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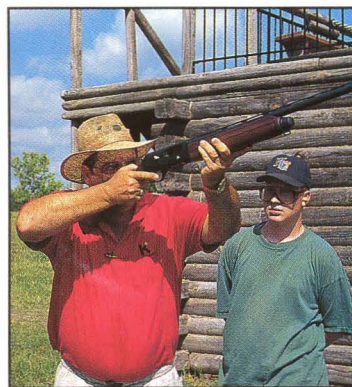
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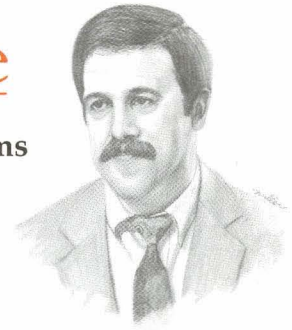
Editorial Creed: To promote the conservation and wise use of our natural resources, to instill an understanding of our responsibilities to the land.

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The View From Here

Steve Williams



Fall Fever

As the temperatures cool and days get shorter, my mind begins to wander to forests and fields. I have even found myself getting up earlier in the morning. This may seem odd to some but ask any sportsman or sportswoman, and you will probably get the same story. Bear with us; we are anticipating the hunting seasons.

Like many hunters, I go through this change every year. Hunting is in my blood, and it has become an important family tradition. As a national pastime, hunting has progressed from a means to acquire food, to recreation, to an essential element of game management. For me it is all three. Hunting plays a critical role in the quality of my life. Having grown up in the northeast part of this country, I am impressed with the variety of hunting opportunities available in Kansas. My father taught me the "tricks of the trade," and his father taught him. I, too, will pass on the knowledge of our natural resources to my son and daughter. But hunting is more than just the passing of knowledge from one generation to another. Hunting is tradition and stories told and retold. Hunting is family, friends and special times; sunrise over a field of milo stubble or flakes of snow falling in the deer woods. Hunting is the anticipation of a trophy buck or a covey flush.

For others, hunting is important for different reasons. Many small Kansas communities depend on hunting for their livelihood. Hunters spend more than \$387 million each year in Kansas and are vital to the economic vitality of our state. Some towns have "no vacancy" signs posted for much of November and December. For business owners, restaurateurs and motel operators, fall means reacquainting with old customers and friends, as well as newcomers. It also means profits.

In the excitement of the upcoming seasons, we can't forget an important element of preparation: hunter education. All hunters born on or after July 1, 1957 must complete a hunter education course before hunting in Kansas. Objectives of the Kansas Hunter Education Program are to reduce hunting accidents, promote ethical hunter behavior, teach basic wildlife conservation and promote appreciation of the state's wildlife resources. I've found these classes as much a benefit to "old timers" as they are to new hunters. Kansas is fortunate to have many qualified and dedicated volunteer instructors who, by educating tomorrow's hunters, help

preserve our hunting heritage.

Whether you are traveling across the country or heading a mile or two from town, preparation will make your hunt more successful. Guns, shells, vest and good boots are necessities, but a bird dog really adds to the enjoyment of the hunt. The sight of a pointing dog working a covey of quail or a Lab flushing a rooster is as fulfilling as the actual shot. I have found this partnership between hunter and dog to be one of the greatest joys of bird hunting.

Land also plays a critical role in hunting, and many hunters have sentimental attachments to places they've had access to for years. However, without access, you don't hunt. Hunters who do not have connections to land will be happy to know that a program called Walk-In Hunting Areas (WIHA) has been expanded statewide. The WIHA program leases land from Kansas landowners and opens it to public hunting during the hunting seasons. The department posts the land and patrols it throughout the seasons. The pilot year, 1995, was overwhelmingly successful. Much of the success of this program can be attributed to the responsible behavior of Kansas hunters. More than 100,000 acres have been leased in 1996.

On a final note, hunters should not forget the role of conservation officers. They are employed for your protection and the protection of wildlife. Be prepared if you are asked to show your hunting license and hunter education card. These items are not only required by law, but license sales are essential for financing the management and protection of our wildlife resources. Through the efforts of our conservation officers, biologists, and others, the department has been successful in the science of wildlife management, but we still need your help. If you witness a game violation, do not hesitate to call your local conservation officer or our Outdoor Alert hotline: 1-800-228-4263.

Fall is here, school has started and it is time to go hunting. Have a great time renewing old traditions or starting new ones with your son or daughter. Remember to hunt safely and responsibly. I wish you all great hunting in 1996.

Steve Williams





Winged Speed

by Brad McCord
district wildlife biologist, Wilson

photos by Mike Blair

A winter visitor to Kansas, the prairie falcon hunts the barren landscape on jet-fast wings. Nothing colorful or flashy about this bird but, with just a glimpse, you'll sense its dignified presence.

People traveling through central and western Kansas often find the open plains nearly uninhabitable. The windswept environment can appear a lifeless expanse of grassland interspersed with wheat fields. However, upon closer examination, the High Plains of Kansas teem with wildlife. Among those is a speedster that has earned a reputation for being one of the most efficient hunters on the Plains: The prairie falcon.

The prairie falcon is a unique bird that makes regular visits to the Sunflower State. Prairie falcons are members of the order Falconiformes

and genus *Falco*. There are 45 true falcon species distributed worldwide, but only five occur in Kansas. The American kestrel is the most common and is often seen along Kansas roadways hovering over roadside ditches searching for unsuspecting grasshoppers or mice. Other falcons that visit the state include the peregrine falcon, merlin, and the gyrfalcon, a rare migrant.

Falcons are separated from other raptors by their slender bodies, long, pointed wings, and long tails that narrow at the tip. The body shape, wing design, and power make falcons among the fastest and

most spectacular bird aviators.

Prairie falcons are about the size of a common crow and have a wingspan of just more than 3 feet. While closely related to the endangered peregrine falcon, prairie falcons are distinguished by a much lighter color and less distinct head markings. Prairie falcons are usually brown to light gray in color and the peregrine is dark blue-gray. Like most raptors, adult prairie falcons may exhibit either light or dark phases of plumage, with a variety of colors between the two extremes.

The range of the prairie falcon generally includes the Western U.S. This territory ranges west to California and Oregon and north to the southern portions of British Columbia, Alberta and Saskatchewan, then extends south to the highlands of west Texas and Mexico. Kansas is not known to host any numbers of nesting prairie falcons, although some of the remote and

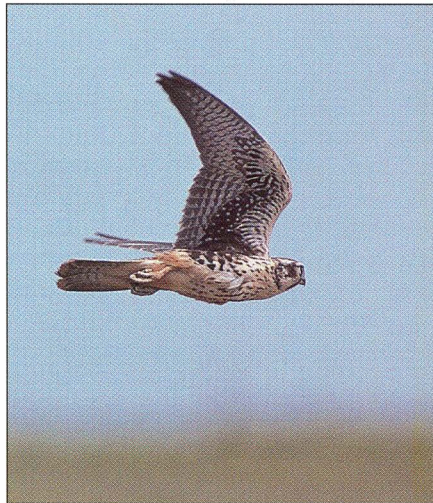
rugged areas of Gove, Logan, Cheyenne and Wallace counties would be likely areas to find them. And just to the west, extensive nesting in Colorado's central Rocky Mountain region has been documented. Kansas is more widely noted as part of the wintering range. Although falcons are migratory, their migration patterns are much more regional than waterfowl or songbirds which often travel great distances each spring and fall.

The peregrine falcon has been historically noted for its amazing flights and 200-mile-per-hour descents to attack prey. Many ornithologists agree today that only the prairie falcon is swifter and more agile than the peregrine. In fact, as early as 1870, J.G. Cooper noted the prairie falcon's magnificent flight and proclaimed it to be "as swift as an arrow." This amazing flight earned the bird the



Roadsides in the rural western portion of Kansas are great places to see prairie falcons, usually in November and December. Nesting is suspected in the northwest but hasn't been confirmed.

dubious distinction "bullet hawk." The following account by Cooper noted, "so rapid is the swoop and so powerful the blow that the prey must often be killed before it is at all aware of the danger." The prairie



The flight is direct, and wingbeats are aggressive. Wings are sharply pointed.

falcon's flight is similar to that of the American kestrel as both hover while searching for prey. Prairie falcons rarely ascend to great heights to drop out of the sky and capture prey as the peregrine does. Prairie falcons typically capture their prey on or very near the ground, using a silent approach at near ground level. The falcon can either snatch up prey in powerful talons as it flies by or as is often the case, it can swoop down and club prey with clenched talons.

In Kansas, prairie falcons often hunt over grassland, winter wheat, or fallow fields that support flocks of horned larks, meadowlarks and ground squirrels. Depending on the location and season of the year, prairie falcons may take a variety of prey. Bold and enterprising, the falcon is fully capable of taking prey larger than itself. Montana studies indicated that sharp-tailed grouse

were favorite meals. Researchers have noted the birds' carefree and playful antics when pursuing prey. A prairie falcon may dive and swoop at large groups of blackbirds or horned larks, seemingly taunting them until it is ready for a meal. Prairie falcons occasionally prey on small reptiles, mammals and insects but prefer small birds. Hunting is usually done in early morning and late afternoon, and great distances may be covered during the daily hunt for food. Researchers have estimated the home range of a pair of falcons at more than 10 square miles. A study in the Snake River Canyon in Idaho estimated that an individual bird may fly as far as ten miles to feed, and the hunting range could be from 10-50 square miles.

The prairie falcon, or desert falcon as it is sometimes called, typically prefers the open, semi-arid prairie, which is ideal for the falcon's hunting strategies. The open grasslands and rugged valleys of western Kansas are good areas to spot prairie falcons.

Unlike many raptors, prairie falcons rarely nest in trees. Preferred nest locations include ledges with overhanging cliffs, cavities and sheltered areas along rock outcroppings that face out over open country. Nest sites are commonly 30 feet above the ground or higher and generally inaccessible to predators. On a peculiar note, one study in the central Rocky Mountain region found that, of 36 nests examined, all but one had a rocky overhang above it, and about two-thirds of the nests faced south. As a rule prairie falcons will not utilize any nest-building material, preferring to lay their eggs on sand or gravel or among bits of fur and bone remains of prey brought to the nest.



The prairie falcon is similar to the peregrine in appearance and habits. However, the prairie falcon's facial markings are much less prominent and the coloring is brown rather than blue/gray.

Locating falcon nests can be a difficult and time consuming task. Prairie falcons may be quite obvious and vocal when an individual approaches the nest, but they can be very secretive when they are leaving the nest or returning to feed their young. It is believed that prairie falcons form long-term pair bonds, since a pair will nest in the same areas for several years. The pairs do not stay together through the winter but will arrive at the nest site together and initiate nesting in mid-March, depending on their location.

The female is responsible for most of the brooding activities while the male perches nearby when he isn't hunting. Average clutch size is five eggs. Incubation takes about 29-31 days, and eggs usually hatch within the first two weeks of May. The young falcons are helpless and are cared for constantly by the adults until they fledge in about 40 days.

Prairie falcons are fairly aggressive in defense of their nests. In Idaho, researchers reported that of all raptors nesting in the canyon, prairie falcons were the most

aggressive in defense of their territories. Intruders, including much larger red-tailed hawks and golden eagles, were almost always attacked,.

The prairie falcon is on the Audubon Society's blue list of apparently declining species, although most ornithologists believe the species is generally secure on a continental basis. The species has been placed on the threatened list in Kansas. Current estimates place the continental population between 5,000 and 7,000

birds. In the lower 48 states, many problems exist that may prevent the birds from increasing their numbers, including conversion of grassland to cropland, the affects of agricultural chemicals on reproduction and high first-year mortality attributed to poaching.

October through March are the best months to see prairie falcons in Kansas, although there are occasional sightings in the summer. The prairie falcon is considered to be an uncommon winter resident in the western half of Kansas and rare in

the eastern half. However, seeing migrating falcons isn't difficult in October and November, especially after an early cold front has moved through. Open grasslands, wheat stubble fields and along roadways where utility poles provide perches are good areas to find the birds. The distinctly pointed wings, slender body shape and fast wingbeat identify the prairie falcon at a distance. They are an exciting sight, and worth a drive in the countryside on a cold winter day. ♡



KDWP file photo

Building A Traditional Bow

by Dustin Teasley

illustrator, Pratt

photos by Mike Blair



More archers are moving to traditional archery for hunting and pleasure shooting, but some take the traditional move a step further. Building a bow from a chunk of wood, much like Native Americans did years ago, is a challenging and rewarding effort.

In the heat of fierce battles, tests of marksmanship or hunting game, archery has played an important role in ancient history. Closer to home, the bow is prominent in America's past. From battles with early settlers to hunting buffalo, Plains Indians gave archery much of the substance and elegance we know today. Modern archers have many factory-built options including compounds, recurves and

longbows. However, some archers want to rewind history, and they take the sport a step further by building their own bows, in much the same manner the Indians did many years ago. Though these handcrafted bows are considered primitive, bowmaking is an art that requires knowledge and skill. A completed bow is not only fun to shoot, but it gives the bowyer a sense of accomplishment and

respect for a timeless art.

David Dowell, Arlington, is an avid bowmaker with a lifelong love of archery. Dowell has been shooting bows since he was five or six years old. His first bow was a bent mulberry limb fashioned by the local mail carrier. Dowell progressed to inexpensive recurves bought with money made from mowing lawns. At fourteen, he bought his first hunting bow, a lam-

inated recurve. Five years later, he switched to a compound bow and hunted with it for 10 years. But Dowell did not enjoy compound bows as much as the longbows he knew as a child. The pure enjoyment of archery was lost, and he only shot the bow during the hunting season. Because of this, he returned to the longbow and rediscovered the sheer fun of shooting. He has shot a longbow ever since.

Dowell started building bows in 1990. His initial interest was sparked by a Kentucky bowmaker he met at an Oklahoma longbow shoot. He was impressed by his friend's "self-bows" (handmade bows) and began asking questions about them. Soon he was reading what few books he could find on the subject and later began to experiment. There were many failures, but he was not discouraged. Dowell recalls that many pieces of wood that started out to be bows broke before they even had a string on them.

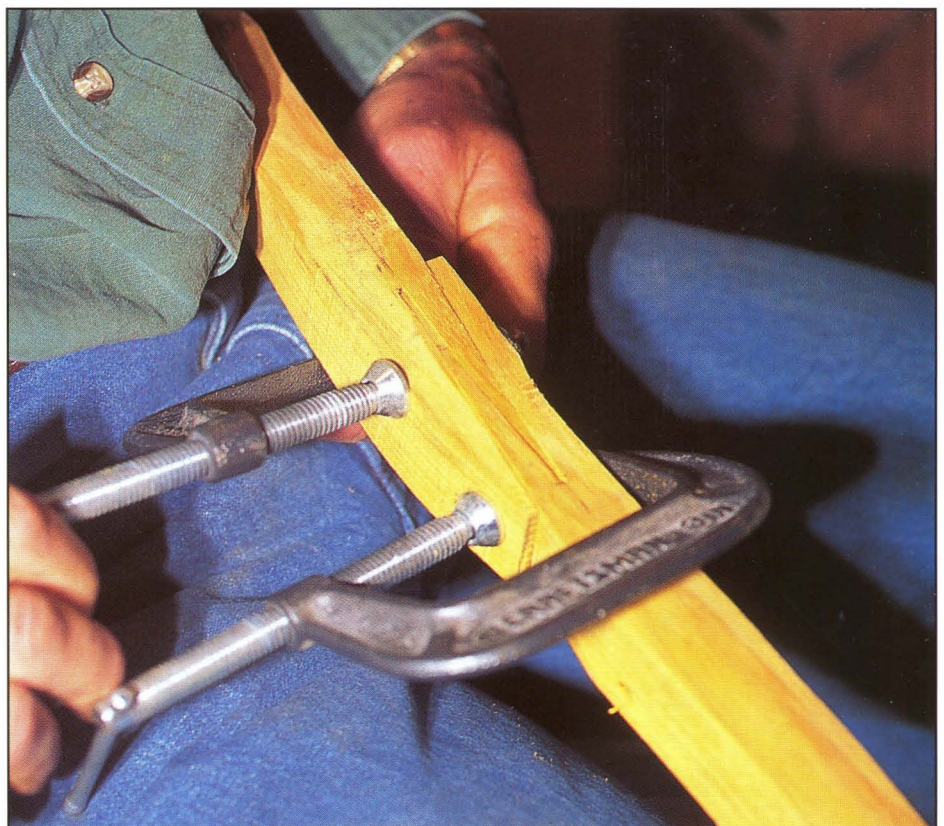
"I've built between 80 and 100 bows now. I've been doing it for a long time, and I still run into flaws in the wood and make mistakes," he said.

Dowell credits Al Herrin, an Oklahoma Cherokee Indian, for helping him learn to avoid many of the problems and mistakes he faced early in his bowmaking career.

