KANSAS Wildlife & Parks

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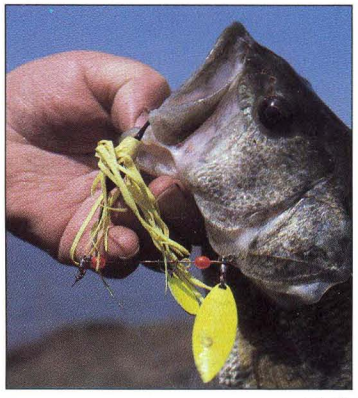

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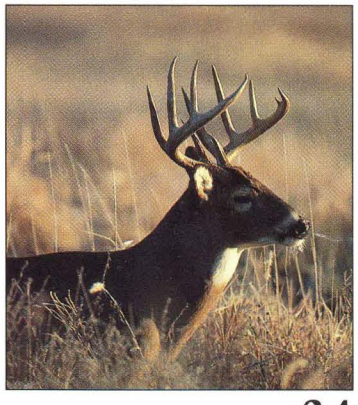

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About the Covers

Front: A white-tailed buck responds to rattled antlers during the peak of the rut. Photographer Mike Blair filmed the cover at 2 p.m. with a 400mm lens, f/9.5 at 1/125.

Back cover: Fall offers some of the year's best fishing.
Mike Blair captured this scenic with a 24mm lens and star filter, f/22 at 1/500.

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 BUCK STOPS HERE

Turn The Page To Fall

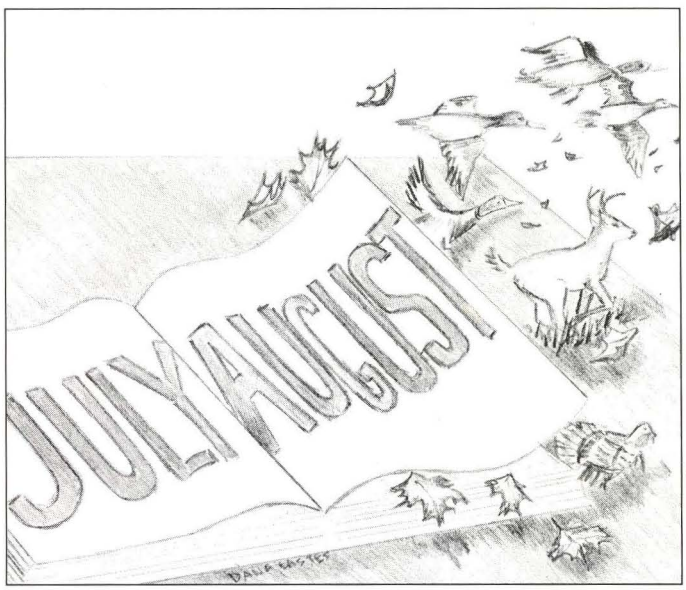
September! It's finally here. I find myself looking forward to September and fall more each year. September is when Mother Nature turns the page to fall, and after July and August in Kansas, turning the page to anything is good. Sept. 1 is the beginning of fall for me, although it doesn't officially start until Sept. 23. Dove season opens Sept. 1, and fall is traditionally when hunting seasons open, and that's good enough for me.

Fall is a transition period. Perhaps that's why these months are so exciting. Nothing stays the same for long in the fall. The weather cools progressively, the foliage changes color daily, buck deer carry newly grown antlers, young cock pheasants sport gaudy colors and there are different species of migrating birds showing up daily. Things change and that makes life interesting.

I yearn for fall through the latter days of summer. Summer was fun at first, but I was bored with its consistency. As September approached, I began to get anxious, like a 12-year-old on Dec. 23. Memories of past falls kept appearing in daydreams. I remember dove hunts with good friends, the smell of burned gunpowder, deer camp, fall smallmouths, and the sound of passing sandhill cranes. And while each fall is similar, no two are exactly the same.

How have the pheasants and quail fared through the summer? What kind of waterfowl flights will we enjoy? When will the Swainson's hawks gather for the trip south? What big buck has scraped the velvet from its antlers and lurks in my hunting grounds? If I am lucky enough to spend time outdoors this fall, these questions will be answered.

I thoroughly enjoy the camaraderie of hunting with good friends, but fall is also a time for solitude. I cherish time spent alone outdoors. It is on these solo trips that I most experience the outdoors. I reunite myself with nature after a long summer spent working in an air-conditioned office, playing softball, mowing the yard or fishing on a busy reservoir. Wild solitude is revitalizing. It reminds me of what's important, and how much I miss it sitting behind a desk or driving down a busy highway. Those first mornings spent in a deer stand with bow in hand are as much needed as a good night's sleep after a long day. The call of the magpie, the chatter of a scolding squirrel, a glimpse of a sharp-shinned hawk, a coyote's howl, the crow of a rooster pheasant—all bring me back to earth.

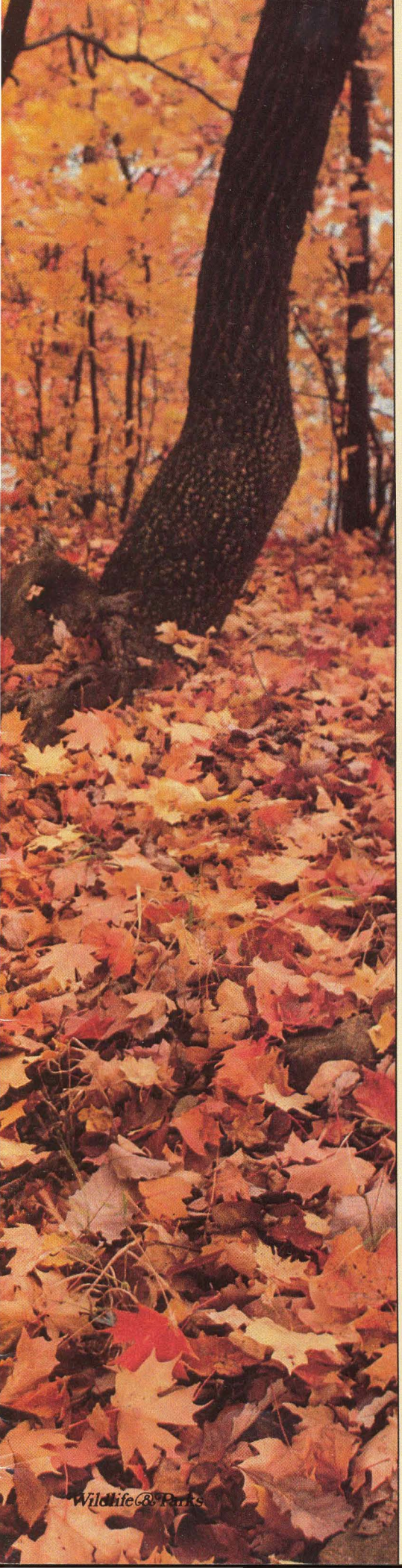


Dana Eastes illustration

Fall also pumps adrenalin into my stale blood: the mild rush I get hearing and watching a flock of Canada geese fly over, the startled rush of flushing a pheasant underfoot on the predawn walk to the deer stand, or the tremendous surge of adrenalin when that first deer walks past my stand. I am alive again.

Fall is a sensory experience. My body wakes up. I hear the simple sound of the wind rattling drying cottonwood leaves. I savor the musky smell of a freshly worked deer scrape. I tremble at the sight of pintails with wings set. And I breath deep with the cool air and feel satisfied. It seemed a long time coming, and I for one am ready for fall. It's time to be outdoors and experience Kansas' greatest resources.

Mike Miller
editor



Images of October

October is a memorable place, where rains wash the air sparkling clean, and sunlight shines with golden brightness. It's a place where grasses dance in the wind, and murmur their secrets to passers by . . .

text and photos by Mike Blair
staff photographer

Beyond Man's doors lie the gifts of October.

He can have his times, his busy schedules and workaday routines, and call it living; but out in October where summer's engine is finally stalling and every breathing thing knows it, there is a plentitude of life that makes the human sphere seem small.

There, where the certainty of the End is expressed in every falling leaf, trees embrace the autumn sky with color—not crying at their fate, but singing. Rustling cottonwoods stir the air, filling it with quiet music. To learn this song is to know placidity, something long lost in the pushbutton world.

In October, flowing streams sweep away the stresses of summer and mirror the grandeur of changing seasons. Like living film, autumn waters capture the colors and print them again, offering a double portion of beauty.

To all who walk there, gold and silver are free for the taking. The colors of autumn are wondrous gifts!

Every thicket is alive with activity. Songbirds bustle from limb to limb,

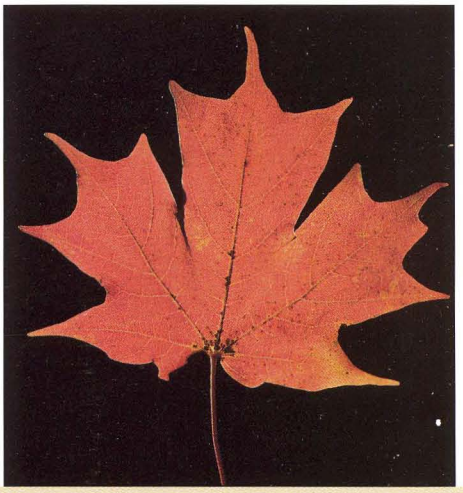
seemingly without purpose, yet moving southward. Bees and insects urgently work, waltzing in the arms of their flowers. Trees are scarred by restless bucks, and squirrels scamper to bury food. All must prepare for what lies ahead.

In spite of destiny, there is no remorse.

The wind is a friend in the Land of October. It plays through trees and ripples waters, cooling the earth with a welcome airing. It strums the leaves and drys the dew, and hurries the monarchs on their way. And it hurries the days until glory fades.

There is joy to be found in October's embrace—odors of berries, wet sand on bare feet, calling of geese, an exuberance of life. The invitation is silent, but yet it is there. Its callings are heard by the heart.

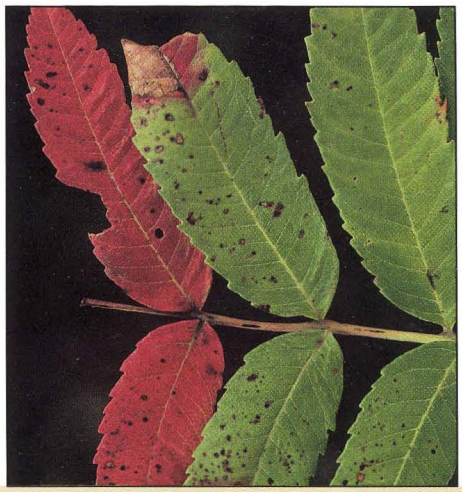
Beyond Man's doors, his spaces, his ways, October awaits. Never beyond his dreams, its treasures belong to those who seek them.



Man has long wondered why leaves change color in autumn. According to Indian legend, celestial hunters killed the Great Bear at this season, and its blood dripped on the forest to turn many leaves red. Yellow leaves were dyed with fat spattered from the kettle while hunters cooked the meat.

But the striking yellow and orange pigments are actually present all year, hidden by green chlorophyll present in every leaf. As summer wanes and photosynthesis ebbs, chlorophyll gradually dissolves away. The handsome secondary colors are then revealed.

