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Making The Choice

Probably the most important event this month will be the presidential election. Within a week after this magazine becomes available, we will know who is to serve the next four years as our nation's chief executive. The presidency is, indeed, worthy of our attention.

Certainly you will vote. Making your voice heard is not just a nice idea; it is an obligation inherited by any American who values his own opinion. Few people think less of their own views than they do of government's. It is ironic, then, that a 50 percent voter turnout is still considered "heavy."

You've heard all that before. This election is no more, no less important to our future than those past, but some things make it unique. Perhaps most obvious is the presence of a woman on the Democratic ticket. Too, it will be the first election in some time in which inflation is not a curse on the incumbent. The threat of nuclear war is still just a threat; but, eerily, Soviet shadows concern us more than those of far less stable governments that can now split the atom.

Whatever current issue commands our attention, we ought to keep more than just one in mind when we go to the polls. There is danger if we focus too closely, if we are drawn to a smoldering patch of grass while the field beyond bursts into flames. The voice of the single-issue voter poses the same mindless threat as a powerful army under narrow leadership. It can effect change, but it assumes no responsi-

bility for repercussions at once distant and much more ominous.

Many of us have great concerns about the environment—about acid rain, nuclear waste disposal, starving aquifers, privatization of federal lands. We are tempted to look at the present administration's natural resource record and compare it to reforms promised by the Mondale contingent. We may then cast our ballot for the candidate we feel will be most effective in getting scrubbers installed in industrial chimneys.

We must remember, though, that we are not hiring a chimney sweep.

A President will bend to pressure groups, certainly, and there is room in our democratic system for organized dissent. But elections and demonstrations serve different purposes. To confuse them is to compromise the effectiveness of both. When we vote, we must remember that more is at stake than a Kansas river or a New York lake or a patch of timber in northern Montana. We aren't voting on an issue, but for a man. He is responsible for much more than chimneys, and, as everything in nature is interconnected, so do the workings of government implicate many issues at once. The President's philosophies are more important than his expressed stand on a single question or his choice of a cabinet member.

Maybe it's time we reexamined the way we evaluate others — not just political leaders, but especially them. Does it really matter that a Manhattan tenant is dissatisfied with the management of an apartment owned by the family of a candidate? Should an off-record remark by an incumbent be treated as a policy statement or personal conviction? Must we demand that our leaders have storybook family relationships, that they be endowed with wholesome smiles and youthful exuberance?

Uri Andropov had thin, devious lips. Brezhnev was a dour bear of a man on camera. Khrushchev sported jolly features but never appeared so. If Soviet leaders are picked for their engaging personalities, TV charm, and inspiring good looks, the Politburo must, indeed, be a den of lizards.

Or maybe Russian administrators

are chosen with other criteria in mind.

This year we saw the crown of Miss America repossessed. It seemed strange to me that purity of soul was never presented as a requirement for the candidates while the title was still in contention. Talent and charm and a pleasing figure have, in the past, determined who got the bouquet. Did we probe too deeply too late?

No one person can exude all the qualities we find attractive in people. But it matters little that our President is not an Olympic medalist, a decorated military commander, a celebrated writer, or a gifted man of medicine. He should be a good decision-maker, with a firm grasp of history and a broad, gentle view of mankind. He must know who to consult when the questions reach deeper than his own experience. He must be articulate and a good listener. He must be firm, yet cordial when dealing with others, perceptive to a fault. He must be thoughtful. These requisites are deceptively simple for the most important job on earth. But they're really the ones that count. Windows into the private lives of politicians, inasmuch as they reveal such qualities, should interest us. Grist for the gossip column must come from elsewhere, lest we confuse competence with color.

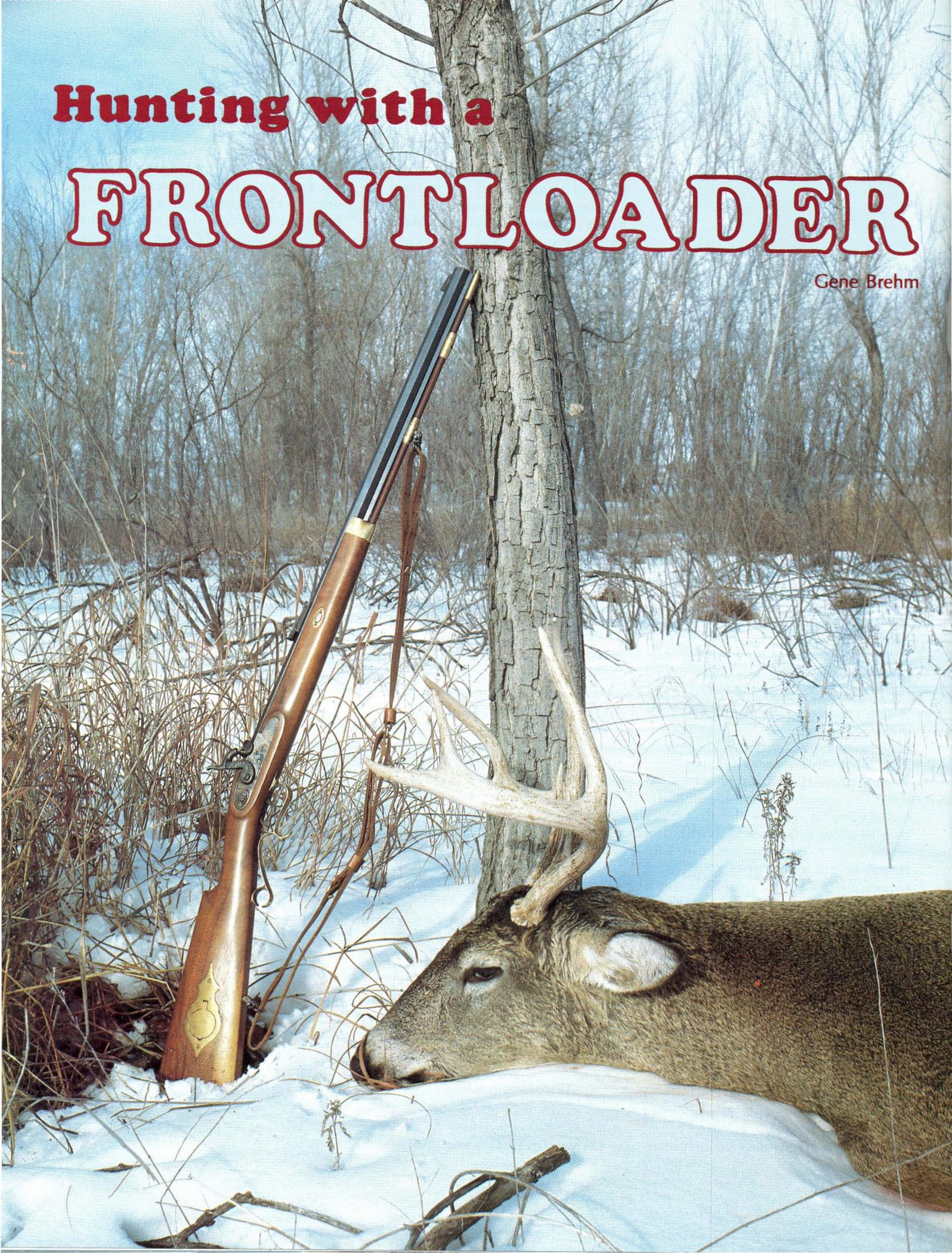
It's in the final stages, now, this battle for the top job. And it's too late to demand more specific commitments from either candidate. We are not voting for James Watt or Jimmy Carter, and we shouldn't be casting a ballot for clean air or women's rights. Neither is this election a pageant. On the outcome hinges our government and our disparate individual futures. May it be a "heavy turnout." And may the best man win.



Hunting with a

FRONTLOADER

Gene Brehm



Conditions were poor for still-hunting. The forest floor was littered with leaves the consistency of dry corn flakes, and the surrounding cover was dense. Deer would be in their midday bedding sites now, well-positioned for a quick escape. The hunter moved slowly, stopping often. He knew his chances for a shot were slimmer than those of his companions surrounding this woodlot.

The man was a still hunter; but more than that. Cradled in his left arm was a rifle with an exposed lock, a gun similar to those used on the western frontier during the early 19th century. A muzzleloading percussion rifle, it was large of bore, heavy in the hand. Its single-shot capabilities were willingly accepted by the still hunter, who now came to a sudden halt. A twig had snapped.

Suddenly the throat patch of a deer was visible through a screen of

1984 season has been set at 1800. With generous numbers of tags available, drawing success has been high — above 90 percent in most units. And many marksmen are finding that their black powder guns are not only fun to hunt with, but efficient deer slayers as well.

The romantic history behind these firearms has a great influence on their popularity today. No nation can claim a more romantic or dangerous era than that of the settling of the North American West, where a pioneer depended on his rifle for both food and protection.

The first firearms in the original 13 colonies were muzzleloading smoothbores imported from Britain. These ineffectual arms gradually evolved into the sleek, accurate flintlock guns we know as Kentucky rifles. The “Kentucky” is a misnomer, though, as the cradle of these fine weapons was really in

over a milldam and laid himself down on his belly. . . . he took deliberate and cool shot at my friend, at me, and at the bugle-horn man. ‘I think we had better move, or we shall have two or three of these gentlemen shortly amusing themselves at our expense.’ The words were hardly out of my mouth when the bugle-horn man behind me and directly central jumped off his horse and said, ‘Sir, my horse is shot.’ The horse staggered, fell down, and died Now speaking of the rifleman’s shooting, nothing could have been better I have passed several times over this ground and ever observed it with the greatest attentions; and I can positively assert that the distance he fired at us was a full 400 yards.”

The Major opined that the American rifle was the best in the world and that the American marksman the best shot.

Black powder guns played an important role in the settling of the early American frontier. Reliving that era is part of the thrill of hunting with yesterday’s rifles.

branches, just 40 steps away. Stationary, the deer was seeking the source of the sounds it had perceived long before its own were heard by the hunter. The deer turned its head, and bright sun glinted from polished antlers. The deliberate click-clack of the hammer drew the young buck’s ears forward, and its eyes riveted immediately on the motionless hunter.

Hunting deer with muzzleloading rifles is becoming a popular sport. Special black powder permits first became available to Kansas hunters in 1978. Last year nearly 1150 hunters took to the field with soot-burners, and the permit quota for the

Pennsylvania, where German and Swiss immigrants patterned their rifles after the Jaegers of the Old Country. Barrels were eventually lengthened to ensure the complete burning of large charges of powder, while the bores steadily grew smaller, from 70 caliber down to about 45 caliber.

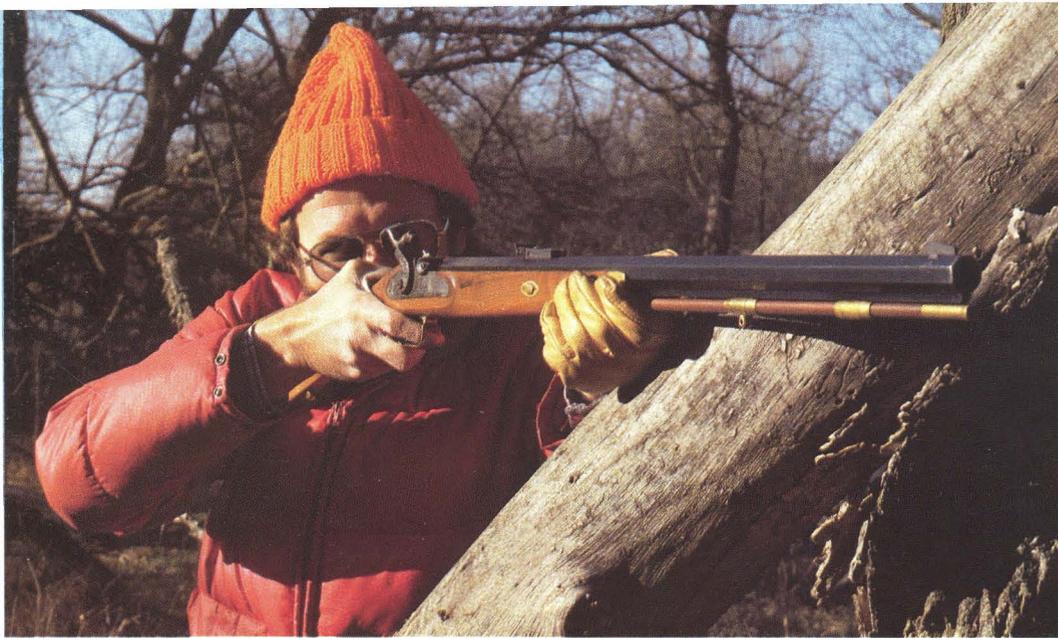
The frontier was a tough proving ground for the development of hunting rifles, and the Revolutionary War showed the American long-rifle to be effective in battle as well as on the game trail. The following account is from Major George Hanger of the British Army, who was himself an excellent marksman.

“Colonel Tarleton and myself on horseback were standing a few yards out of a wood, observing the situation of a part of the enemy (Americans) which we intended to attack. . . . A rifleman passed

The settling of the Kentucky and Tennessee wilderness brought design changes to firearms. Sleek lines and craftsmanship were given little attention; function alone was important. Large numbers of thickly-stocked rifles were sold at affordable prices. The rifle was a means of livelihood, not a showpiece for the mantle, and late Kentucky rifles were crude indeed. As westward expansion continued across the Missouri, gunsmiths followed to the settlement of St Louis, where demand for rifles was booming.

West of the river, the frontiersman’s was an equestrian life. Traditional Kentucky rifles were too hard to balance on a saddle, and short barrels soon came into vogue. Larger bores were needed to match the size of the game found on the prairies and in the mountains beyond. Soon the gunsmiths of St.

This dandy buck would be a prize for any hunter, but the 50-caliber Hawken-style rifle that brought it down added challenge and a sense of nostalgia to the chase.



Wayne van Zucoll photo

Using a rest is imperative for best accuracy, as the slow lock time of muzzleloaders allows an unsupported rifle to wobble off target between trigger pull and ignition.

Louis began to develop what has since become known as the plains rifle.

There were numerous gunsmiths in town who manufactured such firearms, but none became more famous than the brothers Jacob and Samuel Hawken. Their arms gradually changed from full-stock flintlocks in the 1820's to their famous half-stock models with percussion ignition. Barrel lengths ranged from 28 to 38 inches, with calibers averaging slightly over 50.

During this era the patched round ball was the only projectile available. Guns manufactured previously were designed for relatively light powder charges and rifled with twists of one turn in 50 inches or faster. It was found that the heavier powder charges necessary for big game on the plains gave poor accuracy in these fast-twist barrels. The patches were being stripped by the lands on firing. So the Hawken brothers implemented slow-twist rifling to accommodate more powerful loads and improve accuracy with the big balls. Most Hawken barrels sported twists of one turn in 72 inches.

William Hamilton, a veteran of many years in the West, described a meeting of about sixty mountain men and trappers at Bridgers Fort, on a fork of the Green River in southwest Wyoming in the early 1840's. Shooting matches, says he, were held at ranges of twenty to 300 yards for stakes of five dollars a shot, and the Hawken was the best rifle he saw. Reportedly, they were accurate up to 350 yards, and a skilled

marksman could load and fire at the rate of four shots a minute.

Francis Parkman carried a Hawken rifle up the Platte River to the Fort Laramie country in 1846 and observed that: "On Laramie Creek I jumped an antelope. . . . it soon paused and stood gazing at me, I fired; it leaped upward and fell upon its tracks. Measuring the distance I found it 204 paces."

Parkman traveled the upper Platte with three British sportsmen armed with expensive English double rifles of heavy caliber. ". . . Fastening our horses to some bushes, we sat down on the grass; while with an old stump of a tree for a target, I began to display the superiority of the renowned rifle of the backwoods over the foreign innovation borne by the captain."

General William Ashley, famous fur trader, chose the Hawken rifle with which to equip his trappers. These weapons met with constant abuse and their owners often neglected to clean the corrosive fouling as often as necessary; consequently the bores needed to be "redrawn" to a larger caliber periodically to clean out the pits. The rifle once carried by Mariano Moreno, a famous Indian fighter and pioneer hunter, has a barrel of 60 caliber and weighs in at twelve pounds. It was reportedly purchased in St. Louis in 1833. One might speculate that the bore originally was of a smaller diameter and was subsequently "cleaned out", possibly more than once.

These rifles proved capable of downing the largest plains game.

Numerous journal accounts tell of one-shot kills on grizzly bears. Zenas Leonard, who trapped the west during the years of 1831 to 1835, tells of several such incidents. Even the fearless Blackfoot Indians were said to have "kept their distance" from the deadly rifles. Still, with the ill treatment that the firearms often received, their performance was not always up to par. Zenas Leonard, after several months of wilderness wanderings under miserable conditions, gave the following account.

". . . Some of the men discovered, at the distance of 70 or 80 yards, two animals feeding in the brush, which they supposed to be buffalo, but from blindness, caused by weakness and pine smoke, could not be positive. Mr. Hockday and I were selected to approach and kill one of the animals without regard to what they might prove to be, while the remainder of the company were to go to a neighboring grove of timber and kindle a fire. Having used our guns as walking canes in the snow, we found them much out of order, and were obliged to draw out the loads and put in new ones before attempting to shoot. After taking every precaution we deemed necessary to ensure success, we started and crawled along on our hands and knees, until we approached within ten or fifteen steps of the animals, when Mr. Hockday prepared to shoot; but upon finding that he could not see the sight of the gun or hold it at arms length, forebore, and proposed to me to shoot. I accordingly fixed myself and pulled trigger. My gun missed fire! I never was so wrecked with agitation as at that moment. "There," said I, "our game is gone, and we are not able to follow it much further." But as good fortune had it, the buffalo did not see nor smell us, and after raising their heads out of the snow, and looking around for a few moments for the cause of the noise, again commenced feeding. I then picked the flint of my gun, fired, and broke the back of one of the buffalo, my ball not taking effect within 18

inches of where I thought I had aimed.”

Not all buffalo shot with plains rifles dropped at the report. Frederick Ruxton, early western traveler, told of one old bull that was still standing after 19 hits. It must have been true then, as it is now, that first-shot placement is extremely important.

Original plains rifles are hard to come by today, and those still intact are too valuable to shoot. Many with operational locks would even be hazardous to fire. But replica plains rifles, made with modern steels and surprisingly good craftsmanship, are available for the budding black powder buff.

The accuracy of modern replica rifles is amazing. I'll never forget the first organized frontloader shoot I attended. One of the targets was a gong hung at a distance that seemed near two hundred yards. One seasoned shooter never missed that target from an offhand position — and this on a day with a strong cross wind! As in any shooting, the marksman's skill is as vital to success as the rifle's accuracy. In fact, short of differences in loading technique and “feel”, muzzleloader shooting is much like firing a centerfire rifle — a lot of fun!

Offhand shooting with a plains rifle takes greater skill than with centerfires because of the lock time between trigger pull and ignition. First, the trigger must disengage the sear and start the hammer on its great arc to ignite the percussion cap (or to strike the flint in flintlocks); then the cap's ignition must transfer through the nipple port to the charge in the barrel. While this all takes much less time than depicted in the old Davy Crockett movies, lock time can affect offhand shooting, especially under hunting conditions. Because of this, many hunters only fire their smokepoles from supported positions.

How effective are muzzleloaders? Hunters unfamiliar with pioneer firearms often underestimate the power of these weapons. In Sam

Fadala's book, *Black Powder Hunting*, the author describes an African hunt on which a black powder enthusiast took, among other species, elephant, hippo, and cape buffalo with a 58-caliber frontloader.

It is unfair to compare the striking energy of a black powder weapon to that of modern centerfires, since velocity figures heavily in calculations of foot-pounds of energy. Even the relatively mild 6mm Remington equals the most potent of muzzleloaders in the charts — yet ponder, if you will, a 100-grain bullet from a 6mm being used on elephants!

Original black powder rifles were designed to fire round balls. The Delvigne-Minie bullet with its conical shape and expanding hollow skirt, was not introduced here until the Civil War, roughly 40 years after the plains rifle had been developed. Almost all the famed mountain men used the patched round ball in their exploits. (In cases where speed was more important than accuracy, the ball was used without a patch.) Owners of replica plains rifles who wish to remain true to history understandably shoot only the patched round ball. Oddly enough, most muzzleloaders give better accuracy with round balls than with solid or hollow-base bullets. In barrels of slow rifling twist, (one turn in 72 inches) replicas can fire surprisingly tight groups.

Nonetheless, many over-the-counter smokepoles are now manufactured with a rifling twist of approximately one turn in 48 inches, appropriate for conical projectiles. The round ball still shoots well in fast-twist barrels — better, in most cases, than a conical bullet given a slow spin! Still, the question invariably arises, “why shoot anything but balls?” The answer is that on deer there probably is no reason, for the round ball has repeatedly proven itself effective. But on heavy game a heavier projectile performs better. A

round ball loses more than half its initial velocity in the first 100 yards of flight. Only 177 grains in weight, a 50-caliber ball may punch a big hole, but hits the animal with little authority at under 1000 feet per second. Minie bullets, in contrast, weigh about 400 grains in 50 caliber. These conical bullets are designed to slip easily down the barrel of a rifle in loading, but have hollow bases that expand on firing, engaging the rifling on their way out. Minie bullets lose only about 25 percent of their initial velocity in 100 yards.

Lately, enterprising designers have come up with various improvements in bullets to be used in black powder guns. Most of these conicals are made of soft lead but, unlike the Minie, have solid bases. They are cast bore size and actually take the rifling as they are loaded. Good accuracy is possible, and downrange punch is much higher than that of a round ball. Bullets of this type include the Thompson/Center Maxi-Ball (370 gr.), the Lee REAL bullet (250 and 320 gr.), and prelubed slugs manufactured by the Buffalo Bullet Company (410 gr.).

