trapping beaver, contact the Furbearer Biologist, South Carolina Wildlife and Marine Resources Department, P.O. Box 167, Columbia, S.C., 29202.

Since the beaver pond provides excellent habitat for waterfowl, especially the wood duck, a number of activities can be completed to improve the beaver pond for good wood duck nesting. Early in the 20th century, the wood duck lost valuable nesting sites as men clear-cut bottomland habitat for cropland, timber and industrial sites. Fortunately, wildlife biologists found that natural nesting cavities can be



Shallow water, adequate cover and ample food make beaver ponds ideal habitat for wood duck broods.

replaced with man-made boxes.

By erecting wood duck nesting boxes, an individual can increase the number of wood ducks reared in beaver ponds. The man-made nest boxes are often safer nest sites as they limit access by predators, and they tend to be more weatherproof than most natural cavities. Free wood duck nesting boxes are available to landowners from the sale of South Carolina state waterfowl stamps purchased each year by hunters. Last year nearly 2,000 wood duck boxes were distributed throughout the state creating an estimated production of over 5,000 ducklings. Information on construction and installation of wood duck boxes may be obtained from the wildlife department, Wood Duck Boxes, P.O. Box 167, Columbia, S.C., 29202.

The Beaver: A Brief Natural History

The beaver is the largest member of the family of rodents which includes squirrels, rats, mice and the muskrat. All rodents have two upper and two lower teeth, which in the beaver grow constantly and are always knife-sharp. Adult beavers weigh between 40 and 60 pounds and measure 3 to 4 feet in length.

Spending part of the time in the water and part of the time on land, the beaver is better adapted to swimming. Its tail is flat and scaly and is used as a rudder when swimming, a brace when standing or chewing on a tree, or to warn other beavers when danger is near by slapping the water. The tail is also used to store fat to be utilized when food is scarce during the fall and winter. When swimming through the water, the beaver uses



A 7-day-old kit learns the beaver "trade" by observing its parents' actions.

only its webbed hind feet while the front feet remained curled and carried high against the chest. While swimming under the water, a transparent covering protects the eye allowing the beaver to see. In addition, the beaver has enough lung capacity to allow it to remain underwater for as long as fifteen minutes.

Many people believe beaver feed upon fish as well as soft aquatic plants during the summer and woody plants during the winter, but the beaver is a true vegetarian and generally feeds upon bark, twigs, leaves, roots of aquatic plants, grass and some agricultural crops. Most often, soft plants are eaten in the summer months while winter foods consist of woody plants from its underwater food pile that may grow to 25 feet long and 4 feet deep.

Beavers communicate to each other constantly. When young beavers feed outside the lodge with their parents, a continual murmuring can be heard among all the members of the family. When angry or threatened, the

beaver will hiss. Perhaps the beaver's best known sound is tail slapping on the surface of water resulting in a sharp crack that can be heard for over a mile on a quiet night.

The beaver also communicates by a scent post to mark its territory. Scent posts consist of piles of mud and grass or small twigs onto which the beaver deposits castoreum from two large castor glands under its tail. The sweet-smelling oil is also used by the beaver to waterproof its coat and to groom its fur.

A typical colony or family of beavers consists of male and female parents and three to five young, or kits. Born in May or June, the kits remain in the colony until they are about twenty-two months old. By this time, one or two other litters are born and the older kits leave the lodge to set up new beaver colonies. Although a beaver colony can consist of as many as 12 members, a typical colony usually consists of two to eight.

The beaver originally was found

throughout North America with about 60 million existing during the 17th century, but heavy fur trading nearly wiped the beaver out. Today, thanks to wildlife management practices, beavers are found throughout their former range wherever food and water exist to support them.

In South Carolina, the beaver is found in all counties along the Savannah and Pee Dee rivers drainage systems. Beaver usually expand their range within the wetlands provided by these river systems but rarely migrate out of certain areas.

During the winter of 1940-41, the U.S. Fish and Wildlife Service released six beavers captured in Georgia on the Sandhills National Wildlife Refuge in Chesterfield County. By 1980, the beaver had spread to 28 of South Carolina's 46 counties. With current population growth, the beaver will continue to expand throughout much of South Carolina.

Check It Out

If you would like more information about the beaver and its importance to man, check out the following sources of information available from your local library.

Field Guide to the Mammals, by William H. Burt and Richard P. Grossenheider, 1979.

Furbearing Animals of North America, by Leonard Lee Rue III, 1980.

The World of the Beaver, by Leonard Lee Rue III, 1964.

Wild Animals of North America, National Geographic Society, 1960.

Book of Mammals, Vol. 1, National Geographic Society, 1981.

ROUNDTABLE

ECO-FOCUS: CHECK FOR WILDLIFE

The previous Eco-Focus discussed land trusts, a way private citizens can protect valuable natural areas and other important lands. While land trusts can be rewarding, they can also be very time consuming to initiate and operate. For the concerned citizen with little spare time, other options for participating in land protection exist.

One such option is the "Check for Wildlife" program. This program affords the opportunity to make a donation through a line on your state tax form. This donation goes not only toward land protection but also toward nongame research and management.

The "Check for Wildlife" program is administered by the wildlife department's Nongame and Heritage Trust Section. Funds collected through the "Check for Wildlife," or "check-off" as it has come to be known, go directly into the budget of the Nongame and Heritage Trust Section. From this point, the money may be used to buy radio transmitters and receivers for tracking a rare bird, to contract for a survey of a rare plant or animal or even to purchase an ecologically valuable piece of land.

