

KANSAS FISH & GAME



March-April, 1977

Single Copy 50 cents

Featuring . . .

White Bass

Wood Ducks

Mushrooms

Backpacking

Mule Deer

Subscription Blank Inside

KANSAS
Forestry, Fish & Game Commission
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KANSAS

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March-April, 1977

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 CHRIS MADSON . . . Staff Writer
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Cover Credits

Spring crappie and remains of a death struggle—Whitetail skulls and racks by Ken Stiebben.

Editorial PREVIEW



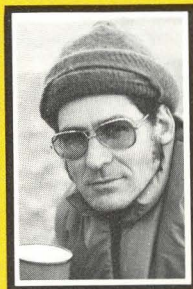
Anderson



Valyer



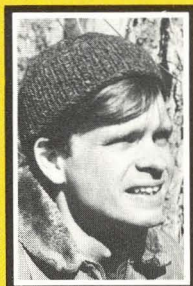
Vietti



Highfill



Montei



Madson

Spring is just around the corner and to the Kansas outdoorsman, this means white bass and crappie runs, mushroom hunting, camping trips and backpacking. Accordingly, George Valyer, staff writer, has done an interesting piece on white bass fishing here in Kansas. If you're a white bass fisherman, you'll want to read it.

April in Kansas also kicks off the wild mushroom season. And although morels receive most of the attention from mushroom hunters, there are a number of other species which are edible. Bill Vietti, Chanute optometrist, has contributed an interesting and informative piece on some of the edible fungi found in Kansas. A Girard native, Vietti graduated from Kansas State College of Pittsburg with a degree in biology and considerable work in mycology—the study of fungi. He graduated from optometry school at the University of Houston. Vietti's article and photos will be appreciated by outdoorsmen who want to expand their mushroom hunting activities.

Kenneth Highfill, a biology instructor at Lawrence High School for the past eight years, has prepared a comprehensive article on backpacking in Kansas. An alumnus of the National Outdoor Leadership School in Lander, Wyoming, Highfill has instructed wilderness biology during the summer in Colorado since 1972. In addition to backpacking, his interests include archery, squirrel hunting, fishing, wildlife photography, mountaineering, and writing. He has published a booklet, "A Guide to Group Backpacking," which is sold by Paul Petzoldt, Wilderness Equipment, Box 78, Lander, Wyoming 82520 and retails for \$2.50. Highfill's article should answer most of your questions about backpacking.

A number of deer hunters have expressed an interest in knowing more about the movement of deer within their range. Kent Monte, big game biologist, has prepared an article based on a study of mule deer movement. Monte is native of El Dorado and a graduate of Kansas State University. After a three-year hitch in the Army, Monte returned to college at Texas Tech University where he obtained his M. S. in range and wildlife management. Assigned to the research section of the Game division, Monte works with Kansas big game including antelope, wild turkey and deer. Employed by the Commission in 1973, Kent is stationed at Hays.

Kansas is home to one of the most beautiful ducks on the continent—the wood duck. From a point of near extinction, the woodie has been pulled back to substantial numbers by progressive game management practices. George Anderson, staff writer, has worked up an informative feature on this colorful little duck. If you're a duck hunter or nature enthusiast, it's a piece you'll want to read.

If you checked the content page in this issue, you noticed that we have a new writer—Chris Madson. A graduate of Grinnell College in Iowa, Chris obtained his M. S. in wildlife ecology from the University of Wisconsin. Chris brings with him a comprehensive background full of varied outdoor experiences which we feel will be an asset to both the magazine and its readers. We think you'll enjoy his articles which will appear in future issues of KANSAS FISH & GAME.

Vic McLeran,
Public Relations Director

Return of the



WOOD DUCK

By George Anderson

DURING THE autumn of 1875 a small black and white duck was shot on Long Island, New York. The bird was a young male Labrador Duck and the significance of that shot would make history.

The Labrador duck would never again return in the fall to Long Island as the young drake represented the last of his kind on record. A specimen, since lost, was reportedly taken at Elmira, New York, in 1878 but cannot be verified. It has been determined that the beautiful sea duck became extinct at this time.

The Passenger pigeons, whose numbers were almost legion, were to meet a similar fate as civilization advanced. People came, cleared the land and the bird became a popular food source. By 1880 the passenger pigeon was beyond help. The last survivor died September 1, 1914 in the Cincinnati Zoo.

About the same time, naturalists were becoming concerned with the welfare of another bird. The most beautiful American wild duck was rapidly growing rare in many areas of its natural range.

The wood duck was in trouble.

There is no way of knowing what the nationwide population of wood ducks was during the early history of our country. We can only assume from writings of men such as Audubon that they were numerous.

Many of these early observations were recorded prior to the days of the market hunting era when wholesale destruction of waterfowl was rampant. The woodies' role during market hunting is not clear, but no doubt large numbers found their way to the market place.

A fear that the wood duck was following the Labrador duck into extinction was recorded by W. W. Cooke in 1906. Writing in a U. S. Biological Survey bulletin Cooke said, "So persistently has this duck been pursued that in some sections it has been practically exterminated. As a result the wood duck is constantly diminishing in numbers, and soon is likely to be known only from books or by tradition."

Concern for the beautiful duck became so great that many eastern states passed laws protecting the bird. Enforcement of these laws was another matter and the decline continued. States felt they had the right to regulate all hunting and full protection for this duck on a national scale was missing.

Hunting wasn't the only factor hurting the wood duck. As odd as it seems, even fishermen contributed to the decline of the wood duck. The bright colored feathers of the drake were used to tie the famous Gordon, Cahill and Hendrickson trout flies. Flytiers were paying \$4 for the skin of a male woodie.

Another problem arose: Habitat destruction.

Many nesting and feeding areas of the wood duck were wiped out by lumbering interests and agricultural interests were draining the marshlands. All these factors combined, just about spelled an end to the wood duck.

Protection did not come without opposition but it came. Old ways die hard.

On July 3, 1918, President Woodrow Wilson signed the Migratory Bird Treaty Act. The act gave the federal government power to regulate hunting of migratory game birds. It also extended that protection into Canada.

Armed with the new law, the United States and Canada closed the season on wood ducks in 1918. This closed season would last for twenty-three years. In 1941 the woodie had recovered to the extent that one wood duck was allowed in the bag and possession limits of several states.

The wood duck had returned.

Wood ducks have historically been birds of the eastern portion of the United States. It is strictly a North American species and for the most part a bird of the United States. Its summer range extends only a short distance north of our borders. Even in winter it does not migrate far south.

The name "Wood Duck" is appropriate due to its close association with woodlands. Its behavior of nesting and perching in trees is certainly not typical of most ducks. The beauty of the drake wood duck rates at the top as the loveliest of all wild creatures. The hen in comparison with her gaudy-colored mate is drab.

Even the scientific name of the wood duck attests to its beauty. *Aix Sponsa*, loosely translated means "water-fowl in wedding dress."

Unlike many ducks that quack or grunt, the wood duck has a squealing call. In fact one of the local names of the duck is "squealer." Other colloquialisms of the wood duck ties some of their behavior and habits. "Acorn duck," a favorite food; "swamp duck," by virtue of its natural habitat; and "the bride," from its gorgeous plumage.

To actually describe the plumage of a drake wood duck is a difficult task and I would probably do the bird an injustice by trying. We might think of the drake as the 'cock pheasant' of the water world.

In their book, *The World of the Wood Duck*, authors Eugene Hester and Jack Dermid, do a much better job than I could in describing the wood ducks. They noted that during the winter the drake is at his best. He has a strikingly marked head with a conspicuous crest. Various shades of iridescent green, bronze, blue, and purplish black reflect varied colors as the drake turns his head in the sunlight. A narrow white line extends from the base of the bill over the eye to the rear margin of the crest. A second white line returns to a point behind the

eye. The throat and foreneck are white, with two white finger marks extending into the dark head and hind neck. The eye and eyelid are red, adding a jewel-like touch of brilliance. Even the bill is colorful, with its distinctive pattern of white, red, and black accented by a narrow yellow line at the base.

The upper parts of the drake's body are dark with blending tracts of bronzy green and black feathers contrasting with buff-colored side feathers which are marked with fine black lines. Separating the sides from the back and chest are bold crescents of black and white. The chest is rich chestnut, flecked with pyramids of white.

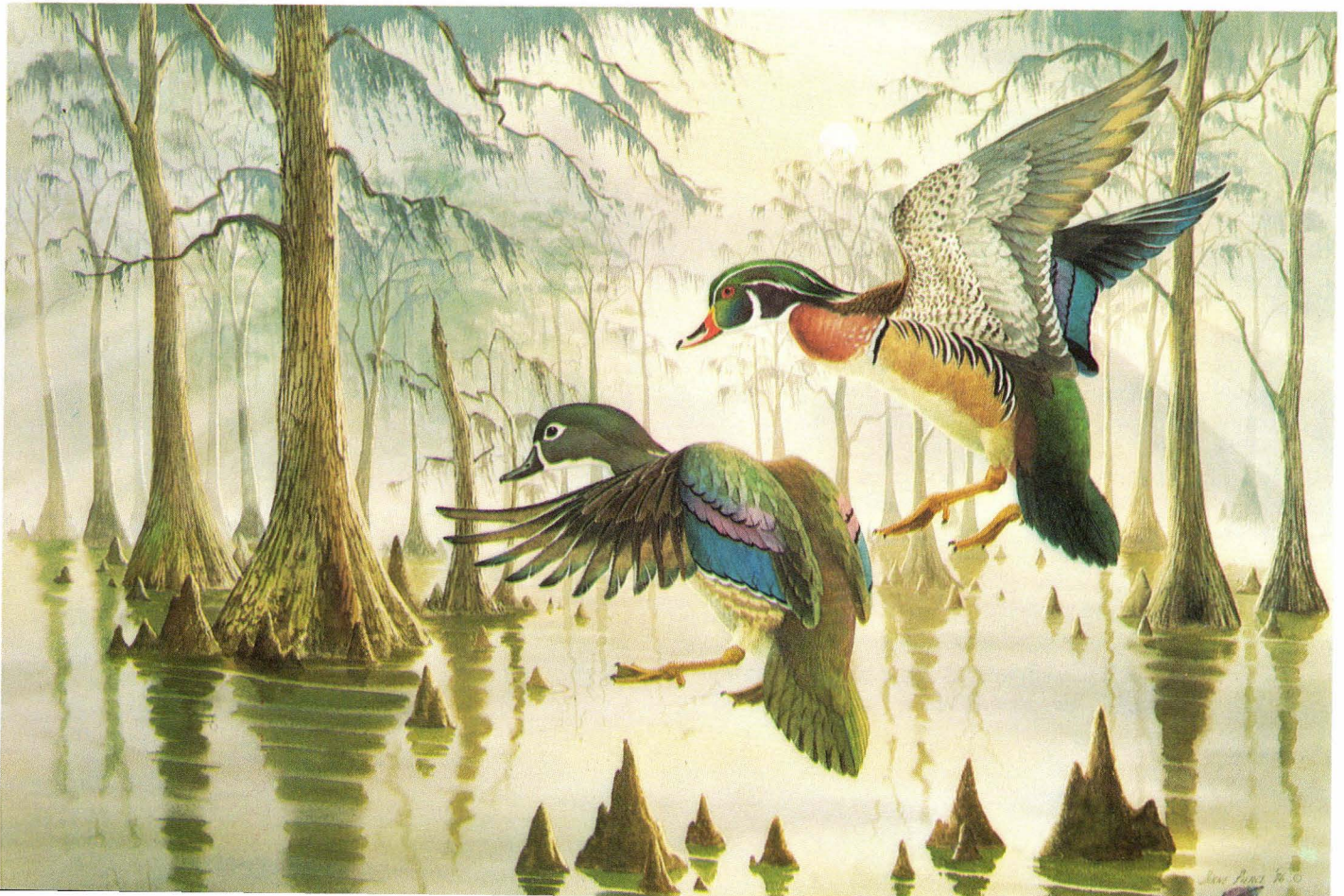
The underparts are white and the feet are dull yellow. The wing bears a distinctive speculum. In the wood duck, the speculum of the drake is iridescent bluish-green tipped with narrow bars of black and white.

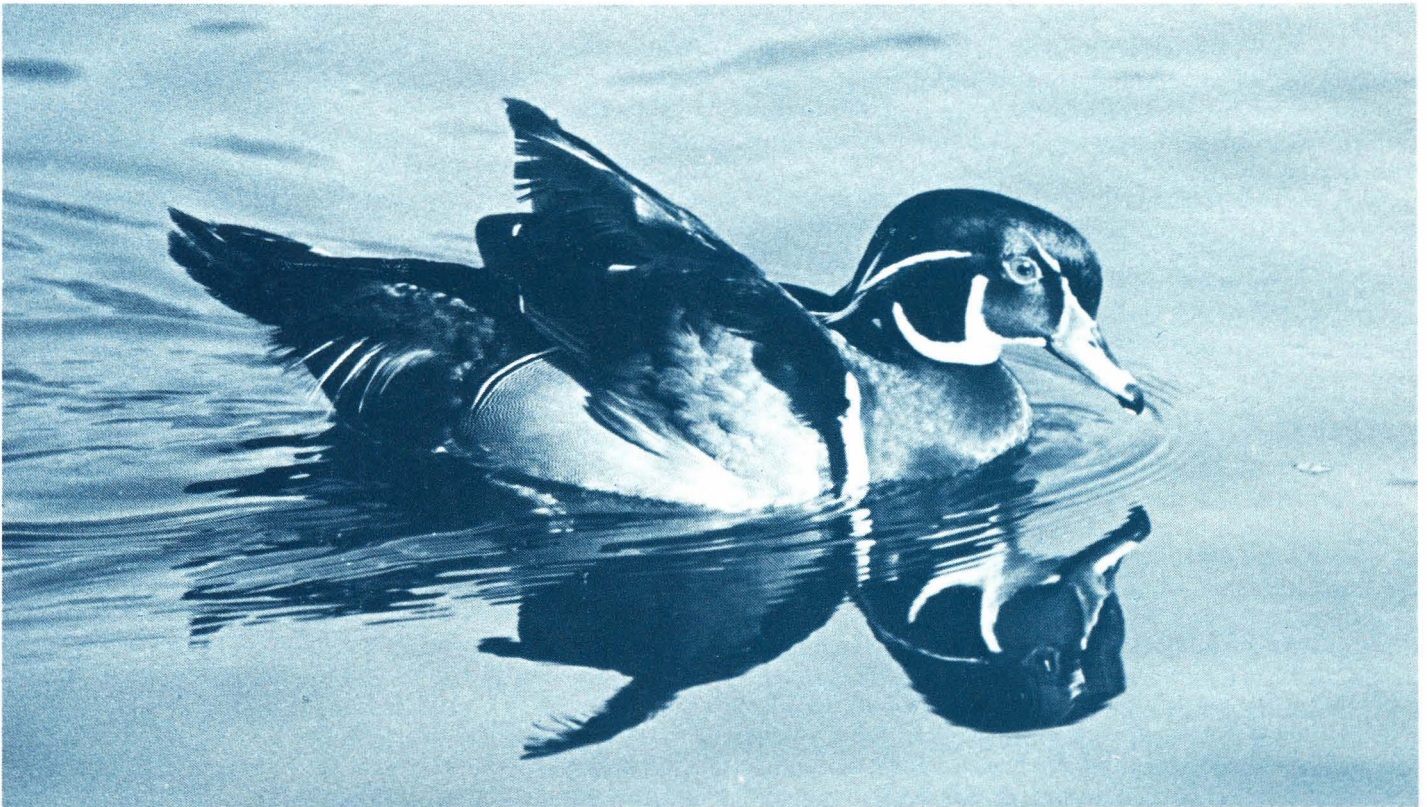
The hen also has a crested head but smaller. The head markings are dominated by a bold white eye spot that tapers behind. She has brown body feathers, but her back shines with bronze and greenish-purple. Her breast is a buff color.