How accurate are these projectiles? Hunting rifles with slow twist may occasionally shoot round-ball 100-yard groups under two inches. My smallest group while firing Maxi-Balls from a 1-in-48-twist barrel was slightly over three inches, with six-inch groups being more common. This is acceptable accuracy for big game hunting, where a

Shooting frontloaders dictates that you be familiar with several gadgets. From left: nipple wrench, capper, powder measure, round balls and maxi-ball, black powder, patches, bullet starter, powder flask.

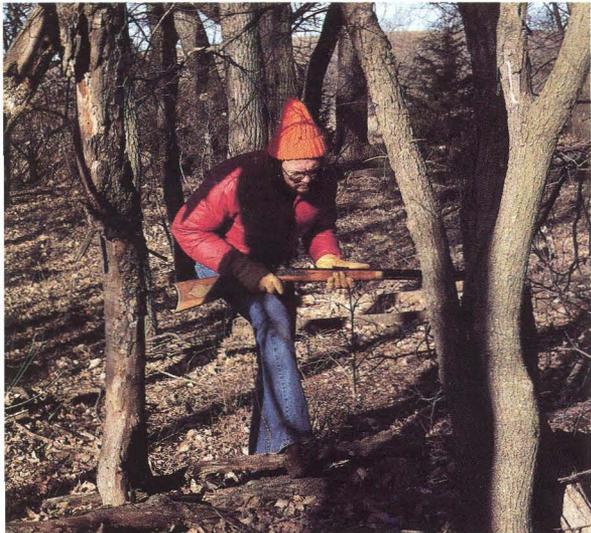


Gene Brehm photos

A black powder shooter has a variety of projectiles from which to choose. The round ball is a favorite of traditionalists, but the conical bullets—“slugs”—have the advantage of extra weight and better velocity retention.

muzzleloader's ballistic limitations mandate that targets over 150 yards distant be passed up.

Powder development has not kept pace with changes in bullet design. Black powder, a foul-smelling mixture of charcoal, saltpeter, and sulphur, has been the standard propellant for all front-loading arms since Jamestown. In 1976, however, an entirely different powder — Pyrodex — was introduced. Marketed by Hodgdon Powder Company of Shawnee Mission, Kansas, Pyrodex may be substituted, *volume for volume*, for black powder. This new product exhibits some desirable qualities for the hunter or shooter willing to stray slightly from the purist mold. (Actually, the black powder on today's market is much more consistent than that for which trappers traded their skins at annual rendezvous.)



Wayne van Zeeil photo

Long distance shooting is out of the question for black powder hunters. They must meet their quarry in its own cover and make the first shot count!

Pyrodex contains a rust inhibitor and is less corrosive than black powder. It is also a cleaner propellant, allowing more firings between swabbing sessions. Pyrodex meets the Department of Transportation flammable solids requirements, too, and is more easily shipped, stored, and sold. It has a higher ignition point (600°F) than that of black powder (350°F), rendering it at once safer and more difficult to ignite in the rifle. In fact, flintlock arms should not be primed with Pyrodex. Ignition problems encountered

with Pyrodex have been largely overcome in percussion arms by the use of hotter percussion caps, specially-designed nipples, and recent improvements in the product itself. Still, many shooters choose to shoot black powder, and some states even prohibit Pyrodex for use in black powder big game seasons. Both Pyrodex and traditional "coal shavings" have a place in modern muzzleloading sports.

How much powder should you use? It would be safer to tell you who to marry or what used car to buy. One of the most intriguing things about the muzzleloading firearm is that each shooter can manufacture his own load each time he shoots. Enough powder should be used to give the projectile a reasonably flat trajectory to 100 yards. The top charges should be those that are recommended by the manufacturer of your firearm. A good hunting load: 1. shoots accurately 2. hits with adequate energy 3. is comfortable to fire. In general, as the powder charge is increased in a soot-burner, accuracy falls off. But you must keep in mind the purpose of the load. The most accurate load for target shooting will not be the best load for hunting. No load that kicks like a constipated camel will do you any good in the field, as you'll develop a flinch shooting it. Hodgdon Powder Company offers a black powder shooting handbook which lists the ballistical possibilities for most all types of powder loads and projectiles in a wide range of calibers. This booklet sells for \$2.50 and is a dandy. Its tables show that breech pressures are higher with bullets than with round balls. (it takes longer for a heavier projectile to be set in motion). For obvious safety and liability reasons, I have never seen test loads published that yielded breech pressures of more than 12,000 psi (1up). Common sense would dictate that these loads are hot enough for hunting big game.

Shooters often ask, "How can I tell what the maximum load is for my rifle?" Jerry Cunningham of the Montana Barrel Company has conducted numerous tests on the safety of barrels using black powder. He has found that well made barrels can withstand all charges published

in data manuals with no problems. When discussing heavier loads in a search for higher velocity, Jerry recounts some interesting tests. Comparing the penetration of 70-grain loads behind a patched round ball with greater powder charges, he saw almost no gain in penetration with the stiffer loads — even up to 130 grains! Possibly, then, the only reason to go to heavier charges would be to flatten trajectory.

With this thought in mind, I decided to run some trajectory tests of my own. My basic hunting load for a 50-caliber rifle has been 100 grains of Pyrodex (by volume) behind a 370-grain bullet. How would increased charge weights affect bullet drop at the outside edge of my effective range? I intended to find out.

First, I fired a three-shot group at 100 yards, my sight-in distance. Next, I triggered a three-shot cluster at 150 yards so that bullet drop could be measured. This shooting showed a drop of 14 inches between the sight-in point and 150 yards. Accuracy held up surprisingly well, with one 150-yard dispersion measuring six inches and the worst measuring 8.5 inches. Jumping my powder charge 20 percent, I repeated the exercise. Recoil was noticeably greater with the hot load, which placed the heavy slug literally at point of aim at 150 yards — 14 inches above the 100-grain point of impact.

An interesting phenomenon came to light during these tests. Firing was done with a 10- to 20-mile-per-hour gusting crosswind which produced an extreme amount of drift at 150 yards. Bullets pushed by the 100-grain charges were affected the least by the wind, drift between 100 and 150 yards averaging seven inches. The hotter load showed exactly *twice* the wind drift over the same yardage!

All of this shooting did not really alter my previous convictions. Primitive arms are best suited to ranges within 100 yards. A muzzleloading enthusiast is a hunter, not a long-range shooter. The thrill of stalking close to an animal and making one shot count must supersede any satisfaction derived from lobbing bullets over great distances. A good rule of thumb for the front-stuffer is

to limit shots to ranges at which a hold on the spine of a deer will result in a lethal hit. That allows a bullet drop of roughly eight inches. A rise of more than three inches *above* line of sight at mid-range is, of course, unacceptable.

The most crucial part of any black powder hunt is the loading of the rifle. A lapse in concentration or improper procedure at this point could be costly. The condition of the breech, drum, and nipple is of extreme importance. It is vital that all excess oil and moisture be removed from these areas. Some shooters extract both the drum clean-out screw and the nipple to gain access to the drum area, using tapered pipe-cleaners to clean fluids out. A nipple prick and patch material might be used in the same fashion. Caps can also be fired to further burn away oils or dry out the



Gene Brehm photo

The whitetail deer is a tough trophy for hunters who choose primitive arms. But challenge is what hunting is all about!

passage. A check into the nipple bore for obstructions is necessary after *every* shot.

When the arm is prepared to accept the powder charge, powder should be measured carefully and *never* transferred directly from the horn to the muzzle. Tapping the barrel, lock, or even the buttstock with the heel of the hand will ensure that the powder is settled. The nipple should then be checked again, and the ball or bullet started squarely in the muzzle. Ramming it home smoothly but forcefully will seat the projectile tightly against the

powder. Air space between powder and ball creates a dangerous situation. It's a good idea to mark your ramrod after you decide on a charge, so you can tell at a glance if the ball or bullet is properly seated.

Weather can always be a problem in Kansas — especially during the first week of December. Steps should be taken to ensure that your rifle will fire under damp conditions. Percussion caps should have a waterproof coating of some type. Candle wax dripped over the nipple and cap serves this purpose well, as does a dab of fingernail polish. Too much of either may deaden the hammer blow, however. A piece of tape, a balloon, or a thin plastic bag can be positioned on the muzzle to guard against moisture entering the bore. At the end of the day's hunt, after the cap has been removed from the nipple, a piece of leather may be placed between nipple and hammer to keep out damp night air. With a rifle protected in this manner I once hunted for four days in a variety of weather without changing loads. When I finally fired my rifle, the discharge was crisp and quick.

If you do not own a muzzleloading firearm you are certainly missing out on an exciting experience. Deer hunters using frontloaders in Kansas enjoyed a 59 percent success rate in 1983 — only nine percent less than their cartridge-toting brethren. And muzzleloading permits have been significantly easier to draw than rifle tags. Currently the Fish and Game Commission imposes a minimum of 40 caliber on soot-burners used for deer.

But deer hunting is just one of many endeavors which may be undertaken with primitive arms. Squirrels, rabbits, and coyotes, too, offer great sport afield. Just shooting at marks in good company is most rewarding. "Black powder" is a sport that can be appreciated in many different ways and by people of many persuasions. Even family outings can be enhanced when you throw a muzzleloader in with the picnic basket. Non-hunters who shun other shooting often enjoy black-powder activities.

All told, muzzleloading is more than just a shooting sport. It is a link with the past. In the acrid cloud of blue smoke you can see chocolate

seas of bison, the painted plains Indian, those great skies and endless rolling grasslands that beckoned a relentless tide of white settlers. Perhaps, before it drifts away, you glimpse a giant grizzly, watch the trapper turn his horse from the hordes of farmers ferreting about the flatlands behind him and head for the high country. His was an era that will not return, but you hold a piece of it in your hand, and feel its allure every time you ram a ball home.

Cleaning the Muzzleloader

Cleaning black powder guns frequently and thoroughly is important if you want them to perform well. There are several ways to get the grunge out of your bore and lock. Here is one that works for me:

Fill a pail with boiling water. Add dishwashing liquid or laundry detergent. Submerge the breech of your barrel in this solution and push a wet patch down the bore. Pump the cleaning rod and patch up and down repeatedly. This will draw water into the barrel and flush it out through the nipple. (Note: Barrels used with heavily-lubricated bullets may need to be pre-swabbed with solvent to cut that lubricant. Water can then be used to good effect.)

When the barrel is clean, pour a quart of clear boiling water slowly down the muzzle, letting it drizzle out the nipple or, if you've removed the nipple, its port. You'll need a hotpad to hold the barrel upright while you do this. Next, swab the excess water from the bore with dry patches and set the barrel aside to dry. The hot water will evaporate quickly, leaving a clean, dry bore. Finally, run oiled patches repeatedly through the barrel, then a couple dry ones to sop up excess oil. Your rifle is now ready for storage or shooting.

In the field you must, of course, dispense with the hot soapy water routine. Black powder solvent can be substituted, again run bore-length several times. The nipple should be removed and cleaned separately. After the solvent-soaked patches come out clean, follow them with dry ones, then a patch dipped in oil. A final pass with a dry patch will complete the cleaning.

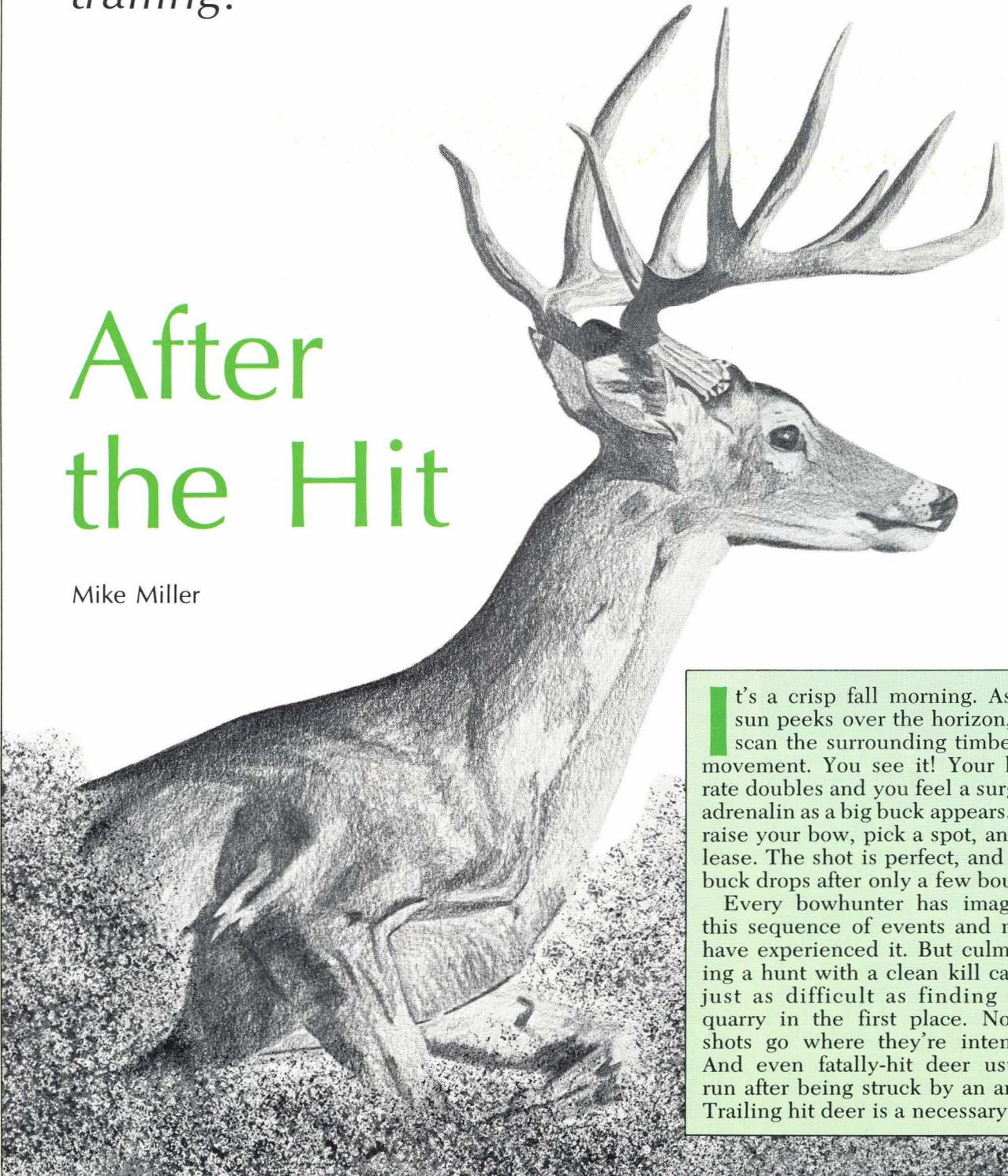
Bowhunters: Knowing what to do after you shoot is just as important as using sharp broadheads. Here's a refresher course in trailing.

After the Hit

Mike Miller

It's a crisp fall morning. As the sun peeks over the horizon, you scan the surrounding timber for movement. You see it! Your heart rate doubles and you feel a surge of adrenalin as a big buck appears. You raise your bow, pick a spot, and release. The shot is perfect, and your buck drops after only a few bounds.

Every bowhunter has imagined this sequence of events and many have experienced it. But culminating a hunt with a clean kill can be just as difficult as finding your quarry in the first place. Not all shots go where they're intended. And even fatally-hit deer usually run after being struck by an arrow. Trailing hit deer is a necessary skill



Doug Hullman illustration

for bowhunters and one that requires study and practice in the off-season. Here are the basics:

The first thing after a shot is to assume you've hit the deer. It is often easy to follow an arrow's path and know immediately if you've hit or missed. But in the poor light of dawn or dusk you may lose track of the shaft. Unless you're absolutely sure the arrow missed its mark, begin your post-shot routine. A friend of mine once found two trophy-class mule deer killed by what appeared to be well-placed shots. The rifle hunters, thinking they missed when the deer didn't collapse at the shot, didn't bother to check. Unless hit in the spine, brain, or shoulder, deer will seldom drop at the instant of bullet impact. Arrows and muzzleloader projectiles, with their lesser shocking power, will often produce no visible reaction from the quarry, other than make it run. Always assume you've hit the deer if you are unsure.

Next, stay still. Don't move. After the animal is hit it may try to locate the source of the noise your bowstring made, it may not realize anything is wrong, or it may bound out of sight. In any case you don't want to spook the deer more than you already have. The less alarmed the animal is, the less distance it will move before lying down. With a well-placed shot, this might only be 50 yards. To jump up and begin the chase will cause your deer to go much farther.

When the deer has moved out of sight, you must make a mental note of where it was last seen and the direction it was moving. Use landmarks to help you find this spot easily when you begin tracking. To mark the spot where the deer stood when you shot from a tree stand, shoot an arrow into the ground; things might look different from ground level. If you've stalked your deer or shot from a ground blind, immediately leave a marker where you were standing (a hat or strip of marking tape will work). Then do the same at the spot where the deer stood when you shot.

Stay calm and don't rush things. After you've marked the trail, you should wait a minimum of 30 minutes before taking the track. Poor hits dictate that you wait a couple

hours, at least. Don't just sit there. Sharpen your broadheads; read that paperback you brought along for just this moment; walk away from the track and explore new territory. A friend of mine, after shooting from a tree stand at a very large buck, suddenly found himself on the ground running toward the animal. He couldn't even remember how he got out of the tree! The last thing a bowhunter wants to do is to spook a deer he has just shot.

While you remain still or vacate the area, a deer that hasn't been overly alarmed will have time to either die or lie down. The longer the deer stays in one place the easier it will be to find. If it is late evening you will have to make a decision. Was the deer hit well enough that you can trail before dark, or should you wait? If darkness is approaching very quickly you may want to mark the shooting site, then go for help and lanterns. In the dark, several trackers can be a big advantage. A deer hit in the paunch is best left until morning. Paunched animals will almost always die but can travel great distances if pushed and may leave little blood sign. Allow several hours before taking the track.

Remember that an arrow also cuts hair, and that bleeding may not be evident until the animal has run several yards.

Once you're on the trail, move very slowly. Watch ahead, but also pause and scan beside you. Never walk directly over the trail or disturb it. You may have to back-track and start again. Flag each track or blood stain you find with marking ribbon.

Blood sign can tell you a lot about the job ahead. Foamy red or pink blood tells you the deer is hit in the lungs. Rich crimson blood means a heart or major artery shot. These are good signs, and you will probably find your deer quickly—especially if the blood is profuse or obviously sprayed. If the blood is brownish

with bits of viscera in it, the deer is hit in the gut. This means you'll probably have a tough job. Blood on both sides of the trail tells you that the arrow penetrated completely. Blood stains on leaves can indicate which direction the deer is traveling. A large drop of blood will spatter in the direction a deer is moving. This can help if the deer doubles back on the trail.

A blood trail will not always be obvious. If you can't find blood immediately, get down on your hands and knees and *really* search. Remember that an arrow also cuts hair, and that bleeding may not be evident until the animal has run several yards. Scour the ground for tracks, broken twigs, overturned rocks, anything. Often a blood trail will be intermittent. If the trail stops abruptly, you'll be glad you marked sign behind you. You can then back-track, determine the general direction the animal was moving, and make ever-widening circles until the trail is found again. Another way to find a lost trail is take the easiest path through the brush. Moving in the same direction the deer was going at the last good sign, follow your feet. An injured deer will often take the least strenuous route.

If you lose the trail in very dense cover, try this: Using a compass and markers, construct 50-yard squares. If possible, work with a partner and assiduously search each 50-yard square before marking another. Many hunters make the mistake of searching over the same area too long.

One of the most important factors in trailing is concentration. Keep your mind sharp and aware of your surroundings. Many hunters have walked by deer that have holed up in heavy cover. Approach blow-downs, brush piles, and thickets cautiously. Don't assume that because no trail or entrance into a thicket is visible the deer went around it. A hurt deer may actually crawl into the brush to gain its security.

With all the preparations you make for bowhunting, take some time to plan your post-shot routine. Go over it in your mind so that even in the excitement of the hunt it comes automatically.



Gene Brehm photo

LAST CHANCE!

Everybody does it once in a while and, after four years, we're finally doing it, too. Beginning January 1, 1985, subscription rates for KANSAS WILDLIFE will go up slightly to six, eleven, and fifteen dollars for one, two, and three years, respectively. The hike is necessary to cover production costs that, at this time, are actually higher than the price of the magazine at the multiple-year rates!

Before we change, though, we want to do something special. As a Christmas bonus, we're offering a top-grade wildlife calendar with every order of three subscriptions to KANSAS WILDLIFE. These may be renewals or new subscriptions, for yourself or someone else. If you're not due to renew, you can still send in a renewal form with your check and have a full year (or two or three) added to your current subscription *after* it expires.

These 1985 calendars feature 13 large, full-color

reproductions of wildlife paintings by celebrated artist Richard Plasschaert. Printing is on heavy, glossy stock and is of the highest quality. KANSAS WILDLIFE is proud to offer these calendars to its subscribers.