The "Check for Wildlife" program was created by state legislation in 1981. The program now accounts for one-third of the budget of the Nongame and Heritage Trust Section and has made possible many projects which may have gone unfunded or been delayed for lack of funds.

The story of the South

Carolina "Check for Wildlife" begins in Colorado. It was there that wildlife officials, responding to a new federal administration's challenge to increase private sector funding, developed the "nongame check-off" concept. The Colorado state tax form provided a convenient way to reach the maximum number of citizens. Originally, donors in Colorado were limited to those people who received refunds, making it even more convenient to make a donation.

The success Colorado's nongame check-off met was inspirational to many in the wildlife field. Here, finally, was a way for people to get involved with the added bonus of helping to generate revenue. Today, about 30 states have some form of nongame and land protection check-off on their state tax forms, and the number is growing.

South Carolina was one of the first states to follow in Colorado's footsteps. A strong lobby comprising members of the Sierra Club, the South Carolina Wildlife Federation and The Nature Conservancy aided in the passage of our check-off legislation. The end product of this process was a much-needed funding source for the relatively new Nongame, Endangered Species and Heritage Trust programs.

As stated previously, funding from the "Check for Wildlife" can be used for research, management or land acquisition. This new funding source solves some problems which have plagued conservation programs, especially endangered species programs, for years.

One such problem is the Catch-22 of endangered species funding. In order to qualify for U.S. Fish and Wildlife Service endangered species money, a plant or animal must be well on its way to being lost. This process reserves the money for species which are in critical need of help. In our state, many plant and animal species while not critically endangered are suffering from declining populations. Using "Check for Wildlife" money we can now initiate research and management projects on these species and, hopefully, keep them off the endangered species list.

Another problem the "Check for Wildlife" program is addressing is that of land protection. Surveys for significant lands are being accomplished using "check-off" dollars. This past year, for the

first time, "check-off" money was used to purchase a piece of land. Thirty thousand dollars was spent to secure a small wetland site which harbors an endangered plant species, Canby's cowbane.

The "Check for Wildlife" program is generating money which will help conservation efforts through our state. We can now learn more about our nongame wildlife resources and our native ecosystems. Hopefully, we will be able to protect and preserve much of, what makes South Carolina's environment unique and wonderful. In doing so we will also be involving you - you can make the difference. People who have wanted to get involved with conservation in our state and support our efforts now have that opportunity. 🐢

— STEVE BENNETT



A strict vegetarian, the docile gopher tortoise is capable of living 50 years or more in the wild. Despite such longevity and the absence of predators except for man, only 500 to 1,000 of these burrowing tortoises remain in South Carolina, thereby making them excellent beneficiaries of the "Check for Wildlife" program.



**A Check
For Wildlife**
INVEST IN OUR
UNCOMMON WEALTH

GMA LANDS LOST

"South Carolina is now at a critical point with respect to the availability of public hunting lands as provided by the Game Management Area (GMA) program," said W. Brock Conrad Jr., director of wildlife and freshwater fisheries for the state wildlife department.

"Over the last six years more than 90,000 acres were lost from the program," Conrad said.

"Then, in just one year between the 1984-85 and 1985-86 hunting seasons about 95,000 acres were withdrawn, bringing the total GMA acreage to just short of 1.4 million acres."

Lands lost from the GMA program for the current hunting season were removed earlier in the year by several large forest products companies that had traditionally leased the acreage to the wildlife department for public hunting.

These lands, formerly available to the public for hunting, are now leased to private hunt clubs that pay more per acre than the state pays under current GMA land-lease agreements.

Behind the crisis are a combination of factors. Some landowners have withdrawn their property for financial reasons. But the landowners,

most forest products companies, have been alarmed at public abuse of GMA lands.

Landowners point to littering, ruining roads, tearing down gates and trampling seedlings. Landowners believe private hunt clubs will treat property with more respect.

Governor Riley's Land Procurement and Utilization Committee is seeking solutions which will enable the state to continue to provide recreational lands for the public.

Tentative recommendations discussed include an increase in the price of the GMA permit (which provides money for the lease of GMA lands), an overall license increase, a habitat stamp and tax incentives for landowners who cooperate in the GMA program. For more information, see page 12. 🐾

South Carolina has 3,000 species or subspecies of native and naturalized vascular plants. Nearly 10 percent are considered rare, threatened or endangered.

WATERFOWL FORECAST WORST IN 31 YEARS

South Carolina waterfowl hunters face the worst fall flight forecast in 31 years of record keeping for the upcoming waterfowl season, but the downward trend in continental waterfowl populations can be reversed say state wildlife officials.

Total numbers of breeding ducks this year are the lowest recorded during 31 years of surveys according to the U.S. Fish and Wildlife Service. The dire forecast includes declines in



IRENE VANDERMOLEN

Just one of the new U.S. Fish and Wildlife Service's restrictive regulations involves the pintail, above. Only two pintails of either sex may be bagged daily.

all but one of the ten duck species important to waterfowl hunters.

In response to the shortfall in duck numbers this year, the U.S. Fish and Wildlife Service has issued the most restrictive hunting regulations for the states in recent memory in an effort to reduce the continental waterfowl harvest by 25 percent this year.

South Carolina hunters have ten fewer days to hunt this season and the basic bag limit is reduced from five birds per day to four birds per day. Furthermore, only three mallards may be bagged daily, only one of which may be a hen. Only two pintails of either sex may be bagged daily under the new regulations.

The 1985 fall flight is projected to be 62 million ducks, according to Charles Compton, vice chairman of the South Carolina Wildlife and Marine Resources Commission. "This represents a 22 percent decline from 1984 and is the lowest ever projected fall flight."