It's natural to wonder how the longbows of today compare to the bows of the Midwest Indians. The longbows Dowell builds are similar in shape and performance to those made by the Cherokee Indians. Cherokee bows were much like English longbows but with a flatter cross-section, perhaps the best longbow design of all. The major difference is in the wood. Dowell uses Osage orange, while the Cherokees used black locust until Osage orange became available. However, Dowell's bows are quite different from the short bows of the Plains Indians. Those bows, made of ash and other common woods, were less accurate but easier to shoot at short range, such as when hunting buffalo on horseback.



Selecting wood is the first step. Dowell uses Osage orange, which is tough and durable. The wood must first be dried to less than 10 percent moisture content.



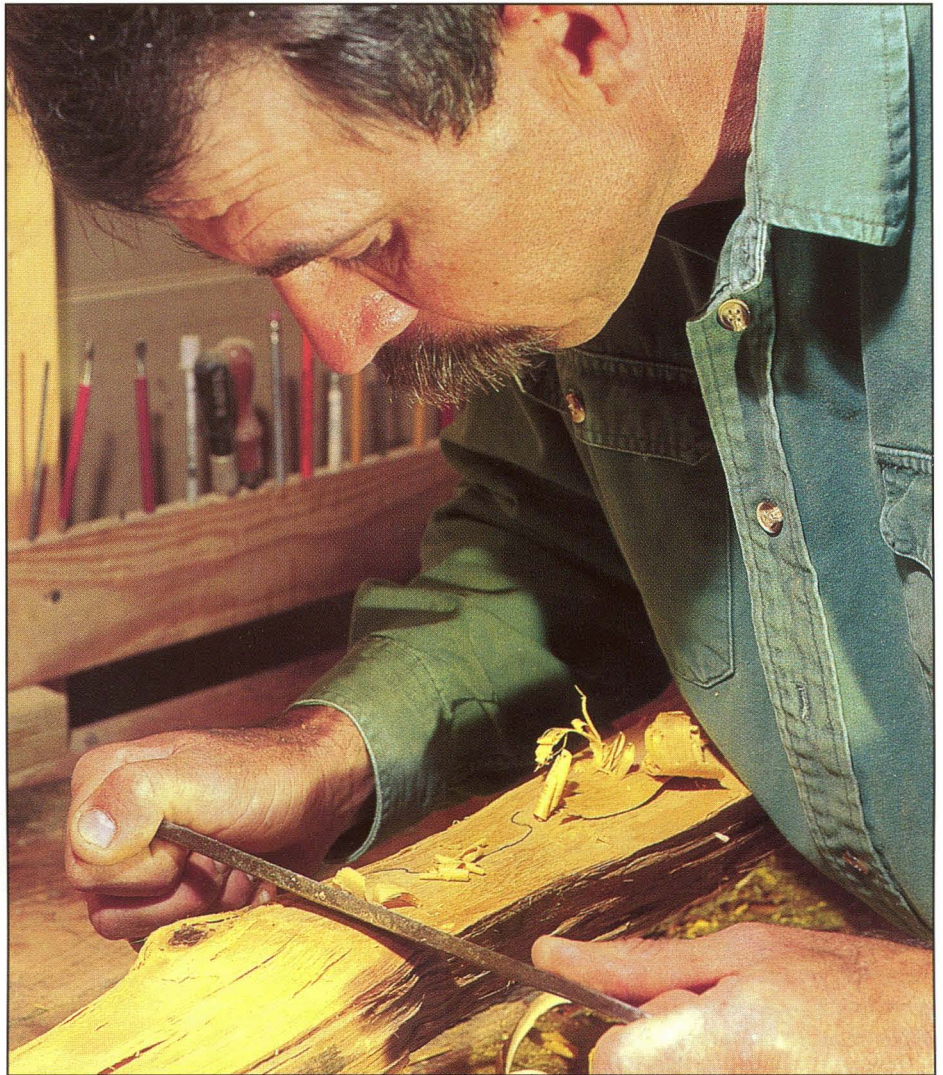
If a stave of appropriate length cannot be found, two billets are matched and glued together to create a stave. Dowels are also used to strengthen the joint.

Like most modern bowyers, Dowell prefers Osage orange, or bois d'arc (commonly pronounced "bo dark", a French word meaning "wood of the bow"), as the primary wood for his bows. It takes Dowell about 25 hours to complete a bow, although a beginner can expect to spend about 80 hours. Materials are relatively inexpensive and easy to find.

Dowell's first bows were made from straight-grained wood. However, today his favorite bow to build is the "snakey" bow. These bows have twists, knots and curves made from parts of the tree that most bowyers would reject. A little more care goes into these bows, but the finished product is worth it. He is often reluctant to sell these bows due to the unique character of each one. However, people are eager to buy them. Snakey bows that Dowell makes are just as strong, stable and accurate as other longbows and recurves, but they may not be as fast due to their unique structure. Even so, they are completely adequate as hunting tools, evidenced by many big game animals Dowell has taken, including an elk and a trophy-class whitetail.

The first step in building a bow is deciding what type of wood to use. In addition to Osage orange, other woods including hickory, black locust, walnut, and cherry can be used. The beginning bowyer should select wood with a straight grain since it is easier to work with. Wood can be purchased or cut from the appropriate tree, split and dried. The single block of wood used to build a bow is called a stave. Sometimes if otherwise desirable wood is too knotty or crooked, it is divided into short sections called billets. Billets are matched and numbered, then dried for later pairing.

The optimum moisture level of bow wood is about 8 percent to 10 percent. Dried naturally, some woods take years to reach this low level of moisture. Staves or billets that have been completely kiln dried may produce a bow that will break or be weather-checked. It is



Once the wood is dried, a growth ring is selected on the bow's back. This single growth ring is carefully stripped away with a drawknife in a tedious process.

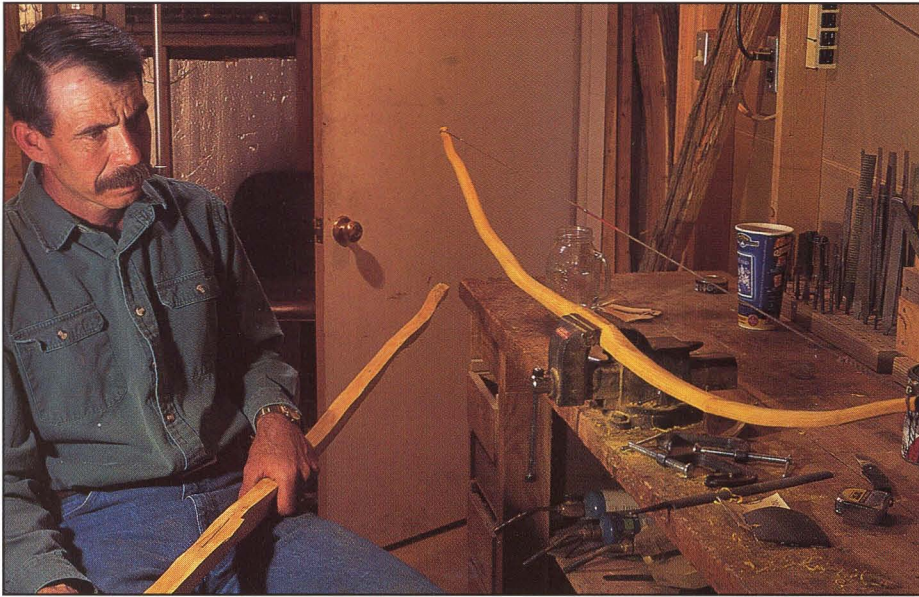
best to let the wood dry naturally before introducing artificial drying methods. Dowell speeds the process by letting staves and billets dry nat-



Each growth ring is made up of two layers: springwood and summerwood.

urally for one or two years, or until the moisture level is around 10 or 12 percent. He then puts them in a hotbox made of wood, insulation and heat lamps. Wood is heated to about 110-120 degrees, while Dowell constantly monitors the moisture content. Within a few days, it is usually down to 8 percent or 10 percent.

When the wood is dry, the transformation begins. Staves are relatively easy, since the bow is marked and cut from one piece. Billets must be notched and glued to create a stave of adequate length. Since the notched joint forms the bow handle, the glue joint is critical. The notched wood is cleaned with acetone to remove natural oils, and a special epoxy is applied before the two bil-



Once the bow is shaped, a string is attached so Dowell can study the limbs for even bending. Flat spots in the arc are corrected by more shaving with a drawknife.

lets are clamped together. Dowell puts the glued billets into the hotbox for about four hours to cure the glue, then drills two holes through the joints and inserts short dowels to improve strength. Forming the bow can now begin.

Dowell starts on the bow's back, which is the area that is most stressed when the bow is drawn. To prevent a bow from breaking when drawn, Dowell pays particular attention to growth rings in the wood. A growth ring represents one year of tree growth and is made up of two thin layers. The first, called springwood, grew fast and is very porous. The next layer, called summerwood, grew slow and has a tight-fibered structure. The bow's back must be formed within a single growth ring, or it may break unless a backing, or reinforcing, material is applied.

Shaving a single growth ring over the length of a 65-inch bow is a meticulous process. After selecting a growth ring, the springwood is carefully stripped away with a drawknife. This wood is brittle and easily removed, but the bowyer must be careful to stay within the growth ring.

After this step, backing may be applied. Backing material placed on the bow's back can provide extra speed and durability. Backing can

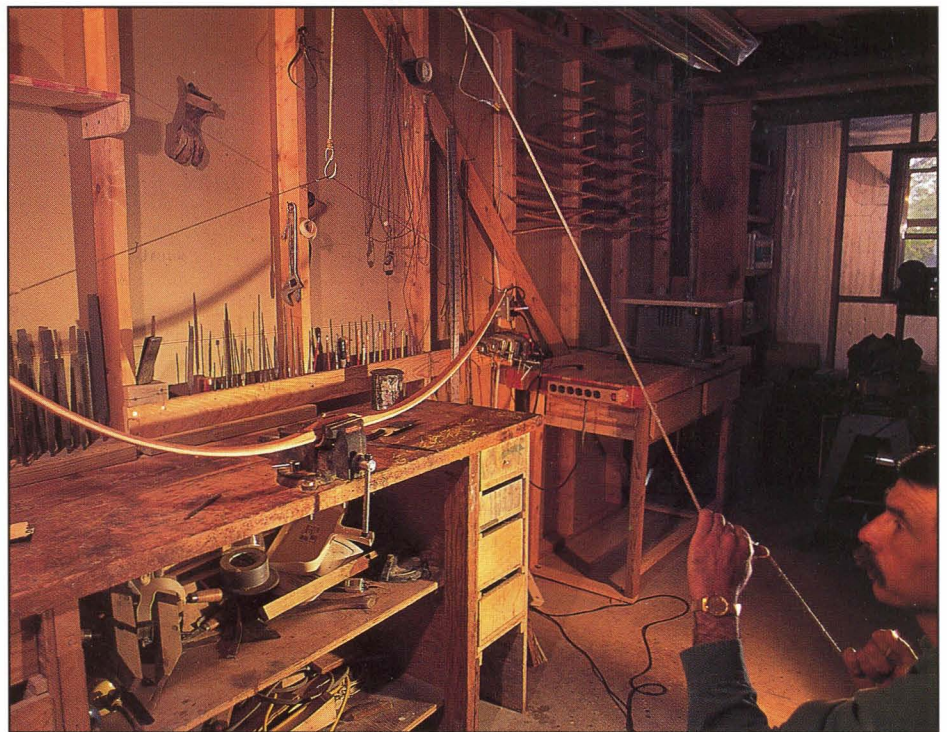
be wood, snake or fish skins, rawhide or animal tendons. Indians backed their bows with sinew, the hammered tendons of buffalo or deer that dry to resemble strong fiberglass.

The surface must be flat to apply a wood backing, and this is done with drawknives, sanding and planing. Furniture glue, hide glue

or a bow epoxy cements the backing to the bow. Epoxy will be 40 percent stronger if it is dried in the hotbox. Dowell has backed some of his bows with hickory, bamboo, thin layers of deer hide and even rattlesnake skins.

When the bow's back is complete, the real work of forming the bow begins. A pencil line is drawn down the center of the stave. The limb dimensions are measured, and the sides of the bow are penciled in, following the grain of the wood. The sides of the stave are then roughly cut with a band saw. For snake bows, Dowell uses a draw knife instead of a band saw because he must follow the grain of the wood precisely. Every crook and knot must be preserved to maintain the strength of the bow. The sides of all his bows are finished with a draw knife, rasp and sander.

Tillering is the process of tuning a bow and providing its specific draw weight. This is done on the belly, or inside of the bow. The draw weight is determined by the thickness of the limbs. The wood on the belly is compressed when the bow is drawn, so cuts can be made



To adjust the bow's draw weight and tune the limbs, Dowell completes a process called tillering. A properly tillered bow is accurate and has minimal vibration.

through the growth rings.

Each piece of wood is different and must be tillered as such. A straight pencil line is drawn on the sides of the bow as a guide for tillering. With the bow in a vice, Dowell shaves the wood from the belly, until the limbs can be bent enough to put on a bowstring. Then with the bow strung, he studies the pencil line. If the line is perfectly curved along the bend of the bow, the bow is correctly tillered. But if the line flattens in places, those areas need additional work. This is done by removing small shavings of wood until the line evens out.

Now it's time to tune the bow, which ensures that both limbs bend together. To test the bend, Dowell attaches a rope and pulley to the center of the string with the bow in the vise. Then as he pulls the rope to draw the bow string, he checks for evenness in the bend of each limb. If one limb bends more than the other, the bow is out of tune, and requires more work. An untuned bow will not shoot accurately and may cause severe hand shock (painful vibration in the hand) after release. Tillering a bow requires a great deal of experience and effort, and Dowell devotes a lot of time to this process.

Once tillered, notches and tips are added to the bow. Dowell uses Fast-Flight strings, which are notorious for breaking tips off commercial laminated bows. However, the wood types Dowell uses are tougher than those used in commercial bows and able to withstand the extra force of the Fast-Flight. Dowell sometimes reinforces the tips of his bows with decorative material such as cow horn or whale baleen.

The bow is near completion at this point and may be given a decorative touch such as colored string wrapped on the limbs. The final



Shooting a traditional bow is plain old fun, and one reason why Dowell traded in his compound. Shooting and hunting with a self-made bow is rewarding and worth the hours of work.

step is an oil or urethane finish to seal out moisture. This is important to protect glue joints, particularly the joint between the bow and a sinew or rawhide backing. Moisture will weaken the glue and also decrease performance. The handle is usually wrapped with some type of leather.

After all this work, it's hard to imagine that the self-bow might break, but they sometimes do. However, all is not lost. Dowell has successfully repaired broken bows that appeared to be destroyed. One of the first bows he built is a good example. Over several years of use, cracks appeared in the bow's back, and he nursed it along with dowel plugs and wrapping. But the bow finally broke at a bow shoot. His buddies told him the bow would never shoot again. He retired the bow for a while, but decided to fix it one last time. He sanded it down, dowel plugged the break and wrapped it heavily with nylon. He

went on to take many more game animals with the bow and still shoots it today.

Dowell takes pride in the bows he builds. These glossy, handmade tools reflect the time and dedication required to learn a craft. His bows start out as nothing more than chunks of wood that look more like fence posts, but he transforms them into works of art and precision shooting tools. He has carried his bows on Colorado elk hunts, Texas wild boar and javelina hunts, and of course in Kansas after huge white-tails.

The success of an archer is not measured by the amount of game he brings home but more by the experiences gained and what is learned from them. As the archer draws a self-bow, he knows the satisfaction of hunting with his own creation and continuing a tradition that connects him with Indians that hunted buffalo with a similar bow on this same land. ♡



Undiscovered Squirrels

by Roger D. Applegate
small game biologist, Emporia

photos by Mike Blair

If you're looking for hunting without opening day crowds or competition from other hunters, Kansas squirrels might be the ticket.

Among the great diversity of wildlife that make their home in Kansas are two excellent game species, the gray and fox squirrels. Perhaps the variety of other game species is part of the reason that there are so few squirrel hunters in Kansas. It's easy to get sidetracked on pheasants, quail, deer, waterfowl or prairie chicken and never even consider squirrel hunting. However, dedicated squirrel hunters would tell you that you're missing a great opportunity. That is, if they didn't want to keep it all for themselves.

Fox squirrels, by far the most abundant of the two, are found throughout Kansas. They live in open woodlands, hedgerows, and the trees around farmsteads, as well as urban shade trees. Gray squirrels, on the other hand, require deeper forests, likely because they spend more time in trees and need the inter-connecting tree tops to move around. Fox squirrels spend about as much time on the ground as they

do in trees, so they prefer more open woods.

Both squirrels eat the same foods. Nuts such as walnut, hickory, and acorns are major foods. Other foods include various berries, mushrooms, ash seeds, and insects. Fox squirrels will eat Osage orange, or hedge, apples, corn and milo.

Gray squirrels breed from late December to early fall, having two litters of two to four young. Fox squirrels breed in December and January and again in April and May. They generally have three young in each of these two breeding seasons. Both gray and fox squirrels den in tree cavities or leaf nests, and they will both adapt to man-made nest boxes.

