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# South Carolina Wildlife

November-December 1980





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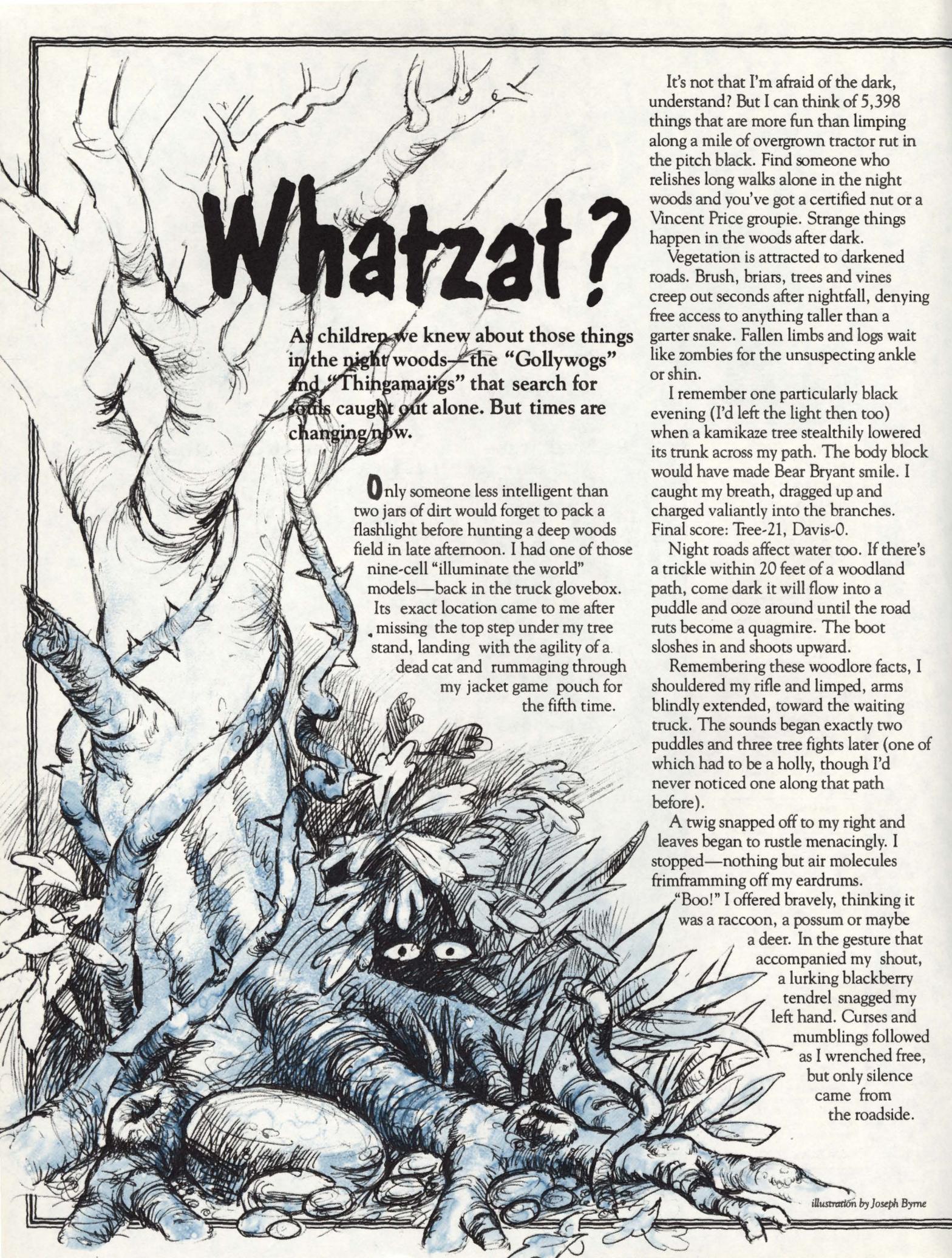
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# Whatzat?

As children we knew about those things in the night woods—the “Gollywogs” and “Thingamajigs” that search for souls caught out alone. But times are changing now.

Only someone less intelligent than two jars of dirt would forget to pack a flashlight before hunting a deep woods field in late afternoon. I had one of those nine-cell “illuminate the world” models—back in the truck glovebox. Its exact location came to me after missing the top step under my tree stand, landing with the agility of a dead cat and rummaging through my jacket game pouch for the fifth time.

It's not that I'm afraid of the dark, understand? But I can think of 5,398 things that are more fun than limping along a mile of overgrown tractor rut in the pitch black. Find someone who relishes long walks alone in the night woods and you've got a certified nut or a Vincent Price groupie. Strange things happen in the woods after dark.

Vegetation is attracted to darkened roads. Brush, briars, trees and vines creep out seconds after nightfall, denying free access to anything taller than a garter snake. Fallen limbs and logs wait like zombies for the unsuspecting ankle or shin.

I remember one particularly black evening (I'd left the light then too) when a kamikaze tree stealthily lowered its trunk across my path. The body block would have made Bear Bryant smile. I caught my breath, dragged up and charged valiantly into the branches. Final score: Tree-21, Davis-0.

Night roads affect water too. If there's a trickle within 20 feet of a woodland path, come dark it will flow into a puddle and ooze around until the road ruts become a quagmire. The boot sloshes in and shoots upward.

Remembering these woodlore facts, I shouldered my rifle and limped, arms blindly extended, toward the waiting truck. The sounds began exactly two puddles and three tree fights later (one of which had to be a holly, though I'd never noticed one along that path before).

A twig snapped off to my right and leaves began to rustle menacingly. I stopped—nothing but air molecules frimframing off my eardrums.

“Boo!” I offered bravely, thinking it was a raccoon, a possum or maybe a deer. In the gesture that accompanied my shout, a lurking blackberry tendrel snagged my left hand. Curses and mumblings followed as I wrenched free, but only silence came from the roadside.

I shrugged and started off again, nursing the torn hand. The rustling and snapping began again, getting bolder and closer with each stride.

"Look," I said, with the defiant reasoning that one of my so-called buddies had come by and seen the truck, "whoever you are, you're about to get the smithereens blasted out of you by this rifle." I snapped the bolt open and shut for emphasis and turned to face the roadside.

My foot found its third mud hole and the rifle flew straight out as I pitched headlong onto a fat wiggling form. We thrashed about in the mud and bushes until the thing heaved a sigh and lay still.

"Holy Moley, but I've munked this one up," a small voice croaked beneath me. "Get off me, you lummo! I cannot flee or harm you. You've torn loose my stone. How'll I find it in this mud? It's entirely your fault. What possessed you to pounce like that?" The voice took on a gravelly authority

"It was the mud hole," I stammered, not knowing to whom or to what I was speaking. "I slipped in the mud." I rolled off and offered to get my light.

"Well, go and fetch it, you clumsy son of a toad! I must find the stone."

I staggered upright and made for the truck while the unseen being slobbered about muttering—"No right . . . No right at all . . . no one ever pounced like that . . ."

My head cleared by the time I reached the truck and every lick of sense God gave me begged to get the heck out of there. But curiosity had awakened and I had to retrieve my rifle.

The thing sat dejectedly, a small mud-spattered budda in the road. Water dripped from a silvered shock of hair matted between two pig-like ears. Its toothless mouth sputtered, dislodging a mud droplet from the pudgy nose.

"Have you no manners, slack-mouthed son of a mule? Shine that infernal eye at the ditch," a four-fingered hand raised to shield the furrowed brow as heavy lids opened on emerald eyes.

"Sorry," I blurted, flicking the light toward the road. "It's just that I've never seen anything quite like . . ."

"A Whatzat?" the thing interjected.

"I said I've never seen anything—I mean anyone—quite like you," I raised my voice to a deliberate shout.

"Lord! You must be dumber'n two jars of dirt," the creature shook its head. "I didn't say I was deaf. A Whatzat, I said, I'm a Whatzat. Didn't you have a normal childhood? You're lucky I wasn't a Thingamajig or a Gollywog. They'd have gobbled you right up.

"We Whatzats follow humans in the night woods and send them scurrying with feelings of the unknown back to their homes. We protect you from the others and make the night sounds that provide much of the adventure in nature. What would the night woods be without that—hummmnnn?" the Whatzat cocked its head.

"There!" he gestured wildly and did a little hop as the light flashed over a quarter-sized black rock on a thin piece of chain almost buried in the mud.

"What's so special about that dumb rock?" I asked, as he clutched it to his chest.

"Not just a rock," he shook a stubby finger at my belt. "The stone protects all Whatzats from harm and allows changing into tree form at daylight. We cannot be caught out in sun."

Placing the chain around his wrinkled neck, he snapped into a giant oak tree, a small cedar and finally, before popping back to gnome size, an American holly.

"Say . . .?" I began remembering the scratches and pricks from my earlier encounter.

"Perhaps I was a bit overzealous with you," he interrupted in an almost soft tone. "It's my first night here and . . . I'll explain while we seek your weapon." The two of us began to search the brush. "Do you know Moccasin Branch, about six miles from here? I was assigned there until last night."

"That's a subdivision with an all-night market and a gas station," I challenged.

"I thought you said Whatzats only stayed in the woods."

"Precisely," the Whatzat responded.

"That place contained nothing more than woods until 64 years ago when a man began selling minnows and worms by the road there. It's not that he bothered me, you understand? But two years ago he died and left it to his sons. One was a hunter and the other a hiker and birdwatcher. The two fought constantly until the place was sold.

"Lord knows, I tried to be a proper Whatzat, but what challenge lies in scaring little children leaving a market with Slurpies? And spooking motorists can be quite dangerous. Why, only last week in my daylight disguise as a pine by the parking lot, I had the beejeebers bumped out of me twice—they just screech in and abandon the things you know.

"It's the same for many other Whatzats across the land—wild places are scarce these days. That's why I'm so anxious to do well here.

"Ah, here is your weapon," he hopped over the rifle and lifted it for my examination.

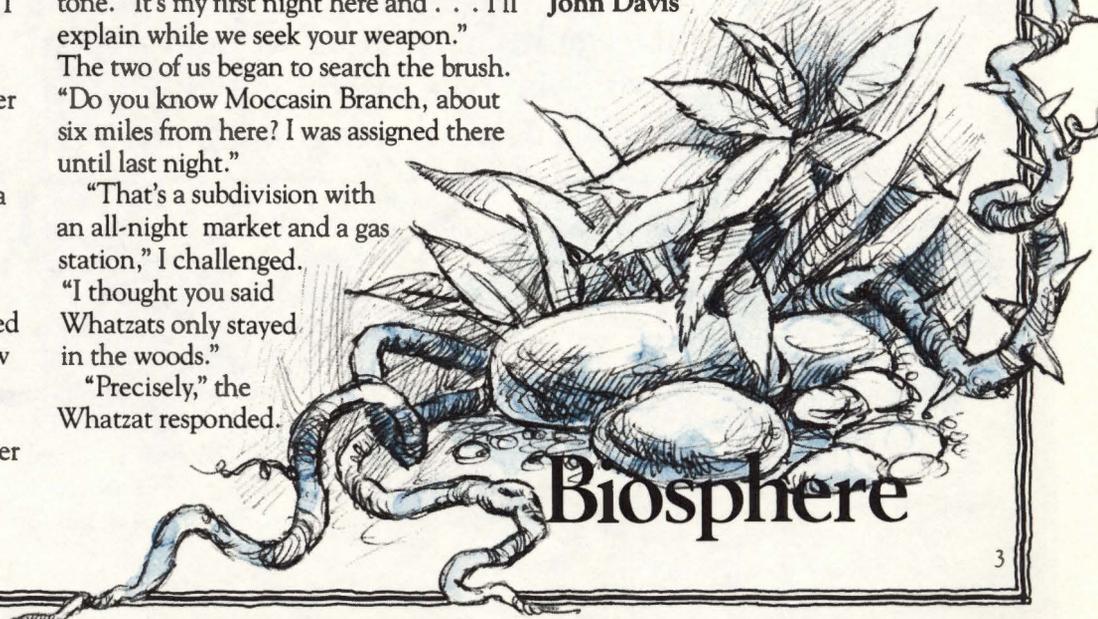
"It's got a few scratches," I began, wiping off the mud and leaves. "But it seems to be okay."

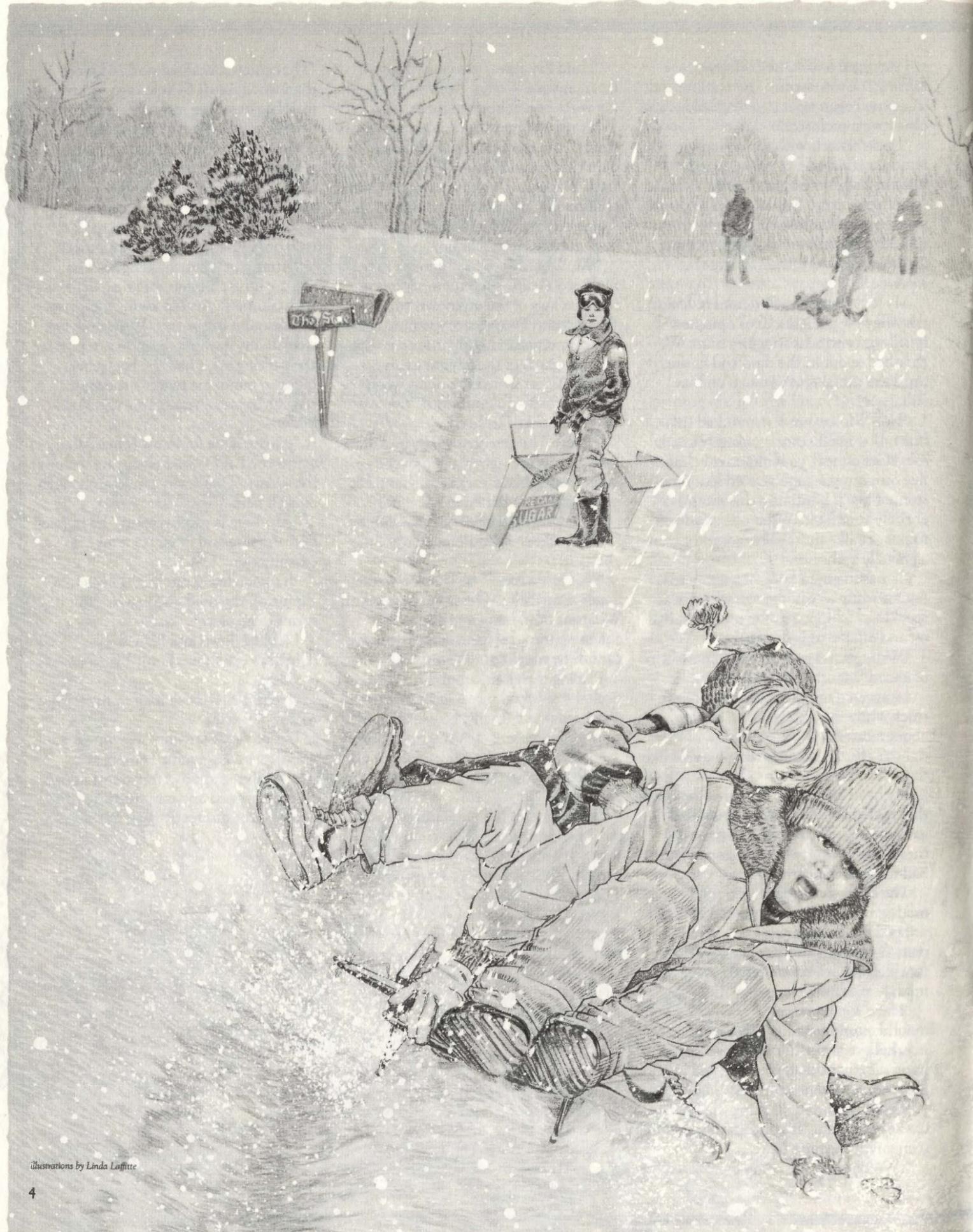
I looked down and he was gone. The light's sweeps showed only blackened woods.

"Hey! Come back for a minute. Hey, Mr. Whatzat? Hey. . . ."

I stood there for what seemed an hour, but the woods remained empty and silent. Giving up, I started out the road. A twig snapped and faint rustling followed me discreetly back to the truck.

John Davis





# think SNOW

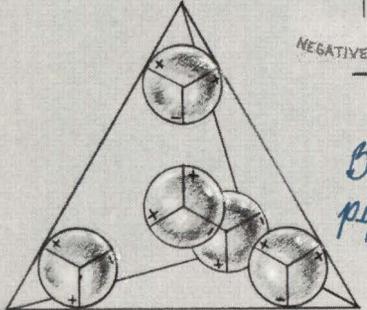
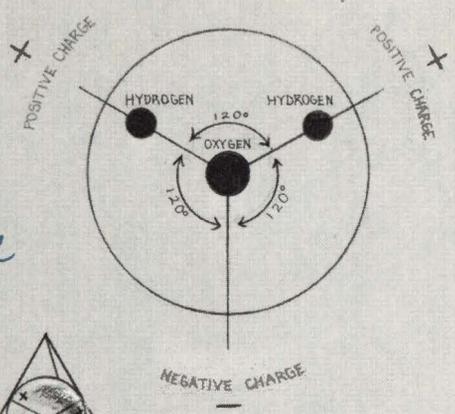
by john c. purvis

A little snow in South Carolina goes a long way. A few flakes can bring jammed telephone lines, stalled traffic and closed schools and businesses. But for most Carolinians, the sparkling white landscape, improvised sled rides, snowmen and snowball fights make the headaches seem small.

**S**now is one of nature's most beautiful creations. It means different things to different people. Kids dream of a "white Christmas" or a day off from school. Adults become children again in snowball fights, sledding and snowman making.

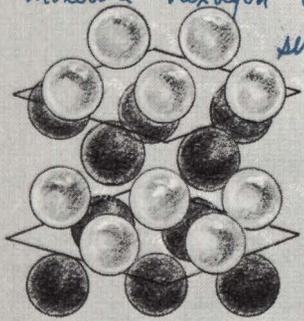
In spite of the glamour we attach to this miracle of nature, few other events have caused more misery, more human suffering or disruption of the economy. It was the Russian snow, not their guns, that turned back Napoleon, an iceberg, not a torpedo, that sank the Titanic. As recently as February 1979, a snow and icestorm for a short time brought our way of living to a standstill.

A water molecule



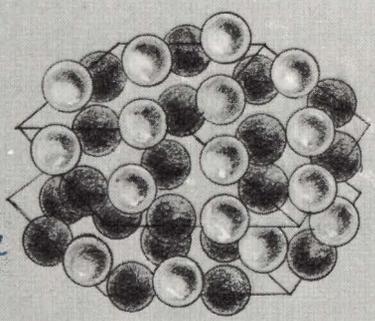
Basic pyramid structure of ice

When freezing temperatures slow the movement of water molecules, the positive pole of one attracts the negative pole of another. Because each molecule's three atoms are exactly 120 degrees apart, the molecules form a definite pyramid structure. This structure can be detected in the two layers of molecules forming a unit cell of ice. Each layer contains 10 molecules. Three unit cells form a 60 molecule-hexagon and represent the simplest possible crystal of ice.



Unit cell of ice

Three unit cells joined — simplest possible ice crystal



What is snow? . . . a natural product of sublimation of moisture in the atmosphere, says the meteorologist. It is the result of water vapor freezing into ice crystals without passing through the raindrop stage.

Snow crystals take on a variety of forms and designs. They may appear individually as columns, bullets, needles and intricate six-rayed hexagonal plates. The most common forms are irregular with no symmetrical shape at all, yet all originate in the clouds and are made of water molecules.

"Snow is a unique example of a single chemical compound exhibiting great variation in crystal habit. . . . ice crystallizing in the free atmosphere is a great improviser. Even though it creates distinguishable types of crystals within certain known conditions of vapor concentration and temperature, it achieves endless variation apparently on the spur of the moment and often by accident," Corydon Bell states in his book, "The Wonder of Snow."

Snowflakes range in size from a few millimeters to perhaps an inch or more across. At extremely low temperatures, snowflakes tend to be small, while at temperatures near freezing, they are larger.

"The fascination of snow crystals lies in their appealing beauty. . . . Yet all the beauty cannot be seen," Bell continues. "Within a single crystal there is an invisible masterpiece of construction that is achieved through the magic of nature's geometry, physics, and chemistry. . . ."

Bell states that an average-size snow crystal may contain 100 million or more water molecules, each with a diameter of about 10 billionths of an inch. Each molecule carries a positive charge on each of its two hydrogen atoms and a negative charge on its one oxygen atom. Within the molecule's ball shape, the electrical charges of these atoms line up at exactly 120 degrees apart. Water molecules move about in their liquid state, but under certain conditions of pressure and temperature, they begin to attract each other electrically, arranging themselves in definite three dimensional rows and ranks to form ice.

Because the atoms within each molecule and their electrical charges are 120 degrees from one another, molecules must join in a definite geometric pattern as negative poles of one are drawn to positive poles of others and vice versa. Thus, it seems, that all snow crystals would be uniform in appearance.

The diversity of crystal types apparently is caused by variations in the atmospheric conditions present within the clouds from which the crystals come. Changes in atmospheric pressure, humidity and temperature may vary from the top to the bottom of a cloud system and constantly change within the system.

"In a single snowfall lasting an hour and a half several types of snow may fall from the sky," Bell says. "For ten or fifteen minutes the clouds may send down nothing but curtains of stellar crystals. Then the stars will become mixed with a few plates and a goodly quantity of asymmetrical crystals. Toward the end of the storm, most of the snow may be slender needles, mingled with brief showers of bouncing graupel (snow crystals from a high, cold cloud which freeze the cloud moisture around them as they fall through a warm cloud).

"A snow crystal begins life as a microscopic germ of ice. The shape of the speck of dust, or nucleus, on which molecules of cloud vapor attach themselves to form the first ice, may well influence the form of the initial stage of the crystal. Over a period of perhaps fifteen minutes, under certain conditions of humidity and air temperature as water vapor continues to condense by sublimation of the germ, a snow crystal gradually takes on the shape of its first stage. This baby crystal is unbelievably small—from 8 to 9 thousandths of an inch in diameter. . . . The more regularly shaped of the tiny initial crystals may appear as hexagonal plates, sector plates, various stellar forms and even as minute capped columns. . . ."

"The next 15 to 30 or more minutes are strenuous and decisive for the snow crystal as it floats, tumbles and falls through the storm cloud. The conditions of temperature and humidity this acrobat of the winter skies meets adds to its size, shape and design. . . .

"Finally the ice body of the snow crystal becomes too heavy for the vaporous net of the cloud and it joins the host of other migrants that are on their way to earth. . . . Like most snow crystals, it reaches the earth not quite perfect and somewhat travel-worn."

Sleet—more technically "ice pellets"—is sometimes confused with snow. Sleet results from raindrops freezing while falling; hence, they are little more than pellets of clear ice. The atmosphere processes producing ice pellets are different from the snow-forming process. With ice pellets, the cold air mass is not as deep so that the clouds are warmer. The precipitation, therefore, does not go through the sublimation stage as it forms.

Snowfall is measured both in the actual depth of snow accumulating and in equivalent liquid content. Depending on the type of snow, usually determined by the temperature, the liquid content of snow may vary greatly. Light fluffy snow may be as much as 20 times deeper than the melted equivalent. Heavy, wet snow may be as little as six times the depth of its equivalent water. A rough average is 10 to one ratio between snow and its water equivalent.

While some snow occurs in South Carolina each winter, major snowfalls are less frequent. Historically, snow occurrences are mentioned in early South Carolina literature, although an orderly record was not kept until 1888. Perhaps our most important snowfall occurred during the Revolutionary War when it figured prominently in an important defeat handed the Tories.

February 1899 will long be remembered in South Carolina as the year that the "bluebirds froze to death." A record winter storm in the middle of February produced snow depths of 10 to 14 inches over much of the state and was followed by the lowest temperatures of record. Subfreezing readings down to 11 degrees below zero were reported in Union and Aiken counties, with generally subzero minimum over most of the state, except the immediate coast. Dr. J. W. Earl of Holland, South Carolina, stated that old people were dying very fast with pneumonia and kindred diseases. A child was frozen to death in Statesboro near Columbia. It was stated that his parents left him in bed, covered too lightly, while they got up to build a fire. There was widespread destruction of farm animals and wildlife due to the cold weather accompanying this storm.

Several snowfalls during the winter of 1917-1918 were said to be a contributing factor to the large number of people that died from influenza or respiratory diseases during that period.

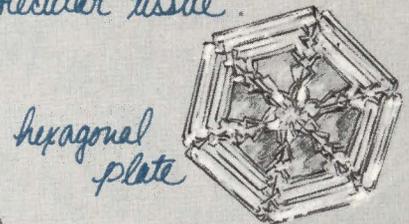
More recently, a record snowfall came in February 1973. Snow fell for approximately 24 hours, beginning in late afternoon on the ninth. The largest amounts fell parallel to the coast about 75 miles inland. Six northwestern counties were nearly snow free because the cyclone whose circulation brought the snow was considerably off the coast. A few places just northwest had no precipitation at all.

The previous record for a February snowfall in South Carolina was 21.8 inches at Caesar's Head mountain on February 15-16, 1969. February records in the non-mountainous part of the state were set at Smith's Mill in 1912 and again at Society Hill in 1914 at 18 inches.

An area the size of five or six counties exceeded 18 inches in the 1973 snowfall. The coastal beaches, which rarely get snow, were covered by three to seven inches. It was truly the greatest snowfall for the central part of the state that has occurred during the 75-year period of record—not only for February, but for any winter month.