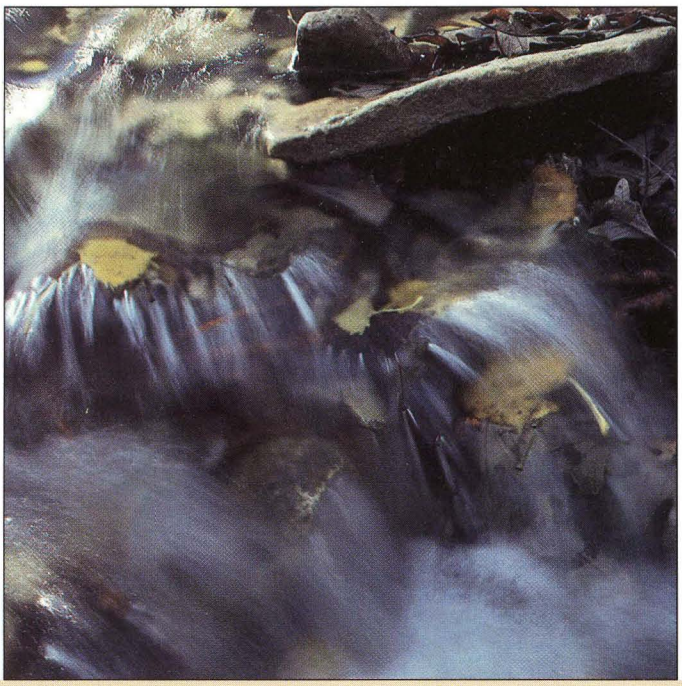
Vivid reds are formed in some species when sunny days are followed by cool nights. As days grow shorter, leaves form pithy cells at twig at-



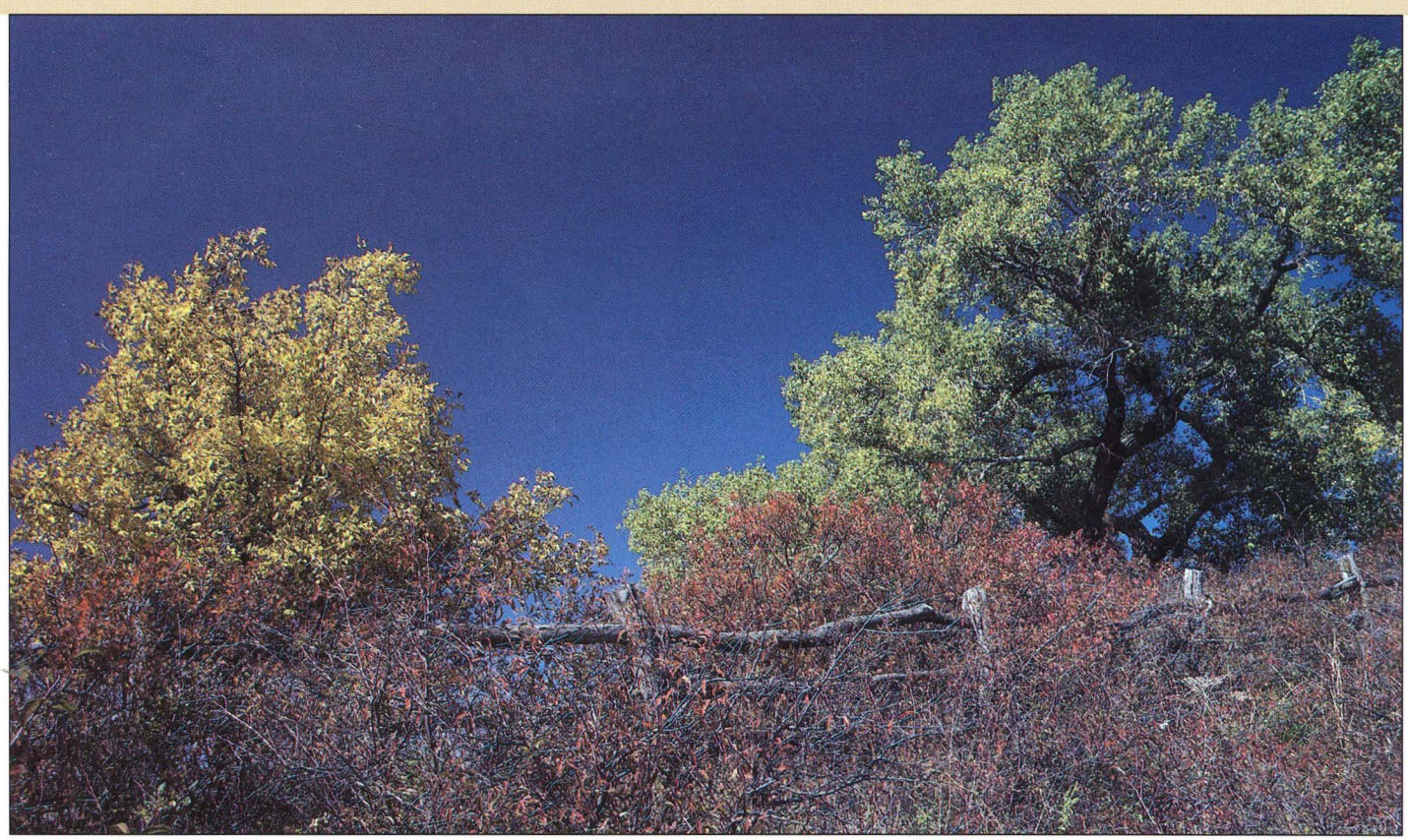
tachments to help them drop. This plugs the leaf stalk. Sugars produced in the leaf on warm days cannot escape and build to high concentrations. A chemical process then converts the sugar to a bright red pigment.

Chemical processes, along with natural pigments in the leaves, combine to give each plant its fall characteristics. Species vary: cottonwood and ash are typically bright yellow, while roughleaf dogwood turns purple. Catalpa and mulberry often remain green. Poison ivy turns orange, and smooth sumac becomes fiery red. Native grasses range from purple to gold.

Across the landscape, each plant contributes. By October's end, the earth is glorious.

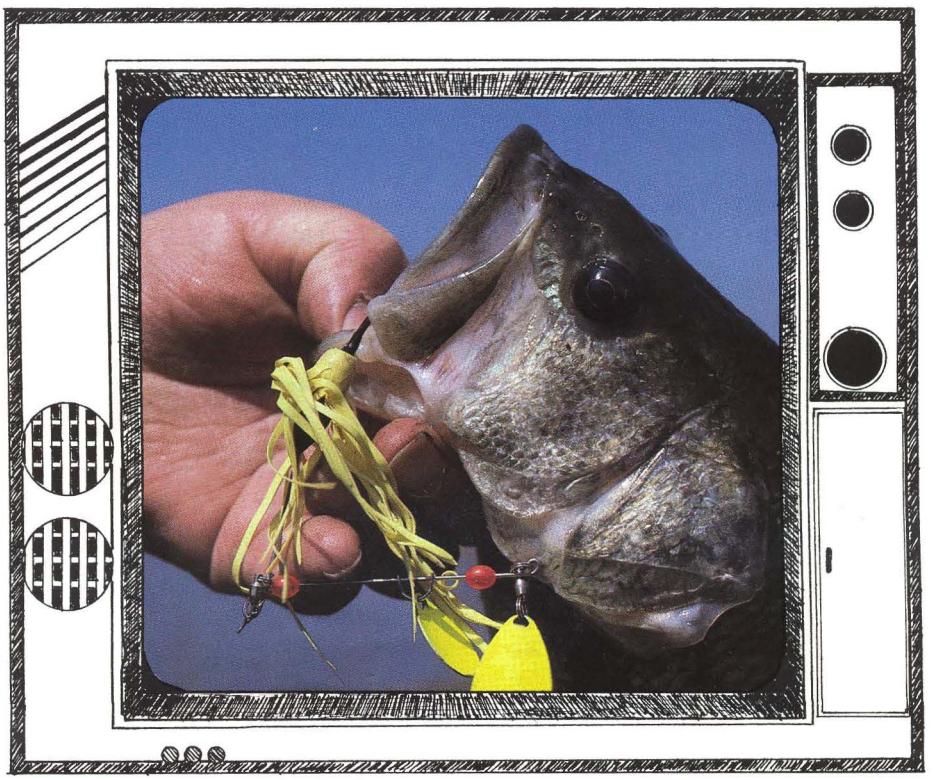


You can stand for a long time at the edge of October, gazing into its pure air refuge. It's a scene to drink in deeply, for the footsteps which brought you there are many, and they have passed through the dry and thirsty plains of summer.



Cattails stand disheveled, uncaring that their hair is mussed. Their delight is to cast cottony seeds to the winds, staking their claim to a future summer . . .

FALL FISHING



Don't Touch That Dial!

In September, many fishermen switch channels to hunting. But some of the year's best fishing waits for those who stay tuned to fishing in September and October.

by Tommie Berger
district fisheries biologist
Dodge City

photos by Mike Blair

The first day of fall officially falls on Sept. 23, but to me it seems to start on Sept. 1. That's when dove season opens and the fall hunting seasons kick off. But don't forget, mid-September through mid-November is the fall fishing season too.

Fall fishing, you've got to be kidding! Doesn't everybody trade in their fishing rod for gun or bow when September arrives? After all, fishing has been slow through the dog days of July and August, and everyone's interest in fishing has waned. Family vacations end, kids head back to school and more attention is focused on duck and deer seasons.

Actually, fall fishing might just be the best fishing season of the year, but it's surely the most overlooked. It is quite understandable that in the spring, after a dull and boring winter with hunting seasons long past, everyone is geared up to go fishing. Through the spawning seasons in April and May, fishing is generally good and exciting. When walleye move to the flats in mid-May and early June, fishing interest peaks. But it's often downhill from there.

Can you be convinced that fall is an excellent time to fish? Well, consider that it may be your best opportunity to boat the biggest fish of the season. And there are other valid reasons to spend some time fishing this fall.

As air temperatures cool in the fall, water temperatures follow. Summer water temperatures in the 80s are a bit above the comfort level of most Kansas fish. As the water cools, oxygen levels rise. Most fish prefer a water temperature of about 65 degrees. That's when they're most active and when food needs are highest. And, speaking of food needs, fall is usually when the maximum amount of food is available. All prey species are at their highest densities and game fish seem to sense the need to stock up on food and get ready for winter.

Fish are more active in fall, eating more and enjoying comfortable temperatures and oxygen levels in shallow water. These factors all make them easier to catch. Add facts such as the water is often clear, fish are concentrated by lower lake levels, there's less wind, and you begin to get the picture. And best of all, there are no crowds or competition for fishing spots, the fall colors are beautiful, wildlife is moving and visible . . . who could ask for more reasons to be outdoors?

Location and habits of fall fish can be learned by spending a lot of time on the water. As a fisheries biologist, I have several big advantages: I get to use things like shocker boats, gill nets and trap nets to sample fish for management purposes, and I spend lots of time on the water. The primary fish sampling period is fall—October and early November—because the fish are active and moving throughout the lake. It's called test netting, and it's basically a two or three day sample of the fish population in each lake or reservior. Most sampling nets are set in water 15 feet deep or less, and in the same locations from year to year. This allows me to see changes in numbers, species and sizes of fish.

Research projects also provide information about fish habits. I have been involved in a radio tracking study on walleye at Clark State Fishing Lake in Clark County. I was able to track fish movements in spring, summer and fall. And I also conducted a vertical gill net study at Clark for a two years to evaluate perferred depths of fish during the months of April through October. With all of this information, I have a reasonably good idea where certain species congregate at certain times of the year and what they do to prepare for the winter.

Fall angling for predators such as largemouth bass, smallmouth bass, walleye and white bass can be excellent. In lakes that contain gizzard shad, these predators will often school up and chase shad, thrashing the heck out of them. Channel catfish actively feed on shad, bluegills, frogs, crayfish or anything stinky. Crappie become more active and move to shallower water, usually around brushpiles.

Largemouth bass angling can be especially rewarding. This could be the time to catch that "big un" weighing 7 pounds or more. Bass are structure oriented in the fall, especially shallow water structure. Aquatic vegetation, flooded timber and rocks are hot spots. Riprap areas of dams, causeways and boat ramps should never be overlooked this time of year. And don't forget to fish rocky points. Later in the fall, look for bass to move back up the creeks and rivers above reservoirs.

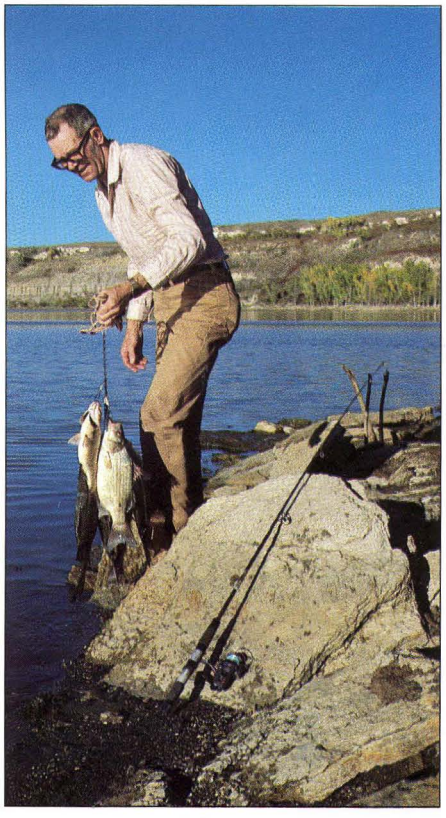
The main bass food in the fall is gizzard shad, or bluegill in ponds and lakes without gizzard shad. White lures should be on top of your tackle list—white spinnerbaits, white or chrome crankbaits, or even white jigs. Sunfish color patterns are a good backup. Don't put your favorite topwater lure away yet either. Buzzbaits, chuggers and even Jitterbugs are still effective in early fall.

White bass offer perhaps the most exciting fall fishing. Whites are well known for chasing schools of shad to the lake's surface in a feeding frenzy. This activity seems to intensify in autumn. Nearly any lure cast into the melee will be attacked by white bass as long as the color resembles a shad. Live minnows or live shad will also work. Roadrunners (a horsehead jig with a small spinner) are dynamite for fall white bass.

Fishing can be fast and furious but may last only a few minutes before the predator-prey drama heads for the depths. Keep a careful eye, because they may surface again soon. A popular way to pinpoint feeding whites is to watch for a flock of gulls diving to the water. These birds are making an easy meal of shad injured by the feeding spree. Approach feeding fish quietly and begin casting as soon as you're in range. Don't overlook the underside of such action. Injured shad also flutter slowly to the bottom where you'll find drum, channel catfish and even largemouth bass feeding actively under the whites.