What a picture this pair present floating lightly on a woodland stream, surrounded by a fire-burst of fall colors.

As stated before, the natural range of the woodie is in the eastern areas of the United States. Kansas however, is not excluded from having a good population of the tree ducks within our boundaries. The eastern half of the sunflower state has the highest number of wood ducks due to the numerous small streams and woody habitat.

This reproduction of an original painting by Diane R. Pierce shows the exquisite beauty of the wood ducks. A pamphlet on Ms. Pierce's artwork is available from 8643 King Memorial, Mentor, Ohio 44060.





Most of the woodies feeding activity is along woodland streams and lakes.

Eastern Kansas streams bearing such names as Sugar, Squaw, Rock, Oak, Mill, Hickory, and Eagle have become synonymous to wood duck populations.

Biologists for the Kansas Fish and Game Commission have been studying wood ducks and discovered the birds have extended their range westward.

Some of the first wild wood ducks I had the good fortune to watch were on Big Creek in Ellis County, west of Hays. In talking with Dr. Charles Ely at Fort Hays State College, I learned that several documented cases of nesting wood ducks in Ellis county have been recorded.

On occasion, wood ducks frequent open stretches of water or marshy land but most of the feeding activity is along woodland streams and lakes. In these locations, the woodie can find its favorite food, the acorn of the burr and pin oaks.

The amount of acorns that one wood duck can consume is amazing. Being an amateur taxidermist, I have prepared several of the ducks into mounts. One adult male that a friend collected on a hunting trip to Marias des Cygnes Waterfowl Area in eastern Kansas was full of acorns. A total of nineteen marble-sized acorns were removed intact from the crop of the bird. Acorns are as hard as the tree that bears them and attest to the crushing and grinding power of the wood ducks' gizzard.



The nesting of wood ducks is one of the most unique of all waterfowl. Unlike many species, the actual pairing of sexes takes place during the winter and not spring. During winter the birds shift their range to the south and gather in small flocks. Most of the day is spent just loafing, courting, feeding and waiting for spring and the nesting season.

In Kansas, wood ducks have generally returned by March and the serious business of nesting begins. Being habitual tree nesters the ducks spend more and more time perching in trees and investigating cavities as potential nesting sites.

During this period of nest site selection, reported sightings of "ducks in trees" are made by the public. People just don't associate ducks with trees and are surprised to look up into a dying Kansas elm and discover a duck setting on one of the branches.

I received just such a report several years ago from a city policeman in Pratt. He had been investigating a complaint at one of the local city parks the night before and noticed what he thought was a duck fly down from a tree.

I accompanied the officer to the location and after a short search we located the duck. Setting on a branch about thirty-feet off the ground in a tall pine was a hen wood duck. Apparently she had selected an old squirrel nest to raise her young. This was an unusual selection for a nest but as long as it's off the ground in a tree, they seem to make do.

Most often the nesting site is a natural cavity in the trunk or branch of a large tree. The kind of tree is of little importance to the wood duck, though they would probably prefer one close to water.

The drake accompanies the hen in search of a proper nesting site but plays a small role in the actual selection. While the hen investigates cavities, the drake perches on a nearby branch and watches. Even after the selection is made, the drake rarely enters the cavity.

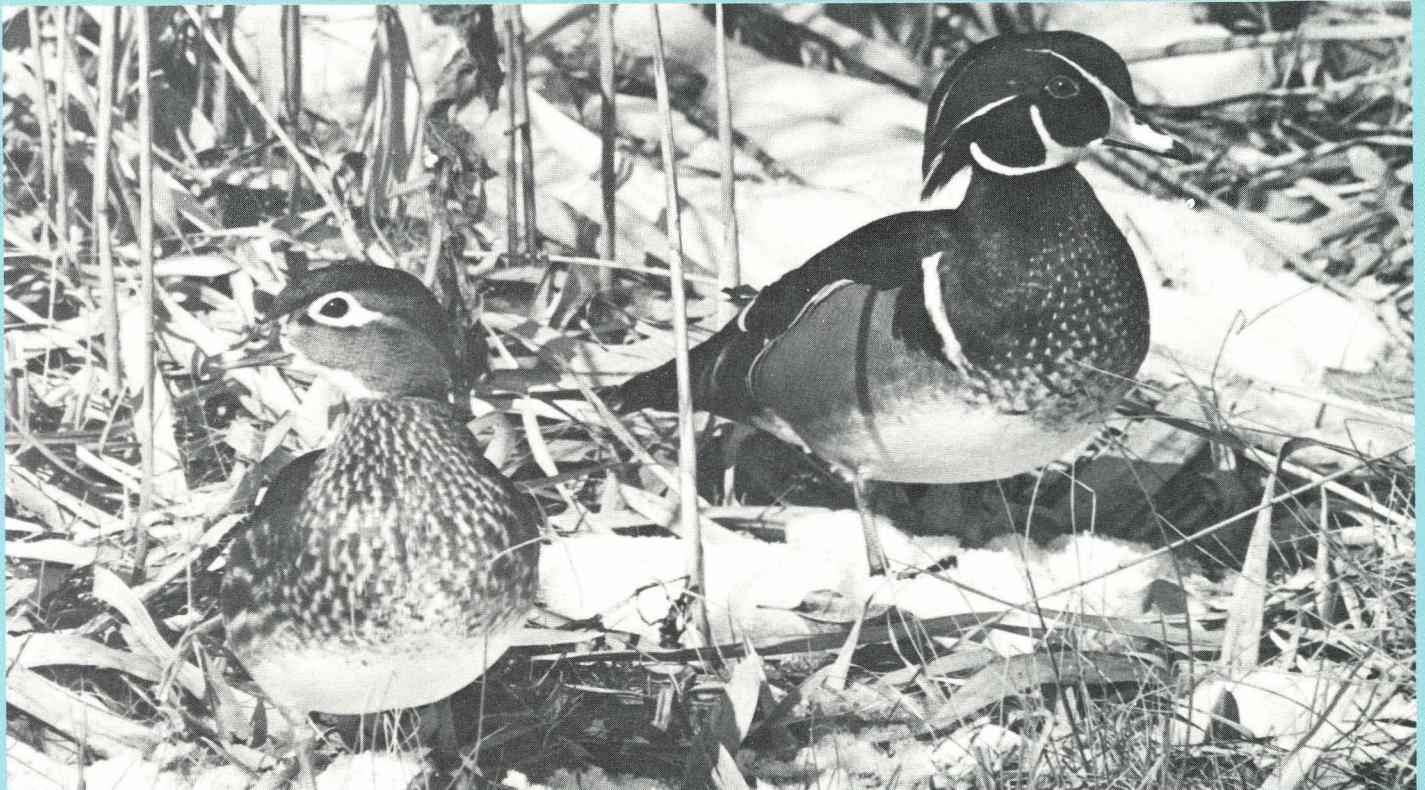
From studies conducted it has been determined that the average height above ground is thirty-feet for the nest. The entrance varies from 4 to 8 inches, with the smaller sized opening more popular. The smaller entrance would act as a guard against predators which are a constant threat to a wood duck nest.

Once selected the cavity is left as it was found. The hen never adds material to the nest except for her own down after egg laying has begun. The only required material is loose debris at the bottom which acts as a cradle for the eggs.

In addition to natural nesting sites, wood ducks adapt well to man-made nest boxes. Thousands of these boxes have been constructed and placed over the years in areas frequented by the wood duck. This helping hand by man has no doubt added greatly to the successful return of the woodie.

Once egg laying has begun, the hen lays one egg a day until a normal set of ten to fifteen eggs is reached. When the last egg is deposited in the cavity, incubation

The wood duck has returned from the brink of extinction in the early 1900's.



begins. An average of 30 days is required for incubation.

Two or three days before hatching time, some important changes begin to occur. According to Hester and Dermid in their book *World of the Wood Duck*, the ducklings begin to call from within the shell.

You can hold the egg to your ear and hear the duckling softly scratching and calling. At this time, the mother duck begins to communicate with the young. Gilbert Gottlieb, research psychologist with the North Carolina Department of Mental Health, made sound recordings of the events within three different nests. In all nests, he found that the hen intermittently uttered a low-intensity kuk, kuk, kuk, which was continued with rising amplitude and rate up to and including the hatching and exodus of the young. Dr. Gottlieb concluded that there was ample opportunity for the ducklings to associate the hen's call with her presence for a prolonged period, and thereby to become acquainted with her voice.

Interestingly, according to Gottlieb's laboratory research with incubator-hatched ducklings, wood ducklings are less able than other species (such as mallard) to recognize the call of a hen of their species unless they have been exposed to it beforehand.

When the eggs are hatched another drama begins to unfold that is characteristic to the wood duck:

The exit from the nest of the ducklings.

Within twenty-four hours of hatching the tiny wood ducks are ready to make their entrance into the world. The hen will appear at the cavity hole, sit motionless and watch for any sign of danger. Satisfied, she will drop to the ground (or water) below and begin a low soft clucking sound to call her brood from the nest. Response from the ducklings is almost immediate as they answer her call with a clamor of peeping noises from inside the cavity.

Reaching the entrance is no small chore in itself. Many times the entrance is several feet above the nest cavity but with the aid of sharp claws and short jumps the tiny ducks reach the opening.

Without much hesitation the ducklings make the brave leap into space with tiny wings and feet spread. Some of these jumps have been as high as fifty feet with nothing but hard ground for a landing area.

Rarely does a duckling sustain serious injury leaving the nest. F. H. Kortright, in his book, *Ducks, Geese and Swans of North America*, describes one landing area that was concrete. "The entrance to the nesting box was about 22 feet above a concrete sidewalk. Witnesses to the exodus of a brood of wood ducks hatched in this box in 1939 saw the ducklings bounce as they landed on the sidewalk, but apparently no injuries resulted."

Kortright continued, "if a six-foot man fell a distance as many times his height, his fall would be over 500 feet."

Not all the ducklings make the jump. Like all wildlife only the strong survive. The weak, unable to make the climb, perish in the nest.

Those that do join the hen on the ground are far from safe. Young ducks, unable to fly, face danger at every turn. Winged predators such as hawks and owls prey on the ducklings. Even in the security of the woodland pool, where the wood ducks are growing up, death lurks. Snakes, snapping turtles and large fish prey on the ducks from their watery-world beneath the surface of the pond. Tiny ducklings have even been found in the stomachs of large bullfrogs.

While predation may seem cruel to most, it's nature's way of keeping checks and balances on her creatures. She does a much better job of it than we could ever hope to.

So here we are. Fifty-nine nesting seasons have passed since man's concern for this beautiful duck started. Has the battle been won? Maybe.

Noted wood duck authority, Frank C. Bellrose, says, "The comeback of the wood duck from near extinction provides another example of the importance to posterity of preventing this fate from befalling other species. If the wood duck had become extinct in the early 1900's, the loss of a species that has become alternately the second or third most important game duck to hunters east of the Great Plains would detract considerably from the present level of hunting. No other species of waterfowl has the capability to expand into the range and habitats occupied by the wood duck."

"Habitats occupied by the wood duck." There is the warning. The loss of it is the price we pay for progress. Just how much more progress we're able to stand has yet to be determined. It's not some far away problem. It belongs to all of us.

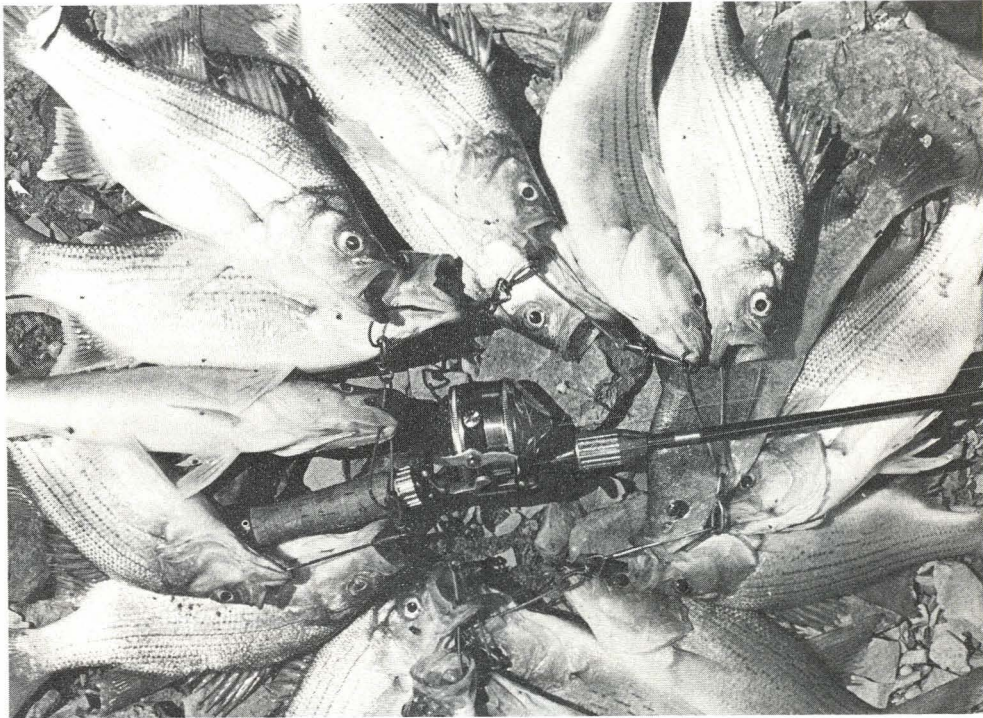
Aldo Lepold, writing in his *Sand County Almanac*, issued the same warning many years ago. "The Lord giveth, and the Lord taketh away, but he is no longer the only one to do so. When some remote ancestor of ours invented the shovel, he became the giver; he could plant a tree. And when the axe was invented, he became the taker: he could chop it down. Whoever owns land has thus assumed, whether he knows it or not, the divine functions of creating and destroying plants."

Progress! I wonder.

To paraphrase a recent television commercial let's look at our most recent hunting regulation. We currently hunt ducks under what is called 'the point system', 100 points is a daily bag limit with each species of duck worth so many points. The wood duck is listed as a 70 point duck. "Expensive . . . but darn well worth it."

Those Whimsical

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By George Valyer

GLENN HOWARD and I had been fishing hard all morning. The water was relatively clear, the late spring sun was shining and there was just a hint of a breeze from the south. Everything appeared to be perfect but the fish stringer in the bottom of the boat hadn't been touched since we left the dock.