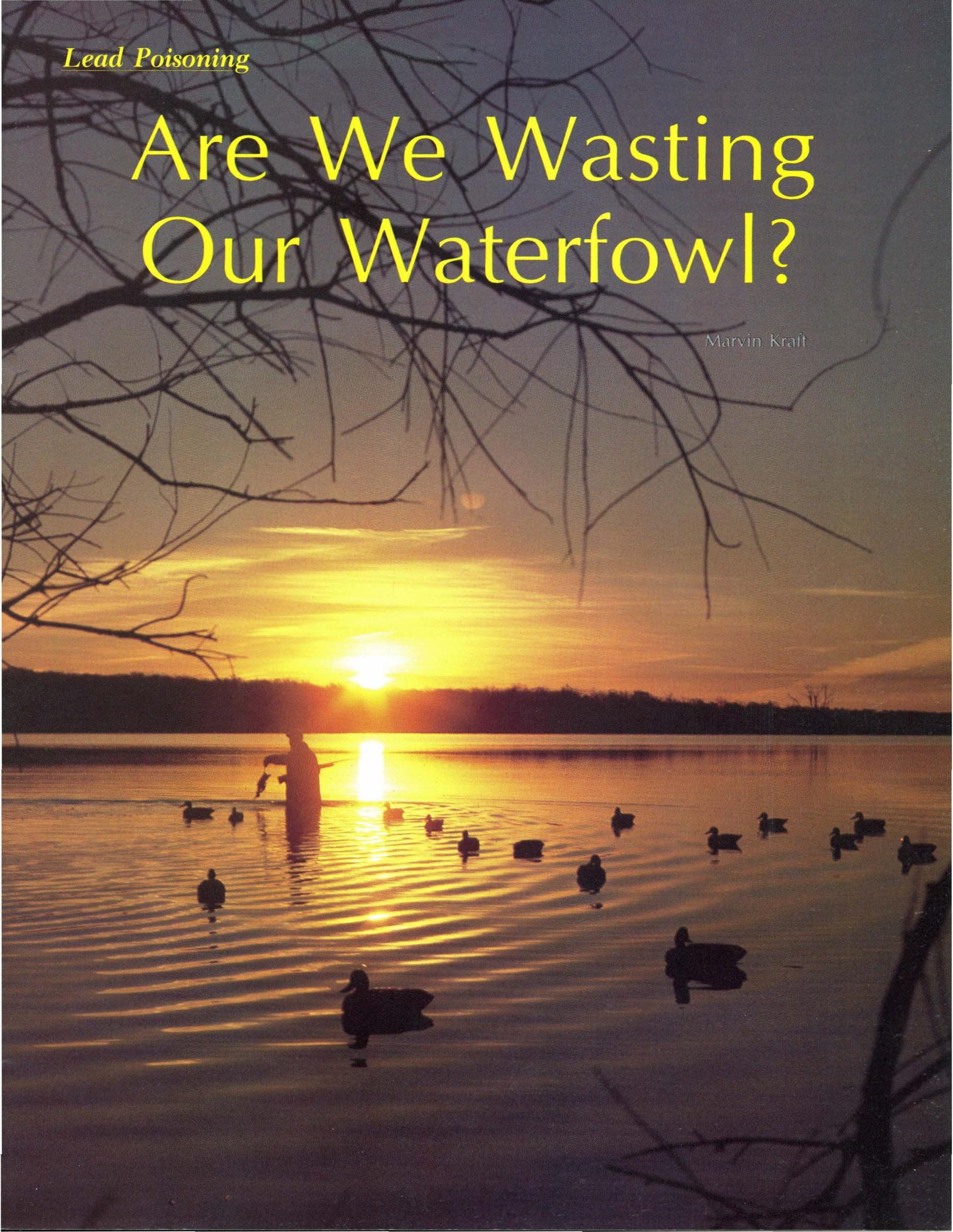
If you're looking for a gift for someone special this year, why not introduce them to KANSAS WILDLIFE magazine? A couple subscriptions still cost no more than the price of a steak dinner and will last a lot longer. Your friends are sure to appreciate the top-notch color photography and informative outdoor articles of KANSAS WILDLIFE. And the striking wildlife calendar will make a great addition to your home or office in 1985.

Remember, this offer is good only until December 31, 1984. At that time the old subscription prices — and the calendar offer — will no longer be in effect. Don't wait. Now is the time to renew!

Lead Poisoning

Are We Wasting Our Waterfowl?

Marvin Kraft



Just as pheasant and quail stocking, antlerless deer hunts, and long hunting seasons have at one time or another been controversial, so is the use of steel shot today. The debates over this issue have been ongoing for at least 15 years, fueled by considerable misinformation and poorly drawn conclusions. With the exception of habitat loss, lead poisoning is the single most important management problem facing waterfowl managers and hunters in North America today.

Lead: The Silent Killer

Lead is a long-lasting, toxic substance that has no known beneficial biological function. It is one of the few elements that is not necessary for the growth and survival of plant and animal life.

Within the U.S., more than a million tons of lead per year are used in items ranging from gasoline to batteries to ammunition, resulting in widespread exposure to both human and animal life. Exposure to lead causes a broad range of physiological effects, involving the nervous system, blood vessels, and major organs. Lead poisoning causes a loss of red blood cells and a reduction in the ability of the bone marrow to produce new cells. It can also cause mental retardation, degeneration of the kidneys and liver, reduced resistance to infections, and death.

Lead shot poisoning has been documented in waterfowl since the late 1800's. Presently it is estimated that between 1.6 and 2.4 million ducks die annually in North America from lead poisoning. This is eight to ten times the recent legal harvest in Kansas and about equal to the entire annual harvest in the ten states of the Central Flyway.

Each year waterfowl hunters deposit tons of lead shot into critical waterfowl habitat. Many of these pellets remain available for years, with an additional supply added annually to areas where waterfowl concentrate. Lead poisoning results when these birds mistakenly ingest the pellets as food or grit.

Once ingested, the lead pellets pass to the gizzard, where grinding and digesting of both food and pellets begin. The eroded lead is absorbed as a soluble lead salt and transferred to the circulatory system, where it causes severe anemia

(the inability of the blood to carry oxygen and nutrients to the body tissues). The result is a gradual loss of muscle and fatty tissue: starvation.

Studies have found the percentage of gizzards containing lead shot to range from near zero to more than 50, with 5 to 10 percent being common. Lead pellets remain in the gizzard approximately 20 days before being completely consumed or ground away by the bird. This is significant, since it means that the 5 or 10 percent incidence is a "20-day rate", not an annual rate. Not all birds that ingest lead die; still, gizzard analysis provides a good indication of the extent of the problem.

The impacts of non-lethal doses of lead or continued exposure to lead are not completely understood, but may be just as serious as waterfowl losses from acute lethal exposure. Sublethal or chronic exposure to lead impairs sight and hearing and may cause loss of motor reflexes. The impairment of these biological functions may lead to increased losses to predation, greater susceptibility to disease, and decreased reproduction. The thought of reduced production due to lead poisoning is particularly disturbing, considering the habitat degradation and other problems presently faced by waterfowl on their breeding grounds.

Waterfowl are not the only animals suffering from lead poisoning. A number of other wildlife species have been known to ingest lead pellets and/or succumb to lead poisoning. The list includes loons; Virginia, king, clapper, and sora rails; godwits; California gulls; coots; gallinules; scaled and bobwhite quail; ring-necked pheasants; mourning doves; prairie falcons; kestrels; red-tailed hawks; Andean condors; bald eagles; a California condor; and a whooping crane.

The secondary poisoning of bald eagles resulting from their eating lead-contaminated waterfowl is significant. In one study, 7.2 percent of 650 eagle carcasses autopsied were diagnosed as lead poisoned.

Cutting Our Losses

The primary cause of lead poisoning in ducks, geese, and other wildlife results from the ingestion of lead shot. To reduce this disease we

must reduce the availability of toxic shot through physical methods such as soil tillage, water manipulation, or the use of non-toxic shot.

Soil tillage reduces the availability of shot to waterfowl at times, but is a temporary measure at best, since annual hunting activity renews the lead poisoning potential at a time when waterfowl are present and concentrated in the area. Also, tillage is impractical over the vast majority of wetland habitats in the U.S. Water level drawdowns and deep-water flooding can reduce lead ingestion, but they also reduce or eliminate important marsh habitat. It is against the principles of most wildlife managers to develop critical waterfowl habitat, harvest ducks from it, and then destroy it or make it unavailable to waterfowl immediately after the hunting season. The bottom line is that lead poisoning will continue as long as lead pellets are deposited in marshes and other habitats used by waterfowl.

The search for a substitute for toxic lead shot has been the focus of a great deal of research. Many solutions to the problem have been offered, among them: 1) coating lead pellets with substances which do not erode in the gizzard, 2) combining lead with other substances to reduce toxicity, 3) combining lead with other substances which disintegrate in water, and 4) using other non-toxic metals. Any alternative shot would have to be non-toxic, ballistically acceptable, and economical to produce.

So far, only one viable substitute has been found for lead shot; and that is steel shot. Waterfowl managers presently support the use of steel shot for waterfowl hunting because, after conducting and reviewing numerous studies, they feel that the use of steel shot is in the best interests of the waterfowl resource and the waterfowl hunting tradition. Recently, waterfowl biologists representing the 24 states of the Central and Mississippi Flyways voted unanimously in favor of a resolution urging the exclusive use of non-toxic shot for waterfowl hunting.

But getting waterfowlers to adopt the same stance has been difficult. Popular literature during the early years of the controversy planted seeds of doubt and/or created con-

Gene Brehm photo



Gene Brehm photo



Nebraska Game and Parks photo



Nebraska Game and Parks photo



fusion in the minds of hunters. Much of what was written had little factual basis. Unfortunately, little can be done about the distribution of “bad” information. But increasing numbers of shooting editors for major sports magazines now acknowledge steel shot as a satisfactory hunting load for waterfowl.

Here are some of the most common questions and concerns of hunters who doubt the need for non-toxic shot and/or the suitability of steel shot as an alternative for lead shot.

If lead poisoning is such a bad problem, why don't we see dead and dying ducks?

Lead has been called the “silent killer of waterfowl.” Although spectacular die-offs do occur, most losses are on an “individual duck” basis, scattered over a wide area. Birds suffering from lead poisoning become weak, unable to fly, seeking cover in dense vegetation where they eventually die or fall prey to scavengers and predators. This loss continues long after sportsmen have left the marshes and fields and is seldom detected by them. It is only when large-scale die-offs occur, and predators and scavengers are unable to remove the evidence, that losses to lead poisoning become readily apparent. In a field study conducted by the Missouri Department of Conservation, 80 to 90 percent of observed duck carcasses were scavenged within five days, and more than one-half disappeared entirely. In Texas, 47 fresh carcasses were placed in varying locations in a typical coastal marsh. In less than one day, 32 percent had disappeared, and by the eighth day, 89 percent were gone.

In another Texas study, 50 carcasses were randomly placed in typical escape cover within a 100-acre marsh site. An additional 50 duck carcasses were randomly tossed atop vegetation. Within 30 minutes of deposition, a search crew

*Lead poisoning is **not** caused by pellets imbedded in a bird's flesh. Rather, it follows ingestion of lead shot by waterfowl foraging on heavily-hunted areas. Geese (top) may pick spent shot up in grain fields, while puddle ducks scavenge it from pond bottoms. Sick and dead waterfowl are seldom seen by hunters. An emaciated breast and protruding sternum (bottom) are evidence of acute lead poisoning.*

composed of five department personnel, a representative of a local conservation club, a commercial waterfowl guide, and an outdoor writer conducted a typical ground search. The search crew found six birds, all of which had been tossed atop the vegetation and were readily visible.

These studies demonstrate the difficulty of observing or noticing ongoing low-level lead poisoning losses, even when hunters are present. Also, the period when lead poisoning is at a peak normally occurs after the hunting season, when hunters and other individuals

While fears of gun damage may have subsided somewhat since then, many hunters still hesitate to shoot steel in their favorite shotgun. Most of the fears concern bore erosion or choke expansion.

Bore erosion has all but been eliminated in today's steel shotshells. Tough plastic shot cups encase the charge and protect both pellets and barrel as the load is forced ahead of expanding powder gases. Choke expansion, or ring bulge, can occur in some shotguns when steel or magnum lead loads are fired. The expansion is rarely noticeable and usually stabilizes at

use of steel shot in their gun should contact the manufacturer for information.

What about the high cost of steel shotshells?

The price of steel shotshells is of major concern to sportsmen. Steel loads are presently more expensive than lead. This is particularly noticeable to the many hunters who use "Duck and Pheasant"-type lead loads purchased at discount stores. Still, the 1983 manufacturers' distributor prices and recommended retail prices for steel shotshells were only slightly higher than those for equivalent lead shotshells. The price of steel shotshells to hunters will probably decline as more steel loads come into production and their use becomes more widespread and stable.

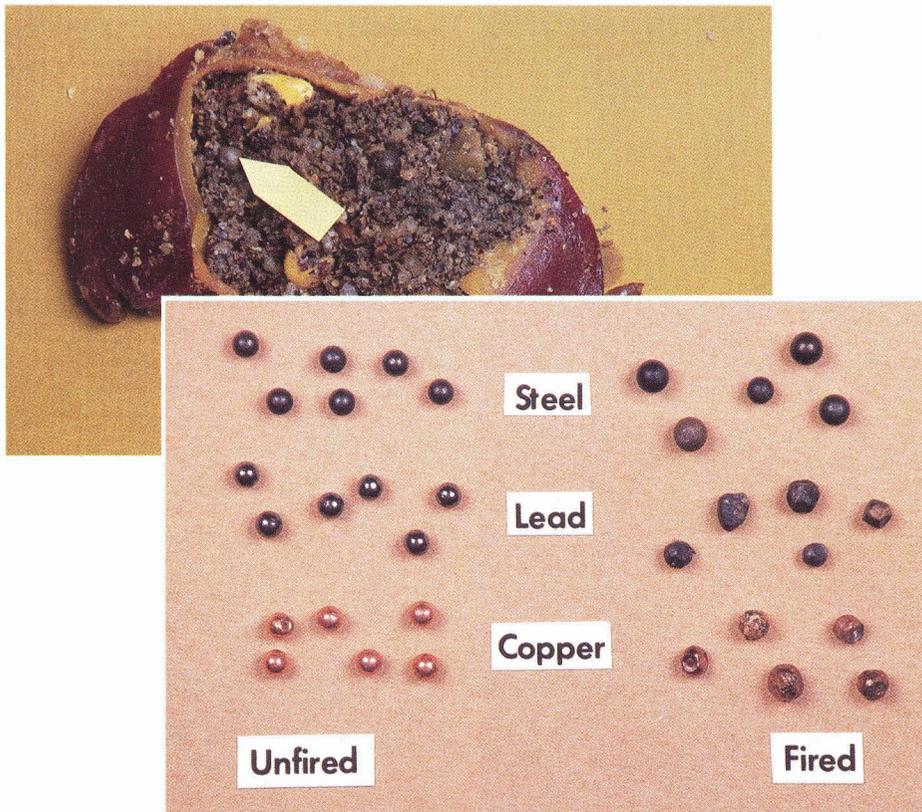
Right now the market for steel shotshells is immature. As competition between manufacturers develops, and research and development costs are recovered, we may see the same discounting of steel loads by retail dealers that we presently have with lead shotshells. Even at current prices, however, the cost of ammunition is still very small when compared to the other expenses associated with a hunt.

What kind of steel shotshells are available?

Steel shot is now available in a variety of gauge and load specifications. But not all three of the major ammunition manufacturers sell all the various kinds. Twelve-gauge shotshells are available in 2¾-inch and 3-inch lengths, loaded with shot sizes BB, 1, 2, 4, and 6 in 1½-ounce to 1½-ounce loads. Twenty-gauge shotshells are manufactured in 2¾-inch and 3-inch lengths with 7/8- and 1-ounce loads of number 4 shot. Ten-gauge shotshells are also available. As the use of steel shotshells increases, we can expect additional loads to be developed and distributed. The instability and uncertainty of the non-toxic shot program has been the major factor limiting the efficient production and distribution of steel shot ammunition.

Can steel shotshells be reloaded?

The components required for home loading of steel shotshells are



Arrow in top photo points to abraded lead pellets in duck gizzard. The shot is picked up as grit in normal foraging. Compared to lead, steel shot stays rounder in its trip down the barrel. Copper-coated lead combines the desired weight of its core with an abrasion-resistant shell. This shot is effective, expensive — and still toxic.

are no longer in the marsh and severe weather places additional stress on the birds. Lead poisoning mortality is similar to a leaking faucet — the immediate loss is not apparent, but over time significant losses occur.

Will steel shotshells damage my shotgun?

A survey conducted in Ohio in 1978 found that nearly 47 percent of hunters questioned thought steel shot would damage their guns.

about two thousandths of an inch. That is about the thickness of two sheets of typing paper. Guns in which ring bulge has occurred are safe to shoot and may, in fact, deliver more effective patterns as a result of the expansion. Ring bulge does not affect the usable life of a gun. Firearms which may develop ring bulge include early Belgian Brownings, Parker and L. C. Smith doubles, and other smoothbores with soft barrel steel or thin barrel walls. Hunters uncertain about the

Nebraska Game and Parks photos

the center section

Edited by Rob Manes

LETTERS

DISSATISFIED

Editor:

Please cancel my subscription to KANSAS WILDLIFE. I didn't realize it was a magazine for hunters. Maybe you should rename it SHOOTING KANSAS WILDLIFE.

Phil Hedrick
Lawrence, KS

Dear Mr. Hedrick,

I refer you to the "Readers Write" column in our last issue. *Wayne van Zwoll*

CAN YOU TELL ME

Editor:

I haven't found any information on lifetime fishing or hunting licenses. . . . I'm sure all readers of KANSAS WILDLIFE would also be interested in the details and price of lifetime licenses.

Mike Stuerke
Kansas City, KS

Dear Mr. Stuerke:

Available to Kansas residents, combination lifetime licenses are sold for \$400. Either the lifetime hunting or fishing license may be purchased for \$200. Both prices are bargains, considering the amount that will be paid for annual licenses by anyone who is not already nearing the license-exempt age—and that does not include imminent license fee increases.

Even for persons who soon will reach the age at which hunting and fishing licenses are not required, the lifetime license may be a good deal, as it allows the holder to return to hunt in Kansas, if he moves away, without purchasing a nonresident license.

To reduce the burden of paying for the lifetime license in one large sum, the Kansas Fish and Game Commission has an installment plan, which allows the purchaser to pay for the license at a rate of \$30 per month for either the hunting or fishing license and \$55 per month for the combination license.

Lifetime Hunting and Fishing Licenses make ideal gifts for Christmas, birthdays, graduation—just about anytime. *Manes*

Editor:

I really enjoyed the article "Snakes Alive" in KANSAS WILDLIFE. . . . you didn't mention the spreading viper snake, and I would like to know a little about it.

Carl J. Evans
Hutchinson, KS

Dear Mr. Evans:

The "spreading viper" is more commonly called the hognose snake, two species of which are found in Kansas (western and eastern). The hognose's upturned snout aids it in digging to capture toads, frogs, lizards, and other small animals.

Although hognose snakes have inaccessible rear fangs and very mild venom, they are not dangerous to humans, and in fact are some of the more docile snakes to handle. A hognose will at times strike when threatened, but the strike is usually short and with the mouth closed.

Another of the hognose's defense tactics is to roll over and "play dead" until the intruder leaves. They have been known to remain in this position for up to five minutes. Although the hognose's favorite defense is to simply crawl away, it may resort to a more dramatic bluff, rearing up and flattening its neck so that a cobra-like hood is formed. This behavior is usually accompanied by loud hissing.

Records indicate that both eastern and western hognose snakes have been found in your area, although it is more likely that you will encounter westerns. They prefer areas with loose, sandy soils under which they can burrow to escape the heat. *Manes*



DEER K.F. & G. . . .

Editor:

I would like to know why the deer permit in Kansas has been raised to \$30 . . . several other deer hunters . . . say they will not pay \$30 for a deer permit. Illinois charges \$15, Indiana \$10 . . . and many more states (are) in that price range . . . Why do fees go up every two years, and when are they going to stop? Myself and many other hunters are concerned . . .

Kenneth Gilliland
Hoyt, KS

Dear Mr. Gilliland:

The costs of wildlife management are like those of any other business—inflation has its effects, creating the need for periodic fee increases. At present, we are staying further increases. Even at the current price, more than 16,000 archers and about 35,000 firearms hunters have applied for permits this year.

Permit and license fees provide most of the Kansas Fish and Game Commission's funding. Without that support, proper management of the state's wildlife resources would be impossible.

We have asked the Kansas Legislature to aid us in finding additional funding sources, but we have been disappointed with the results thus far. Other revenue sources must be established to ensure sound management of Kansas' wildlife into the next century. It will be up to Kansas sportsmen to support this effort. *Bill Hlavachick, Species Management Supervisor*

Enclosed in deer permit application envelope:

Please note that I will not pay to hunt deer that damage my crops. If you people (the Kansas Fish and Game Commission) cannot give landowners and farmers, who shelter and feed the deer, permits, then I for one will harvest them as I see fit. I know this to be illegal, but tough! I will protect my own one way or another.

Jack E. Wilson
Bronson, KS

Dear Mr. Wilson:

If your complaint is that you did not receive a deer permit, then you should know that landowners are much more likely to be awarded a permit than less fortunate general resident applicants. In addition, non-landowners must pay 50 percent more than farmers and ranchers for the privilege of hun-

ting Kansas deer—a natural resource, which, by law, is public property.

If your complaint is that deer are damaging your crops, you do have some reasonable recourses. You could invite legal hunters to harvest some of the deer in the areas where you are experiencing damage, and you can always enlist the assistance of the State Extension Service or Kansas Fish and Game Commission in solving your problem.

In either case, as you stated, shooting the deer without permit or during closed season would be in violation of the law and would likely result in your prosecution. *Manes*

Editor:

I am returning my 1984 Archery Deer Permit for a refund, as after I received the permit, I do not feel that I could kill a deer. I would rather take a picture of one . . .

Merlen R. Sandness
Utica, KS

Dear Mr. Sandness:

Many true outdoorsmen experience a twinge of regret each time they harvest a deer or any other game animal; but the fact of the matter is that continued coexistence of humans and many wildlife species depends on scientific management through controlled harvest. Kansas' deer population has been increasing rapidly and with it complaints of crop damage and automobile-deer collisions. The Kansas Fish and Game Commission is presently attempting to increase the state's deer harvest to reduce these problems and maintain healthy herds.