During the fall, walleye activity and fishing success also tend to pick up. Walleye spend more time on the prowl and move shallower, especially on cloudy days. If your fishing lake has aquatic vegetation, the walleye will likely be cruising the deep edges of the weedbeds. Anglers find fall walleye on the upper edges of drop-offs in 12-20 feet of water. Jigs, slab spoons, Little Georges and shad-type crankbaits work well. Again, don't overlook riprap areas, walleye will sometimes stack up along riprap causeways this time of year.

Crappie are another structure-oriented fish that move toward the shallows in the fall. But don't expect them to be in the 3 feet of water they were when they spawned last May. They seem to prefer weed edges, brushpiles and rocks in 6-12



Gene Brehm photo

White bass offer fall's most exciting fishing as they can often be caught on the surface as they feed on schools of shad.

feet of water, at least during the day. At night, they seem to move closer to shore, cruising the shoreline in large schools. Fall trap nets often fill with crappie in overnight sets in 4 feet of water. Late in October and November, crappie will likely move to deeper brushpiles or to junctions of underwater creek channels.

Almost any small artificial lure will induce a strike from fall crappie once they are located. Roadrunners, Beetle Spins and jigs are fall favorites. Of course, live minnows always produce. I've found that slightly larger jigs are best in fall. Instead of one-sixteenth-once jigs, I generally perfer one-eighth-ounce jigs. Crappie seem to want a larger bite in the fall.

Lots of anglers tend to give up on catfish when fall arrives. That's a mistake, too. Catfish also anticipate the long winter and fill up on groceries in the fall. Trotlines and banklines are still effective, especially when tipped with live bait. But, pole and line fishing is also good. Catfish tend to move up shallow and feed both day and night. Many gill net catches are made in water 8-10 feet deep. And catfish also can be found around rocks and riprap areas. Flatheads and channel cats can both be caught using artificial lures along riprap areas in the fall. Slow moving crankbaits fished parallel to the rocks can often hook you up to more than you can handle. A 20-pound flathead is often a bit difficult to land on six- or eight-pound test line.

When I go fishing in the fall, I start out fishing fairly shallow, usually around weedbeds or brushy areas. I also like to fish mud flats or shallow points with some type of structure such as weeds or rocks. If the fish aren't in the shallows, I move to water 10-15 feet deep, just on the outer edges of the structure. Fish will often concentrate in these areas.

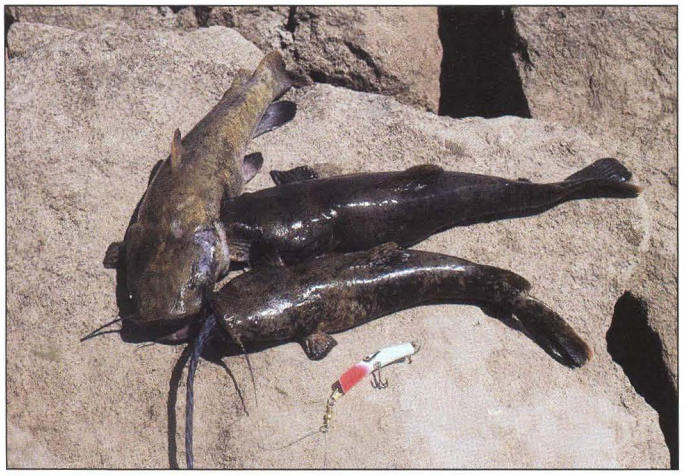
One fall fishing habitat I've mentioned often is rocks and riprap. I seldom overlook riprap areas such as fishing piers, dams or causeways. If I had to pick only one technique for all my fall fishing, I'd choose crankbaiting rocks. We fisheries biologists have found that a variety of fish species frequent this rocky structure in the fall. Most people who fish riprap cast and retrieve at a 90-degree angle to the bank. The key to better fishing success along rocks is to cast parallel to the shoreline, dragging the crankbait slowly across the rocks all the way in. Fish that live around rocks often hide in holes and crevices between the rocks. They dart out after prey as it passes their attack point on the same plane. If the lure passes the fish from above or behind, the fish may not see it soon enough to react.

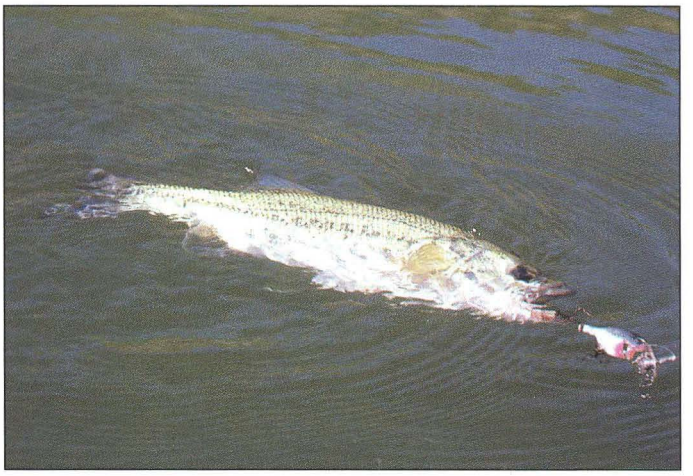
Cast your lure parallel to the shoreline and reel it just fast enough that you can feel it bouncing off rocks occasionally. Sometimes fish will hit the lure hard and practically pull the pole out of your hand. Other times the lure almost feels snagged up, and when you jerk, the fish takes off. You'll get hung up once in a while, but if you move to the crankbait, reel the rod tip down to the lure and jiggle it, it will usually come out. If you snag someone's old discarded line, you might have to say goodbye to your crankbait, so bring along a few spares.

Last Labor Day weekend, I fished Glen Elder Reservoir and found the fish on both the Granite Creek and Cawker City causeways. We started out fishing shad-colored crankbaits for largemouth bass because the shad were thick. We caught quite a few largemouths, but we also caught walleye up to 4 pounds, white bass, crappie, drum and flatheads. One flathead weighed 8½ pounds, and another bigger one broke off. Most of the fish were caught on shad- or crawdad-colored Rebel, Hot-n-Tot, and Balsa B crankbaits.

This fall, keep that fishing pole out and combine a fishing trip with a hunting outing. How many of you have hunted doves near a farm pond? Farm ponds are usually low in the fall, the fish are concentrated and probably hungry and easy to catch. When October comes and you are bowhunting deer, take a rod along for a midday fishing trip. Duck season will surely get you close to water, especially if you put a decoy spread on a reservoir. Throw in a rod, a few jigs, shad-colored crankbaits and a few spoons. You might be surprised at the fishing action you'll find and the amount of fillets you'll add to the freezer.

You might find fall fishing action fast and furious enough to make you want to spend more time FISHING! After all, there will be plenty of time to hunt after the lake freezes up.

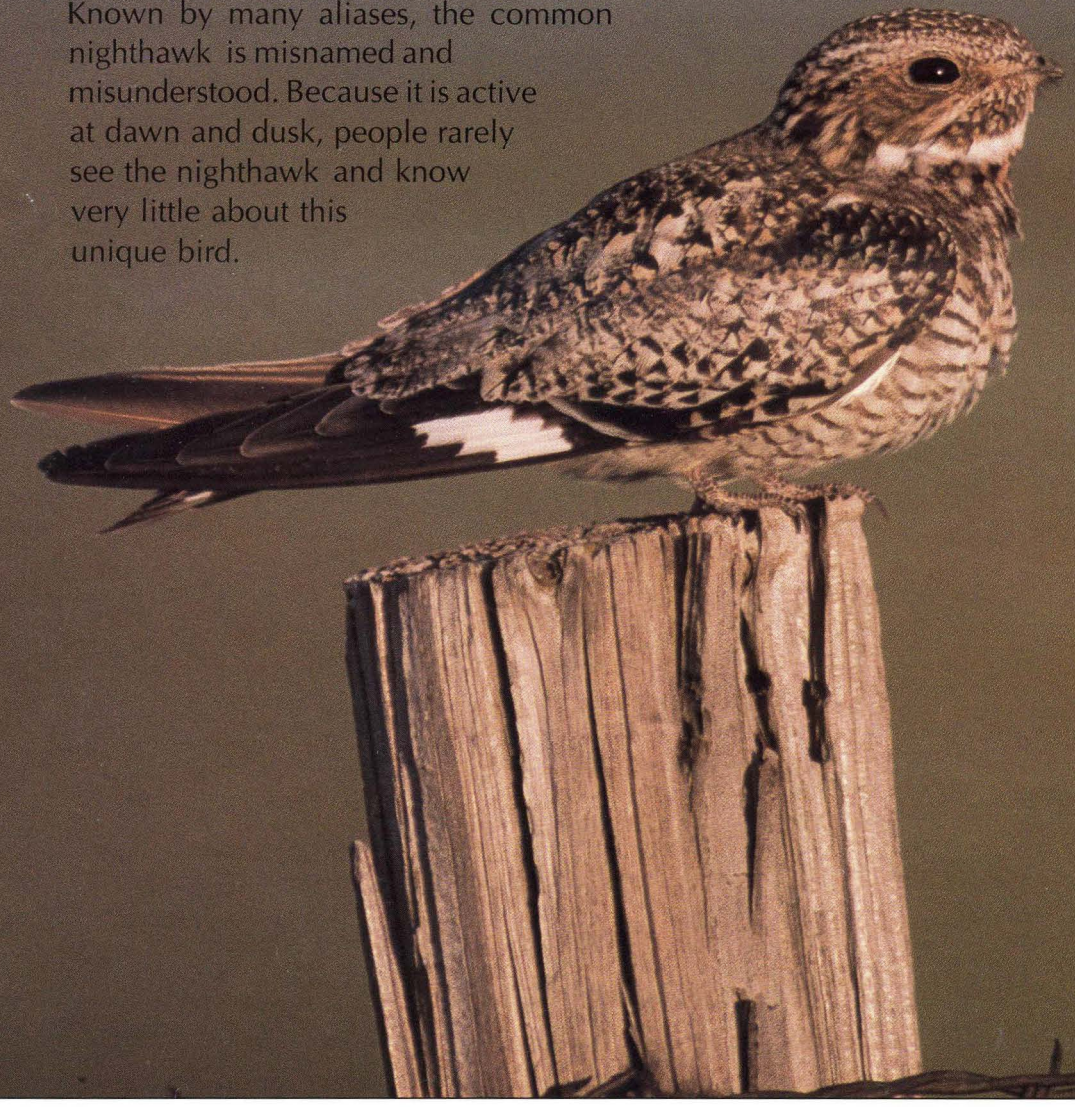




Both flathead catfish and largemouth bass can be caught in the fall with crankbaits fished slowly around riprap or other rocky structure.

GOATSUCKERS, BULL-BATS PISKS & PIRAMIDIGS

Known by many aliases, the common nighthawk is misnamed and misunderstood. Because it is active at dawn and dusk, people rarely see the nighthawk and know very little about this unique bird.



by Marc Murrell
wildlife information representative
Valley Center

photos by Mike Blair
staff photographer

The nighthawk is often mistaken for a small hawk because of its appearance in flight and its erratic flight patterns.

Man has been fascinated with birds for thousands of years. Stone Age drawings date man's interest in birds back at least 22,000 years. The original fascination with birds is somewhat complex. Ancient stories, paintings, myths and sculptures suggest that several ideas were responsible for our curiosity. The mysterious appearance and disappearance of migratory birds, their bright colors, striking behavior, apparent magical powers of flight, and their intriguing songs all seemed to attract the attention of man.

One of the more fascinating and mysterious birds is the common nighthawk, *Chordeiles minor*. The genus name comes from the Greek word chorde, a stringed musical instrument, and deile, meaning afternoon or evening. But the nighthawk has as many aliases as there are days in the week. Goatsucker of Carolina, bull-bat, mosquito hawk, will-o'-the-wisp, pisk, long-winged goatsucker and piramidig have all been used to refer to the common nighthawk.

The term hawk is misleading, since the bird is not a hawk, but an insect eater. The nighthawk has a beak and feet that are rudimentary in their weaknesss and in no way resemble those found on a bird of prey. Most likely, the name was conceived due to the birds' resemblance to smaller hawks when seen in flight. Another misnomer applied to this bird is bull-bat, as it is known in the South, and the justification for which is a mystery of popular nomenclature. To be sure, a bat has wings and flies, but there its outward resemblance to a bird ceases abruptly.

Another misconception is that the nighthawk and the whip-poor-will are the same. Both species belong to the family *Caprimulgidae*, and both perch lengthwise on a limb or fence rail instead of crosswise as most birds, but they are distinctly different. The whip-poor-will is a bird of the woods and does not go hawking around in the open as is the nighthawk's somewhat bizarre manner. The whip-poor-will also lacks the white wing bars prominent on the nighthawk.