It was one of those days when it was just plain good to be alive. We had a whole weekend to fish and, although we had yet to get a strike, it was a pleasant morning to be out on the lake. We had plugged for largemouth bass in a likely looking cove, tried minnows for crappie along the brushy south shore, and even fished for an hour or so with some prepared catfish bait. Still, nothing was stirring.

About noon, a slowly moving boat came by with a couple of trolling anglers. Suddenly one of the rods

arched and, in a few moments, one of the fishermen boated a nice fish. Then, they were off again before we could even be sure what they had caught.

Since it was nearly time to tie on the feed bag, Glenn started our little 5-horse kicker and we headed for beans. Before we had finished gassing our rented chugger, the boat with the two trolling fishermen pulled into dock and we got a chance to look at as nice a string of white bass as I had ever seen. There were 11 of the "sandys" weighing between 1½ and 2 pounds. Glenn and I both blurted out "what did'ya catch 'em on?"

One of the fellows reached into his tackle box and handed me a chrome-plated spoon with a single treble hook dangling from its back end. He immediately produced a pair of wire cutters and proceeded to clip off one of the three sections of the hook. "These 'sandys' just won't hit unless you cut off one section," he explained. "Don't know what the difference is," he said, "but it sure works."

Glenn and I hot footed it up to the concession and bought us a couple of those spoons and I went to the car for my side cutters. While we were devouring our hamburgers, Glenn suggested that we try a little experiment. We'd alter the hook on one of the spoons but leave all three points on the other one. We'd just see if it really made any difference.

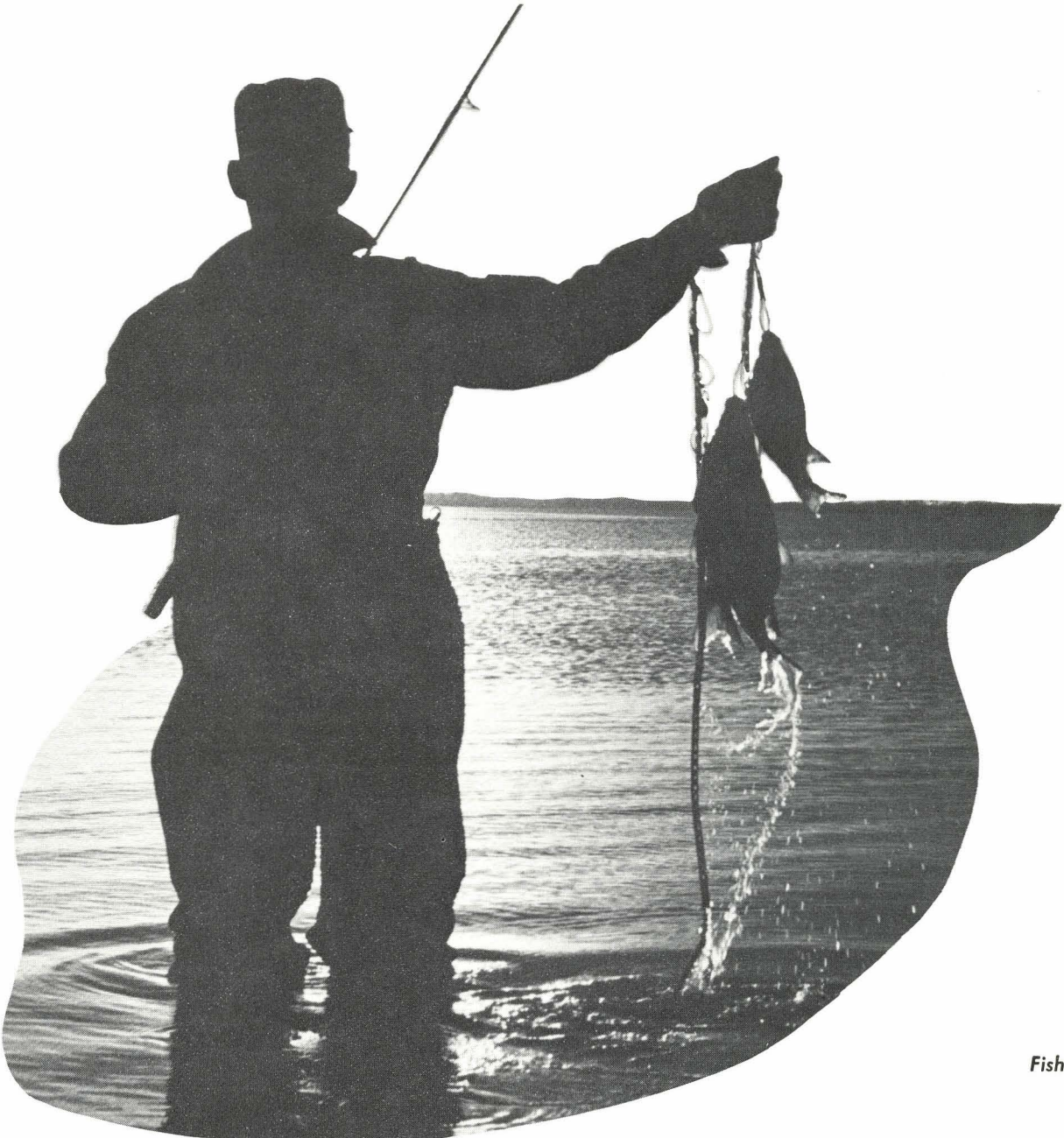
About an hour later, we had the answer. We had been back along the same brushy shoreline for about a half hour trolling slowly. The unaltered lure had received nary a bump but the one bend of the hook cut off had already taken three white bass. It didn't take us long to modify the unproductive lure. We ran into a regular school of whites in a few minutes and both of us caught fish like crazy for a short time.

The whole point of this story so far is to get across the fact that white bass can be very finicky! Like a woman, about the time you think they *is*—they *ain't*. Conversely, when you think they ain't—they *is*.

To illustrate the point, former State Game Protector George Anderson tells me that in the spring when the water temperature reaches about 55 degrees in Cedar Bluff Reservoir, the white bass go on a feeding spree along the dam. For about a week, a yellow jig puts a lot of these fish on the stringer. The next week, you can't seem to buy a strike—unless you hook a minnow on that jig. I guess the word for such behavior is *whimsy*.

Seemingly, white bass will go on a feeding spree and try to eat every small shad in a lake. That is the time when you want to fish a shiny spoon near any surfacing school of fish you see on the lake. But, the next hour, you just can't get a strike at all on a spoon—the only thing they'll hit is a sixteenth ounce white jig. Tomorrow, they might not hit at all.

The white bass has a relatively short history in Kansas, that is unless you go back into the last century. Before the countryside was playing host to many pale-faces of European extraction, the larger rivers leading into the Missouri River system may have contained a few of these scrappy battlers but, apparently, they were never plentiful. By the time the first plows had stirred up enough ground to muddy up the Kaw and its tributaries, the white bass had disappeared from the state. It wasn't until the advent of the first reservoirs that enough suitable water was present to stock them in the Sunflower State.





White bass are one of the most popular species in our reservoirs.

Shortly after Fall River Reservoir was impounded in 1949, plans were formulated at the Fish and Game Commission headquarters at Pratt to obtain a stocking of white bass for the new lake. Apparently, no ready supply of these fish was available from any hatchery. So, Roy Schoonover, Seth Way, Jack McNally and Eugene Herd made a sortie into Oklahoma and proceeded to catch 113 white bass from the Neosho River above Grand Lake. Naturally, all involved purchased non-resident fishing licenses. The fish averaged about 10 inches long and were caught on live minnows during the spring spawning run of 1950.

A few days before the first trip into Oklahoma to collect the fish, Game Protectors McNally and Herd had put a boat into Spring River below the dam at Riverton and floated down into the Neosho near Miami, Oklahoma. On that trip they determined that the white bass had, indeed, started their spawning run and, that evening, they notified the Pratt office. It didn't take "Schoony" and Seth long to get the Diamond T fish truck ready for the trip and, three days later, Kansas had its first stocking of "sandys" safely deposited in Fall River Lake.

The following year, another trip was made to the same area and a load of 117 were hauled to Kansas, this time to Kanopolis Reservoir. From then on, Kansas reservoirs have supplied all the white bass needed to stock additional lakes as they were completed. I don't know whether or not the Fish and Game boys down in

"Okie" ever did find out that their state provided us with white bass but I presume that, after a quarter of a century, someone has let it slip by now.

With the exception of three or four, all the large federal reservoirs in Kansas have a population of white bass. At the present time, Perry, Norton, Webster and Melvern Reservoirs are reported to contain none. However, before someone decides to take a bite out of my hide, I should point out that a few white bass have been reported taken from Melvern. Despite these reports, none have shown up in the creel census taken each year at this eastern Kansas impoundment. Also, it would be foolish to say that no white bass will ever be taken there since many fishermen take it upon themselves to make small stockings in waters where they feel they should be. Of course, this is generally unwise for all species of fish; biologists keep good tabs on most lakes and reservoirs in Kansas and, if they determine that a lake needs a certain species of fish, the Fish and Game Commission will provide it. Many times a species of fish is omitted from the stocking plan because it is felt that its introduction would be harmful for that particular body of water.

Professional management of white bass involves, primarily, the management of the fish's food supply, Bob Hartmann, assistant chief of fisheries for the Commission, says that the most important source of food for white bass is small shad. When a reservoir has a plentiful supply of gizzard shad of the proper size, white bass as well as other predator fish grow rapidly and attain large size.

What is large size for a white bass? Well, the official Kansas record is 5 pounds, 4 ounces and was taken by Henry A. Baker of Wichita in 1966 at Toronto Reservoir. This whopper stood for awhile as the world record but, in 1972, a one-ounce larger fish was taken in Ferguson Lake, California.

Even larger white bass are reportedly seen occasionally in Kansas. Game Protector Jerry Bump of Phillipsburg heard of an exceptionally large white bass while checking fishermen at Kirwin Reservoir in 1968. Before he could catch up with the angler who was camped at the lake, the fisherman had dressed the fish and it was cooking in the skillet. The fellow had weighed the fish on grocery store scales before it was dressed and it tipped the scales at 6 pounds, 1 ounce. However, since no good pictures had been taken and witnesses to the weighing could not be located, it failed to qualify for a state or national record. Rest assured, there is probably a world record white bass somewhere in Kansas and the lucky angler who catches it will have a real trophy.

What does the average white bass weigh? Most fishermen consider a pounder as a keeper and if you get one that weighs four pounds, he is bragging size. Even a three pounder is a fish to admire. Some anglers think they are delicious eating while others consider them inferior. In my estimation, they rate somewhere between a bluegill and a crappie in flavor.

It should be noted that the white bass is not a member of the sunfish family as are bluegill, crappie and the black basses. Rather, it is a member of the temperate bass group which includes the striped bass, yellow bass and giant sea bass. The striped bass, recently introduced in Kansas reservoirs, looks a lot like a white bass but the dark stripes along the sides of the striper are more pronounced than on the white bass. "Whiteys" also have a larger girth for their length than do striped bass. The striper is more torpedo shaped.

The diet of the white bass is somewhat varied but doesn't include as large a variety as the catfishes and black bass. Mr. "Whitey" dines mostly on small forage fish, such as shad, minnows and other small fish, as well as some insects. Live minnows frequently produce good catches but more are probably taken on artificials or a combination of the two such as we previously mentioned. In the springtime, white or yellow jigs are a very good bait. In fact, jigs usually produce well at any time of the year, especially in conjunction with a Colorado or june-bug spinner.

When white bass are after a school of shad, the silver and chrome spoons are very effective when fished at the edge of the surfacing shad. In fact, many anglers watch for evidence of shad breaking the surface of the lake. It usually means that there is a school of white bass pursuing the fleeing shad. If there are gulls around the lake, you can bet they are also looking for those shad breaking water. Keep your eyes on the gulls—they may indicate some good white bass fishing.

A new method of white bass fishing has been dis-

covered the last three or four years. It involves using a battery-operated light floating on the surface at night. The technique is different from the crappie fisherman's lantern hung over the water. A sealed-beam unit is floated on the water surface by mounting it in a block of styrofoam. The light is directed downward. Power for the light comes from the boat, usually the motor's starting battery. The light attracts aquatic insects and small animal life in the water which, in turn, attract shad. The shad attract the white bass.

According to Cal Groen, fisheries biologist at Milford Reservoir, the floating light works best near under-water points and obstructions. The sunken islands are a productive spot for nighttime white bass fishing. Don't neglect the old stream channels or any spot where there is a sharp difference in depth. Just set your light and wait until the shad come to it. Then try a yellow jig at various depths until you start catching those white bass.

This method should work in any lake where the water is clear enough to allow adequate light beam penetration. Lakes where the light beam has proved to be successful include Wilson, Glen Elder and Kirwin as well as Milford. You can buy the lights complete with flotation and cord for under \$15 or you can rig your own for considerably less money. If your boat doesn't have a motor with electric start, you'll need to obtain a 12-volt battery and charger which will run your initial cost up.

One of the better white bass fishermen we know of is Bill King of Ellis. Bill seldom, if ever, fishes from a boat but he comes in with good strings of "whites" when other fishermen strike out. His favorite rig is a beetle spin with a gray jig. King also likes the yellow, white and black jigs. At certain times during the fishing season, he thinks that a rooster tail or a shyster are more productive but he will usually start with a jig first.

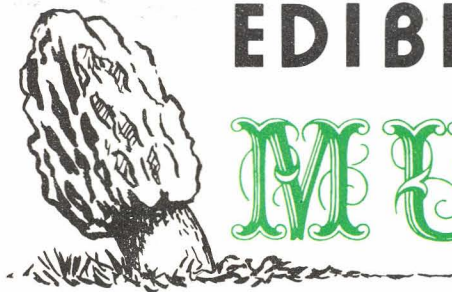
Bill says that it is important how and where you use these baits. He fishes the rocky coves and points and keeps moving until he starts taking fish. He describes his retrieve as "walking the bait." This amounts to a jerky retrieve that moves the lure along in spurts. Bill also suggests that you fish at different depths until you get a strike. Then continue fishing at that depth for at least ten or fifteen minutes. You'll find more fish there.

At lakes where an adequate stream or river flows into the impoundment, white bass usually swim upstream to spawn in April or early May. If you can find a rocky riffle above the lake where white bass are congregating to spawn, you are in fisherman's heaven. During such a run, many fishermen catch a fish on every second or third cast. Live minnows as well as artificial lures are excellent bait for these spawning runs and you can catch 'em on everything but the kitchen sink. Where no flowing stream is present, white bass usually spawn on shallow gravel bars or along the rip-rap of the dam.

Well, now that you know everything I know about white bass, what are you waiting for? Just grab your rod and reel and head for the lake. If you don't catch a stringer full, don't blame me. Remember, those white bass are whimsical.



Photos by the Author



EDIBLE

MUSHROOMS

By Bill Vietti, O.D.