For these reasons and because hunting will increase your understanding and appreciation of wildlife, I encourage you to make a serious effort to harvest a deer.

Further, under Kansas law, regulations of the Fish and Game Commission do not allow transferal of big game permits nor refunds of permit fees. *Manes*

SATISFIED

Editor:

I would like to take this opportunity to thank the Kansas Fish and Game Commission for the many happy hours I have spent hunting in Kansas.

I have bought a nonresident license for many years (30 or more) . . . occasional meetings with Commission personnel have always been pleasant . . .

Father Time is rapidly gaining on me. I'll

be 83 (in) December, 1984. I guess I'll do most of my hunting from now on in the old rocking chair, reminiscing about the "Good ol' Days."

My congratulations to an outstanding Fish and Game Commission.

Lester M. Gates
Kansas City, MO

Editor:

I thoroughly enjoy reading your articles, and I am always amazed at the fine quality of your pictures. Having moved from Kansas six years ago, I look back and truly cherish the finest hunting and fishing a person could ever hope to experience. Your magazine keeps me in touch with all that's going on at home. Thanks so much for all your hard work and planning . . . I'm one who is grateful for all the efforts of the Kansas Fish and Game Commission.

Mrs. Dewayne Frobenius
Kimberling City, MO

Editor:

. . . We are really impressed with the contents and the beautiful pictures (in KANSAS WILDLIFE). We are retired farmers and do enjoy and appreciate wildlife literature . . . Keep up the great work. It is worth every effort put into it.

Ferne Brand
Fontana, KS

Editor:

In the "Kansas Wildlife Abroad" article, Rob Manes mentioned that KANSAS WILDLIFE subscribers were in every state except Hawaii. Since I live in central Oahu, I'm proud to be the one to round out your subscription territory. As a Kansas native, I attempt to get back often to enjoy some of the best hunting and fishing I've encountered . . .

Fred Gilliland
Wahiawa, Hawaii

Dear Mr. Gilliland:

Thank you for putting Hawaii on our list of subscribers. Others from your state have recently joined you, and we are happy to see that the wild riches of Kansas are being carried abroad. It is interesting to note that KANSAS WILDLIFE has recently logged subscribers from New Zealand, Italy, and Africa. *Manes*

THE LAW

GUESS WHO'S COMING TO DINNER

It was a complaint from a Westphalia, Kansas resident about a discarded animal carcass in the city that put Game Protector Doug Sonntag on the trail of two poachers. His investigation turned up a tag number and a description of a pickup allegedly used in the crime. Tracing the tag to a name and an address, Sonntag decided to take a drive by the suspect's house. In a shed behind the house, he saw a board with blood and what looked like deer hair on it.

Next, Sonntag went to Judge Phillip Fromme and requested a search warrant. Around 5:30 that evening Sonntag served the warrant at the suspect's home. The man agreed to save everyone some time, admitting that he had a deer chilling in the bathtub. Sonntag confiscated the deer and some meat already floured and ready to cook in a skillet heating on the stove. Then he loaded the man up to go to jail in Burlington.

On the way out of town, they met a pickup truck that matched a description given by one of the witnesses. Sonntag whipped his vehicle around and stopped the man in the pickup. The driver was on his way to eat venison supper with the suspect who was already in custody. Sonntag inquired about the deer hair and the blood in the back of the truck.

"That's coyote hair," said the man.

"Now, I've been doing this long enough to know coyote hair from deer hair," replied Sonntag, "and you're under arrest for illegal possession of a deer."

Judge Fromme released both men on \$1,000 bond each. A few days later, the Westphalia man pleaded guilty to charges of possession of a deer out of season and hunting without a license, and he received a \$500 fine.

The other man evidently decided to forfeit his \$1,000 bond, as he left—with a bondsman hot on his trail. *Manes*

TO THE RESCUE

"It wasn't anything fantastic," said southwest Kansas Game Protector Mike Smyth. He modestly summed up his rescue of a little girl who was close to drowning in Clark

State Fishing Lake; but his quick reaction probably saved a young life.

Smyth and fellow Game Protector Dennis Sharp were launching a boat on the lake to check fishermen. When the motor wouldn't start, they decided to haul the boat up to the lake manager's house for assistance. On the way to the house, they heard frantic screams coming from the direction of a boat dock. Smyth baled out of his pickup and ran to the dock.

One very small girl stood screaming with her hands over her face. Then Smyth saw another small girl surface and grab desperately for the edge of the dock. She was obviously near drowning. G.P. Smyth quickly grabbed her hand and pulled her to safety.

"The people who were supposed to be watching the little girl were quite a ways off, sitting by a camper," said Smyth, "They didn't seem a bit worried." *Manes*

LAYING DOWN THE LAW

In 1983, there were 7,180 state wildlife agency employees assigned to law enforcement in the U.S., and more than \$275 million budgeted for that purpose. Law enforcement comprised 32.5 percent of the total number of state wildlife agency employees and consumed about 30 percent of the agencies' budgets, reflecting the importance of law enforcement in wildlife management.

In the Kansas Fish and Game Commission, the Law Enforcement Division receives about 22 percent of the budget, and about 27 percent of the agency's employees are full-time law enforcement personnel.

Nationwide, conservation officers averaged 71 arrests each per year, with an impressive 93 percent conviction rate. There were 10.4 arrests per 1,000 hunters and anglers, an all-time high. Each officer patrolled an average of 435 square miles.

The assault rate, measured over a 16-year period, was 2.72 assaults per 100 officers per year. This means an officer has an 82 percent chance of being assaulted during a 30-year career. Since the persons committing these assaults generally are armed with gun and/or knife, the conservation officer's job is considered to be among the most dangerous of police work. *Wildlife Management Institute*

IT DOESN'T PAY

Poaching deer is illegal, unethical, and harmful; and in some states it can be a real pain in the pocket book. Take for example a case that occurred last winter in Washington.

State wildlife officers found evidence that three people had been involved in the poaching of 11 mule deer. The suspects were arrested and charged with hunting and possessing deer during closed season. Two of the three pleaded guilty to the charges, and a county court judge fined them each \$1,000—but that's not all.

A new civil statute allowed the judge to fine the two men another \$500 each—**per deer**. The total penalty paid by the two poachers was \$13,000! *Manes*

SOME SORT OF RECORD

Game Protector Steve Stackhouse would have been patrolling Milford Reservoir by boat that Saturday in mid July, but high winds made it unsafe and unlikely that anyone would be on the lake. So, when he heard that there was an overloaded boat full of partiers, he was amazed.

From a point on shore, he spotted the double-decker house boat. It was stuffed from stem to stern. When Stackhouse met the lumbering craft at the dock, he needed the assistance of a Geary County lake patrolman in counting the people as they came ashore—there were 38.

The Clay Center man who owned the boat could only find 16 legal life jackets, leaving him 22 short. So Stackhouse issued him a ticket accordingly.

Clay County Judge Brown took a dim view of the dangerous violation, and she ordered the boat owner to pay \$190 in fines. *Manes*

TIMES HAVE CHANGED

Back in June of 1938, a Kansas City, Missouri man was found guilty of hunting without a nonresident license and shooting from a public roadway, a trespassing offense. He was fined \$20.

Today, those same convictions could cost the violator as much as \$1,000, and a judge could also order the culprit to jail until the fines were paid. *Manes*

ISSUES



A HARD LESSON

Seven years ago, a sportsmen's group on Michigan's Upper Peninsula defied the state's Department of Natural Resources and the U.S. Park Service and prevented a deer hunt on the Pictured Rocks National Lakeshore. Today, the deer are gone, victims of an unreasoned approach to natural resource management.

The deer herd had overbrowsed its winter range noticeably in 1976, and the Department decided to permit a special hunt in the area to remove the excess animals. The group of hunters managed to get a court order blocking the hunt. It organized a costly and unsuccessful artificial feeding program for the deer and then talked the state legislature into reimbursing the club's \$27,000 expenditure for feed. Biologists warned that the feeding would not work and that many of the deer would die if the herd was not reduced.

As predicted, the deer began to die in the winter of 1977. The herd dwindled rapidly during 1980, the final year that it was monitored. Last winter, a student biologist spent a week in the area to see how the herd was doing. He was unable to find a single deer or even a deer track. Biologists report that the deer would still be in the area had the hunt been held, because the browse would not have been destroyed by too many animals.

This type of issue is not new to wildlife managers. Too often sound management deci-

sions have been blocked by loud emotional outcries from misinformed protectionists. *Wildlife Management Institute*

FISHING IS CRUEL

Britain's militant animal-rights activists have taken on hunters, baiters, breeders, traders, scientists, and farmers. Now they're going after sport fishermen.

The Hunt Saboteurs' Association has been waging bush war against hunters for two decades. Fishing, they say, is among the cruelest of blood sports.

On the opposition side are Britain's 3.5 million registered anglers, who—in the words of a headline in *Angling Times*—have vowed, "We Shall Not Be Moved."

Hunt Saboteurs' advised its 3,500 members on how to post false health warnings in the woods, drop sonic devices in the water, and feed fish so they lose interest in bait.

Masked raiders have attacked research laboratories, setting free dogs, cats, monkeys, and rabbits. At nearly all fox hunts, Saboteurs lurk in the woods, blowing horns and beating bushes. Extremists have even sent letter bombs, including one in 1982 that burst into flames at the prime minister's residence. *Voice of The Trapper*

LEAVE IT ALONE

Most of the Black Vermillion River in Marshall and Nemaha counties is a silt-filled,

eroding problem for landowners along its banks. The Vermillion has been forced into a relatively straight, uniform channel through a practice called channelization. It leaves a stream without natural, bank-stabilizing plant life, which would otherwise prevent erosion. Other channel structures, such as large rocks, brush, and bends in the river combine to hold soil in place, improve water quality, and provide critical habitat for fish as well as land-dwelling wildlife.

If it's so bad, why is channelization used?

Developers, farmers, and engineers have, for many years, been taught that channelization was beneficial because it allowed water to move out of an area quickly, reducing flooding; but the more numerous long-term negative effects have been overlooked. The fact is that flooding usually becomes more severe downstream. Still, much of this type of thinking goes into making decisions regarding stream alteration.

Channelization often provides quick financial gains by allowing development of frequently flooded areas. The result is generally rampant erosion that carries away tons of soil and does extensive damage to private property and bridges. The resulting erosion often causes ruination of water quality in affected streams.

In Kansas, laws which regulate channelization and water quality in smaller streams are inadequate. Although federal regulations provide minimal protection for larger streams, most Kansas streams are not covered.

A stream integrity section has been proposed for the new State Water Plan, but action has been postponed until 1985, when legislation will have to be developed to support the proposed guidelines and give authority and responsibility to the proper state agencies. *Manes*

A STEP BACKWARD

Reduced federal protection could be in store for thousands of acres of wetlands, including important prairie potholes and Alaska tundra. A federal court of appeals refused to review and thereby left intact an earlier decision by an appeals court that, in effect, redefined the term "wetlands." Under the panel's interpretation, only frequently flooded lands can be considered wetlands and thus eligible for federal protection under Section 404 of the Clean Water Act. Since 1977, wetlands have been defined by the U.S. Army Corps of Engineers by the type of vegetation present in a given area. Whether the potentially damaging decision will prompt the Corps to modify its definition remains to be seen, but it is certain to create disarray in the Corps' wetlands regulatory program. *National Wildlife Federation*

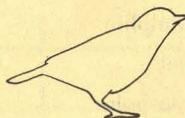
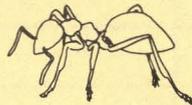
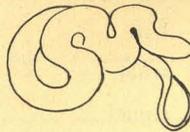
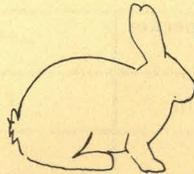
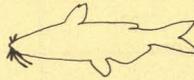
NATURE'S NOTEBOOK

by Joyce Harmon
Wildlife Education Coordinator
Kansas Fish and Game Commission

TEST YOUR SKILLS: WHERE DO THEY BELONG?

Classify the following animals by class. M = mammals, B = birds, R = reptiles, A = amphibians, F = fish, I = insects, and O = other.

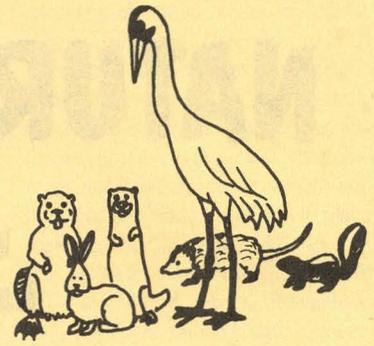
1. _____ antelope
2. _____ silver fish
3. _____ cardinal
4. _____ monarch butterfly
5. _____ great-horned owl
6. _____ egret
7. _____ whitetail deer
8. _____ rattlesnake
9. _____ leopard frog
10. _____ eel
11. _____ bat
12. _____ turtle
13. _____ crocodile
14. _____ catfish
15. _____ osprey
16. _____ mallard
17. _____ trout
18. _____ great blue heron
19. _____ alligator
20. _____ hornet
21. _____ salamander
22. _____ toad



23. _____ turkey
24. _____ elk
25. _____ bluegill
26. _____ pheasant
27. _____ bass
28. _____ seal
29. _____ otter
30. _____ monkey
31. _____ anteater
32. _____ kangaroo
33. _____ armadillo
34. _____ mosquito
35. _____ cow
36. _____ dog
37. _____ pigeon
38. _____ ant
39. _____ whale
40. _____ frog
41. _____ seahorse
42. _____ shark
43. _____ starfish
44. _____ clam

KEY
1.-M, 2.-I, 3.-B, 4.-I, 5.-B, 6.-B, 7.-M, 8.-R, 9.-A, 10.-F, 11.-M, 12.-R, 13.-R, 14.-F, 15.-B, 16.-B, 17.-F, 18.-B, 19.-R, 20.-I, 21.-A, 22.-A, 23.-B, 24.-M, 25.-F, 26.-B, 27.-F, 28.-M, 29.-M, 30.-M, 31.-M, 32.-M, 33.-M, 34.-I, 35.-M, 36.-M, 37.-M, 38.-B, 39.-I, 40.-M, 41.-F, 42.-F, 43.-O, 44.-O.

SOMEBODY DOESN'T FIT



Directions: In each of the groups below, one animal does not belong. Put a line through the animal that doesn't belong and replace it with an animal that does. Choose from the categories below to name the entire category. The first one has been done for you.

Categories

mammals
reptiles
birds

amphibians
insects
fish

herbivores
carnivores
water-dwelling mammals

have wings
extinct
endangered

prairie rattlesnake
red-eared turtle
alligator
chameleon
~~tiger salamander~~
Five-lined skink
Reptiles

crow
bat
woodpecker
coot
penguin

cow
cardinal
horse
bobcat
grasshopper

grasshopper
crane
flying squirrel
bat
butterfly

bat
whale
camel
bluegill
coyote

channel catfish
shark
white bass
trout
drum

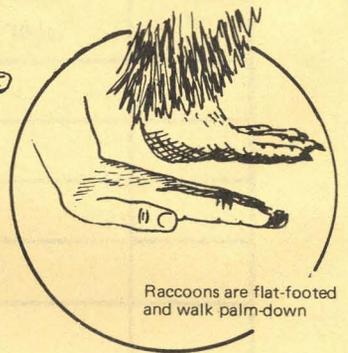
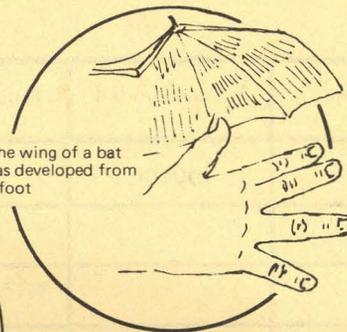
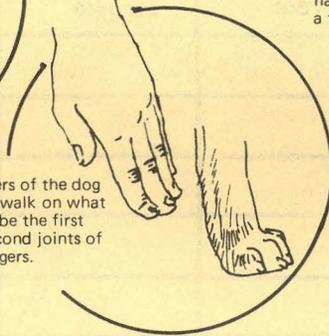
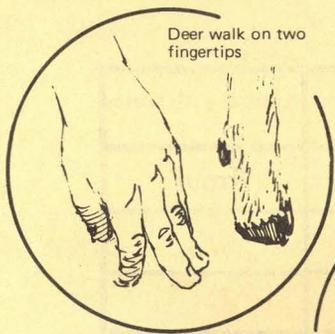
mosquito
passenger pigeon
sea mink
great auk
Carolina parakeet

whale
manatee
dolphin
elk
porpoise

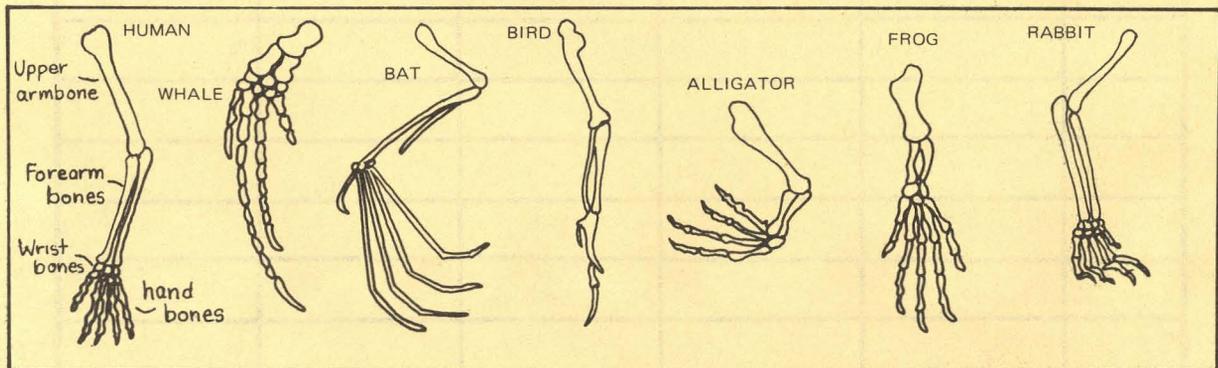
whooping crane
Arkansas darter
Topeka shiner
black-footed ferret
white-tailed deer

THE KNEE BONE'S CONNECTED TO THE...

By comparing human bones to those of other animals we can see how they are alike in structure and purpose. Examine the illustrations below.



Label the upper arm bone, forearm bones, wrist bones, and hand bones on each of the forelimbs below.



HUNTING

SOUNDING THE ALARM

The following statement, issued by the Trustees of the North American Wildlife Foundation, Delta Waterfowl and Wetlands Research Station, reflects the deep concern of all wildlife professionals over the bleak outlook for the future of North American waterfowl:

"North American ducks are in serious trouble.

"We fear the governments and the public do not appreciate the gravity of the situation . . .

"The Canadian prairies are severely dry once again—the fourth drought in the past eight years. Wetlands have continued to decline drastically, but duck populations are even lower. Since joint aerial surveys by U.S. and Canadian government biologists were begun in 1955, there have never been so few ducks tallied on the breeding grounds of North America.

". . . in prairie Canada, dry years make it easier to drain, burn, and cultivate small wetlands, where more than 80 percent of the ducks are born . . . Wintering marshes in the U.S. are also disappearing or becoming unusable more rapidly than before . . . there is every reason to expect that the spring of 1985 will tell an even grimmer story . . .

"We should recognize that the decline in the duck numbers is unprecedented and extremely serious. This calls for an end to bickering over the resource . . . we cannot leave the future of duck hunting to bureaucratic inaction. . . .

"We should seriously question whether or not to continue hunting the birds as we have over the last few years. The situation that exists is beyond the experience of biologists and laymen now working in this field. To simply continue acting as we have in the past may mean the end of duck hunting."

AIMING FOR CHARITY

The Ninescah Bowhunters of Wichita hosted their third annual Charity Open on August 3, 4, and 5 with great success. Aiming for a goal of \$10,000 to be donated to Muscular Dystrophy and the local Ronald McDonald House, club members were overwhelmed by the response of bowhunters in the area. When the bows were finally hung up on

Sunday, the club had generated more than \$13,000.

Since its inception in 1982, the Ninescah Bowhunters Charity Open has raised over \$27,000. According to Dave Baldwin, one of the coordinators for the charity shoots, the original purpose of the event was three-fold: to promote the sport of bowhunting in a positive manner, to promote the Ninescah Bowhunters as a family oriented organization and the largest bowhunting club in Kansas, and to help children and families struggling to meet the costs of combatting illnesses.

Plans for Charity Open 1985 on August 3 and 4 have already begun. For more information, contact Dave Baldwin 7119 S. Pattie, Wichita, KS (316) 529-0666. *Ninescah Bowhunters*

PUBLIC HUNTING

Since the fall of 1982, civilian public hunting has been allowed on the Fort Riley Military Reservation. Located between Manhattan and Junction City, Fort Riley is the home of the U.S. Army's 1st Infantry Division. It is also home to excellent populations of bobwhite quail, ring-necked pheasants, greater prairie chickens, mourning doves, and whitetail deer.

Scott Klinger, Fish and Wildlife Administrator at the Fort, says 1,000 permits are available to the general public on a first-come-first-serve basis. The permits, which cost \$21 annually, are good for both hunting and fishing. Revenues from the sale of the permits are used solely for fish and wildlife management. In addition to the special permit, hunters also need a Kansas hunting license to hunt on Fort Riley.

The Reservation is blessed with a diversity of habitat, including native tall-grass prairie, woodlands, low shrub areas, and go-back areas (lands previously tilled and in various stages of plant succession). This habitat diversity coupled with an aggressive wildlife management program administered by professional Fort Riley staff has created a hunter's paradise. Upland game and deer generate the most hunting recreation, but good populations of most other Kansas game species can be found as well.