The nighthawk has a wide distribution. It is common throughout North America (except the northern tundra and the low deserts of the southwest) most of the year and migrates to the subtropical areas of Mexico and South America for the winter. Nighthawks are common in Kansas, generally inhabiting open woodlands, clearings, fields and towns with suitable roosting trees or fence posts.

Many people are not familiar with the nighthawk because it is active mainly at dawn and dusk. Nighthawks spend most of the day roosting in open woodlands, although they may be active throughout overcast days. The sexes are similar in appearance, colored gray to mottled brownish-black, matching the forest floor. Black wings are long, slender and pointed with a white bar across the middle portion. Males have a white band across the slightly forked tail and a white throat patch, while females lack the white tail band and have a cream-colored throat patch. Typically, the birds are 8½ inches long with a wingspan of 21-24 inches. Average weight is 2-4 ounces.

One of the most fascinating characteristics of the nighthawk is its erratic flight. Appearing in the skies during the early evening, the bird seems to be somewhat bewildered, yet graceful. The nighthawk may reach an altitude of several hundred feet, then suddenly close its wings and begin a downward plunge, reaching speeds of 35 m.p.h. The dive continues until the bird appears to be on a collision course with tree tops, the ground or another nighthawk. At the last possible moment, the wings suddenly spread, and the daredevil checks its descent and sweeps gracefully upward. As the bird checks its descent, there is a sudden rush of air through the wing feathers that produces a loud, hollow *whoom* sound. Misunderstanding surrounds the origin of this booming sound. First thought to be vocal, the sound is created solely by the rush of air through the taut feathers of the partially spread wings. The purpose of the dive is not fully understood. It is probably part of the courtship display, but the dive is often executed with no other nighthawks in

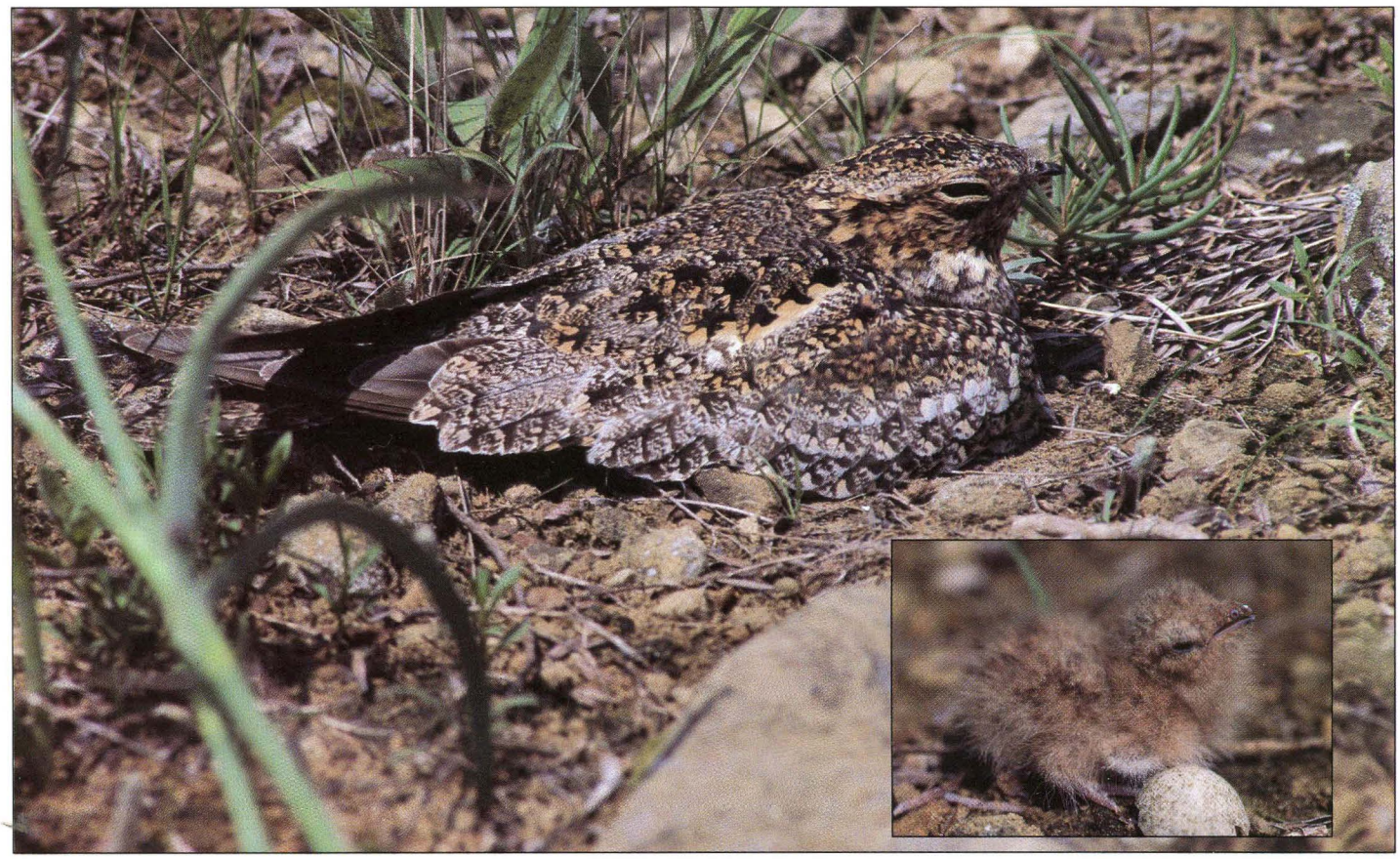
sight. It has also been speculated that the birds are chasing insects, but it would be difficult to distinguish an insect at that height, and even if they could, the birds would have no reason to continue the descent after the prey had been captured. It might be the nighthawk's own form of entertainment.

The voice of the nighthawk is unique. Although its scientific name implies it has a melodic tune, in reality it is very unmusical. Its erratic flight is punctuated by frequent repetitions of a short, nasal *beer* or *peent* call usually uttered at the end of fluttering upward dashes.

The nighthawk is an industrious and efficient insectivore. It has a mouth grotesquely huge in its proportions that is ideal for sweeping insects out of the air. It eats at least 50 different kinds of insects ranging from tiny flies and mosquitos to large moths and beetles. Ants, plant lice, grasshoppers, locusts, horseflies and stable flies are all popular items on the menu. The small birds are capable of eating enormous amounts of these insects during their feeding flights. One nighthawk stomach examined in Maine contained 2,175 ants while another bird in Massachusetts had dined on more than 500 mosquitos. The bird gets it's daily ration of water by skimming the surface of streams and ponds with its bill.

Nighthawks do not build a nest. Eggs are laid on a spot chosen by the female. Barren rocks, beaches, burned areas, graveled or tarred roofs of buildings, gardens and even the tops of fence posts are all suitable nest sites. Nesting occurs from May to July in the Midwest. Two densely speckled olive-buff eggs are laid. If the nest site becomes unfavorable, the female moves the eggs several feet by rolling them in front of her feet. The eggs are incubated by both the male and female, although the female spends the majority of the time on the nest. The male mutters a curious *quaw-ee, quaw-ee* when approaching an incubating female. The pair will snuggle close together churring and swaying their bodies until the female suddenly flies off. The male then takes over incubation until the female returns. The notes and actions act as signal songs and coordinate the risky changeover. The eggs will hatch in 19-20 days. Both parents feed the young until they can fly, usually about 21 days after hatching.

Unfortunately, the nighthawk's erratic flight tempts some individuals to use them as targets. This practice is not only illegal but inexcusable. The nighthawk's voracious appetite for insects makes it beneficial to man. And the skillful maneuvering of a company of nighthawks gracefully performing their feats of aerial prowess is a sight to be remembered.



The common nighthawk doesn't build a nest, but lays two eggs on rocky ground, gravel or even on a fence post. The young hatch in 19-20 days and fledge 21 days later.

center section

Edited by Mark Shoup

LETTERS

PHOTO FAN

Editor:

I am *so* jealous of KANSAS WILDLIFE AND PARKS magazine photographer Mike Blair, first for his opportunity to be paid for his love of photography and second for his talent. Such beautiful shots -- especially the ducks in the January/February issue -- I would give my eye teeth to get.

I am having some measure of success in taking good wildlife photos, and I'm having a great time getting them. It takes much patience and a love of wildlife and understanding of their habits and habitat. I have already learned a lot even with only a few months of effort under my belt.

Thanks for allowing one view and keep up the excellent job I am so proud of.

Louise Edmonson
Herington

Cal Fisher
Kansas City, KS

NON-RESIDENTS, DEER

Editor:

I love Kansas and am very proud of all the great opportunities to enjoy our outdoors.

Over the years, I've never met a Wildlife and Parks employee who was anything less than excellent and helpful. I always enjoy our brief meetings.

I am glad to read of the Department's plan for the future. I know that my family will be ready with our support. The only part I am concerned about is the nonresident big game permits. I whole-heartedly support the current residents-only policy. I do feel that your entire system has done such a good job that we will fully support any changes you make.

TURKEY TURF

Editor:

Have you ever done research on the possibility of a large turkey population pushing out the native pheasant population? That seems to be the case in certain areas here.

Richard Frisbie
McDonald

Dear Mr. Frisbie:

There has been research documenting cases in which pheasants have damaged prairie chicken populations by disrupting their breeding grounds. This is a true instance of an introduced species (pheasant) pushing out a native species (prairie chicken). It should also be noted that turkeys, although they have been reintroduced, were once native to Kansas.

No research has been done concerning the possibility of turkeys pushing pheasants out of an area. However, experts in our Division of Fisheries and Wildlife tend to suspect that if you have been noticing a decline in pheasants and an increase in turkeys, turkeys probably are not to blame. The reason for this thinking is that, in most situations, turkeys and pheasants do not compete for the same types of habitat. As a rule, turkeys prefer woody areas and pheasants prefer cropland. The nesting times of the two species are also different.

This is not to say the problem you describe couldn't happen in an isolated situation. *Shoup*

CHICKEN WATCHERS

Editor:

After talking to Department of Wildlife and Parks small-game project leader Kevin Church about watching prairie chickens on the booming grounds, I decided to give it a whirl.

I want to thank the landowners for letting us use their land, and for letting Department personnel set up the blind. I enjoyed the experience so much that I not only gave it a whirl, I came back six times. I took my family, friends and anyone else who wanted to see the birds in action.

One morning, I was alone in the blind about 4 a.m. waiting for the chickens to show, and it was really relaxing to hear all the night animals and birds around. I have hunted and fished in many states and in Canada, and I can truthfully say that watching the courtship of these chickens rates right up there with my most enjoyable times.

People come to Kansas from many states each year just to take pictures and watch this unusual display of courtship. Anyone who loves the outdoors and nature should give this a try, but be careful; you might get hooked on it. I sure did, and my list of people wanting to go next year is growing.

Those readers who saw the March/April issue of KANSAS WILDLIFE AND PARKS found a very fine article by Kevin Church and excellent photographs by Mike Blair.

Paul F. Gabel
Kansas City, KS

COYOTE ARTICLE

Editor:

I refer to Mike Blair's article on coyotes in the March/April issue of KANSAS WILDLIFE AND PARKS.

I am a native Kansan and own a farm in McPherson County. I have always admired the beauty and intelligence of the wily coyote. I was shocked to read in your story that it is legal to shoot coyotes from a vehicle in Kansas. In most states it is illegal to shoot from a vehicle, period. So why do you pick on the coyote when, as your article mentioned, 90 percent of adult coyote deaths are caused by humans.

Let's at least give them a chance. Let's change the law.

I.B. Decker
Bothell, WA

Dear Mr. Decker:

Like the crow and the prairie dog, the coyote is often considered to be a threat to crops or livestock. It is technically classified as a "varment" and can therefore be shot from a vehicle. This is largely due to its reputation for preying on livestock. While it is true that a very small number of coyotes actually do take domestic animals -- and the work of dogs can be mistaken for that of coyotes -- individual coyotes sometimes kill sheep or calves.

When this happens, the livestock producer has the right to protect his interests and kill the coyote. *Shoup*

"KILLERS" PRAISED

Rob Manes:

Your recent editorial "Killers" (page 20 May/June issue) was excellent. I was reminded of a passage from William Faulkner -- which I half remember -- about killing. I wish I could cite the work and page. You would appreciate it.

I seldom hunt anymore, but I have done my share of small game hunting.

I wish you had said that not all hunters are alike. And I wish that you had included something about respecting and honoring life, even as you recognize that you often must take it to preserve your own for a while.

Probably you are right in saying all our hands are equally bloody, but it strikes me as a hyperbole. I know a man who told me he shot 70 doves one day. He was proud of his marksmanship.

Anyway, "Killers" was a fine editorial . . . and I'm sure the page was too short to hold all you might have said.