Data collected by the Kansas rural mail carriers survey each October suggest that Kansas squirrel populations are increasing. Hunting pressure on squirrels is very light and averages only four to five days per hunter per year. Harvests of 100,000-150,000 per year

have been typical in recent years. Squirrel season opens June 1 and runs through Dec. 31, offering more than 30 weeks of hunting. However, only 20,000-30,000 Kansans take advantage of this opportunity.

Squirrels can be hunted in a variety of methods, including still hunting, stand hunting near feed trees, or even using hounds. I prefer stand hunting near feed trees and waiting for squirrels to show themselves. Calls can also be effective. Early in the summer, a squirrel distress call can bring squirrels closer to the hunter, a big advantage when foliage is thick. Other calls include a bark call and a call that sounds like a squirrel cutting a nut. Summer can be a great time to hunt squirrels since they respond well to calls, but it can also be hot, and mosquito repellent is a must. Later in the fall is my favorite time, when the leaves are off the trees. This makes the squirrels more visible (also the hunter, so stealth is required) and eliminates worrying about mosqui-

toes.

Most squirrel hunters enjoy the challenge of hunting with a small-caliber firearm. Of course, the .22 rifle is most popular, but a small caliber muzzleloading rifle or even a pistol can bring an added challenge to your squirrel hunting. A shotgun with a modified choke and field load No. 6s is also a very effective combination.

Squirrel is excellent table fare. It can be fried, baked, or deliciously cooked in a stew. The daily bag limit is five. If you know of a place with timber, preferably some hardwoods such as walnut trees or oak trees, then you know of a place to hunt squirrels. Because so few people hunt them and the season is open when other hunting seasons are closed, it can be surprisingly easy to get permission to hunt squirrels on private land. And best of all, squirrel hunting can be an excellent way to introduce a youngster to small game hunting. The weather is mild, you don't have to traipse for miles through difficult terrain, and there are many other lessons to learn in the woods while squirrel hunting. Find out what too many Kansans are missing this fall. Try squirrel hunting. 🦫



A squirrel distress call and bark call can improve your success, especially in the summer and early fall when heavy foliage makes squirrels tough to see.

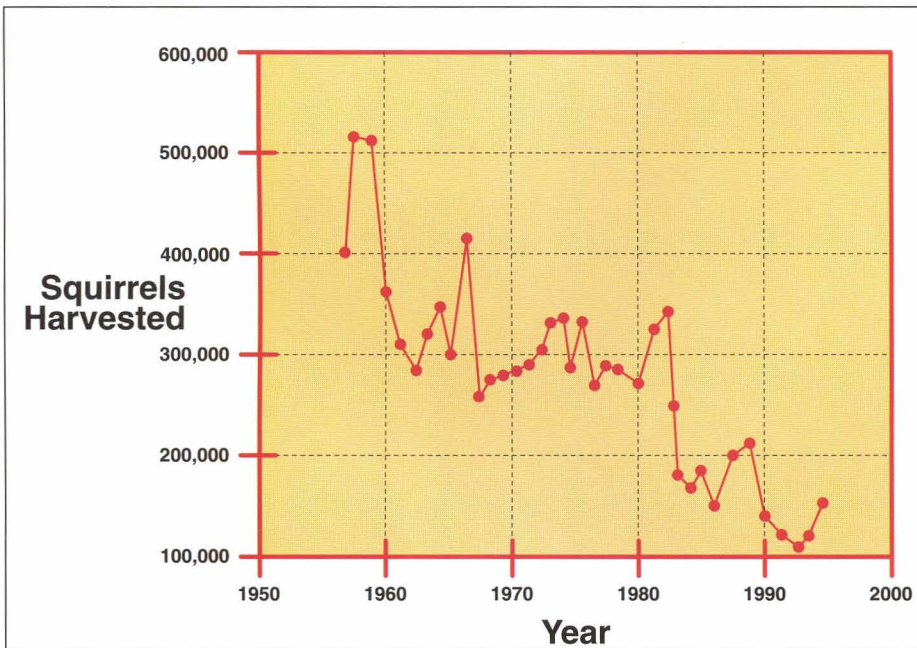
Calling Squirrels

Calling squirrels is addictive. Rather than sitting around waiting for squirrels to appear, you bring them to you. And the action can be fast. On a relative scale, calling squirrels is as exciting as calling other game such as ducks, turkeys and deer.

Squirrel calling is simple. The call is a distress whistle that imitates the sound of a young squirrel in the grips of a predator. The caller blows a series of whistles while thrashing a leafy branch. The commotion can send nearby squirrels into a barking frenzy. Bold squirrels will come to the call on a dead run, while others sit and bark, allowing for a careful stalk. Several squirrels may respond, and it's not uncommon to shoot more than one from a single call location.

A bark call can be used to keep squirrels barking after a shot, or it can get silent squirrels to reveal their location. Another trick after the first shot is to use a call that sounds like a squirrel cutting nuts. This may convince hiding squirrels that the coast is clear. Or the nut cutting call can bring in a squirrel intent on chasing off an invader.

Lohman Game Calls produces a squirrel calling kit that features all three calls and an instructional tape. With some calls, a pocket full of .22 shells and a cool morning, you'll be eating squirrels by that evening. *Marc Murrell*



Kansas squirrel harvest has dropped in recent years, but it's because of fewer hunters, not fewer squirrels. Fox squirrels are found statewide and grays in the eastern third.



Wingshooters' Primer

by J. Mark Shoup
associate editor, Pratt

There are many things to do while preparing for the upcoming bird seasons, but perhaps none are as important as improving your shooting ability. Visit a local sporting clays range or shooting club and take a lesson from a shooting coach. You'll be glad you did.

I've been shooting shotguns for 40 years. At times, I've been deadly, at others dismal. Like most active but untutored shooters, I never really understood how I shot. "Shooting is instinct," I was always told, which didn't really tell me much except that sometimes my instincts were good and sometimes they were bad.

In recent years, however, shooting sports — particularly sporting clays — have become more popular. With this popularity has come a studied analysis of shooting technique and the not so surprising discovery that, as with everything from a golf swing to calf roping, there are right and wrong ways to shoot. And with the rise in competition shooting has come a number of teachers dedicated to helping shooters improve.

One of these teachers is Michael Murphy, who also sells and fits guns and operates a sporting clays range north of Augusta. In July, I

felt it was high-time I prepared for a season of wingshooting, so I drove to Murphy's place to get a few pointers. I came away with much more than expected.

The first thing Murphy had me do was pattern my shotgun on a three-foot square target with a hole in the middle. I had a new gun that I had patterned the week before, or so I thought. I had patterned it with a rest at forty yards, just two shots. He had me shoot eight or 10 times from about 20 yards, offhand, shouldering and shooting quickly, as if I were shooting birds. What I had done previously showed me where my gun shoots. The patterning I did with Mike showed me where I shoot. It was a quick analysis of my mounting technique and gun fit. My pattern was slightly high and to the right, but mostly in the center of the target — a fairly good fit although he did suggest I take 1/8 to 5/16 off my stock.

But what if you pattern your

Mike Blair photo

shotgun in this manner, and it's way off? What does it mean? One of two things: either your gun doesn't fit properly or your mounting technique is poor. You can do a quick check of fit at home by closing your eyes and quickly mounting the gun without moving your head. If you're looking right down the gun barrel when you open your eyes, your gun should be a close fit. Make sure the gun fits in the "shooting pocket," the entire butt squarely on the outside muscles of the chest and shoulder, not the arm.

The length of the gunstock is called the "pull." If the pull is too long, the butt will slide out onto your arm. If it's too short, your cheek will slide awkwardly toward the receiver. If the comb is too high, you'll be looking on top of the barrel. If the comb is too low, you'll have to raise your cheek and head to see down the barrel. (See illustration.)

"Pitch" is the angle of the butt where it meets the shoulder. This angle will also affect up and down barrel alignment. The "cast" is the angle at which the stock comes off the receiver. Most factory guns come with zero cast although right-handers usually need a slight cast to the right while left handers do better with a cast to the left. Cast right is actually called "cast off," and cast left is called "cast on," much like starboard and port on a boat. Using a hot-oil process, professional gunfitters can actually bend a stock to fit the shooter.

If you have serious problems with fit, it's time to see a gunfitter. If not, but your pattern is still off, you likely suffer from poor mounting technique. Experienced teachers can spot this in a hurry, but there are a few rules of thumb to keep in mind. A mirror will help as you check these.

Mounting a shotgun is like practicing a golf swing: it should be practiced over and over until it is smooth and effortless. Remember, the leading hand is the shooting hand. As you mount the gun, keep the muzzle up; don't let it drop. Without lowering your head, bring



Good mount, poor mount. Michael Murphy, a shooting instructor from Augusta, demonstrates a poor, but common, gun mounting technique in the top photo. In the bottom photo, Murphy demonstrates proper form, which is key to good shooting.

gun to cheek, then shoulder to gun — all in one smooth motion. If your head is cocked to the side over the stock, you have a poor mount. If you pull the gun to your shoulder and drop your head to the stock, you have a poor mount.

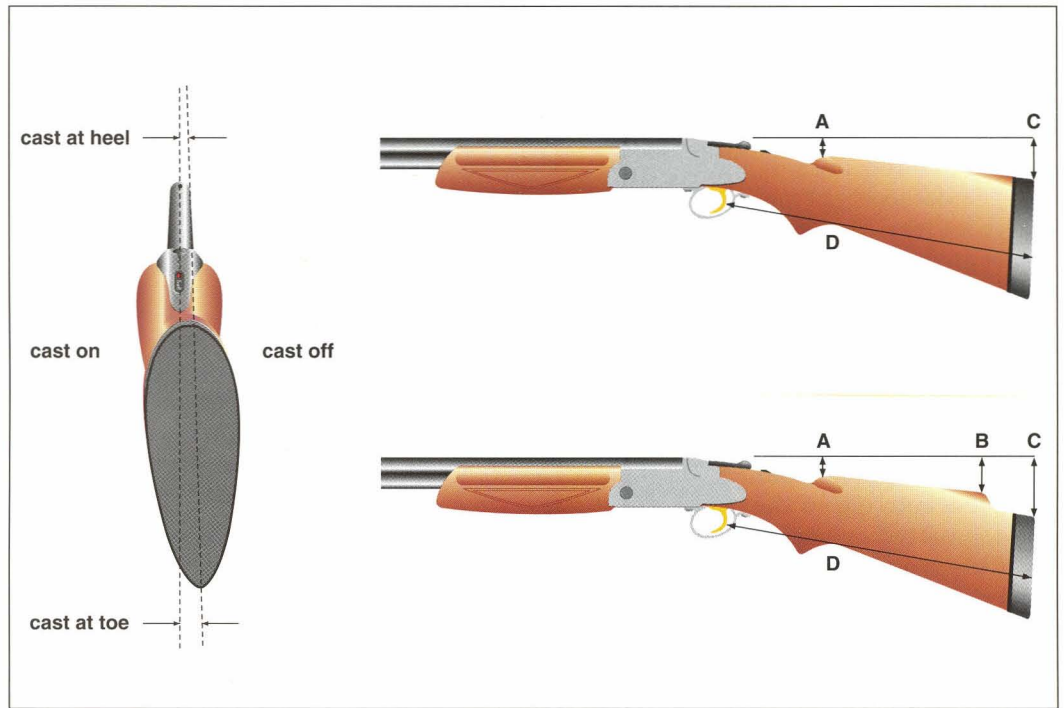
Diving instructors are fond of saying that 90 percent of every properly-executed dive is performed on the board. Perhaps a similar equation could be applied to the mount's importance in making a good shot.

"Most people mount a gun too quickly," says Murphy. "You need to push, or lift, the gun to your face, not jerk it. But you don't learn a good mount without practice. You need to mount at home. Practice just mounting and moving the gun."

Once you've got a properly-fitted gun and decent mounting technique, the fun part begins — learning to shoot. Both rank beginner or seasoned wingshooter can benefit from a few sessions with a good teacher, but we'll try to provide a few tips to get you on target, so to speak.

First of all, check your eye dominance. Extend both arms away from your body and form a small triangle with the thumbs and forefingers of your hands. Focus through the triangle on an object across the room, then pull your hands to your eyes, keeping the object in the center of the triangle. The eye you bring the triangle to is the dominant eye. If you are a beginning shooter, learn to shoot with the eye that is dominant. If you have already shot for a number of years and are not shooting with your dominant eye, close the dominant eye while shooting or wear glasses with a dot in the center of the dominant eye lens.

Most seasoned shooters are at least vaguely familiar with three common shooting techniques: snap shooting, maintained lead, and swing-through. Snap shooting is



When a gun is fitted professionally, the pull (measurement D), drop (measurement B) and cast are adjusted so that the gun, when properly mounted, shoots where the shooter is looking .

purely guesswork, pointing and shooting quickly at a spot where you think the bird will go. In a few quail hunting situations, this may be the only shot you have — or perhaps you should let the shot go. Maintained lead is when you point in front of the bird, moving the gun barrel until you think you have the proper lead, then firing. This is also largely guesswork although there is more time for instinctive calculation. Both of these methods yield inconsistent results for most shooters. There are simply too many variables, such as wind speed, speed of the bird, angle of the bird, and distance.

Enter the swing-through method. Most teachers agree this is the easiest method to teach and the most consistent hitter. With this method, place the barrel in a stationary position about halfway between where you first see the bird and where you intend to shoot it. Allow the bird to pass the barrel, then swing the barrel through the bird, pulling the trigger just as the barrel touches the front end of the bird. At this point, DON'T STOP. Continue the swing through smoothly, just as you would with a golf club.

As Murphy puts it, "People need to learn to dance with their shotguns, but it's a waltz, not a jitterbug."

If you are new to this method but have been shooting for some time, wipe the slate clean. Don't be afraid to miss. Come to the technique as if you had never shot before, and your improvement will be dramatic. Don't let old habits or fear of missing get in your way. Most instructors will say that novice shooters are the best students because they have no preconceived ideas or bad habits. Ironically then, we could coin a phrase to help ourselves improve: Become a novice to become an expert.

Mike Murphy has added another wrinkle to the swing-through method called Swing-through XL. The technique is the same except that the shooter increases speed just as he swings through the target. This can be particularly useful on longer shots, and it helps you concentrate on follow through.

Another, more difficult, technique is the pull-away. In this method, place the barrel on the target, follow it, then pull away as the trigger is pulled. This is good for

long-range shooting, such as geese.

Using the swing-through method, there are a number of things to keep in mind:

1) On left-to-right and right-to-left crossing shots, always come from behind. With crossing shots, right-to-left is generally easier for right-handers, and left-to-right is generally easier for left-handers. Because a right-hander is slower moving to the right, it will always seem as if the lead is greater than going left, and vice versa.

2) On rising shots, always come from below.

3) On falling shots, always come from above.

4) On reports in clays or following-doubles on game, always dismount after the first shot and re-mount for the second. This gives you a wider field of vision and makes it easier to pick up the second bird.

5) Remember that, as with golf, the swing-through is controlled from the hips and knees, not the arms and shoulders.

6) Foot position is also important



Patterning your shotgun from a standing position will show you how good your mounting technique is or how well your gun fits. Both fit and technique are important to good wingshooting.

although much easier to execute on clays than in the field. If you are right-handed, face directly toward where you will shoot your target. With your left foot, step slightly toward the target with about 60 percent of your weight, allowing your feet to turn naturally right to a comfortable position. Reverse for left-

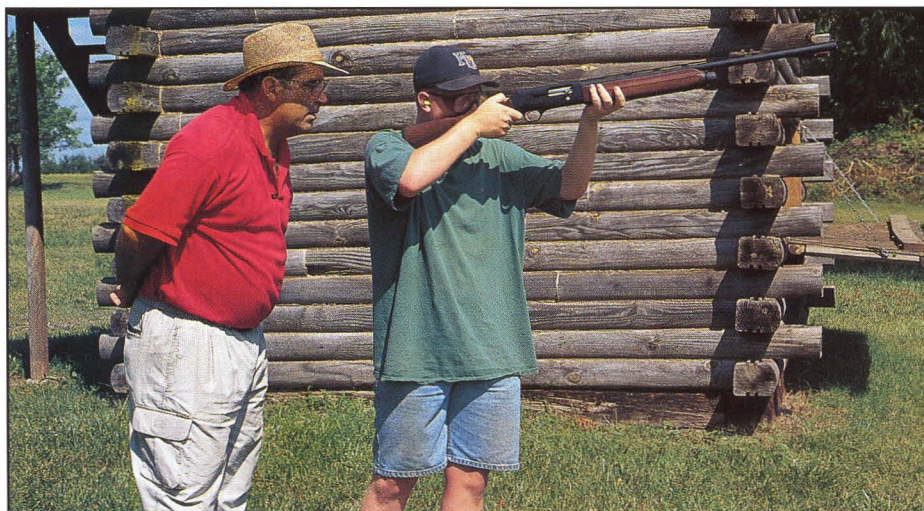
handers. (Note that shotgunners face their targets more squarely than rifle shooters.)