LET'S PUT away the shotgun shells and the stink bait for a few moments, and take a look at some interesting developments underfoot. Too many of us have gone too long kicking over too many "toadstools" that may have been put to better use. The next mushroom you might otherwise scatter all over your yard with your lawn mower may instead make an excellent contribution to your supper. And you don't need a hunting license; you don't have to thread an earthworm on a hook; and you don't have to get up before the sun in order to obtain them.

There are several thousand kinds of mushrooms to be found in the wild. Some are poisonous. Many more are edible and quite good. The remainder are unattractive because of texture, size, taste, smell, or appearance. Fortunately, it is not difficult to learn the identity of a few of the tastiest and most abundant edible fungi in our area.

All of the fungi that I discuss here will be referred to

as "mushrooms." The term "toadstool" will be dropped because it is vague and confusing. Many people use the two terms indiscriminately in describing all fungi. I feel they are more simply called mushrooms and differentiated as edible, inedible, or poisonous.

To be able to enjoy eating wild mushrooms, you need not extensively study the subject and be able to give the scientific names of a thousand different species. You can simply learn to identify a few common types and leave the others alone. A few excellent and inexpensive references have been listed here to provide you with all the information you will need to enjoy edible fungi for a long time to come.

One of the most useful references that I found early in my foraging for mushrooms was the *Edible Wild Mushrooms* booklet by Christensen. It is quite inexpensive and easily obtained through your county extension office. It introduces the reader to about a dozen of the most common edible mushrooms of our area with illustrations of each.

The mushroom season in Kansas extends over about eight months of the year. It begins about April 1 and ends around the last of November. If you are interested in this fascinating outdoor activity, the best time to get started is in the early spring, as this is possibly the most refreshing time to make your searches in the woods. After being cooped up over the winter, you are more than happy to put on a light jacket and get out into the countryside.

From early spring to late fall, learn one mushroom at a time. You soon will know many delicious varieties at a glance. This is not true, however, when you start out. Be cautious. Know for sure what you have collected. Check two or more references. Remember! There are no general rules to follow to avoid poisonous mushrooms. If you have heard any, forget them. Know what you are eating. Know this because you've seen it in the literature, not because your uncle Joe's cousin Bertha said that "If the cap peels off you can eat it." Your response to that should be something to the effect of "Yes, but can I live afterward?" Forget all of those rules. If you don't, someone may wish you had.

You probably have talked with people who wait each year for April to roll around so that they can catch just the right day or week to get out and pick mushrooms. To them, the season is limited to just those few days when the Morels are popping up. I have big news for these folks. If they enjoy mushrooms so well, they are missing out on one heck of a lot of them following Morel season for the next seven months.

The reasons why the morel *Morchella* sp. became so popular are fairly obvious. For one, it is easily distinguished from other mushrooms at that time of the year. It is also easily located in April as the weeds and undergrowth in the woods are just beginning to shoot up for a new season. They also are delicious and are preserved



A solitary shaggy mane mushroom.

well by drying or quick-freezing. But, you can find these properties in other mushrooms. Don't let yourself be disappointed by a poor crop of morels and shrug your shoulders and say, "Oh, well! We'll do better next year." You should be just changing your sights from one species to many others.

The morels signal the opening of the mushroom season

Meadow mushrooms are a common favorite.





A cluster of scaly inkies.

as shotgun blasts in the distance herald the opening of dove season on the first of September. These are the "sponge" mushrooms. Look for them following the first warm rain of the year. I've had the best luck looking in the woods. But, they may even be found under trees in rich lawns. You may find just a few or a bushel full. Take all you can get. Just make sure that they are not decayed specimens. They may be sliced lengthwise, cleaned, dipped in egg and fried, or used in casseroles or sauces.

At this time of year the Inkies are also quite common. There are several species of these and you will find them very plentiful at times. Search for the inkies around decaying tree stumps and buried wood or organic debris. Make sure you gather only fresh specimens as they get quite unattractive after a short period. In general, the inkies *Coprinus sp.* make exceptional sauces and the

Shaggy Mane is often eaten raw by some. If you choose not to eat the ones you have gathered right away, they may be frozen. Just wash and drain and put them in plastic bags and freeze immediately. They will keep for several months this way. A word of caution with this group, however: avoid alcoholic drinks when eating any of the *Coprinus* varieties.

You are also likely to find a few Meadow Mushrooms *Agaricus campestris* early in the spring. This is the wild relative of the commercially grown mushroom we buy in the grocery stores. They are plentiful at times on golf courses and are superb when eaten alone or in sauces, on steaks, or in gravies. They are also preserved well by quick-freezing. Look for them following a rain in grassy places. Make sure the stems or central caps have not been invaded by insects. In the button stage these

mushrooms are quite good, but can be mistaken for other species. Avoid these unless absolutely certain of the identity.

The Oyster Mushroom *Pleurotus ostreatus* also makes its first appearance in mid-spring. I have found that this is a very interesting as well as good-eating mushroom. I never pass any of these by. You are likely, too, to find them even into late November. These are found on dead stumps or trunks of many deciduous trees including elm and willow. I find these to be good just dipped in egg and flour and fried. You will not have trouble finding several good recipes for this mushroom, however.

In the early summer, the puffballs begin appearing. You will find these *Calvatia* and *Lycoperdon* from June to late October. I know that I heard you exclaim, "You've got to be kidding! Puffballs?" You bet. Some are even eaten raw in salads. They are also good when sliced and fried in butter. Here again, they must be fresh and firm. When sliced they should be uniformly white inside. Look for these in meadows or lawns or on decaying wood. You should be pleasantly surprised at their quality of flavor.

Summer also brings the dainty Fairy Ring Mushroom *Marasmius oreades*. You will be able to find this one from then until frost. They are small but when found abundantly, can be dried well for later use. When dry weather causes them to shrivel up, a little rain will again revive them. I think you'll find their taste is very good.

There are many other edible mushrooms of much interest that we have no room for. But these different types above, numbering less than a dozen, will probably produce for you far more mushrooms than you'll be able to use. And these are relatively easy to learn in the field.

You will notice that I have not mentioned any poison-

ous species here. I really feel there is no need in this article. If you learn to identify the species that I have listed above, you will never have to worry about poisoning yourself. Just leave the rest alone. Get a few good references and use some common sense and you will enjoy mushroom hunting immensely. A few good rules to follow are these. Avoid all decayed mushrooms. Don't eat too many at one meal. Don't mix different types at one meal. And always remember to make *sure* of what you are eating. Stupidity can be synonymous with mortality to the mycophagist.

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Fairy ring mushrooms





Kansas Fish & Game NEWS

COMMISSION HIRES DIRECTOR

PRATT—The search is over. The five-member Kansas Forestry, Fish & Game Commission recently announced the hiring of Jerry M. Conley as the agency's new director.

Conley replaces Dick Wettersten who resigned last September to assume a position with Ducks Unlimited. Conley, who at 36 is the agency's youngest director, will assume his new duties April 1. He is currently State Fisheries Superintendent for the Iowa Conservation Commission.

"I'm really looking forward to the new job in Kansas," Conley said. "All things considered, Kansas is in pretty good shape. In fact, a number of states wish they had the natural resources that are left in Kansas."

A native of Cape Girardeau, Missouri, Conley brings an impressive list of credentials to his new position. Holder of both a BS and MS in fisheries, he served as a district fisheries

manager in Utah for nearly five years before moving to Iowa as assistant fisheries superintendent.

In addition to his experience in fisheries, Conley has considerable varied experience in forestry, conservation law enforcement and wildlife management.

The new director and his wife Janet have two children; Mark, age 12 and Wendy, age 7.



BASS LENGTH LIMITS GO INTO EFFECT

PRATT—As the cold winds of winter give way to spring, Kansas anglers begin their migration to a favorite fishin' hole in quest of the one that got away last year.

The Kansas Forestry, Fish & Game Commission reminds fishermen that a size limit on black bass has been implemented on nine water impoundments in Kansas.

The pilot program is expected to pay future dividends by providing more and larger bass as well as bluegill for the sport fishermen. All the lakes where length limits are in effect will be posted. Anglers are asked to read these signs so they will know which length limit regulations apply to that particular lake.

"In six state fishing lakes: Brown, Cowley, Jewell, McPherson, Montgomery and Nemaha, anglers may keep only those bass less than 12 inches in length or greater than 15 inches," said Don Gabelhouse, fisheries biologist from Seneca.

"This is what we call the slot-length limit," Gabelhouse explained. "It's designed to protect the important predator-sized bass of 12 to 15 inches while allowing a harvest of small bass which exist in surplus numbers." Hopefully, this limit

will result in larger numbers of bigger bass. It's important that an impoundment have an adequate number of bass in the 12 to 15 inch class to control the large number of 4 to 5 inch bluegill.

In Wilson State Fishing Lake, a 14 inch minimum length was established on black bass since the lake was recently rehabilitated and there aren't surplus numbers of small bass available.

In Milford and Melvern Reservoirs, the commission set 15 inch minimum length limits on black bass. Again, there simply aren't surplus numbers of small bass available which could be harvested and still maintain quality fishing for larger bass.

The black bass family includes largemouth, spotted (Kentucky) and smallmouth bass.

There will be some mortality of illegal sized bass returned to the water by anglers, but this loss should not be significant. Handling of any illegal size bass is important. Refrain from handling the fish any more than necessary and hold them by their lower jaw. Use dehookers when necessary and cut your line if the hook is deeply imbedded as the fish can dissolve the hook if it is not injured.

ATTENTION FISHERMEN

A LENGTH LIMIT HAS BEEN IMPOSED ON
BLACK BASS AT
NEMAHA STATE FISHING LAKE
TO IMPROVE THE QUALITY OF FISH AND FISHING.

POSSESSION OF BLACK BASS FROM
12 TO 15 INCHES LONG IS UNLAWFUL;
ALL BLACK BASS CAUGHT OF SUCH SIZE MUST BE
RETURNED TO THE WATER IMMEDIATELY,
AS PER REGULATION 23-3-2

YOUR COOPERATION IS APPRECIATED!

KANSAS FORESTRY, FISH AND GAME COMMISSION



WE ALL NEED CLEAN WATER

NATIONAL WILDLIFE WEEK • MARCH 20-26 1977

JOIN AND SUPPORT THE NATIONAL WILDLIFE FEDERATION AND STATE AFFILIATES

"We All Need Clean Water"

A female brown bear and her cubs stand in a rushing stream, symbolizing the theme for National Wildlife Week 1977: "We All Need Clean Water." The National Wildlife Federation marks its 40th annual sponsorship of National Wildlife Week from March 20-26, 1977.

GAME PROTECTORS
BUSY IN 1976

PRATT--The Kansas Forestry, Fish and Game Commission had a busy 1976 with violators of Kansas hunting, fishing and boating laws.

According to figures released this week by Harold Lusk, Pratt law enforcement chief for the commission, there was a 25 per cent increase in arrests and convictions over 1975.

During the year game protectors checked 57,653 licenses and arrested 4,426 violators resulting in collections of \$75,571.74 in fines. An additional \$33,566.88 was collected for court costs. Money collected from fines is returned to the school fund of the county in which the violation occurred; court costs are retained by the courts.

The most common violation found by game protectors during the hunting season was hunting without a license. A total of 414 tickets were issued for this violation. The most costly infraction of hunting laws was taking deer during closed season. An average fine for this violation amounted to \$224.

During the 1976 fishing season a total of 1,422 persons were cited for not having a valid fishing license. Taking fish by illegal methods accounted for 319 arrests.

Failure to have sufficient number of coast guard approved life jackets on boats led the list of boating violations with 619 arrests.

In addition to law enforcement duties, game protectors chalked up 1,857 hours presenting programs to civic clubs and schools and 1,360 hours on hunter safety education. Boating safety work accounted for 5,520.

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DEER KILL DRAWS
LARGE FINE

ATCHISON--Violations of big game hunting laws has once again proven to be a costly venture, according to the Kansas Forestry, Fish and Game Commission.

Michael Handke, Atchison, was charged on Dec. 21 with illegal possession of a deer during closed season. Handke appeared before Magistrate Judge Richard Dempster on Jan. 18, entered a plea of guilty, and was assessed fines and court costs totaling \$360. In addition to the fine, Handke was paroled from a 30-day jail sentence for six months and all this hunting and fishing privileges were suspended for three years.

State Game Protector Frank Nesmith conducted the investigation and made the arrest. Nesmith was assisted by officers of the Atchison Police Department who had notified him of the violation.

###

NEW REARING PONDS
FOR JOHN REDMOND RESERVOIR

PRATT--The Army Corps of Engineers and the Kansas Forestry, Fish and Game Commission have initiated a cooperative walleye rearing program for John Redmond Reservoir.

The Corps will build and maintain a 15-acre rearing pond and three smaller forage ponds, according to Leonard Jirak, fisheries biologist for John Redmond Reservoir. These ponds will be managed by the Fish and Game Commission and are expected to produce 30 to 50 thousand walleyes from 6 to 9 inches long for stocking in Redmond Reservoir.

Jirak reports that this is the first time that the Corps of Engineers and a state fish and game department have cooperated in this kind of project on fish culture in Kansas.

-cm-

KANSAS MASTER ANGLER AWARD

Caught a big fish lately? Maybe it wasn't quite record size but it was surely something to be proud of. Well, if that's the case, we'd like to remind you about the Fish and Game Commission's Master Angler Award.

A few years back, the Commission started looking around for a way to recognize an exceptionally big fish and the angler who caught it. So--the Master Angler Award was born. Since that time, several hundred fishermen have caught one of those bragging sized fish and they have a certificate to prove it.

If you would like to receive official recognition for the whopper you caught, the rules for entry are simple. Just have the fish weighed on scales legal for trade in the present of two witnesses. If the weight exceeds the minimum called for on the application for that particular species, have a clear, sharp photo taken of you and the fish. Send the photo along with your completed application to the Fish and Game Commission. If everything is OK, you'll receive a certificate suitable for framing which will attest to your prowess as an angler.

Hop to it! See if you can't join the ranks of Master Anglers in Kansas.

-gv-

MASTER ANGLER AWARD APPLICATION

INFORMATION & EDUCATION DIVISION
Kansas Forestry, Fish & Game Commission
Box 1028, Pratt, Kansas 67124

SPECIES: _____

WHERE CAUGHT: _____

WEIGHT (On scales legal for trade): _____ lbs. _____ ozs.

WITNESSES TO WEIGHING (List at least two)

Name Address

Name Address

LENGTH OF FISH: _____ GIRTH: _____

METHOD OF TAKING: _____
(Rod & Reel, Trotline, Etc.)

BAIT OR LURE USED: _____

WHEN TAKEN: _____
Date Time of Day

Signature of Angler

Full Address

NOTE: A close-up photograph of each fish submitted for an award should accompany this application, so that positive identification can be made. In case of doubt in regard to species, a local game protector or fisheries biologist should be contacted. (Use reverse side for additional comments.)

Minimum sizes for fish to qualify for Master Angler Awards include:

Largemouth (Black Bass) 7 pounds
Spotted (Kentucky) Bass 1 pound
Striped Bass 25 pounds
Channel Catfish 15 pounds
Flathead Catfish 50 pounds
Northern Pike 15 pounds
Warmouth Bass 1 pound

Walleye 6 pounds
Crappie 2 pounds
Bullhead 2 pounds
White Bass 3 pounds
Bluegill 1 pound
Smallmouth Bass 1 pound

PADDLEFISH SNAGGING
SEASON ESTABLISHED

PRATT--The framework for the annual paddlefish snagging season in Kansas has been established by the Kansas Forestry, Fish and Game Commission.