Bob Hooper
Bogue

Dear Mr. Hooper:

Thanks much for writing. The additional points you suggest for the "Killers" editorial are very appropriate. I believe every true sportsman feels some degree of somber empathy at taking a wild life. Likewise, non-hunters should know these same feelings, as their day-to-day existence also imparts death. Pride in a successful hunt is, perhaps, acceptable. Pride in simple killing (especially if it violates the law or an ethics code) is certainly not. *Manes*

SOLOMON RIVER

NOTE: Mr. Hooper (above, letter to Rob Manes) is a farmer and member of the Solomon River Basin Advisory Committee. The following is an excerpt from a letter of his which appeared in the Hays Daily News, 5/89. It concerns a previous Daily article about one farmer's plans to channelize a portion of the Solomon River. *Shoup*

I accept that 65 percent of the total annual flow of the Western Solomon River came historically from run-off and that 35 percent of the annual flow came from baseflow seepage of groundwater. Those statistics, however, are used to suggest that irrigation has played a minor role in the death of such rivers. The whole truth is more subtle.

The historic 65 percent of the annual stream volume came during seasonal periods of high rainfall, and the occasional thunderstorm. That historic run-off from unprotected farm lands has been virtually eliminated by terraces and stubble mulching. The reservoir-filling days when the Solomon is up and muddy are rare.

For many years, the remaining water in the Solomon has been virtually all baseflow -- 35 percent of the historic volume, but 99 percent of the current daily volume of the river. That is why over-appropriation by large-scale irrigation is now so death-dealing to the river. Run-off water having been eliminated, only base flow is left. Even that is under attack daily and more dramatically as irrigation intensifies during drought.

The farmer proposing the channel said that all farmers are having to drill new wells because the water table is dropping, and that there is nothing we can do about it.

The latter part of that statement, of course, is wrong. While it continues to be the decision of a few that nothing can or will be done, there are thousands of Kansans with a different vision. I know. I am one of them. Another farmer I know recently told me that his farmside stream had gone dry for the first time in 79 years. He doesn't blame the trees, and he's been through drought before.

Cheyenne Bottoms, the South Solomon, my boyhood North Solomon, the Hackberry, the Cimarron, the Pawnee, the Prairie Dog, the Sappa, the Saline, the Smoky Hill -- and a thousand quiet little springs without names will be revived some day, given wiser management. Or they will die and haunt the dreams of those who sold them out.

YOUNG "READERS"

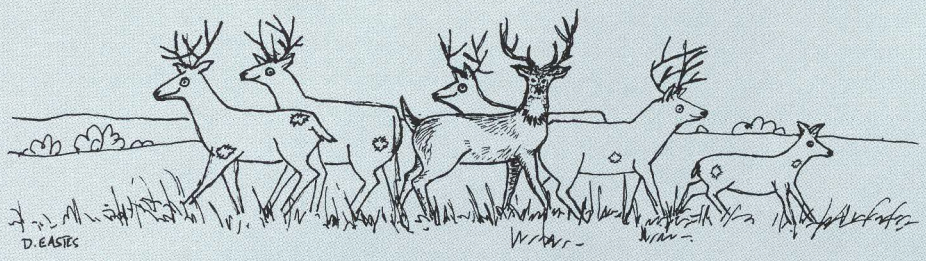
Editor:

I heard about the children who found a den of red fox kits and brought them to school, where one of the classmates was bitten. I thought, "That's a good story for your magazine. Show children how to enjoy nature but how to avoid things like playing with young animals."

I know children are interested in your magazine because my four-year-old grandson was fascinated by the prairie chickens.

Milton Handke
Muscotah

THE LAW



DEER DUMMY

If you thought the decoy deer was a musty artifact stored in a back room of the Department's Pratt office and dusted off once a year to grab a few headlines, think again. There are several such full-body taxidermy-mounted deer in the Department's Division of Law Enforcement, and plans are in the works for more.

The technique of placing a decoy deer in the field has been used for two years in Kansas to bag road hunters and trespassers. More than 100 arrests were made during the 1988-89 deer firearms season with only limited decoys. Conservation officer Paul Miller, Manhattan, reported that he and his offficers wrote 14 tickets before 10 a.m. one day.

In many cases, the majority of those arrested were local residents, lending little credence to the cliche that road hunting is a problem limited to "out-of-towners."

The good news for safety-conscious, law-abiding deer hunters is that the Kansas Bowhunters Association has donated one decoy per region for the 1989 season. Law enforcement officials hope to have two or three decoys operating in each region this year. More and more landowners are volunteering the use of their property for the decoys, as well.

Another fine touch to the decoy effort is the fact that all decoys have detachable racks. That perfect-shot decoy could be a big buck, a small buck or a doe. Is it real or is it a dummy? Only your conservation officer knows for sure. *Shoup*

FBI ACADEMY

Omar Stavlo, Kansas Department of Wildlife and Parks Chief of Law Enforcement, has recently graduated from the Federal Bureau of Investigation's National Academy at Quantico, Va. Stavlo was one of 206 graduates, and the only one from Kansas.

The FBI started the National Academy in 1935 to train an elite group of law enforcement professionals. Twenty-three students graduated that year. Today, the prestigious school trains approximately 800 National Academy students per year. The Academy has a four- to five-year waiting list, and only one-half of one percent of the country's law enforcement officers are admitted. This year's class included 17 foreign nationals from countries such as Australia, Belgium, England and France. In addition to rigorous physical training, the 11-week program included classes in executive leadership and communications, administrative legal problems, stress management, law enforcement ethics, forensics, and labor management.

Stavlo, who has a degree in biology and natural resources from the University of Wisconsin, Stevens Point, also received 19 credit hours from the University of Virginia for his work at the Academy. He will apply some of these credits to his current work on a Master's degree in criminal justice.

Chief Stavlo hopes to translate this intensive training into a more effective Division of Law Enforcement. In addition to redesigning the physical training program for conservation officers, he plans to put greater emphasis on forensic science and open the lines of communication between conservation officers and management. Ultimately, this should help field officers and division administrators in the cooperative effort to better serve the public. *Shoup*

ILLEGAL IMPORTS

Illegal importation of wild plants and animals is a problem that exists on many levels, from the tourist bringing home an exotic plant or bird to the pet shop or "entrepreneur" importing exotic species for profit. In many cases, the danger in these importations is seldom understood.

However, in June, two New Mexico men learned the hard way. The two former fish hatchery owners were charged with 14 counts of illegally importing trout into New Mexico. Between May 1986 and October 1987, the two men allegedly smuggled 100,000 rainbow trout into private waters in the Red River, Eagle Nest, Mora and Raton areas. The charges filed against the men are misdemeanors, punishable by a fine of between $50 and $500 per count and up to six months in jail.

Trout taken from waters where six of the seven shipments were stocked were later found to be infected with whirling disease. Whirling disease, once called black-tail disease, causes the back half of small fish to turn black, partly because it affects the spinal column. Once established, the disease has proven impossible to eradicate. It is particularly virulent in hatcheries, where highly susceptible rainbow trout are the most commonly reared fish.

Although whirling disease spreads more slowly in the wild, once established, it still infects an average of two stream miles per year. The disease is also extremely persistent. It lives in the fish's bone structure and releases its reproductive spores when the trout decays after dying. It also lives in the feces of other species which consume the dead trout.

Brown trout evolved with the disease and are resistant, but not immune. Brook trout and kokanee salmon are also highly susceptible to the disease. *Wildlife News*

HUNTING

MISSED AGAIN!

The evening sun is dipping toward the horizon as two camouflaged figures sit motionless in cover near a farm pond. As a ghostly pair of birds approach on whistling wings, the two figures rise. Three shots later, two birds fall from the sky, and the third member of the hunting party, a chocolate Lab, is sent to fetch them. The dove season is under way.

The above scenario is an ideal situation, but it doesn't always happen this way. Dove hunting can be a humbling experience, even for the best of wing shots. It's hard to believe that these little gray rockets can find a gap in your shot pattern three straight times, but it happens. As the third or fourth bird slips by untouched, hunting buddies often accuse each other of reloading shells and forgetting the shot.

Shotgun shell manufacturers probably have this little speedster's picture in every room of their company, and maybe even above the fireplace at home. Doves are the bread and butter of their business. On the average, approximately seven empty shells hit the ground for every bird that falls from the sky. If this were always the case, a limit of fifteen birds would be pretty expensive. Over four boxes of shells would be needed to put a limit on the dinner table.

There are several ways to hunt the speedy dove. If you can locate a field that doves are feeding in, early morning and late afternoon are good times to take advantage of incoming birds. Many farm ponds also offer some fast and furious action as doves are coming to water for an evening drink.

Locating trees where doves roost can also be advantageous. Generally, this type of hunting really tests the marksmanship and patience of even veteran dove hunters. Most shots are at passing, fluttering, dipping and diving birds, not what you would call easy shots.

A little pre-season scouting can really pay off in finding one of these situations. Drive back roads in the evening to locate doves. Once you see an area that looks promising, contact the local landowner for permission to hunt. More often than not, an introduction and conversation will result in a place for you to test your skills on opening day. Remember to stop in after your hunt to thank the landowner, whether you were successful or not. This is common courtesy and these contacts sometimes result in lasting friendships.

The dove season runs from Sept. 1 through Oct. 30, and shooting hours are one half hour before sunrise to sunset. The daily bag limit is 15 birds, and the possession limit is 30 after the first day. No state or federal duck stamp is required, but all guns must be plugged and capable of holding only three shells.

Early season dove hunting can be enjoyable for young and old alike, so grab a partner and head to your local dove hangout. But remember one thing: Take plenty of shells! *Marc Murrell, Region 4 wildlife information representative*

#1 MUZZLELOADERS

The National Muzzle Loading Rifle Association has announced a new program to recognize those hunters who have taken trophy big game animals with muzzleloading firearms. The program is named "The Longhunter Society," in honor of those early explorers and pioneers who hunted with these "primitive" weapons.

The Society recognizes and supports the increased level of difficulty encountered by those choosing to hunt with muzzleloading firearms. A *Book of Muzzleloading Big Game Records* is being established by The Longhunter Society to provide permanent archives for trophy-class big game which have been taken with muzzleloading firearms.

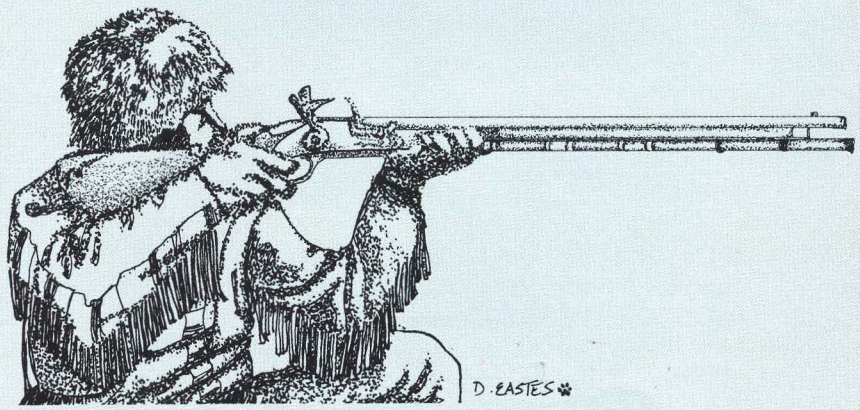
Entry into the record book is open to all interested hunters. Animals must be taken with muzzleloading firearms during legal hunting seasons under the Society's Rules of Fair Chase.

A 60-day drying period is required before a trophy can be officially measured. Trophy entries are scored using the Boone and Crockett Club's copyrighted Official Scoring System for North American Big Game trophies. Interested hunters are encouraged to make preliminary measurements of their trophies using a score chart and 1/4-inch wide flexible steel measuring tape to determine if an official entry measurement is warranted. Minimum scores for whitetail deer are 130 points for a typical buck and 160 for a non-typical. Should preliminary measurement show that the trophy is above or near the minimum score, it should be submitted to an official Longhunter Society measurer for scoring.

For more information, write The Longhunter Society, P.O. Box 67, Friendship, IN 47201. *National Muzzle Loading Rifle Association*

UPLAND UPDATE

Although the relationships between upland game and the weather are not completely understood, and scientifically accurate population counts are difficult to obtain, hunters always look for the earliest possible scoop on upcoming bird seasons. This is only natural as we anticipate one of America's favorite pastimes. However,



while we are reading the latest pheasant report, we should keep in mind that predicting bird populations for the coming season is like predicting the weather. If you want to know for sure, wait until it gets here.

With all this said, of course, curiosity still wins out. Therefore, let's take a small look at how upland game birds were faring in early July.

The primary factor considered in trying to interpret upland bird conditions is weather, and that, to say the least, has been strange this year -- both good and bad. We had a relatively mild winter, which should have been good for all game, particularly quail. However, last year's drought lasted until mid-May of this year, devastating the wheat crop.