## The Seven Snow Crystal Types

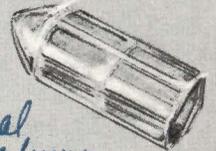
Hexagonal plates combine with stellar crystals to form exquisite spatial dendrites. Hexagonal plates also join with columns, forming capped columns. When we think of snow crystals, we don't think of ice needles and asymmetrical crystals, but they are the most common types. Beneath them all is the same six-sided molecular tissue.



hexagonal plate



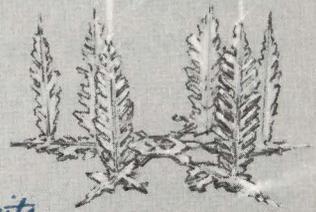
stellar crystal



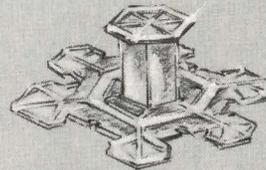
hexagonal column



ice needle



spatial dendrite



capped column



asymmetrical crystal



*In the winter, polar air in the far north grows heavier. A cold outbreak occurs when a mass of this air breaks away and plunges south. Meanwhile, the warm moist tropical air expands and rises. Where the tropical air meets the polar air, a counterclockwise swirl may develop, forming a center of low barometric pressure. For snow to fall in South Carolina, this low center must be sufficiently southern to keep enough polar air over the state, but close enough to produce precipitation.*

About 30,000 tourists traveling to or from Florida were stranded on the state's highways. Many were rescued by helicopter and some by other vehicles. When the hotels and motels were filled, people were housed in armories, schools and churches. Farmers gave aid to travelers stranded near their homes and many had 50 to 60 unexpected guests. There were at least nine deaths directly attributed to the weather. Eight of these died from exposure to the snow and cold, and one child was killed by a falling carport.

The snow was accompanied by strong winds and followed by severe cold. Drifts of seven to eight feet could be found in some locations and all highways in the central part of the state were closed for two to four days. Tons of food and supplies were airlifted by helicopter to snowed-in families. At least 200 buildings collapsed, as did thousands of store awnings and carports. Many power and telephone poles and lines were downed, disrupting service. Damage to timber was not great due to the fact that there was very little freezing rain. The property damage and road damage, plus the cost of snow removal and rescue operations, has been estimated at close to \$30 million.

Snowfall in South Carolina is best achieved by a low pressure system forming in the Gulf of Mexico and then moving east or northeast into the south Atlantic. However, this storm movement must bring the storm near enough to South Carolina to produce precipitation but a sufficient distance to the south to keep an ample supply of cold air over the Palmetto state.

Substantial snowfall has major impact on travel. Any road-icing condition is extremely hazardous, as most drivers and pedestrians understand. Snow sometimes will provide traction even over an ice layer, and, at temperatures just under freezing, traffic churns the snow into slush. But under certain conditions a road-ice condition not readily recognized may occur and set the winter stage for tragedy. Here, traffic melts the thin snow layer, which refreezes as ice and is polished by auto tires into a veritable skating rink. More light snow may obscure the layer of ice and lure unsuspecting drivers into mishaps—and pedestrians into overestimating how much control drivers have of their vehicles.

The large open bridges on interstate highways are particularly vulnerable, since ice and snow accumulate more readily on these areas. Once blocked, the interstate becomes a traffic trap.

The terms "watch" and "warning" are used for winter storms, as for other natural hazards. The watch alerts the public that a storm has formed and is approaching the area. People in the alerted area should keep listening for the latest advisories over radio and television, and begin to take precautionary measures. The warning means that a storm is imminent and immediate action should be taken to protect life and property.

Despite the misery and damage it sometimes brings, snow in South Carolina is usually a welcomed cause for celebration. A cult-like group of Carolinians throughout the state follow every cold front's approach and passage. Few can resist the wish for a white Christmas and a few inches of the fluffy stuff to brighten winter's calm.

Snow brings rides on cardboard, trash can lids and assorted makeshift sleds. Almost every house sports a snowman whose height depends more upon its builder's determination than upon the depth of the snowfall. Young and old gather about the fireplace to warm up with hot beverages before plunging back out into nature's white wonder. Too soon the miracle will be gone and we may have to wait another year or more before it will return. ❄️

John C. Purvis is meteorologist in charge at the National Weather Service Forecast Office in Columbia, South Carolina.

Information concerning snow crystal formation is condensed and adapted from "The Wonder of Snow" by Corydon Bell, copyright © 1957 by Corydon Bell. By permission of Hill and Wang, a division of Farrar, Straus and Giroux Inc.

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*Editor's Note: The late conservationist Aldo Leopold once stated, "Wilderness is a resource which can shrink, but not grow." In the previous issue we began a series of articles concerning our present and future access to wilderness and wildlife habitat.*

Three of the large landowner representatives discussed their problems of public abuse on lands under cooperative lease agreement in the state's Game Management area program. Roads closed to vehicular traffic and planted in wildlife foods have been dumped on and rutted by four-wheel drives. A lack of courtesy and respect among sportsmen and other users were cited as problems by each of these landowners.

While companies, individuals, and agencies with lands in the GMA program exhibit a true concern for the future of the program and public access to the land, such abuses, coupled with the increasing lease rates offered by private individuals and clubs, are straining public access to these lands and waters. The 1978-79 season saw a peak of

1,550,838 acres under GMA cooperative lease agreements with the wildlife department. This figure has declined by some 26,275 acres during the 1979-80 and current seasons. The loss is a small one when compared to the entire program, but significant when one looks at that amount of

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**Several acres of our state's prime wildlife habitat will be lost to the high economics of private leasing and land development as you read this article. The paths we choose now will determine what is left for our future.**

---

acreage as though it were in one tract. Also, some department personnel believe the decline may represent a trend away from landowner participation in the program, making the change even more significant in its future impact.

Wildlife habitat on private land is diminishing as landowners face the economic pressures for land development. As these properties are sold, they are lost forever to wildlife and outdoor enthusiasts.

One partial solution to our dwindling access to quality lands may lie in the area of purchasing large and small tracts of suitable wildlife habitat for inclusion in a permanent holding for public use. While many other state conservation agencies have adopted such a system and reaped its benefits through thousands and hundreds of thousands of acres for public hunting, fishing, camping, bird watching and hiking, South Carolina has no means of easily acquiring permanent lands or of ensuring that finances for such purchases will be available.

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# **LAND ACQUISITION: A CHANCE FOR THE FUTURE**

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by John Davis

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"This is an excellent tract of land—well adapted to long rotation saw timber management. A good deer population is already present and wildlife management possibilities are excellent!"

The above quote was taken from a South Carolina Wildlife and Marine Resources Department game biologist's land survey report dated October 3, 1979. The 2,429 acres were located on the floodplains of two rivers, 20 to 30 minutes from Florence, Conway and Georgetown and about 90 minutes from Columbia. The tract was up for sale on sealed bid.

"The land has the potential for excellent quality public dove fields, a 10-acre public fishing lake and a limited high quality trophy deer area providing about 40 animals per year," the report continued. "Other use possibilities include a demonstration, study and research area, shrub lespedeza nursery to accommodate the increased interest in small game management, hardwood seedling nursery and a source of millet seeds and other wildlife planting crops."

Timber value on the property was estimated to exceed two million dollars. There were also several raw crop fields and tobacco allotment lease possibilities to aid in management funds.

Department officials wanted to bid on the land. The recreation and management site it would provide were badly needed. But, after studying all possibilities, the final decision was summed up in the following report excerpts.

"Although the tract would be an ideal wildlife management area and is located in a district with a lack of such facilities, there is simply no way that the Department can act in less than a year, if at all . . .

"Our inability to act on this opportunity is disturbing, since it underscores the fact that the Department has no formal land acquisition policy or strategy. With the exception of small natural areas, we mostly take what comes our way . . . it can be argued that we should also be systematically planning to acquire lands

for the long-term needs of the state's sportsmen and nonconsumptive users. The accelerating rate of development and conversion of land to high-yield farming and forestry makes this argument all the more compelling."

The Department did not bid and another "excellent" opportunity to assure present and future public access to top quality outdoor recreation was lost. Over the past 30 years, many such chances have been decided by the same problem—no formal system for land acquisition.

At present, South Carolina has about 1.6 million acres of public land in its Game Management Area lease program. But how long will such land be available? GMA acreage has been dropping slightly over the past three years and the trend appears to be a continuing one.

"Things are changing!" says Jeff Fuller, director of wildlife and freshwater fisheries. "Landowners fully know people

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**"Our inability to act on this opportunity is disturbing, since it underscores the fact that the Department has no formal land acquisition policy or strategy."**

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will pay for the privilege of hunting or fishing on their land. In some areas of the state, a landowner can get \$3 per acre for deer hunting privileges. One duck blind may bring \$1,000 per year. The era of free hunting for the general public is almost a thing of the past."

Approximately 18,000 acres of land owned by the wildlife department is open to public hunting. Of the nine Southeastern states contacted in a recent study, all own more land for public hunting than South Carolina. Louisiana, which began purchasing land in the mid sixties, was high with 500,000 acres.

"Fifty years ago, it would have been impossible to visualize conditions as they exist today," Fuller says. "One wonders what it will be like 50 years from now—or even 10 years from now. The number of hunters and other outdoor recreationists increases every year. Land for hunting, fishing, camping, hiking, birdwatching, nature study and for simply getting away to renew the spirit is dwindling. Louisiana reports that they are losing hardwood bottom lands at a rate of 125,000 acres each year. The problem is similar in other states, including South Carolina."

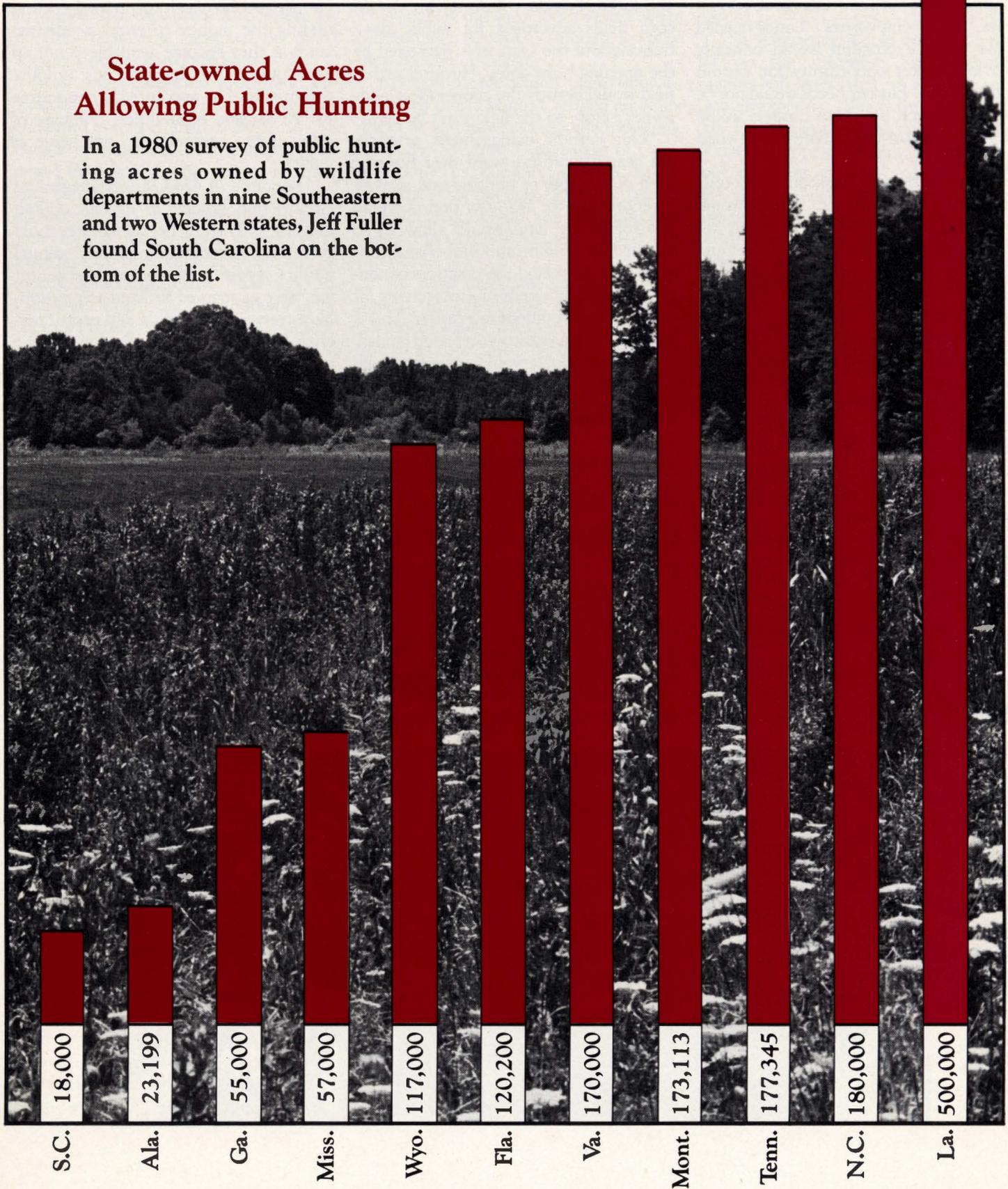
"In the past, Alabama's Game and Fish Division has depended on obtaining land for public hunting through long-term cooperative lease agreements rather than buying lands," an Alabama conservation and natural resources official says. "This was a mistake. . . ."

Wildlife officials in other states generally agree that depending solely upon a lease program has severe drawbacks. Timber companies are being increasingly tempted by high-priced offers for hunting rights from individuals and private clubs and the private landowner must manage his property to provide the greatest economic gain. While millions are spent annually by sportsmen and outdoor enthusiasts, lease fees have not slowed the development of private lands. Economics will control future land use and its availability to the public.

"An active land acquisition program

## State-owned Acres Allowing Public Hunting

In a 1980 survey of public hunting acres owned by wildlife departments in nine Southeastern and two Western states, Jeff Fuller found South Carolina on the bottom of the list.



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might benefit our state's people in several ways," Fuller emphasizes. "Lands needed under such a program would basically provide hunter opportunity for various game species. But our needs would not be limited to such use. Non-hunters would be encouraged as well as fishermen, when applicable.

"Some lands would be acquired for only one use, such as dove fields. Others would be waterfowl-oriented, or primarily for small game, or big game such as deer and turkey. But the majority of areas would be multi-purpose and managed for diversified usage.

"For example, some tracts might provide hunting for deer, turkey, quail, doves, squirrels and rabbits. These same lands could be used for bird watching, nature trails, fishing, camping and related outdoor activity. Scheduled use dates would give everyone an opportunity. Such multiple use management would benefit the most people.

"A very significant advantage in owning our own land is that we can control its management. Our present leasing program is effective, but restricted. The public dove field program is a good example of this.

"Each year we must ask farmers for dove fields sites. Planting and harvesting schedules are not always the most desir-

able for the best dove hunting. We've had corn fields advertised for public dove hunting and the corn isn't harvested by the opening hunt dates. Hunting such a field would destroy the cooperating landowner's crop, so the field can't be used.

"Our current management practices are geared mainly toward deer hunting with other types of hunting and activity receiving less or no attention. Overall control of the land would allow us to manage the wildlife and timber and conduct long-term land use practices conducive to specific needs and objectives for multi-purpose outdoor recreation. This is not possible on year-to-year leased lands."

Few individuals would argue that such a land acquisition program is not needed,

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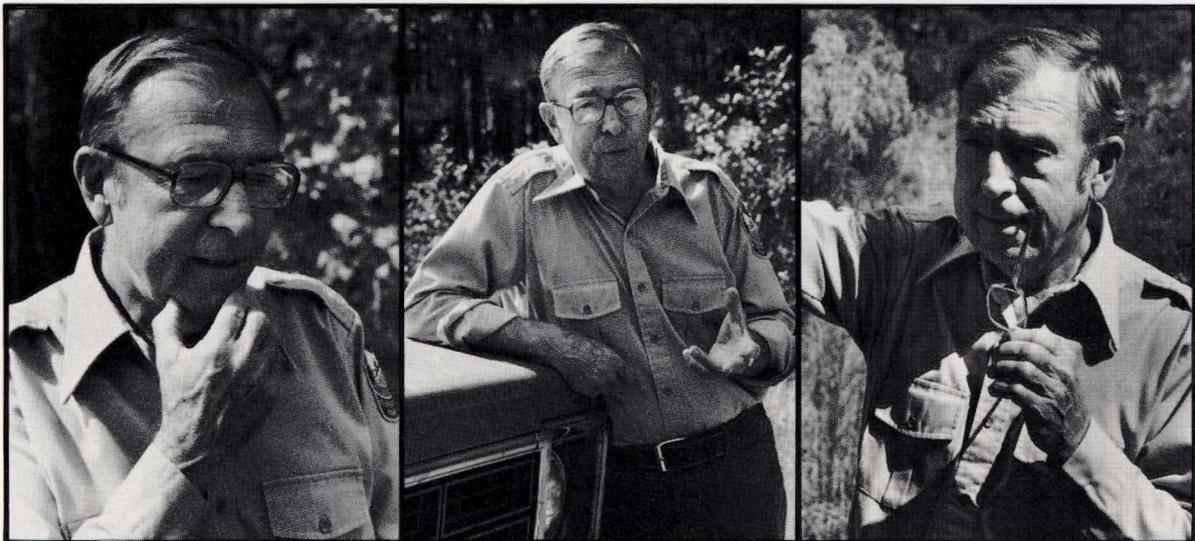
**"A very significant advantage in owning our own land is that we can control its management."  
—Jeff Fuller (below),  
director of wildlife  
and freshwater fisheries.**

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but the process of setting up a system and finding the money to purchase desired lands as they become available is not an easy one. The department's wildlife commission has appointed a committee to investigate possibilities. Policies of other states, undoubtedly, will serve as guides.

The state's 74,433 Game Management Area permit holders or its half million hunting and fishing license holders could contribute substantially to any annual funding if part of their license and permit fees were earmarked for land acquisition. However, current license and permit revenue is fully needed to pay for existing programs. Few Palmetto State sportsmen would disagree with the fact that they are getting a tremendous bargain in their present quantity and quality of hunting and fishing. And most realize that these fees will have to rise for present standards to continue. A land acquisition program must be a part of this future development to insure that quality recreation will be available year after year.

A wider reaching and perhaps equitable approach to acquiring multi-use lands might come through an additional state sales tax on all types of outdoor-related sporting goods, capitol improvement bond authority, or perhaps, a general legislative appropriation. Whatever the



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sources, funds would have to be marked to insure that they were used solely for purchase of wildlife areas and the management of those acquired lands.

Most states contacted about land acquisition programs utilize matching federal funds from the Pittman-Robertson or Dingle-Johnson Acts. These monies are raised by federal excise tax on firearms and ammunition (PR) and on fishing equipment (DJ). Funds are allotted on a three-to-one match basis whereby the state puts up one dollar and gains three federal dollars to go with it. Most of South Carolina's roughly \$2.3 million annually allotted PR and DJ funds are fully utilized, but even a small surplus might be significant if matching state money were available in a working land acquisition program. While \$100,000 or \$200,000 is not enough to purchase large tracts, dove fields, lake or river access sites, target ranges, field trial areas and other small natural sites near the high population centers that so desperately need them could be acquired.

Another source of federal matching funds is available in the National Land and Waters Conservation Fund (HCERS), under which two federal dollars match one state dollar. South Carolina is allocated about \$4 million to \$5 million from HCERS annually and very little of this money goes to wildlife conservation projects.

"Once funding sources were gained, the money would have to be held in a permanent fund and used as needed," Fuller notes. "Such funds could provide interest income until used. They would need to be kept separate from any other state funds."

Mississippi's Game and Fish agency utilizes its wildlife heritage program and wildlife heritage fund to acquire land. A 10-member commission is appointed and authorized by the state's legislature to acquire land through purchase, donation or bequest. Funds from gifts of land, property and money are deposited in a state-approved depository and held until

needed as specified by the commission. This enables the state to move fast with the flexibility needed to purchase lands as they become available.

Another source which might supplement any future South Carolina program might be patterned along guidelines similar to the Missouri Department of Conservation's land donation program. South Carolina's wildlife agency has no system to readily receive gifts and donations and assure that they will be used as the donor intended.

"We have maintained a low-key approach in promoting the program," Clarence Daniel, Missouri's land acquisition supervisor, says. "We do not seek out and solicit donations on a person-to-person contact basis. Instead, we make the information available to the general public." (Promotions include an offer of assistance to the Missouri State Bar Association in their dealings with clients interested in conservation and desiring to

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**South Carolina's  
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leave part or all of their estates to the agency.)

"The Department does not have a policy on the minimum or maximum number of acres that it will accept," Daniel explains. "Since the early 1960s the Department has received, through donations, approximately 12,568 acres with a current appraised value of \$4 million plus. In addition we have received approximately \$1 million in cash."

Missouri's land donation program makes it easy for individuals to donate land or gifts of money and property. If a home or intown tract is received, the agency may sell the property and apply the funds to the purchase of land more suitable to wildlife management, provided the donor agrees. Many donations come through wills and others are outright gifts of property with the donor retaining a life estate for his or her exclusive use.

The agency is willing to cooperate with the donor's wishes. Donors are also eligible for an IRS-approved 30 percent reduction in adjusted gross income for six years or until the appraised value of their donation has been used.

"We always caution prospective donors to first clearly pursue with their personal tax accountant their financial structure before committing themselves to an immediate gift," Daniel says.

"A land acquisition program is something I feel we've needed for more than 20 years," Fuller says. "A systematic, continuing program is a necessity. It is needed now and will be needed even more in future years."

"We're trying to get the effort started before we lose more opportunities. I believe the public realizes, as do we, that their future enjoyment of wildlife habitat will be less and less possible unless quality lands are procured with public funds for public use." 🐾

*Editor's note: Readers with suggestions and comments on the development of a state land acquisition program are encouraged to send their thoughts to South Carolina Wildlife.*



# CAMPING COLD

*Any sportsman who masters the techniques of winter camping can expand his or her outdoor activities year-round. All it takes is a little know-how and the right equipment.*

by Bob Campbell

Carolina's high mountains were a deep freeze one calm evening last February when three of us camped there on snow packed in quiet twilight. Four difficult uphill miles were behind us, but we found the area at its most magnificent.

No breeze filtered through the stately firs under which we pitched our tents. The muted quietness was eerie as powder snow drifted down through limbs coated with white. It was cold!

Squinting at a small thermometer held up in the diminished light, Glenn Smith announced: "Gentlemen, the temperature is 4 degrees below zero."

We hoped we were prepared for the cold. Weather forecasters had predicted a record freeze for the Columbia area and temperatures in the mountains would be much lower. This would be as close as we should ever hope to come to experiencing arctic-like conditions in the Southeast. We weren't disappointed.

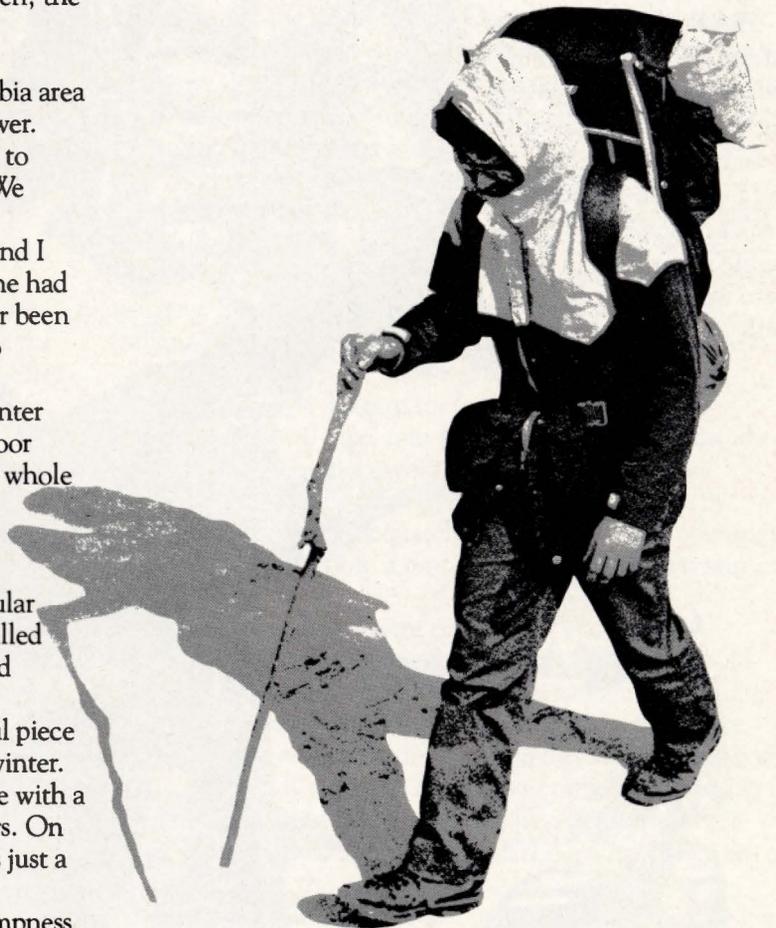
Columbia attorney Glenn Smith, Dennis Gunter and I had had a number of winter camping experiences. Some had seemed colder, even though the temperature had never been as low as 4 degrees below. To survive such a trip, not to mention enjoy it, we had to be prepared.

It takes a camping fanatic to seek this extreme of winter recreation. But with the proper equipment, most outdoor folks could extend their fun and adventure to span the whole year. On these winter trips, we've learned more about hunting, fishing, boating, bird watching and camping year-round.

In addition to food and the small primus stoves popular with backpackers, we carried down or synthetic fiber-filled coats and sleeping bags, several layers of wool shirts and trousers, an ensolite pad and a windbreaker parka.

I've found that a good windbreaker is the most useful piece of equipment a camper can own, particularly in dead winter. Despite the colder temperatures, we stayed comfortable with a light coat, sweater or vest worn under our windbreakers. On warmer days, I wear mine over fewer layers, sometimes just a light shirt.

Sweat is an enemy of the camper in winter since dampness on the surface tends to cool the body, which is its purpose in summer. To avoid sweating, we removed layers of clothing as we became more active.



For serious outdoor work, I recommend a windproof, water-resistant, "60-40" parka. The 60-40 is heavier and more expensive than some thinner, less durable models. Campers don't need an expensive jacket to ward off the wind, however, and less expensive models prove sufficient.

Climbing that mountain kept us warm during the afternoon. Working our way uphill carrying a heavy load generated a loss of heat energy. Once settled into camp that evening, the trick was to retain as much heat as possible while avoiding a chill from clothing damp with perspiration. Regardless of how careful we had been to remove layers or vent our clothing by partially unzipping jackets or pulling out shirttails, during the day a certain amount of moisture had collected. Once we arrived at our destination, we changed immediately into dry clothes.