Of course, none of this business about swing-through is new, but if you've never tried it, it will blow your mind. When properly executed, it's like falling off a log. And best of all, you know just what you've done and how you did it. Murphy makes a good observation in this regard.

"Most really good shots that you make when you really smoke the bird — that you remember as really feeling good — those shots were swing through, even if you didn't know it at the time."

We've covered a lot of ground in one short article, but there are still a few more considerations that can help your shooting. Shot loads and chokes are perhaps the first things that come to mind.

"Heavy loads are the shooter's nemesis," says Murphy. "The most common errors most shooters make are too heavy of loads and chokes that are too tight. A dead center hit



A good shooting coach corrects form flaws, then stands behind you and actually watches your shot string, then tells you why and where you missed . . . if you miss!

with a .410 is better than shooting the tail feathers off a goose with a 10-gauge."

In both sporting clays and trap, it has been proven that scores go up with lighter loads. In a 12-gauge, probably the best all-round load for clays, quail, and doves is 1 ounce of 7 1/2 shot. Many 20-gauge shooters use 7/8 ounce of shot. With bigger birds, such as pheasants and ducks, bigger shot may be needed, but avoid trying to make up for lack of practice with magnum loads. Also, use the highest-quality loads, whether buying off the shelf or reloading.

In chokes, improved cylinder will fit most needs. When shooting waterfowl, a modified choke acts as full with steel shot, so there should really seldom be need for a full choke. Turkey hunting may be an exception. Still, if you practice and perfect technique, bigger loads and tighter chokes become superfluous.

As far as barrel length is concerned, 26-inch or 28-inch are prob-

ably the best overall. A 26-inch can help you get the gun up more quickly on fast rising birds such as quail. Ballistically, there is no advantage to a 30-inch barrel for geese or other long-range shooting, but the longer barrel helps some shooters with their swing-through, especially on long shots.

Murphy sells fancy guns, and he's fitted some famous people with guns, Gen. Norman Schwartzkopf being perhaps the most notable. So, when it come to guns, what's his advice to the average shooter who wants to get better? "Just learn to shoot Old Betsy better. But remember, perfect practice makes perfect."

A final note on practice. Mount and swing through should be practiced frequently in your home, to develop both technique and muscle tone. However, everyone wants to practice with some real targets. Many trap clubs can be found throughout Kansas, but sporting clays may offer the best practice for

the hunter. The four ranges I have shot are all good: Claythorne Lodge near Oswego, Flint Oak, near Fall River, Michael Murphy and Sons, and Pleasant Valley, between Pratt and Medicine Lodge. However, a number a sporting clay ranges have been developed in recent years. They vary in quality and price. Look to *Black's Wing & Clay Shotgunner's Handbook* for a fairly complete listing of trap and clay ranges, as well as shooting instructors.

This fall, take some time to get reacquainted with your shotgun and your shooting technique. It could just be the most fun you've had with shooting since you got your first gun. And besides, as Mike Murphy says, "We owe it to the bird to be the best shooters we can be." ♡

Safety Note: Never shoot without safety glasses. If you're shooting clays and value your hearing, always wear ear plugs or muffs.



Mike Blair photo

Shooting practice is important for all hunters, but perhaps most critical for youngsters. Start them out with a shotgun that fits and good shooting fundamentals. When the season starts they will be less likely to lose their confidence and become frustrated.



The Skinny On Salamanders

by Mark Kumberg

fish biologist specialist, Pratt Hatchery

photos by Mike Blair

They live in dark, wet places and are seldom seen, but salamanders are found statewide. They have a fascinating double life; one in the water and one on the land.

When I was in grade school, I recall a classmate telling me a terrifying story about how her mother died from a mudpuppy bite. Obviously, this made quite an impression on me because I can barely remember what I had for lunch today, let alone something that happened more than 30 years ago.

Mudpuppies, or salamanders, are feared mostly due to lack of knowl-

edge and their secretive, nocturnal habits. I now know that there are no poisonous "mudpuppies" or "waterdogs" in Kansas and that they couldn't hurt me if they wanted to.

Salamanders are members of the class Amphibia, which is derived from the Greek *amphi* and *bios*, meaning double life. It refers to creatures that start life in water and later adapt to life on land. Three

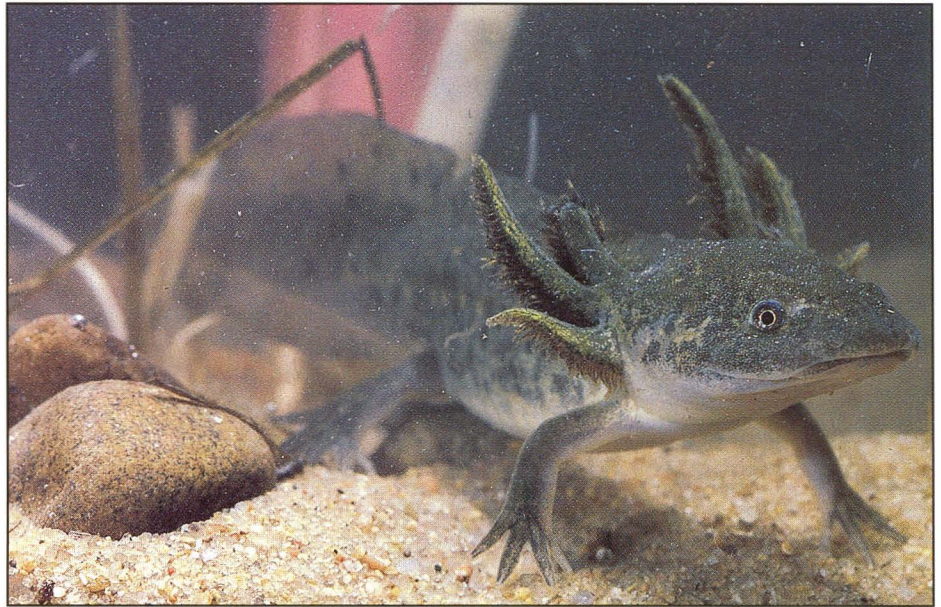
hundred to 400 million years ago, during the Devonian Period, some early amphibians were the first vertebrate animals to leave the security of their watery world and venture on land. The earliest fossil salamander comes from late Jurassic deposits more than 120 million years old.

The first amphibians were much larger than those alive today. To evolve from aquatic to terrestrial

life, amphibians had to make several transitions, including increased skeletal strength to support their bodies on land. They also shifted their special sense priorities from the lateral line system of fish to the senses of smell and hearing. Even now after millions of years of evolution, amphibians are not completely free from water.

Salamanders depend on water and moisture for their existence. They differ from reptiles in many ways. They have moist skin not covered with scales or shells. They “dry up” quickly if they stray far from water. They have no claws on their feet and lay soft, gelatinous eggs with no shell. These eggs hatch into aquatic larvae that are restricted to water until they metamorphose into more terrestrial adults.

Mucous glands secrete substances that keep the skin moist and also make salamanders slippery and difficult for predators to catch. This is obvious to anyone who has tried to hold a tiger salamander. It’s almost like trying to pick up a piece of Jello. They shed their skin often, and some eat the shed skin. They have a very thin layer of dead cells on their skin compared to other terrestrial vertebrates, and this causes



This gilled naiad has yet to metamorphose and move onto land. Most salamander larvae develop lungs and lose their gills a year after hatching.

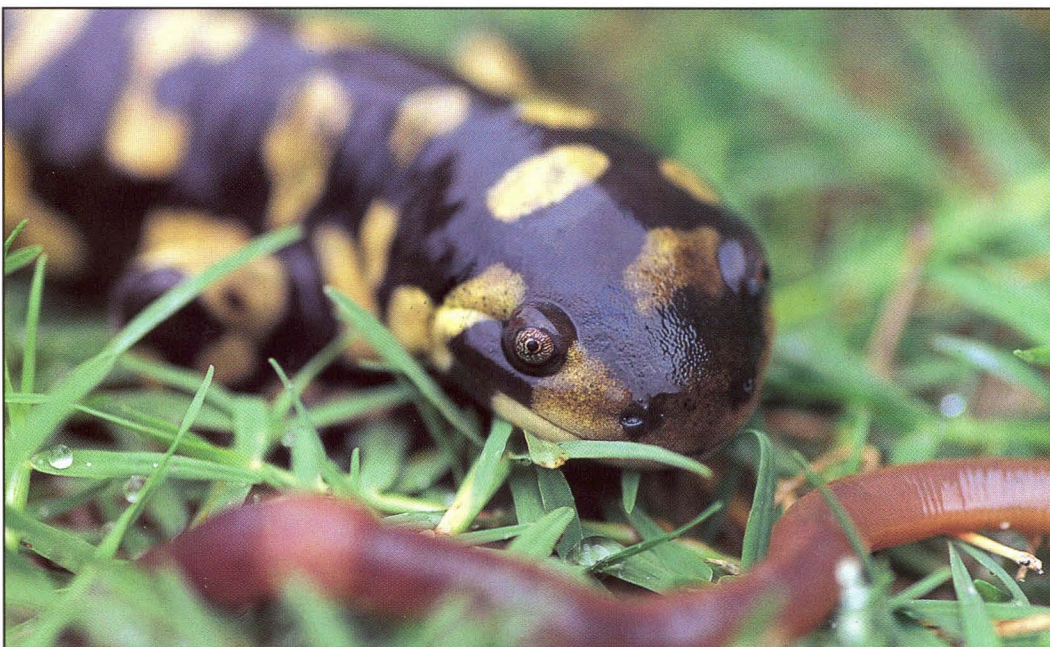
their skin to constantly lose water. They regain body moisture by going into the water or lying in damp areas. When they are wet, water is constantly absorbed through the skin and must be eliminated by excreting large amounts of dilute urine, preventing the salamander from “blowing up.”

Salamanders are ectothermic, or cold blooded, meaning they are unable to internally control their

body temperature. This causes them to be inactive during cold periods, when they enter a state called brumation. They retreat below the ground to avoid freezing.

Salamanders rely on their sense of smell to find food. They have small teeth along the upper and lower jaws and across the roof of the mouth. Food items held in the jaws of the salamander are maneuvered down the throat by jerky motions of the head, pushing the prey against something, and by tongue actions. Salamanders are opportunistic feeders, eating mostly insects. A tiger salamander my daughters kept for a pet did quite well on a diet supplemented with bologna, and I have dissected specimens and found up to six 1-inch fish in their stomachs. They are cannibalistic in both larval and adult stages.

Salamanders have few defenses against enemies. Their optic nerve is reduced in size and they have an inner ear which may receive vibrations through bones and cartilage from the front legs.



The tiger salamander is common in the western part of Kansas. Its diet consists of insects and small fish, but they are opportunists, feeding on just about anything they can catch.



Salamanders have small teeth which allow them to grip their prey. Food, such as this nightcrawler, is found most often through the salamander's sense of smell.

Salamanders hatch with gills, but during development, they are lost in all but the aquatic forms, or in those that fail to complete metamorphosis. Gills are useless for terrestrial salamanders since the filaments would collapse and dry out when out of the water. Lungs replace the gills in some adult salamanders, but they also get oxygen through their thin, moist skin. However, some salamanders have neither lungs or gills. These members of the lungless (Plethodontidae) family absorb oxygen and release carbon dioxide through the extensive vascular network just under the skin and in the mouth.

Reproduction is internal but without copulation. Spermatozoa, gelatinous structures which are capped with a packet of sperm, are deposited on vegetation

or twigs by the male. The female picks up the sperm cap with her cloaca and her jellylike eggs are fertilized as they pass through. The cloaca is a chamber into which digestive, urinary, and reproductive systems empty, opening to the outside through the anus. Most salamanders lay their eggs in the water, and those that don't select a moist cavity to protect the eggs from drying out.

Salamanders are members of the amphibian Order Caudata in which there are four families that occur in Kansas. The mole salamander family (Ambystomatidae) is represented in Kansas by two species — the tiger salamander and the smallmouth salamander.

Tiger salamanders are very colorful, characterized by light blotches on a dark background.

They normally grow to a length of 6-8 inches, but the largest recorded in Kansas measured more than 11 inches long. Found statewide, they spend most of their lives in caves or burrows avoiding the sun and hot, dry air. Females may lay up to 1,000 eggs, which they deposit in small clumps. The eggs hatch in a few weeks and gilled larvae develop throughout the summer. Transformation to a land-dwelling sub-adult normally takes place between July and September. During metamorphosis, they resorb gills, develop eyelids, and reduce the size of their tails. Aquatic larvae sometimes become sexually mature before metamorphosis and begin breeding when one to two years old, having never left the water. This process is called neoteny, and the larval stage is sometimes referred to as an axolotl. This condition may be caused by the failure of the thyroid gland to produce thyroxin which is a hormone essential to the transformation process in all amphibians. Two subspecies of this salamander occur in Kansas, the Eastern tiger salamander and the barred tiger salamander. The latter is the only salamander found in the western half of the state.

The smallmouth salamander is smaller, with uniform dark color. It occurs in eastern and southeastern portions of Kansas and displays an interesting defensive behavior. When threatened, it waves its tail to draw attention away from its head.

The Eastern newt is the only representative of its family (Salamandridae) in Kansas. Newts are of moderate size, have lungs, well developed limbs and a wide variety of colors and patterns. They have a yellow belly with black spots and an olive green to brown upper body with small black spots. Some

females may exhibit red spots encircled by black. Unlike most salamanders which have slick, smooth skin, pre-adult eft stage newts have drier, rougher skin. The Eastern newt is a threatened species in Kansas.

The family of lungless salamanders (Plethodontidae) is the largest group of salamanders. They have no lungs and vary in size. Some species are cave dwellers (trogloditic), some live in wooded

areas (arboreal) and some are completely aquatic. A characteristic unique to this species is a groove in the skin running from each nostril down to the lip called the nasolabial groove. Four species represent this family in Kansas. They are the dark-sided salamander (subspecies of the longtail salamander), cave salamander, graybelly salamander (subspecies of the many-ribbed salamander), and grotto

salamander. Adult grotto salamanders are blind and live exclusively in caves, but larvae have functional eyes and are found in surface waters. All members of this family occur in the extreme southeastern corner of the state, and all are threatened or endangered.

The mudpuppy and Red River mudpuppy are the only Kansas representatives of the mudpuppy and olm family (Proteidae). They are totally aquatic and are characterized by their large size and the presence of lungs, caudal fin, and gills. The large, bushy gills are reddish or maroon in color. The head, body, and tail are yellow-brown, brown, or gray. The body and tail are covered with blue-black spots varying in number. All occur as neotenic gilled adults. Normal adult length is from 8-13 inches. The largest specimen collected was more than 15 inches long. These salamanders are often mistakenly called waterdogs, probably because the bushy, red gills make them appear a little like miniature Jurassic Park monsters.

Although you may never see one, approximately 350 species of salamanders inhabit North America, South America and the north temperate zones of Europe, Asia and North Africa. They belong to eight families, seven of which are represented in North America. Secretive, typically nocturnal and voiceless, salamanders are not nearly as familiar to us as their moist-skinned relatives, the frogs and toads. Since they have slender bodies and long tails, they are often mistaken for lizards. They, like other wildlife, have suffered from habitat destruction, as well as pesticide poisoning and other pollutants. A decline in these amphibians is an indication of a deteriorating natural environment. Hopefully, with education and increased awareness, these fascinating creatures can be saved for future generations to enjoy. Like the old saying, ask not what your environment can do for you, but what you can do for your environment. Your children's interests are at stake. ♡



Salamanders are an indicator species, very sensitive to environmental changes. Pollution and contamination can adversely affect their numbers and signal a problem.



True Or False?

Test Your Wildlife Smarts

Marc Murrell

public information officer, Great Plains Nature Center, Wichita

photos by Mike Blair

If you think you know all there is to know about Kansas wildlife, take the following quiz. There are a surprising number of myths and untruths about certain species.

If you're not a wildlife brain, take the quiz anyway. You'll learn many interesting facts about Kansas' fascinating wildlife.

1) True or False — The age of a male deer can be determined by counting the number of points on its antlers.

2) True or False — Some snakes lay eggs.

3) True or False — Armadillos and porcupines are commonly seen in Kansas.

4) True or False — Mountain lions are common in Kansas.

5) True or False — Hunting is necessary to keep all animal populations in check.

6) True or False — Some animals have elaborate defense mechanisms to ward off predators.

8) True or False — A beaver's teeth stop growing when they become adults.

9) True or False — Young bald eagles have a white head and tail similar to their parents.

10) True or False — You are likely to die from a poisonous snake bite.

11) True or False — Canada geese mate for life.

12) True or False — Mother birds won't take their babies back after a human has touched them.

13) True or False — More than 75 percent of all rabbits die before they reach five months of age.

14) True or False — Kansas has 742 species of birds, mammals, amphibians, reptiles, and fishes.

15) True or False — You can tell the age of a fish by looking at one of its scales.

16) True or False — Most fish have an air bladder they can inflate or deflate to become virtually weightless in the water.

17) True or False — Black-footed ferrets are common in Kansas.



18) True or False — The state's game bird populations could be increased if the Kansas Department of Wildlife and Parks would stock birds.