Of course, not all of the 78,000 acres available for hunting are open continuously.

Fort Riley's primary mission is military training, and some special hunting procedures must be followed. Areas open to hunting can be obtained 24 hours a day by calling a recorded message.

Hunters desiring to hunt at Fort Riley should check with the Fish and Wildlife Office to learn the necessary procedures. The office can be reached by calling (913) 239-6211/6669, by personal visit at Building 191, Camp Funston, or by writing: AFZN-FE, Fish and Wildlife Section, Directorate of Facilities Engineering, Building 187, Fort Riley, KS 66442. *Mike LeValley*

SHOTGUNS TO RIFLES

A simple aluminum adapter makes it possible to shoot .38 Special cartridges in any 12 gauge shotgun, regardless of action type. Adapters are also available in 10, 12, 16, and 20 gauge to shoot 9mm Luger, .44 Special, .44 Magnum, .45 ACP, .45 Long Colt, .32 ACP, .22 LR, and .22 WMR. The outside dimensions of the adapter are exactly the same as those of a loaded and crimped shotshell, therefore they can be used in any shotgun. They will feed through the action of the gun. The inside of the adapter holds a short barrel of the appropriate caliber, and the fired bullet goes straight out of the shotgun barrel without touching the sides.

One significant limitation of the device lies in the fact that shotguns generally do not have sights which allow accurate firing of rifled slugs. The idea of barrel inserts was introduced several years ago in the form of a .410 insert for 12 gauge shotguns.

Priced at \$35.00 each, postpaid, the adapters are available from the GTM Company, 159155B East Main Street, La Puente, California 91744. *Manes*

DEER HUNTERS UNITE

The National Deer Hunters' Association (NDHA), Inc. is made up of dedicated hunters who seek to protect the tradition of deer hunting, affect policy decisions regarding hunting, guarantee perpetuation of adequate deer herds, and promote safe hunting. Members are eligible for special price discounts on hunting equipment as well as limited edition guns and knives. NDHA also offers awards to its members for outstanding trophies. For more information, contact NDHA, One Court Square, Suite 112, Box 526, Montgomery, AL 36101, (205) 265-2438. *Manes*

FISHING

MORE MONEY FOR FISH

Fishing in Kansas has received a one million dollar boost through legislation recently signed by President Reagan that will more than triple the size of the Federal Aid in Sport Fish Restoration Program nationwide. The Dingell-Johnson Program (D-J), as it is called, is funded by a 10 percent manufacturers' excise tax on certain fishing tackle, currently totalling about 35 million dollars annually.

The new legislation directs 45 million dollars per year from marine fuel taxes to boating safety programs. Kansas' boating program stands to receive about \$150,000. The bill expands the D-J tax to cover all fishing equipment, including a three percent tax on trolling motors and electronic fish finders. In addition, taxes on imported boats and tackle will be diverted from the general federal treasury into the D-J fund. The added funds received in Kansas will be used only in new fisheries programs. *Manes*

FROM THE DEEP

While checking bank lines they had set on Sand Creek in southcentral Kansas, two fishermen, Richard Keller and Ralph Massoth, Jr., caught the largest western softshell turtle ever taken—in the world.

The female turtle had an upper shell length of twenty and one-half inches, topping the previous listed maximum by more than two inches. The huge reptile weighed 35 pounds. The old Kansas record, according to J.T. Collins of the Kansas Museum of Natural History, was taken from the Chikaskia River in 1977. Its upper shell measurement was sixteen and one-eighth inches. The new record spiny softshell will soon become part of the collection at the Museum of Natural History in Lawrence. *Larry Miller*

ALL THE MARBLES

A 38-year-old ex-computer data specialist from Montgomery, Texas is the first three-time winner of the Bass Masters Classic and the holder of the all-time record total catch for that

competition. Rick Clun checked in 21 bass (the three-day tournament limit), weighing a total of 75 pounds, 9 ounces. And a crowd of more than 6,000 fishing fans cheered as he received congratulations from Vice President George Bush and a check for \$40,000 in late August.

In setting the record, Clun broke his old mark of 59 pounds, 15 ounces set when he won his first Classic title in 1976. He said he took the fish off a 50-yard-long stretch of channel in the Arkansas River near Pine Bluff, Arkansas. The main lures that brought him success were a Model 6 and a Model 7 Bomber, a Shad Rap, and a Ditto plastic worm. He was fishing an area characterized by a ledge which dropped from two and a half to thirteen feet of water.

Ray Scott, president of the Bass Anglers Sportsman Society summed up Clun's accomplishment: "That's one record I won't live to see broken. It may stand as a Classic record from now on." *Manes*

BIG BLUE

Royce Stiffler of Eudora fishes almost exclusively for blue catfish, and his expertise paid off in mid August when he caught a 56-pound blue cat out of the Kansas River, beating the old record by more than five pounds. He took the fish on rod and reel with 25-pound-test line, and it required a 20-minute fight to get the

monster blue cat into shallow water, where Stiffler's friend could help him land it.

Stiffler wasn't convinced the fish was a record, and they were having unusual success that night, so the big cat was left on a stringer, where stress would cause it lose weight.

After several hours, Stiffler and his buddy, Dennis Barnhardt headed into town to show off their catch, but the fish was too heavy to carry up the overgrown bank, so they dragged it, causing further weight loss.

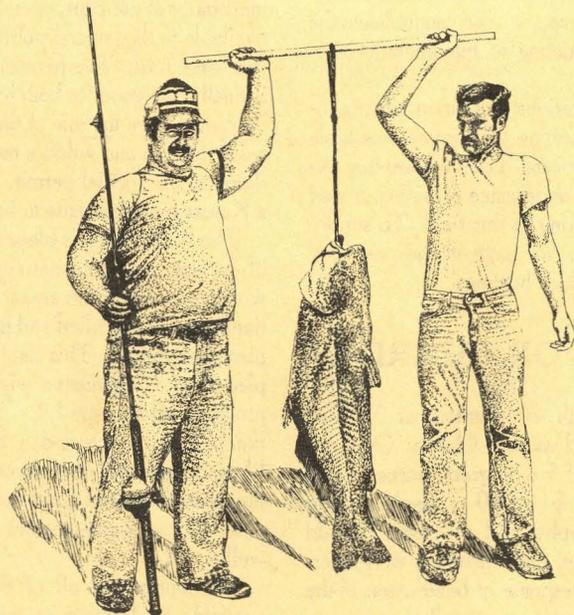
When they finally did get the huge blue catfish officially weighed, they found it was not only a Kansas record, but also a world record in the 25-pound line class. *Manes*

FOR FINER FILLETS

Smothering fish in crushed ice as soon as they're caught is a tremendous aid in preserving the quality of freshly caught fish, but if you "quick-chill" them before they are covered with fresh ice, they'll keep even better. Begin by pouring some salt and water into a tub or bucket to make a slush. Drop the fish into this slush for about a half-hour, then remove them from the slush and pack them in crushed ice in a cooler until the end of the day. The fish may be whole or gutted when iced.

If the fish will be kept for several days before being eaten or taken home to the freezer, they should be cleaned, sealed in plastic, and covered with layers of the salt-ice mixture.

Fish can be kept up to seven days without loss of quality, if they are properly iced. If salt is not available, plain crushed ice will serve, but fish will maintain their quality only for two or three days. *Nebraska Game and Parks Comm.*



NATURE

NONGAME FUNDS GROW

HAND-TO-HOG COMBAT

A rabid groundhog recently attacked an 88-year-old woman as she was weeding her flower bed in Owings Mills, Maryland. The animal bolted from under her house and bit her on the left ankle, throwing her off balance and knocking her to the ground. After the woman fell, the groundhog bit her on the head, face, and arms.

She screamed for help and hit the groundhog with a rock in an attempt to fend off the attacker. When the animal began biting her scalp, she flung it into a nearby pond.

A youngster who lived in the neighborhood shot and killed the groundhog. Police said they were sure it was the same one because it had dried blood on its pelt, teeth, and claws. Laboratory tests confirmed that the animal was rabid. *Trapline Journal*

BAT MANIA

Although bats are among the most relentlessly persecuted animals on Earth, Europeans recognize their value to man as pollinators of fruit and nut trees, dispersers of seeds, and predators of pesky insects. Bats are legally protected in all European countries as well as in Russia. In fact, thousands of "bat houses" have been placed in national forests throughout Europe. In China, bats are considered bearers of good luck, happiness, and long life. *International Wildlife*

PRONGHORN FACTS

The American pronghorn (wrongfully called antelope) is curiously adapted to life on the open, windswept prairie. It does not take shelter from predators or from the weather the way other wild animals do.

The pronghorn's coarse, hollow hair shafts are filled with air, which provides insulation from the sub-zero gusts that howl across the grasslands in winter. When weather is too severe, they huddle together on the leeward side of a ridge or hill for warmth.

Another adaption to life in open country is the ability to detect predators at long range.

Where there are few trees and shrubs in which to hide, predators must not be allowed too close. Pronghorns have highly developed senses of hearing and smell, and their bulging eyes can detect movement in nearly a full circle around them. A large patch of white hair on the rump becomes erect when a pronghorn is alarmed.

Most remarkable of the pronghorn's adaptations are those for speed. Over-sized heart and lungs give them the ability to maintain speeds of about 45 miles per hour for long distances. Cushioned hooves and some of the hardest bones found in any mammal allow the pronghorn to withstand the shock of speeds approaching 60 miles per hour attained for short bursts. Even very young fawns can run with adults. *Manes*

BULLETS TO BIRD SEED

Squirrels and wood peckers can destroy the best wooden and plastic bird feeders, but a surplus metal ammunition box makes a feeder that is virtually tooth- and beak-proof. In addition, the ammunition box feeder will hold several pounds of feed and is fairly weatherproof.

Feeding holes can be drilled in the sides of the box near the bottom. The size of the holes is determined mainly by the type of feed used. For feed with sunflower seeds in it, seven-eighths-inch holes seem to work well.

A few holes about an inch up from the bottom will serve small birds. Another group of holes about two and one-half inches up will feed larger birds.

By drilling small holes in the bottom of the box, a platform base can be bolted on, with dowel rods or small dimension lumber around the edge to keep loose seed from blowing away. A few good coats of paint will keep the box and wooden parts from weathering.

The handles on each end of the box provide good points of attachment for wires to suspend the feeder from a tree branch. The total cost for an ammo box bird feeder should be less than \$15. *Ken Highfill*

WISDOM

When one tugs at a single thing in nature he finds it attached to the rest of the world . . .

—John Muir

Taxpayers in 20 states which have wildlife checkoffs contributed \$6,524,677 in 1983 when they filed their 1982 state income tax returns. Thirty-one states now have the checkoff program, but only 20 were operational in the 1982 tax year.

The checkoff, originated by the Colorado Division of Wildlife, allows state taxpayers to make donations for nongame wildlife conservation.

New York citizens head the donation list with \$1.7 million contributed in the 1982 tax year. Minnesota was second (\$616,700), followed by Colorado (\$552,000) and New Jersey (\$467,900). Kansas was fourteenth with \$131,000.

The percentage of taxpayers who contributed ranged from a high of 11.7 percent in Minnesota to 0.8 percent in Kentucky. In Kansas 1.8 percent contributed. The average amount donated per person varied from \$8.73 in Kentucky to \$3.50 in West Virginia. The average Kansas contribution was \$6.58.

With the additional state programs becoming operational this year, experts predict that as much as \$10.4 million may be donated via the 1983 returns. *Wildlife Management Institute*

COOPERATION

North Central Plastics, Inc., the nation's largest manufacturer of electrical fencing systems, announced that it will make a major change in the coloring of insulators in its Red Snap'r product line. Last September the company received national attention when James Wilson, an ornithologist with the Missouri Department of Conservation, claimed that the company's red electric fence insulators were attracting and electrocuting hummingbirds.

"Although no conclusive information is available, we've decided it's in nature's best interest to simply stop making red-colored insulators which confuse birds," said Albert Berg, Jr., chairman of the board for the company.

Beginning in July, the two red-colored parts associated with the problem will be available only in black. All other red-colored insulators in the Red Snap'r fencing system line will also be discontinued and replaced with black.

People who have either of the red-colored insulators are being advised to paint them another color. *Brum & Anderson P.R., Inc.*

NOTES

OUTDOOR CHRISTMAS

With more than half a million hunters, anglers, and furharvesters in Kansas alone, there must be a lot of Christmas shoppers wondering about what to get their favorite outdoorsmen. Giving a gift to a hunter or angler often presents a chance to give something practical and needed that the recipient wouldn't normally purchase. To the non-outdoorsman, however, such a gift may involve several confusing questions about such things as draw weight, foot size, caliber, magnification, spool capacity, sleeve length, rod action, and a multitude of others that cause shoppers to go for cologne or a solid-color tie. Here is a list of gifts for under \$50 that require none of the above considerations.

Books are sure-fire winners for almost any outdoorsman:

Through the Fish's Eye, by Mark Sosin and John Clark. An angler's guide to sport fish behavior, physiology, and ecology. \$12.95 from Times Mirror Books, Harper and Row, New York.

How to Find Giant Bucks, by Kirt Damer. The author has put 10 bucks in the Boone and Crocket record books. Enticing photos and sound advice. About \$20.00 from Giant Bucks Press, Box 1606, Montrose, CO 81402.

The Shooter's Bible. Current ballistics tables and various in-depth articles augment an extensive update of shooting equipment. \$12.95 from Stoeger Publishing, 55 Ruta Ct., South Hackensack, NJ 07606.

The New Complete Walker, by Colin Fletcher. The authoritative work on living from your pack and traveling on foot. \$10.95 from Alfred Knopf, New York.

Birds of North America, by Robbins, Bruun, Zim, and Singer. Gives important information and facilitates quick identification of roughly 700 species. \$6.95 from Golden Press, New York.

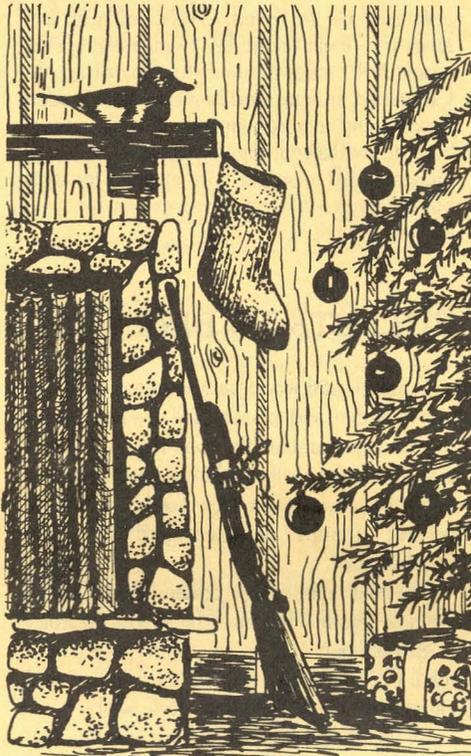
A Practical Guide to Photographing American Wildlife, by Joe McDonald. A manual for anyone interested in better wildlife photos, equipment, and techniques. \$9.60 from Foxy-Owl Publications, 515 Dalton St., Ammaus, PA 18049.

Anglers will surely be delighted with these easy-to-buy items:

Lure or plastic worm assortments spruce up

tackle boxes and give anglers a more effective choice of baits. About \$15.00 from sporting goods stores and fishing catalogs.

A good folding fillet knife is a much appreciated piece of equipment on any fishing trip. About \$25.00 from sporting goods and hardware stores.



Float tubes provide new angling excitement, allowing access to areas where boats cannot go. About \$40.00 from sporting goods stores and fishing catalogs.

A heavy-duty, waterproof flashlight adds security to night fishing trips. About \$15.00 from sporting goods stores and outdoor catalogs.

Hunters are sure to enjoy these practical gifts:

Arrow fletching machines will save time and money for archers, allowing attachment of fletchings at home. About \$40.00 from archery shops and outdoor catalogs.

Compact heaters provide a safe means for keeping warm in a duck blind. About \$40.00 from Coleman Outing Products Service Center, Wichita, KS 67201.

Bird release traps allow dog handlers to work with pen-raised birds with control over the flush. About \$25.00 from Dunn's, Hwy. 57E, Box 449, Grand Junction, TN 38039.

Good shooting glasses will protect a hunter's

eyes and help him see the target. About \$30.00 from sporting goods stores and outdoor catalogs.

Tarps are simple but very useful items that no outdoorsman should be without. About \$40.00 (14' X 20') from hardware stores.

Electric boot driers will make hunters wonder how they ever lived without them. About \$20.00 from Dunn's.

A good pocket knife is every outdoorsman's friend. About \$30.00 from hardware and sporting goods stores.

Don't forget KANSAS WILDLIFE magazine—a bargain at \$6.00 a year. *Manes*

ON CANVAS

The 1984 State Legislature approved a program to establish the Kansas Wildlife Art Series, which will feature only top artists who live in the state or are native Kansans. This year's painting depicts bobwhite quail in an autumn Flint Hills setting. The artist is world renowned Wayne Willis of Wichita.

Willis was chosen by a special committee, which will consider artists for the series each year from January 1 through March 30. He agreed enthusiastically when asked to paint quail for the first series, saying they are his favorite bird. The painting is a mixed-media work, employing acrylics, watercolor, and oil paints. It shows a covey of bobwhites flushing into a typical Flint Hills background, complete with a stone fence and a big cottonwood tree. The painting took about three weeks to complete.

Willis, who is a devoted hunter and conservationist, has been painting wildlife since his youth, and it has been his living for the past 13 years. Most Wayne Willis paintings are sold out of his gallery in Wichita; but some reproductions of his work are sold in galleries in Oklahoma City, Kansas City, and Marion, Illinois.

Governor John Carlin declared September 22 Kansas Wildlife Day, in conjunction with National Hunting and Fishing Day on the same date. The Wayne Willis painting was unveiled at the annual National Hunting and Fishing Day Art Sale and Show, held in Wichita.

One thousand signed and numbered 22-by-28-inch prints of the Wildlife Art Series will be sold for \$100 each plus postage and handling. Stamps sell for \$10 a piece. Both are available from the Travel and Tourism Division office, Kansas Department of Economic Development, 503 Kansas Ave., 6th Floor, Topeka, Kansas 66603, ATTN: Sharon Schlagel. *Manes*

of limited availability. Low demand and product liability concerns have slowed development and testing of steel components. Cases, powder, and wads, as well as shot, differ from those used in standard lead loads, and interchanging components is not a safe practice.

Recent strengthening of state and federal stands on the steel shot issue has prompted some manufacturers to test the water with components for the handloader. Superior Ball (formerly of Lydall, now of Hoover Universal, and supplier of steel pellets for commercial loadings) is starting to market its "Ecoshot" through such firms as NTC (Non-Toxic Components, Inc.) of Portland, OR. NTC is also listing 12-gauge polyethylene wads for both 2¾- and 3-inch steel loads and a handbook detailing steel shotshell reloading procedures.

Why require steel shotshells on upland sites?

Many waterfowl, particularly geese and mallards, regularly feed on waste grain in upland areas. Concentrations of waterfowl attract concentrations of hunters who deposit shot on these choice feeding areas. The spent pellets are available to waterfowl returning to forage after the hunters leave. If the soil is dry or frozen, this shot will remain on the surface for an extended time and is easily picked up by the birds. Geese are particularly susceptible to this type of ingestion. In one instance in South Dakota, approximately 4,000 giant Canada geese were lost to lead poisoning. It was determined that the lead was being picked up by the geese while feeding in corn stubble fields.

Will steel shot increase crippling losses?

The question of increased crippling with steel shot is a valid concern and foremost in many hunters' minds. Opponents of steel argue that, because of its lighter weight, it will cripple more birds than lead.

In carefully designed field tests conducted in eight states, hunters were provided unmarked steel and lead shotshells, and their performance was recorded by trained observers. More than 89,000 shots were fired and over 14,000 ducks

and geese were bagged. The results of those tests involving goose hunters showed steel shot to be as effective as lead. There was no significant difference in crippling rates between steel and lead shotshells. In studies involving duck hunters, all but one found no significant difference in ducks crippled or bagged. The lone exception was the Lacassine Study in Louisiana, where lead shotshells crippled significantly fewer ducks than steel loads.

It is the consensus among professional wildlife scientists that these shooting tests showed little, if any,

shown that a shooter who lacks confidence in the load being used will usually shoot poorly, regardless of the type of load employed. There is no doubt that many hunters going afield with steel shotshells for the first time feel they are at a disadvantage.

The other, and probably more important reason hunters have difficulty hitting and bagging with steel shotshells is that the performance of steel is ballistically different than that of lead, and hunters must adjust their shooting techniques. These adjustments would be relatively easy to accomplish if shooters could



Gene Brehm photos

Damage to shotgun barrels and increased crippling losses are two worries of hunters still opposed to the use of steel shot. Actually, steel shot is unsuited only for a few thin-walled barrels and poses no greater threat to a tight choke than magnum lead loads. Hunters who have practiced with steel shot have found it cripples no more birds than lead.

difference in the crippling rates of steel and lead shotshells, and that steel is an acceptable substitute for lead. There is also evidence that, as hunters adjust to shooting steel, their killing efficiency increases and the crippling rate declines.

Shooting Steel

Many hunters express dislike for steel shot after their first trip afield with it. There are a couple of reasons for this. First, studies have

see their shot pattern as a quarter-back sees the football when he passes it. However, few hunters can determine what they are doing wrong when they miss with a new steel load, so learning must be accomplished through trial and error. Practice helps, of course — as does a knowledge of steel shot ballistics.

Ballistical Comparisons of Lead and Steel

The size of both lead and steel shot is based on American standard shot sizes. Thus, a number 4 steel

pellet is the same diameter as a number 4 lead pellet. Lead is heavier than steel; a lead pellet weighs about one-third more than steel shot of the same size. Since steel shot is lighter than lead it slows down faster after leaving the barrel.