According to Roy Schoonover, Pratt, chief of the commissions fisheries division, the season framework is March 10 through May 22. As in past years, the only area open to snagging is a short stretch of the Neosho River below Chetopa Dam in Southeast Kansas.

The exact season dates will be determined by law enforcement and fisheries personnel in southeast Kansas. The river will be posted when it is open to snagging paddlefish, and news media will be notified. When not posted, the season is closed.

"Dates of the paddlefish snagging season are subject to short-term change within the framework because of changing river conditions," said Schoonover. "Under certain conditions, the river can be closed to snagging if other game fish are congregating in large numbers and there is risk that anglers will snag the wrong species."

For the first time a daily creel limit of two paddlefish will be in effect during the snagging season. Rough fish, such as carp, buffalo suckers and others, can be snagged too, but fishermen are warned that any snagged game fish must be immediately returned to the water.

Legal hooks may consist of not more than two single-shank hooks, or one single-treble hook not larger than No. 1.

###

RENEWAL NOTICES
ON THE WAY

If you are one of the many who subscribed to KANSAS FISH AND GAME when a fee was just started last year, then you will soon be receiving a renewal notice in the mail. It is the policy of the Fish and Game Commission to let you know ahead of time before your subscription lapses. These notices will be mailed about April and renewals received (not just mailed) prior to May 31 will be assured of receiving the July-August issue. If your renewal is received after May 31 you will miss the July-August magazine.

Although printing costs have continued to rise, your renewal price will continue to be the same as when you first subscribed. We want to keep the cost low so that everyone can afford to enjoy reading about the great outdoors in Kansas.

It will be a big job to get out all those renewal notices but, thanks to our mechanical and electronic brain called computer, the job will be relatively easy. So, if you enjoy KANSAS FISH & GAME like we think you do, we'll hope to hear from you soon.

###

CHANGE OF ADDRESS NOTICE

KANSAS FISH & GAME has a new computerized magazine subscription process which starts with the July-August 1976 issue.

If you move or have a change of address, but want to continue receiving KANSAS FISH & GAME, it is imperative that we have the address label from your July-August 1976 issue or from later issues.

Address labels from issues prior to the July-August, 1976 can not be processed. Simply cut the address label from your July-August issue, attach it to the form below and send it too:

KANSAS FISH & GAME
P.O. Box 1028
Pratt, Kansas 67124

Thanks.

Attach magazine address label here.
Address label MUST come from July-August 1976 issue, or from subsequent issues.

	1st Initial	2nd Initial	Last Name
NAME	<input type="text"/>	<input type="text"/>	<input type="text"/>
FIRM, TITLE, BOX NUMBER (Leave blank if not applicable)	<input type="text"/>		
STREET OR ROUTE	<input type="text"/>		
CITY	<input type="text"/>		
STATE	<input type="text"/>		ZIP CODE <input type="text"/>

PLANS UNDERWAY FOR
SECOND HUNTER SAFETY WORKSHOP

The Athletic Arena at Hutchinson, Kansas will be the site for the second Kansas Hunter Safety Workshop, April 23 according to Royal Elder, coordinator of recreational safety and education for the Kansas Fish and Game Commission.

Elder said he is expecting, 2000 instructors and spouses to attend the workshop which is being hosted by the Reno County Association of Kansas Hunter Safety Instructors.



"The workshop will be a chance for Kansas Hunter Safety instructors to refresh and exchange teaching techniques and ideas," Elder said. Several training sessions will be held through the day and a program and banquet is planned that night.

Speaker for the evening banquet will be Ray Arnett of Stockton, California. Mr. Arnett is president of the National Wildlife Federation.

In addition to several other out-of-state speakers, Governor Robert Bennett, commissioners of the Fish and Game and the newly appointed director of the agency will be attendance.

A. Lee Robertson, known by the Indians as Pokiee Kwiat, will be one of the featured speakers for the workshop. Robertson, an internationally known figure in buckskinners, has taught survival in all eight of Utah's universities and junior colleges.



Sunflower

BACK PACKING

By Kenneth Highfill

BACKPACKING is a form of transportation which compels modern people to reevaluate their relationship with nature. The dedicated backpacker is so primitive as to suggest that experiences in the outdoors are not dependent upon the number of cubic inches in an engine or a 4-wheel drive vehicle. As a method for moving gear, backpacking skills can be applied in canoeing, fishing,

archery, firearms hunting, wildlife photography and research.

Most backpackers are pragmatic. As long as the individual is comfortable, does not litter, cooperates with landowners, practices outdoor camping ethics, and does not violate the rights of others, there are few rules to follow.



Where to backpack in Kansas? Some public areas in Kansas which offer opportunity include: Kirwin Reservoir, Kanopolis Reservoir, Wilson Reservoir, Scott County State Lake, Perry Reservoir, John Redmond Reservoir, and the forthcoming Clinton Reservoir (near Lawrence). Clinton Reservoir will have a system of backpacking and hiking trails.

There are some splendid Kansas areas to backpack. As with any other form of outdoor recreation, permission to use private land involves sincere diplomacy.

Adequate equipment is important to the backpacker. There is a tendency among beginners to over invest in equipment. Just as hunters and fishermen must beware of being sold items they really don't need, backpackers should also be alert.

A good bet is to purchase equipment from outfitters of proven experience and reliability. Renting or borrowing backpacking gear before purchasing equipment may be a reasonable course of action for the beginning backpacker. Another recommendation directed to the beginner is to confer with several experienced backpacking friends concerning gear. Although backpackers are notoriously prejudiced about their own equipment, they can actually become fairly objective when assisting a neophyte.

The Backpack

A backpack is a combination of a packbag and a back frame. The packbag fits upon the frame. Clevis pins and split rings or attaching wires are used to attach the packbag to the frame. Commonly, the backpack is sold as a unit, but packbags and frames can be purchased separately to meet the customer's particular needs.

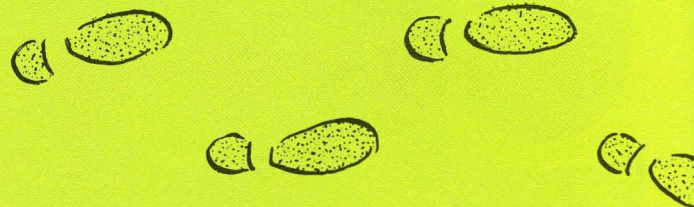
The following check list may be important to the backpacker: 1. Buy a backpack with padded hip belts and padded shoulder straps. 2. The backpack must fit the buyer's body. One should not be pushed into buying a backpack to small or too large because of price or convenience.

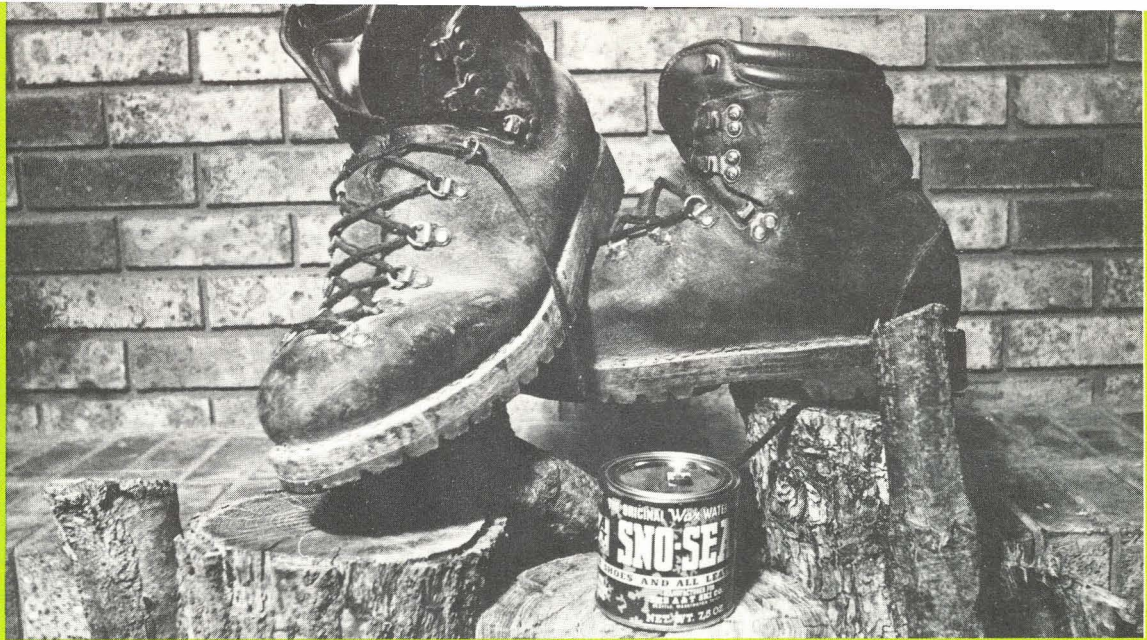
It may look peculiar when purchasing a backpack, but it is advisable to take along thirty pounds of potatoes in three or four clean sacks. With the clerk's approval, the customer can insert the sacks of potatoes in the packbag and walk around for ten minutes.

The hip belt of a properly fitting pack, containing thirty pounds of weight, should ride so that the backpacker can place his/her hands on the hips and the top of the hip belt comfortably. A pack which is too small will have a tendency for the hip belt to aline above the hips and into the back. The frame's webbing should prevent the pack from rubbing against the hikers back. When the hip belt is secured, the shoulder straps should aline nearly straight across the top of the shoulders. Binding the shoulders with shoulder straps can seriously reduce circulation in the arms and cause sleepless nights because of shoulder pains. The weight within the backpack should be supported by the hip region—not the back or shoulders.



The padded hip belt, adjustable extension bar, and lifetime frame of the Kelty Tioga appeal to serious backpackers. With two large compartments, six pockets, and an area to secure the sleeping bag, the Tioga supplies ample room.





For weekend Kansas backpacking trips, a pair of oil-tanned leather hunting boots treated with Neatsfoot oil is satisfactory. On longer trips with challenging terrain and heavy packs, high top boots have a tendency to rub the calf of the leg and the tendon of Achilles.

A high gap between the top of the shoulders and the secured shoulder straps indicate that a pack is too large. Such a fit could create an interesting situation when exact balance is required on a hike.

It is truly frustrating to see people backpacking in pain because of an improperly fitted backpack.

3. An inspection of seams of the packbag is important. A single stitched seam through thin nylon is an indicator of a cheap packbag. The grommets should be secure and properly placed. A new bag should not have damaged clevis pins.

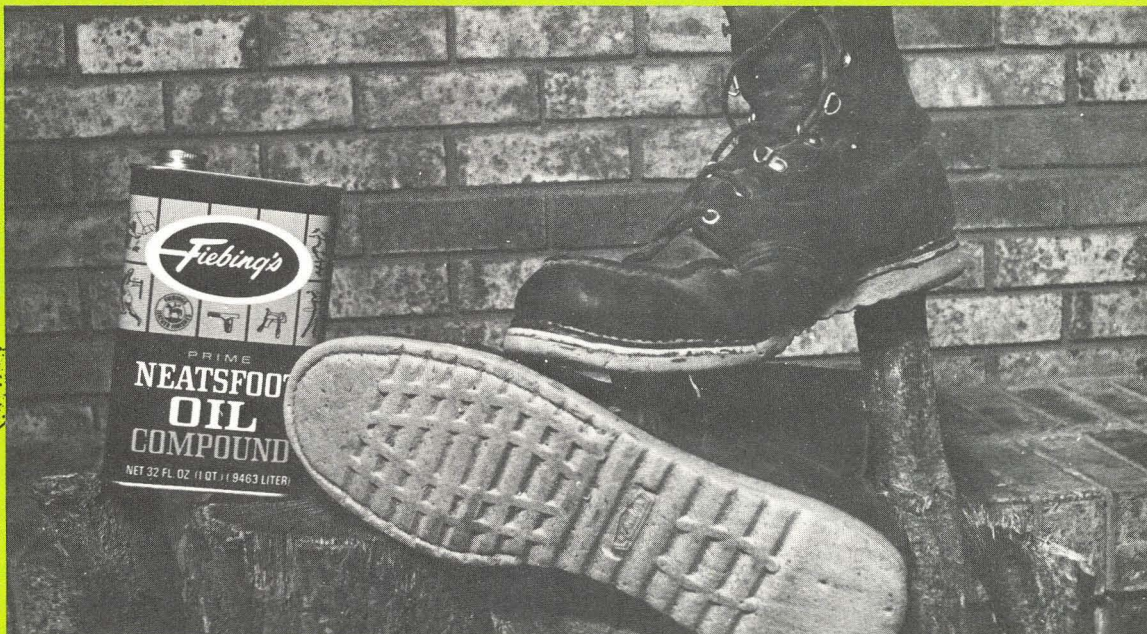
4. The welding of the frame is an important consideration. A broken frame can be a serious problem ten

miles from the car. Unless the backpacker intends to participate in semi-expedition or expedition backpacking (extending more than ten days), the "life-time warranty" frames are not normally necessary.

5. The zippers of the packbag should be well sewn and supported. At least two pockets on each side of the pack, a large pocket on the base of the packbag, and a map pocket are recommended.

Whether a packbag is divided or not depends upon the preference of the buyer. Divided bags on trips have a tendency to create the same complications as a new snake bite kit; nothing seems to fit back in place the way it was before the packer left home.

Quality boots require special care. Snow-Seal is especially good for treating chrome-tanned leather. The boots in the photograph have Vibran soles; however, Vibran soles are not necessary for most Kansas backpacking.



There are backpacks on the market which will meet the needs of most Kansans for under \$35.00. One to examine is the large standard cruiser bag and frame by R. E. I. In the \$50.00 range, the EMS Backpacker by EMS deserves inspection. In the \$80.00 category, the Kelyt and Trailwise are the semi-expedition monarchs.

The Sleeping Bag

As with the backpack, the backpacker should decide under what conditions he/she will need a sleeping bag. Sleepless nights due to a poor quality sleeping bag is a regrettable way to spend an outing.

When backpacking, you should hope to enjoy every second of the experience. The enjoyment will include a good night's sleep whenever possible. Most of us remember nights as children with wet cotton bed rolls, mud, and mosquitoes. With the availability and price range of sleeping bags on the market, there is no need to be a backpacking masochist.

For summer Kansas use, a comfortable two or three pound bag is ideal. In fact, a heavier bag would be uncomfortable in the summer.

The fill of the sleeping bag is paramount. Fills commonly include down (goose or duck), Dacron 88, Dacron Fiberfill II, or Celanese Fortrel Polarguard.

Goose down, gram per gram, is the best insulator for sleeping bags under dry conditions. Many excellent backpackers and outdoorsmen/women would not consider any other sleeping bag other than one constructed of down. However, when down becomes wet, its insulation quality is significantly reduced. In addition, if down becomes wet, it is difficult to dry and clean.