19) True or False — Lead poisoning results from a duck wounded by a hunter using lead shot.

20) True or False — Only male pronghorns have horns.

21) True or False — Coyotes are strict carnivores (meat eaters).

22) True or False — Snakes smell with their tongue.

23) True or False — Deer chew their cuds just like a cow.

24) True or False — Animals such as deer, raccoons,

bobcats, foxes and coyotes can be found in any city in Kansas.

25) True or False — Male deer, ducks, turkeys, pheasants and elk are called bucks, drakes, toms, cocks and bulls, respectively.





ANSWERS

1) False — The number of antler points is determined by genetics and nutrition. A buck that grows its first set of antlers as a 1 1/2-year-old may develop a rack that sports as many as 10 points. Generally, young bucks have smaller racks than older bucks. Both male mule deer and whitetails shed their antlers in late winter each year. New antler growth begins in April and continues until the antlers harden and the velvet dries and is rubbed off, usually in August or September.

2) True — Of the 38 species of snakes found in Kansas, 20 of them lay eggs. All five of the poisonous snakes found in Kansas and 13 non-poisonous species, including water snakes, give birth.

3) True — Armadillos are now frequent inhabitants of Kansas and have been seen as far north as I-70. Porcupines are seen on occasion throughout various parts of the state except the southeast.

4) False — The Kansas Department of Wildlife and Parks receives hundreds of reports of mountain lion (often called cougar) sightings all

across the state each year. However, there is no concrete evidence in the form of photographs, video, or road-killed carcasses that would provide undisputable proof of their presence.

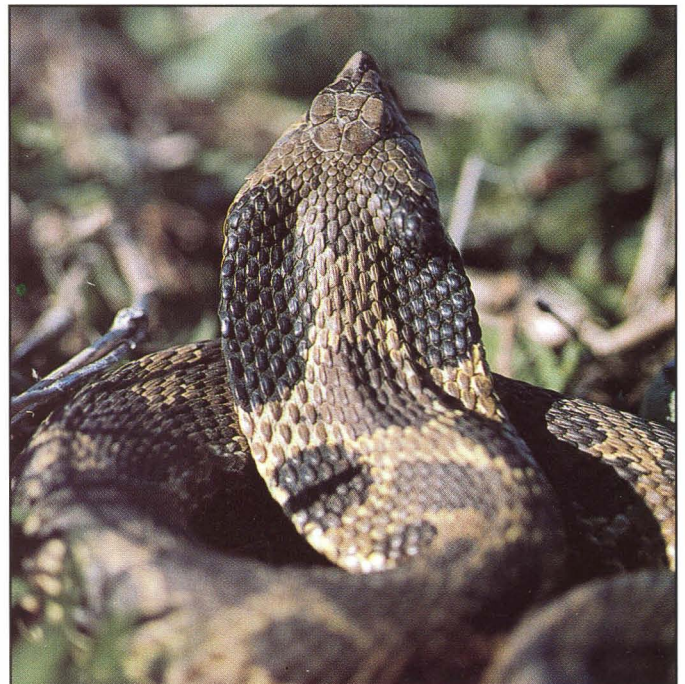
5) False — Animal populations have always been cyclic. Years of good habitat and favorable conditions saw numbers increase. However, disease and starvation due to poor habitat and severe weather occurred in other years. Many predators of larger animals have been eliminated today, and hunting can keep big game populations stable. The same is not true of small game. Roughly 60 percent to 80 percent of species such as quail die each year, regardless of whether they are hunted or not. Hunters are able to harvest the surplus, while at the same time pay for

habitat conservation and wildlife law enforcement.

6) True — One example is the hognose snake. When threatened, a hognose will flare its head and strike repeatedly, usually with a closed mouth, at the intruder in a bluff attempt. If this doesn't work, the hognose will writhe and contort its body, regurgitate recently eaten food and roll over on its back and play dead.

Toads are also good at trying to avoid becoming a main course. When caught by a predator, a toad's first response is to inflate itself with air in hopes that the predator will be dissuaded from trying to swallow it. This defense mechanism works more often than not but the hognose, which happens to eat toads, goes one adaptation better. It has a fang-like tooth on each side of the upper jaw. When the toad inflates itself, the hognose simply clamps down and pops the toad like a balloon allowing it to be swallowed.

7) True — Males are usually brilliantly colored, particularly in songbirds and waterfowl. These brilliant colors serve as tools for courtship and territorial defense. Most females are a drab brown color for





the simple reason of camouflage. It is their duty to see that future broods are incubated, hatched and raised, and the job is made much easier with camouflage.

8) False — A beaver's incisors grow indefinitely. The largest rodent in Kansas, beaver's teeth are covered with an orange-colored protective coating of enamel and are constantly worn with chewing activity.

9) False — The majestic bald eagle doesn't get its white head or tail until it is 4 or 5 years old. Immature bald eagles are dark brown with streaks of white on the underside of the wings and body. As a result, they are often mistaken for golden eagles.

10) False — Poisonous snake bites in the United States result in about 12 deaths each year. With proper hospital treatment, most snakebite victims survive without major complications. You are more likely to die from being struck by lightning or stung by a bee than from a poisonous snakebite.

11) True — Canada geese begin nesting when they are 2 years old. A pair bond is formed that will last indefinitely. However, if something happens to one of the pair, the other

will select a new mate.

12) False — Despite the old wives tale, mother birds will continue to care for their young, even after a human has touched them. Birds have an extremely poor sense of smell. Baby birds that have fallen from the nest should be put back. If the nest can't be located, the young bird should be placed in nearby bushes where the mother will continue to care for it on the ground.



13) True — Rabbits face all kinds of perils from the minute they are born. Lawn mowers, dogs, cats, natural predators, disease, weather and starvation all take their toll. Most rabbits don't live past 2 years of age. To compensate, rabbits are extremely prolific and may raise a litter of three to four young every month from spring until fall.

14) True

15) True — Fish have all the scales they are ever going to have when they are born. As the fish grows, the scales develop growth rings similar to the rings in a tree trunk. As their growth slows during the winter, these rings get close together to form an annulus. Upon examination under a microscope, these annuli can be counted and the distance between them figured to determine how much the fish grew each year of its life to its current length.

16) True — This allows the fish to expend no energy maintaining its position in the water column. The air bladder also amplifies sound and can function similar to lungs in fish such as bowfin and gar.

17) False — Although the black-



footed ferret once roamed the western two-thirds of Kansas, the last reported sighting of this nearly extinct mammal was in Sheridan County in 1957. Their demise was directly related to poisoning used to eradicate prairie dogs, their main food source. Long-tailed weasels are often mistakenly identified as black-footed ferrets.

18) False — Although early wildlife managers tried this as a solution to bolster declining populations, they quickly discovered that wildlife numbers were solely dependent upon the available habitat. Pen-reared birds never learn to avoid predators or survive harsh weather and quickly perish or become easy meals.

19) False — Lead poisoning occurs when waterfowl ingest lead pellets as they dabble for food on the bottom of a shallow impoundment. The lead enters their system through the gizzard and eventually weakens and kills the bird. The poisoning can magnify up the food chain if another animal, such as an eagle, eats the effected bird. Lead shot was banned for waterfowl hunting in Kansas in 1990.

20) False — Unlike deer, both male and many females have head gear.

However, antelope have horns rather than antlers. Antlers are a hard, bone-like substance, while the antelope's horn sheaths are compressed hair covering a permanent horn. The horn sheath is shed annually, usually following the breeding season.

21) False — Coyotes are supreme opportunists, eating whatever is most available and easiest to find. While coyotes rely on mice, rats, rabbits, squirrels and carrion for up to 90 percent of their diet, they also eat berries, grasses, grains, insects and just about anything else they find. In addition, coyotes are fond of fruits such as watermelon and cantaloupe.

22) True — A snake constantly flicks its tongue, picking up airborne scent. The scent is detected by a small organ in the roof of the snake's mouth called the Jacobson's organ.

23) True—Deer are included in the group of ungulates

that have chambered stomachs. Usually feeding at night, deer graze quickly without chewing, then bed during the day and regurgitate their food and chew it.

24) True— Wildlife of many species have adapted to man's encroachment and several have adjusted quite well. It's not uncommon to see those species mentioned in cities such as Wichita, Topeka or Kansas City. Most people don't realize that many species of wildlife are present within the city limits because most species are nocturnal.

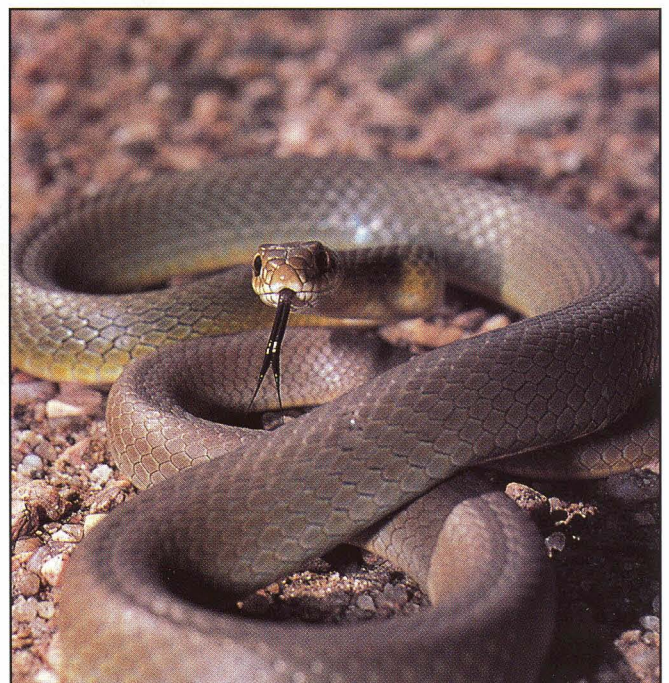
25) True — And female deer are called does. Duck, turkey and pheasant females are hens while female elk are called cows.

HOW DO YOU RATE?

22-25 correct - Excellent! You probably do well in related categories while playing Trivial Pursuit, and you qualify as a "preferred customer" for The Discovery Channel.

18-21 correct - Good! Be sure to read each issue of Kansas Wildlife and Parks magazine from cover to cover, and your score on the next quiz should improve dramatically!

14-17 correct - Not bad! However, if you ever bet on these subjects, don't wager too much! ♡



Breeding Duck Numbers High



Nineteen ninety-five was a banner year for ducks. After years of population declines due to drought and diminishing nesting habitat in southern Canada and the northern U.S., the rains finally came. Wet weather and the thousands of acres of grassland enrolled in the Conservation Reserve Program combined to allow ducks to make a huge comeback.

According to the Migratory Bird Management Office of the U.S. Fish and Wildlife Service, 1996 appears as good or better than last year. The USFWS released "Trends In Duck Breeding Populations," and the publication highlights nesting conditions and waterfowl numbers.


The 1980s drought not only reduced the number of prairie potholes that are so important to nesting ducks, but it also allowed much of the normally wet region to be farmed. With only narrow strips of cover surrounding the potholes that remained, nesting hens were exceptionally susceptible to predation by foxes, raccoons and skunks. CRP returned many large tracts to native grass cover, but it wasn't until the rains came that things

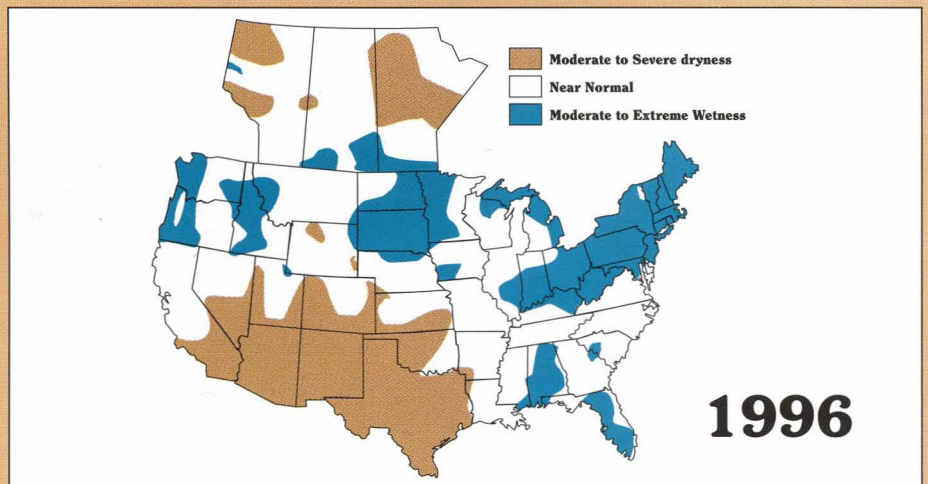
turned around for ducks.

In 1996, estimates indicate a record number of ponds in prairie Canada and northcentral U.S., 61 percent greater than the long-term average. These small ponds, or potholes, scattered through the prairie region represent the core of the nesting habitat for many species of ducks. The region includes South Dakota, North Dakota, Montana, southern Alberta, southern Saskatchewan, southern Manitoba, central Alberta and western Ontario.

The breeding population of all ducks (excluding scoters, eiders, oldsquaws, mergansers and wood ducks) was estimated at 37.5 million, 5 percent above last year and 16 percent above the long-term average (1955-1995). Mallards comprised 7.9 million, which is similar to last year and 10 percent above the long-term average; gadwall — 3 million, similar to last year and 114 percent above long-term average; American wigeon — 2.3 million, decreased 13 percent from last year and 14 percent below long-term

average; green-winged teal — 2.5 million, similar to last year and well above long-term average; blue-winged teal — 6.4 million, increased 25 percent from last year and 53 percent above long-term average; Northern shovelers — 3.4 million — record high; Northern pintails — 2.7 million, similar to last year and 39 percent below long-term average; redhead — .8 million, 42 percent above long-term average; canvasback — .8 million, 56 percent above long-term average; scaup — 4.3 million, unchanged and 20 percent below long-term average.

The waterfowl migration should be spectacular this fall. Waterfowl hunters should be aware that major changes have been proposed for the Kansas duck seasons. A late-season zone is proposed to accommodate those hunters who prefer to hunt rivers and reservoirs late in the fall. And an early-season zone will accommodate hunters who hunt shallow marshes early in the fall, before the first hard freeze. A High Plains Zone will still exist, but there will only be two segments in each zone instead of three. Exact details of the zones and season dates weren't available as this issue went to press, so check with your nearest department office and be sure to pick up a copy of the 1996 Kansas Hunting and Furharvesting Regulations Summary. 



Wet conditions in the nesting areas have provided a banner duck population with optimum nesting conditions for the second straight year.



A

autumn

by Mike Blair





Edited by Mark Shoup

LIFESAVER TREE

Editor:

Here is another item related to Gary Naughton's article on cottonwoods printed in your May/June 1996 issue of *Kansas Wildlife and Parks* (Page 2). Therein he commented about the high sugar content of cottonwoods.

Fishing alone on a hot day in late May, I caught many keeper crappie far from my car. Hungry, seven hours after eating breakfast, I found that I had left my carefully prepared lunch at home. Being diabetic, I worried about making the long trek to my car without food. I had a fair load of fish and gear. On the way, I remembered Mr. Naughton's comment about cottonwoods having a high sugar content.

I broke off a slender three-foot cottonwood shoot, stripped away the leaves, and chewed the bark and fiber. I swallowed the juice and spat out the woody remains. It was bitter, but it gave me enough quick energy to continue the arduous walk to my car where apples awaited.

Do you have any information on the type of sugar in cottonwood trees? Maples would probably work and perhaps willows. I'm glad there were lots of cottonwoods on hand, though. A bit of knowledge can be a big help in a time of need.

Carl F. Crumpton
Topeka

Dear Mr. Crumpton

It's great to hear that one of our articles helped you through a difficult situation. The sugar you got from your unusual chew was most likely glucose, the primary sugar created by photosynthesis. Glucose would also be immediately available to your system. You were lucky, however. This sugar is available in late winter and spring, but in summer you would probably have been out of luck.

Also, it's possible that your particular need for sugar was not as high as it

would have been for some other diabetics. We certainly wouldn't recommend anyone depending on cottonwoods as a quick food source, but we're happy it worked for you.

--Shoup

CAT DEFENSE

Editor:

For the first time in many years, I am not renewing my subscription to *Kansas Wildlife and Parks*. I have been a long-time subscriber, but I will not support a magazine that contains articles like "Killer Katz" (March/April 1996, Page 37). I was very disappointed with the content of the article because I felt it portrayed cats as mindless, ruthless killers.

While I realize that feral cats are becoming a problem due to irresponsible pet owners, it should be pointed out that many of the small mammals mentioned in the article that are killed by cats must surely be rats and mice. Many feral cats become the prey of eagles, hawks, coyotes, and foxes.

I shudder to think of the number of farm cats that are shot during hunting season by hunters thinking they are doing a service to all who love wildlife. Most farmers who have cats consider them a very important part of their rodent control program around grain bins and poultry buildings.

I own a lifetime Kansas hunting license, and I also own a cat. I will continue to hunt but will not continue my subscription to your magazine.