Steel shot is harder and rounder than lead. Lead shot is manufactured by dropping molten lead from a tower, or spinning it in a centrifugal device. Steel shot is produced in a manner similar to the manufacture of ball bearings. Because steel is harder, it deforms less during powder combustion and subsequent travel through the barrel and choke. Deformed pellets have greater air resistance than round pellets, losing velocity and energy quicker. They also diverge from the pattern's center, becoming "flyers." More steel pellets stay inside the effective pattern, and pellet velocities are more consistent within the shot cloud. Consequently, shot strings are shorter, patterns tighter, than with lead. In fact, the pattern diameter of a steel load is usually about 80 percent that of an unbuffered traditional lead pattern, and the shot string is two-thirds to three-fourths as long as one of lead. Buffered lead loads with hardened, high-antimony shot will pattern very much like steel loads.

The shot cup in a steel shell is made of a tougher, thicker plastic than those in lead loads and fully encloses the shot charge to prevent barrel erosion. Since steel does not deform easily, the shot cup has no shock absorber cushion. This provides space to load a significantly greater number of steel pellets.

The velocities of lead and steel shotshells also differ. Steel shot can be driven faster because the pellets deform less readily during the thrust of acceleration. This higher velocity offsets the more rapid deceleration of steel shot in flight.

Adjustments for Shooting Steel

Considering the differences in the ballistic behaviors of lead and steel shotshells, it is not surprising that some hunters have difficulty bagging birds with steel. Many have shot nothing but lead throughout their hunting life, and in doing so have programmed their reflexes to match the ballistics of that shot. However, by making the appro-

COMPARISON OF LEAD VS. STEEL WHEN COMPENSATION IS MADE BY WEIGHT

Shot Type	Shot Size	Velocity (FPS)	Retained Energy (ft. lbs.)	
			40 Yds.	60 Yds.
Lead	6	1330	2.3	1.3
Steel	4	1330	2.4	1.3
Lead	4	1330	4.4	2.7
Steel	2	1330	4.3	2.6
Lead	4	1260	4.1	2.6
Steel	2	1275	4.1	2.4
Lead	2	1260	7.0	4.6
Steel	BB	1275	8.3	5.2
Lead	2	1210	6.7	4.4
Steel	BB	1210	7.7	4.9

VELOCITIES OF POPULAR FACTORY LEAD WATERFOWL LOADS

Lead Load	Factory Designation	Velocity
3-1/2", 10 ga., 2-1/4 oz.	MAX	1210 fps
3-1/2", 10 ga., 2 oz.	4-1/4 dram equiv.	1210 fps
3", 12 ga., 1-7/8 oz.	4 dram equiv.	1210 fps
3", 12 ga., 1-5/8 oz.	4 dram equiv.	1280 fps
2-3/4", 12 ga., 1-1/2 oz.	3-3/4 dram equiv.	1260 fps
2-3/4", 12 ga., 1-1/4 oz.	3-3/4 dram equiv.	1330 fps
16 ga., 1-1/4 oz.	3-1/4 dram equiv.	1260 fps
3", 20 ga., 1-1/4 oz.	3 dram equiv.	1185 fps
2-3/4", 20 ga., 1-1/8 oz.	2-3/4 dram equiv.	1175 fps

VELOCITIES OF FACTORY STEEL LOADS

Steel Load	Factory Designation	Velocity
3-1/2", 10 ga., 1-3/4 oz.	MAX	1260 fps
3-1/2", 10 ga., 1-5/8 oz.	4-1/4 dram equiv.	1345 fps
3", 12 ga., 1-1/4 oz.	MAX	1375 fps
3", 12 ga., 1-3/8 oz.	3-1/2 dram equiv.	1235 fps
3", 12 ga., 1-1/2 oz.	MAX	1200 fps
2-3/4", 12 ga., 1-1/8 oz.	3-3/4 dram equiv. or MAX	1365 fps
2-3/4", 12 ga., 1-1/4 oz.	3-3/4 dram equiv.	1330 fps
3", 20 ga., 1 oz.	3-1/4 dram equiv.	1335 fps
2-3/4", 20 ga., 3/4 oz.	3-1/4 dram equiv.	1425 fps

PATTERNING: STEEL vs. LEAD (comparable loads fired in 30-inch full-choke barrels at 30-inch patterning circle; lead loads unbuffered)

Loads	In-Shell Pellet Count	40-Yard Pellet Count	60-Yard Pellet Count
1-1/2 oz. #4 lead	195	70% avg. 135	30% avg. 56
1-1/8 oz. #2 steel	130	82% avg. 107	50% avg. 64
1-1/2 oz. #2 lead	130	74% avg. 100	34% avg. 46
1-1/8 oz. BB steel	82	83% avg. 70	56% avg. 46

appropriate adjustments in equipment and shooting style — and practicing — any hunter can become proficient at bagging game with steel shot.

The Shotgun Choke

The full choke has been the traditional choice of waterfowl hunters. But, with modern shotshells, most hunters would probably bag more birds if they used less restrictive chokes. This is particularly true when hunting with steel. The tight pattern and short shot string produced by steel shotshells leave little margin for aim error, particularly at the closer ranges where a majority of waterfowl are shot. Depending on the type of hunt and the ranges at which most shots are taken, an improved cylinder or modified choke is usually the best choice when shooting steel.

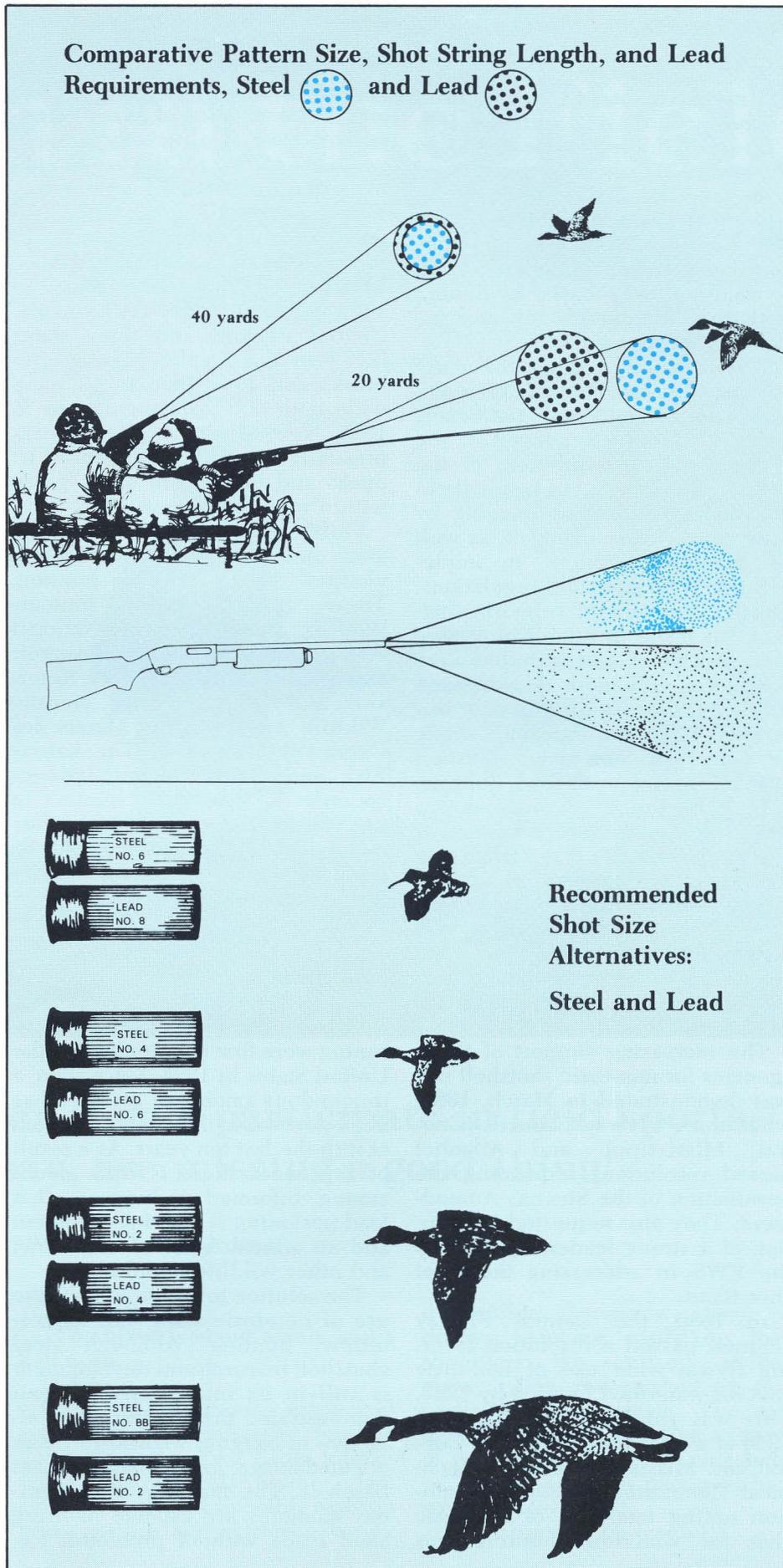
Shot Size

To compensate for the lighter weight of steel and obtain similar performance at longer ranges, hunters shooting steel should use shot two sizes larger than they would if shooting lead. For instance, if number 4 lead is normally used, number 2 steel is recommended. By doing this, the steel shot will provide retained energy very similar to lead out to 60 yards, as shown in the table. Again, because steel is lighter, more pellets can be loaded per ounce of load than in a lead-charged shell. So number 2 steel provides a pattern very similar in pellet count to that of a number 4 lead load of the same weight.

Leading the Target

Steel leaves the muzzle faster, has a shorter shot string, and slows down quicker than lead. Consequently, adjustments in lead are necessary when shooting steel. At ranges up to 30 yards, less lead is required with steel than with lead. At ranges of 30 to 50 yards the proper lead is about the same for both lead and steel, and at ranges greater than 50 yards more lead is required with steel than with lead. Shooting at distances beyond 50 to 55 yards is not recommended, regardless of shot type. Numerous studies have shown that crippling losses increase dramatically at these longer ranges.

Comparative Pattern Size, Shot String Length, and Lead Requirements, Steel and Lead



Non-Toxic Shotshell Regulations: Past, Present, and Future

The ultimate responsibility for the management and protection of migratory birds lies with the U.S. Fish and Wildlife Service (FWS). In the late 1970's, the FWS recognized that reducing lead poisoning in waterfowl was part of this responsibility and implemented a non-toxic shot conversion program on a flyway-by-flyway basis, beginning with the Atlantic Flyway and expanding westward.

Unfortunately, during the early part of this program, many biologists, sportsmen, and politicians were not totally convinced of the magnitude of the problem or the need for steel shot. As a result, there was considerable foot-dragging by state conservation agencies, as well as waterfowl hunters, in implementing steel shotshell regulations. Despite this lack of support, progress was made in establishing non-toxic shot zones, and as studies were completed and more data became available, the majority of state waterfowl biologists became strong advocates of non-toxic shotshell regulations for waterfowl hunting.

In 1979, the FWS program was halted by the Stevens Amendment which forbids the FWS from enforcing federal non-toxic shot regulations unless permission to do so is granted by the state conservation agency involved. Since then, state conservation agencies have been the leaders in solving the lead poisoning problem.

The increasing support of these agencies for non-toxic shotshell use was demonstrated in March, 1984, when three Flyway Councils (Central, Mississippi, and Atlantic) passed resolutions requesting the termination of the Stevens Amendment. They also requested resumption of a strong leadership role by the FWS in addressing the steel shot issue.

In 1980, the Central Flyway Council passed a resolution favoring flyway-wide use of non-toxic shot for waterfowl hunting by 1987. This was reinforced in March of 1984 at a joint meeting of the Central and Mississippi Flyway Technical Committees, when a resolution urging total use of non-toxic shot for waterfowl hunting was

passed unanimously by the waterfowl biologists representing the 24 states of these two Flyways. The Wildlife Society, an organization composed of wildlife professionals, and the Association of Avian Veterinarians have also recently adopted positions calling for the use of non-toxic shot for all waterfowl hunting.

In January, 1983, 33 states had non-toxic shot zones, including 12 states (70%) in the Atlantic Flyway, 11 states (79%) in the Mississippi Flyway, seven states (70%) in the Central Flyway, and three states (27%) in the Pacific Flyway. Nebraska and Iowa plan to go state-wide with non-toxic regulations in 1985, New Mexico in 1987. Texas presently harvests 50 percent of its ducks and 90 percent of its geese within non-toxic zones.

Since 1978, Kansas has had six areas under non-toxic shotshell regulations for waterfowl hunting. These are: Cheyenne Bottoms Wildlife Area, Quivira National Wildlife Refuge, Cheney Reservoir and Wildlife Area, Elk City Reservoir and Wildlife Area, Neosho Wildlife Area, and the Marais des Cygnes Wildlife Area. The Kansas Fish and Game Commission encourages all waterfowl hunters to use non-toxic steel shot so that they may become more familiar with its performance as an alternative for toxic lead.

Summary

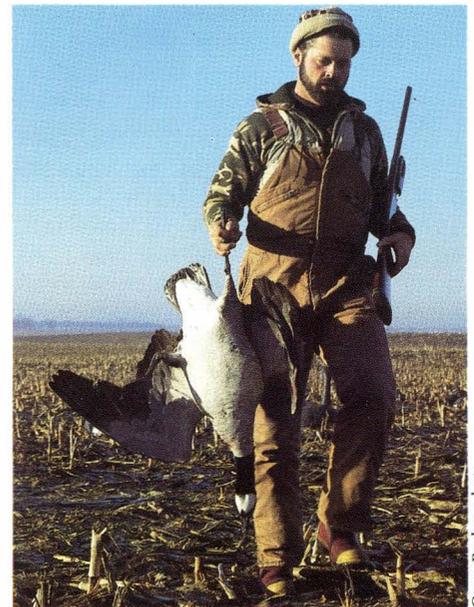
Losses of waterfowl to lead poisoning were first documented in the United States in 1894. Since then, a tremendous amount of research has been devoted to this problem, much of it in the last ten years. As a result of this work there is little doubt among informed individuals that lead poisoning is a serious problem and an annual drain on waterfowl and other wildlife populations.

The solution to the problem is the use of non-toxic steel shot for waterfowl hunting. Although steel shotshell research and development is still in its infancy, it has been demonstrated that steel shot is effective in bagging waterfowl. Fears of gun damage, for the most part, are baseless. The majority of modern-day shotguns are capable of firing steel loads without problems. Ex-

ceptions are older, thin-walled double-barrels and a few imported single-barrelled shotguns. The cost and availability problems of steel shotshells are minor when compared to the overall benefits accrued from their use. The question of increased crippling with steel has been the focus of considerable attention and has been clouded by the use of different measures to compare effectiveness. But shooting tests show little difference in the performance of steel and lead loads, and the alleged increased crippling with steel shot does not constitute a valid argument against its use for waterfowl hunting.

The continued loss of wetland habitat will make it increasingly difficult to maintain waterfowl populations. Duck and goose hunting as we know it depends on an abundant resource — and on the attitude the non-hunting public takes toward field sports. The steel shot issue looms large on both fronts. Waterfowlers, traditionally leaders in protecting the wildlife they value so highly, now have an excellent opportunity to contribute to the future of their quarry and their sport. By learning the facts about steel shot and developing the skills to use it effectively, they can alleviate lead poisoning in ducks and geese, demonstrate a willingness to protect the resource, and ensure a future for traditional waterfowling.

The future of waterfowling depends on a healthy resource and the image of the hunter. Both would be served by the use of steel in heavily-shot areas.



Gene Brehm photo

Women in the Field



A surprising number of gals participate in field sports; non-hunters, they say, are missing a good thing!

Terry Shuman

Our truck bounced along on uneven backroads through the Stygian gloom of early morning. We eased to a stop near the dimly outlined banks of a river and uncurled ourselves from a half sleep. The air was sharp, the wind stiff. It was ideal duck hunting weather.

“Can you carry this?”

“Yes, I think so.”

“The blind is about a mile and a half away.”

“Okay.”

Carrying assignments made and waders fitted, we moved off into the wind along the river bank, following a dim path. My brother, dad, and husband filed smoothly across a grass pasture and skirted a barely

discernible hedgerow, bags of decoys jouncing easily on their shoulders. We crossed another grassy patch and pushed up to a partially frozen stream. The cold had disappeared with the exertion of walking, but the darkness held.

“There’s a beaver dam over here we can cross on.”

“It’s slippery, be careful.”

We passed through a grove of pointed stumps on into trees the beavers hadn't yet reached. A clearing ahead gave relief from the branches that slapped at our faces, but thick mud immediately enveloped our feet. My three companions slogged ahead. For me, each step was a teetering accomplishment. Finally, we heaved up to the blind and solid footing. My brother splashed into the black marsh, arranging bumping decoys. The rest of us settled on makeshift seats half submerged in bubbly water and mud. Willow branches covering the blind framed our view of the marsh as the darkness gave way to a colorless hint of sunrise.

We loaded our guns, settled in,

The clatter of beating wings and QUACKQUACKQUACKQUACKQUACKQUACKQUACKQUACKQUACK burst directly over our blind and spread into the water just twenty-five feet out. I was so surprised that my gun rested unfired on my shoulder. That incredible rush of excitement returned each time a block of mallards pounded in and settled close, or a tight express of teal rushed by with the intensity of a runaway coal car. And the hoarse, echoing call of that rooster pheasant across the marsh sprinkled with the chirps of foraging juncos always restored a soothing peace. I was hooked. The cold and exertion had been well worth it.

Later, when recounting that first duck hunting experience, I realized

women (49%) returned completed surveys. Individuals answered 25 questions ranging from occupation and educational background to awareness of current issues affecting hunters. Many women also provided insightful accounts of personal hunting experiences and opinions regarding sportsmanship and ethics.

Characterizing a typical female hunter in Kansas proved difficult. Almost half (46.2%) of all women who returned surveys were 26 to 35 years old, followed by those in age brackets 36-45 (21.6%), 46-55 (12.9%), 16-25 (11.7%), 56-65 (7.6%). Rural areas were called home by most respondents (31.08%), followed closely by small towns with populations under 2,000 (29.2%), towns of 2,000 to 40,000 (27.6%), small cities of 40,000 to 100,000 (6.4%), and large cities of over 100,000 (5.8%). Interestingly, a total of 69.0% of women returning surveys lived in a town or a city — close to the 60% figure for the segment of all Kansans who dwell in cities.

Many women hunters were homemakers (34.8%). Other noted occupations were those in the medical, dental, and veterinary fields (14.6%), clerks (8.5%), and secretaries (5.5%). Dog trainers and groomers, hairdressers, cosmetologists, bookkeepers, teachers, a truck driver, an attorney, and an interior designer also replied. Over half (51.6%) of those returning surveys had completed high school. An additional 22.6% pursued studies beyond high school, with 13.5% more completing degrees at four-year colleges and beyond.

Many women (79.5%) hunted at least in their county of residence, and 53.9% of those did so exclusively. Additionally, of those 79.5%, 34.7% hunted in their county of residence and in only one other county, while 7.8% hunted in two counties besides their own. A total of five women (3.6%) indicated they hunted in general regions of the state or in more than two counties besides their resident county. Not surprisingly, women who did not hunt in their county of residence (20.5%) lived mainly (63.0%) in heavily-populated Johnson, Douglas, Sedgwick, Wyandotte, Shawnee, and Saline counties.

Responding to the question of



Gene Brehm photo

Just practicing for the hunt can be fun. Shooting poses no age or sex barriers, and women can excel with both scattergun and rifle. Most shooters are eager to share their expertise with beginners.

and strained for the sounds of ducks. A rooster pheasant crowed, teasing us from across the brightening marsh. A sudden whir of wings heralded a tight formation of common snipe. They were by us in an instant. We settled back down.

"Don't look up," my brother breathed.

We forced ourselves to stare straight ahead, taking in only that rectangular view our blind allowed. A distant but steady flapping of wings quickened our pulses and tempted our downturned faces. The sound passed over, out of range, as a flock of 26 mallards extended their bright feet, plummeting and splashing far into the open marsh, quacking incessantly. Our temporary tension eased again.

"Freeze."

that few female friends were interested — in my tale or in hunting at all. Why more women don't hunt isn't just an interesting question, it's an important one. Women as a group make up about 52% of the adult population in Kansas, comprising a powerful group of individuals who form opinions, support or fail to support ideas, and as voters influence legislative decisions affecting our natural resources.

So why don't more women in Kansas hunt? A survey conducted in July 1984 summarized selected characteristics and general attitudes of 1982 resident female license buyers. Surveys were mailed to 363 women hunters across Kansas, their selection to comprise a 5% sample of all licensed hunters in each of Kansas' 105 counties. A total of 175

why they began hunting, and to a request to rank their top three reasons for going afield, 69.8% of the women ranked the desire to be with their husbands, companions, or families the highest. Challenge was ranked by 10.7% of respondents as the main reason for their initial interest in hunting. Food provision and a desire to experience the outdoors were cited by 7.5% and 8.2% of the women, respectively. Exercise was also noted as a primary reason for hunting.

Women continued to hunt for the same reasons they began, but the importance of those reasons shifted. For example, where being with companions was the most important to 69.8% of women beginning to hunt, it dropped to a rate of 56.4% for women continuing to hunt. Experiencing the outdoors and food provision both increased as first choices — from 8.2% to 14.5% and from 7.5% to 12.1% of the women, respectively. Challenge was selected by 13.9% of respondents as a top motivation for continuing to hunt, while exercise as a reason dropped to 2.4% of the respondents.