For pheasants, green wheat is the primary nesting cover because it is undisturbed and plentiful during prime nesting times. This year nesting cover was hit very hard by the drought, causing poor stands of wheat and fields which were either grazed or plowed. Pheasants were forced to seek less secure cover, such as hay.

It's not all bad news for pheasants, though. They are persistent re-nesters, and the late rains in May and June may have helped create new nesting cover. Much of the early damage, therefore, may have been recouped.

Even more positive is the fact that conditions in late June were very good for pheasants, quail and prairie chicken. Good green growth and mild weather were ideal for the birds. In addition, there was plenty of morning dew to provide moisture for young chicks at the most critical point in their development. This is in stark contrast to the peak hatching period last year, which was extremely hot and dry.

Of course, stormy weather during the nesting season will always cause localized population damage from hail and flood. Some CRP haying and grazing could also have an affect.

However, when you add to the positive factors a decent carry-over of adult birds from last year, one can be cautiously optimistic about all upland game species.

The best advice, of course, is to treat that opening day like a picnic. Make plans and get yourself out there. After all, what does the weatherman know? *Shoup*

FOR WHAT IT'S WORTH

THE RIGHT TOOL

by Mark Shoup

My father never understood why I don't carry a pocket knife. I hear about it every time I ask to borrow his, which is almost every time I help him do something. I tell him that when I was a kid we weren't allowed to carry knives in school. I'm just too old to form the habit. It doesn't wash, though.

Of course, he grew up in different times. He was a boy in the Twenties and Thirties. I'm convinced that "Our Gang" was shot in his hometown, Cimarron. They did practical things when he was a kid, like shoot marbles and play mumblety-peg. Kids needed knives for cutting string, carving whistles, and protecting their dogs from the neighborhood cat.

Dad also needed a knife for the Arkansas. A kid's paradise, the river flowed past Cimarron even through the Dirty Thirties. A rusty old jacknife could be honed to cut willow and fishing line, and could clean fish, too. It was a practical tool.

I never carried a knife much, except one summer. In 1974, I pitched my tent about 100 yards from the Arkansas, east of Larned. I had a tent and a canopy, but I also built a small outhouse and drove a sand point. The point drew water at 10 feet; but I drilled it on to 15, just for good measure, before attaching the pitcher pump. I planned to stay awhile.

This wilderness camp was a forty-acre pasture, an ungrazed oasis surrounded by cropland. It was June, very hot, and drought set in about the time I pitched camp. A center-pivot irrigator marked time in the distance. Occasionally, I would catch the faint smell of moisture in the air.

My knife was a Buck folding hunter. It could do any job, not that my needs were more sophisticated than Dad's. I cut willows and setlines and cleaned fish. I dug Indian bread and sliced potatoes and onions. A two-blade Camillus pocket knife would have done as well, but I needed the best, even if it wouldn't fit in my pocket.

It was 100 degrees in the shade the day I tried to make a whistle. I had floated in the river most of the day just to stay cool. Daytime fishing wasn't much good, but I found a 2-pound carp on one setline. Better than nothing, I thought. Back at camp, I stirred the coals, threw on wood and sliced a small basket of Indian bread for the skillet.

By then, I was cooking. I pumped a 5-gallon bucket of ice-cold water and dumped it on my head. It took my breath away but barely cut the heat, so I pumped and poured several times. Heat waves over the distant center pivot would clear for an instant each time I gasped for air.

The Indian bread was still cooking when I started on the whistle. I knew what I wanted: a long tube plugged at one end and notched on top, like a silent dog whistle. A green cottonwood limb the size of my index finger would do. The Buck shaved the bark and notched the limb perfectly. It looked good but, of course, had no tube. I held the knife in one hand and the stick in the other, and sighed. That big, beautiful blade could gut a carp, but it couldn't make a whistle. "More firewood," I muttered. Even at that, the stick smoked and fussed. I was sweating again.

Anyway, I stayed only a month. It was a good month, though. I ate fish and soft-shelled turtles, wild currents and mulberries, and experimented with Indian bread and wild rose hips. I spent entire days in the river. One day, a cottontail swam across in front of me. Moments later a dog came nosing along the bank, looking for something it hadn't seen. The river flowed free and clear, as it always had. I never dreamed it would soon be dry.

Fifteen years later, I still don't carry pocket knives. I tell Dad it's because they wear a hole in my pocket. He just says my jeans are too tight. He'd be proud of me though. I have a two-blade Camillus on my desk—just in case I need to clean my fingernails.

FISHING

CRANK 'EM IN

The crankbait, a casting plug with a lip to make it dive and swim, is a versatile and effective bait, especially in the fall. Crankbaits work on two principles: 1) the crankbait closely resembles a baitfish and; 2) a fast-moving, natural-looking crankbait can elicit a reflex strike from predator fish. The reflex strike theory is based on the fact that inactive fish will sometimes hit a fast-moving crankbait when they've refused more natural baits and obviously aren't feeding aggressively. Predator fish, especially black bass, will strike the lure just to keep it from getting away.

In the fall most baitfish are three inches long or longer, about the size of most crankbaits. Also, sportfish are feeding heavily in the fall to prepare for winter. You simply have to identify the baitfish in your waters and tie on a similar crankbait. A natural looking crankbait with good swimming action is my No. 1 choice for fall fishing.

Crankbaits are easy to fish. If you want, you can cast them out and reel them in. And you'll catch fish. But if you're serious, you might try variation in your retrieve. Try to adapt the way you work the bait to the mood of the fish. Once you find the right combination of structure, depth and retrieve, the fishing may seem easy.

One of the most effective retrieves for fall fishing I've found is a fast and erratic one. Sportfish in reservoirs are chasing schools of shad in the fall, and when the shad panic, they don't swim leisurely away from the predator. I've found that a deep-diving crankbait can be retrieved quickly with rhythmic pumping action of the rod tip to imitate a frantic shad. It works.

And don't put the deep diver away if you're fishing in shallow water. Running the big-lipped plug down the rocks or mud and bouncing it off structure will trigger strikes. The long lip will keep the hooks away from most snags. If you do snag up, give the plug some slack and it will often float free.

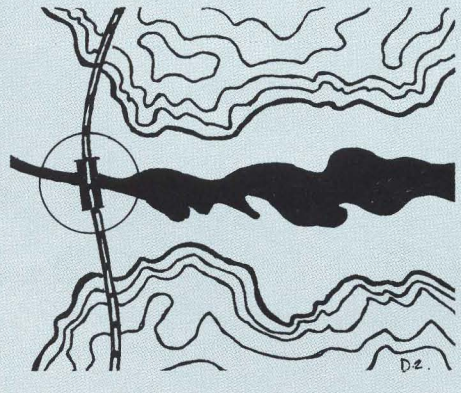
Sportfish in reservoirs will often concentrate near the riprap of dams and causeways in the fall. Tie on a white or silver medium- or shallow-diving crankbait and retrieve it slowly along the rocks. Flathead catfish and black bass will often hide in the rocks and ambush prey as it swims by.

One final tip for fishing crankbaits. Keep experimenting with your retrieve, the size and color of your plug, and the size of the lip on the plug. One retrieve technique that works well, especially with crawdad-imitation crankbaits, is to crank them down hard for several feet, then stop the retrieve and let the lure float up for a second or two. Then resume the retrieve. Strikes will often come just after you stop or just when you resume the retrieve. *Miller*

CULVERT HABITAT

Many existing roads and road beds were flooded during the construction of reservoirs in Kansas. Any time a road crossed a stream, ditch or river, there existed a bridge or culvert. Those bridges or culverts which were left intact remain as underwater structure providing some of the reservoir's best fishing. In fact, experienced anglers believe that finding an underwater culvert is like finding a gold mine.

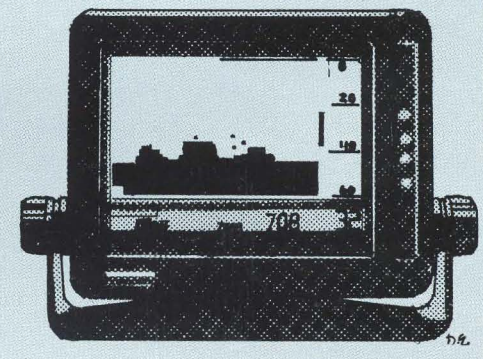
Locating these underwater hot spots is really not that difficult if the angler has access to two basic tools. The first is a good topographical map showing the locations of nearly all major roadways which existed prior to the lake's creation. These maps are available through local U.S. Geological Survey and Kansas Geological Survey offices, as well as some state and university libraries. Study the map carefully and use a yellow highlighter to mark each area where a road crossed a creek or ditch.



The second essential tool is a good depth sounder, which is used to pinpoint the exact location of the underwater structure once the fisherman has identified it on the map. A bridge or culvert will be easily identified with the depth sounder because, unlike the road bed itself, it will appear on the unit as a vertical display. The road will appear more rounded because of the shoulders of the original road bed.

For bass, crappie, catfish and most other gamefish, those bridges and culverts found in 20 feet of water or less are generally the most productive. Any number of fishing methods on or around underwater culverts will prove effective.

With the exception of a short period during spawning season, an underwater culvert can be a year-round fishing hotspot. It pays to remember that gamefish will use the road bed as a migratory route to and from the spawning area. *Humminbird Release*



CITY CATS

Nearly 5,000 channel catfish were released during April in Wichita waters, and the area is scheduled to receive monthly stockings through September.

The Little Arkansas River received 2,000 10-inch catfish because the Kansas Department of Health and Environment has lifted its warning on consuming fish from the river. Levels of toxic chlordane, used in termite control, have declined in sample fish taken from the river since a warning was issued in 1986.

Sedgwick County Zoo Park's ponds also recieved 2,000 catfish; Chisholm Creek Park's pond recieved 300; and Haysville received 300. *Wichita Eagle Beacon*

ISSUES

DEGRADABLE PLASTIC

Starting next year, all plastic six-pack yokes sold in the nation must be made of degradable material, according to a new law enacted by Congress. The intent is to protect birds, fish and other wildlife that can ingest or become entangled in the plastic, often fatally.

The legislation is the first to require degradability, although 17 states already have similar laws. Beginning next year, for example, Florida will ban all plastic shopping bags that do not degrade within 120 days.

While degradability makes sense for some plastic products, a law requiring that all plastics be recyclable would ultimately make more sense because it would conserve more natural resources.

Like metal and glass, many types of durable plastic can be recycled into useful products rather than taking up space in landfills. Polyethlene terephthalate (PET) is a plastic used to make soft drink bottles. PET can be recycled and converted for a variety of uses, including fiberfill for pillows, vests and sleeping bags. *South Carolina Wildlife*

SUMMER FISH KILLS

Summertime means swimming holes and belly-flop contests. It is also the time of year when large numbers of fish go belly up. Such incidents can be the result of natural phenomena (increased summer temperatures; atypical amounts of rainfall) or man-induced circumstances (unmitigated runoff from agricultural and urban areas; releases of toxic substances). In either case, the resulting effect on aquatic resources can be quite significant.

For example, the number of dead fish tallied in recent kills in Natrona and Cow creeks exceeds 22,000 and approximates a loss of $15,800.

Whenever die-offs occur, the departments of Health and Environment (KDHE) and Wildlife and Parks (KDWP) work to determine the cause. If the trouble is traced to an identifiable source, these two agencies seek restitution for losses and prescribe measures to improve pollution control. In the future, KDWP will be evaluating its Fishkill Response Program to ensure that prevention of fishkills is one of the biggest concerns of summer. *Sherry Ruther, Environmental Services*
vironmental Services

WETLAND BILL

Things look good for a new bill to help implement the North American Waterfowl Management Plan. Called the North American Wetlands Conservation Act, the bill was introduced by Sen. George Mitchell (Maine) and has broad support on Capitol Hill and from the wildlife conservation community.

Officially listed as S. 804, funds for the bill would come from three sources. First, wetland acquisition would be supported by interest from short-term investments of the Federal Aid in Wildlife Restoration Program, known as Pittman-Robertson (PR). PR collects manufacturers' excise taxes on sporting arms, ammunition, handguns and archery equipment and apportions them to state wildlife agencies. The money is collected one year and apportioned the next.

S. 804 would place PR money in an interest-bearing fund before distribution to the states. Currently, the interest on PR tax money does not go to wildlife agencies because it is placed directly into the General Treasury until it is apportioned. The interest, approximately $10 million annually, would be sent to the U.S. Fish and Wildlife Service for wetland protection. States would receive the principal, as they always have. Once the goals of the North American Waterfowl Management Plan have been achieved, both interest and principal would be returned to the states.

The second source of funds would come from penalties, fines or funds from forfeitures of property under the Migratory Bird Treaty act. This would amount to about $1 million annually.

The third source would be an authorized appropriation from Congress of $15 million annually in fiscal years 1990, 1991, 1992, and 1993.