Total duck breeding populations declined from 19 percent from 1984 representing

a 24 percent decline from the long-term average.

Sport hunters are the ones who are paying for waterfowl management, Compton said. The hunter today feels as if he's being unfairly treated by these federal regulations, "but it's a small enough price to pay to protect this resource."

As bad as all of this sounds," said Tommy Strange, the wildlife department's chief waterfowl biologist, "it does not necessarily mean all gloom and doom for waterfowl enthusiasts in the future."

A return of adequate water supplies, restrictive hunting regulations and continued habitat work in the northern United States and southern Canada can return fall flights to the 100 million mark, Strange noted.

"This is the goal expressly set in the North American Waterfowl Plan that is currently being completed," said the waterfowl biologist.

"Accomplishment of this goal will require a cooperative effort of governmental organizations, private organizations and private individuals." 🐾

HUNTING



Cool fall temperatures and crisp nights set off a signal to all rabbit hunters: it's time to load up the beagles and hit the thickets rabbit hunting. Beagles and cottontail rabbits go together like grits and gravy for no dog is more perfectly suited for the pursuit of rabbits than the short-legged, enthusiastic beagle hound.

The cottontail is one game species familiar to everyone. Thanks to its high reproductive rates, the cottontail is one of the most important game animals in North America.

The smallest of the hunting hounds, the beagle stands an average of 14 to 16 inches at the shoulder. Some are stocky and some lean, but all possess the qualities which make them rabbit-running experts. They have keen noses and they pack together on a hot trail.

Their small size makes beagles easy to keep in a backyard pen. Four or five beagles occupy little space and they're much cheaper to feed than a pack of big hounds.

Hunting rabbits with beagles offers sport and excitement a'plenty. Several beagle owners will usually get together and combine their dogs into one pack, a pack containing one good "trial" dog and another "jump" dog. These specialists will follow a cold trail to where the rabbit is hiding, then open up as the rabbit leaps from cover. Then the race is on! Each beagle in the pack will be yowling its head off on the hot scent, eating up the rabbits' tracks as they relentlessly pursue it at top speed. 🐾

— RUSSELL TYLER

HERRING-STRIPER BROOD STOCK SHORTFALL

Fewer herring and striped bass hatchery brood stock showed up last spring in the Cooper and Santee rivers, a phenomenon blamed on reduced flow in the two Lowcountry rivers as a result of a long dry spell and the U.S. Army Corps of Engineers' Rediversion Project.

Herring are food supplement for striped bass and other species in lakes Marion and Moultrie. Herring are particularly important at a critical time in late summer when sport fish face the winter food shortages.

Fisheries biologists count the herring entering the lakes annually at the Pinopolis Lock. A sonar counter has been in place there for the past ten years. During this ten-year period, fisheries biologist Dick Christie said that an average 6.5 million herring entered the lakes through the lock.

Last spring only 1.4 million herring passed through the lock. "This is the lowest number of fish since 1975 when counts were initiated," said Christie who is stationed at the Dennis Wildlife Center at Bonneau. The previous low was 2.2 million. As many as 10 million have been locked through in a good year.

Production at the Pinopolis state striped bass hatchery was also off during the spring hatchery season according to Tom Curtis, chief of the Dennis Wildlife Center and hatchery director. Hatchery production of striped bass stocks last spring was about half of normal production.

More than 2 million fingerlings are annually produced at the striped bass hatchery and the Dennis Wildlife Center. Nearly half of this production goes into local waters, namely lakes Marion and Moultrie and the Santee River.



As the NRA's 50,000th member, Jared Goegeline is being featured in their national ad campaign, "I'm The NRA."

NRA HONORS IRMO BOY

When Jared Goegeline was old enough to go on hunting trips with his father and brother, he asked if he could become a member of the National Rifle Association (NRA).

As a result of Goegeline (pronounced gag-line) joining when he did, he was named NRA's 50,000 Junior Member. He is also featured in the NRA's national ad campaign "I'm the NRA."

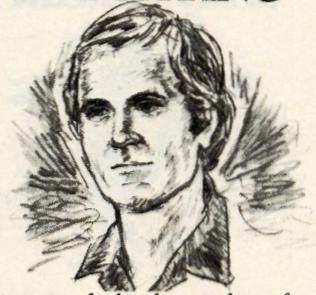
Jared was presented a commemorative 20-gauge shotgun from Mossberg at the NRA's annual meeting in Seattle, Washington, in April. Jared Goegeline, 12, of Irmo, South Carolina, was following

the footsteps of his brother, father and grandfather who had also joined the NRA.

Jared's father, Gerald, is an avid outdoorsman and has passed on his knowledge and love for the outdoors to his sons. "They both started going in the woods with me when they were 4 and started hunting at age 12," said Gerald Goegeline.

"I think the biggest obligation a father has to his children is to spend time with them. Also, he should educate them about all aspects of conservation and the importance of establishing a good relationship with landowners," said the father.

The Goegeline family understands the importance of treating the landowner and his land with respect. "We try to



With the shorter days of fall and winter fast approaching, more boating hours will be spent under the cover of darkness, and lighting becomes more important than ever.

Motorboats and sailboats operating between sunset and sunrise are required to display navigation lights while boats operated exclusively by oars or paddles are only required to have one white light—a light such as a lantern or a flashlight. Basically, navigation lights consist of a red light on the port side of the bow and a green light that can be seen from starboard. The stern should have a white light.

Keeping your lights in top working order is essential to the safe operation of your craft at night. Some very serious accidents with tragic results have occurred because navigation lights either did not work or were improperly displayed.