A majority of women had fathers who hunted (53.6%) and mothers who did not (55.4%), while some women indicated that neither parent hunted (30.4%) or that both did (14.3%). In no instance (where both parents were living) did a woman's mother hunt and her father not hunt. Even though many respondents' parents hunted, the majority of women (62.1%) said they learned the most about hunting from their husbands. Some women (17.2%) were taught by their fathers, and a few (1.8%) learned the most from a hunter safety course. In only 2.4% of the responses did a female relative (mother or grandmother) contribute significantly to the hunting/learning experience. In no case did a female relative alone teach the individual the most about hunting.

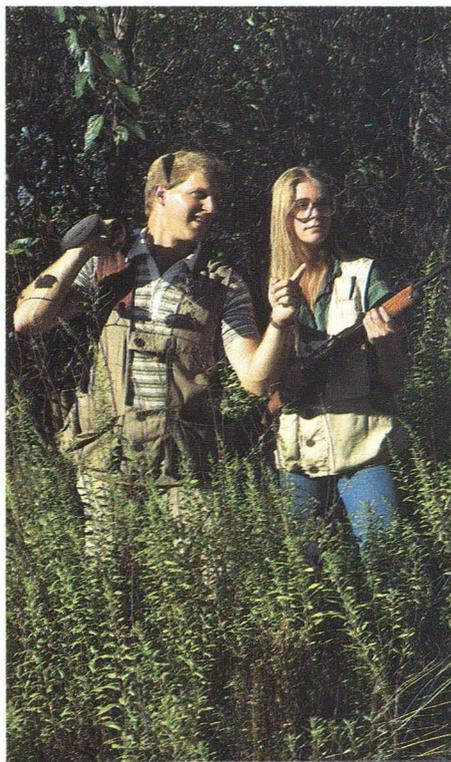
Why don't more women hunt? The majority (57.4%) of respondents felt that many women don't hunt because they have never experienced hunting. An additional 17.9% indicated that some women may have a personal aversion to killing or simply don't believe in hunting as recreation or as a wildlife management tool. A fear of or dislike for firearms was cited by 4.7% of the women as a reason some women

refrain from hunting. Other reasons noted for low numbers of women hunters were that hunting is too strenuous and the conditions too harsh (2.1%), hunting is unfeminine (3.2%), and some women are too lazy to get outside (3.2%) or too busy with other activities (3.2%). A basic lack of interest (3.7%) and lack of encouragement from husbands and other companions (2.1%) were also indicated as reasons for women not hunting.

When asked if male companions treated them in a noticeably different manner while hunting, 55.9% of the respondents said "no." Of the 33.1% who responded "yes", 29.1% of those felt male companions were more considerate and helpful, while 21.8% said men questioned their ability and showed surprise at their success. Many women (21.8%) said men complained about them walking too slow. Increased emphasis on hunter safety, by and for the entire group was indicated by 9.1% of the respondents as a treatment difference.

Most women hunted either in small groups of three to five (38.5%) or with a single companion only (53.4%). As many women hunted singly as in groups of over five (both 3.4%). Male hunting companions were the most common for women (73.9%), although 24.2% of the respondents hunted in groups with both males and females, and

Companionship is the reason some women take to the field. Many find hunting such an attractive pastime, they continue on their own.



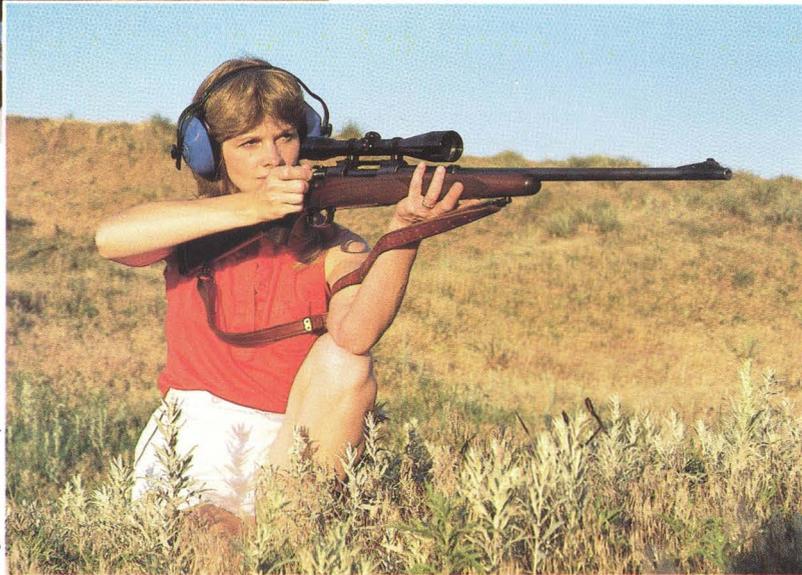
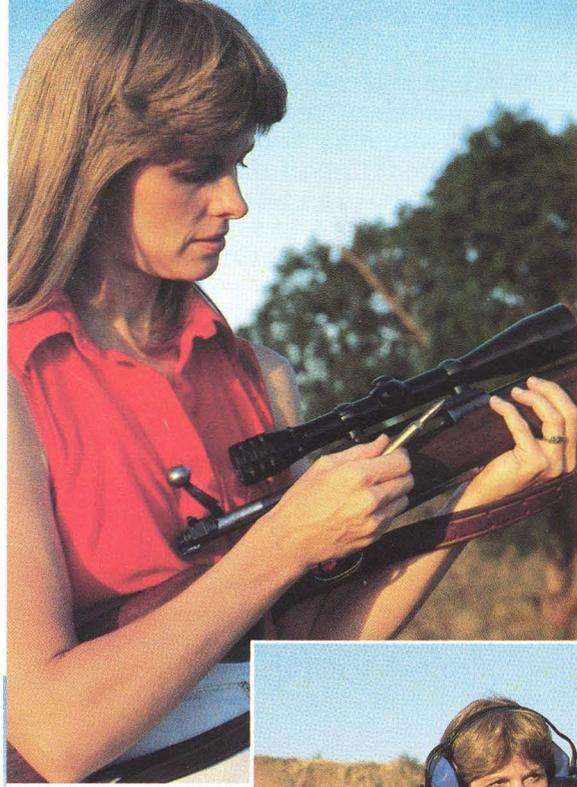
1.8% hunted exclusively with female companions. Time spent afield during the hunting season varied considerably; 29.1% of the women spent one to five days afield, 24.2% six to 10 days, 22.4% 11 to 20 days, 13.9% 21 to 30 days, and 10.3% over 30 days.

Pheasant and quail were the two most preferred game species, cited by 61.8% and 47.9% of the respondents, respectively, followed by deer (33.3%), mourning dove (20.6%), rabbit (17.0%), squirrel (7.3%), waterfowl (5.4%), prairie chicken (4.2%), and coyote (3.6%). Other women indicated turkey, raccoon, and antelope among their preferred game species. According to 39.7% of the respondents, the most important requisite for a successful hunt was bagging at least some game. A limit of game determined success for 14.3% of the women, while simply observing game species made a successful hunt for 13.0%. Observing any type of wildlife and being with companions were measures of a successful hunt to 14.9% and 13.0% of the respondents, respectively. Only 3.7% of the women surveyed thought that firing a few shots constituted a successful hunt.

A majority (86.7%) of women hunted on private land rather than on public land (10.9%); some women (2.4%) spent equal time on both. About half (51.8%) said they had never been refused permission to hunt on private land, while 38.5% had been refused permission less than 20% of the time. Some (4.2%) stated they'd never asked permission, and 4.2% indicated they'd been refused hunting privileges on private land 20% to 50% of the time.

Women participated in a variety of other outdoor activities besides hunting, the most common being fishing, cited by 91.5% of the respondents. Other popular outdoor activities included camping, noted by 77.0% of the women, boating (60.0%), hiking (29.1%), birdwatching (18.8%), nature photography (13.9%), and trapping (7.9%).

On issues related to hunting, only 40.1% of women surveyed were aware of the lead shot/steel shot controversy, although that figure reached 70% for women who hunted waterfowl. Of the 65 women who indicated a familiarity with that issue, 30.8% felt that steel shot



Wayne van Zwoll photos

individuals in the last category hunted deer and some hunted additional species. Individuals willing to pay 11 to 20 dollars hunted quail, pheasant, or deer, along with other species. No respondent who exclusively hunted rabbit, squirrel, or dove was willing to pay over 10 dollars for the privilege. Several women suggested paying by the bag rather than a set fee.

Many women who completed the survey were also landowners and expressed strong opinions regarding

Even heavy centerfire rifles can be handled deftly by diminutive gals with proper training and an interest in firearms. Many of the women returning questionnaires listed deer as their favorite game.

should be required on all waterfowl hunting areas, and 29.2% felt that only areas with a documented lead poisoning problem should require steel shot. Some women (10.8%) expressed the opinion that steel shot should be required for all types of hunting, while 7.7% felt no steel shot requirements should be made. Only 18.5% of the women who were aware of the issue expressed no opinion.

Women were almost evenly split on the issue of paying landowners for hunting privileges, with 50.6% responding "yes" and 49.4% "no." Of those women answering yes, 75.0% stated that they would pay a landowner one to 10 dollars for a day of hunting in good habitat for their preferred game. Some women (14.3%) were willing to pay 11 to 20 dollars, while 4.8% were willing to pay 21 to 50, and 2.4% 51 to 100 dollars for hunting privileges. All

hunting and trespassing. A homemaker from Cloud County stated, "As a landowner, I know that very few people ask permission to hunt on posted land and many are not careful of the land after they go on. They leave litter and drive across crops." Another homemaker echoed those frustrations: "Hunters have abused their privilege to hunt on private land so much the landowners to not respect them anymore." A farmer from Grant County said, "If someone wanted to hunt (my land) they would have to pay me." The amount she indicated was over a hundred dollars a day of hunting in good habitat for preferred game.

Other women who hunted on private land and who were willing to pay a fee to do so (if necessary) were just as opinionated regarding agricultural effects on wildlife habitat. A homemaker from Crawford County who prefers to hunt quail

and squirrels wrote, "I wish there were more farmers who wouldn't tear up all the nesting areas of the quail. It seems like everyone is pushing the brush out and farming every acre." Another homemaker, from Marshall County, stated, "The natural habitat here is nearly depleted due to county spraying of roadsides, heavy agricultural spraying, and farmers clearing lands for row crops." She went on to suggest regulations to maintain roadsides for wildlife. A Butler County sheet metal worker who was raised on a farm agreed. "If the landowner was putting our money back into wildlife, I would be happy to pay anything he asked."

A homemaker from Kearny County wrote, "I am raising three small sons and am worried about their future in hunting. I find that most landowners are willing to let a family hunt — my husband is a good and careful sportsman. But we see so many examples of poor sportsmanship and carelessness. Someday people won't be able to hunt unless they know the landowner or pay to hunt the land." The solutions to problems in hunter-landowner relations are obviously not easy to solve. A Mitchell County resident voiced what has already been said many times, but is too little practiced: "If people would respect the private land they hunt on, and treat it as their own, hunters and landowners would get along a lot better. And I'm not a landowner."

The questionnaire included space for comments, and 36.7% of the respondents made use of it. Mary Littlefield, an oil field truck driver, commented on why more women don't hunt. "You think of men when you think of hunting. The men have been at it longer. It can be intimidating." A bank teller from Shawnee County noted, "Most men view hunting as an all-male sport." The sheet metal worker from Butler County observed, "Husbands don't do anything to encourage the women to join in. A woman can't know if she'd enjoy hunting unless she's exposed to it." A homemaker from Marshall County said, "Traditionally, women have thought hunting is for men only." A Clay County clerk complained, "When I shot something, they (men) acted like it was just amazing — a miracle." She adds, "It's not so bad now, since

they're used to me." A hairdresser from Barton County said, "Most women would like to hunt if they were just given a chance to experience it."

Many women shared thoughts about what non-hunters are missing. "I don't have much experience, so they (hunting companions) overlook the fact that I can't shoot well, and they still take me with them," wrote a Kearny County homemaker. A licensed practical nurse from Rawlins County enthused, "I just enjoy shooting guns, and my husband really likes it when I go. He helped me bag my first deer." A bookkeeper in Pawnee County opined, "Women should be given more training on the pleasure aspects of hunting. It's great getting out with your husband and enjoying the outdoors. And wild game is fine table fare."

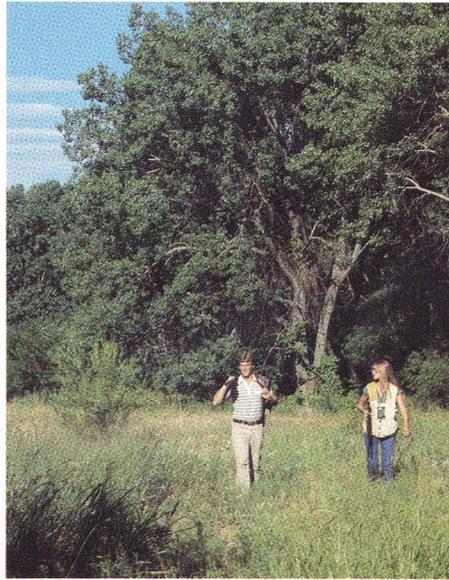
"Being able to hunt is a privilege and has made me more aware of wildlife, their habitats, and their ways of survival," said a Bourbon County restaurateur. A Woodson County cosmetologist agreed. "I love to be out in the country — especially in sub-zero weather with snow on the ground. We've always hunted, especially around winter holidays. It's good companionship and great exercise."

Teaching hunter safety in her spare time, a secretary from Allen County also hunts. She said, "If more women would try hunting they would find it is fun, challenging, and strengthens family life." Family tradition is also important to an Allen County homemaker: "I have a 33-year-old daughter who loves to hunt. Her 13-year-old daughter hunts rabbit and quail with us, too." A part-time secretary and homemaker from Anderson County wrote, "Hunting is a fine sport. "You get out of it what you put into it. I'm a nature lover and feel you can learn a lot from watching and trailing animals in their habitat. People who do not hunt miss out on a lot of adventure." A Sedgwick County housewife observed, "Many people are missing out on a wonderful experience. I don't have to shoot anything to enjoy myself, but jerky from my own deer tastes better than any I can buy!" A delicatessen supervisor from Smith County replied, "I enjoy hunting and always eat what I get. I

expect my children to learn to shoot only what they can use, and never to leave an animal wounded."

"The most enjoyable part of hunting is teaching my children safe hunting practices and watching a good dog work," reflected a gas company operator from Rice County. Safety was also on the mind of a Rooks County homemaker who said, "I think the (mandatory) Hunter Safety course is a good idea. Guns should always be handled with great care." A Montgomery County resident concurred. "Everyone should know about the dangers of handling a gun and how to use one for putting food on the table." An 18-year-old student from Stafford County wrote, "I think more women should be taught about guns." She described an effective Girl Scout Hunter Safety program and said, "it was the fathers who encouraged their daughters to go."

A hairdresser from Riley County made it clear to men in her hunting party that they were not to treat her



Gene Brehm photo

Hunting fosters a closeness that is rarely achieved in other sports. The solitude and silence of a hike through natural surroundings bring the peace that is often missing in everyday routines.

differently; but when she got deer two years in a row with a single shot apiece, they were visibly impressed. "Deer were scarce the second year. The last day I got one shot and made a good hit. I dressed the deer myself and seven days later delivered a seven-pound boy. On top of that, I got the deer with a muzzleloader! It was the most fun I ever had hunting!" She continued,

"Hunting gets in your blood. I have a beauty shop, but come deer season, it wears a "closed" sign."

Some final thoughts came from archery deer hunter, Mary Littlefield. Mary said she started hunting "because it would give my husband and me something to do together. It's a great family thing." She later joined a local archery club and was one of four women in a club of 100 members. "It was intimidating at first, but the other members offered a steady stream of encouragement. The first year I went afield, I had three perfect shots, but was so nervous I couldn't pull the bow back." And in three years she hasn't yet bagged a deer. "I'm anticipating the time I get one, though," she adds.

She practices often. "I drive a truck, and the guys at work put a bow rack in the truck for me. My six-year-old daughter and I practice with the bow between fills of water during the work day." Mary wants her daughter to be comfortable and confident about hunting early in life. She sees that as avoiding frustrating problems and providing more enjoyment later. She remembers her brothers teasing her about her lack of bowhunting skill at one time, even though neither of them bowhunted. She became so enthused about the sport that both now bowhunt. Mary would like to see a women hunters group formed to provide an unpressured and comfortable setting for women new to hunting.

Companionship, a desire to experience and understand the outdoors, and the hunting challenge have drawn many women afield. Those who do hunt indicate lack of exposure to hunting as the main reason why other women don't.

Perhaps your wife, daughter, or girlfriend would be an enthusiastic hunting companion, one that would quickly come to learn the joys of the field as you know them. Maybe it's time you took that gal hunting. If you're a woman, unsure of your knowledge and abilities in the outdoors, take heart. Everyone starts with limited skills. Most men would trip over themselves to get you acquainted with guns, dogs, decoys, and the smell of marsh or woodland. Still, you must show an interest. As the Anderson County huntress observed: "You get out of it what you put into it."

Catch the Fever!



**When Dogs Bay
in the Dark**

Lloyd Fox

Two men and a young boy waited in the darkness at the edge of a corn field. No star or distant light was present to give an indication of the direction home. Corn leaves caught in bushes at the edge of the woods rattled in some unfelt breeze. Night air stirs the imagination. The boy wondered if something besides the wind was out there.

These events occurred more years ago than I care to remember. I was the youngster; the memories are still vivid today. It was my first coon hunt, and I was learning to use my senses in ways I had never used them before, testing the night darkness with my ears, straining to pick up sounds of the chase.

"There he is!" shouted Jack. "Ole Elmer ain't much for looks, but he sure knows how to strike a coon." Jack's backhanded praise of his dog was typical of coon hunters. It was a gruff exterior shadowing a warm bond of companionship between man and animal.

I learned some of the vocabulary of coon hunting that night. Striking a coon meant that the hound had detected the scent of a raccoon and had relayed that information to its handler with a loud, short, deep bark—or chop bark.

Elmer was Jack's best strike dog, but with a pedigree by accident rather than intent. Half Walker foxhound and half beagle, he was hardly what one would expect a serious coon hunter to own. Still, the real test of coonhounds is not how they look on paper or in the light of day, but how they sound in the dark.

Shortly after the first dog opened with his chop bark, the second hound struck. Bell was a traditional coonhound, true to her Black and Tan heritage. She was deep-chested, tight-bellied, and long-eared. She bellowed a drawn-out bawl as she trailed a raccoon. That bawl was determination itself; combined with Elmer's excited chop, it was music. Both hounds now attempted to untie the twisted trail of the elusive raccoon. With noses refined through generations of selec-

tive breeding, they were able to detect minute traces of scent left by their quarry and follow that trail at a run.

Describing a coon hunt is difficult. Because you are using your ears instead of your eyes to monitor the chase, you are forming pictures in a new place in your mind. You have escaped from the daytime world. It is like looking down on something from a high place. It is like being in a balloon. It is still all around and you seem to be able to sense everything at one time, see beyond that which is ordinarily visible.

You can envision the raccoon running across a log over a stream. At the same time you can tell that one hound is pondering the scent trail at the corner of a cornfield while the other struggles to unravel it in a weed patch some yards distant. When you gain experience you may be able to envision the chase as it approaches a woven wire fence, a cutbank, or a swamp. The pictures get clearer each time you go out with the same hound. The hound's voice conveys the message and your ears do the translating.

As the chase got hotter the excitement in Elmer's voice intensified. Bell had taken the lead. Her bawl told the veteran coon hunters that things were about to happen. Jack looked our way and said with a smile, "He's going up!"

As if this were a cue, the voices of both dogs suddenly changed. Bell switched to a steady chop and Elmer let out a couple long howls interspersed with his regular chop. "They're treed!" Off through the woods we went. I remember falling repeatedly and being slapped in the face with unseen branches until my cheeks stung. Periodically Elmer's barks were muffled and we could hear growling. "We've got problems," was all Jack would say.

When we finally got to the dogs Bell was sitting beside an old stump, barking; and Elmer was nowhere to be seen. "Where's he at, Bell?" As if she understood the words, Bell got up, walked to the other side of the stump, and looked down into a hole the size of a bushel basket. We peeked in and saw Elmer's tail and hind legs as he

threw dirt out of the hole in his effort to reach the raccoon. Jack knelt and pulled him out. We hooked both dogs to lead lines and walked them away from the hole. "No coon here tonight," said Jack. "Lucky we got here when we did. Ole Elmer was about to dig himself into serious trouble."

So ended the excitement on my first night of coon hunting. It was followed later by hunts that ended at hollow trees, hunts that ended at trees that were full of leaves and in which we could not see the raccoon, hunts that ended on the opposite side of a river too deep and wide to cross, hunts that ended with the hounds out of hearing range, hunts that ended with a "ghost trail" the hounds could not follow. And of course there were some hunts that failed to produce any raccoons at all. Such is coon hunting. If you continue chasing coons, though, you'll eventually develop Ringtail Mania, that incurable disease of coon hunters that will coax you from the comforts of an easy-chair and Monday night football into the bleak woods on cold November nights. No matter how many times you go out, each experience will be unique. Maybe that's why coon hunters are so dedicated to their sport.

An average coon hunter spends 20 nights a year pursuing his quarry, the average duck hunter or quail hunter only half a dozen days. It's easy to conclude that coon hunters are either very dedicated or just plain gluttons for punishment.