If the purchaser wants a sleeping bag which can be taken on an early spring canoe trip, used to backpack in the Flint Hills, or tossed in a wet duck blind before dawn, examine the four to six pound synthetic Dacron Fiberfill II or Celanese Fortrel Polarguard sleeping bags. When wet, the Fiberfill II and Polarguard sleeping bags will insulate the body.

Strictly for camping in Kansas during the summer months, a four to six pound sleeping bag would be ridiculous. A two or three pound synthetic bag is adequate for Kansas summers.

With reasonable care, upon returning from a camping trip, Fiberfill II and Polarguard sleeping bags can be tossed in a large front loading washer with Woolite and be ready for another trip after an hour in the dryer. Down requires special dry cleaning.

In considering cost, it is interesting to note that an excellent goose down bag will cost twice to three times as much as a quality synthetic sleeping bag.

The following check list may be important:

1. What is the fill of the bag?
2. Weight should be a consideration for a backpacking sleeping bag.
3. The filler for the outside or inside shell of a sleeping bag should contain cotton. Cotton dries fast in hot winds but cotton is a sponge in the construction of sleeping bags.

4. **The zipper should be plastic** or nylon to prevent heat loss. The zipper should be heavy duty. The number 10, two-way, YKK zipper is dependable. Small ganteel zippers are designed strictly for station wagon camping.

5. The outside and inside shell of a sleeping bag should be constructed of ripstop nylon.

6. **It is a matter of preference**, but if a bag is purchased six to ten inches longer than what is comfortable to the buyer, clothes can be stuffed in the bottom of the bag to assure comfortable mornings.

The sleeping bag will probably be sold with a heavy duty stuff sack. A stuff sack should hold the sleeping bag, a flashlight, and an ensolite pad. When placing a Fiberfill or Polarguard in the stuff sack, it should be stuffed not rolled. A stuff sack reduces the loft of the sleeping bag so they should not be left in a stuff sack over an extended time period.

Strictly as a Kansas summer bag, there are a wide selection of good sleeping bags under \$35.00. Summer sales commonly produce bargains. For under \$50.00, there are four pound synthetic bags sold by several outfitters. For Kansas or Colorado as a late fall, winter, and early spring advanced backpacker bag, a recommendation is the Paul Petzoldt's Wind River Bag by PPWE. The bag weighs six pounds, is constructed of Polarguard, and is manufactured in the United States. Sleeping bags to be compared with the Petzoldt's are the Snow Lion and the NorthFace. Quality synthetic bags are approximately \$80.00.

The Tent

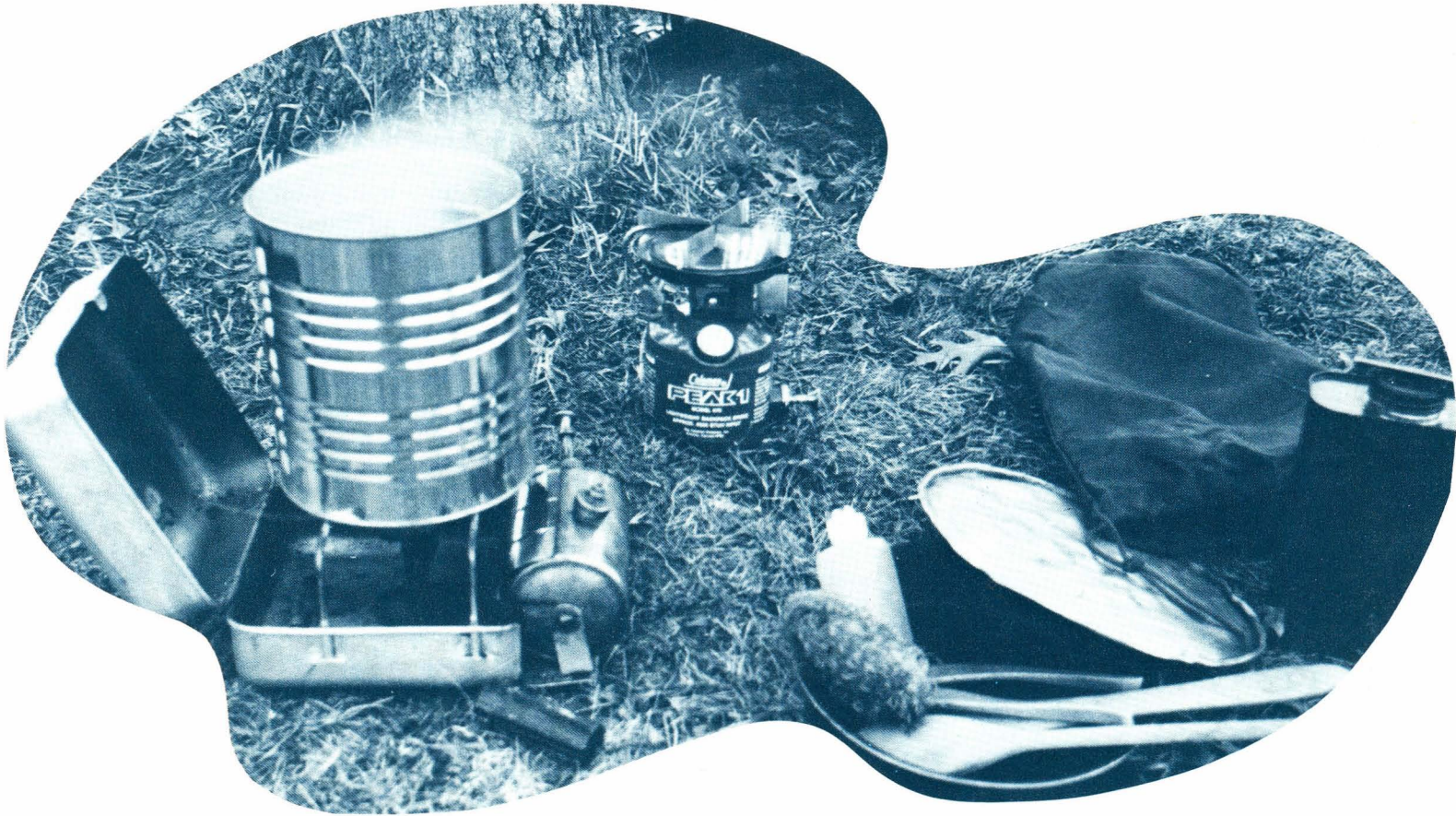
In Kansas, for most backpack camping, a tent seems appropriate. Kansas is one beautiful state but on occasion campers have encountered mosquitoes, ants, chiggers, poison ivy, and a poisonous snake. To avoid such pests, tents with floors and insect nets are justifiable.

Practical tents include light canvas or nylon construction. Nylon tents offer durability and are lightweight. Properly structured nylon tents allow air and moisture passage to the outside.

A common discount nylon tent is one which is waterproof and lacks a fly. In such a tent with human body respiration and a heavy rain, the tent becomes a "boat."

The following check list may be informative to the tent buyer:

1. The tent should be constructed of non-coated rip-stop nylon except for the coated floor which extends up the sidewalls several inches.
2. A reasonable size for a two man tent is 7½ feet by 5 feet by 3½ feet.
3. **The weight for the tent**, fly poles, and stakes should be less than eight pounds.
4. A polymer coated nylon rainfly is essential during wet weather.
5. The tent should have dependable nylon or plastic zippers.
6. There should be adequate window and entrance ventilation. Insect netting and closures should be available at all openings.



In the left foreground is the pressure pump Optimus 111B stove. In the center field is the new backpacking innovation from the Coleman Company, the PEAK 1 stove. Also included in the photograph is the basic cook kit for two people: extra fuel can, 1 fry pan, lid for the pan, a spatula, a pot grip, a wooden spoon, match case, an empty three quart food can, and a carrying bag for the kit.

7. A double A-frame construction will help keep the tent taut and stable during high winds.

Companies which provide a wide selection of excellent backpacking tents include R. E. I., EMS, and PPWE.

The Food Bag

A practical way to pack food is to wrap each item in a heavy duty, plastic 4½ gallon baggie. The food, when packed in baggies, has additional water protection, is easy to handle, and can be identified. It is best not to overfill the baggies and to simply tie the bag with the neck of the bag. After use, the baggies can readily be burned in a campfire or packed out.

There are a couple of problems associated with backpacking with cans and other wrappers. One complication with cans is additional weight. Another problem arises with the tendency for campers to pack containers in but not out. Aluminum foil, cans, boxes, and wrappings can create an unsightly mess. When packed in, such refuse is too easy to cast aside or bury. A campsite need not resemble a modified landfill.

After the bags of food are wrapped, the food can be placed in a food bag. A food bag produced by PPWE is an excellent investment for less than \$10.00.

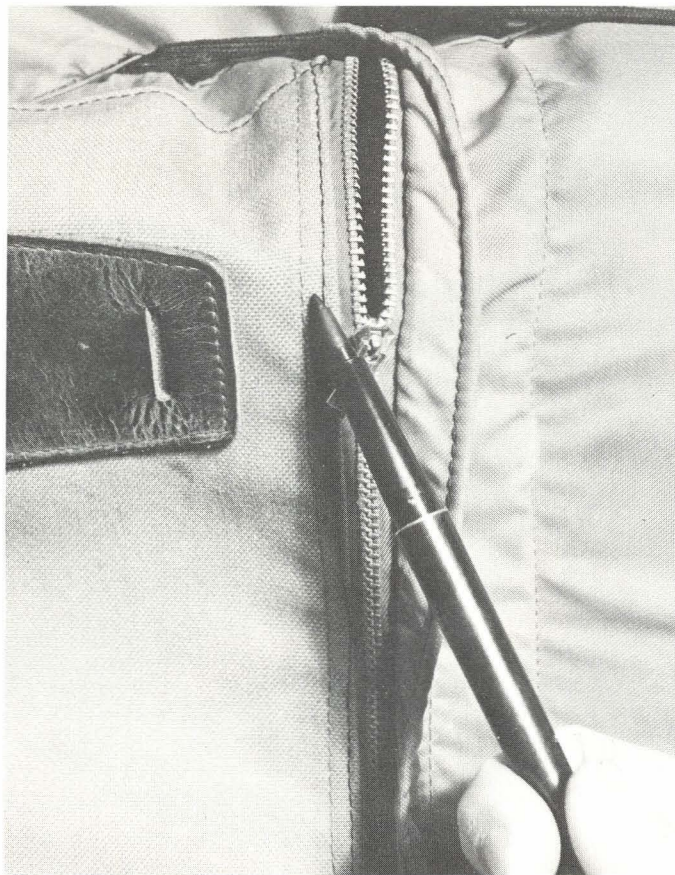
The Stove

For speed and efficiency, a lightweight backpacking stove is a good investment. In fact, in some Kansas camping areas due to limited firewood or fire hazard, it would be advisable to pack a stove. There is a major problem with any backpacking stove on the market; they are expensive.

The Optimus 8R or the Svea 123R are likely the two most common dependable stoves used. A newly developed Optimus mini-pump should increase the usability of the 8R and Svea 123R for winter camping and high altitudes.

Another stove which is appealing to backpackers is the MSR. The MSR is approximately one pound in weight and is the lightest stove for its heating power on the market.

This fall, the Coleman Company is marketing a new stove which may be the best thing to happen in backpacking since white gas. The stove is about the size of a one pound coffee can and weighs two pounds. A variable flame control allows the ten ounce tank to burn one and a half hours at full setting and three hours on the lowest setting. The stove has a pressure pump and a windshield. The retail price is \$28.00.



Double seams, a durable zipper, and zipper weather flaps are important in the selection of a quality packbag.

Stoves which use replaceable cartridges seem attractive to beginning backpackers. However, the cartridges must be replaced and soon add expense to the stove. Another factor is the fate of empty fuel containers. Commonly, the tanks are scattered or buried at camp sites.

One other suggestion involves buying a stove which has a wind shield. Late in the evening, during a 45 mile an hour gale, is no time to determine that the stove has no wind shield.

An alternative to the backpacking stove is the pit fire. The use and construction of pit fires is rather involved and is described in *A Guide to Group Backpacking*.

The Footwear

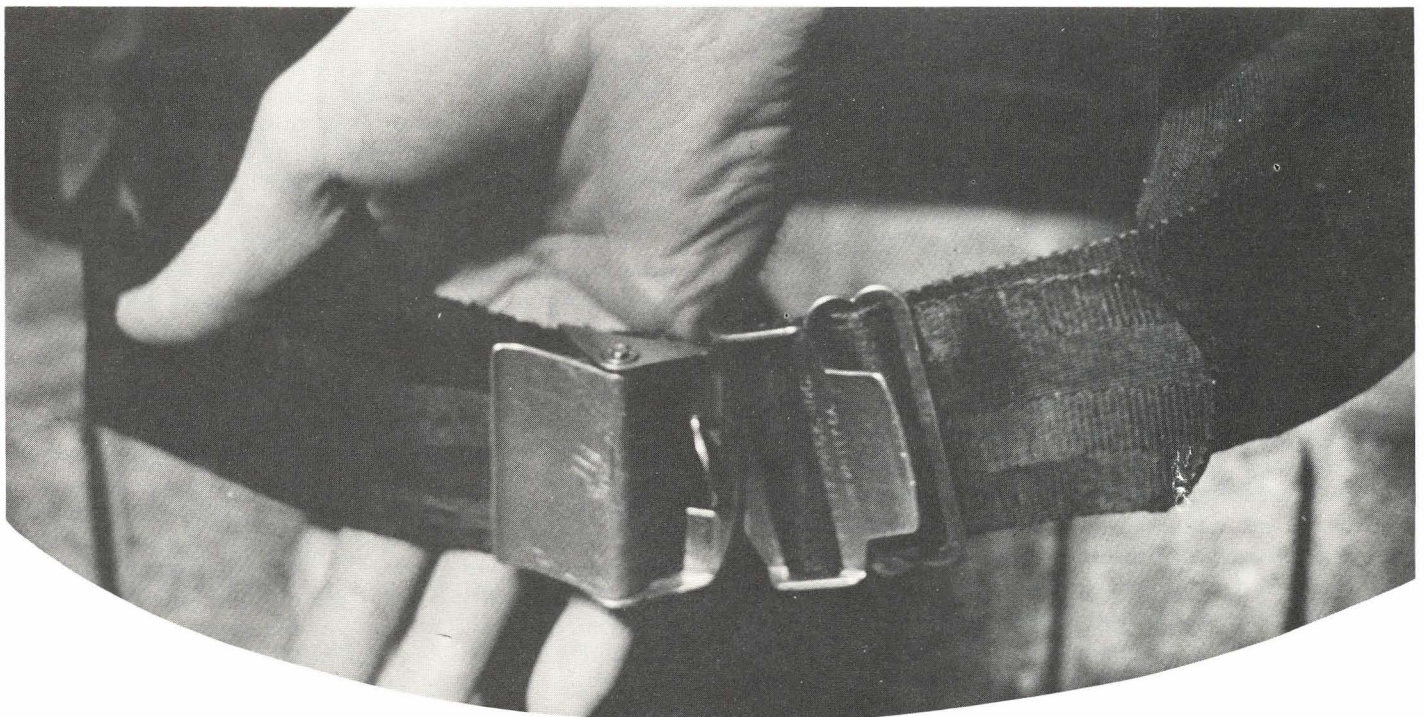
Protection of the feet is a major concern for all backpackers. Blisters and painful feet need not be common in backpacking.