A low intensity interior or courtesy light works extremely well for tying knots, unhooking fish or whatever else you may need to do at night while afloat. Other lights that can help make your evening boating safer and more enjoyable are docking lights which, essentially, are the counterparts of driving lights. They really help when bringing in the larger vessels such as pontoon boats and houseboats. With the flip of a switch, you can instantly see mooring areas.

With the cold, dark months just around the bend, these are just a few ideas an industrious boater may want to take advantage of. 🐾

— MIKE WILLIAMS

reward the landowner for letting us use his land," Jared's father said. "Whatever we take in the field, we leave with it. It's very frustrating to see litter in the fields, along highways or anywhere."

When Jared was asked what advice he would give to a young person just learning about firearms, he said, "I would tell them to start by reading a book on gun safety. That's what my Dad told me. It will tell you how to cross a fence with a gun, how to put the gun on safety and how to be careful." 🐾

EAGLE INVESTIGATION CONTINUES

An adult bald eagle discovered killed and mutilated in a Georgetown County trash dumpster eight months ago is still being investigated by state and federal authorities.

According to Lieutenant William F. "Chip" Sharpe of the South Carolina Wildlife and Marine Resources Department, a \$500 reward is offered through Operation Game Thief. Information can be anonymously provided by telephone if the caller chooses.

Anyone with information about this case should call toll-free 1-800-922-5431. "Calls can be made 24 hours a day, seven days a week," Sharpe said.

In addition, as much as \$4,000 in rewards are offered for information that leads to a conviction in the case from several other sources, said George Hines, special agent with the U.S. Fish and Wildlife Service. Hines is conducting the investigation.

Hines said the bird was fresh when found by the Georgetown County couple in a dumpster about four miles southeast of Andrews, South Carolina, near the intersection of McKenzie Road and Ten-Acre Road.

"We feel like the bird was

probably killed near where it was found," Hines said. "There had been some sightings of an eagle in the area just before the bird was found dead. It's very likely the bird was shot with a high-powered rifle judging from the size of the hole.

"I'm satisfied that whoever did this knew he was shooting an eagle," Hines said. "He knew what he was doing. Why someone would do something like this, I have no idea." 🐾

Buck deer grow a new set of antlers each year. Antlers are true bone made of calcium and phosphorus. Hence they are distinguished from horns which are composed of keratin, the same substance as fingernails. Horns are never shed.

NEW ANTLER LAW IN EFFECT

Only those buck white-tailed deer that sport minimum 2-inch antlers visible above the hairline are now legal in 28 South Carolina counties. Previously, legal bucks in these counties were any deer with antlers visible above the hairline.

During deer hunts on Game Management Area (GMA) land statewide and on public and private lands in Game Zones 1, 2, and 4, all deer taken must have a minimum of 3-inch antlers visible above the hairline.

This 3-inch antler minimum applies to "bucks only" hunts on the Mountain Hunt Unit, Western Piedmont Hunt Unit, Central Piedmont Hunt Unit, Francis Marion and other GMAs.

The new 2-inch minimum requirement for antler length applies to private lands in the following zones and counties.

Game Zone 3 (Aiken, Calhoun, Lexington and Richland); Game Zone 5 (Chesterfield, Kershaw and Marlboro); Game Zone 6 (Berkeley, Charleston, Dorchester and Orangeburg); Game Zone 9 (Clarendon, Georgetown and Williamsburg); Game Zone 10 (Florence and Marion); and Game Zone 11 (Allendale, Bamberg, Barnwell, Beaufort, Colleton, Hampton and Jasper).

Derrell Shipes, chief deer biologist with the South Carolina Wildlife and Marine Resources Department, said that the new 2-inch antler requirement for legal bucks will serve to protect up-and-coming fawn bucks with the potential for developing into "superior bucks."

Recently-enacted legislation also increases the maximum fine for the possession of an illegal deer from \$100 to \$200 and increases the number of points for possession of an illegal deer from eight to 14. 🐾

Twenty-four persons recently received fines totaling more than \$74,000 for the illegal commercialization of striped bass in North Carolina. A total of 33 years in jail sentences was also handed down among the 24 defendants. Most of the jail terms were suspended, but three individuals are serving active sentences ranging from six months to three years.



OPERATION GAME THIEF

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STOP GAME AND FISH VIOLATORS

SALTWATER



Saltwater fishing has produced some of the most memorable characters that could ever be fancied from Savannah River to Little River northwards. I haven't fished every creek and inlet of our state nor waded into the surf off every beach, but I have wet a line or tried to from every major river or inlet.

I've trolled the Gulf Stream for the mighty blue marlin and all his magnificent court; drifted the sounds or anchored for shark, drum and cobia; popped a bobber for succulent sea trout.

It is the people you meet and their personalities that comprise the real school of learning for fishing this potpourri of magnificence. Without these willing personalities I'd still be creek fishing with the white end of the bobber up. They have brought me through weather so rough that I didn't know enough to be afraid because of their calm faces and steady nerves.

Their faces pass before me in the bright sunlight and against the flying salt spray of white and angry seas. These faces taught me to fish coastal South Carolina, but you had to approach them cautiously. Too quick and they clam up. If you just want to learn to fish and are eager to learn, they'll adopt you like a Dutch uncle. Like Jack Skinner, a World War II wounded submariner vet wearing a heavy back brace, adopted me. He spent years showing me his secrets.

If you'll look anywhere along our coast, you'll find a Jack Skinner just waiting to teach you. 🐟

— DEAN POUCHER

SCW's PHOTOGRAPHY FIRST IN ACI

South Carolina Wildlife magazine's string of consecutive first place wins has finally been broken, but its color photography remains tops in North America.