A nine-member commission would be established by S. 804 to choose which projects would be funded by the program. The group would include the director of the U.S. Fish and Wildlife Service, secretary of the National Fish and Wildlife Foundation, and seven individuals appointed by the Interior Secretary. *Wildlife Management Institute*

NEW ESS STAFF

The Environmental Services Section (ESS), which routinely reviews nearly 1,600 projects yearly, has acquired two new professionals to help increase the efficiency of their reviews and investigations.

Steve Adams is an aquatic ecologist with a Master of Science degree from Oklahoma State University. He will be located in the Topeka Wildlife and Parks office. Steve will be the liaison on environmental matters to a number of state and federal agencies. He will review and coordinate project assessments in the northeast region of the state, and serve as the agency expert on minimum stream flows.

Sherry Ruther is also an aquatic ecologist, having earned degrees in wildlife and natural resource management from North Carolina State and the University of Arizona. She will be located in the Pratt office and will review projects, handle fishkill and birdkill investigations, and investigate contaminant issues. *Bill Layher*

RIVER FARMING

Last issue (July/August page 23) we discussed one farmer's application to channelize 7,400 feet of the South Fork Solomon River. Dewatering, channelization and habitat destruction due to agriculture have degraded this once perennial flowing river, and the permit would have been another nail in the coffin. Although the South Fork in Sheridan

County has been an ecosystem under attack, this story appears to be a rare environmental victory.

In an unprecedented alignment, some residents of Sheridan County, members of the Solomon River Basin Advisory Committee, Kansas Department of Wildlife and Parks, Division of Water Resources, Kansas Water Office, State and Extension Forestry, Kansas Biological Survey, Kansas Department of Health and Environment, U.S. Fish and Wildlife Service, EPA, and other organizations and individuals banned together in opposition to such permits.

As a result, the U.S. Army Corps of Engineers, which had jurisdiction in the case, denied the farmer's application to farm the South Fork. Perhaps this grass-roots coalition can be effective in the future—not only in protecting the South Fork Solomon River from further destruction, but even in restoring this ecosystem to its former glory. *Larry Zuckerman, Environmental Services*

SATELLITE DATA

Researchers dependent on satellite data may soon find that this information is no longer available to them. The U.S. government is struggling to find ways to continue the Landsat satellite system, but lack of funding threatens to shut the system down.

The Kansas Applied Remote Sensing (KARS) program at the University of Kansas is the largest user of Landsat data in the state, according to the satellite's operator.

The program, which was founded in 1972 to identify uses for satellite data, currently works with several other public agencies, as well as private companies, on soil conservation, evaluation of wildlife habitat and drought assessment projects.

KARS gathers data and images for the Kansas Department of Wildlife and Parks, which is doing a survey of urban and suburban wildlife habitat. The study includes Johnson, Wyandotte, Sedgwick and Shawnee counties.

According to Bill Hlavachick, wildlife management supervisor for the Department of Wildlife and Parks, the survey was "designed to identify significant types of wildlife habitat as they exist in an urban environment, with the idea of giving city planners and developers information which would help them to consider wildlife and habitat in the planning and development processes."

Kansas State University's Geography Department is working with KARS to assess the effects of pasture burning on the Flint Hills. K-State uses Landsat data for several other environmental purposes, including predicting how water demand varies in the depleted Ogallala aquifer in western Kansas. *Wyandotte County Star*

PESTICIDES & DUCKS

New studies by the U.S. Fish and Wildlife Service and the Canadian Wildlife Service conclude that agricultural chemicals, particularly aerially-applied insecticides, "are either acutely toxic to waterfowl, to the aquatic invertebrates on which adult and juvenile waterfowl depend for food, or both." One report concludes that pesticide inputs "must be reduced if the North American Waterfowl Management Plan (NAWMP), and in particular, the proposed Prairie Pothole Joint Venture (a key NAWMP project), are to succeed."

A preliminary report on research conducted in North Dakota, home of the most productive waterfowl habitat in the United States, found that more than 96 percent of mallard ducklings died after being released onto wetland areas in sunflower fields sprayed with ethyl parathion; less than 50 percent died on untreated control areas. The study indicates that ethyl parathion is not unique in its toxicity; indeed, 13 of the 16 most widely used insecticides in that state are considered highly toxic to birds or aquatic invertebrates.

Even more alarming, perhaps, are studies which show that only 46 percent of pesticides sprayed from airplanes actually hit the target areas. In addition, the bulk of the chemicals are applied during the peak hatching and brood rearing season for mallard, pintail and other dabbling ducks.

Many farmers and research groups are, however, looking for new and safer ways to control pests. Integrated pest management, crop rotation, introduction of natural pest predators, pesticides on trap crops and more careful application of pesticides hold great promise to protect ducks, groundwater and food quality. *Izaak Walton League*

DELAWARE RIVER

The Kansas Department of Wildlife and Parks Environmental Services Section (ESS) has made a cooperative agreement with the U.S. Fish and Wildlife Service's National Ecology Center to study how fish and wildlife species respond to pollution. In 1988, funds from the Center allowed the hiring of temporary employees to collect data at nearly 50 streams in eastern Kansas. The data will help determine the effects of channelization on stream fish, riparian bird species and furbearers

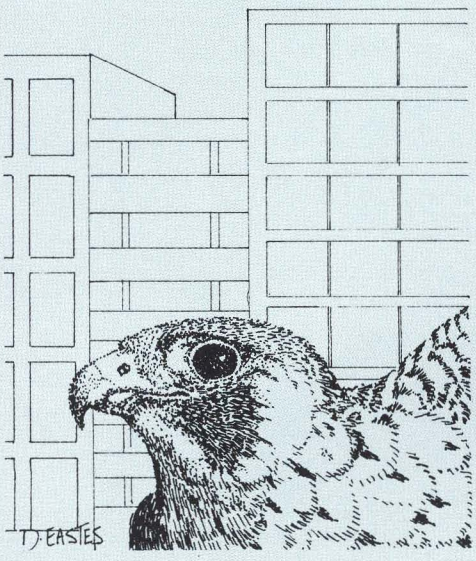
In 1989, the Department received funds to continue this effort. In fiscal year 1990, some funds will also be available to help the Soil Conservation Service (SCS) develop a pollution model to determine the magnitude of the pollution problem on the Delaware River and tributaries. Data collected from 23 stream sites will also allow the building of a model to predict the changes in fish population levels and community structure. Various land treatment alternatives will be recommended to reduce pollution from fertilizers and other sources.

With such information, the Department of Wildlife and Parks, the Environmental Protection Agency and the Kansas Department of Health and Environment can make sound decisions about reducing stream pollution. Data collection will take place in late summer and early fall of 1989. A few months after the data has been collected, Wildlife and Parks will have developed the necessary models to assess the SCS's land treatment alternatives. *Bill Layher, Environmental Services*

THINK EARTH DAY

April 22, 1990

NATURE



UPTOWN FALCONS

The endangered peregine falcon is making a few strides toward recovery in the most unlikely of places -- the city. A number of cities have reported the falcons nesting on skyscrapers. Apparently the perches remind them of the natural cliffs that are their customary homes. From here, they prey on a ready supply of pigeons, which have become pests in many cities.

Three peregines were spotted in Kansas City in the winter of 1988. Observers were able to identify the band numbers on two of the birds, placing their points of origin as Canada's Yukon Territory and Rochester, Mn.

All three left the city that spring, but one returned to Kansas City last winter, raising hopes that peregrine falcons may have found a safe winter haven in the heart of the city. *Shoup*

TRAIL PROJECT

Kansans may soon have a new outdoor opportunity if recent efforts by the Rails-to-Trails coalition of Kansas and the Landon Trail Coalition have their way. The organizations have pooled their efforts to create the Gov. Alf Landon Trail along a 21-mile section of the Missouri Pacific Railroad line from Topeka to Overbrook.

In action similar to that taken in 32 other states, the railroad, rather than abandoning the right-of-way, will hand over its easement to an agency willing to maintain it as a recreational trail. Known as rail banking, this procedure allows the public to make use of the recreational opportunities afforded by abandoned rail lines, while at the same time ensuring that valuable railroad corridors are preserved in case of national emergency.

Although the project has met with some opposition, the Interstate Commerce Commission has helped clear the way by issuing an order to conserve the transportation corridor easements along the line.

It appears that the only remaining obstacle is the absence of a public agency to adopt the project.

An additional attraction for this trail would be a steam train line between Forbes Field and Berryton. This project is close to a reality already, and would allow hikers or bicyclers to take the trail from Topeka to Forbes Field, hop on the train and get back on the trail at Berryton. If all goes well and a sponsor is found, a four and one half mile pilot project from Berryton to the Clinton Wildlife Area would be complete by next spring. If so, bicyclists, walkers, joggers, wheelchair users, birdwatchers -- even fishermen using railroad trestles above the Wakarusa River and other streams -- could have the opportunity to enjoy the Flint Hills of Kansas in a rich new way. *Shoup*

SLIPPING SKIN

Have you ever found a transparent snake skin, dicarded in the woods like some fragile stocking? Did you wonder with what haste or purpose it was left?

According to ancient beliefs, snakes perpetually renewed their youth by shedding their skin and were, therefore, immortal. Modern scientists know, however, that growth causes snakes to shed the old layer to reveal a newly-formed outer covering.

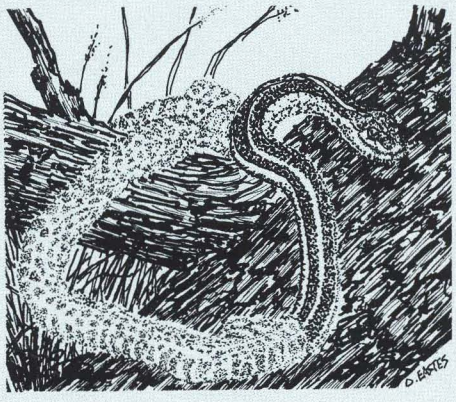
Snake skin consists of three layers. The innermost layer is the thickest and is composed of soft, elastic fibers with the pigment cells embedded in it. The middle layer produces keratin, which produces the tough outer layer. Keratin forms the fibrous tissue layer shed by snakes and is similar to mammals' hair and claws but is harder and more water resistant.

Much as humans and other mammals continuously produce new skin cells to replace the old, snakes replace their epidermis at periodic intervals. Shedding begins internally with glandular secretions that loosen the old skin.

The snake's outer appearance also changes. The skin appears milky, especially in the eye. A snake's eyes are usually clear, but this milky covering now impairs the snake's vision. During this time the snake hides until its vision is restored.

The snake sheds by rubbing the tip of its snout against a rock or other hard, rough surface. The old skin detaches around the mouth and turns inside out, then the snake rubs it backward over the head. Muscle contractions loosen the skin further until the snake works its way out, usually by crawling on rough surfaces. The natural color and pattern of the new layer is brighter and more distinct than the old skin was before shedding.

Shedding skin can take anywhere from a few minutes to a few days, depending on the snake's size and health, the weather, and the number of objects to rub against. Shedding frequency is variable, too. Some species shed once a year, while others shed several times. Young snakes usually shed more often because of rapid growth. *Shoup*



NOTES

MOWER IS LESS

If you've been a Kansas state park visitor in recent years, you'll probably soon begin to notice a change in the way most park areas are groomed . . . or not groomed. Part of a new management program being developed includes a 50 percent mowing reduction. That doesn't mean you won't find ample clean cut spaces for modern camping and other pastimes requiring groomed areas. But many park grounds that have been routinely mowed all summer long will be left to provide wildlife habitat and scenic prairie vistas. These unmowed areas will also provide aesthetically pleasing sites for tent campers who want more natural outdoor experiences.

In addition to the mowing reduction, you'll see many park fescue and brome grass pastures returned to native prairie grasses and forbs. This also is intended to make your parks more scenic and beneficial to wild animals. Non-native, cool season grasses, such as brome and particularly fescue, provide few benefits to wildlife; neither do they offer the dazzling seasonal hues of bluestem, Indian grass, switchgrass and other native species.

The stems of many native grasses bend without breaking under snow to provide perfect winter shelter for small animals. Native grasses also form stands of varying density, which allows wildlife to hide and move within their protective cover, and the seeds of many native grasses and forbs are superior winter foods. Non-native, cool-season grasses offer none of these benefits.

Another benefit of mowing reduction and native grass re-establishment will be a savings in park maintenance expenses. Revenues and labor formerly consumed by grass cutting will be rededicated to uses that will better benefit park users. Native grass pastures require no fertilizer or pesticides to maintain good health. Burned once every three years or so, native grasses thrive without further attention

Intensive farming, overgrazing and non-native grasses threaten the existence of the great grasslands that first made Kansas habitable. Part of the Department of Wildlife and Parks' mission is to conserve remaining native grasslands and the associated unique wildlife wherever possible. Reduced mowing and re-established native prairie are also important in preserving the state's vast biological diversity on Department lands. In addition, the presence of healthy native prairie in state parks will provide campers, hikers and other visitors with more opportunities to see and interact with wildlife. *Rob Manes*

LICENSE MONEY

The U.S. Fish and Wildlife Service has adopted a new regulation requiring state legislatures to give interest from hunting and fishing license funds to their fish and wildlife agencies. The ruling could increase state fish and wildlife budgets considerably.