Whether the Kansas backpacker wants to wear tennis shoes, hiking shoes, or boots depends upon the terrain and the time of year. Tennis shoes and a pair of cotton socks would probably work well for a summer backpacking weekend at the lake. For high, rolling hill terrain when ankle and foot support is necessary, hiking boots should be worn.

Wool socks, even when lightweight, help reduce friction, concussions to the feet, and foot moisture while backpacking. If you plan to wear two pair of wool socks, it is essential that footwear be purchased to accommodate the feet and extra socks.

For winter and cold conditions, two pairs of heavy wool socks are recommended. The socks should be at least 80% wool.

A "quick release" hip belt buckle is a useful accessory on a backpack.



The active backpacker will commonly have two pairs of boots. One pair will serve during warm weather and the other pair are used during colder months.

Another consideration for hiking in remote Kansas during warmer times of the year is the possibility of encountering poisonous snakes. High top boots or gaiters have immediate appeal for such an event and also reduce problems with weed seeds in the socks during late summer and early fall.

High top boots can be a problem for the backpacker. If the high top boots rub against the calf tendon, a low cut backpacking boot and gaiters will prevent hiker's tendonitis.

Unless you're winter camping or hiking in rocky or hilly regions, Vibram soles on the boots are not essential. Crepe rubber soles on boots are more practical than Vibram for most Kansas backpacking.

Moleskin should always be a part of your first aid kit. Moleskin can be purchased at the "foot care" section in any drug store. If used at the first sign of foot irritation, moleskin prevents blisters very effectively.

Commonly in boot care, Neatsfoot Oil is used on oil-tanned leather and Sno-Seal is applied to chrome-tanned leather. For general care of any leather outdoor boot, it's difficult to find a dressing better than Sno-Seal.

Waterproof boots may have some appeal to backpackers. Realizing however that feet perspire, what is to prevent the socks from becoming soaked within and resulting in an impromptu day long foot sauna?

Cooking Kit

The equipment needs for two people cooking should include the following: one fry pan and lid, a spatula, a pot grip (PPWE), a wooden spoon, matches, an empty food can (three quart size), and a 2½ gallon plastic collapsible water bottle. A carrying bag for the cooking gear is handy and protects other equipment from grease.

Trail Dress

For backpacking during warmer months in Kansas, the hiker will probably need a felt hat to cool the head and to act as a sun shield, a pair of sunglasses, a long sleeve cotton shirt, a pair of blue jeans or shorts, and two light pair of wool socks. Unless the backpacker changes socks frequently, cotton socks will collect moisture and increase the chances for a blister. At a 5:00 a.m. breakfast on a rain soaked sandbar, wool pants, wool stocking hat and a wool shirt will be comfortable regardless of the season.

Another complication with summer and early fall backpacking in Kansas is chiggers. My father-in-law has taught me a trick for dealing with chiggers. Before trekking through grass or weeds, it is advisable to drop the trousers and lightly sprinkle sulfur powder on the crotch of the trousers, being certain some of the dust falls into the pant legs and socks. The simple one step procedure reduces possible encounters with chiggers.

Plenty of suncream should be applied during the summer. Dehydration, sun stroke, and/or heat exhaus-

tion are potential dangers while backpacking in Kansas during the summer months. A hiker loses water by respiration, urination, and perspiration. A dark color to the urine should serve as a serious indicator of dehydration. When dehydration reaches a significant level, dizziness, tingling in the arms, and loss of balance can result. Five to ten small granules of ice cream salt and at least a gallon of water per adult per day should be planned while backpacking in the heat.

Early spring, late fall, and early winter in Kansas offers the backpacker diverse weather. During these times, wool pants, shirt, stocking hat and mittens should always be immediately available. A felt hat will assist in warming the head, breaking the wind, and protecting you from rain or snow. A bandanna around the neck will help close wind entrances to the chest.

Severe winter conditions in Kansas can be so dangerous for backpacking that such a topic is beyond the intent and direction of this article. Harsh winter days with chill indexes in the -20's should be reserved for advanced and expert outdoorsmen/women.

General Information

1. To protect the sleeping bag and to insulate the backpacker's body from the ground, ensolite pads are excellent. A handy ensolite pad is one which is ¾" x 28" x 56". For sleeping, the pad should extend from the back, at the shoulders, down to the thighs. For winter camping, two full body length ensolite pads should be considered.

2. **Fires should not be used in potential wild fire areas.** Smokers should be especially careful. Cigarette butts should be packed out.

3. Latrines are a common part of outdoor living and should be at least 200 feet from ponds, creeks, rivers, and springs. A latrine for two is constructed by cutting a plot the width and length of the shovel blade. Once the plot is removed, a hole should be dug about 1½ feet deep. When there is no fire hazard, the paper should be burned. Waste should be covered by sprinkling with soil. The latrine must be filled in before leaving the camp. Latrines should be dug in an area which will assure privacy.

In case of emergency "nature calls" on the hike, a shallow hole may be dug or a large rock may be turned. When possible, the paper should be burned. The rock should be replaced in its original position.

3. Bathers should never take soap or detergent into rivers, creeks, ponds, or springs. If the backpacker intends to "soap up", it is best to fill a 2½ gallon plastic water bottle and use the water to rinse in an area which will not permit soap suds to flush back into the pond or stream.

4. All waste foods should be burned, buried, or packed out. If excessive garbage is buried, wild animals will dig up the miniature landfill and leave the landowner disgusted.

5. It is a good idea to physically precondition before attempting extensive backpacking.

6. Biodegradable soaps should be used in the outdoors. Vel bar soap is biodegradable.

7. Avoid placing wet boots in the immediate vicinity of a campfire or oven. The heat will cook the leather and result in a poor quality jerky.

8. With a little imagination, dehydrated foods from grocery stores provide excellent meals at a fraction of the cost of prepackaged freeze dried backpacker foods. With a little planning, cinnamon rolls, pizza, pies, biscuits, and cheese cake are all a part of the backpacker's menu.

9. Army surplus stores are good outlets for inexpensive wool clothing.

10. Unfortunately, most of the water from ponds, creeks, lakes and rivers in Kansas when untreated is not suitable as drinking water. Unless the backpacker knows that the water is safe for drinking, water purification or packing uncontaminated water are the solutions.

In conclusion, this article is merely an attempt to summarize recent information for Kansas backpackers and potential backpackers. In the author's opinion, there is definitely a need for a Kansas association of backpackers. The organization could serve as an education group for the backpackers in the state. In addition, such a group could coordinate efforts with other organizations through

interstate and intrastate communication to promote improved conservation and management of our natural resources. Anyone interested?

Listed Backpack Suppliers: (EMS) Eastern Mountain Sports, 1041 Commonwealth Ave., Boston, MA 02215; (MSR) Mountain Safety Research, 631 South 96th St., Seattle, WA 98108; The NorthFace, 1234 5th, Berkeley, CA 94710; (PPWE) Paul Petzoldt Wilderness Equipment, Box 78, Lander, WY 82520; (R. E. I.) Recreational Equipment, 1525 11th Ave., Seattle, WA 98122; Snow Lion, P. O. Box 9056, Berkeley, CA 94710.

The following companies are producing some interesting equipment kits; Country Ways, 3500 Hiway 101 South, Minnetonka, MN 55343; Eastern Mountain Sports, 1041 Commonwealth Ave., Boston, MA 02215; Frostline Outdoor Equipment, 452 Burbank, Broomfield, CO 80020; Holubar, Box 7, Boulder, CO 80402; and Mountain Adventure Kits Co., P. O. Box 471, Whittier, CA 90608.

In addition to the above listed companies a spokesman for a Kansas company, The Coleman Company in Wichita indicates that Coleman is introducing a complete line of backpacking equipment in 1976-77 called Peak 1. The NEW line will include sleeping bags, backpacks, tents, and stoves. The equipment will be sold by authorized backpacker dealers.

Backpackers call the area on a foot, which has the potential to become a blister, a "hot spot." If a "hot spot" is treated with a patch or layer of Moleskin, the possibility of a blister developing is minimized. Moleskin should not be applied to a blister.



MOVIN' ON

By Kent Montei



MULE DEER in Kansas pose some very special problems to management. As anyone who is acquainted with the prairie mule deer knows, these animals are inclined to remain in the rangelands and open country. When spooked, they often run a short distance only to stop and observe the intruder. This behavior makes them vulnerable to the hunter. With today's hunting equipment, use of 4-wheel drive vehicles, and numerous county roads, one can see why the mule deer harvest must be closely watched and controlled.

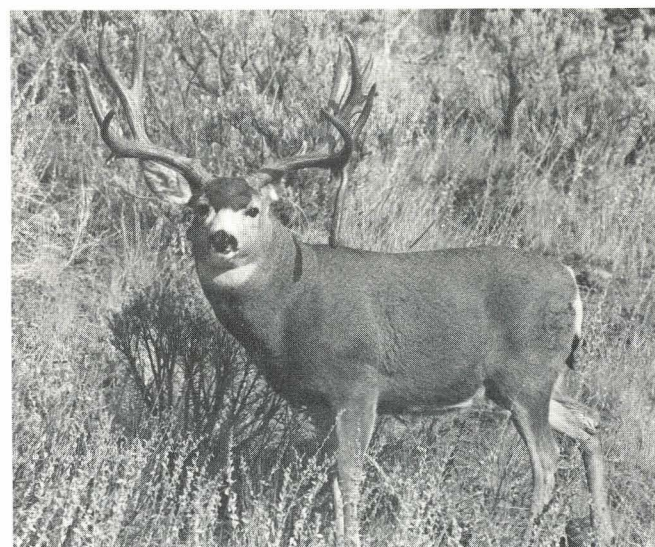
Kansas' firearms deer seasons are based on a management unit system approach with a limited number of permits available in each unit. Hunter success in our mule deer range has approached 85%. With this degree of success, the deer harvestable surplus and number of permits allowed must be closely synchronized so that over-harvest does not occur.

One very big problem in management develops when the whitetail and mule deer occupy the same general area. The desired mule deer harvest can be obtained, but then usually the whitetail population is under-harvested. In these areas the whitetail herd often increases, and the public that notices this increase can not understand why more permits are not issued. The reason for limiting the permits is that the mule deer population, being more susceptible to the hunter than whitetails, can not withstand the additional hunting pressure. The Kirwin-Webster Management Unit is a good example where this management problem exists.

Other prairie states are confronted with the same mule deer problems with regard to management. These states have experimented with several different management approaches to control the mule deer harvest. So far none of these approaches have provided the desired results.

Since Kansas deer habitat is linear (along drainages) and areas between drainages are under very intensive agricultural systems, biologists Bill Peabody and Bill Hlavachick felt that improved mule deer management might be obtained by establishing management units based on drainages. At the present time, Kansas' management unit boundaries are based on ecological areas usually encompassing several different drainages. Before such a change would be feasible, information was needed to determine the extent that mule deer moved across drainages. If a large degree of movement occurred between drainages, then the drainage management unit plan would not be practical.

Setting out to answer the above question, a mule deer tagging study was instigated. Twelve counties in northwest Kansas were selected for the study because of their larger mule deer population. The major drainages in the study area were the Republican River, Beaver Creek, Sappa Creek, Prairie Dog Creek, North and South Forks of the Solomon River, Saline River, Big Creek, and the Smoky Hill River.



With the help of the Northwest Region Game Protectors, biologists tagged and released deer from 1966 through 1972 and then waited for three years to allow for recovery of the marked deer. Deer tagging was accomplished by capturing young fawns and by setting self-locking collars along deer trails.

Many hours were spent walking grassy draws and looking for young fawns during the last week of May and first two weeks of June (this is the peak fawning period for deer in Kansas). Fawns could often be located by first spotting the doe. By observing solitary does for a period of time, it could be determined if any fawns were with her. Once a fawn was located, a round hoop net could be thrown over the fawn. If the fawn was under a week old, the capture was not too difficult because they would lie down and try to hide. But if the fawn was a couple of weeks old, you could forget it. By this time their legs were strong enough to allow them to out-run a man. Once a fawn was captured, a numbered metal ear tag was affixed to each ear.

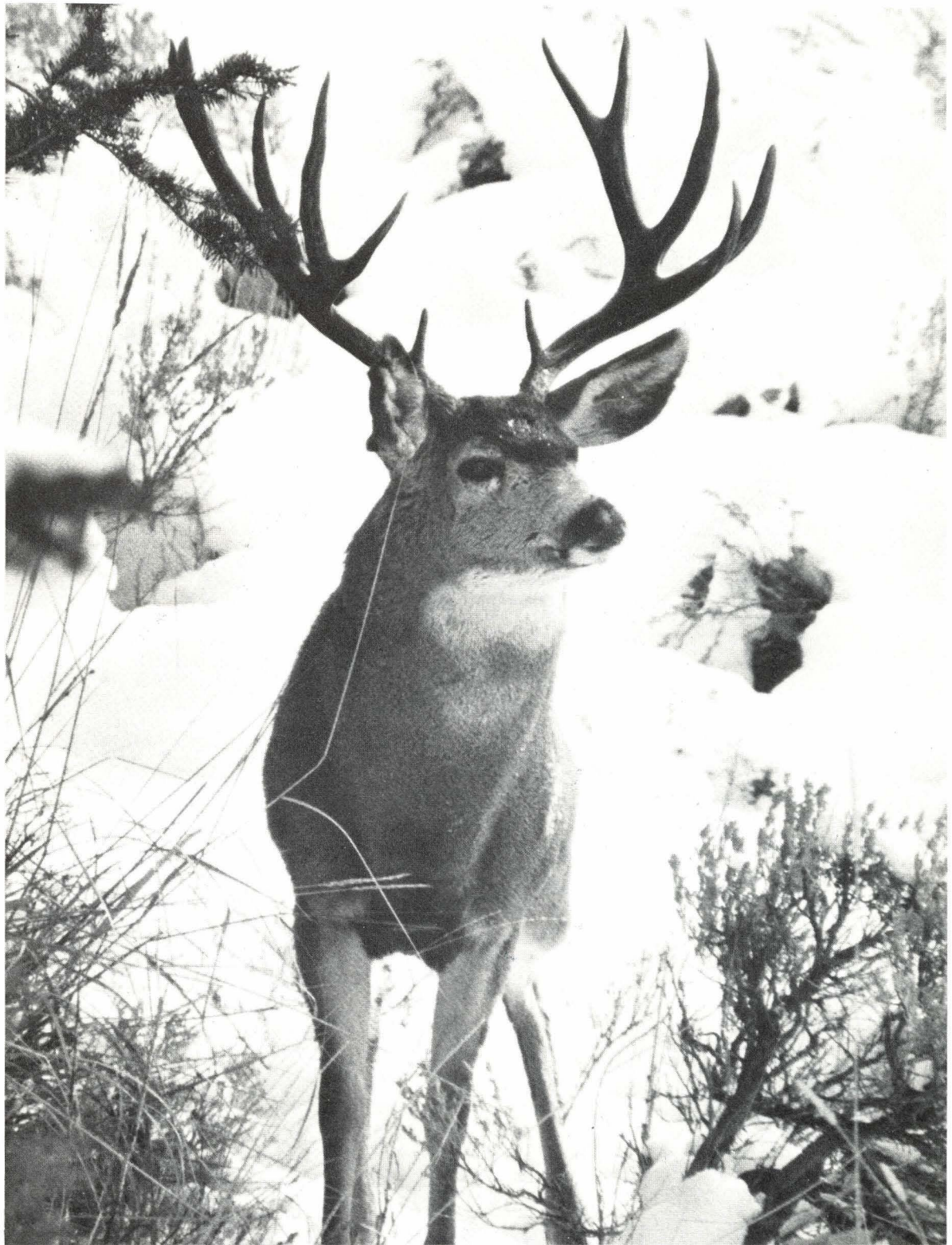
Fawn tagging provided the greatest results. A total of 67 mule deer fawns (35 males, 32 does) were captured,

marked, and released during this study. Although mule deer were the main target, seven whitetail deer fawns were also tagged. Most of the tagging occurred in Decatur and Norton counties mainly because of Clyde Ukele's (State Game Protector) knowing of deer fawning areas as well as farmer-rancher contacts in those counties. Several fawns were also tagged in Trego and Sheridan counties.