We were exhausted and chilled from the strenuous climb up the mountains. Much of the walking had been off the trail through knee-deep snow drifts. I began to shiver slightly. Shivering, particularly uncontrollable shivering, is the first symptom of hypothermia, the number one winter killer of outdoors people.

Hot food can be another lifesaver in such low temperatures. As I struggled to light the little primus stove, which can be stubborn in cold weather, I thought of Jack London's story of the arctic adventurer in sub-zero weather who had only one

match. His life depended on starting a fire that would provide lifesaving warmth. The match failed and the adventurer was left facing a cold death. "Don't fail me now," I muttered.

It sputtered to life on cue. I soon had a steaming cup of soup, a prelude to a heartier meal which revived me completely and dispelled my fears of hypothermia. The shivering stopped with the first sip of soup and visceral warmth lifted my spirits.

The long trudge through the drifts, the uphill climb, the cold discomfort and physical fatigue, all seemed worth it now in our sheltered winter camp among the fir trees. We felt a seldom-experienced serenity as well as a sense of self-reliance and accomplishment.

Moisture can make the air seem colder than it really is. But at such low temperatures, there is little moisture to lend this protective edge. I was deceived by the dryness of the air, and soon my fingers were numb and red, the first symptoms of frostbite. This reaction would soon be followed by a whitish coloration. In the severest cases, blisters may develop. I didn't intend to let it go this far.

Exposed parts of the head, especially the nose and ears, are most often affected, but fingers and toes are also highly vulnerable. I immersed my hands in lukewarm water, heated on the stove, and then put on a pair of dry gloves.

For a few hours, wind increased the "chill factor." Circulating air carried heat away from the body, something much desired in summer, but not now. At 30 degrees, a 10 mile-per-hour wind chills as much as 16-degree weather without wind. We carried windbreakers to remedy this, but fortunately the wind died later that evening.

The three of us put on dry socks and long underwear before getting into the sleeping bags. Staying warm in a sleeping bag depends on getting into it warm. A good bag will take over from there. Our feet were cold, but we rubbed them so hard, the motion made us warm all over.



We had bags that would "breathe." That moisture our bodies produce while we sleep had to escape through the bag or we'd have been in big trouble. Modern equipment, both down and synthetic fiber, breathes very well. Had we made the mistake, as some beginner campers do, of putting a waterproof cover, such as a poncho, directly over the bag, we'd have been wet, cold and sleepless.

I wondered how I would fare with my army surplus down-filled sleeping bag I had used for years. It had never been called for duty in sub-zero weather. To help my tattered friend, I piled on all the clothes I had. Everyone with any outdoor experience is familiar with the principle of layers to provide protection from the cold. The same applies in a sleeping bag. The colder it is, the more clothes I sleep in. I try to wear enough clothes to keep warm, but not so much that I perspire inside the bag.

Half the battle was won with a pair of down booties for the feet. On the other end, but equally important, I wore a wool watch cap. A lot of heat is lost from the head and the old-timers have told me "to keep your feet warm, put on your hat." A mummy-type sleeping bag prevents heat loss from the head, but I'm careful not to breathe into any bag. Condensation would quickly accumulate and soak me.

Sleeping in clothes also extends the temperature range of your bag. A sleeping bag rated to 20 degrees can be used in colder weather by wearing layers. (Padded long underwear is an excellent supplement for severe conditions). The same bag can also be used in less severe weather by putting on fewer layers and venting the bag by slightly unzipping at the foot or leaving it unzipped completely.

I recommend wool clothing as it will keep you warm even when wet. Normally the temperature doesn't get too cold in the South, but it's a rare time when there isn't a lot of moisture. I wear wool rather than cotton, such as blue jeans, when camping in the winter.

Synthetic fibers have improved to the point that they are competitive with prime goose down. For years, down was the stuff of which great sleeping bags were made. Today fiber-filled garments and bags are nearly as efficient as the popular down and less expensive.

Like wool, the synthetic material retains its "loft" (puffiness or thickness) when wet. The loft of a material determines its warmth or insulation. Soaked goose down can be nearly useless as an insulator because it loses loft. Down is lighter and compresses better than the synthetic materials, which is an advantage for long trips when weight and space are important. But for the difference in price, I'll choose the fiber-filled equipment most every time.

On an earlier camping trip, I had suffered another disadvantage of down. I tore my bag and much of the down spilled out, leaving nothing but a piece of cloth to sleep in. Bags and coats filled with the synthetic material will not do this since the fibers are longer and continuous.

In choosing a coat or sleeping bag for warmth, I look at the thickness of the insulation as well as the type of material. Theoretically, steel wool will keep you as warm as down if the loft is the same. But down is light, can be compressed, and recovers its loft quickly. This is a real convenience when space and weight are critical. Several synthetic fibers used in quality

coats, vests and sleeping bags have nearly the same loft as down equipment, though they are slightly less compressible or more bulky and weigh a tad more than down-filled equipment.

While backpackers are becoming less inclined to rely on fire, deer hunters, water-fowlers in the swamp or marsh, winter surf fishermen and others are not likely to give up the traditional campfire. Using downed wood, we built a very small fire, which I recommend, in a clear spot away from the wind. Before we left, we tried to erase any signs of the fire from the site.

With the temperature well below freezing, there had been little moisture to worry about so far. Cold air is dry air. If it snows at very low temperatures, the snow will be dry. The worst temperature zone, in my mind, for the camper is between 35 and 25 degrees. Precipitation occurring in this zone is likely to be wet snow, frozen rain or sleet. These conditions seem much colder than when the temperature is lower. The 35 to 25 range is when my hands often swell.

At least when it's raining, it's not too cold, but often a cold front will move in behind the squalls. Good ponchos help, but most campers remain active despite occasional rain and wind. Sweat will then condense on the outside of their coats, making the camper as wet on the inside as the outside. I've found that the only sure way to keep dry during a rainy spell is to sit it out in a shelter.

Wet cold is hard to contend with, although it is the great expectation of the water-fowler. Once we got into camp the next evening, changed clothes, ate a hot meal, slipped into a thick cozy sleeping bag and closed the tent flaps, our problems were over until the next morning. Then we began the process of trying to stay dry all over again.

A good tent is essential for winter camping. While backpackers necessarily have to choose small compact tents for lightness, campers of other persuasions would do well to choose a roomy one. We found a rain fly essential for winter camping. They come with any quality tent designed for winter. A rain fly is a waterproof tarp placed over, but not touching, the tent roof, allowing body heat moisture to evaporate through the tent roof and pass under the fly.

A good tent will repel rain and snow, but a tent must also be adequately vented to avoid condensation. Humans produce a lot of moisture and the way to remove it is by circulating air. If not adequately vented with small openings at the entrance or window, a tent will hold its very own rain cloud inside.

At Shining Rock we were camped on a snow pack. Without adequate insulation between us, the snow would have turned us into icebergs. Air mattresses are inadequate and will freeze the fanny. We were carrying thick ensolite pads, which provided a little more comfort although they were bulkier. The pads were also handy to sit on while preparing a meal or just sitting around swapping lies. If you are in the swamp, however, and want to get off the ground, use a cot or air mattress with the pad on top.

Our trip to Shining Rock was one of my most memorable camping experiences. With adequate food (hot and high energy), dry clothing and a warm place to sleep, any outdoor winter experience can become a pleasant memory. Neglect any of the three and the best you can expect is a miserable trip. 🐾

PETE LAURIE



**Take one crisp winter evening, add a gathering of friends, a few bowls of melted butter and seafood sauce, a box or two of saltines, plenty of creek fresh oysters steamed over hot coals, and you've got the recipe.**

by Pete Laurie

# A Coastal Tradition

We stopped by Tom Duke's Bulls Bay Seafood Company in McClellanville the other day. He invited us into his cluttered office on a sharp bend of Jeremy Creek and in between talking to customers, answering numerous phone calls, and generally running his complex business, he found time to talk about a Lowcountry tradition that has helped keep him in that business for more than 30 years: oyster roasts.

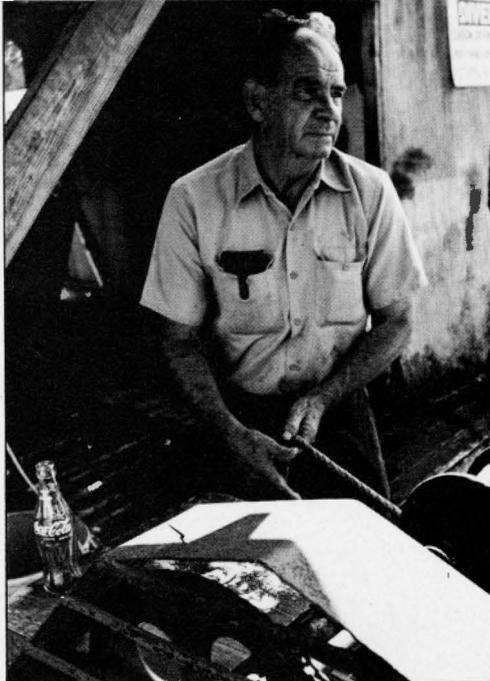
Duke, of course, did not invent oyster roasts. Roasts apparently were a tradition long before white settlers arrived on this coast. Numerous shell rings attest to the Indians' taste for oysters and for consuming them at social gatherings. A shell midden at the foot of Water Street in McClellanville near where Duke grew up still yields bits of pottery and other Indian artifacts. While it is not known what season of the year Indians held oyster roasts, today roasts are a wintertime activity and are particularly popular during the Christmas holidays. "It seems like cold, rainy weather is when folks always want oysters," Duke chuckled.

Oyster roasts are held during the fall and winter for several reasons, not the least of which is the closing of shellfish seasons during summer months when water quality is lowest. Because oysters are stationary, and because they feed by filtering nutrients from the water, they readily can become contaminated by bacteria and other water-borne pollutants. But long before pollution became a problem, oyster roasts were held during winter months since oysters spawn during warm weather and are far less meaty in the summer. Besides, an oyster roast involves standing around a large, hot fire, which is much more enjoyable in December than in August. Duke fondly recalled boyhood winter camping trips to the beach where the main fare was freshly picked oysters tossed directly into the campfire until they opened.

Oysters are sold as clusters or as singles, Duke said. Single oysters generally are larger and, as the name suggests, grow by themselves, unattached to other oysters. Cluster oysters, usually the result of crowded growing conditions, are smaller and



Tom Duke, proprietor of Bulls Bay Seafood Company in McClellanville, continues a shellfish-gathering tradition dating back to the early Indians that lived here. At right, Duke mans a winch to unload oysters from his boat. Below, he looks over a handful of prime "singles," oysters that have grown large unattached from a cluster. He says a bushel of singles can yield as much as seven pints of meat compared to three and a half pints from a bushel of clusters.



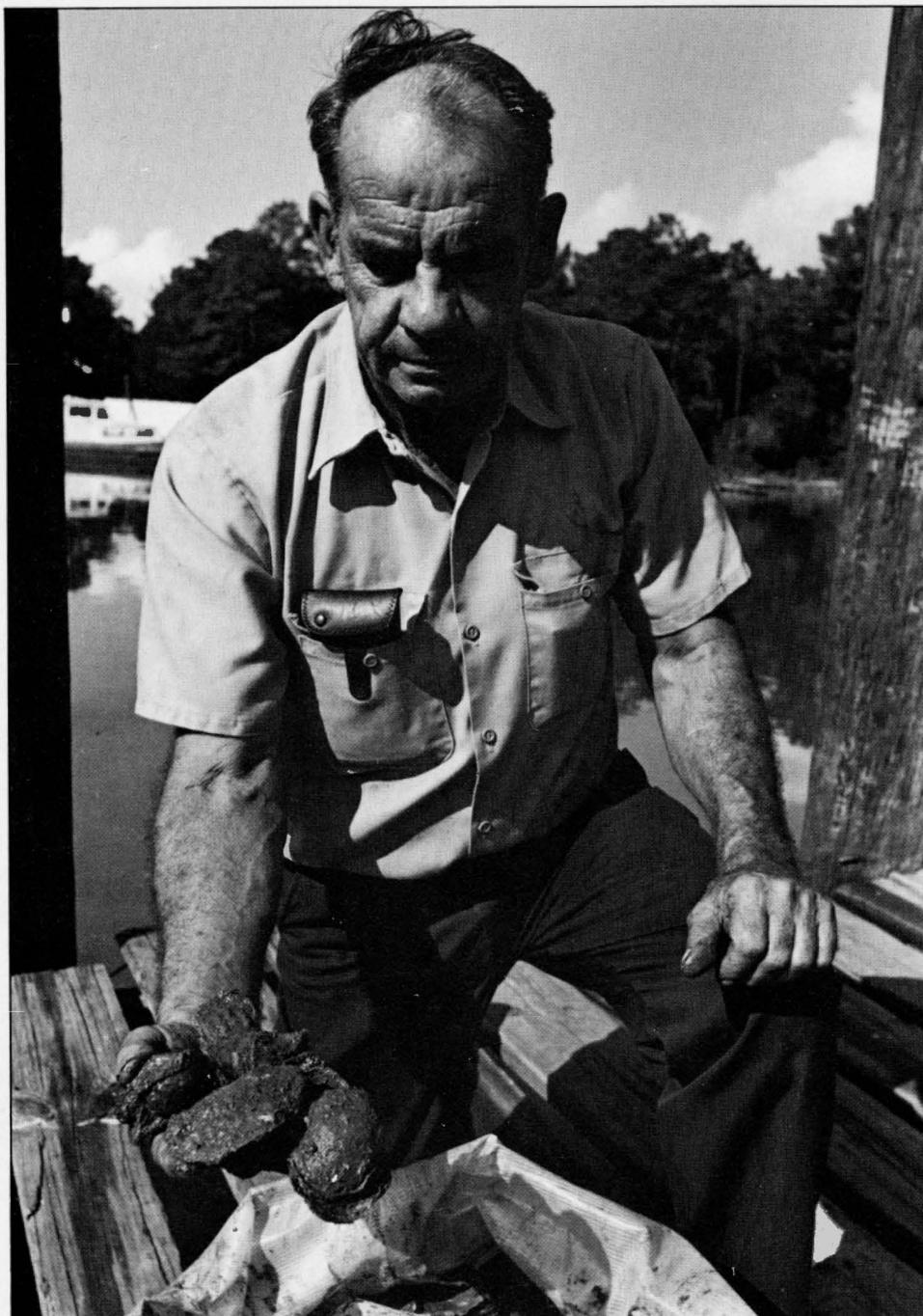
grown together into a solid cluster. Duke sells cluster oysters cheaper than singles but explained that clusters yield only about 3½ pints of meat per bushel, while a bushel of singles should contain seven pints of meat.

Although oysters can be eaten raw, and some people prefer them this way, live oysters are very difficult to open, especially for the novice. "The best way to open a live oyster is to first knock off the bill," Duke explained, referring to the unhinged end of the oyster. Roasted or steamed oysters crack open just enough to insert the blade of a short, stiff knife designed for just this purpose. One of the bivalve shells then can be pried away and the oyster itself scraped from the other shell with the knife blade. Clasped between the knife blade and the thumb, the oyster is popped into the mouth in one smooth motion.

Duke supplies oysters each year to both small affairs involving a few friends or family and to huge parties for dozens or even hundreds of people. A few oysters can be roasted in a biscuit pan in an oven or on a backyard grill, but for small parties Duke suggested steaming the oysters in an empty 50-pound lard can with about a half cup of water and a cover. The lard can then be discarded, leaving nothing to wash.

An oyster roast is also a simple way to feed a large gathering. All that is needed is a good hot oak fire, a source of water, several burlap sacks, a large sheet of metal and some tables covered with newspaper. The metal plate is placed over the fire, and as soon as it gets hot, oysters are shoveled on and covered with water-soaked burlap. The wet burlap serves to steam the oysters so they all open at about the same time. Duke cautioned beginners to make sure the fire is hot enough to steam the oysters quickly before they become tough and chewy.

A relatively small amount of oysters should be put on the grill at one time so that they all open in about five minutes. The oysters then are shoveled onto the tables where the guests can get to them. According to Duke, a good oyster cook equipped with a scoop shovel can move the shellfish on and off the grill, keep the



PETE LAURIE

burlap sacks wet, and keep hot oysters on the tables.

No chairs are needed; everyone expects to stand up at an oyster roast and casual clothes are worn. Many people put a glove on their left hands to reduce cuts from the razor-edged shells, a practice Duke recommends for beginners. Participants generally are expected to bring their own knives and gloves, although the host should supply towels since oysters are muddy and messy.

Other than liquid refreshment, beer being a favorite, little else is necessary at an oyster roast, Duke said, although melted butter and saltine crackers are standard fare. A simple, tangy sauce in which to dip the oyster can be prepared with 1½ cups catsup, 1½ teaspoons horseradish, juice of half a lemon and a dash of both Tabasco and Worcestershire sauces.

Duke said that when churches or volunteer fire departments put on oyster roasts to make money, clusters are preferred, not only because they are cheaper but also because they are harder to open. "Folks get tired of fighting the clusters before they get their fill of oysters and in the end they don't eat as much as they might if you served singles," Duke explained. "If you put on a roast without a profit motive, singles are a better buy."

We asked Duke how to determine the amount of oysters needed for a large, planned roast. "Well," he drawled, leaning back in his battered desk chair, "if you have heavy oyster eaters, figure four people per bushel; with light oyster eaters, eight people per bushel is about right."

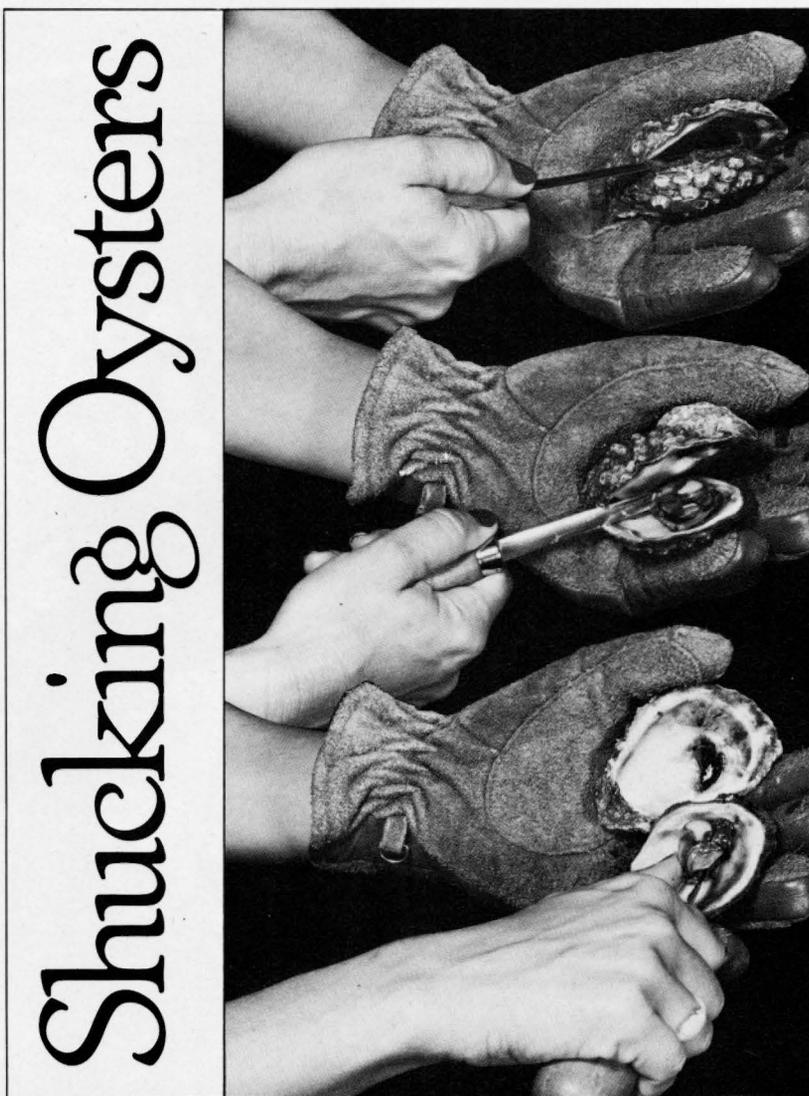
When planning a big roast, advise your seafood dealer a couple of days ahead to ensure that he will have enough oysters. If you need just a bushel or two, Duke and most other oyster houses will have that amount on hand during the season.

Customers always ask Duke: "Are these oysters fresh?," but he maintains that oysters are better the day after they are picked, because they lose moisture and become meatier. During cool weather, with the temperature less than about 55 degrees, oysters can be kept

safely for three or four days in a cool, moist place.

The easy way to get a good supply of oysters is to stop by Tom Duke's place or any other seafood dealer that handles oysters, but there is a cheaper way that also is a lot more fun. The South Carolina Wildlife and Marine Resources Department now maintains more than 30 public shellfish grounds where you can pick your own oysters. Most of these areas can be reached only by boat, but all are clearly marked. Two bushels of oysters may be gathered per household each day, but not more than two days per week. A day's outing to gather oysters for

A glove worn over the left hand to prevent cuts from razor-sharp shells and a special oyster knife are essential tools for the oyster gourmet.



# Shucking Oysters

a neighborhood roast can be as enjoyable as the roast itself.

Not too many years ago, Duke seldom retailed more than 10 bushels of oysters a week. Now he sells from 50 to 100 bushels of oysters every week during the season. The oyster roast tradition, started centuries ago by South Carolina Indians, seems in no danger of dying. 🐚

*For a complete guide to recreational shellfish gathering in South Carolina, send \$2 to Shellfish Guide, Recreational Fisheries Section, South Carolina Wildlife and Marine Resources Department, P. O. Box 12559, Charleston, S.C., 29412.*



**i**n  
this mid-1900s  
photograph, the late  
Dr. Robert C. Lunz  
proudly displays two  
saltwater fish taken  
from his  
experimental ponds  
as part of his  
pioneering  
mariculture efforts.

Fort Johnson point facing Charleston Harbor houses one of the most modern marine research complexes on the Atlantic. Few would believe the beginnings came from one man's backyard experiments.

# a center for the sea

by Pete Laurie

**I**n the early 1940s G. Robert Lunz, a curator at the Charleston Museum, began experimenting with the cultivation of oysters in his backyard, which extended down to Wappoo Creek. His experiments caught the eye of H. Jermain Slocum, a wealthy patron of the museum. From this humble, casual beginning grew one of the largest and most sophisticated marine research centers on the East Coast.

Lunz was not the first to study the state's marine animals. Several well-known scientists, including Louis Agassiz, had traveled to Charleston to collect and examine marine life. A monograph on the jellyfish of Charleston Harbor, written by John McCrady in 1857, is still widely used by biologists throughout the world. These earliest workers were concerned primarily with describing animals and in determining their distribution.

Lunz was among the first to look for practical uses of South Carolina's marine animals. He saw the potential value of South Carolina's coastal resources and he saw that enhancing and developing these resources could greatly benefit the state. He started on a shoestring—a grant of \$100 a year from the museum board of trustees—and he cleared the land himself at a site called Bear's Bluff on Wadmalaw Island. Soon he had a state grant, and eventually his program was incorporated into the South Carolina Wildlife Resources Department.

Unfortunately, Lunz was ahead of his time. Not until the late 1960s did the public develop a real interest in funding marine research and management programs. By that time Lunz's pioneering efforts had convinced a number of politicians that a well-organized, professionally executed marine program was vital to the state.

The year that Lunz died, 1969, was ironically the same year that the wildlife department was reorganized to include a Marine Resource Division, with a Marine Resources Center constructed at Fort Johnson on the Charleston Harbor.

In addition to the Marine Resources Division, the complex now includes the College of Charleston's Grice Marine Biological Laboratory, a National Marine Fisheries Service Seafood Technology Lab and an office of the U. S. Fish and Wildlife Service.

The Marine Resources Division is a mission-oriented organization looking for answers to immediate coastal problems, anticipating future problems, and compiling information on living coastal resources to be used for years. The division has a staff of 165, more than 60,000 square feet of modern research space and four large, modern research vessels.

One of the division's research vessels,



**Recreational fishing brings  
an estimated \$100 million a  
year into the coastal economy.**



the *Anita*, was commissioned and built in 1962 under the supervision of Lunz himself. Lunz wanted a versatile research boat that could operate in shallow inshore waters. The keel and other vital parts were carved from oak trees at Bear's Bluff. Designed by a former employee, Gilbert Maggioni of Beaufort, the *Anita* continues to serve the state as a vital research platform.

Research and management activities are directed toward commercially important species, including shrimp, blue crabs, oysters, clams and finfish, as well as recreational species. Specific programs include general surveys of living resources, searches for and marketing of under-utilized species, mariculture experiments and enhanced saltwater fishing opportunities.

Recreational fishing brings an estimated \$100 million a year into the coastal economy. Promoting and improving sport fishing is vital to the state tourism industry. A major thrust has been the establishment of 10 artificial reefs to concentrate fish and thus greatly improve offshore angler success. State recreation also has been aided by the establishment of more than 30 public shellfish grounds.

Under-utilized species, especially rock shrimp, calico scallops and whelks have

been the subject of intense searches by scientists aboard the division's vessels. During the past few years of diminished white shrimp crops, shrimpers have benefited from rock shrimp beds located by Marine Resources biologists. A scallop bed discovered off Savannah in 1977 increased the value of the state's seafood landings by almost \$1 million in 1978.

To enhance the value of untraditional seafood species, a marketing program was established to improve the local demand for catches such as rock shrimp. Work is also underway to find markets in other parts of the country and even overseas for marine animals that local fishermen ignore or throw back because no ready markets now exist.