Texas Parks & Wildlife took first place honors with a score of 187 points in the Association for Conservation Information's (ACI) 1984 magazine awards competition. *South Carolina Wildlife*, which has largely dominated the competition for the past 12 years, was judged a close second at 185. Ironically, *South Carolina Wildlife* won its initial first place in 1972 over then-traditional winner Texas.

"Coming in second in any type of competition is a little like kissing your sister," said *South Carolina Wildlife* editor, John Davis. "The thrill just isn't the same.

"Still, we're proud of the magazine's consistent top three ranking over the past 12 years. It shows the continuing emphasis on quality by our staff and South Carolina's dedication to wildlife conservation. It's a tradition we plan to continue."

South Carolina took first and second places in color photography and black and white photography, respectively. Its color submission was from "Dusk and Dawn," September-October 1984, while the black and white photography was composed of photographs taken for "Along the Big Ditch," July-August 1984.

ACI competition includes state and private conservation magazine entries from throughout the nation as well as many Canadian provinces. ACI is the professional organization of conservation and wildlife informational divisions. Judges are selected from non-member professionals with experience in national magazine publishing. 🐾

ORPHANED CUB TO JOIN CHARLES TOWNE HABITAT

An orphaned bear cub retrieved from a tree in Horry County by state wildlife authorities will eventually find a permanent home in the bear habitat at Charles Towne Landing's Animal Forest once it becomes fully grown in about four years.

Wildlife officer Stan Woodle of Conway responded to the call and climbed a tree to retrieve the frightened cub. Wildlife technician Tim Gilbreath of Georgetown transported the cub to Charleston once arrangements were made with Charles Towne Landing officials

to receive the bear.

According to Gilbreath, the young male bear was nervous and hard to handle when first captured. But after a few days at Charles Towne Landing, a facility of the South Carolina Parks, Recreation and Tourism Department, the cub had settled down and apparently was getting used to captivity.

Al Dann, curator of animals at the state-owned park near Charleston, said the six-month-old black bear at this time could not be put in with the three bears already in the Animal Forest's bear habitat. The adult male would not tolerate the male cub, Dann explained. But he does have plans for the cub.

Dann, who helped design and build the Animal Forest at



Orphaned when an auto collision killed its mother, this cub will eventually have a home in Charles Towne Landing's Animal Forest.

Charles Towne Landing, will design "a proper holding area" for the cub at a private facility. The exhibitor will build the "habitat" at his expense and raise the cub under Dann's supervision.

Horry County has some bears because of a few large tracts as yet unoccupied by people. Some other counties in the state are more rural but the human population in these counties is more evenly distributed than here.

Bear kills on the state's highways are a manifestation of the conflicts between wildlife and the inexorable crush of progress. Since bears are relatively intolerant of disturbances and require semi-wilderness conditions, they will never become numerous in South Carolina. They will likely persist for a while, perhaps into the early decade of the 21st century, but in very low numbers.

We must not lose sight of the fact that whenever conflicts arise between wildlife and expanding civilization, wildlife almost inevitably loses. 🐾

SHELLFISH POTENTIAL WINTER CROP

Clams and scallops could provide a winter crop in the same ponds and impoundments that were used for shrimp culture during the summer.

Marine biologist Ted Stevens said that scallops and clams planted in ponds after the fall shrimp harvest could provide an off-season source of income during months too cold to grow shrimp.

"Scallops that were less than one-half inch when we planted them in November now average almost two inches, which is approaching commercial size," Stevens said.

Scallops are a one-season



Clams could provide an off-season source of income when cold weather halts shrimp culture.

crop, Stevens noted, but clams grow more slowly requiring at least two years to reach market.

"Probably the best use of shrimp impoundments for winter clam culture is to grow the tiny seed clams to a size that can then be placed in cages in estuarine waters to complete their growth," Stevens said. "The seed clams we planted in ponds last fall had doubled in size by April and showed good survival."

Seed clams and scallops for the first experiments were imported from hatcheries in New England, but now both have been spawned at the Waddell Mariculture Center, Stevens added. "In continuing research projects we can spawn and rear these shellfish here without having to purchase seed stock from other areas," Stevens said. 🐾

FEDERAL FISHERIES FUNDS SAVED

At least temporarily, the battle to keep the administration from confiscating funds the federal government collects from anglers and boaters specifically for fishery management and boating safety has been won, according to the Wildlife Management Institute (WMI) of Washington, D.C.

Sportsmen fought long and hard for recent federal legislation

that added about \$55 million to what is called "the expanded" Federal Aid in Sport Fish Restoration. Known as the Dingell-Johnson Act, the original act was passed in 1950.

In budget balancing posturing, the federal Office of Management and Budget (OMB) had tried to freeze expenditures of about \$77 million in excise taxes and import duties that fishermen and boaters pay on their equipment.

By law, the money is supposed to be collected by the federal government and distributed to state fish and wildlife agencies and the U.S. Coast Guard for improving fishing and boating safety.

The Senate Budget Committee included language in its budget resolution that agreed with OMB's effort to get at the funds. However, Senator Malcolm Wallop of Wyoming prevailed on the Senate to drop the provision.

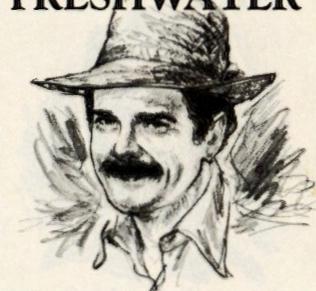
Likewise, Congressman John Breaux of Louisiana achieved a similar result when the House budget resolution was debated on the floor. Both Breaux and Wallop were authors of the "expanded" legislation.