Michael Dreher
Topeka

Dear Mr. Dreher:

I'm sorry that you feel the need to cancel your subscription because of a difference in points of view on cats. Beyond the facts sighted in the article, please let me explain my thoughts on this issue.

I realize that farmers often depend on cats for rodent control, and I see nothing wrong with this as long as the free-roaming cats are neutered and not

too numerous. But when large numbers of cats are kept un-neutered, problems arise and the toll on birds, in particular, is quite high.

It towns, cats may be an even more serious problem. I feed birds at my home, and I constantly have to chase cats from underneath the feeder - not feral cats but well-fed pets allowed to roam free. If I were to let my dog roam free, she would be picked up and put in the pound. Somehow, we seem to have a double standard for cats although they can be just as destructive.

I'm sure your cat does a lot of good on the farm and that you keep it responsibly. I am not a cat hater, and the purpose of the article was not to make people hate cats but to ask them to think responsibly about how they keep them. I have had cats as pets myself, the last being a Persian that was my companion for 14 years, but I never let him roam free.

However, I love wild birds, too, and I believe it is wrong to let animals we keep as pets roam free to prey on wildlife (with responsible rodent control on the farm as an exception), or worse yet, to mate and produce feral animals that are even more destructive.

Again, I'm truly sorry you have not renewed your subscription and would ask that you might reconsider.

--Shoup

DOLLARS AND SENSE

Editor:

Since 1968, at least six friends and I have been hunting pheasant opening week in the Garden City area. We normally stay five days. The year 1995 was our last. Over the years, we have spent an estimated \$23,490 on lodging, \$1,323 on shells, \$24,570 on restaurants, \$12,285 on licenses, and \$5,670 on miscellaneous items for a total of \$67,338.

The first few years, the farmers were cooperative, pleasant, and would tell you where they had seen the most birds. We have made some good friends over the years, but most have moved on. Now,

whole areas around Garden City are posted with KEEP OFF signs. I am talking miles and miles of land. Other hunters must have noticed this because we saw rooms available in motels where we had made reservations six months in advance in previous years.

I hope the farmers who keep responsible hunters off their land know that the dollars we hunters spend in town aid in providing good restaurants, motels, street maintenance, retail stores, hospitals, fire-fighting, and schools. A wise man doesn't run off a good thing.

I will continue to subscribe to your magazine because it is the best of all the states' publications I receive.

Bud Jones
Baton Rouge, Louisiana

JACKRABBIT LAMENT

Editor:

I have taken your magazine as far back as the time when it was free. I see that the library in Fredonia gets it, too. I read it from cover to cover and enjoy other people's opinions on every subject.

Now I have one of my own. I see in the *Kansas Hunting and Furharvesting Regulations Summary* that it is possible to kill 10 jackrabbits a day year-round. I live in Wilson County and haven't seen a jackrabbit in 20 years. Farmers don't see any either. I think they are extinct in our part of the state.

Keep up the good work.

Orville. H. Gueulette
Fredonia

Dear Mr. Gueulette:

As in most cases of species decline, habitat degradation is the primary culprit although the jackrabbit's case is unusual. Its natural habitat is shortgrass prairie, but as tallgrass ranches were overgrazed in the early days, some jacks probably expanded into your part of the state. Along with crop production, this initially helped the jackrabbit. However, as crop fields became larger and more prairie was destroyed, habitat loss became a factor.

I would not, however, be too concerned about the hunting season on jacks, which is the same for cottontails. Cottontails are plentiful, but I have

heard of no one hunting - or even wanting to hunt -- jackrabbits in years. However, if hunting pressure becomes a concern, the season will be re-evaluated.

-Shoup

GLAD TO BE BACK

Editor:

After a hiatus of a few years, I am again receiving *Kansas Wildlife and Parks* magazine. I can't tell you how much I enjoy it. I re-read each issue many times.

I have a request and a suggestion. As a dedicated supporter of the Chickadee Checkoff program, I would like more information about how the program is administered and how contributions are spent.

And then I would like to see your talented photographer, Mike Blair, turn his cameras on the Kansas element I miss most -- the magnificent, ever-changing prairie "skylscapes," a study of Kansas skies in their myriad moods.

Thank you again for such an enjoyable experience.

Patricia C. Nelson
Grizzly Flats, California

Dear Ms. Nelson:

Glad to have you back. Sorry you missed a few issues. The Jan./Feb. 1993 article entitled "Chickadee Checkoff: A Proud Tradition," by Ken Brunson, featured 12 years of the program. While I can't recall a specific photo essay on all the moods of Kansas skies, Mike captures "skylscapes" periodically in many articles, especially the "Gallery" section. The July/August 1990 issue featured lightning in the sky.

Some back issues are available upon special request.

-Shoup

NUMB ON NUMBERS

Editor:

I have a question in regard to the March/April issue of *Kansas Wildlife and Parks* magazine. On about Page 21 in the section on "Fishing Guide to Kansas," you show a picture of two men fishing in a Starcraft boat that shows the KA 171 HZ, but where is the Kansas

Department of Wildlife and Parks permit that has to be behind the HZ? Why would you show a picture of people in violation? I bet they were not fined.

Hugh G. Patchin, Jr.
Stafford

Dear Mr. Patchin:

No, those men were not fined. They were not in violation. The permit decal was first issued in 1984. The photograph in question was taken in 1982. We would never intentionally publish a photograph of someone violating a wildlife or boating law, unless it was to make a specific point.

You implied that the subjects may have received preferential treatment, which, of course, was not the case. However, I will make the point that every Kansan, including employees of the department and those who appear in our publication, must abide by the laws. No exceptions.

-Miller

PHOTO PHOTOGRAPHER

Editor:

Congratulations on the Special Photo Issue (Jan./Feb. 1996). This was an outstanding treat for all your readers. Thanks.

It would seem, however, that one photo was missing - that of its principle photographer, Mike Blair.

Burdett H. Stuart
Omaha, Nebraska



Dear Mr. Stuart:

Ask and you shall receive. Here is a photograph of Mike Blair. Although it's a few years old, he hasn't changed too much, except for some gray hairs.

-Shoup

Support Your Local Conservation Officer

Hunting season has come at last, a season that for many is rich with outdoor experiences and much-needed escape from the stresses of work and city. Unfortunately, hunting season brings with it the occasional poacher. Hunters sometimes encounter these wildlife outlaws or come upon evidence of other wildlife crime, such as pollution and vandalism.

Anyone who finds evidence of wildlife crime while afield this fall should contact their local conservation officer. Details of the crime and any other information, such as license tag numbers, dates, and times, should be noted. Local conservation officers can be contacted through county sheriffs' offices, or by phoning the department's Outdoor Alert Hotline, 1-800-228 4263.

If you're an active outdoorsman or woman, or just concerned about conservation in your area. Get to know your local conservation officers. They protect the resource in your area. The following list of conservation officers and the counties for which they are responsible should also help concerned citizens curb wildlife crime in Kansas.

--Shoup

HAYS - REGION 1 (Northwest)

Jerry Bump, regional supervisor
Wes Wikoff, assistant supervisor

County - Conservation Officer

East 1/2 Ellis - Wes Wikoff, Hays
Osborne, Mitchell - Shane Cathey, Glen Elder
Russell, Lincoln - James Cherry, Ellsworth
Graham, Rooks - Larry Hastings, Hill City
Rawlins, Decatur, west 1/2 Norton - Dick Kelly, Norton
W 1/2 Ellis, Trego, east 1/2 Gove - Mel Madorin, Ellis
Cloud, Ottawa - Brian Marks, Concordia
Cheyenne, Sherman, Wallace - Jim Robinson, Goodland
Ellsworth, Saline - Greg Salisbury, Salina
East 1/2 Norton, Phillips, Smith - Larry Stones, Kirwin
Jewell, Republic - Lynn Thompson, Scandia
Thomas, Sheridan, Logan, west 1/2 Gove - Benny Young, Colby

TOPEKA - REGION 2 (Northeast)

Rob Ladner, regional supervisor
James Dunn, assistant supervisor

County - Conservation Officer

Douglas - James Dunn, Lawrence
Johnson, south 1/2 Wyandotte - Bruce Bertwell, Olathe
Clay, Dickinson - Jim Bussone, Abilene
Wabaunsee, Pottawatomie - Rick Campbell, Wamego
Leavenworth, north 1/2 Wyandotte - Glenn Cannizzaro, Tonganoxie
South 1/2 Riley - Rand Conrad, Riley
Miami - David Ellis, Osawatomie
Geary - Steve Field, Junction City
Jackson, Shawnee - Mark Gauntt, Silver Lake
Brown, Doniphan, Jackson - Dave Hoffman, Hiawatha
North 1/2 Riley, Washington - Bennett Jedlicka, Riley
Atchison, Jefferson - Joe Lienemann, Atchison
Marshall, Nemaha - Mike Little, Frankfort
Jefferson - John Purvis, Meriden
Douglas - Clyde Umscheid, Perry

DODGE CITY - REGION 3 (Southwest)

Jim Kellenberger, regional supervisor
Tracy Galvin, assistant supervisor

County - Conservation Officer

Comanche, Clark - Tracy Galvin, Coldwater
Barton, Rush, Ness - Mike Ehlebracht, Great Bend
Wichita, Scott, Lane - Terry Gropp, Scott City
Ford, Meade - Marvin Jensen, Dodge City
Stafford, Pratt, Kiowa, Barber - Phil Kirkland, St. John
Hamilton, Kearny, Greely, Grant - Bruce Peters, Lakin
Finney, Haskell, Gray - Dennis Sharp, Holcomb
Edwards, Pawnee, Hodgeman - Matt Stucker, Larned
Morton, Stevens, Stanton, Seward - B.J. Thurman, Elkhart

WICHITA - REGION 4 (Southcentral)

Val Jansen, regional supervisor
Scott Hanzlicek, assistant supervisor

County - Conservation Officer

Reno - Scott Hanzlicek, South Hutchinson
Reno - Rod Albright, Pretty Prairie
McPherson, Rice - Jerry Almquist, McPherson
Chase, Morris - Randy Benteman, Cottonwood Falls
Sumner, Harper - Ed Brown, Wellington
Kingman - Jack Dunbar, Kingman
Reno, Sedgwick - Dan Heskett, Haven
Sedgwick - Alan Hulbert, Valley Center
Cowley - Gene McCauley, Winfield
Marion, Morris - Marvin Peterson, Lincolnville
Butler - Mark Rankin, El Dorado
Harvey, Sedgwick, Butler - Verle Warner, Walton

CHANUTE - REGION 5 (Southeast)

Charlie Ward, regional supervisor

County - Conservation Officer

Lyon, Coffey - Dave Adams, Reading
Labette - Larry Dawson, Parsons
Franklin - Rich Duling, Quenemo
Wilson, Woodson - Bob Funke, Fredonia
Montgomery - Dennis Knuth, Independence
Linn, Anderson - Terry Mills, Pleasanton
South 1/2 Crawford, Cherokee - David Nelson, Pittsburg
Chautauqua - Bill Ramshaw, Sedan
Neosho, Allen - Keith Rather, Chanute
Osage - Richard Ryan, Lyndon
Bourbon, north 1/2 Crawford - Doug Whiteaker, Fort Scott
Elk, Greenwood - Everett Wilnerd, Howard

BUSY BIOLOGISTS

The Kansas Chapter of the American Fisheries Society (AFS) is nominated for the Most Active Chapter in the nation. Coming off winning the most active chapter award in the North Central Division of AFS and with an upcoming feature in *Fisheries*, the AFS magazine, this has been quite a year for the state's society of professional fisheries biologists.

In recent years, the Kansas Chapter has seen exponential growth in student involvement. This past year, the group co-sponsored a workshop on endangered species with the Kansas Chapter of The Wildlife Society, worked to pass the federal Farm Bill, and was instrumental in formulating the American Fisheries Society's position paper.

However, it was likely the active involvement of many Wildlife and Parks biologists that won national honors for the Kansas AFS chapter. The past-president of the Chapter is Milford Fish Hatchery manager Tommie Crawford. Current president is Larry Zuckerman, aquatic ecologist in the Environmental Services Section in Pratt. Zuckerman will hand the gavel to President-Elect John Reinke, district fisheries biologist in the Kansas City Office, at the national AFS meeting in Detroit in September. Aquatic ecologist Chris Mammoliti will replace outgoing Secretary-Treasurer Chuck Bever, district fisheries biologist in Manhattan.

Linda Fuselier, Neosho River Basin stream survey leader, and Mammoliti won "Best Paper" awards at the

last Kansas Chapter AFS meeting. Bob Hartmann, retired fish research chief for Wildlife and Parks, just stepped down as the president of the Fisheries Administrators Section. Zuckerman is the secretary-treasurer of the Introduced Fishes Section and is on the national Sedimentation Task Force, the Rivers and Streams Technical Committee, and the North Central Division's Nominating Committee.

—Shoup

NEW WETLAND

An exciting new project being developed along the Republican River above Milford Reservoir will soon benefit wildlife and people who love the outdoors. Currently, more than 600 acres of wetland have been developed as habitat for ducks, geese, muskrats, beaver, and other animals. Already, cormorants, pelicans, herons, and countless other species have visited these wetland areas. The marshlands have been developed by the Kansas Department of Wildlife and Parks and Ducks Unlimited.

—Clay Center Dispatch

STREAM SAMPLING

Twenty seasonal staff for Wildlife and Parks' Environmental Services Section sampled streams throughout last summer. Their appointments began May 20. After two days of training in CPR, first aid, and stream sampling methodology, staff broke into four field crews and began surveys at approximately 180 sites across the state.

Overseeing the day-to-day operations of the four crews was Mark Shaw, Pratt.

One crew was stationed in Pratt and sampled statewide, focusing on sites that had been previously investigated by the department in the 1970s. Ryan Waters was the crew leader and was assisted by Nate Davis, Sara Lane, Chris Hase, and Dana Beauchamp. This was the third sampling season for a statewide crew.

A second field crew, led by Linda Fuselier, conducted sampling within the Neosho River Basin. The Neosho Basin is the most diverse aquatic resource in the state and contains a number of threatened and endangered species. In this second year of Neosho Basin sampling, Linda was assisted by Karen Yates, Lewis Anderson, Jessi Brunson, and Dave Chambers.

A third crew, stationed at Tuttle Creek State Park, concentrated their sampling in the Kansas-Lower Republican River Basin. This activity was a part of the Governor's Water Quality Initiative for northeast Kansas, a multi-agency effort to protect and restore surface water quality. The crew was led by Kristen Mitchell with assistance from Larry Mason, Gibran Suleiman, Geoff Schrag, and Andy Gyska.

Initial funding for these three crews was provided by the Kansas Water Office through the State Water Plan, with supplemental funds from approved federal aid grant expenditures.

The fourth crew was stationed at the Lenexa District Office and sampled entirely within Johnson County. This effort was one component of

the Urban Resource Assessment and Management Project (URAMP), funded by the Environmental Protection Agency. The project is a multi-agency process to evaluate the effects of urban development on riparian and wetland resources. Jeff Blodig was the crew leader and was assisted by Sean Darcy, Rhonda Houser, and Luke Miller.

—Chris Mammoliti
aquatic ecologist, Pratt

EXPORT CONSERVATION

In the wake of the tragic air crash that took his life in April, Commerce Department Secretary Ron Brown will be remembered for a remarkable range of accomplishments. But many Americans may not be aware of his efforts in recent years to implement environmentally responsible policies in several Commerce Department programs.

"We cannot enjoy sustained economic growth without a healthy environment," Brown said two years ago, in creating an interagency environmental technology office to work with private industry. Brown believed such technology could become America's greatest export in the years to come.

Brown also directed Commerce officials in 1994 to begin recalculating the nation's total output of goods and services to take into account natural resources as assets and subtracting the value of resources consumed from the so-called Gross Domestic Product to ascertain the true cost of doing business. "This will provide a significantly

different picture" of the sustainability of the country's economic activity, Brown observed.

To help save dwindling stocks of groundfish, Brown's Commerce Department closed some areas off New England to commercial fishing in 1994. But recognizing the effects of such closures on the region's economy, Brown also developed a financial-assistance package for fishing families. He initiated similar programs to help protect imperiled West Coast fisheries.

"Ron Brown had a unique ability to find solutions where others saw only problems," says Kathleen A. McGinty,

chair of the Council on Environmental Quality. "He had an uncanny ability to bring people together to find common ground. He will be sorely missed."

-*National Wildlife*

FUR TRADE NEEDED

Fur is renewable, biodegradable, and highly practical; the production of garment materials other than wild fur, however, has much greater adverse impacts on wildlife and wildlife habitat. In addition, the harvest of wild fur has an economic value that contributes to public support in Alaska for renewable wildlife manage-

ment. The international fur market has a profound economic effect in most of Alaska's rural communities, and the loss of trapping would contribute to the already deteriorating societal values in rural Alaska. When trapping efforts have been limited in the past, significant damage to human property has occurred, and the health of other species has been negatively impacted.