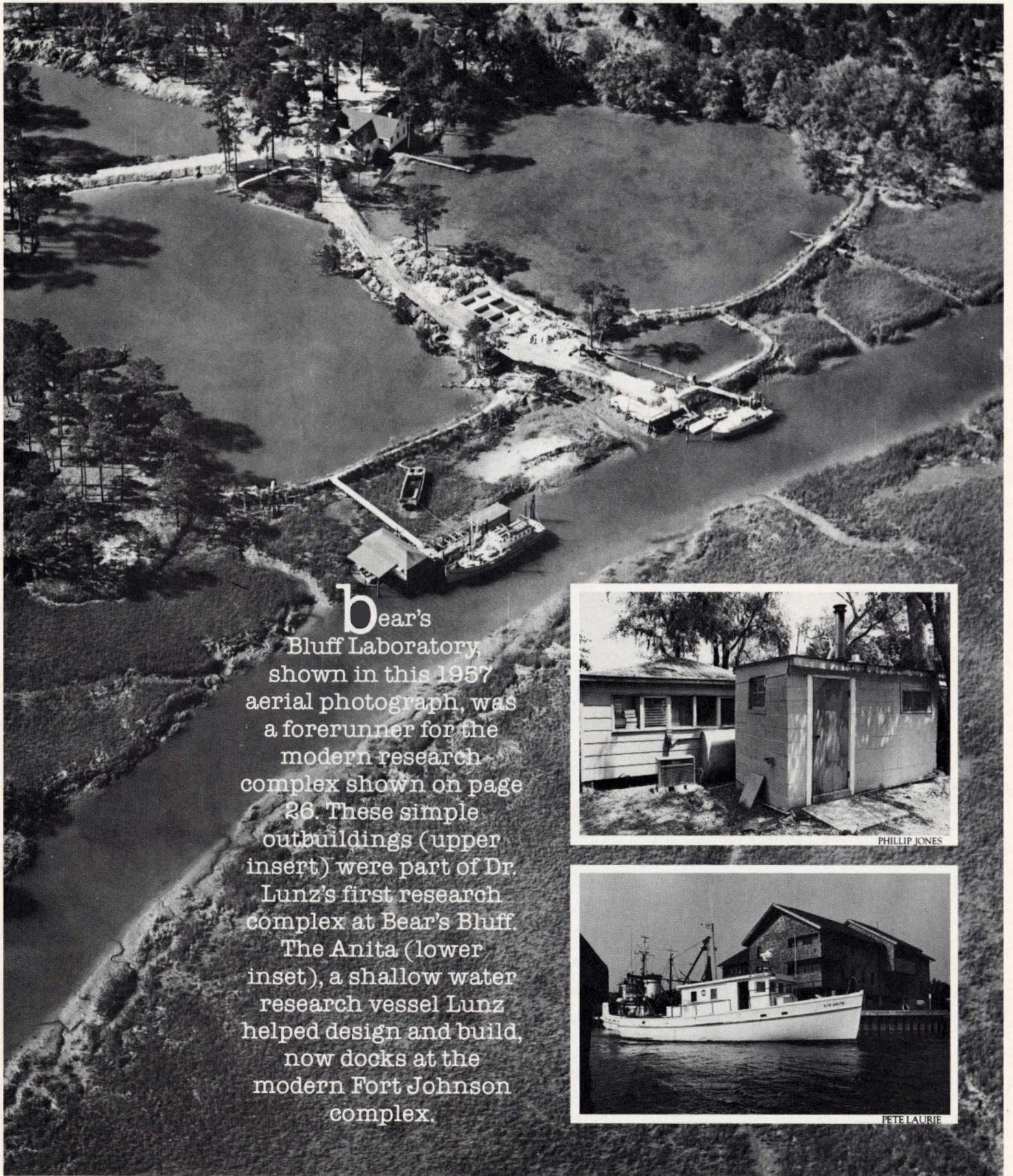
Separate sections monitor populations and commercial catches of all major seafood species, including crustaceans, shellfish and finfish. Such efforts have helped provide the information necessary to achieve maximum economic benefit from these resources. Future use of these resources is now being planned and efforts are underway to coordinate management activities with neighboring states.

Traditionally, the state's commercial fishing effort has been either inshore or within the state's three-mile jurisdiction. However, fishermen are now paying

greater attention to the potential of offshore fisheries. While these resources lie beyond state jurisdiction, the Marine Resources Division is interested in the maintenance and harvest of these species, which include snapper, grouper, swordfish, rock shrimp and calico scallops. These and other species will become more valuable to the state's fishing industry. Information being gathered on these offshore species will be vital to management plans now being developed by federal agencies and by the South Atlantic Fisheries Management Council, which represents Florida, Georgia and South and North Carolina.

Offshore studies have identified small live bottom areas where rocky outcrops provide solid points of attachment for corals, sponges and other organisms. Large bottom fishes, including snapper and grouper, inhabit these areas. Efforts are underway to determine the association of these commercial fish with such areas so that these habitats may be protected from possible degradation by offshore oil drilling and other activities.

Protecting critical habitats is an important part of fisheries management. As more industry becomes established along the coast and human populations continue to shift toward the coast, more pres-



**b**ear's Bluff Laboratory, shown in this 1957 aerial photograph, was a forerunner for the modern research complex shown on page 26. These simple outbuildings (upper insert) were part of Dr. Lunz's first research complex at Bear's Bluff. The Anita (lower inset), a shallow water research vessel Lunz helped design and build, now docks at the modern Fort Johnson complex.

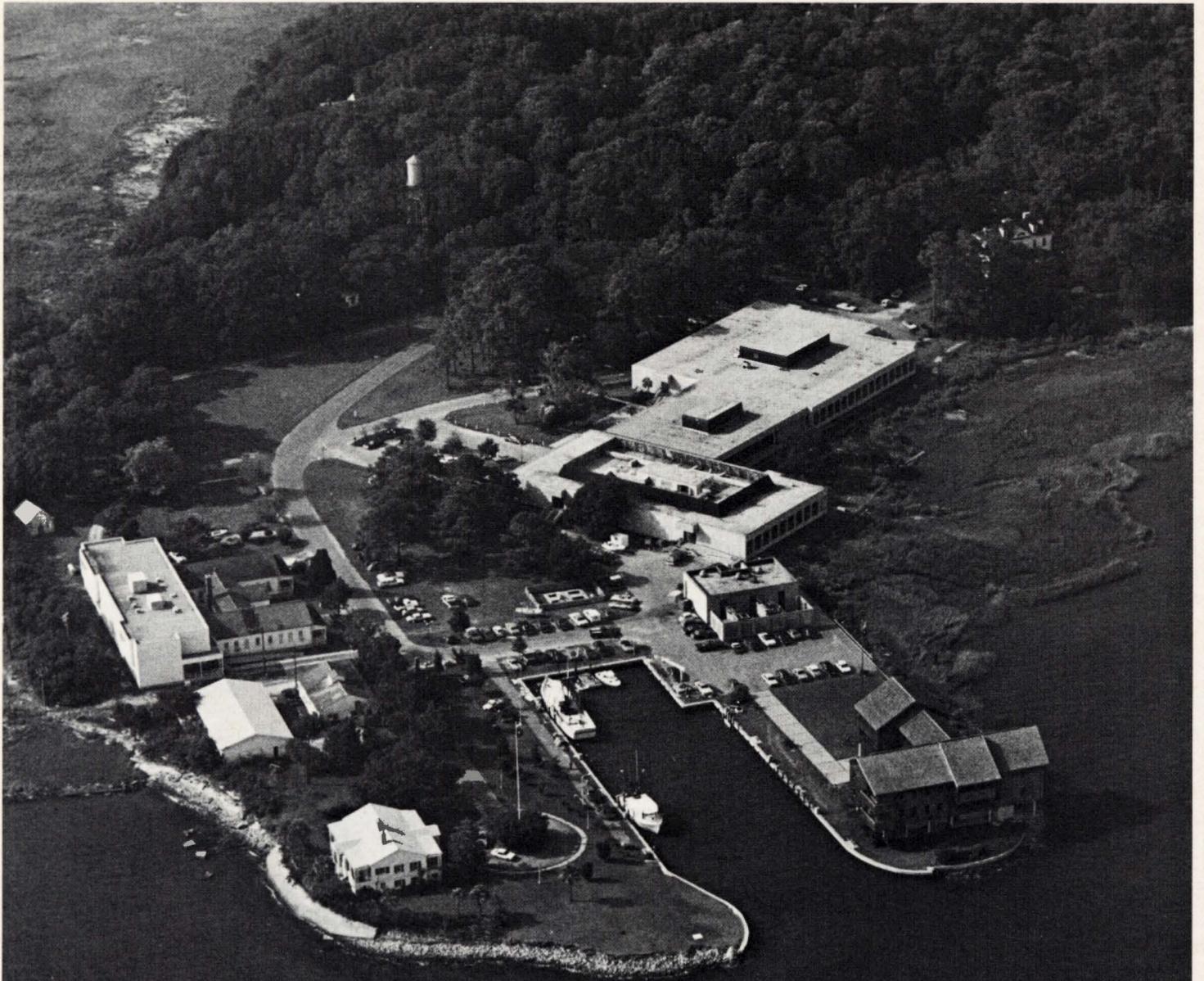


PHILLIP JONES



PETE LAURIE

GORDON H. BROWN



Our  
present Marine  
Resources Center at Fort  
Johnson on Charleston  
Harbor contains some of  
the most extensive  
experimental research,  
educational, management  
and marketing facilities  
found on the Atlantic coast.

JIM GOLLER



**Mariculture is still in its infancy. "We are still deciding whether to raise cows or coyotes."**



sure is applied to the natural habitats of fish, shellfish and other coastal organisms. Presently some 30 percent of the state's shellfish grounds are permanently closed due to water-borne bacteria and other pollutants. Identifying areas important to the life cycles of species and working with other agencies to protect these areas is one mission of the Marine Resources Division.

In addition to managing existing marine resources and searching for ways to utilize new resources, the Marine Resources Center has always had an interest in one of Lunz's pet projects: mariculture, the farming of the sea. South Carolina has a variety of attributes that make the state well-suited for mariculture. The temperate climate offers a relatively long growing season for many marine animals that could not be grown farther north. A larger number of coastal impoundments, built originally during the days of rice planting and maintained since the turn of the century for waterfowling, could in many cases be modified for mariculture activities.

Seafood ranks fourth highest in imported American goods. Since our coastal resources are finite and in many cases al-

ready utilized to their fullest, mariculture could enhance the use of existing resources and reduce American dependency on foreign imports. In the same way that hunting and gathering gave way to agriculture tens of thousands of years ago, fishing is expanding into the artificial rearing of marine and freshwater animals. All the advantages agriculture holds over gathering and hunting can carry over to mariculture without diminishing the role of commercial harvest of naturally existing fish populations.

Mariculture, however, is still in its infancy, still at the point of selecting the most easily and profitably cultivated animals. "We are still deciding whether to raise cows or coyotes" as one scientist put it. A number of animals that might be suitable for mariculture are now being studied, including oysters, clams, blue crabs, channel bass, sturgeon, hybrid bass, tilapia, Malaysian prawns, catfish and crayfish.

A large-scale mariculture center with numerous experimental ponds is now under construction at Victoria Bluff in Beaufort County. The center will serve as a Marine Resources Division field station where experimental results of laboratory

work can be tested on a commercial scale.

In the future, the Marine Resources staff will continue in-depth studies of living marine resources and how they are influenced by physical and chemical factors. Alterations of wetlands and waterways will always be of concern, and the division will stand ready to react to immediate problems, such as oil spills and fish kills. Attention will be directed to developing new fishing techniques and improved methods and gear. Efforts in this area have already led to a self-culling crab trap, an experimental peeler crab trap, and, in conjunction with Clemson University, a prototype mechanical oyster picker.

With continued research and careful management, the state's marine resources will continue to increase in value, but the costs of research and management are soaring. The strides that have been made since Lunz's early beginnings are in part due to the public's willingness to fund such activities. Lunz, no doubt, would be amazed at what has developed from his backyard beginnings. 🐚



Some called him “quail,” some “partridge” or simply “bird.” It didn’t matter, for his tribe established a Southern tradition. When we were poor, his cheery call, bomb-burst covey rise and excellent tablefare brought us wealth. With prosperity’s efficiency, Bobwhite was forgotten—left on the edge of civilization.

# Bobwhite’s Call

by Mike Creel



Man’s first clearing of the coastal woodlands brought sun to a barren forest floor, igniting a burst of greenery and a covey rise. The Bobwhite quail found his place at man’s elbow, in the borders of civilization.

Bob thrived in the wooded strips between fields and in the persistent weeds at their edges, in the briar heads too dense to clear and in the fresh green of forest floors scorched each year by fire. His peak came during the 1930s and 40s with the small farm’s patchwork field pattern. Idle croplands, grown-up hedgerows and brushy ditchbanks gave his tribe all it needed—a little edge for survival.

But it was an accident.

*His shrill morning call echoed throughout the countryside. His thunderous covey rise and succulence on table made him a bird for every man.*

*There was room for men, dogs and coveys in the broomsedge between the tall pines. Fallow fields and thick fencerows renewed Bob's strength, insuring his bounty each season.*

*Fathers taught children the ways of quail—where Bob fed, loafed and roosted; where he flew on the rise and the ways of working the wire edges off young pointers or setters. It was a sport of tradition, a sport of honor and values, that taught the rules of fair chase and respect for the land and its game. The men, the dogs and the double barrel gun became a part of our heritage. Mr. Bob reigned king.*

*And it was an accident.*

*Mid-century technology and prosperity brought modern farming and a push for increased economic prosperity. Bob's acreage waned foot by foot, literally row by row. Small, rough-hewn fields were joined into clean-kept giants. The birdy ditch-banks and fencerows Bob hid in and traveled through were turned under as buried monuments to each covey's demise. The field edges of hardy weeds and blackberry briars, Bob's loitering places, were plowed and planted too.*

*We were so wise in so many ways, yet few anticipated Mr. Bob's retreat. Many of those who saw him fade blamed the hawk and owl or a rumored experiment with foreign quail. In truth, the gamebird that thrived by chance was forced out by clean farms, housing developments, highways, widening city limits and other "improvements" of man.*

*The echos at daybreak were not Bob's morning whistles, or even the sounds of a double gun, but the easy rumblings of man on his work-day route — doing things faster and bigger. Bobwhite was left out.*

*But it was an accident.*





Page 28: “Flushed From  
the Furrows—Bobwhite”  
by David Hagerbaumer

Left: “Bobwhite Quail”  
by David A. Maass

Below: “A Split Covey”  
by Herb Booth

All paintings courtesy of  
Wild Wings, Inc.,  
Lake City, Minnesota







Above: "Tattered Oak Ridge—Bobwhite"  
by James Killen

Courtesy of Wild Wings, Inc., Lake City, Minnesota

Pages 32, 33: "Wild Covey"  
by Robert Abbett

Courtesy of Sportsman's Edge, New York



The Bobwhite of tradition remained for the large landholders who nurtured him with food plots and cover. The hardy little bird of the poor dirt farm became the game of the wealthy.

Throughout most of South Carolina, Bob is no longer a bird of farm and field edges. Good public quail hunting is gone. That's what many old-timers say. They forget Mr. Bob's tenacity.

In the close-cropped fields and pastures of clean farming, Bob clings to the creek bottoms and bogs. Within subdivisions and cities, his roosting ground is the unkept vacant lot. Along our highway systems, the rugged incline and roadside ditch provide his nesting sites. In the vast tracts of pine monoculture, he seeks the clear-cut land.

This bird of the pine woods is a new creature, born of infant forests where man has planted seedlings. He is a nomadic resident, increasing his tribe on freshly cut land and moving on when the pines become too thick.

He often runs through tangles of underbrush or flushes wild before the dog. Bob has become a hardened survivor, flying to the thickest drains, draws and windrows where man cannot follow. This new domain provides him a distinct advantage. Only the rugged and those who refuse to relinquish a memory venture there to meet Bob. In these clear cuts, a fine gamebird has been reborn—emperor of the rough.

Again it is an accident.

Given a choice, Mr. Bob still favors the small field, the brushy fencerow and the new green of fire-scorched ground. He will thrive in the clear cuts and survive in the small openings left by man.

We are so wise in so many ways. We cannot, must not, halt our progress simply for Bob's clan. But perhaps we will realize that prosperity cannot always be counted by the manicured vacant lot, the endless expanse of pasture and the extra row of corn or beans. As this knowledge comes, Mr. Bob's good morning call will increase across our land.

But it won't happen by accident. 🐾

**B**ig Red arrived at my home a year ago in a cardboard box: an eastern red-tailed hawk, fresh from the infirmary at Columbia's Riverbanks Zoological Park. He lay in the bottom of the box, a feathered ragamuffin with wide brown eyes, huge taloned feet and dried blood caked on one wing. Back to the floor, talons outstretched and hooked beak open in defense, he was terrified of man.

"He's a 60-percenter," the wildlife biologist who'd delivered the box said as he prepared to leave. About 60 percent of the hawks born each spring die during their first winter. Causes range from dramatic accidents like head-on collisions with automobiles and electrocution on power poles, to the mundane—perhaps a few broken feathers or a lung infection which leads to an inability to hunt and final starvation.

A jogger found Big Red hobbling down a backcountry road in Orangeburg County. The young hawk's wing had been broken by a shotgun pellet. He was skinny, dehydrated and spattered with mud.

The contributions of birds of prey in maintaining important balances in nature have been proven. Federal and state laws protect these species and state programs have been created to assure that the birds will be with us in years to come. Under the raptor rehabilitation program sponsored by the Wildlife and Marine Resources Department, Big Red was sent to Riverbanks for professional medical evaluation and treatment.

If a bird's injuries are slight, the zoo will treat it, nourish it, then toss it back into the sky as quickly as possible. But when injuries prove serious, or if severe feather damage requires that the bird be kept for extended recuperation, it can be transferred to a licensed rehabilitator. Thus Big Red was sent to us for individualized care.

In his box, he only felt pain and the terror of being trapped with bent feathers and no view of the sky. He couldn't fathom that man, who had first harmed him, had saved his wing and his life and would try to return him to freedom.

# Back in Flight

by Kent Nickerson

**Somewhere in the Carolina skies soars a red-tailed hawk that has known both the careless cruelty and the careful compassion of mankind.**

For a year, the daily routine in our home has revolved around preparing Red for this return. My wife Terry and I have spent hundreds of hours with the bird. During our careful handling, gentle training and long forays into wintry fields, we've watched him relearn the art of hunting rodents from the highest branches of windswept trees. We've skinned chickens, trapped rats and plucked fresh, road-killed squirrels from neighborhood streets to stock his larder with natural food.

The hawk has overcome serious problems in the time he has lived with us. Combining modern technology with ancient wisdom, we have successfully led him through a complicated regimen of exercise and conditioning. Because he had too many broken feathers for efficient flying, we released him in a special hawkhouse, designed on principles laid down in China 1,000 years ago.

Artificial lighting in his room was carefully controlled to imitate the daylight patterns of springtime, season of the feather change or moult. Thoroughly confused, Red began dropping feathers and growing new ones, oblivious of the fact that outside his room it was early winter. Because his muscles were soft from inactivity, we supplemented his food with vitamin and mineral compounds and arranged his perches to encourage short flights around the confines of the room.

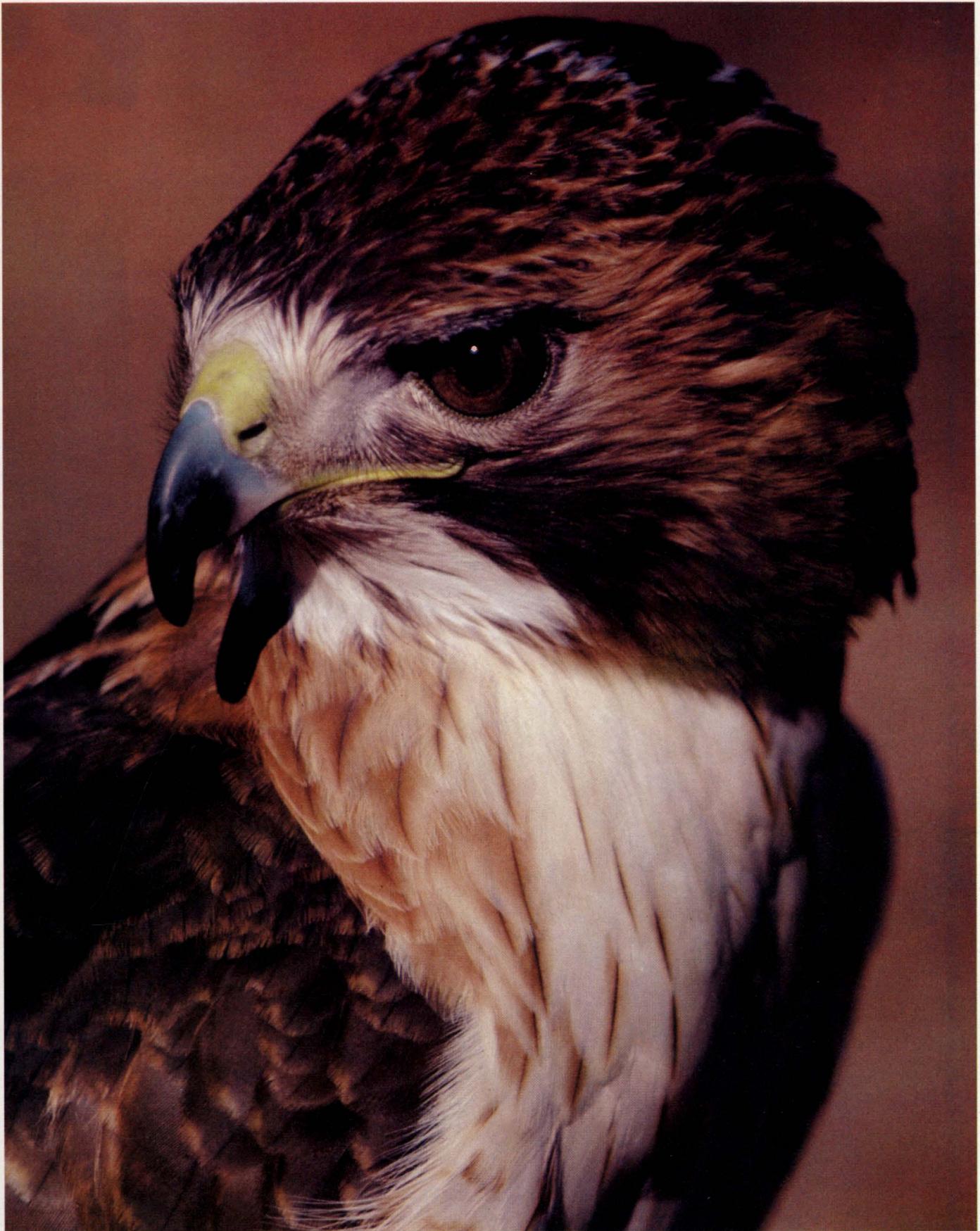
We handmade our hawk-handling equipment from patterns developed cen-

turies ago, but used modern materials like nylon, stainless steel and epoxy cement. The old books told us how Red would react to cold weather and changes in his diet, but we double-checked the results on a laboratory scale every day, then charted his progress on a graph.

Today, Red stands hard-muscled and perfect of feather on a high perch in our backyard. While he has never become a pet in any normal sense of the word, he has learned to trust us and will return to us voluntarily after flying totally free. We have watched him swoop from the heights to capture scurrying rats and mice in the fields near our home, and he has convinced us that he's good enough to survive on his own. But even after tedious months of careful work to bring the big hawk to perfection, he is fatally imperfect in one critical sense: he has lost the fear of man.

As you read this, the hardest part of our job will have begun. Unlike the gentle, patient steps we took to calm him and gain his trust, this phase will be short and the results will be immediate. Without damaging him or causing pain, we will convince him that man is to be avoided at all costs. In a day, two at the most, we will teach Red to fear us, and through us, all the men he will meet for the rest of his life. When that lesson is done, we will let him go. 🦅

*Kent Nickerson is the only master falconer in South Carolina and a coordinator of teleconferences at SC-ETV.*



ART CARTER

At  
Christmas,  
we  
**A**LWAYS...



*There is no typical Carolina Christmas, but the Lumpkins, like most Southern families, practice homespun rituals evolved from inherited traditions, a reverence for the holy season and a warm-hearted sense of fun.*

by Julie Lumpkin

The Lumpkin's loyalty to Christmas observances has been unswerving. Although Mom came from Madison, Wisconsin, and Dad was a native of Columbia, their individual family traditions blended well, resulting in Rock Hill Christmases shaped by a thoughtful discipline that heightened our anticipation of the season.

Mom, Dad and we eight children *always* went to the cedar-filled lot of friends who lived in the country and cut the fullest, greenest ceiling-scraper we could find. We *always* erected the tree on Christmas Eve and left it standing through the Twelve Days of Christmas to January 6. We *always* decorated the tree after the children's Christmas Eve service, in which half of us were involved, and before the 11:30 p.m. Eucharist service, in which the other half were involved. And Dad *always* made sure that Mom hung the first ornament as homage to the family matriarch.

When we come downstairs from our stocking surprises on Christmas morning, we were forbidden to look in the living room at the one object of our intense excitement, the tree. Before opening presents, the family ate breakfast, then gathered in the doorway of the living room and sang "O Come All Ye Faithful." We entered the room, circled up, held hands, and danced as we sang the English carol, "Around the Christmas Tree:" "Around the Christmas tree/Around the Christmas tree/Around the Christmas tree/We're dancing! With merry dance and song, we gaily skip along, around the Christmas tree/Entrancing." And so on.

Receiving presents was the most fun, not just seeing our gifts, but because Dad played Santa, reading the tags, sometimes with a clue about the contents, as he passed them out one by one. It was a long process with so many of us, but one in which family sharing was central to the festivities.

As rigid as these practices may sound in the present free-wheeling society, the structure my parents provided reinforced the intent of the Christmas celebration. As Episcopalians, both Mom and Dad observed the Twelve Holy Days of Christmas when they were

children, so our family did the same. Singing "O Come All Ye Faithful" derived from my father's childhood when the family of four boys would get their Christmas horns and march into the parlor, singing the carol in Latin, with their father leading the way. My Dad's mother infused her English background by contributing "Around the Christmas Tree," which they sang as they literally danced around the tree in the center of the parlor.