Wallop-Breaux forces report that the administration still could attempt to impound or defer the funds. But they note that Congress could reject such a move.

Since the Dingell-Johnson program began appropriating money in 1952 more than \$432 million has been available to the states for approved projects. Last year, more than \$31 million was distributed by the U.S. Fish and Wildlife Service. 🐾

Estimated total economic impact of South Carolina's marine commercial fisheries is about \$50 million annually. The saltwater fisheries provide 3,200 jobs for coastal counties.

FRESHWATER



After a long, hot summer, hefty largemouths begin to feel their oats.

Autumn's cool weather is the time to fish lures slowly and to concentrate on soft, bottom-hugging baits like artificial worms and crawdads. Use no lead or just enough weight to sink them without a big splash.

Topwater lures such as the Devil's Horse, Dalton Special, Jitterbug and Rebel can also prove effective on cool-weather bass, but fish them slowly.

Bluegills, warmouth, shellcrackers and redbreast will bite now on crickets and earthworms fished deep and off the bottom. Crickets, however, may be hard to find.

Jackfish and redbfin pike will take shiny spinners during cool weather as well as live small minnows fished deep from a float. Minnows fished from a float also work well for largemouth but take care to use these with permission only in ponds. Minnows that manage to escape the hook and survive can create problems for the pond owner.

Large fish can be caught using the bait-stealing silver roach as bait. Silvers can be caught using a Number 8 to 10 hook and a small piece of worm or compressed bread.

With quail, squirrel and other seasons coming in, don't neglect the opportunity to wet a line, for now is a great time to fish.

During the first week of November several years ago, I fondly remember catching two 6-pound bass and one 6½ pounder using a large black fliptail. That's better than three squirrels to me! 🐾

— MIKE CREEL

HIKING



In a recent column, I discussed the value of stuff bags for organizing and storing everything in a pack from socks to sleeping bags. One item I failed to talk much about is the Ziploc bag, one of the handiest items you can buy for storing things in a pack.

The Ziploc bag is inexpensive, available in various sizes and readily found at the grocery store. This durable, waterproof bag will hold just about anything.

Food items are obviously good candidates for a Ziploc. Snacks such as peanuts, crackers, instant soups, coffee and tea, sugar and powdered cream, instant rice, drink mixes and many other consumable items are securely locked in these handy plastic bags.

I also keep tiny salt and pepper shakers, pot holders, can openers, a knife, spoon and other kitchen gadgets that I need close at hand.

My assemblage of toilet articles stores neatly in a Ziploc. Soap goes into its own bag and this prevents the slippery stuff from getting all over other items in the pack. A partial roll of toilet paper fits perfectly in one of these wonderful little bags, and first aid items can easily be seen in these see-through bags.

Small equipment items such as a compass, whistle and even a map will carry very nicely in a Ziploc bag while being protected from moisture, and a Ziploc bag is tailor-made for a compact 35mm camera.

Just look around and use your imagination. You'll find many other uses for the incredible Ziploc bag. 🐾

— BOB CAMPBELL

HIGHWAY DEPARTMENT PROMOTES MAGAZINE

South Carolina's Department of Highways and Public Transportation was recently honored for a decade of helping to promote *South Carolina Wildlife* magazine.

Members of the South Carolina Wildlife and Marine Resources Commission voted to bestow their highest honor, the "Meritorious Service Award," to the Highway Department for its cooperation in mailing order forms for the well-known *South Carolina Wildlife* magazine for the past ten years.

Prescott Baines, director of the Conservation Education and Communications Division for the wildlife department, praised the state highway department and its personnel for "their help in making *South Carolina Wildlife* the most widely-read magazine solely devoted to promoting the natural resources and beauty of the Palmetto State.

"Over the past year and a half, magazine order forms mailed out in highway department correspondence have resulted in more than 4,500 new subscribers for *South Carolina Wildlife*," Baines said.

Particularly instrumental in maintaining this working relationship with the highway department have been Chief Commissioner W.P. Ragin, Director of Motor Vehicles E.P. Austin, Assistant Director of Motor Vehicles A.W. Utsey, J.P. Barwick, J.H. Caldwell, C.L. Carter, W.H. Kay, R.H. Padgett and F.E. Sojourner, Baines said. 🐾

Bobwhite quail are short lived. For every one hundred birds alive in the fall, seventy-five to eighty will die or be killed within the next twelve months.



John E. Frampton

FRAMPTON NEW GAME CHIEF

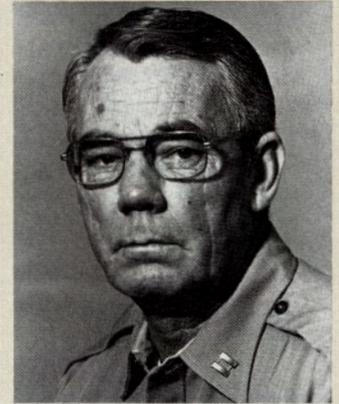
John E. Frampton, a district game biologist, has been named chief of game, a key position in the South Carolina Wildlife and Marine Resources Department.

Frampton of Union, the district game biologist for the Central Piedmont Hunt Unit since 1976, replaces W. Brock Conrad Jr. as chief of game within the Wildlife and Freshwater Fisheries Division of the wildlife department.

As head of the game section, Frampton is responsible for the statewide management of game animals such as white-tailed deer, wild turkey, black bear, bobwhite quail, mourning doves, waterfowl, squirrel, rabbits and furbearing animals.