- *International Association of Fish and Wildlife Agencies*

PESTICIDE REPORT

Pesticide use reached record highs in 1994 and 1995, reversing a downward trend, according to an Environmental Protection Agency (EPA) report made public last spring by the Natural Resources Defense Council (NRDC) and the U.S. Public Interest Research Group (PIRG). The groups [noted] that pesticide use was up even as congress was preparing to consider bills the groups said would loosen pesticide regulations.

The EPA report said herbicide, insecticide, and fungicide use was up more than 100 million pounds from 1993.

NRDC said the EPA report contradicted "industry claims that it is successfully promoting reduced use" of the toxic chemicals. According to an NRDC statement, "Many of these chemicals are acutely or chronically toxic, cause cancer or birth defects, are endocrine disrupters, and can cause severe adverse health and environmental impacts."

According to NRDC and PIRG, the EPA figures include only active ingredi-

ents, not inert ingredients "such as petroleum, benzene, and other toxic compounds, which can comprise 50 percent of the products' volume."

The American Crop Protection Association (ACPA), the pesticide industry's trade association, said the report was misleading. It said overall pesticide use was up because more land was in production while pesticide use per acre continued to decline. ACPA President Jay Vroom said, "Indeed, this pattern of declining pesticide use has become evident as new products requiring lower application rates have come on the market, and as use of intergrated pest management plans has grown."

In recent months, bills have been introduced in Congress that would, according to NRDC and PRIG, repeal the Delany Clause prohibiting cancer-causing chemicals in processed foods and preempt states from taking stronger measures than the feds.

-*River Crossings*

DU ANTES UP FOR WETLANDS

Ducks Unlimited has contributed \$230 million to help conserve 1.4 million acres of waterfowl habitat in support of the North American Waterfowl Management Plan since 1986. Since the beginning of the management plan, DU, government agencies, private organizations, and individuals have poured about \$785 million into the wetland conservation plan. In return, about 3.4 million acres of habitat across the continent have been protected, restored, or enhanced.

- *Miami County Republican*

P-R FACTS

- The Wildlife Restoration, or Pittman-Robertson (P-R), Act has been the most successful wildlife conservation and restoration program in our nation's history.

- In 1937, a visionary group of hunters, conservationists, industries, and wildlife agencies convinced Congress to enact an excise tax on firearms and ammunition and earmark the proceeds for distribution to the states for wildlife restoration.

- The results have been phenomenal. Since its inception, the Wildlife Restoration Act has channeled more than \$3 billion in excise receipts, augmented by \$955 million from the states, into activities to restore wildlife.

- Through this program, approximately 5 million acres of land have been acquired for wildlife habitat.

- Today, this special excise tax includes an 11 percent tax on firearms, ammunition, and archery equipment and a 10 percent tax on handguns.

- Numerous success stories have had a tremendous impact on many species of wildlife, from deer and quail to bald eagles and peregrine falcons.

- The program has enabled America's wildlife to prosper, allowing all outdoor enthusiasts - including birdwatchers, hikers, and photographers - the opportunity to enjoy a variety of wild birds and mammals.

- Hunters and target shooters play a major role in wildlife restoration and deserve to be recognized for their outstanding contribution to the future prosperity of America's wildlife.



- *Farmers and Wildlife*

BOWHUNTING: How to Prepare

The archery deer season opens Oct. 1, but serious bowhunters have been preparing for months already. Summer evenings were spent shooting at the outdoor range, perfecting form, and getting reacquainted with equipment. Sunday afternoons may have been enjoyed at local 3-D shoots. The thrill of competition and the practice of shooting unknown distances at life-size, three-dimensional targets is excellent practice for hunters. However, when September finally arrives, it's time to get down to the real nitty gritty.

Put your field points away and practice with your hunting broadheads. Broadheads won't shoot the same as your field points, and you'll probably have to adjust your sights or even re-tune your bow. Also, practice shooting from an elevated stand if you plan to hunt deer from a tree stand. It's wise to imagine shots you might get while hunting, then recreate them on the practice range.

Don't wait until Sept. 30 to double check your equipment. Your bowstring should be checked for fraying and broken strands, then

waxed. Bow limbs should be inspected for cracks or separation. On a compound bow, cables, wheels, and rests should also be checked.

One of the most important pieces of equipment that is often taken for granted is the broadhead. The difference between a successful season and a bitterly disappointing one can balance on the sharpness of your broadhead. Sharp broadheads are necessary for clean kills, but that point can't be over-emphasized. Broadheads must be *razor* sharp; that means they'll shave hair. Don't assume broadheads carried last year are still sharp. Replace old blades or sharpen them to perfection.

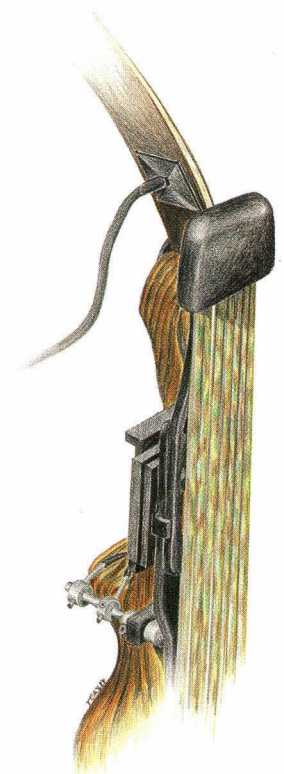
Organize essential gear in a small day pack. Include items you may need in the field, including attractant and cover scents, a safety belt, grunt call, rattling antlers, string or cord, some trail marking tape, a pen light, field dressing knife, matches, folding saw, and binoculars. The string or cord should be long enough to pull your bow up to your tree stand. Never climb with your bow. And never hunt from a tree stand without a safety belt.

Lay out your camouflage clothing in good light and inspect it for fading. If colors appear light, your pattern may be ineffective and it's time to replace some items. Wash your hunting clothes with an unscented detergent or baking soda, then dry it in the outside air. Put the clothing in a plastic bag and add a freshly cut cedar branch for a cover scent.

September is also a good time for some last-minute scouting. The bucks will be shedding their velvet, and a few small rubs and even some early scrapes may show up. Put your stand up now, and you can leave the area undisturbed for several weeks before the season.

And finally, assemble a handy "possibles" box that you can keep in your vehicle throughout the season. Include things you might need while hunting, such as a spare shooting glove or release, extra bowstring, knife, saw, lantern, matches, first-aid kit, flashlight, extra tree steps, county map, trail marking tape, toilet paper, water bottle, pen and paper, and whatever else you can think of.

Preparing now will ensure that you're ready to start the season. Put off these simple procedures, and you'll be tempted to rush through them in October when that first cold snap fires up your hunting fever. You'll wish you'd used your time in September more wisely.



SEASON DATES

	(Opens)(Closes)	Bag / Possession
Small Game		
Bullfrogs	July 1 - Oct. 31	8:24
Rabbits (Cottontail & Jackrabbit)	Open year around	10:30
Squirrel	June 1 - Dec. 31	5:20
Upland Game Birds		
Prairie Chicken (early, east 281 hwy)	Sept. 15 - Oct. 15	2:8
Prairie Chicken (eastern)	Nov. 2 - Jan. 31	2:8
Prairie Chicken (western)	Dec. 1 - Jan. 31	1:4
Pheasant	Nov. 9 - Jan. 31	4:16
Quail (eastern zone)	Nov. 9 - Jan. 31	8:32
(western zone)	Nov. 16 - Jan. 31	8:32
Migratory Birds		
Dove	Sept. 1 - Oct. 30	15:30
Rail (Sora & Virginia)	Sept. 1 - Nov. 9	25:25
Snipe	Sept. 1 - Dec. 16	8:16
Woodcock	Oct. 5 - Dec. 8	5:10
Teal (early)	Sept. 14 - 22	4:8
*Cranes (Sandhill)	Nov. 2 - Dec. 29	2:4
Crows	Nov. 10 - March 10	No limit
Big Game		
Deer (firearms)	Dec. 4 - 15	1:1
Deer (archery)	Oct. 1 - Dec. 3 & Dec. 16 - Dec. 31	1:1
Deer (muzzleloader)	Sept. 21 - Sept. 29 & Dec. 4 - 15	1:1
Antelope (archery)	Sept. 21 - 29	1:1
Antelope (firearms)	Oct. 4 - 7	1:1
Turkey, fall (archery)	Oct. 1 - Dec. 3 & Dec. 16-31	1:1
Turkey, fall (firearms)	Oct. 9 - 20	1:1
Elk (Ft. Riley Unit) (arch. & mzldr)	Sept. 21 - 29	1:1
(firearms & archery)	Oct. 26 - Dec. 31	1:1

* shooting hours sunrise to 2 pm

-Miller

The Rookie

by *Dustin Teasley*



Introducing myself to you, the readers of the magazine, is a difficult task. An artist by nature, writing has always challenged me. This is the issue where I get my feet wet. I've worked for the department now for about two years as the graphic designer and have helped produce the last 11 issues of the magazine.

Growing up on a small farm in Solomon, I was exposed to all sorts of wildlife. The abundance of fish in the farm pond behind our house and the cackling of pheasants from the CRP surrounding our house made for an enjoyable childhood. Hunting, fishing, and art have always been in my blood. My father tooled designs of wildlife onto his leather crafts, and my mother and my sister are both talented artists.

My whole family enjoys hunting and fishing, and it seemed that my early artwork reflected the upcoming seasons. Maybe it was a way for me to release my anticipation. I received my first drawing pencils long before I was able to go on opening day pheasant hunts. I did, however, play the role of the rookie, which in hunters' language translates into game cleaner. It wasn't an enjoyable task, but it gave me a chance to participate. I used to save as many feathers as Mom would let me keep in the house and draw them in my spare time. When I was old enough to go hunting, I went all the time. Hunting pheasants and quail after school with my black lab became a routine.

In summer, I didn't go anywhere without my dog or my fishing poles. My father always took me channel cat fishing, and he always had a good story to tell. To pass the time while waiting for

the fish to bite, I would sometimes break out my sketch pad and doodle, always keeping an eye on my poles.

As I got older, the fishing and hunting became a way of life and the art got pushed down the list of priorities. My friends and I hunted and fished constantly. Some of our outings were in the worst of conditions. I'll never forget one particular fishing trip. Many days of spring rains left my friend Jason and I with a bad case of fishing fever. After cramming poles and tackle boxes in his VW Bug, we were off to find some fish. The pond we wanted to go to was down a minimum-maintenance road, and we knew it would be muddy. About a quarter of a mile down the sloppy muck, we came upon a wide pool of water in our path. After convincing ourselves that it wasn't too deep, we headed onward. We were wrong. The water was so deep that we started to float and take in water, but our momentum, and determination to go fishing, carried us through. After that experience, I knew that if I wanted to go hunting or fishing, I had someone to go with, rain, sleet, or shine.

My high school art teacher encouraged me to get more serious about my art. Although I loved to hunt and fish, I needed to set my sights toward a career of some sort. I decided to go into art. I spent the morning half of my senior year of high school at the Salina Area Vo-Tech School enrolled in the Commercial Art class and returned to my high school in the afternoon to take the rest of my classes. After graduating from high school, I continued my commercial art

class full time. In the evenings, I attended local college classes to get my degree. The graphic designer job at the Pratt office came open in August 1994, and I got it. On Sept. 13, my start day, sitting at the same computer that I am writing this article on, I realized that a dream had come true. I got the best of two worlds, a career involving wildlife and my art.

As a young man growing up hunting and fishing, I thought that I was top notch in my skills and knowledge about wildlife. But after only two years of working for the agency, I've come to realize my experiences have just begun.

After many outings with Mike Blair, I decided to take up fly fishing. I enjoy it a lot and can even tie a few flies. I started out as an awkward duck, slapping myself in the face with flies, or catching the nearby brush with my flyline. Blair just chuckled at my progress and labeled me with my nickname, Rookie.

Mike Miller took me on my first duck hunt last fall. I was all smiles until we reached Cheyenne Bottoms and saw where he wanted wade to. He had to stop three times and wait for me to catch up. I was so tired when we reached our spot that I could hardly load my gun. Mike just smiled, not even winded. It was well worth it though, limiting out on teal my first time duck hunting.

Gene Brehm talked me into getting my compound bow out, after failing to take a deer back home, and trying to hunt deer again. I spent many hours tuning and practicing with my bow. Confident in my shooting skills and armed with knowledge and advice from my friends, I hunted hard last fall. A nice eight-point buck came right to me and gave me a good shot. Buck fever got the best of me, though, and the only thing I killed was a locust tree, which I plugged dead center. Another Rookie move.

I've learned I didn't know as much about the outdoors as I thought. From colors and designs of butterflies to the body proportions of the swift fox, my art work will reflect my growing knowledge of wildlife. I will always be learning new ways to catch fish or hunt game and am content with the nickname Rookie, for now.

CLAP FOR LAKES

In 1975, the Kansas Department of Wildlife and Parks initiated the Community Lakes Assistance Program (CLAP) to help local governments with aquatic resource management of their public lakes. Since that time, community lakes throughout Kansas have taken advantage of the program's grants to enhance fisheries and provide better outdoor recreational opportunities for all Kansans.

The Dingell-Johnson and Wallop-Breaux acts (which require a federal tax on fishing equipment and motor boat fuels that returns money to state conservation agencies) help provide funding for CLAP grants. Eligible projects must improve fishing on public lakes operated by local governments. Fishing must be open to the public, and the local governing entity must sign a memorandum of understanding (MOU) that gives Wildlife and Parks responsibility for managing the fishery and outlines the local government's responsibility to the resource.

In return, KDWP stocks the lake, provides the techni-

cal assistance of a fisheries biologist, helps develop facilities, and establishes special length and creel limits for the lake. Working with the local Wildlife and Parks fisheries biologists, communities are able to provide high-quality fisheries in their areas.

Since July 1, 1995, KDWP has completed 36 CLAP projects, spending a total of \$594,628 in federal, state, and local money. Every area of the state has developed projects under the program, from renovation of Lake Charles in Dodge City to development of a rearing pond in Johnson County. Other recent projects have included fishing piers, fish feeders, a fish cleaning station, habitat development, dam and bank stabilization, access roads, fish stocking, information signs, public restrooms, handicapped access, and a water contamination study.

Communities interested in receiving CLAP grants can initiate applications by working with their Wildlife and Parks district fisheries biologist. Applications are scored and granted according to four criteria: 1) angling demand, 2) angler

accessibility, 3) percentage of cost shared by the local community, and 4) importance of the local fishery.

For more information, contact Doug Nygren, Kansas Department of Wildlife and Parks, 512 SE 25th Ave., Pratt, KS 67124, (316) 672-5911.

—Shoup

KANOPOLIS RECOVERING

Since August 1995, Kanopolis Reservoir has experienced a series of fish problems. First, a few dead fish appeared around the shoreline. Later, there were reports of fish with skin lesions. Throughout the winter and into spring, crappie still appeared with white fuzzy patches on the skin. However, the Kansas Department of Wildlife and Parks (KDWP) and the Kansas Department of Health and Environment (KDHE) identified the cause of some of these problems.

Reports from the U.S. Fish and Wildlife Service's Fish Disease Control Center in Colorado indicated that Kanopolis fish had been infected by parasites on the skin, with secondary bacter-

ial and fungal infections. Apparently, high water and high nutrient and silt loads in the summer of 1995, rapidly fluctuating water temperatures that September and October, and a high density of fish created ideal conditions for the parasites and bacteria.

The main question most anglers had was, "Are the fish safe to eat?" The answer was "Yes." These diseases do not affect humans, and because these diseases are found on the skin, filleting removes diseased portions. In addition, cooking kills infected areas.

The good news was that the fish disease problems at Kanopolis subsided over spring and summer. Few fish were caught with open lesions on the skin. Good numbers of white bass and crappie kept anglers busy through spring and summer, and Kanopolis continued to be a popular fishing spot.

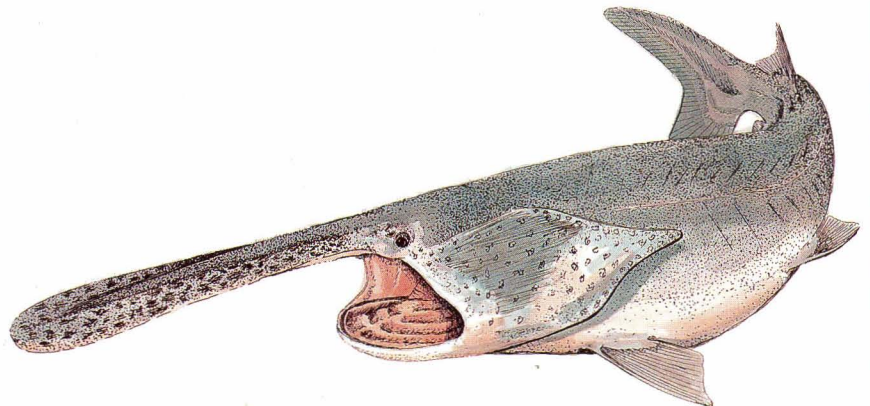
In the meantime, staff from KDWP and KDHE will continue monitoring the health of fish at Kanopolis through increased year-round water-quality testing and fish sampling.