My Dad's brother, Henry Lumpkin, follows the family traditions more precisely than we, and with further embellishment. As our American version of the English roast pig—the turkey—is presented at his table, the family honors its appearance in Old English fashion. Holding ale glass aloft, they strike up a vigorous round of the Oxford carol, "The Boar's Head," alluding to ancient times when swine was a favorite sacrificial animal during beginning-of-winter pagan festivals: "The boar's head in hand bear I/Bedeck'd with bay and rosemary/And I pray you, my masters, be merry./Quod estis in convivio/Caput apri defero/Reddens laudes Domino." Grandfather brought the song from his Georgian heritage, which like South Carolina, was influenced by the English feasting and hunting traditions.

"Just like Dad did," Uncle Hank's family also lights a yule log Christmas morning, which burns all day until that night's final festivities. Then, the family roasts walnuts over the fire, drinks wassail or sherry, sings more carols, and "generally has a good time." The Yule log is another English custom my grandfather inherited from his Georgia boyhood. According to tradition, the log's warmth at the hearth was not only prized during the bitter winter, but the log itself was thought to be imbued with magical properties by pre-Christian peoples who revered the life-renewing agents in vegetation.

For my cousin Joe Lumpkin's family of Columbia, they were fortunate to have an imaginative and tradition-loving grandfather. In 1935 Joe's father, my great uncle Bryan, started a family tradition called Little Christmas. Resolving to ease the post-Christmas blues, Bryan brought the family together again for a small celebration on New Year's Eve. Now approaching its 45th year, four generations of Bryan Lumpkin's collect on this ritualistic meeting ground every year.

The evening begins with a religious ceremony, which includes reading the story of Christ's birth and the gifts of the Magi. The family sings a few "rousing" Christmas carols, then the family recorder, Joe's sister Jean, reads the minutes from the previous year's Little Christmas. Something unusual or humorous is always included in each year's account, which is kept in a book reserved for Little Christmas alone. This book is now a family

photographs  
by Phillip Jones

Rose Hill Plantation (left) was the scene of Christmas celebrations for South Carolina Gov. William H. Gist's family in the mid 1800s. Today the Union County home opens for the holidays

decorated in that 19th-century style.



keepsake, telling a kind of history of its members as they've grown up. At the end of the ceremony, the family dismantles the Christmas tree, which is respectfully removed as a close to the season. Then the family proceeds to a final holiday meal with festive food and decorations.

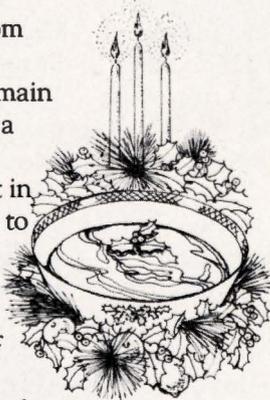
Bryan also enjoyed novelties, so he ended the occasion with an original twist. Taking a twig from the Christmas tree, he stapled it on to a card which said "Let nothing ye dismay." Cards were made for every family member, who made a secret wish, then threw the card into the fire. Since everyone is admonished to be charitable at Christmas, Uncle Bryan said this wish had to be selfish, "If you really want to make a wish fun, make it for yourself."

According to Joe, planning on Little Christmas every year makes the family reunite regardless of other plans. He considers the tradition important to family unity: "Traditions are strength. They are a touchstone within families—a building block to keeping good contact. Communications are such that families don't get together often enough. There's too little in the way of tradition for most families, don't you think?"

As early as 1929 the "dark rumors" that "something has happened to Christmas" inspired South Carolinian Julia Peterkin's "Plantation Christmas:" "I hear that . . . (Christmas) is changing from a time of merriment and carefree gaiety to a holiday which is filled with tedium; that many people dread the day and the obligation to give Christmas presents is a nightmare to weary, bored souls; that the children of enlightened parents no longer believe in Santa Claus; that all in all, the effort to be happy and have pleasure make many honest hearts grow dark with despair instead of beaming with good will and cheerfulness."

Peterkin called for a Christmas removed from "that thing called progress:" "Here where time moves slowly and few changes come in, we remain faithful to the old-fashioned ways which were a part of our childhood and of the childhood of those who were here before us, and we delight in defending them against anything which tends to destroy them or to lessen their brightness."

The Lumpkin family traditions claim not so much to be unique, but particular, in their constant observance over the years. Typical of South Carolina families who preserve their individual customs, we remain faithful, as Peterkin urges, to our childhood and the childhood of those before us. We acknowledge the need for these traditions because they define our individuality, our way of life, and our values—and in so doing, strengthen our family unity through time. 🍄



## *Despite the uniform commercial image of Christmas hawked by Madison Avenue wizzkids, South Carolinians celebrate holidays in ways as individual as their life experiences, their cultures and their tastes.*

by Nancy Coleman

**M**ost of us know what we want for Christmas. The carols and catalogs tell us. We want to rock beside a tastefully decorated fir while the Yule log and scented candles burn nearby. We want to sip eggnog or Wassail with beautiful cheerful loved ones as slow fat snowflakes fall past the window. We want to give rocking horses and quilts that we made ourselves, starting last January and working all year. We want to receive something personal, something luxurious, something we wouldn't feel right about buying. We want our children to be grateful, our bowl games victorious, our dinners ravishing, our parties under control and our church services appropriately inspiring.

We don't need a psychiatrist to tell us we may be disappointed. Despite the cards and carols, snow is hard to come by on Christmas Day in South Carolina. But lately it's been joined by money, gasoline and time as rarities—three biggies if what we want requires "malling" ourselves to a pulp at the next biggest city, preparing the *Southern Living* version of the traditional holiday menu, synchronizing visits with all sides of the family to see a maximum number of relatives at any given point, and so on. Then there's the additional frustration of passing in the grocery store that glut of guides to making, baking and decorating beautiful Christmases in five easy steps.

To achieve the commercial version of an "old-fashioned Christmas," it might cost us four-month's pay, four month's work and 400 miles, but we might stop to wonder how Madison Avenue knows so much about our holiday traditions. Chances are if we ask our parents and grandparents, they'll admit that they never went through such rigamarole. My own father said he just checked the rabbit boxes that Christmas morning, hoping to have trapped a few for dinner. When he went back inside, he was given a sock full of apples or oranges and some hard candy, things he never was allowed on other days. His mother might have made a fruitcake, and, if so, she gave him a piece, which he wrapped in a

handkerchief and ate little by little, making it last for days. And that was Christmas. No tree. No big meal. December was cold and travel was slow, so even company was rare. But Christmas was nonetheless exciting.

Most of us didn't descend from the plantations, but fortunately happiness isn't confined by red velvet bows in a package before a marble mantle on a varnished oak floor. "We got our Christmas from de earth," smiles Joe McClennan of St. Stephen. "Corn, collards, sweet potatoes, beans—that was a good Christmas."

Mention Christmas to Rosa Green, also of St. Stephen, and she slaps her knee and squeals: "Ooooweee!" In unimitable Geechee dialect, she says she got this beautiful picture last year and you must see it. Stooped to a right angle with the floor, she hurries over to her dusty china cabinet, and there, leaning against the varied cups and plates, stands a regular Christmas card. Three wise men riding camels to a gold star against a 5 x 7 dark blue background. "Peace on Earth," I read. "Dat what it say?" she asks. "Ooooooweeeee! That is some purty picture."

Though the holiday season is usually presented through the media as if we all have a middle class Anglo-Saxon background, this just isn't reality in South Carolina—probably less so today than ever before.

In 1978, there were approximately 25,000 Latin-Americans in South Carolina. Today, with the recent influx of Cubans, there may be more. The peak of their holiday season is January 6, when Three King's Day is celebrated with parrandas—guitar-strumming and congo-drumming.

Michael Fata, a Columbia hair stylist, is Catholic with an Italian ancestry. For him, Christmas is midnight mass on Christmas Eve, followed by his grandmother's dinner of eel, rather than ye olde turkey, oyster, boar or pheasant.

For Gerry Strumpf, director of orientation at the University of South Carolina, the 25th is a winter holiday, but it's Chanukah, the 25th day of the Hebrew month Kislev, corresponding to the English December 3. Over 2,000 years ago, a handful of Jews defeated hordes of Greeks to reclaim the Holy Temple in Jerusalem. Following their victory, they wished to light the Menorrah in rededication, but had no purified oil. Buried beneath the ruins, they found a jar of oil blessed by the High Priest. Though there was only enough for one day, they lit the nine-flame Menorrah anyway—and it miraculously lasted the entire eight days of dedication. Chanukah focuses on this miracle.

On Chanukah, Jewish children play with a dreidel, a spinning toy on which are written words



of the Torah. This toy was used to teach children when Torah study was forbidden by the Greeks. Because of the importance of oil to this holiday, latkes (fritters fried in oil) are traditional food, as well as dairy products. On a Chanukah morning they attend synagogue, and at night they light the oil or candle of the Menorrah, which is usually the only decoration. No work is permitted while the candles are lit.

"We sing, play games, give presents," Strumpf says. "There's a present given for each of the eight nights, usually starting with one big one. It might seem that Jewish children would miss a lot not

*Ornaments can reveal a family's personality and play a role in traditions. Some parents buy or make an ornament for each year of their child's life until adulthood, at which time they hand over the collection as a gift.*

*Expense and difficult craftsmanship aren't necessary to create simple, natural decorations, such as this pine straw ornament found in Columbia's Mann-Simons Cottage.*



celebrating Christmas, but for them Chanukah is like eight days of Christmas.”

December 26 through January 1 is the time of the African holiday Kwanza (Swahili for “celebration of harvest”). The holiday has been reclaimed by blacks in the United States as part of their pre-slavery heritage and seems to be catching on in the South. A feast called Karamu is held and symbols are used to represent principles like creativity and unity. Kwanza was celebrated in Columbia last year and in Sumter the year before.

Though not a religious observance like Christmas or Chanukah, Kwanza is an example of people following the traditions of their individual ancestry, rather than celebrating in the largely English or German ways decreed as standard by the mass media. Traditions might not be rooted in Europe, Asia or Africa; they may be uniquely American; or they may be uniquely Smith or uniquely Jones, having sprung up only two or three generations before the present. Customs may be as simple as my father’s traditional rabbit box, but their perpetuation makes the holidays more meaningful than a “tradition” adopted from a cookbook or magazine.

For years the family of Gail Wright, a wildlife department employee, has celebrated Christmas in their own special way and they plan to continue it. Each weekend after Thanksgiving, one of the four married sisters in the family has the rest of the family over for dinner. During the week before, the sisters, six in all, the four husbands, one brother and his wife pile hay in a dump truck and ride around town singing carols. One year they put the piano on the truck, only to realize after they got started that none of them had ever learned to play. On Christmas Day, they congregate at their parents’ tree at 5 a.m. to tear open packages left by Santa Claus, while father records the hysteria on film. After breakfast, they part sadly, to be grown-ups once again, with spouses and in-laws and children all their own.

Parents may have traditions stored in their holiday memories, which, if tapped, could be adapted to the present, making your family celebrations more meaningful. Eggnog and red stockings are great for grocery store Christmases, but if a family tradition is actually a hay ride, a rabbit box or an eel, then hay rides, rabbit boxes and eels it must be. Traditions are rituals involving the same game, the same dish, the same noise, the same place and time. They don’t have to be expensive or complicated. Shooting firecrackers, drawing names, dramatizing stories, toasting marshmallows or hunting quail—as long as it’s done together, year after year—it can become an irreplaceable tradition, an irreplaceable memory. 🐾

## *"The best smelling Christmas you ever had!"*

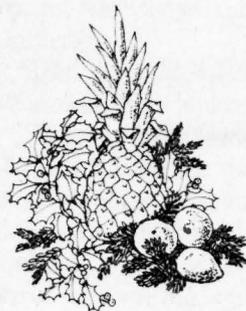
**P**reserving a beloved holiday tradition is now a full-time occupation for Carl "Blue" Miller of Walhalla, a member of South Carolina's booming Christmas tree industry. A tree-grower since 1969, Miller sought advice from the county forester on how to manage his land, formerly planted in scrub pine and row crops. When the forester suggested he plant it in Christmas trees, Miller said, "You're crazy! Who ever heard of plantin' Christmas trees?"

But a man who says Levi Garrett and a pair of vise-grips are standard equipment in his back pocket is not one to be daunted. Miller decided to give it a whirl. "I planted it in 1,000 cedar trees the first year. It put my boy through college." Miller got "deeper and deeper into it," and by 1971 knew, "I was in it for good."

With the aim to furnish a tree to the state capitol some day, Miller grows table mountain pine, Norway spruce, Scotch pine, white pine and cedar on some 35 acres of foothills countryside. With unsuppressed enthusiasm, he explains his operation: "Kids come out here that don't get to romp but once a year in the countryside. Bring the family out and find the tree that suits them." Miller also runs a tagging operation in November where folks come and select the tree they want early.

It's not just the operation that reminds people of the old days, but Miller's attitude about selling his product. "We don't want to rob people outta' their skull, cuz we wanta be fair, and we want 'em to come back next year." Miller also "gives away a bunch of trees" to every church in the area and some families who simply can't afford the expense. "This is the one time in my life when I can help. I don't feel guilty about helping those I choose to help."

Obviously taken with a product that sells itself, Miller instructs people who haven't had an old-fashioned live-cut tree for years. "Just mash those buds and it'll be the best smelling Christmas you ever had!"—J.L. 🌲



## *"When you had little of nothing, everything meant a lot."*

**I**n describing childhood Christmases in the now 100-year-old Piney Grove community in Lexington County, Ruby Schumpert reconstructs the life-style of the rural black in the twenties and thirties. An assistant professor of math at Benedict College, Schumpert was the third from the top in a family of nine children. Piney Grove was an industrious community composed of crop farmers and craftspeople, where Christmas was not only family-centered, but community-centered.

Schumpert recalls preparations made months in advance for the year's most festive occasion. With the appearance of wild blackberries and pokeberries in the late summer, fruit wines were made with spring water in a process that alternated setting and straining. The wines were stored in mason jars and jugs where they continued to ferment until Christmas.

Christmas was a time of hog-killing and fruitcake-baking in preparation for the large Christmas dinner. And, of course, Schumpert eagerly awaited a visit from Santa Claus. "No matter how impoverished," she says, "a child could expect little dolls, firecrackers, or a toy drum or horn" displayed in shoe boxes protected for this purpose "as if precious jewels." The boys and girls also hung their long-ribbed winter stockings, which were filled with candies and nuts and sometimes an apple or orange.

To salute the great day, firecrackers were fired early Christmas morning. The noise also signaled neighbors a mile or two distant, letting them know



## Santa Comes to Town

Because sharing is a central theme of Christmas, "created" traditions can be expressions of willingness to share joy in whatever form with the rest of the immediate world.

These expressions may take such shapes as R.E.L. Park's handmade 56-character Christmas scene, sprawling for the past 24 Decembers across his Columbia lawn, or as George Curry, in 19th-century attire, reading from the works of Charles Dickens to the public and, this year, to the prisons. Curry, secretary of the USC board of trustees, will give his fourth free performance this year at Longstreet Theater.

And few can top the tradition of Al and Audrey Long of Columbia, who have hosted a party for needy children for 25 Christmases since 1952. From under a tall Christmas tree, their Santa Claus finds one large and one small present labeled especially for each of the hundred or more children whose names are provided by churches and social services. Long, a traveling salesman, always comes home with a trunkful of balls or dolls or tea sets. They won't give second-hand toys.

Family "sharing" sometimes evolves into community traditions. Bill Kinney Jr., editor-publisher of the "Marlboro Herald-Advocate," tells of the annual Christmas Eve fireworks display provided until World War II by the Drake family of Ellerslie Plantation near Blenheim.

"This family also lit a 40-foot cypress Christmas tree in the center of 700-acre Drake's Mill Pond as a Christmas gift to the county," Kinney says. "What courting couple in Marlboro ever spent a Christmas tree season without visiting Drake's Pond to see the lighted tree through the moss-hung pine trees?"

"While the farm families are fewer than in yesteryear, the Drake Pond tree still glows and a mammoth fireworks display is held each Christmas season to help raise funds for the Blenheim Volunteer Fire Department. Annually, more than 1,000 come to view this spectacle."

Community celebrations can provide decorations, food and music that individuals and families can share, when they could never afford the experience alone. Just a few community celebrations around the state are:

\*November 15, Christmas Arts and Crafts Sales Show, Richland County Recreation Commission, Columbia, 754-5111.

\*November 21-23, Holiday Creations, Hickory Knob State Park, McCormick County, 443-2151.

their friends were up and ready to visit and share news of what Santa brought.

The custom of shooting fireworks is widespread in the South. Apparently crossing all regional and economic lines, firecrackers are used in Williamsburg and Charleston as well as mountain Appalachia and small towns. Another observance carried from England, firecrackers succeeded the muskets and cannons fired in honor of Christ's birth. The custom can also be traced to pagan Germans and Scots, who believed the noise would awaken sleeping vegetation and drive evil spirits away.

The other festivity that gained in importance for Schumpert was the Christmas Sunday School program at Pine View Methodist Church. The climax of the day's social events, the program was orchestrated by committees assigned to certain tasks. One committee selected the Christmas tree, a large holly—"the largest you could get in the church door"—and erected it in front of the pulpit. The holly, Schumpert said, was chosen "for the beauty." Another committee collected nickels or dimes from the children, then went to town to buy presents at the five and ten. Handkerchiefs, socks, wash cloths and scarves were just some of the store-bought items tagged for each child. Rather than giftwrap, they hung the gifts from the branches like ornaments. Finally, another committee organized the children's service of recitations and songs.

Although Schumpert has long since left Piney Grove, she says her Christmases are still a strong blend of secular and religious ritual. "I think the good old days were better," she says. "There's not the same feeling of warmth in the gifts. And you never saw that much food in your life except at Christmas. When you had little of nothing, everything meant a lot."—J.L. 🐾

*For Christmas, Ruby Schumpert's family prepared locust beer from wild persimmons and locust pods. This unfermented drink is featured above with other holiday foods at the Mann-Simons Cottage, an example of a turn-of-the-century black home.*





\*November 23, Holiday Flower Shop Open House, local florists, Myrtle Beach area.

\*November 30, Governor's Annual Carolighting Ceremony, State House, Columbia, 765-8588.

\*December 3, Sumter Holiday Tour of Homes, 2 to 9 p.m., Garden Center.

\*December 4-7, Tour of Designer Home, Greenville, 242-0276.

\*December 5-7, Singing Christmas Tree, Memorial Auditorium, Greenville, 242-6450.

\*December 5-6, Holiday Fair, 10 a.m. to 10 p.m., Textile Hall, Greenville.

\*December 6-7, Christmas at the Joseph Manigault House, 9 a.m. to 5 p.m., Charleston.

\*December 8-13, Christmas at the Verdier House, Beaufort, 524-6334.

\*December 8, USC Christmas Music Festival, Carolina Coliseum, Columbia.

\*December 9, "Christmas on-the Green," 5:15 p.m., Heritage Green, Greenville, 242-1250.

\*December 9, Sing-along "Messiah," 8:15 p.m., McAlister Auditorium, Furman University, Greenville.

\*December 9-12, Annual 19th Century Christmas Candlelight Tours, 5:30-8:30 p.m.: Robert Mills House, "A Christmas Soirée;" Hampton-Preston Mansion, "A Children's Christmas Eve;" Woodrow Wilson Boyhood Home, "A Christmas Musical;" Columbia.

\*December 12, "The Nutcracker," Greenville Concert Ballet.

\*December 13-14, Christmas Open House, Rose Hill State Park, Union.

\*December 18-19, "Firebird" and "Graduation Ball" ballets, Carolina Ballet Theatre, 4 p.m. and 8 p.m., McAlister Auditorium, Furman University.

\*December 22, Christmas Festival of Lanterns, Memorial Park, Sumter, 773-7267.

These are but a few of the holiday events planned around the state of South Carolina for this year. If your community, your family or you alone have established an interesting holiday tradition, public or private, please let us know about it by writing *South Carolina Wildlife*, P. O. Box 167, Columbia, S.C., 29202.

—N.A.C. 🐾

*A community tradition since 1966, Greenville's Singing Christmas Tree is scheduled this year for December 5-7 in Memorial Auditorium.*



# Somebody Else's Turkey Tastes Better

By Robert Ruark

Some of us may remember Christmases like those of Ruark's youth, but for those too young, he paints a glorious scene of smells, flavors and joy that everyone can share. This story is part of a chapter in Robert Ruark's classic autobiographical book titled "The Old Man and The Boy."

*You would come in half dead and full froze and a blast of heat and the intermingled scent of food and festivity would smite you in the face.*

**O**ne of the great things I remember about the grown-ups who raised me was that when Christmas came around they never gave me anything I needed. By "Needed" I mean to say I knew a kid next door who was always getting something worthy, like a new pair of shoes or a school suit, which may be practical and fine economy, but I never saw any romance in a roof on a house. A house belongs to have a roof, and is not supposed to get one for Christmas. When a boy gets a school suit or a new pair of shoes, they aren't a gift. They're a roof on a house.

Fair times or foul, what I got for Christmas and birthdays was a luxury, even if it was only a pocketknife worth fifty cents. Most of the time it was considerably more, because that was before the Big Depression, and everybody had some money to spend on fun. By "everybody" I suppose I mean my own family, because the early Christmases started out with air guns and bicycles and such, and wound up with hunting boots and knives and scout axes and punching bags and shotguns. I reckon the most memorable of them all was the one when I got a blue Iver Johnson bicycle and a shotgun.

It was a lot of fun prowling the ten-cent stores to buy notable gifts for the grown-ups, and it was a lot of fun waiting for Santa Claus to bring you something you'd been hammering at the family about for six months, but the real fun didn't start until afterward, around the New Year's, when you were still free from school and could really concentrate on using the loot you'd found under the tree.

Christmas itself was pretty well cluttered up with grown people—visiting aunts and cousins and stuff, largely city people come slumming to the country—and a fellow was expected to hang around with a clean face and decent air of raising until they all cleared out and let you revert to dirty fingernails and your normal lack of hair comb. Then was when the pure fun started.

The holiday season was pretty special for me. As soon as school let out, about the twentieth, I took off for the little town where the Old Man lived, and I didn't get back to my own city until the day before school started again. For better than two weeks I lived a life like I imagine it might have been in the old English-squire days, when they hung the halls with holly and it took three men and a boy to haul in the Yule log.

I don't remember any pigs stuffed whole, with apples in their mouths, but I do know that certain expeditions had to be made by the Old Man and his willing assistant, which was your ob't sv't, and these expeditions lasted right on through the holidays.

**F**irst, there was the oyster business. Holiday time was oyster time, because there were plenty of R's in the months, and the oysters were fine and firm and fat, as big as cucumbers, with their gray-and-white shells the color of a pintail duck and the big deep-cut wrinkles running down to the scalloped edges. Maybe there isn't much romance to an oyster unless you find a pearl in one. To me oysters even without pearls are romantic.

The Old Man and I used to go out in the skiff, with the tongs, on a cold gray day when the ducks were scudding low and sitting cozy around corners of the marsh. We would take the guns, of course, because there would always be some fool duck that would wait too long to take off, and whichever one of us wasn't poling or rowing the skiff would grab a shotgun off the gunwale and haul him down. Once I saw a little animal with a head like a rat swimming, and the Old Man said, "Shoot him!" and it was a big boar mink. We skinned him out and stretched him and salted him, and the man in town gave me two dollars for his hide.

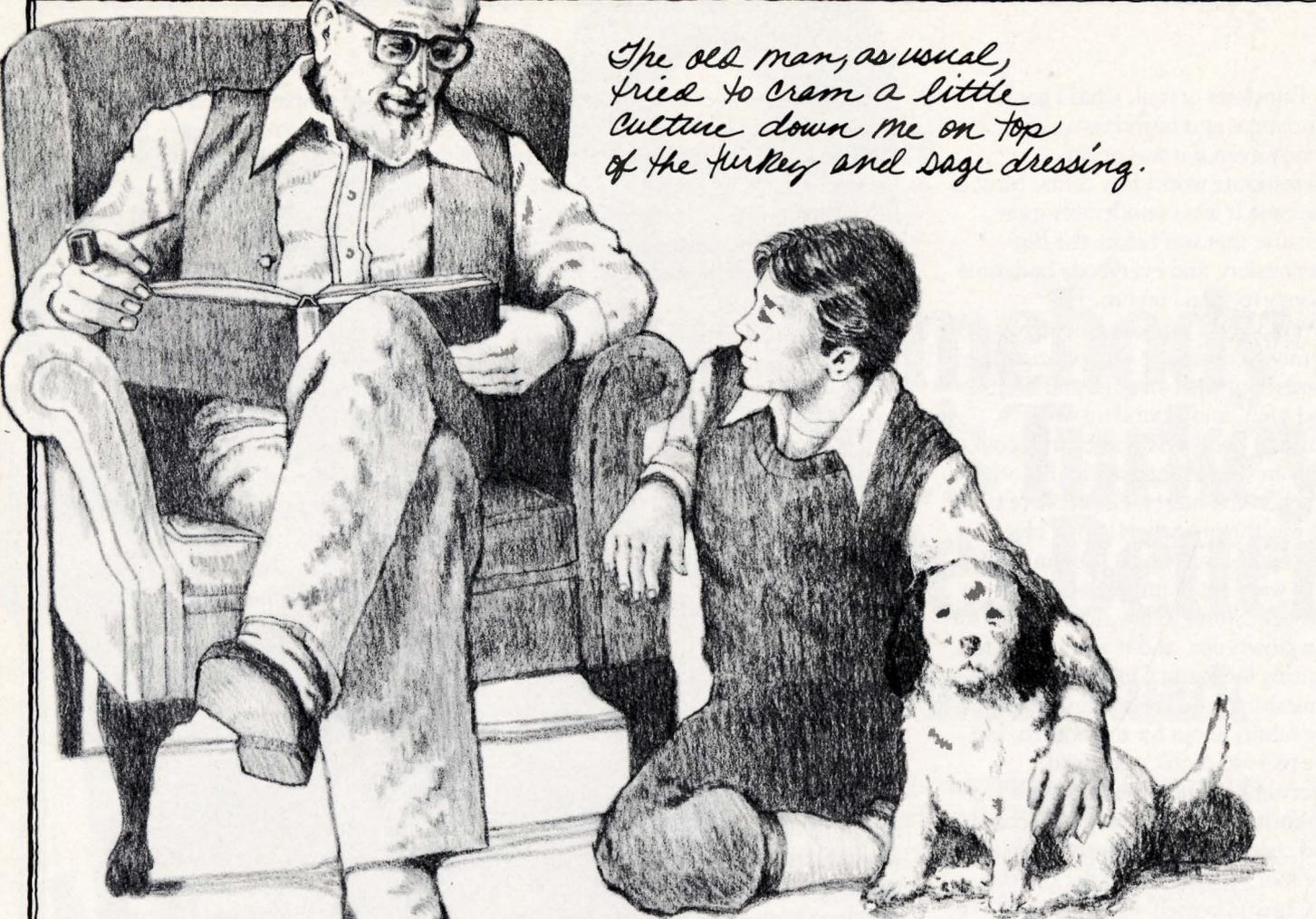
But you would go out over the wind-stirred gray waters, with your nose and ears bitten red by the cold, and finally grapple along until you tied into a likely clump, and up they'd come, muddy, and you would swish the full-loaded tongs back and forth in the water until most of the mud washed off, so as not to muck up the boat too much. When you had half a boatload, you poled her back, and by this time I would have had the knife out and a couple of dozen opened.