Frampton came to work for the state wildlife department in 1974 as assistant district biologist for the Central Piedmont Hunt Unit. In 1976, he was named district biologist for the Central Piedmont, a 12-county area composing the state's largest hunt unit.

A native of Summerville, South Carolina, Frampton received a bachelor's degree in marine biology from the College of Charleston in 1970, a master's in teaching biology from the Citadel in 1972 and a master's in wildlife biology from Clemson University in 1974. 🐾



J. Wallace Hipps

CAPTAIN HIPPS RETIRES

Captain J. Wallace Hipps, the state wildlife department's first safety and training officer, retired in June.

Hipps, a wildlife conservation officer for 28 years with the South Carolina Wildlife and Marine Resources Department, helped coordinate the current training courses for wildlife law enforcement officers.

He served as a field wildlife officer in his native Greenville County from 1957 to 1969 before working at state wildlife department headquarters in Columbia.

"When I came to work in 1957, I was mailed my game warden's badge and summons book," Hipps said. "No previous training or experience was required then like it is today," he said.

"Today, every conservation officer out there is required to be a certified police officer who has met standards of training."

In June, Hipps witnessed the high point of his days with the department as 13 new officers graduated from a first-of-its-kind, five-week course specifically developed for conservation officers.

These 13 officers were the most qualified in South Carolina's first statewide screening and hiring of officers. 🐾



CAMP WILDWOOD SEEKS CAMPERS

Camp Wildwood, formerly the South Carolina Conservation Camp, is seeking 100 campers for a week of environmental education when the camp convenes in June at Kings Mountain State Park near York, South Carolina.

Camp Wildwood is sponsored each year by the Garden Clubs of South Carolina, Incorporated, and the South Carolina Wildlife Federation in cooperation with the wildlife department.

For one week in June, Camp Wildwood becomes a place where young men and women are introduced to the beauty and wonder of the natural balance. "It is a place to acquire the knowledge, appreciation and responsibility for the protection and wise use of our natural resources," said camp director Dennis Gunter.

Camp Wildwood's daily program allows each camper a

time to learn, to have a hands-on experience with nature and to have fun, he said. Daily activities include field sessions in forestry, fisheries, soils and wildlife led by professional resource biologists and managers who instruct campers in the wise use and management of our natural resources.

An advanced second-year program is offered to Camp Wildwood campers selected by camp staff. The second-year camper program includes daily and overnight field trips to locations which are significant examples of proper management of natural resources, Gunter said.

In addition, professional resource personnel provide second-year campers with advanced courses to increase the camper's ability to make intelligent decisions regarding the wise use of natural resources.

Camp Wildwood's evening program, in which all campers participate, includes dances,

campfires, movies and skit night. However, the camp's main ingredients are the fun and fellowship shared between campers and staff at the end of the day.

Nestled among the rich, piedmont hardwoods and bordered by Lake York, Camp Wildwood is located in an area rich in both natural and cultural history. The decisive battle of Kings Mountain, believed to be the turning point of the Revolutionary War, was fought in this area.

Camp Wildwood is in session for one week during the month of June. Details regarding the specific dates are available during February prior to camp opening.

Camp Wildwood is open to all ninth through twelfth grade high school students without regard to race, color, sex, creed or national origin.

Ninth graders must have completed the eighth grade prior to the opening of camp. Enrollment is limited to 100 campers. Selection is based upon maturity, scholarship, responsibility and leadership potential in natural resources conservation.

A camper may enroll in the camp through sponsorship by a local affiliate of the Garden Clubs of South Carolina, Incorporated, or a local chapter of the South Carolina Wildlife Federation.

A camper may also self-enroll in the camp if the parent or guardian so chooses. However, sponsorship usually includes payment of the camp fee by the sponsoring organization. In addition, a limited number of scholarships are available from both organizations on the state level.

For further information regarding Camp Wildwood for 1986, write to Camp Wildwood, Education Program, P.O. Box 167, Columbia, South Carolina, 29202.



Robert Gooding, district biologist, shows campers how plaster of Paris can be used to cast wildlife tracks, just one of Camp Wildwood's activities.

A South Carolina December can be cold and gray, and you may find yourself in need of Christmas cheer. If you do, whip up a batch of "New World Wassail" and pour a steaming cup. You'll be treated to a potpourri of holiday scents and flavors. The aromatic fragrances of cinnamon, cloves and orange peels mingling with the subtle smells of nutmeg and cider will brighten a dreary day.

Christmas spices have been an American tradition since the first settlers arrived. Bringing Old World recipes with them, early colonists enjoyed such highly-seasoned holiday delights as wassail or "welcome cup." Although the English made their version with spirits, spices and frothy-beaten eggs, ours includes one and one-half cups orange juice and one gallon American apple cider. Other ingredients needed are four cinnamon sticks, one-half cup honey, whole cloves, one and one-half cups lemonade, one-half teaspoon nutmeg, two teaspoons slivered lemon peel, orange and apple slices.

With or without spirits, the warm fragrance of wassail will fill your home with Christmas cheer.