—Tommie Berger, fisheries biologist, Sylvan Grove

LONG-DISTANCE SWIMMERS

Two paddlefish tagged and stocked at Tuttle Creek Reservoir in July 1994 were harvested at Gavin's Point Dam, South Dakota, in October of 1995. These fish were approximately 24 inches long and weighed about four pounds. Their trip down the Blue River to the Kansas River, then up the Missouri River was a minimum of 450 miles. This was quite a feat considering their size and age (about two years).

—Tom Mosher, aquatic research biologist, Emporia



LEAF COLOR CHANGES

Does the weather affect or eliminate what fall color the local trees display? Trees change colors according to complex chemical formulas. Depending on how much iron, magnesium, phosphorus or sodium is in the tree, and the acidity of the chemicals in the leaves, trees might turn amber, gold, red, orange, or just fade from green to brown.

Scarlet oaks, red maples, and sumacs, for instance, have a slightly acidic sap that causes the leaves to turn bright red. The leaves of some varieties of ash, growing in areas where limestone is present, will turn a regal purplish-blue.

What prompts the change? Although many people believe that a mischievous Jack Frost is responsible for the color change, the weather has nothing to do with it at all. As the days grow shorter and the nights longer, a chemical clock inside the trees starts up, releasing a hormone that restricts the flow of sap to each leaf. As autumn progresses, the sap flow slows and chlorophyll, the chemical that gives the leaves their green color in the spring and summer, disappears. The residual sap becomes more concentrated as it dries, creating the colors of fall.

As the leaves die and fall to earth, the forest begins a winter-long slumber. The leaves, which through the warmer months convert carbon dioxide to oxygen, now take up another task - enriching the soil and providing nutrients for future generations of trees. And by the time this year's leaves fall, next spring's leaves are tightly wrapped in buds ready to unravel in the soft colors of spring.

-Texas Agriculture Extension Service

OSPREYS COMING TO KANSAS

If a five-year osprey introduction project co-sponsored by the Kansas Department of Wildlife and Parks (KDWP), Western Resources, the Wisconsin Department of Natural Resources, and the Minnesota Raptor Center is successful, ospreys will one day nest in Kansas.

The two sites selected for an initial osprey introduction in July were El Dorado Reservoir and Wolf Creek Lake.

Each area received four young birds about six weeks old. The Wisconsin Department of Natural Resources took the birds from nests in that state, then transported them to the Minnesota Raptor Center where they were examined for disease and general health. Once they passed the physical, the birds were flown to Kansas City and then taken to the two sites. In specially-designed elevated cages called hacking towers, the birds were cared for until they could fend for themselves.

Western Resources purchased the birds, and the company's Green Team provided material and manpower for construction of the hacking towers. Wolf Creek biological staff helped feed the birds, and Bill Langley, a teacher from El Dorado, coordinated hacking and care of the birds until they fledged at about seven or eight weeks old. Once they began flight, the birds were fed until they migrated.

Commonly called fish hawks, ospreys winter as far south as Argentina and nest in the summer as far north as Alaska. Although they are common summer migrants in Kansas, there are no known records of ospreys nesting in Kansas.

"Probably the main reason we haven't seen ospreys nesting in Kansas is that, in the past, we lacked the essential habitat - big lakes," says Jerry Horak, wildlife researcher for KDWP and coordinator of the project. "But now we have a number of large reservoirs in Kansas, which makes perfect habitat for ospreys."

Horak adds that, unlike eagles, ospreys are not a pioneering species, meaning they usually don't expand their traditional nesting ranges. However, osprey introduction is easier than eagle introduction in that ospreys do not imprint on (become attached to) humans. Like eagles, ospreys will return to nest in the area where they learn to fly. Ospreys typically nest when they are two years old.

Once established, these birds will offer Kansans a glimpse at what many

consider the most fascinating raptor in North America. An amazing hunter, the osprey soars 100 feet or more above the water, scanning the surface with unbelievably keen eyesight. Spotting its prey, it tucks its wings and plummets at breathtaking speed. At the last moment, it breaks the fall by casting its wings outward. Head tossed backward, it drives its talons through the water. For a moment, it will look awkward on the water, wings flapping the surface as it tries to lift off again. But soon it is airborne with a fish writhing in its talons, which had snapped shut in about 1/50 of a second. Then it will shudder a few times, shedding water from its feathers, never dropping its prey. Interestingly, the osprey turns its prey



head-forward for aerodynamic flight.

Osprey talons are uniquely adapted for fishing. They're equipped with studs to hold the slippery prey tight. Short spines - like sandpaper - line the bottom of each toe. Even more amazing is the fact that the osprey can realign its toes in the last split second of its dive, rotating one toe to the rear so that two extend forward and two back, much like the feet of an owl.

At this writing, it was not yet known how successful the initial introduction was. We'll keep you posted in future issues of *Kansas Wildlife and Parks*.

-Shoup

WATCH FOR WIHA

In our last issue's "Notes" page, we updated you on the Walk-In Hunting Area (WIHA) program in which landowners are paid by the department to open portions of their property to hunters during some or all of the season. The program was so popular it is being expanded this year with the goal of leasing 100,000 acres for public access.

Much of the land enrolled in Conservation Reserve Program (CRP) acreage although land with significant hunting potential, such as weedy wheat or milo stubble and riparian areas, may also be considered. Almost anyone who owns or leases at least 80 contiguous acres of land can qualify. Landowners and managers are invited to contact the nearest Kansas Wildlife and Parks office for more information.

Hunters interested in this property may call or write the Pratt Operations office for a WIHA Atlas.

--Shoup

FISH STOCKING

In July, the state's fish hatcheries concluded one of their most successful predaceous fingerling seasons. Predaceous fish are predatory species, and those stocked in the spring of 1996 included northern pike, smallmouth bass, walleye, sauger, saugeye, striped bass, and wipers (white bass/striped bass hybrid). Hatcheries located at Farlington, Milford, and Pratt teamed to stock more than 1.69 million fingerlings (1- to 1 1/2-inch fish) into Kansas public fishing waters, exceeding the 1996 stocking request of 1.3 million.

The majority of these fish should easily reach a length of 8 inches or longer by the end of the growing season. And to further brighten the picture, the hatcheries also produced an additional 285,000 fingerlings that were re-stocked into hatchery ponds and raceways. These will be grown to a larger size for stocking this fall. Some of the striped bass will be used to maintain the department's captive broodfish program.

--Shoup

REG ADS ON TARGET

As most of our readers know, the department publishes a hunting regulation brochure each fall and a fishing regulation brochure each spring. Printing and distributing nearly 600,000 brochures was costly in the past. However, in recent years, the sale of advertising has offset the cost of printing and allowed the department to produce a much more comprehensive and economical pamphlet.

Liberty Press of Orem, Utah, was the low bidder on the contract to sell advertising and print the department's hunting and fishing regulation brochures for 1996-1997. Although it's too late to place an ad in the *1996-97 Kansas Hunting and Furharvesting Regulations Summary*, representatives from Liberty will still be contacting past and prospective advertisers for the upcoming *Kansas Fishing Regulations Summary*.

Liberty sets the ad rates, sells and

produces the advertisements, and prints the pamphlets. A portion of the money from the sale of advertising will offset the cost of printing for the department.

The hunting regulations will be available in early September wherever hunting licenses are sold. Nearly 300,000 of these pamphlets will be distributed to hunters throughout Kansas, as well as many other states. The pamphlets will be available to hunters through next spring and provide the ideal avenue for advertising outdoor recreation-related products or services, specifically targeting the desired audience with a message they will, literally, carry for months. The same is true for the fishing regulations book.

For more information on how you can advertise in the Kansas fishing or hunting regulation pamphlets, contact Daniel L. Bolz, Liberty Press Publications, 500 W. 1200 S., Orem UT 84058, (800) 296-6402.

--Mathews

Who Reads Us

Last November, 1,000 randomly-chosen *Kansas Wildlife and Parks* magazine readers were surveyed. Participants were sent a cover letter, an eight-question survey, and a postage-paid return envelope. Those who completed and returned the survey received a free 1996 poster calendar.

Response was better than anticipated: nearly 700 readers completed and returned surveys. Some results of the survey include the following:

- 90 percent of readers are male;
- 60 percent are males older than 50;
- 50 percent live in a city with a population of more than 5,000;
- 75 percent have been subscribers for more than three years;
- 75 percent learned about the magazine from a relative or friend or through a promotional flyer received in the mail;
- the five most popular outdoor activities among respondents are, in order of preference, hunting, fishing, birdwatching, camping, and boating; and
- the most popular magazine contents, in order of preference, are wildlife profiles, photographs, hunting stories, fishing stories, and law enforcement activities.

Many suggestions were offered, and the magazine staff will work to include these in future issues.

--Miller

KING of BUTTERFLIES



September is a beautiful month. Why? Because school has started, right? Well, as I remember, those first few days of school – walking to and from the playground in the warm September sun – always filled me with the excitement of change. School, of course, is only one change brought on by September. No matter what the weather, you can always feel the seasons about to change this time of year.

One of the most fascinating things about September is the migration of monarch butterflies. If you happen to be in a monarch migration path, it's like being in an animated movie. Orange and black wings surround you, bobbing silently in the air. But watch out! Butterflies can be dangerous. I remember once in seventh grade football practice, the monarchs were so thick that a kid sucked one through his mouthpiece and swallowed it!

Seriously, nothing spells "September" like MONARCH. Doves are in flight, the weeds, trees, and grasses are changing, and a rich new aroma fills the air. But add monarchs, and that's all you'll notice. They fill the air. Sometimes, they cover entire trees.

Monarchs are big and beautiful, and their migration flocks are huge. But the migration itself is one of the most amazing events in nature. None of the individual monarchs you see this September were alive during last spring's migration north. So how do they

know where they're going? Apparently, it's all in the genes. Somehow, from egg to caterpillar to chrysalis to adult, the monarch is "born" with the knowledge of where to go.

About 5 million monarchs live west of the Rocky Mountains. All monarchs east of the Rockies (about 100 million) winter in the Oyamel fir forest mountains of central Mexico. Unfortunately, these forests are being destroyed by logging, both legal and illegal, which could endanger the entire eastern monarch population.

In spring, eastern monarchs mate, and the males die soon after. Females lay eggs on milkweeds on their way back north in the





spring. Most of these females will only get about as far as the southern U.S. before they die. After the eggs hatch, caterpillars spend 10-12 days munching milkweed before spinning a chrysalis. Then the adults emerge and continue the migration north about a month after the eggs hatched. The individuals in this next generation mate, lay eggs, and travel as far north as they can before dying.

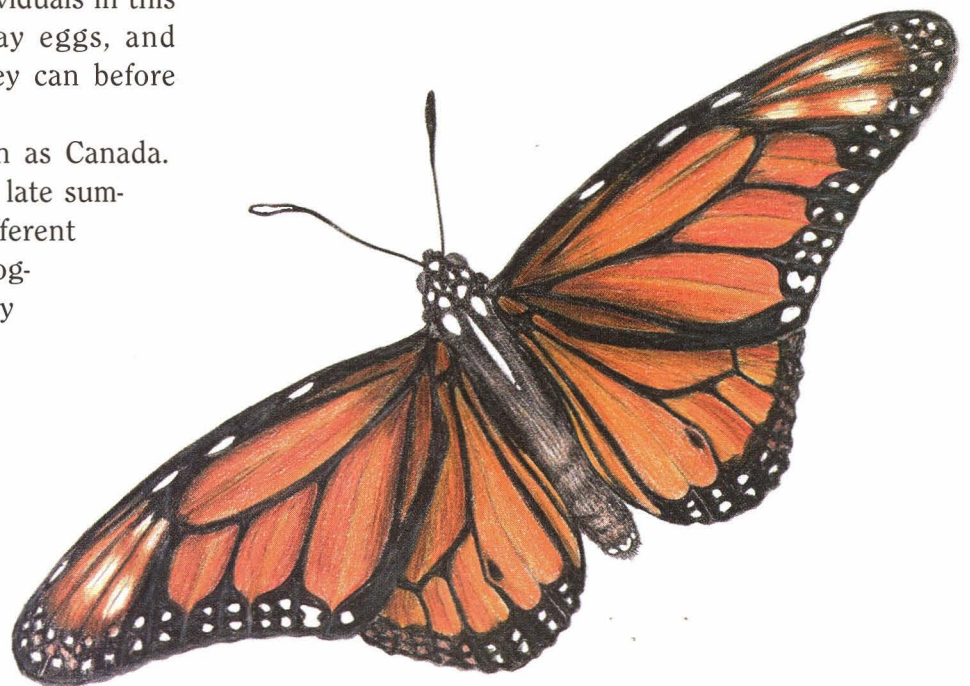
And so on, as far north as Canada. But the monarchs born in late summer and early fall are different from the previous leap-frogging generations. They make the trip all the way back to Mexico and do not mature until the following spring.

If you're lucky, you may find a monarch caterpillar in your backyard. If you do, take advantage of this opportunity to witness

the magic of metamorphosis. Place the caterpillar and a good sprig of the plant you find it on in a large covered container with plenty of air holes. An aquarium with a screen over the top is ideal. Don't use a fruit jar. It's not big enough to accommodate the emerging butterfly's wings.

In a few days - maybe overnight - the caterpillar will spin a beautiful blue-green chrysalis ringed with gold beads. Then in 5-7 days, the monarch butterfly will emerge from a blackened cocoon. If you're lucky again and happen to be around when it happens, you'll see the whole drama unfold in a matter of seconds.

Once the butterfly has emerged, leave it alone for a few hours until its wings harden. Then take it outside and let it go. It will soon find its soul mates and become a part this wonderful September event. And you will have been a part of it.





Dogs Can't Spit (And Other Disgusting Facts)

At a recent family gathering, my grandmother was concerned that something was wrong with her dog, a Yorkshire Terrier. He was eating sandburs as he pulled them from the hair on his stubby little legs. I reassured her, "Other than Rusty is good for nothing (he can't point a quail or retrieve a pheasant), there's nothing wrong with him. It's just that he can't spit the stickers out when he gets them in his mouth. Dogs can't spit," I added authoritatively.

Grandma was unimpressed. "How do you know?" she replied dryly.

"Well, why else would he swallow something that has to hurt twice: once going down, and once . . . well, you know," I said trying to disguise my lack of scientific reasoning with humor.

Grandma gave her typical "tsk" to show she didn't think I was funny. "I just wish he wouldn't eat those things," she ended the discussion.

The episode got me thinking about my theory. I wasn't sure how I decided dogs couldn't spit. Maybe it was watching my Brittany try unsuccessfully to spit out dove feathers, eventually washing them down with some muddy pond water. Or it could have been watching our old Lab fiddle with a sandbur for several minutes before finally gulping hard and swallowing it. It's obvious. Dogs can't spit.

Ever tell your dog to spit something out? You might as well kiss whatever it was goodbye. Not only is the dog physically unable to obey, but when you told him to spit it out, he decided that you wanted whatever it was, and he became very determined to make sure you didn't take it away.

If dogs could spit, they wouldn't have to drool. They could simply wait until they had a good supply of spit built up, and *pittoohy*, they could expel what they usually smear all over your pant leg. They'd do it, too. Dogs, especially hunting dogs, love disgusting things. The more disgusting the act, the harder it is to keep your dog from doing it. Rolling in dead, really nasty smelling stuff is a good example. You know that with a dog's super-sensitive nose, that stuff has to smell even worse to them, but I think they derive great pleasure from repulsing humans.

I can just hear two Labs talking through the fence: "Hey Tex, I nearly made my female human puke today. I found a mess



Dana Eastes illustration

the stupid cat made and, well, you know once I got it in my mouth, I couldn't spit it out. Well, anyway, she kept yelling at me to 'spit it out, spit it out,' her voice getting higher and higher. So, I swallowed it, then licked my lips like it was delicious. It tasted terrible, but the look on her face was worth it. She turned white as a setter, gagged, covered her mouth and ran from the room."

"That's great, Buddy, but get this. My humans had company yesterday and you know how my male likes to show me off. Well he called me in, bragging about what a great retriever I was. And the female guest oohed and aahed and said how she loved big dogs. So, you know, I cozied right up to her. But what the humans didn't know was that I'd rolled in a dead squirrel that morning. Smashed right in the middle of the street, that squirrel was aged some and had a wonderful bouquet. She petted me then started to give me a hug before the aroma hit her. She looked disbelieving at her hands, then slowly moved one closer to her nose. When she realized that her hands were covered with rotting squirrel guts, she screamed like a Poodle with its tail caught in the door. I've never wagged my tail so hard."

If you live with a big dog, you know exactly what I'm talking about. Look at your dog right now. He may look like he's sleeping, but he's really trying to dream up new ways to make you shudder with disgust. It's his life's joy, aside from hunting at your side, of course. And I think that, more than anything else, proves that dogs can't spit. Think how much more disgusting they could be if they could spit. If they could spit, they would! 🐾



[Redacted area]