It was very simple to open those oysters. You just took the heavy back of the knife blade and crushed the thin serrated edges of the oyster, stuck the point of the knife in close to the muscle, gave your wrist a little twist, and bong, there was your oyster, lying salty and clean on the shell and still dribbling cold briny water. That water was chilly enough to numb you. While I have eaten a lot of oyster since, with a lot of contrived sauces, I don't remember any oyster tasting as good as one of those big ones that came streaming straight up out of the mud.

Getting oysters was one of the expeditions. The Christmas-tree expedition was another. They tell me people buy Christmas trees now. We scouted a cedar tree for a year in advance. It had to be just the right size and shape and hard enough to get at so that nobody else was apt to swipe it out from under your nose. Mostly, the whole family—Ma, Pa, the Old Man, the grandmas, and the dogs—all piled into the car and went to get the tree. It was a special event.

You couldn't go very early, because the tree had to endure until after New Year's. So we went about two days before Christmas; and if I had spotted the tree, I usually tried to locate it deep in a big swamp or away off in a gallberry bay so that I'd have an excuse to take a gun in case a squirrel or a deer attacked me.

**T**he mistletoe and holly procurement was my special province. Mistletoe had to be climbed after, if it was any good, and somehow I never went after any mistletoe that wasn't hung away up in the mizzen of a cypress as big as a California redwood. You would see the little white waxy kissing berries against the dark green leaves, parasiting happily up there in the clouds, and this was fine, because it was something a boy could do that a man couldn't do. I would take a knife



*The old man, as usual,  
tried to cram a little  
culture down me on top  
of the turkey and sage dressing.*

in my teeth—of course in my teeth, because I was Mr. Israel Hands, straight out of Treasure Island—and I would shoot up the rigging like a monkey and cut the mistletoe and throw it down.

The holly berries were easy to get at, since they grew on a low bush, but somehow the sight of those glowing red berries against the dark fleshy green of the sharp-bristled leaves made your heart jump high. When you finally got all the stuff home and the women went to work with it, your house smelled just like a good woods camp from the smell of the cedar, and the clean, late-afternoon swampy smell of the holly, and the smoky spice coming from a big oak or hickory log with the resin-dripping

lightwood kindling crackling under it.

. . . Miss Lottie, my grandma, was a fair hand with a stove, and between the smell of what she was cooking, the smell of the evergreens, and the smell of the strange Yule specialties that you never saw at any other time of the year, the house literally trembled with odor.

Miss Lottie would have had a couple of big fruit cakes under way since along about September—cakes as big as mill wheels, full of dark green citron and fat raisins and candied cherries and juicy currants, and soaked in enough brandy to get you giddy on a slice of it. The fruit cake lasted forever, because the Old Man would slip in and sluice her down with a fresh dollop of brandy from time to time, and if you kept her shut up in a tin box she stayed moist until June.

**W**e had the three kinds of cake around Christmas—the black fruit cake; another kind of cake they called Sally White, which was bond cousin to the mahogany-dark one; and the pound cake, which was made out of angel's-down and vanilla icing that broke off in wonderful slabs.

For the holidays you had oranges, which never appeared at any other time, and whose oily hides added an extra pungency to the society of odors. You had the big brown-purplish Malaga grapes and fist-sized clusters of plump wrinkled raisins, sticky and sugar-sweet, as big as taw marbles. The Old Man used to pour a little brandy over the raisins too, and then set them alight, and the great game was to see who could dart a hand in and come out, unsinged, with a decent clump.

**T**hen all the dishes were filled with nuts—English walnuts, shelled pecans and the special treat, the greasy, plump white Brazil nuts . . . Flanking the nut dishes were plates full of store-bought candies: little clover-leaf-shaped mints in various bright colors and striped hard candies with nasty soft centers that didn't taste very good but looked real pretty.

You cannot get through a holiday menu without devoting some tender thought to the ham. This was pig that needed no apple in its maw—very special pig. My household featured three kinds of ham. One was a hard country ham, as salty as the sea and deep red and tough-tender, which had been hanging in a smokehouse since Gabriel was an apprentice trumpeter. This was what you had fried in the morning, hot and salty with the grits. Then there was a corned ham, blond in color, that was stuck full of cloves. And finally there was that light pink one, a Smithfield, but not hard, because the slices curled up at the edges and crumpled at the corners and were streaked with rivers of soft white fat.

The smells of all this stuff mixed with the wild turkeys that were cooking slowly, being basted by old Galena, the cook, and the saddles of venison that somebody was dripping wine and jelly onto, and the wild ducks taking it easy in the bake pan with carrots and onions and slices of apple—and perhaps the quail frying for the breakfast meal, to help the

ham along. There was a dessert the Old Man called raisin duff, an old English seagoing dish served with a hard sauce that had enough brandy in it to arouse the adverse attention of the Anti-Saloon League.

Each day of the holiday fetched a fresh excitement: testing the new gun, breaking in the new boots—the new arch—and getting the feel of the new mackinaw with the wet-proof game pocket. It all had a sort of electricity to it.

The men took extra time off and special hunts were arranged. If I minded my p's and q's, sometimes I would get asked to a deer drive or a coon hunt in the cold, frosty woods, or to go out with Tom or Pete to shoot some tame hogs run wild. There were quail to hunt and ducks to shoot and squirrels to tree, and every day of the holidays it was the same—wonderful.

You would come in half-dead and full-froze, and a blast of heat and the intermingled scent of food and festivity would smite you in the face. You went over and turned your tail to the fire, and you heated up your hands so that the hot water wouldn't torture them when you washed off the muck. Then you kicked off the new boots and put your tired feet in some sloppy slippers and crawled into a pair of softer pants and went to the table and ate dedicatedly until you had consumed more food than a battalion eats these days. You ate it all, and then came back for more. The

butter-soggy hot biscuits, the size of quarters, were endless; the pickled artichokes and the watermelon preserves were only condiments. You dragged yourself up from the table by main force, but still had the foresight to grab a handful of raisins and a pocketful of candy in case you got a mite peckish in the night. Why I didn't founder myself I will never, never know.

The Old Man, as usual, tried to cram a little culture down me on top of the turkey and the sage dressing, but I don't think I really absorbed much. He hit me with A Christmas Carol, but got nowhere because the Messrs. Scrooge and Cratchit and Tiny Tim were really not living in my league. . .

*From "The Old Man and The Boy" by Robert Ruark. Copyright 1953, 1954, 1955, 1956, 1957 by Robert C. Ruark. Reprinted by permission of Holt, Rinehart and Winston, Publishers.*

*...between the smell of what she was cooking, the smell of the evergreens, and the smell of the strange (yule specialities)..., the house literally trembled with odor.*





## Readers' Forum

### Coastal Awareness

Having been a long-time subscriber to your magazine, probably since its inception, I can remember one time only that I wrote you a congratulatory letter. You have deserved more.

Your August issue on the coastal country of our state prompts me to write again. It is one of the most comprehensive, interesting and informative issues on a subject that I have ever seen.

Having, on two occasions many years ago, been awarded recognition for my work as chairman of the original "Charleston Harbor Water Pollution Control Committee," some of the articles bring to mind some of the research work that we did.

Being at heart an "outdoorsman," the issue creates to some extent a feeling of nostalgia, but more so it brings to me many happy memories of what used to be. I say this advisedly because, having been blessed with my "three score and ten" plus some, I am not as able to partake of all the beauties and activities that I once did.

Again, congratulations on this splendid piece of work by you and your people.

Chris W. Mathewes Jr.  
Charleston

Thanks so much for the coastal issue of *South Carolina Wildlife*. It is beautiful as well as interesting.

I have just spent a week at Myrtle and enjoyed the gulls and sandpipers and especially one evening when 50 or more big brown pelicans flew low overhead. That was a thrill!—flew in V formation.

Hannah White  
Charlotte, North Carolina

The July/August issue of *South Carolina Wildlife* is truly outstanding. Not only does this issue educate one on the unique resources provided by our coast, it stimulates pride in our state.

We, as South Carolinians, enjoy a comparably unspoiled coastal area. More articles, such as Carol Speight's article on the survival of coastal life, are needed in order to keep us aware of our increasing problems. Ms. Speight's ability, as usual, exudes a perceptive, knowledgeable and well-researched article.

If only explored to a greater extent, I believe the state would be amazed at the number of people who would be willing to pay to visit our undeveloped areas. These fees could be used to offset the cost of acquiring and maintaining such areas. Recreational development does not have to mean roller coasters and putt-putt golf courses.

Additional praise is in order for Dennis Gunter on a job well done. His Field Trip section provides a valuable environmental tool, enjoyed by young and old alike. Learning is understanding and understanding can be fun! I would like to see Field Trip expanded for use in our public school system.

Gloria C. Douglass  
Columbia

Let me take this opportunity to once again commend you and your staff for your excellent publication, *South Carolina Wildlife*.

We were very pleased with this latest issue, July and August, featuring the coast. The many aspects of this fine region of our state were presented in a very forthright and unbiased manner.

It was especially appropriate for the article, "Coastal Places Receive Grants" by Janet T. Lamb and the photographs of Brookgreen Gardens to appear side by side.

Gurdon L. Tarbox Jr.  
Director  
Brookgreen Gardens  
Murrells Inlet

We really enjoyed your July-August issue dedicated to the coast. As national coordinators of 1980—Year of the Coast, we are working to increase the public's knowledge of the value and fragility of our nation's coastline. Your Year of the Coast issue has done much to spread the word. Its range of coverage from wildlife to coastal hobbies and sports, to tourism, and to coastal and barrier island dynamics explored the spectrum of activities associated with our coastline. This diversity of our coastal lands is the very reason why they are so vitally important.

As your articles explain, we depend on the coast for food, for recreation, for storm protection, and for its peacefulness and beauty. Because of its multiple uses and the inevitable unpredictability of its boundaries, we must be aware of the consequences of our actions as we seek to provide the best possible form of coastal management. Without public awareness of the delicate nature of our coasts, irreversible decisions to develop or otherwise alter them will be made.

Thank you for taking the time and effort to bring the wonders and problems of the coast to the attention of your readers. We hope they will continue to appreciate the truly magnificent South Carolina coast and strive to protect its natural beauty. They should also be honored to receive a magazine as beautiful and as enlightened as *South Carolina Wildlife*.

William G. Painter  
Executive Director  
Coast Alliance  
Washington, D.C.

### Credit Due

Where is mention of Philip Wilkerson, who was in charge of South Island for 11 years? He did all this planning for this wildlife preserve for Mr. Yawkey and did a great job. No article on wildlife in that area could possibly be complete, accurate or even correct without credit being given to Mr. Wilkerson. Let's state the facts!

Monica O. Devereux  
Andrews

### Golden Days

I am writing about your article on the gold mines in South Carolina—the Haile Mine in particular.

Last week we went on our vacation and visited some friends in Savannah. This man gave me his *South Carolina Wildlife* with this article ("Legacy of Gold," May-June 1980, p. 35) in it. I talked my husband into going on up to Kershaw where we visited the Haile Mine. It was a hot 101° in Kershaw and probably above that at the mine site. We wandered around and I took many pictures of the place. I came across one of the concrete structures and it had something carved in the stone. I went to the car and got a crayon and a piece of paper towel and traced over the letters. They came out—G. HAILE. Underneath the word FORD, OHIO—evidently this probably was the company that built the original structure.

My great-grandfather was a Cochran and he married three Hailes—two sisters and a cousin. They lived in South Georgia, but their parents had migrated from Haile Gold

Mine, S.C., where they were born. Maj. J. D. Haile was the two sisters' father and probably this G. Haile on the stone was his father.

I certainly hope it was cooler the day you visited the mine. We located a church on the side of the hill with the coolest water at the back faucet. It was a welcome sight.

Mrs. Ann Fressell  
Park City, Florida

## Praise from Okinawa

I first received my *South Carolina Wildlife* magazine as a gift from my father. I truly love the outdoors and the pleasure it has to offer. I really miss it. You see, I am a Marine presently stationed in Okinawa, Japan, and my father sent me a subscription to keep me informed on what was going on in South Carolina while I was overseas. Your magazine is one of the *Best* ever published, because of the in-depth information on the conservation of our state's wildlife. The photos and editorials are fantastic! I'm looking forward to getting back to South Carolina to enjoy the "Great Outdoors" once again. Keep up the good work!

CPL. Joe B. Honea, U.S.M.C.  
Okinawa, Japan

## Snails 1, Clams 2

I would like to bring to your attention an error in your July-August 1980 *South Carolina Wildlife*. The error appears in the article "The Shell Game," page 16. I believe bivalves are clam-like, and univalves are snail-like. This error could create some misconceptions among your younger readers.

Arthur Maybin  
S.C. Geological Survey  
Columbia

The July-August issue of *South Carolina Wildlife* had many interesting articles in it as usual.

Being a marine science junior at Coastal Carolina College and being an active conchologist, I was very pleased to read the article "The Shell Game" by Allen Shoemaker and Bill Weekes. I have been collecting, cleaning, identifying and storing shells myself since I was six years old and picked up the first shells on a beach in Holland, my home country. After finishing at Coastal, I hope to get into graduate school and I will write my dissertation on some aspect of malacology.

Again, I enjoyed reading the article "The Shell Game;" however, I found one error in the listing of "common South Carolina shells" (page 16): It is the univalves that are

snail-like and the bivalves that are clam-like.

I usually read your magazine at the home of one of my professors, Mr. J. Branham. I hope that one of these days my studies budget will allow me to get a subscription to this excellent magazine.

Silvard Voal  
Conway

## Beyond Criticism

I can hardly believe some of the notes you receive criticizing *South Carolina Wildlife*. My husband and I think it is an excellent magazine. Your photos are beautiful and your writings are in excellent taste. It far surpasses *North Carolina Wildlife*. We've only subscribed to *South Carolina Wildlife* for two years, but I don't see how it could be any better, as some say it was in years past.

May you have continued success.

Linda C. Spivey  
Whiteville, North Carolina

## 3-Mile Limit

The coast issue is sensational! Has tremendous eye appeal and a lot of meaty articles. Nancy Coleman's short short is delightful. All the feature articles (and fillers) are entertaining and informative.

I have to point out a tiny error that crept into the Wayne Beam piece during your cutting. First column, halfway down: The paragraph about jurisdiction seems to say that the state's jurisdiction has been extended to 200 miles for minerals, etc. No. Beyond three miles, the jurisdiction is federal. It is true, however, that anything done in that area that might affect the state's territorial rights must be correlated with the Coastal Council. The matter is not important (except to lawyers and bureaucrats), but I wanted to mention it in case you hear from somebody involved in these matters.

Congratulations on an excellent job!

William M. Stephens  
North Myrtle Beach

## Concern Over Marina

I am a property owner in Hermitage Grove, Murrell's Inlet. I have been terribly upset that the South Carolina Coastal Council has granted a permit to Mr. Ralph Triska to build a marina in our area or any other place in South Carolina that would damage a beautiful area.

I cannot thank South Carolina Wildlife enough for the article about this marina in the July-August magazine. I hope many residents of our beautiful coast will be inspired to join those of us who are trying to reverse this action of the Coastal Council to write their senators or any organization that opposes al-

tering our beautiful inlet.

*South Carolina Wildlife* is one of the greatest magazines anyone will ever have in their home. I share mine with many folks.

Ruthalee Hook  
Murrell's Inlet

## Interest Revived

I was about to let my subscription to *South Carolina Wildlife* run out, and I suddenly realized it was the most interesting magazine I get, and I take quite a few. My brother-in-law, Mr. Charles Most, lives in Columbia of your wonderful state.

My wife and I get down there about once a year. We visited Myrtle Beach for the first time about four years ago. We loved it very much. I am re-subscribing and will continue to do so.

Mr. and Mrs. Kenneth V. Bell  
New Carlisle, Ohio

## Content Lacking

*South Carolina Wildlife* is a fine magazine as is evidenced by its many awards. However, because the content of the magazine has changed so drastically from the time I first subscribed, I no longer find it satisfies what I want in an outdoor magazine. It has become more of a *National Geographic*-type magazine than a wildlife magazine.

Thomas E. Godfrey  
Moore

## Alabama Turkeys

This past spring a good friend of mine from Charleston, Ben Hagood, sent me a subscription to your magazine. Please let me congratulate you on such a fine publication, the copies of which have brought me a lot of pleasure.

In your March/April issue, there was an excellent article on wild turkeys which I enjoyed thoroughly. One part of the article, where an either-sex season is mentioned, disturbed me. As you may be aware, the state of Alabama has built its turkey population to very substantial numbers because of its regulations and because of the interest of private clubs. The shooting of hen turkeys is absolutely prohibited and always has been. In addition, it is against the law to shoot turkeys with a rifle. Most hunting clubs prohibit the hunting of turkeys from tree blinds, shooting the birds off the roost or when flying. The sport in turkey hunting is calling the turkey rather than the actual kill and I submit to you that if you abide by all these very reasonable rules, and don't hunt them in and around food patches, the turkey population will prosper.

T. A. Horst Jr.  
Mobile, Alabama

# field trip



## Christmas Trees

Five different kinds of trees are used in South Carolina for Christmas trees: white pine, Scotch pine, balsam fir, black spruce and eastern red cedar. All of these are members of the pine family with needle-like leaves that remain on the tree all year long.

The most popular are the white pine, the Scotch pine and the eastern red cedar, but some folks prefer the spicy odor the balsam fir brings into the house.

Although some families still go into the woods and cut the tree from their land, most of us have to rely upon "Christmas Tree Farms." The trees on these farms are planted, cultivated, pruned and cut just for Christmas. After a tree reaches a height of three to seven feet (which takes about 10 years), the tree is cut and wrapped in burlap or plastic mesh to be shipped to the familiar Christmas tree lots. Most of the

Christmas trees we buy are grown right here in South Carolina. Other trees like the balsam fir and black spruce, which require cooler climates in which to grow, come from the mountains of North Carolina or other states as far north as Michigan.

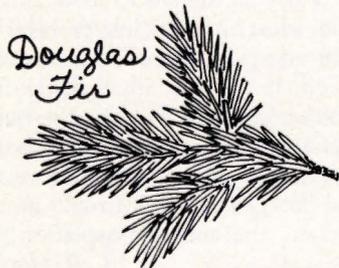
Instead of discarding your tree after Christmas this year, you may want to purchase a live tree from a tree nursery or garden store. You can set the tree in a large bucket with water, trim it as you would a cut tree, and then plant it in your yard for birds and other wildlife. You may want to collect several discarded trees and build a shelter for birds and other wildlife during the coldest months of the year.



Eastern Red Cedar



Balsam Fir



Douglas Fir



White Pine



Scotch Pine



Black Spruce

## Wildlife Trees

Another present for birds at Christmas would be a Christmas tree decorated with food ornaments that can be eaten. You may find the trees available at little or no cost a day or two before Christmas.

The following ornaments are simple to make and will invite different birds for a Christmas feast.

### 1. BIRD FEEDER

Materials:

4" aluminum foil pan

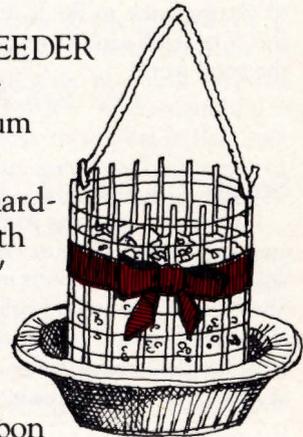
½" mesh hardware cloth

8½" x 4"

red paint

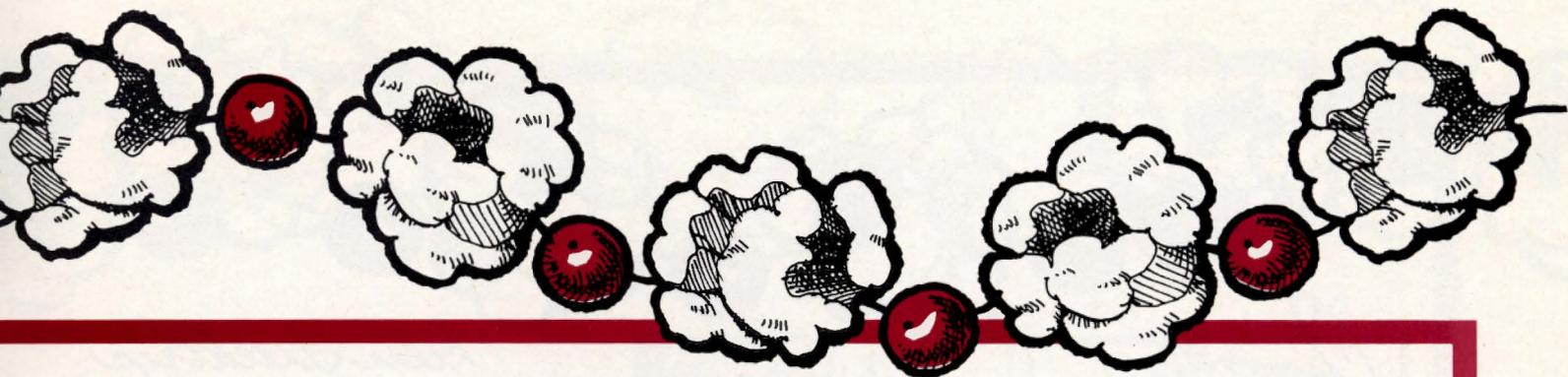
red pipe cleaner

12" red ribbon



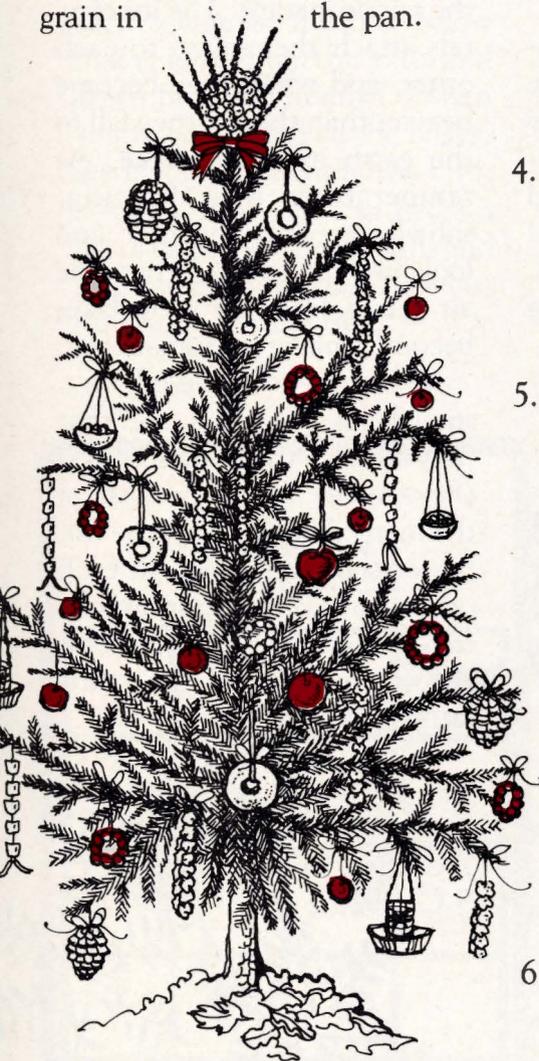
Directions:

1. Make a cylinder of the hardware cloth. Place the cylinder in the foil pan and push the ends of the wire through the bottom. Bend the wires to hold the basket in place.



2. Paint the feeder bright red. Run a red ribbon around the hardware cloth at the center and attach the red pipe cleaner for a hanger.

3. Fill the basket with one-inch squares of suet and place grain in the pan.



*A Christmas Tree for Wildlife*

## 2. POPCORN STRINGS

String popcorn in 24-inch lengths with heavy-duty thread and hang vertically in 12-inch loops. Wire the popcorn string to the tree.

## 3. MARSHMALLOW STICK

String six marshmallows on a small-sized wire, tie a bow at the bottom and hang vertically on the tree.

## 4. DOUGHNUTS

Decorate doughnuts with a sprig of holly, loop a red ribbon through the hole in the doughnut and hang to the tree by wire.

## 5. ORANGE BASKET

Make three holes at equal distances around the edge of half an orange or grapefruit shell. Push the ends of a 12-inch pipe cleaner through two of the holes and push the end of another pipe cleaner through the third hole and twist it around the center of the first pipe cleaner. Leave the remaining length for a hanger. Fill the shell with cranberries, nut meats, peanut butter and seeds.

## 6. PINE CONES

Twist a small gauge wire around a pine cone, fasten and leave a length for hanging. Spread peanut butter in the crevices of the cone and hang from the tree.