Coon hunting is generally categorized into several types of pursuit. There is running-season hunting, when hounds can be trained but raccoons cannot be killed. Traditional coon hunting occurs during the fall and winter hunting period when raccoons may be taken for meat or pelts. Competition coon hunting comprises highly structured events, where hounds and houndsmen attempt to win trophies or cash prizes. Greenie Grewell, author of *The Modern World of Coon Hunting*, defines the recollection of coon hunting memories as "conversation coon hunting." But the most paradoxical category is the type that results in you returning home at 3:00 a.m., totally exhausted

and covered with mud, soaked from an unsuccessful river crossing, your pants ripped by barb-wire fence, one eye swollen shut from a sudden confrontation with a limb, with frost-bitten fingers and toes and a chest-rattling cough. This type of coon hunting is called "pleasure hunting." Ringtail Mania is an insidious disease.

The history of man's association with hounds goes back thousands of years, but the adaptation of hounds to coon hunting is an American tradition. Hounds entered the colonies from England, France and Germany. Prominent colonial leaders frequently maintained a strain of hounds that were used to pursue red fox for sport. Local strains were known by the names of their owners. Collectively these strains were referred to as the Virginia Hounds. Five of the six most common breeds of coonhounds have their origins as foxhounds.

George Washington was one of the enthusiastic houndsmen of his era and was instrumental in the development of the Virginia Hounds. He had imported the majority of his dogs from England prior to the Revolutionary War. Numerous anecdotes can be found in history books about Washington's attraction for hounds. My favorite Washington anecdote comes not from his hunting abilities or record as a hound fancier, but from the standards that he followed for houndsmanship.

The British commander-in-chief, Sir William Howe, lost a foxhound while hunting near Valley Forge in the winter of 1777. Washington found this dog and returned it safely to General Howe. For George Washington, respect for hounds and other houndsmen transcended even the conflicts between people at war. (Officers in both the American and British armies participated in fox hunting during the winter months of the Revolutionary War. I've often wondered if this timing was accepted because winter weather was too harsh for war, or because time spent fox hunting during the winter was too valuable to be lost on war!)

French and American cooperation during the Revolutionary War introduced a new strain of hounds to America. Gascony Stag and Boar Hounds had been treasured by French nobility since the 1200's. What more fitting present could the Marquis de Lafayette have offered his compatriot George Washington than seven hounds from this famous lineage? From this gift the popular Bluetick Coonhound of today undoubtedly obtained much of its bloodline.

During the early years of coon hunting in this country, the stronghold of the raccoon was in the forested areas of southern and eastern mountains. It was there that breeds of coonhounds and the coon hunting tradition developed. Without an understanding of such origins it would be difficult to comprehend how somebody standing on the Kansas prairies could call their hound's barking "mountain music."

The most popular breed of coonhound in Kansas today is the Treeing Walker. Comprising 39% of the 9700-odd coonhounds in our state, Walkers are more than twice as prevalent as Blueticks, next in popularity. Black and Tans, Redbones, English, and Plott breeds account for the remainder of Kansas hounds, in that order of occurrence. Houndsmen pay little attention to numbers, however, when extolling the virtues of their favorite breed.

The first man to train a hound to tree a raccoon undoubtedly spent the rest of his life in search of other men with hounds to challenge. Competition has always been a part of houndsmanship. It has been the driving force that caused houndsmen to select and train better hounds. However, the highly structured coon hunting events of today are less than 60 years old.

Field trials were the first type of competition for coonhounds. The first event was named the Leafy Oak and was held in 1924 at Marion, Ohio. Field trials were initially viewed with skepticism by prominent coon hunters. The events did not duplicate actual hunting conditions. Competitors recognized the differences between field trials and coon hunting and soon developed strains of hounds that were extremely fast and otherwise suited

for competition. Unfortunately, these dogs often lacked qualities necessary for hunting success.

Battle lines were eventually drawn over which traits determined a champion coonhound. In 1945 a group of houndsmen met in Tupelo, Mississippi and formed the American Coon Hunters Association. The stage was set for "Nite Hunts" or, as they were originally known, "Wild Coonhunts." In the beginning they were indeed wild. There were few rules and most of them were unwritten. Today regulations are set in small type and completely fill the back of an 11 x 14 score card.

A large step in the evolution of Nite Hunts occurred in 1953 when the United Kennel Club (U.K.C.) established official rules and began sanctioning the events. Now competition hunting works on a point system. Up to four hounds and their handlers work in a group called a cast. A judge keeps the score, and points are awarded when hounds start a track and tree a raccoon. Each dog's handler declares when his hound strikes a trail or "trees." The first hound to strike a track is awarded 100 points, and 125 points are awarded to the first hound declared treed. Points are scored as positive, negative, or circled, depending on whether a raccoon is seen, not present, or in an undeterminable location (i.e., in a hollow tree, ground den, etc.).

Competition hunting has grown spectacularly. Last year there were over 1,200 U.K.C.-sanctioned clubs in the United States, and they held over 5,000 events. Numerous organizations are emerging for the purpose of sanctioning competition coon hunting events.

Among the recent innovations in competition coon hunting is the "money hunt." Organizations like the Professional Coonhunters Association and United Coon Hunters of America are sanctioning these competitions that offer money as well as the honor of winning. Last year one national event paid the winner \$20,000. Not bad for a couple nights work. Predictions are that stakes will be even higher in the future.

The monetary attraction associated with competition hunting has dramatically changed the complexion of the sport. Not only is there the

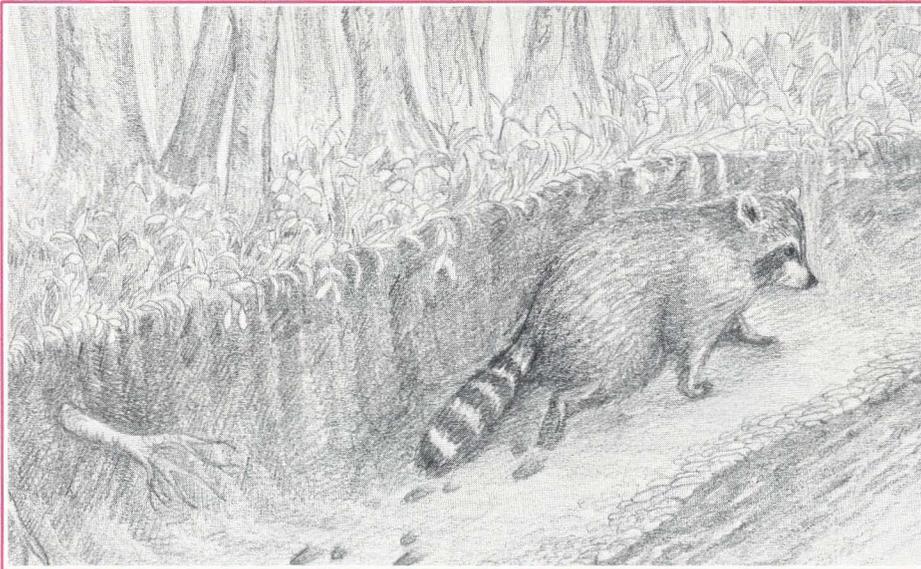
chance to win big at the money hunts, there is also the prospect of making a fortune by selling hounds. If you succeed in campaigning your hound up through the competition hunts until it becomes a Grand Nite Champion, you will have won not only a room full of trophies but also the potential to make money from pups and stud fees from the champion.

When it comes to laying down cash for their dogs, coon hunters don't take a back seat to anybody. A champion coonhound will bring \$20,000 to \$30,000. If the hound also has a pedigree that confirms its heritage of excellence, the breeding kennels will be his home for many years. Stud fees of over \$250 are not unusual. Some of the current champions have sired over 100 litters already.

Obtaining the most money for a raccoon pelt requires that the animal be harvested at its prime and then properly handled. Pelts are prime when the hair is at its maximum length and density and is fine in texture. In Kansas this generally occurs in late November or early December. Before that time the hides have a blue cast, which indicates that the hair is still growing and weak at the base. Much of this hair can fall out during the tanning process, creating a low-value pelt. Likewise, pelts taken in January have lost their luster and are less desirable for the fur trade. Obtaining the maximum value for a pelt also dictates that the animal be skinned, fleshed (excess fat removed from the pelt), and stretched properly. Fortunately there is a new source of information available in

cooled slowly. Then comes the tedious part: stripping fat from the carcass. Generally there is so much fat on a raccoon that if this step is not taken you will eventually be up to your elbows in grease. Next, soak the raccoon in salted water in the refrigerator overnight. The meat can then be frozen or prepared for the table.

I recommend parboiling raccoons prior to any final cooking. This removes additional fat that cannot be stripped. Cover the flesh with fresh salted water and add carrots, onions, and celery. Cook for 30 minutes. If you are going to barbecue later, cut the carcass into pieces before parboiling. If you plan to roast the raccoon, keep the carcass whole. Be sure to drain and dry the meat prior to final cooking. Like pork, all raccoon should be thoroughly cooked.



Roast Raccoon with Apple and Raisin Stuffing

- ¼ cup butter
- 1 quart bread crumbs
- ⅔ cup raisins
- 3 diced apples
- ¼ cup cider or wine
- 1 cup diced celery
- ½ cup chopped nuts
- pinch of thyme
- pinch of marjoram
- salt and pepper to taste

Combine ingredients and fill the body cavity with stuffing. Roast at 350° for 45 minutes per pound.

Barbecued Raccoon

- ½ cup catsup
- 2 Tbsp water
- 1 tsp prepared mustard
- 1 Tbsp sugar
- 4 tsp Worcestershire sauce
- ½ tsp chili powder
- ¼ tsp garlic powder
- ¼ tsp cayenne pepper

Place ingredients in jar and shake well. Cover barbecue grill with aluminum foil. Baste pieces each time they are flipped. Flip at six-minute intervals until they are done.

If you like barbecue you'll love barbecued coon. A final tip: It is best to serve barbecued coon only to gloved diners. This will prevent the embarrassing injury that may occur when over-zealous guests lick the skin off their fingers.

Raccoons are pursued for both flesh and pelts. Indeed, the sport of taking raccoons with hounds includes the proper care and utilization of any animal harvested. Raccoon fur is thick and lustrous and can be used as trim or for complete garments. As fashions change, the prices offered for pelts change. During the Roaring Twenties raccoon coats became popular. An average pelt in that period was worth an unprecedented \$14. Shortly, the price offered for raccoon pelts plummeted. A raw pelt in Kansas was worth only \$1.83 in 1970; but eight years later its value soared to \$29.79.

Kansas on pelt preparation. It is called the furharvester education program and is a required course for anybody born on or after July 1, 1966 who wishes to buy a license to hunt furbearers in the state.

Few people today think about the raccoon as a main course for the dinner table. But it can be. Here are some preparation tips and two of my favorite recipes:

First, accept only a young raccoon; animals over a year old are definitely second-rate as culinary fare. An eight-month-old coon will weigh eight to fourteen pounds. It should be skinned and drawn as soon as possible after killing and

Mike Miller illustration

The raccoon has proven itself highly successful in adapting to changing environments. Coon hunting has also been able to mature with the times. Developed as a poor man's fox hunt, it has successfully crossed all social, political and economic boundaries. Today there are doctors, lawyers, and businessmen sharing the night woods and trading coon hunting tales with farmers, miners, and factory workers. Women and youngsters, too, enjoy the sport, and coon hunting has become popular in areas that at one time were not even thought to harbor coons! Today there are coon hunters and good hounds in almost every state.

The future of coon hunting will depend upon raccoon populations. The expansion in raccoon range and increases in local numbers that have occurred in the face of heavy hunting pressure confirm that this species is highly resilient. Barring major disease outbreaks or substantial changes in the manner we harvest raccoons, we can be confident that their populations will be adequate to support our recreational demands.

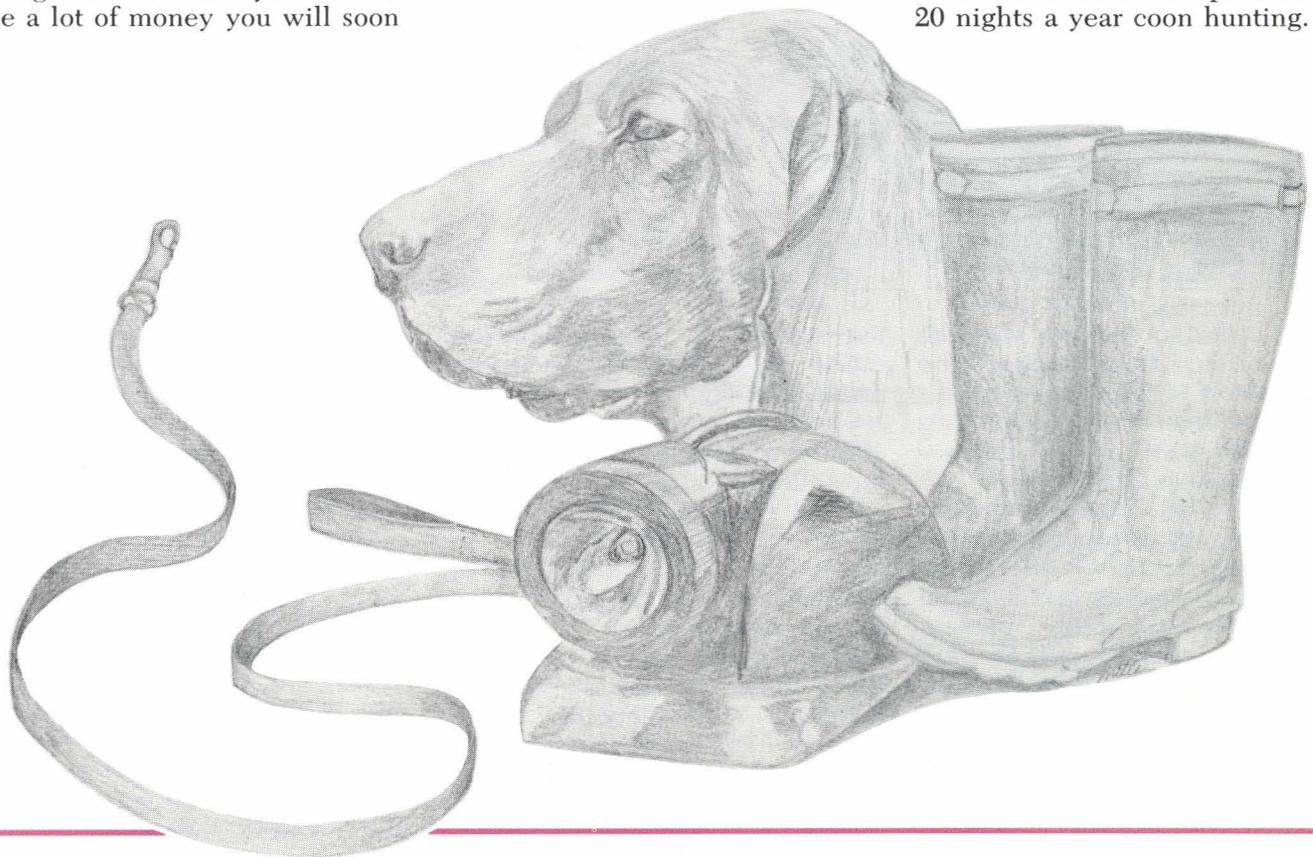
Will money ruin the sport of coon hunting? It need not. If you wish to make a lot of money you will soon

find there are easier ways than competition hunting, hound breeding, or hunting raccoons for their pelts. Although a few people will make impressive sums of money, the majority of coon hunters will continue hunting just for the sport of it. Like most hobbies, coon hunting costs money; it does not make money.

It appears that the public image of coonhounds is improving, with TV commercials showing more of these dogs. Will coonhounds follow the Irish setter, cocker spaniel, beagle, and Labrador as hunting breeds that have also become pets? Probably not; most coonhounds are too independent to make good house dogs. On the other hand, there are a number of people who enjoy coonhounds for their appearance alone. Will new breeds of coonhounds emerge? There's a good chance—although the popularity of breeds depends in large part upon the performance of a few individual hounds of each breed. Mountain Curs, Leopard Curs, and American Blue Gascon Hounds are currently high on the list of breeds likely to enter the coon hunting ranks.

What is the future of the coon hunter? Predictably, as fur prices go up, more people become interested in coon hunting. When the price of pelts declines, however, there is not a corresponding decline in numbers of coon hunters. Once bitten by the coon hunting bug, many people remain in the sport the rest of their lives. Periodic changes in fur prices are undoubtedly good for the sport, as they bring in new people. There may be short-term problems of over-crowded woods, improper hunting behavior, and conflicts between houndsmen, but these eventually work themselves out as newcomers gain experience. Hunter-landowner cooperation is absolutely necessary for the future of coon hunting. Night hunting with a hound attracts more attention from landowners than hunting during the day. Coon hunters must therefore work even harder than other sportsmen to avoid disturbing rural residents and maintain good rapport with landowners.

To conclude with both bad news and good news, the bad news is that there is no safe treatment—let alone a cure—for Ringtail Mania. The good news is that therapy works. Victims are advised to spend at least 20 nights a year coon hunting.



Mike Miller illustration

Names are interesting. They were originally meant to make things easier for us, to describe a person without *really* describing him. If everyone was just called "person", life would be much more complicated. Instead of walking into the office and saying "Hi, Joe," you'd have to articulate: "Hi, person in the gray slacks and pin-stripe shirt, with the dripping jelly donut."

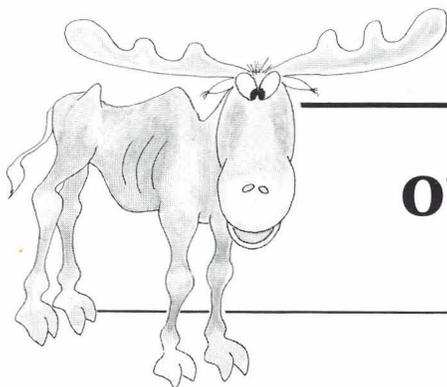
When phoning your mechanic, you couldn't just say "Hello; Norman?" You'd have to elaborate: "Hello; is this the person with the greasy knuckles who told me my clutch would have to be replaced for \$96 plus parts?" At home things would really be difficult. Calling "Bedtime, Susie!" out the door

that left little fleur-de-lis of mud on the carpet this morning told me he was going back to using names, law or no law."

"But the President has good reason for prohibiting the indiscriminate use of names. It's discriminatory."

"Wait; are you saying that the Mondale Moniker Moratorium is simply another ploy to make us all the same?"

"Well, don't you think that's a good idea? After all, if you called me by name in public, people would automatically know I'm a woman. That could prejudice them — mold their reaction to me before they even met me. Thank goodness for a vice president who's not afraid to break with tradition."



off trail

... with Stub Snagbark®

would not suffice. It would have to be: "Little person with one pigtail and chocolate on her T-shirt carrying a decapitated care-bear, it's time for bed!"

In the hunting field, a nameless dog would be a liability. Cries of "Dog! Dog!" would ring across hill and dale, punctuated by "Sit, dog," "Come, dog," "Whoa, dog," "Stay, dog," and "Drop it, will you! Drop it, you . . . you . . . dog!" In the confusion you'd be lucky to wind up with any dog at all. You might have to explain to your spouse: "Yes, person in the striking blue dress that must have cost as much as a new pump gun, I know I had a white dog this morning and this dog is liver-colored. But hunting just isn't what it used to be. Now that we can't use names, things are chaotic out there. My hunting partner with the red shirt and vibram-soled boots

"You mean Gerry's behind all this?"

"Well she *was* the first to insist on changing her name — a true sign of leadership."

"What does the President call her now?"

"Boss."

"This is absurd! Names have been around since the beginning of civilization. Without names there would be no history. Presidents, generals, explorers, tribal chiefs, great humanitarians and industrialists, authors, composers, scientists — all would be lost to posterity if they were nameless. It may suit Gerry just fine to be remembered as 'Boss,' but what about the rest of us? Besides, I liked my Brittany. Do you know how much a German Shorthair eats?"

"Please lower your voice, person. What if a name warden were stand-

ing outside the door? And don't say 'German' shorthair again. Ethnic discrimination is a serious offense."

"Sorry."

"Anyway, the Moratorium is only temporary. As soon as the Administration's special task force completes its cooperative study with the Advisory Council on Nondiscriminatory Nomenclature, it will recommend a name plan to Congress. A list of acceptable names will then be generated by computer and submitted to the President. If he likes it, he'll ask the vice president for final approval."

"All that could take months, even years! If I can't call my Lab by name next Saturday, he'll wind up retrieving ducks for somebody else."

"Like he did last year when you weren't shooting so well? I thought you had a little whistle for your dogs."

"That's just for show; every dog handler's supposed to wear a whistle. But unless I yell their names *my* dogs don't come. We wouldn't have had a dog after nine o'clock this morning if my partner hadn't yanked a ham sandwich out of his game pouch when this big liver-colored galoot galloped by. It's catch as catch can out there now."

"All you think about is hunting. Greater things are at stake. A new unisex list of names will end discrimination once and for all."

"That, dearest person, is a pie-in-the-sky attitude. Don't accept everything at face value. My friend with the muddy boots told me Jesse Jackson is behind all this, that he resented sharing magazine covers with other Jacksons and being asked for souvenir white gloves on the campaign trail. So he told the vice president his rainbow coalition was opposing name discrimination. She immediately collared Mondale, and now I'm faced with kennelling my dog during duck season."

"Well, you could change his name."

"What do you mean?"

"I heard on the news this morning that, as a tribute to our last President, the current administration has exempted one name from the Moratorium. Apparently the task force has found no sexual, racial, ethnic, or religious reasons for withholding "Bonzo" from public use."

At the same time that we are earnest to explore and learn all things, we require that all things be mysterious and unexplorable, that land and sea be infinitely wild, unsurveyed and unfathomed by us because unfathomable.

We can never have enough of nature. We must be refreshed by the sight of inexhaustible vigor, vast and titanic features, the seacoast with its wrecks, the wilderness with its living and its decaying trees, the thunder-cloud, and the rain which lasts three weeks and produces freshets.

We need to witness our own limits transgressed, and some life pasturing freely where we never wander.

Henry David Thoreau