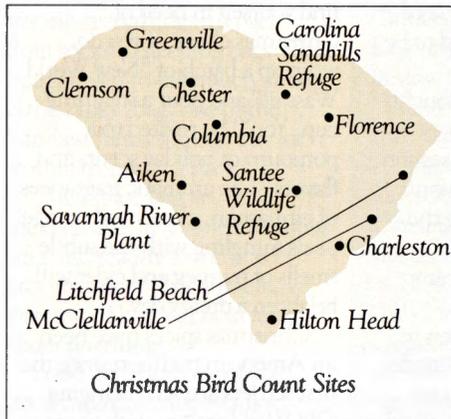
Heat cider, cinnamon sticks, honey and cloves in large saucepan. Bring to boil over medium heat; simmer, covered, five minutes. Add orange juice, lemonade, nutmeg and lemon peel. Simmer a little longer; add rum, if you like and heat thoroughly. Garnish with orange and apple slices studded with cloves. Serve immediately. Makes twenty-five servings.

— DONNA FLORIO

RAMBLINGS

The Audubon Christmas Bird Count

The Christmas Bird Count sponsored by the National Audubon Society provides a brisk day's outing into some of South Carolina's finer bird habitats.



The idea of holding a bird count at Christmas originated in New York in 1900. The activity is so popular that more than 1,400 counts are held each year across the country. Anyone can participate; neither Audubon Society membership nor a knowledge of birds is required. In fact, novice bird watchers usually find Christmas Counts a good way to gain expertise from the more experienced birders, most of whom willingly share their knowledge.

First organized in 1946 by E. Burnham Chamberlain, the oldest count in the state occurred in the Charleston vicinity. The Charleston Count begins at the intersection of Highways 17 and 41 just north of the city. The count area covers I'on Swamp, Bulls Island, Capers Island, Fairlawn Plantation, Poucher's Bluff and hundreds of acres of salt marsh. The count circle includes as many

diverse habitats as possible, such as Bulls Island, one of the state's most famous birdwatching areas. The count area's 177 square miles also includes parts of the Francis Marion National Forest and the Cape Romain Wildlife Refuge.

Like all Christmas Counts, the Charleston Count is held during a 24-hour period, usually a Saturday or a Sunday within a week of Christmas Day. The purpose of the outing is to identify and count as many birds as possible within a designated 15-mile diameter circle. More than 150 species have been tallied many years. The results indicate long-term trends in bird populations and shifts in migration patterns.

The person who compiles the final bird list, known as the compiler, divides the assembled group into field parties, each headed by an experienced birder. The field parties depart in one or more vehicles to survey their appointed areas, cruising the secondary roads and stopping at areas known to be frequented by a variety of species. Some parties choose to hike or to take boats into remote sections of the count circle. Some parties stay in the field until late evening to compare notes, and often an oyster roast is held.

In addition to the Charleston Count, birds can be counted at twelve different sites across the state. With counts occurring in Aiken, the Carolina Sandhills Refuge, Chester, Clemson, Columbia, Greenville, Hilton Head, Litchfield Beach, McClellanville, Florence, Santee Wildlife Refuge and the Savannah River Plant, chances are a Christmas Bird Count will take place very close to you.

Counts are held rain or shine with a small fee charged each participant to help cover the cost of publishing the count results. For more specific information on the Audubon Christmas Bird Counts, call (803) 723-6171 in Charleston or write the Audubon Society's Regional Office, P.O. Box 1268, Charleston, S.C., 29402. 🐦

— PETE LAURIE



PHILLIP JONES

With thirteen count sites scattered across the state, ample opportunities exist for identifying and counting bird species such as the purple finch, right.



LEONARD LEE RUE III



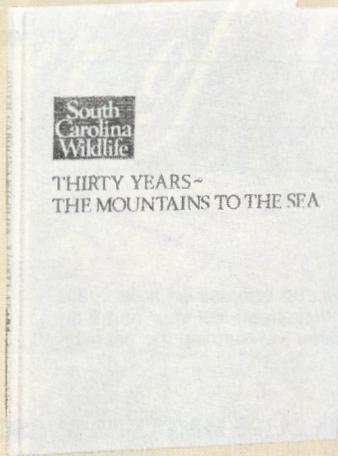
Outdoor General Store



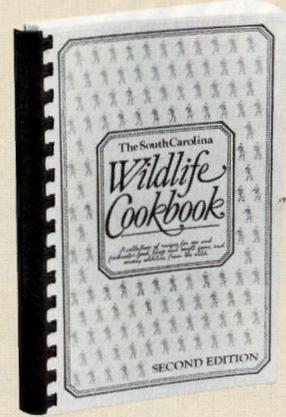
The gift-giving season is here!



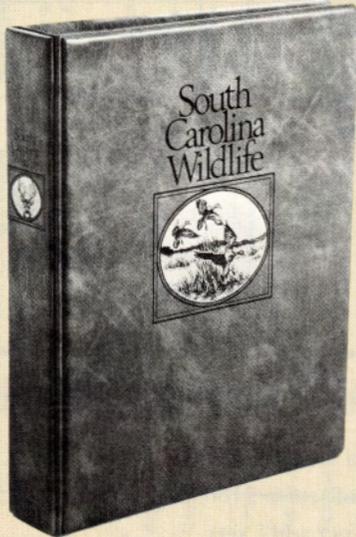
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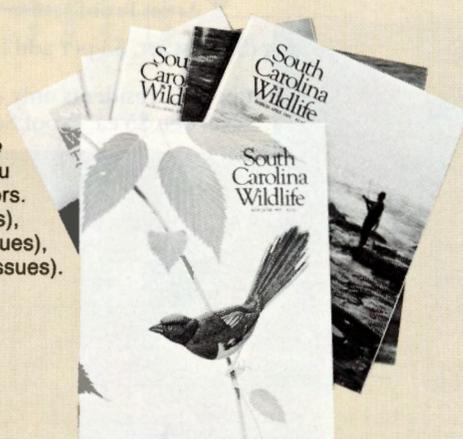


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