## 7. TREETOP ORNAMENT

*Materials:*

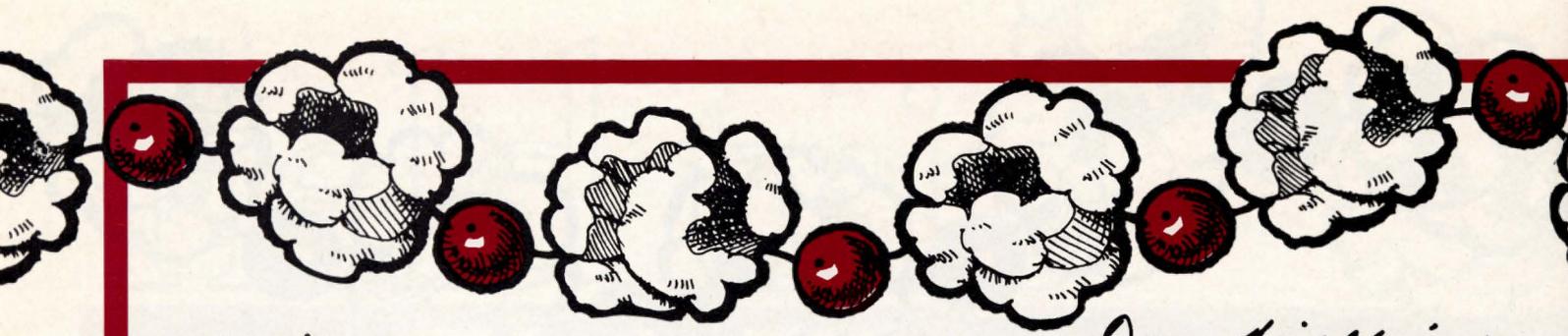
- six-inch styrofoam ball
- stalks of millet and sorghum
- green gumdrops
- peanuts (in shell)
- coat hanger
- 3-foot dowel
- ½-inch toothpicks

*Directions:*

1. Mount the styrofoam on the dowel, reinforcing around the dowel with glue.
2. Push wire through the peanut shells, using eight to 12 peanuts. Use as many wires as needed and vary in length. Glue around the wire where it goes into the ball so that it will remain steady.
3. Force stalks of millet and sorghum into the styrofoam ball.
4. Cover the surface of the ball with green gumdrops, which can be held into place with toothpicks.
5. Wire the dowel to the top of the tree.

*Doughnut Ornament*





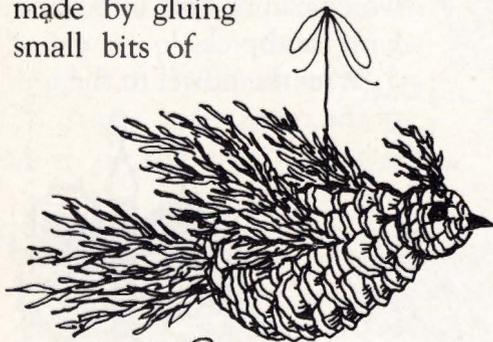
## Christmas Decorations from Nature

This Christmas, instead of buying ornaments and other decorations from the store, try making your own from natural materials, like pine cones, plant seeds, leaves and twigs. Some materials may have to be gathered in the summer or fall. Other materials may be found at any time of the year. If it is too late to collect some of the natural materials mentioned here, start collecting next summer so you will be ready when next Christmas arrives.

Here are some Christmas decorations that you may want to make from materials found in nature.

### 1. PINE CONE BIRD

Attach a smaller pine cone to a larger one with glue. The wings, tail and feathers can be made by gluing small bits of



Pine Cone  
Bird

cedar between the cone scales. The beak is a painted twig and the eyes are beads. Hang with nylon thread or fishing line.

A similar bird can be made by substituting tin foil to make the wings and tail.

### 2. PINE CONE TREE

A pine cone tree for a window, door or tree can be made with any size cone. Use spray paint or glitter to add color. Sequins or tiny beads may be glued in place and bright ribbon and ivy sprigs can be used as a base. Hang with thread or fishing line.

Pine cone  
tree



### 3. DRIFTWOOD CENTERPIECE

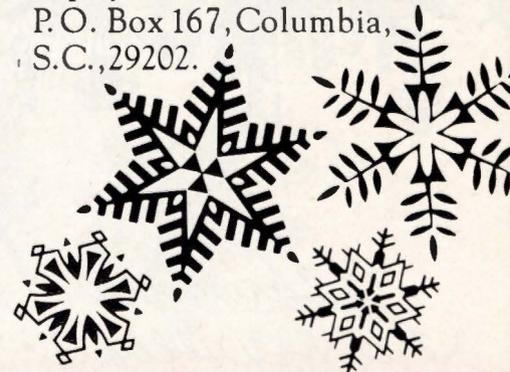
If you found a piece of driftwood at the beach this summer, use it as the base for a unique and colorful centerpiece. Collect some pine branches, ivy, holly or clubmoss and place around the driftwood to add color. A large pine cone painted white will add more interest to the centerpiece.

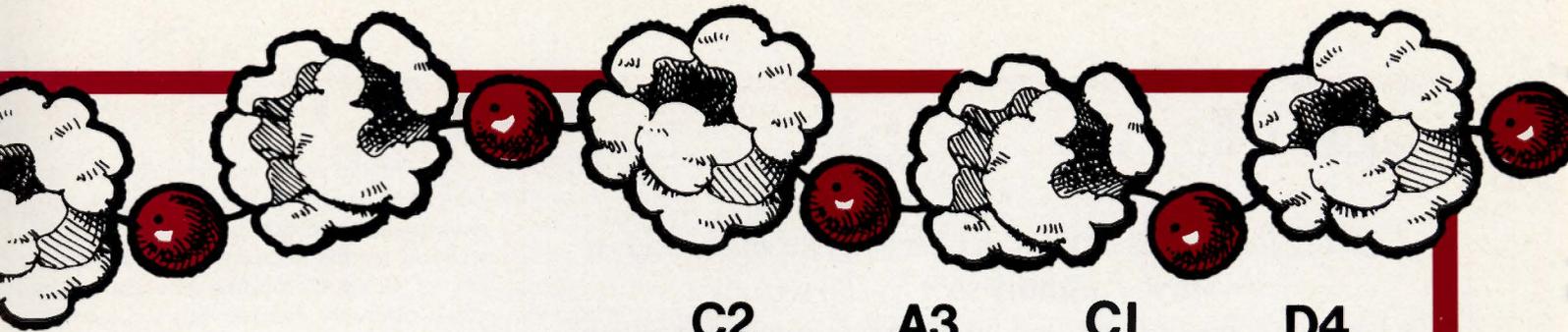
## Dear Fieldtrip: How are snowflakes formed?

Snowflakes are formed when water vapor (water mixed with air) freezes into ice crystals without first passing through the raindrop stage. The ice crystals attach themselves to each other, and when they become heavier than the air, they fall to the earth as a snowflake. At temperatures near freezing, snowflakes join together and look like fat coins. When the air gets colder, the snowflakes become smaller and smaller.

When you look at snowflakes, you will see that they all have the same six-sided (hexagonal) shape. Because of the many different ways the frozen crystals can attach to each other, however, each snowflake has its own individual pattern. Below are some of the many forms of a snowflake.

If you have any questions that you would like to ask Field Trip, just write: FIELD TRIP, P. O. Box 167, Columbia, S. C., 29202.

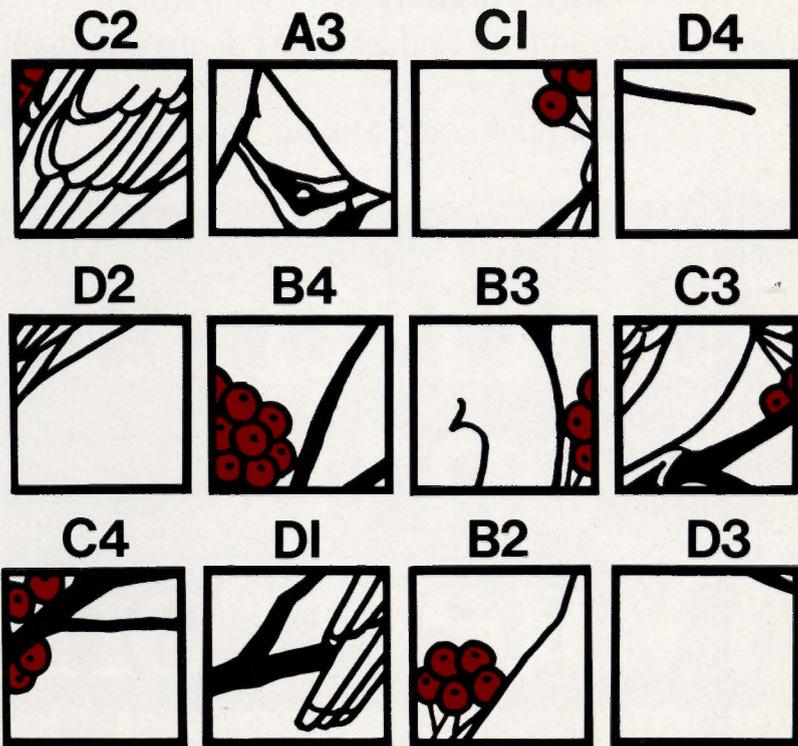




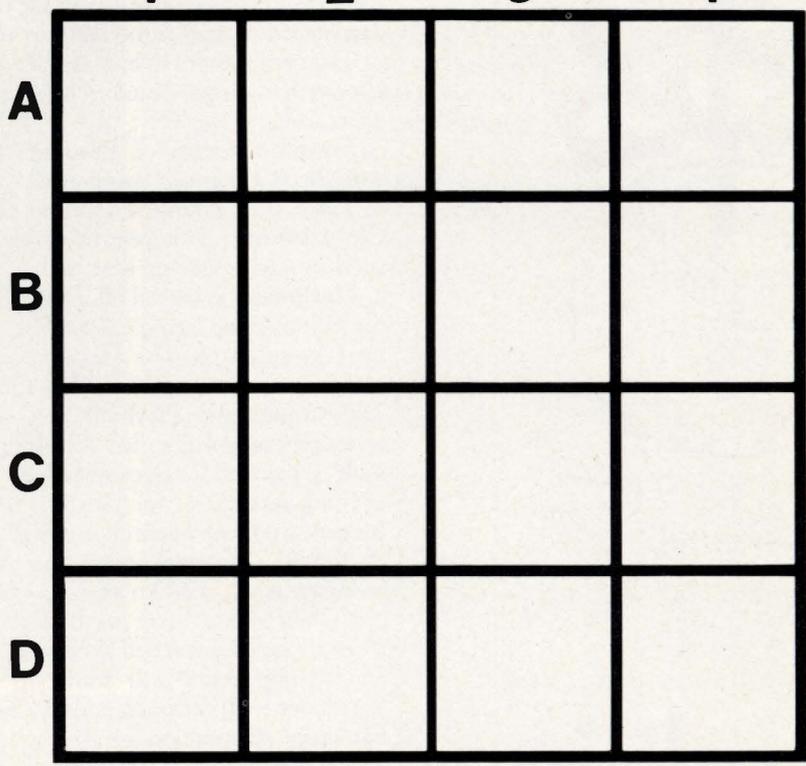
## A Wildlife Puzzle

Each square above contains part of a picture of a bird that visits our state during winter. Complete the bird's picture by drawing exactly what appears in each square in the box below that is across from the letter and down from the number. When you've completed all the boxes, see if you can identify the bird.

Use a field guide to make a list of our other winter birds and see how many you can spot visiting your wildlife tree.



1                      2                      3                      4



Puzzle answer:  
Cedar waxwing.

*Looking for a quiet place to rendezvous for the holidays?  
Maybe a sunny spot by the sea,  
where you can sit back and let others do the entertaining?*

*Well, look south toward Beaufort.*



# Christmas on the Waterfront

There's no place like home for the holidays, but if "home" is too far away this year, or if you just want to sit back and let someone else do the fixings, Beaufort awaits you with open arms.

Several residents of Beaufort involved with their Christmas plans say they are trying to make their county a cultural center at Christmastime. This year promises to be a good start at achieving that goal.

The holiday is kicked off in Beaufort with the Hilton Head Island Choral Society's annual rendition of "The Messiah," which is planned, at press time, for December 7 at The Community Playhouse. A series of waterfront activities called "Christmas in the Park" is planned for December 8-14, with an opening service set for the 8th. The R.P. Singers, a popular black chorus, will perform on the 9th, the local parade and tree ceremony are set for the 10th, and the USC Concert Choir will be there on the 11th. Before it's over, bands, hand bell choirs, Girl Scouts and shrimp boats will show up on the waterfront—all decked out for the holidays. For more information or if you and your group would like to perform, call Mr. Schoenher at 524-0808.

Featuring its early 19th-century decor, the John Mark Verdier House will be open, with an admission price, throughout the week. In addition to this home, which belonged to one of Beaufort's leading merchants, the city's extensive historic district contains many pre-Revolutionary and antebellum homes and churches, dating back as far as 1717.

For more nostalgia, the Society for the Preservation and Encouragement of Barber-shop Quartets, along with their female counterparts, the Sweet Adelines, will hold a Christmas program at 8 p.m. on December 19 at and for the benefit of The Community Playhouse.

During Christmas week, a Sea Pines guide will lead you and a merry crowd through the forest preserve and mysteriously find the perfect Yule log decorated and waiting for you. The log is carried to Harbor Town, where that evening the yearly community Christmas tree ceremony is held under the canopy of magnificent oaks. While watching the log burn, you and yours will sing carols, drink hot mulled wine or cider, eat goodies and stare upward as tiny white lights come alive on Sea Pine's grand old Liberty Oak. While you're looking up, Santa Claus sneaks up in a motor boat to join in the fun.

Santa also visits the Sea Pines guests at breakfast that week. The boutiques around the islands hold a Christmas fashion show and Southeastern artists bring their creations there for a display and sale.

Hilton Head and Fripp Island resorts bring in the New Year with gala balls, some black tie, some blue jean. These dances are open to guests and non-guests for a set fee. Dinners of live lobster, pheasant, filet mignon and other such royal fare are served to the tune of lively orchestras.

The holiday activities around Beaufort should keep you joyful, but if it takes more to satisfy you, these resorts have organized picnicking, ecology walks, kite flying, bicycling, horseback riding, movies, fishing tournaments, yahtzee and backgammon tournaments, and, of course, the best in golf and tennis. With a state hunting license and a game management area permit, you can hunt at nearby Victoria Bluff. When the sun sets, you can sit down to a shrimp boil, a fish fry or an oyster roast and get a head start on plans for Christmas—next year.

No one recommends that you spend every holiday in Beaufort, but an occasional Christmas by the sea with good food, happy songs and lively singing might not be a bad way to end a year. — NANCY COLEMAN

## Ramblings

# YCC Camps Provide Jobs, Save Money

A summer conservation program has provided teenagers with jobs which would have cost the state twice as much if performed by manual laborers.

Twenty-one Youth Conservation Corps camps were in operation throughout the state during the summer providing employment for several hundred South Carolina teenagers who picked up litter, cut grass, cleaned ditches and streams, painted, constructed foot bridges and other structures and developed dikes and trails.

Much of the work is designed to improve access to state parks and other public places, but the youth also constructed wood duck nesting boxes, built boats and helped wildlife biologists, marine

biologists, foresters and park rangers with field work.

YCC camps are run each summer by several state and federal agencies, including the state Department of Parks, Recreation and Tourism, the U.S. Forest Service, National Park Service and the South Carolina Wildlife and Marine Resources Department. All YCC camps are federally funded.

At two of the camps, the enrollees spend the entire work week at the camp and go home on weekends. At the rest, the corps report to work each day but live at home.

One of the resident camps is near Garnett at the state wildlife department's Webb Wildlife Center, a 6,000-acre plantation where public hunting, fishing and other rec-

reational opportunities are provided.

The 30 enrollees assigned to the Webb Center live during the week each summer in the antebellum plantation house near the center of the property. About a country mile down an oak-lined dirt lane, the rustic plantation house is remote and sequestered among several out buildings and nearby sheds where animals and equipment are housed.

Deer feed in the yard of the Webb Center in the early morning and wild turkeys are sometimes heard in the distant hardwoods of the Savannah River swamp. Enrollees live in the large shingle-slatted two-story building, sleeping in the spacious multitude of bedrooms. They clean up after themselves, cook some of their own meals and share household responsibilities.

Near Charleston on state-owned Capers Island, another YCC crew worked in a remote area during the summer. The island is accessible only by boat, and the youngsters, along with their supervisors, camped at the work site. They spent two or three nights a week on the island for several weeks during the eight-week period.

Lane Aspinwall, a Clemson recreation and parks administration major, said his crew of 10 youngsters worked on Capers Island during some of the hottest days of the summer and the insects were bad.

Based at the wildlife department's Marine Resources Center at Fort Johnson near Charleston, the Capers Island YCC camp worked closely with marine biologists in their field work.

"They've had thorough exposure to the estuarine system and are learning to identify juvenile fishes," Aspinwall said.

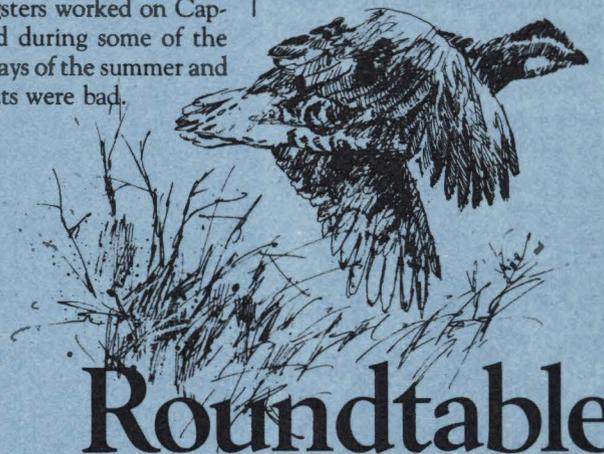
Education is an integral part of the program. Each camp conducts its own education program during the eight-week work session. The youth see films, hear visiting conservation experts, and visit areas of educational value, such as wildlife refuges and sanctuaries, the Marine Resources Center, the Riverbanks Zoo and state parks, among others.

Also the campers get a thorough introduction to hunting and gun safety, boat handling and safety through the wildlife department's hunter education and boating courses. A comprehensive first aid course is also taught.

YCC is not all work. After hours the enrollees participate in competitive sports such as soccer, football, softball, volleyball and foot racing. Altogether the work, fun, education and personal relationships developed during the summer are valuable experiences to the corps.



From left, YCC workers Marcy Manning, David Bridges, Leonard Williams and Kati Gundel, crew leader, clean out a ditch at the Webb Wildlife Center in Hampton County.



## Roundtable

**S**QUIRREL HUNTING is one sport that often requires the patience of Job, especially if you're in a heavily hunted area.

Bushytail season lasts till January 31 in game zone 1; till February 15 in zones 2, 3, 4 and 8; and till March 1 in zones 5, 6, 7, 9 and 10. Squirrel hunting offers some lively and enjoyable action if you've done a little scouting to find the areas where squirrels have been actively feeding. Always be sure to get the landowner's permission ahead of time wherever you plan to hunt or check the regulations on game management areas lands.

Look for "squirrel signs." For a successful squirrel hunt you need to scout the area for indications that squirrels are feeding in the vicinity. Look on the ground near the base of trees for gnawed acorns, hickory nuts, pine cones and other tree fruits. Also notice if there are any "squirrel nests" in the surrounding trees. A nest appears to be a ball of leaves in the fork or top of a tree.

Squirrel dogs, if you or your hunting buddy has one, can legally enter the picture Thanksgiving Day. A well-trained tree hound or "fiest" will possibly locate more squirrels than you could by still hunting or shaking vines. But a dog can only show you the right tree. You've got to locate the squirrel or trick him into betraying his hiding spot. For a squirrel dog to be effective, you must hunt after the leaves have fallen and in an area that is not loaded with large, mossy, hollow trees.

So, if your game is squirrel, walk into a patch of good-sized hardwoods and pines and wait for the woods to forget you're there. 🐾

## ISLAND ROOKERY REGISTERED

A small island that biologists say attracts about 30 percent of the state's inland nesting wading birds has been registered as a Heritage Trust Site by Santee-Cooper Public Service Authority.

The small wooded Bird Island situated in the southeast portion of Lake Marion is one of three popular inland wading bird rookeries in South Carolina, which a state ornithologist says has more bird species than any other. Lake Marion is one of the two lakes in the Santee-Cooper reservoir complex for hydroelectric generation and recreation.

"With Santee-Cooper's commitment to the protection of the island, the birds are assured of an undisturbed nesting place," says Stuart Greeter, a spokesman for Heritage Trust.

The rookery is at least seven years old, Greeter says, and has the potential to be used by waders for many years. Since it is an island, human access will be monitored and controlled.

Most wading bird rookeries in the state are situated in the coastal region where brackish and saline estuaries invite an abundance of human activity, Greeter said.

Ethel Jane Bunting of Charleston, vice chairman of the Heritage Trust Advisory Board, gave William C. Mescher a certificate of registration which the Santee-Cooper president said will be displayed prominently in the Santee-Cooper building.

Many people come to South Carolina just to see the state's diverse bird life, says Mescher, an avid amateur ornithologist.

Mrs. Bunting, a noted Charleston conservationist, says the site is vulnerable to human interference during the nesting season, but even though it would seem to be an attractive place to visit, it isn't.

"Rookeries are hot smelly places," she says, "and usually infested with snakes." Wildlife conservation officers will patrol the rookery during the nesting season, which runs from March 1 to August 31.

Of the three large inland rookeries remaining in the state, two are situated on private land. The Bird Island rookery is owned by Santee-Cooper Public Service Authority, a state-owned electric utility system.

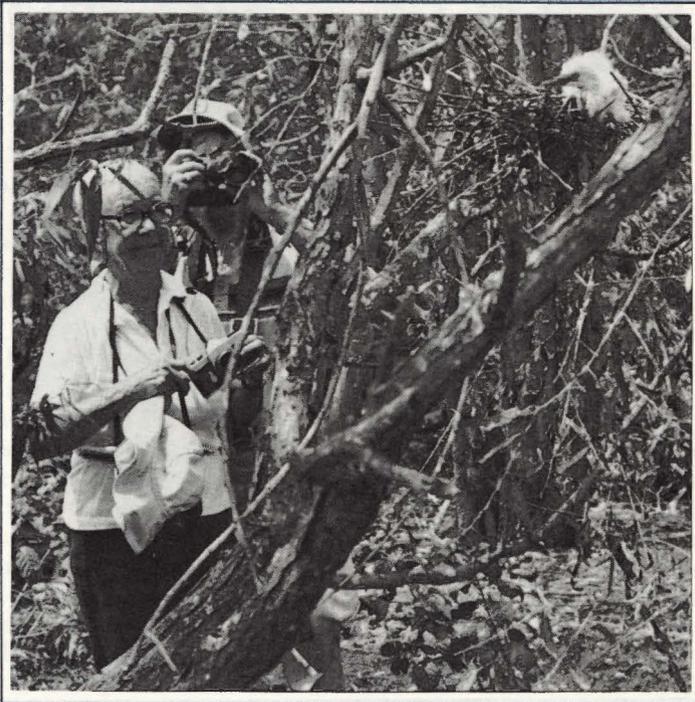
As many as 1,500 pairs of birds nest on Bird Island annually. Bird species of concern on the island include the great egret, little blue heron, white ibis, anhinga, cattle egret and black-crowned night heron.

The island rookery has an annually high concentration of great egrets, a large white long-legged bird seen commonly feeding in coastal wetland areas. About 300 pair of great egrets nest annually on Bird Island.

Some 100 pairs of little blue herons nest there each year. Greeter said the little blue heron species has declined in parts of its range due to the loss of breeding habitat.

A function of the state wildlife department, the Heritage Trust Program is designed to preserve significant natural areas through the state. Registration is a voluntary agreement between the landowner and the state to protect a piece of private property as a natural area. The property remains in private ownership on the tax rolls and can be removed from the program with 30 days notice.

Bird Island was the first public property to be registered with Heritage Trust although three state park sites are being negotiated. Cook's Mountain in Richland County owned by Westvaco and an area in York County owned by Alex Miller of Dillon are two private holdings now registered. 🐾



Mrs. Ethel Jane Bunting of Charleston, Heritage Trust advisory board member, and Jerry Stafford, Santee-Cooper employee, photograph a juvenile cattle egret on Bird Island.



By Mike Creel

# Gulf Stripers Spawn in Florida

The first known collection and spawning of the Gulf Coast strain of striped bass under hatchery conditions recently took place at the Fish and Wildlife Service hatchery in Welaka, Florida. Biologists obtained the mature broodstock from the Apalachicola River using electrofishing techniques and transported the fish to the hatchery facility for spawning.

The biologists were able to identify the fish as the Gulf

Coast strain by the higher number of individual scales on the lateral line and by the higher specific gravity of the eggs when placed in water.

The Gulf Coast strain of striped bass once ranged along the coast and in coastal rivers from Louisiana to Florida. In recent years, populations of this fish have shown drastic declines. The same situation is facing striped bass (often called "stripers" or "rockfish") populations on the coasts.

Preliminary evidence indicated pollution and upstream dams may be the causes.

Gulf Coast striped bass spend most of their lives in estuaries but ascend the rivers to spawn.