Of the 67 marked mule deer, 19 of them were recovered. Of these 13 were bucks and 6 were does. From these 19 recovered deer, useful and interesting information was obtained. Deer recovered as fawns (6 months older than when tagged) were still in the vicinity of their tagging site. No movement over one mile had occurred. This indicates that mule deer fawns probably remain near their birth site during their first year.

Those tagged fawns recovered as yearlings (deer older than one year but not yet two years old) had moved an average of 46 miles from their tagging site. The greatest movement involving a yearling was a 75 mile journey by a buck. Another buck moved 71 miles while two does traveled a distance of 68 miles from their tagging location.





These distances traveled were measured as a straight line from point of tagging to recovery location, so they represent only a minimum of miles traveled. This information suggests that the mule deer's greatest dispersal or movement occurs during the deer's second year.

Only two deer were recovered when adults. A 2½ year old buck was recovered after covering 71 miles, and a 4½ year old doe moved 97 miles before being recovered. All deer recovered that were older than one year had moved an average of 51 miles from their tagging site. Interestingly, the gathered data showed no difference between the movements of bucks and does.

We now know that mule deer indeed move considerable distances, but what about the movement across drainages. Those mule deer over one year old crossed an average of 2.8 major drainages before they were recovered. The number of drainages crossed ranged from zero to six. Eleven deer out of the 15 crossed two or more drainages. This provided the answer to our objective. There indeed was too much mule deer movement between drainages for us to change our management unit approach.

Another puzzle developed while analyzing this data in that in crossing drainages the mule deer passed through some excellent "muley" habitat. Why they did not establish home ranges in these areas raises some interesting questions. We can offer some possible explanations, but unfortunately at this time we can not definitely answer these questions.

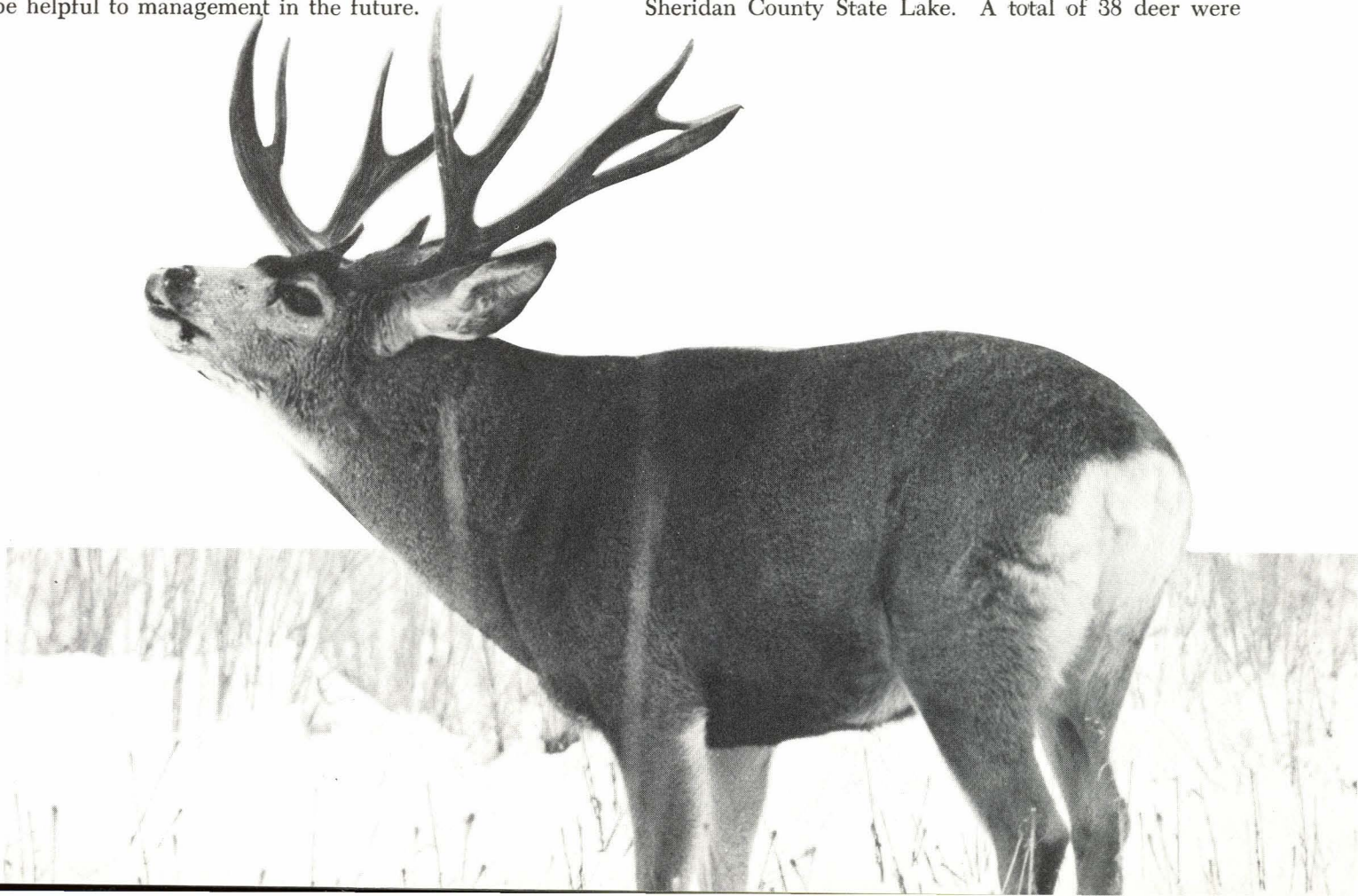
Although the average miles traveled for bucks and does was almost equal, does averaged crossing about one more drainage than did the bucks. This information may be helpful to management in the future.

Do deer twins remain together after reaching one year of age? Twin females marked as fawns were recovered as yearlings at the same time and location after a 68 mile movement. A set of twin bucks were recovered as yearlings during the same year but over 60 miles apart. This shows that does have a tendency to remain together, but bucks probably very seldom stay together. The bucks animosity to other male deer during the rut would not allow the male twins to remain together.

Maybe of interest to some of you is the method that the recoveries were obtained. Firearms seasons were responsible for the greatest number of mule deer recoveries with 10. Archery seasons accounted for 3 of the deer. Roadkills, poaching, and unknown deaths added 2 each. Buck recoveries occurred mainly as a result of hunting seasons. Does were more likely to be recovered through one of the other methods.

As mentioned above, a few whitetails were tagged. Only one was ever recovered, but it provided surprising results. Recovered as a yearling, this whitetail doe had traveled over 170 miles to the southeast of her tagging location and had crossed a minimum of 7 drainages. Tagging occurred along the Saline River in Sheridan County, and recovery was on the Chikaskia River in Kingman County.

Deer marking was also accomplished with self-locking collars. This is a device that is attached to a tree along a heavily used trail. The deer walks into the device, and the collar is locked around the deer's neck. With the help of Game Protectors, George Anderson and Wes Wikoff, a total of 162 collar devices were set and maintained at Cedar Bluff Reservoir in Trego County and Sheridan County State Lake. A total of 38 deer were





assumed to be marked in this manner. Most collars missing from their set but not staying on a deer were found along deer trails within 10 yards of the set. If the collar was missing and not found, it was assumed to be on a deer.

The public reported seeing 16 of these collar-marked deer. All the sightings were deer that had been marked at Cedar Bluff Reservoir. All but two of these sightings were made around the Reservoir indicating very little movement had occurred. Of the two sightings away from the collar-tagging site, both mule deer does moved west but stayed in the same drainage (Smoky Hill River). One observation indicated a 44 mile movement while the other involved an 11 mile journey.

So just what did the time and effort spent on this study provide for management and in turn for the sportsmen of Kansas? When a study is completed one should be able to answer the objectives and determine if additional information can be of some value to the wildlife resource. It was found that mule deer in northwest Kansas not only move considerable distances (51 miles average) but readily cross between drainages. Thus our objective was answered. Deer management in the northwest would not benefit by changing from management unit boundaries based on ecological areas to management unit boundaries based on drainage systems.

Information concerning deer movements and behavior that could be useful to management was also obtained.

No significant difference between the movements of bucks and does occurred. Data indicated that fawns remain in the vicinity of their birth site for the first year and move the greatest distance when yearlings.

Mule deer fawning areas were soon able to be identified. Although no quantitative vegetation and site characteristics data were obtained, selection of critical fawning habitat for preservation would be possible should it become necessary because of adverse land-use encroachment.

This data demonstrates that the mobility of deer should ensure that good deer habitat will be filled. Landowners often complain that hunting has eliminated all the deer from their land. Although over-harvest in localized areas may occur and heavy hunting pressure may temporarily move the deer out of the area, the effect should not be long lasting. Wildlife managers can now use quantitative data to point out to landowners that other factors (*e.g.*, habitat deficiencies; landuse changes) probably caused their reduced or eliminated deer populations. Measures could then be taken to correct this situation if the landowner so desired.

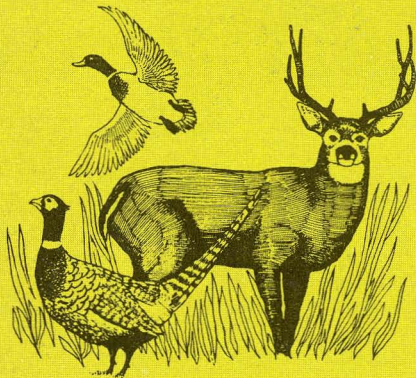
One thing is for sure. The fascinating mule deer travels considerable distances in northwest Kansas. Hopefully, through proper management and habitat preservation, the mule deer will continue to be a common member of the wildlife population in western Kansas.

OBSERVATIONS

on the shooting sports

THE UNWRITTEN LAWS

by
"Rock" Rohlfing
Executive Director
National Shooting Sports Foundation



Some time ago, in a piece on ethical hunting, one of our people here at NSSF wrote "Obey the laws, both written and unwritten." OK. It's not so hard to know what the written laws are because most states give you a little booklet with your license, and contained in that booklet are the laws you have to obey to keep straight with the warden.

But what about those unwritten laws? What are they? Is a shooter or hunter supposed to be born knowing what they are? Of course not. At the risk of attempting the impossible, I'll try to write about some of the unwritten laws. Put another way, a sportsman and gentleman does these unwritten things without really thinking much about it because he feels *right* when he does them.

First is the simple idea of knowing what your gun and load can do. Several years ago, on a spring bear hunt in Wyoming, my guide and I

sat on the rimrock looking at three bighorn rams about 900 yards away. The guide allowed as to how they made a hell of a target. Since I knew he used a .270 on sheep (in season, of course), I asked him if he'd shoot at one that far away. He said he would, but that sometimes it took up to five shots to find the range and score a hit.

What nonsense. This is no shirt-tail guide, either, but a damn good, successful man with many satisfied customers who keep coming back for the excellence of his elk and sheep hunting. I can only hope that he puts his clients a lot closer than that. He must, as they do quite well. The well-placed shot after a skillful stalk to a reasonable range for your equipment is the sporting answer. No, it's not written down, but you know what I mean. Find out what your rifle can do and learn something about group sizes, trajectories and striking power.

One more example: Another man I know, well along in years, bragged to me about his most recent elk. He hit it with one shot from a 7mm as it was running up a slope at 500 yards. That's right—running at 500 yards. I don't even want to contemplate the odds against a shot like that.

Don't for a moment think that some big game hunters have a monopoly on long-range idiocy. Duck and goose hunters surely have a fair share of optimists who think a shotgun will deliver at ranges so extreme the birds sometimes don't even flare as the shot falls harmlessly short.

But, beyond shooting at proper ranges is the grace of correct conduct in the field. I've been hunting ducks and geese for the last 23 years with a man who hogs shots. He's a polite, hard-working, decent family man who just has to have the first shot, even when it isn't really on his side of the blind or if, calling shots as they come in, it isn't his turn. You might ask why I still hunt with this man. Because I like him in all other respects, I guess. I've told him off, but his contrition lasts until the next single banks beyond the decoys and starts to pitch. That, by God, is *his* bird. Oh well, I'll keep trying.

Now, before you get the idea that I'm too decent to be true, I've pulled a few I'm not so proud of either. One sticks out. When my son was a little

fellow and just beginning to try duck hunting, there was a time once, on a slow day, when I took a shot away from him and killed the bird. I can still see the look on his face, and it happened 15 years ago. I wish I could have that day back. I've regretted my action ever since.

Worse, perhaps, than the shot hog is the claimer who just knows that anything that falls is his because he shot too, didn't he? I hunted doves in Arizona for years with a famous movie actor who was a constant delight on the trip. The rest of us wised up pretty quickly, though, and let him claim the first ten doves. This put him back under the tent fly cleaning birds while the rest of us had a more leisurely time of it. Don't be a claimer. What the heck, a bird or two can't be that important and, besides, most really good shots know who connected. If it's meat you need, it's a lot cheaper at the market.

I'll draw this wandering narrative to a close with one last example of an unwritten law. In 1972, I went to Arizona to shoot doves in September, and we had in our party several movie personalities, some of the leading sporting goods wholesalers in the country and General Jimmy Doolittle of Tokyo raid fame. When we arrived at dawn in the field we were going to shoot, we found a miserable mess. The field had been shot the previous two days by a group of wealthy people who had come to a lovely, remote bit of desert, hard by an Indian reservation, and had desecrated it by leaving empty beer cans, empty shells, shell boxes, food containers and too many dead and unrecovered doves.

We went to work and, using litter bags, we totally policed the area, giving all of us the unusual experience of seeing a retired Lt. General performing better than any of us on a work detail.

Now, no law says you have to leave a place better than you found it, but it's the right thing to do.

Be a sportsman, be a gentleman, do the fair, the right thing, and you'll obey the unwritten laws. You can't help it.

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