Successful demonstration of an artificial spawning technique for this species means the addition of a fishery management tool that may prove invaluable in the future for increasing and maintaining populations of the Gulf Coast striped bass. 🐟

## Hunting Seasons & Limits

Species	Open Seasons (All dates inclusive)	Shooting Hours	Daily Bag Limit	Possession Limit
Mourning Dove	Sept. 6–Oct. 11 Nov. 22–Nov. 29 Dec. 20–Jan. 14	½ hr. before sunrise to sunset	12	24
Marsh Hens or Rails (King, Clapper, Sora & Virginia)	Sept. 19–Nov. 27	½ hr. before sunrise to sunset	15 (King & Clapper) 25 (Sora & Virginia)	30 25
Gallinules	Sept. 19–Nov. 27	½ hr. before sunrise to sunset	15	30
Woodcock	Dec. 12–Feb. 14	½ hr. before sunrise to sunset	5	10
Common (Wilson's) Snipe	Nov. 14–Feb. 28	½ hr. before sunrise to sunset	8	16
Ducks (Excluding sea ducks & mergansers)	Nov. 26–Nov. 29 Dec. 6–Jan. 20	½ hour before legal sunrise to sunset	5 (not to include more than 2 redheads or 1 redhead and 1 canvasback, 1 black duck* and 2 wood ducks)	10 (not to include more than 4 redheads, or 1 canvasback, 2 black ducks,* & 4 wood ducks.
Bonus Blue-winged or Green-winged Teal	Jan. 12–Jan. 20	Same as Ducks	2 blue-winged teal or 2 green-winged teal or 1 of each daily (in addition to any in Ducks limit)	4 singly or in the aggregate (in addition to any in Ducks limit)
Bonus Scaup	Same as Ducks	Same as Ducks	2 (in addition to any in Ducks limit)	4 (in addition to any in Ducks limit)
<b>NOTE:</b> Bonus scaup may be taken ONLY east of U. S. Highway 17 N. of Charleston and East of the Seaboard Railroad bed South of Charleston				
Mergansers	Same as Ducks	Same as Ducks	5 (not to include more than 1 hooded merganser)	10 (not to include more than 2 hooded mergansers)
Sea Ducks	Oct. 6–Jan. 20	Same as Ducks	7	14
<b>NOTE:</b> Sea ducks may be hunted ONLY in Atlantic Ocean waters separated from any shore, island, or emergent vegetation by at least one mile of open water.				
Coots	Same as Ducks	Same as Ducks	15	30
Canada Geese	Same as Ducks	Same as Ducks	1	2
Blue & Snow Geese	Same as Ducks	Same as Ducks	4	8
<b>NOTE:</b> The Canada Goose season is closed in Beaufort, Colleton, McCormick, Fairfield, Newberry, Anderson and Oconee counties due to projects which hopefully will establish resident populations of Canada Geese.				

**NON-TOXIC SHOT ZONES:** Georgetown, Charleston, Colleton and Beaufort Counties (steel shot is required in all 10 gauge guns, all 12 gauge guns, and 3" magnum 20 gauge guns).

In areas designated above, no person shall take waterfowl while possessing 10 gauge shells, 12 gauge shells or 3" magnum 20 gauge shells loaded with any shot other than steel shot. Shells loaded with toxic shot such as lead can be in possession of hunters and used in taking waterfowl in these areas provided these shells are gauges other than all 10, 12 and 3" magnum 20 gauge.

**NO OPEN SEASON ON SWANS, ATLANTIC BRANDT AND MOTTLED DUCK.**

**\*NO OPEN SEASON ON BLACK DUCKS IN GEORGETOWN, CHARLESTON AND COLLETON COUNTIES DUE TO PROJECTS WHICH HOPEFULLY WILL ESTABLISH RESIDENT POPULATIONS OF THE MOTTLED DUCK IN THIS AREA. THE MOTTLED DUCK IS ALMOST IDENTICAL TO THE BLACK DUCK.**

**MIGRATORY BIRD HUNTING STAMP**—This stamp must be attached to hunting licenses (and signed in ink) of all waterfowl hunters who have attained the age of 16 years. Stamps may be obtained at U. S. Post Offices.

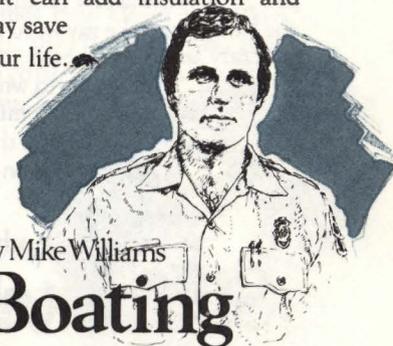
**F**ROST WAS ALREADY on the pumpkin that morning as I noticed a bass boat coming down Lake Murray at a fast clip. But the boat's occupants looked more like two "Star Wars" characters rather than fishermen. Garbed in shielded motorcycle helmets, snowmobile jumpsuits, heavy mittens and insulated boots, the men stopped, snapped off their gloves and helmets and began to fish.

Later at a marina the two anglers told me why they so enjoyed cold weather fishing. They cited less competition, no water skiers and more fish, bigger fish. A look in their live box proved that point.

Being on the water at this time of year however has its hazards and if you've ever been cold and wet while fishing or hunting, you know.

A windshield on a boat is a great wintertime aid as it blocks the wind and much of its chill. Many boats are open without a windshield and that's where a motorcycle helmet with a wide face shield becomes so valuable in keeping face, head and neck warm. This is important because most of our body heat is lost through these areas.

The snowmobile jumpsuit or "chiller killer" is another item of warm security. It can protect your body from potentially subzero temperatures while you're boating across open water. If the day warms up, these suits can be easily shucked by means of the zippers on each leg. Wearing a type III buoyant fishing vest under a "chiller killer" or rainsuit can add insulation and may save your life.



By Mike Williams

# Boating

**S**POTTED SEA TROUT, or winter trout, are one of our most popular inshore saltwater fish. These fighters will take a variety of artificials in the colder months when inshore waters are clear and they'll wallop live minnows or shrimp year-round.

The standard live bait rig consists of a rubber band or mono hitch and red plastic bead to control depth, followed by a six-by-one-inch sliding balsa red-top bobber above a 1/2-ounce trout lead tied to 8 inches of 30-pound test mono shock leader and a 1/0 wide-gap hook.

Large schools of trout run in the creeks and rivers where eddies form over or around live oyster shell beds. You're also likely to add flounder and spotted bass to your creel here.

Fish can be taken with the live bait from three to five feet deep in these areas, but there's a trick used by professional guides that may help your catch—every three to five seconds, pop the bobber.

Snapping the rod tip upward so that the plastic bobber core slaps against the trout lead has been credited with calling fish out of the nearby marsh grass and starting them feeding. The trick has other benefits too. It helps keep slack out of your line so that you're ready to set the hook immediately when a strike comes and keeps the bait moving constantly. The pop also seems to imitate the cracking sound of a shrimp jumping backwards with a trout in hot pursuit. It's like creating your own mini-feeding frenzy.

You may feel a little foolish popping the bobber at first, so just go ahead and talk or sing to the trout. But take my word for it, crazy as it may seem, the trick seems to work.

You won't mind at all after that fish is on.

By Dean Foucher

**Saltwater**

## TROPHY BUCKS SCORED

State wildlife officials were pleased with a spring campaign to score trophy deer heads for the state record book, according to John Davis, editor of *South Carolina Wildlife*, who coordinated the campaign.

Davis said he and other members of the department are pleased with the number of racks measured. The trophy program appears to be gaining popularity among the hunters, he said.

To qualify for the record list, a rack must score a minimum of 125 points typical, 140 points nontypical, according to the North American Big Game Awards Program method of scoring. Davis and a number of wildlife department game biologists are official program scorers.

Davis said the state minimum score for typical racks has been reduced from 130 to 125 points because the Pope and Young national records have the 125 point minimum. Pope and Young is a national awards program for deer taken with bow and arrow.

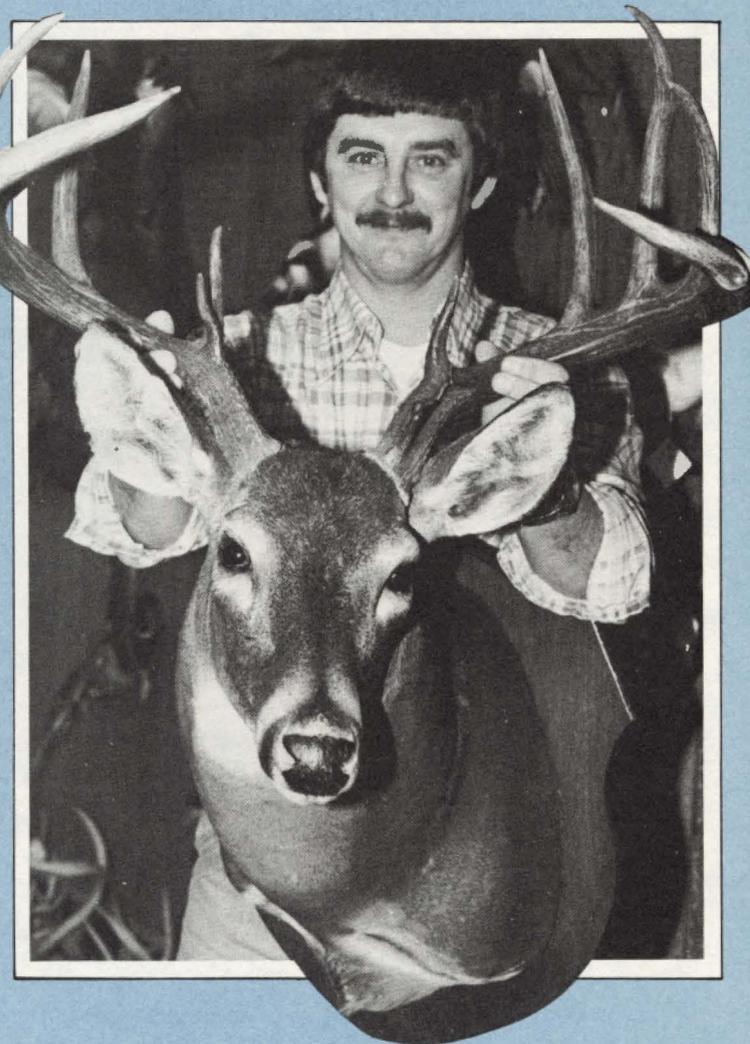
Mark Bara, district biologist for the Pee Dee region, kicked off the campaign by scoring what turned out to be the state's second ranking typical rack. Loran Gladden of Rembert took the deer last November in Lee County. Bara scored it at 162 1/8 points in Sumter where Gladden had the trophy mounted by a local taxidermist.

Gladden's large, symmetrical trophy rack missed the top ranking by just four and a half points. That number one typical deer rack was taken by Eddie Hicks in 1974 in Newberry. It scored 166 3/8 points.

Some 200 South Carolina racks were measured by department scorers across the state during the month-long campaign. More than 100 new record deer racks were added to the state list.

The awards program is a National Rifle Association program which originated with the well-known Boone and Crockett Club of New York. Boone and Crockett developed methods of scoring big game trophies which measure both size and symmetry of antlers. South Carolina's record program is patterned after the North American program.

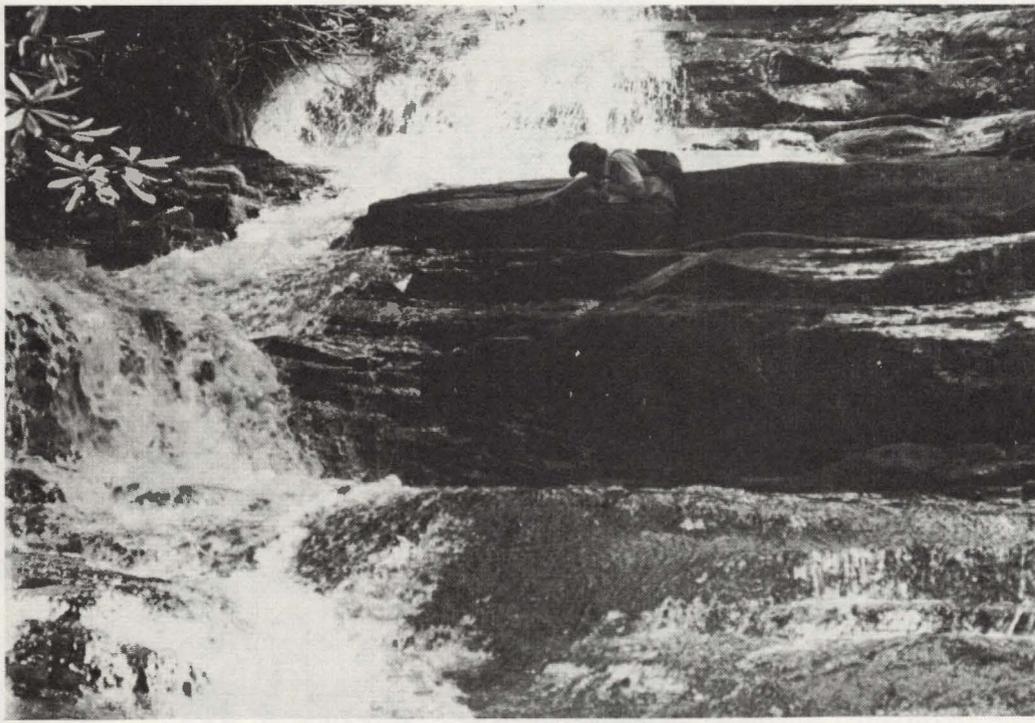
Loran Gladden proudly holds his trophy deer, the state's second largest typical rack.



## UPDATE

In October the U.S. Interior Department's Heritage, Conservation and Recreation Service awarded South Carolina \$1.6 million to be used toward the purchase of the eight remaining tracts needed to complete the span of the Mountain Bridge Wilderness Area in upper Greenville County.

The bridge would connect various properties now preserved in a natural state by state and local governments and private groups to the east and west. (See "The Mountain Bridge Concept," *South Carolina Wildlife*, September-October 1980.)



Dr. Doug Raynor, Heritage Trust botanist, examines a plant community in Eastatoe Gorge.

## Duke Power Gives 378 Acres to State

Eastatoe Creek Gorge, a scenic 378-acre mountain area in Pickens County that state heritage officials call a unique and significant natural site, was given to the state by Crescent Land and Timber Company, a subsidiary of Duke Power.

Described as steep terrain, the property is between a point near Highway 378 and Eastatoe Valley. Side-of-the-Mountain Creek and Rocky Bottom Creek are two major tributaries of Eastatoe Creek that are included in the property.

Dr. James A. Timmerman Jr., executive director of the South Carolina Wildlife and Marine Resources Department, praised Duke for its generous gift to the people of South Carolina.

"The concern your company has shown for protecting South Carolina's habitat as demonstrated by this generous donation is a legacy which is

appreciated by all South Carolinians," Timmerman wrote to Duke president William S. Lee.

The pristine mountain streams flow over small falls and cascades and through an unusually narrow flume aptly named "The Narrows." Besides being a rustic and very scenic area, Eastatoe Gorge provides habitat for many game and non-game animals.

Game animals which may occur at the gorge include the black bear, white-tailed deer and ruffed grouse. Nongame diversity is high in the area, according to Jim Sorrow, a heritage staff wildlife biologist.

A few nongame species inhabiting the area include Swainson's warbler, Louisiana waterthrush, solitary vireo, Keen's myotis (a rodent), the eastern milk snake and the wood frog.

Many other animals are common and others on the

Heritage Trust special concern list may yet be discovered on the property, Sorrow said. The property also harbors superb stands of old growth hemlock and hardwood forest.

A function of the wildlife department, Heritage Trust is designed to protect significant natural areas in the state. The primary management theme will be preservation of Eastatoe Gorge's natural characteristics, maintenance of critical plant and animal habitat and recreational opportunities which do not adversely affect the property.

Planned uses for the area include backpacking, hiking, fishing and hunting. An access trail and camping area are planned for future development, according to heritage officials. The property will be protected and managed by the wildlife department and the South Carolina Heritage Trust. ☘

**N**OW IS THE TIME for all good fishermen to scout out new spring fishing holes. Most South Carolina lakes and rivers have low water levels at this time of year and that means much of the long shorelines are open to view.

Some lakes are down as much as six to 10 feet and the angler can easily see plenty of spring and summer hiding places for largemouth bass. Once such log jams, holes, rock piles and the like are revealed, take a good look around and chart out their positions for later reference when the water level is back to normal.

Where possible, get out and walk the points down to the water's edge. Pace off the distance to fix in your mind's eye just how far a point juts into the lake. Later, when you pull up to that area, you will know how far to lay off shore and cast. That will prevent your having to move over it with the depthfinder and risk spooking the fish down below.

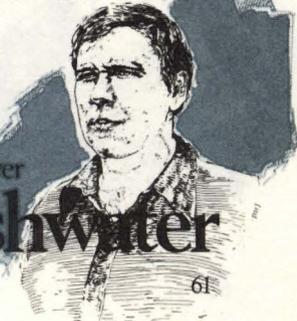
If you trust your memory, fine, but a hand-sketched chart is good and photographs are better if you are a shutter-bug, especially in a place where there are no prominent landmarks or terrain features to use for future reference.

If you're in an exploring mood, keep an eye out for arrowheads and old lures. Then sit down and enjoy the winter beach scene and congratulate yourself for being such a well-organized and calculating fisherman.

Savor the moment, for it will quickly pass. When you get back to town and tell your buddies how clever you have been, they'll remind you that "anyone can fish in the spring." ☘

By Jerry Dyer

**Freshwater**



**“DADDY, WHAT’S THIS?”** asked Lebby, who at the time was five years old. She was holding up a moss-covered rock, eyes bright in anticipation of an unqualified answer from her hero.

“Uh, that’s a moss-covered rock, Lebby. . . Let’s go.” I responded, looking down the trail toward our campsite. We had two and a half more miles to go.

Two steps later: “What’s this thing, Daddy?” asked Lebby, fingering a moist forest leaf.

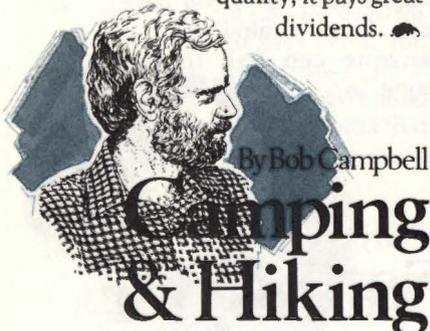
“Uh, Lebby, that’s a moist forest leaf. Let’s go.”

There is a stage in a child’s life when they are too large to carry and too small to understand the concepts of time and distance.

For her, each step was an adventure, each leaf, every rock worthy of intense examination. A child’s curiosity is wonderful and perishable.

He or she will mature rapidly. The following year I took Lebby along the same trail to the same campsite. She behaved much differently. We connected her with a friendly scottie via a leash and they took off down the trail while the adults packed in the gear. Lebby loaded her pack with about five pounds of rocks, no doubt unique and irreplaceable, to bring home.

A child can be involved in backpacking through all stages of her or his life, but why not plan trips for the little ones during which distance and time are unimportant? Your kids deserve it. They put up with you, don’t they? Besides, time spent outdoors with your children is time of the highest quality; it pays great dividends. 🐾



## NEW LAW PROTECTS TURKEYS

A new state law effective July 1 makes it illegal to possess, release, control, sell or otherwise dispose of wild turkey eggs or pen-raised wild turkeys unless authorized by permit issued by the South Carolina Wildlife and Marine Resources Department.

For many years, some individuals have managed to get wild turkey eggs by robbing nests and then raising the turkeys in captivity. Propagating these captive flocks results in a near loss of all inherited wildness. In some cases, these same individuals have either tried to release the birds back into the wild or sold the birds to others interested in trying to start a wild flock.

Other persons have gone to authorized shooting preserves to secure pen-raised wild turkey stock for release. Although releasing pen-raised turkeys into the wild has been illegal for a number of years, the unauthorized possession of wild turkey eggs or pen-raised wild turkeys was not outlawed until the passage of the most recent state law.

Tightening up on those who possess pen-raised wild turkeys is necessary to reduce the possibility of disease and parasite transmission to the state’s rapidly expanding wild popula-



The wild turkey’s black and brown tail feathers distinguish it from the domesticated turkey, whose tail feathers are white and black.

tion, say wildlife biologists. In July the wildlife department began a permit system to identify and control the captive rearing and releasing of Eastern wild turkeys and other subspecies of wild turkeys now

being held in captivity.

Violation of the new law carries a severe penalty. Fines will include \$25 per egg or turkey unlawfully possessed. Each day’s violation shall constitute a separate offense. 🐾

## Agency Chief Named to Regional Council

James A. Timmerman Jr. of Columbia, executive director of the South Carolina Wildlife and Marine Resources Department, will serve a two-year term as chairman of the Atlantic Flyway Council. He was named to the chairmanship at the council’s July meeting in Wrightsville Beach, North Carolina.

The Atlantic Flyway Council brings together the wildlife management expertise of the 17 East Coast states and five Canadian provinces within the Atlantic Waterfowl Flyway. It assists the U.S. Fish and Wildlife Service in developing yearly waterfowl harvest regulations and in overall management of the waterfowl

resource in America’s Atlantic Flyway.

The Atlantic Flyway Council holds two open meetings each year to obtain optimum public participation in the decision-making process of establishing waterfowl harvest regulations and developing management plans. 🐾

# Books & Events

**AMPHIBIANS AND REPTILES OF THE CAROLINAS AND VIRGINIA** by Bernard S. Marloff, William M. Palmer, Joseph R. Bailey, Julian R. Harrison with photographs by Jack Dermid. 264 pages. Illustrated with color photographs and general distribution maps. Published by the University of North Carolina Press, P. O. Box 2288, Chapel Hill, N.C., 27514. \$14.95 hard-bound.

The first illustrated guide to the salamanders, frogs, alligators, turtles, lizards and snakes of the Carolinas and Virginia. This book is a practical field guide for beginners as well as an important contribution to the natural history of the area. It will serve amateur naturalists, backpackers, campers, hikers and students of herpetology and general biology.

One of the authors, Julian R. Harrison, is professor of biology at the College of Charleston.

**THE WILD PALATE** by Walter and Nancy Hall. 320 pages. Illustrated with 40 woodcuts. Published by Rodale Press, Organic Park, Emmaus, Pa., 18042. \$9.95 cloth-bound, \$6.95 paperback.

Billed as a comprehensive cookbook for wildfare of the North American wilderness, there are sections on wild vegetables, seafood, freshwater food, wildfowl, small and big game, fruits, nuts and cereals.

The Halls' recipes are a departure from standard backwoods practice in that wild foods aren't smothered in the traditional bacon fat, butter and salt pork.

## November 14-15

**Fall Clogging Festival.** Oconee State Park. Authentic mountain clogging and "down home" bluegrass music dominate the scene. For more information, call 758-3622.

## November 15-16

**Plantation Days.** Middleton Place near Charleston. Harvest time, sugar cane milling, wool dyeing, cider making, cornshucking. For more information, call 556-6020.

## November 16

**Colonial Cup International Steeplechase.** Camden. Horses from foreign countries vie for the purse in steeplechase over a two-mile course. For more information, call 432-6513.

## November 29

**Chitlin' Strut.** Salley, South Carolina. Country music, dancing, pig calling contest, parade, barbeque chicken and chitlins. For more information, call 258-3309.

## December 6

**Elgin Catfish Stomp.** Elgin near Columbia. Catfish stewed, served and eaten following Christmas parade. For more information, call 438-1729.

# Wildlife T-Shirts: A Year-Round Natural



Our new shipment of **Wildlife Between the Covers** T-shirts has just arrived, and we've got at least one on reserve for you. These 100% domestic cotton T-shirts are ideal for Indian summer days and great for indoor winter sports too. With the *South Carolina Wildlife* magazine logo on the back you can support our outdoors while enjoying a great casual look. Select from five bold colors—navy, light blue, red, and orange with white lettering or tan with brown lettering. Available in sizes S, M, L, XL, and our new size for children, XS in navy and red!

There's no way around it, a *South Carolina Wildlife* T-shirt is a year-round natural. So be sure to order yours today! At \$6.95 each they also make perfect Christmas presents. Please use the order form on page 64, and remember to give correct size, and first and second color choice.

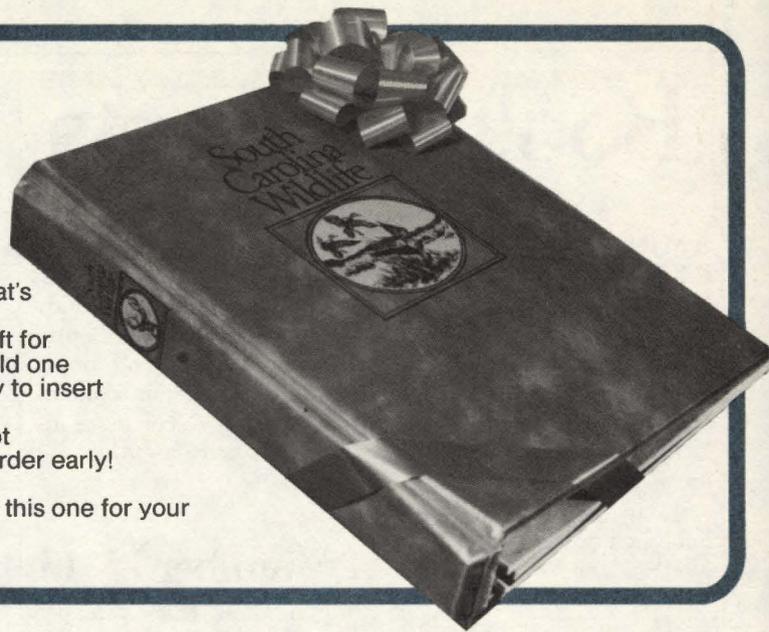
# A GIFT IDEA AT HALF THE PRICE.

At Christmas everyone deserves a break. Especially special people like our subscribers. This holiday season we're offering you our binders for half the regular price. That's \$3.00 each instead of \$6.00.

These handsome leather-like binders are the perfect gift for faithful or new *South Carolina Wildlife* subscribers. They hold one year of our award-winning conservation magazine with easy to insert metal rods.

While you're giving some to relatives or friends, why not order more for your own magazine collection? Be sure to order early! Our offer expires December 31, 1980.

We like to think that we're idea people. Hope you'll like this one for your Christmas giving.



## Moving? Let us know eight weeks before you go.

For fast service, attach your current address label (from magazine cover) in the space above. Then fill in your new address and and mail to: S. C. Wildlife, P.O. Box 167, Columbia, S.C. 29202

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- Please send me \_\_\_\_\_ Copies of CAROLINA'S HUNTING HERITAGE at \$24.95 each.
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# South Carolina Wildlife

VOLUME 27, NUMBER 5

Dedicated to the Conservation,  
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And to the Education of Our People  
to the Value of Our Natural Resources

RICHARD W. RILEY  
Governor of South Carolina

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September 1980

Sun	Mon	Tues	Wed	Thurs	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

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