The Federal Aid in Wildlife and Sport Fish Restoration acts require state legislatures to spend fishing and hunting license revenues only for fish and wildlife conservation programs. However, federal law has been unclear on use of short-term investment interest gained from these revenues. In Kansas, these interest monies go to the general treasury. With the Service's new ruling, this may change.

On May 17, the Service finalized a rule which requires that all interest, dividends or other income from "general or special licenses, permits, stamps, tags, access and recreation fees or other charges imposed by the state to hunt or fish" must be given to the state's fish or wildlife agency. States that do not comply would jeopardize federal aid.

In Kansas, legislation might be required in order to reappropriate these funds. The state has three years from May 17, 1989, to implement this reappropriation. If not, the state risks losing federal funds for fish and wildlife management. *Shoup*

TREE FARM FAIR

As the lines from the famous Joyce Kilmer limerick go, "Poems are made for fools like me,/ But only God can make a tree." Trees are without equal as creators of wildlife habitat, and their economic and aesthetic qualities are beyond anything technology can produce.

Although it may be true that only God can make a tree, man certainly makes abundant use of them, and can plant them as well. This appreciation of one of nature's most important natural resources is the focus of the Tree Farm Fair to be held at the Whelpley Tree Farm, 14 miles west of McPherson off U.S. Highway 56.

Guest speakers, riding tours of the farm, and lumberjacking demonstrations, will be included in the fair.

The Tree Farm Fair will be held Oct. 14-15, from 1:00 to 4:30 p.m. *Shoup*

CHEVRON AWARD

At May ceremonies in Washington, D.C., Dana Jackson of Salina was the recipient of a Chevron Conservation Award for 1989. She is one of an elite group of 20 individuals, both professional and non-professional, and five organizations to receive the award this year.

A former English teacher from Abilene, Jackson has been active in numerous grassroots conservation activities over a period of nearly 20 years. These efforts have ranged from organizing groups involved in recycling to public education about conservation-oriented agricultural practices. However, it was for her work as a professional conservationist that she received the Chevron Award.

In 1976, Jackson co-founded, and now co-directs, the Land Institute, a Salina research/education organization which emphasizes sustainable agricultural practices. In this capacity, she is responsible for organizing public programs at the Institute. She also helps edit the Institute's newsletter, *The Land Report.*

Chevron's Conservation Awards Program is the oldest of its kind in the U.S. Celebrating its 35th anniversary, the program recognizes those who devote themselves, often without pay, to natural resource conservation. It was founded in 1954 by Ed Zern, who is now editor-at-large for *Field and Stream* magazine.

Recipients of this year's Chevron Awards received $1,000. *Shoup*

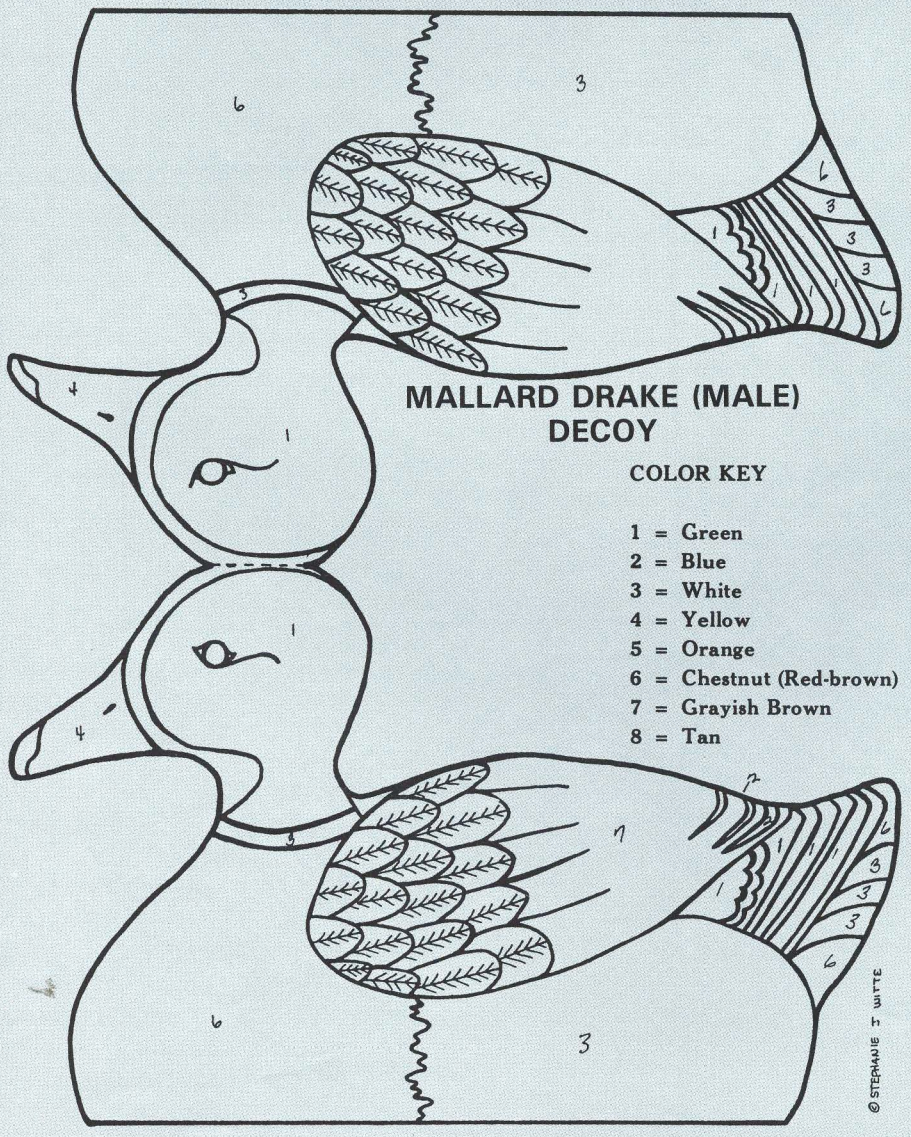
NATURE'S NOTEBOOK

by Joyce Harmon Depenbusch, Wildlife Education Coordinator

DUCKS AND DECOYS

Decoys are duck likenesses that are used to attract birds into an area. The first known waterfowl decoys were made by American Indians over a 1,000 years ago. The head and body were made of woven and tied bulrushes and reeds colored with pigment. Feathers were tucked into the body to make a fairly lifelike canvasback duck. These first decoys were found in Lovelock Cave, Nevada in 1924.

Decoys have advanced from reeds, mud and skins to wood and plastic, but they still attract ducks. Decoy carving has expanded to an art with beautiful models of birds as the end product. Below are two duck decoy models that can be colored to look like the live bird. Trace or make duplicate copies of the decoys and reinforce the back of the model with construction paper if necessary.



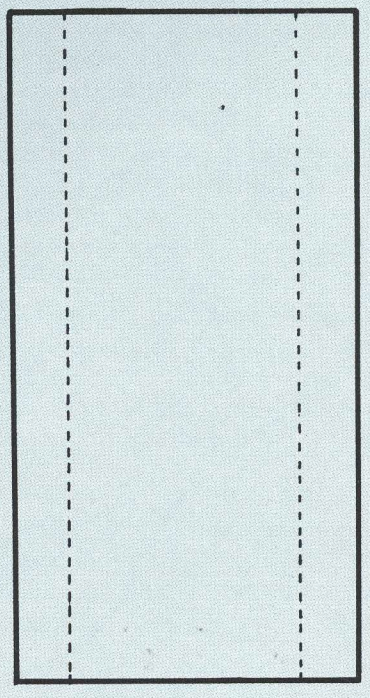
MALLARD DRAKE (MALE) DECOY

COLOR KEY

1 = Green
2 = Blue
3 = White
4 = Yellow
5 = Orange
6 = Chestnut (Red-brown)
7 = Grayish Brown
8 = Tan

The male mallard is nicknamed "Greenhead." Mallards are the most common kind of duck, and are found in all flyways. The adults weigh about 2 3/4 pounds and are about 24" long. Mallards often feed in flocks in early morning and late afternoon in farm fields, spending nights in marshes and creeks. They eat insects, grain and other vegetation.

BASE FOR MALLARD

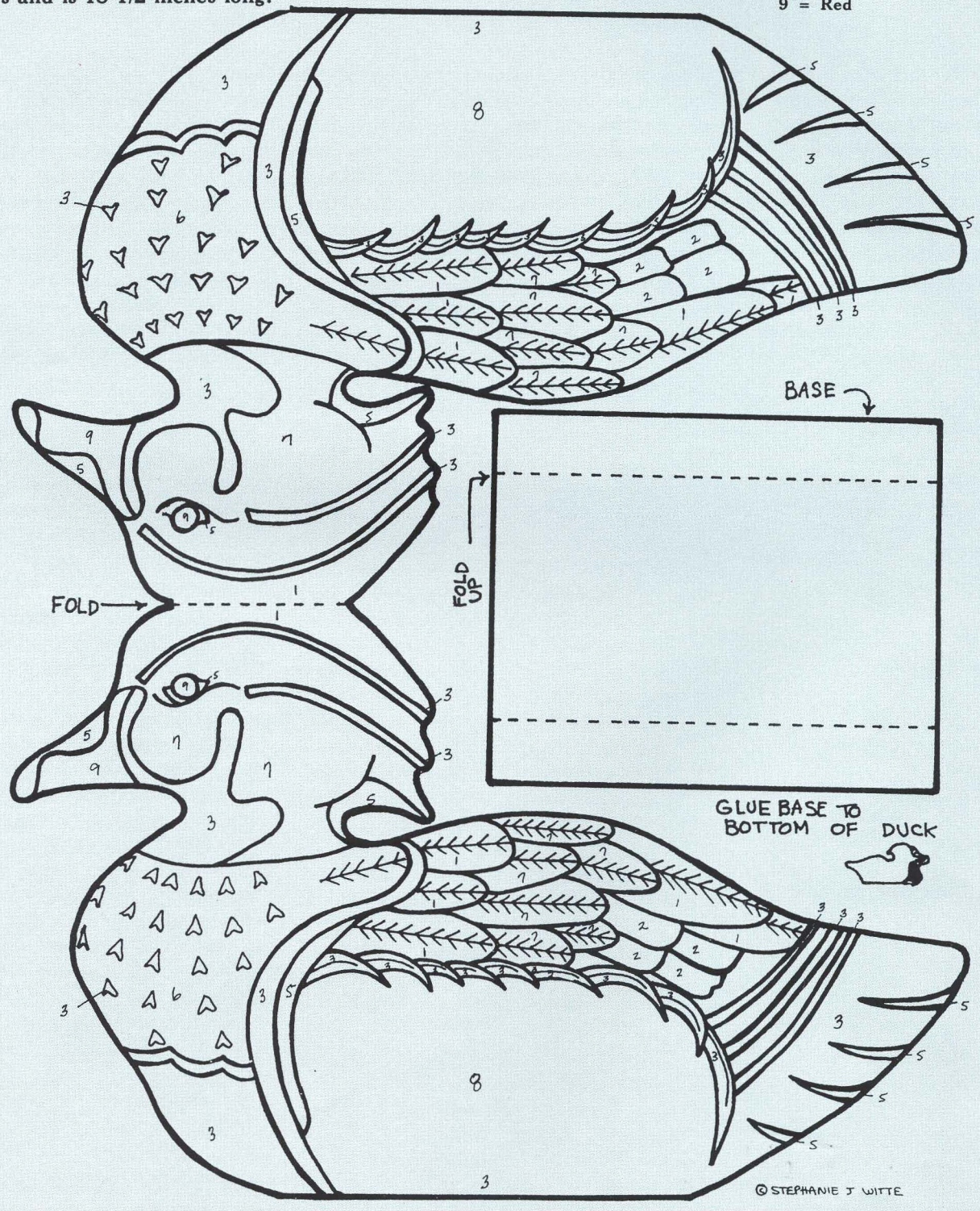


Wood ducks have beautiful plumage and are nicknamed "woody." They can be found in all flyways, often near wooded streams and ponds. They are able to fly through thick timber easily. Food for the wood duck includes acorns, insects, berries and other vegetation. The average adult weighs about 1 1/2 pounds and is 18 1/2 inches long.

WOOD DUCK DRAKE (MALE) DECOY

COLOR KEY

1 = Green
2 = Blue
3 = White
4 = Yellow
5 = Black
6 = Chestnut (Red-brown)
7 = Purple
8 = Tan
9 = Red



Silver Anniversary Deer Classic and Wildlife Art Expo

September 29 - October 1
Century II Exhibition Hall

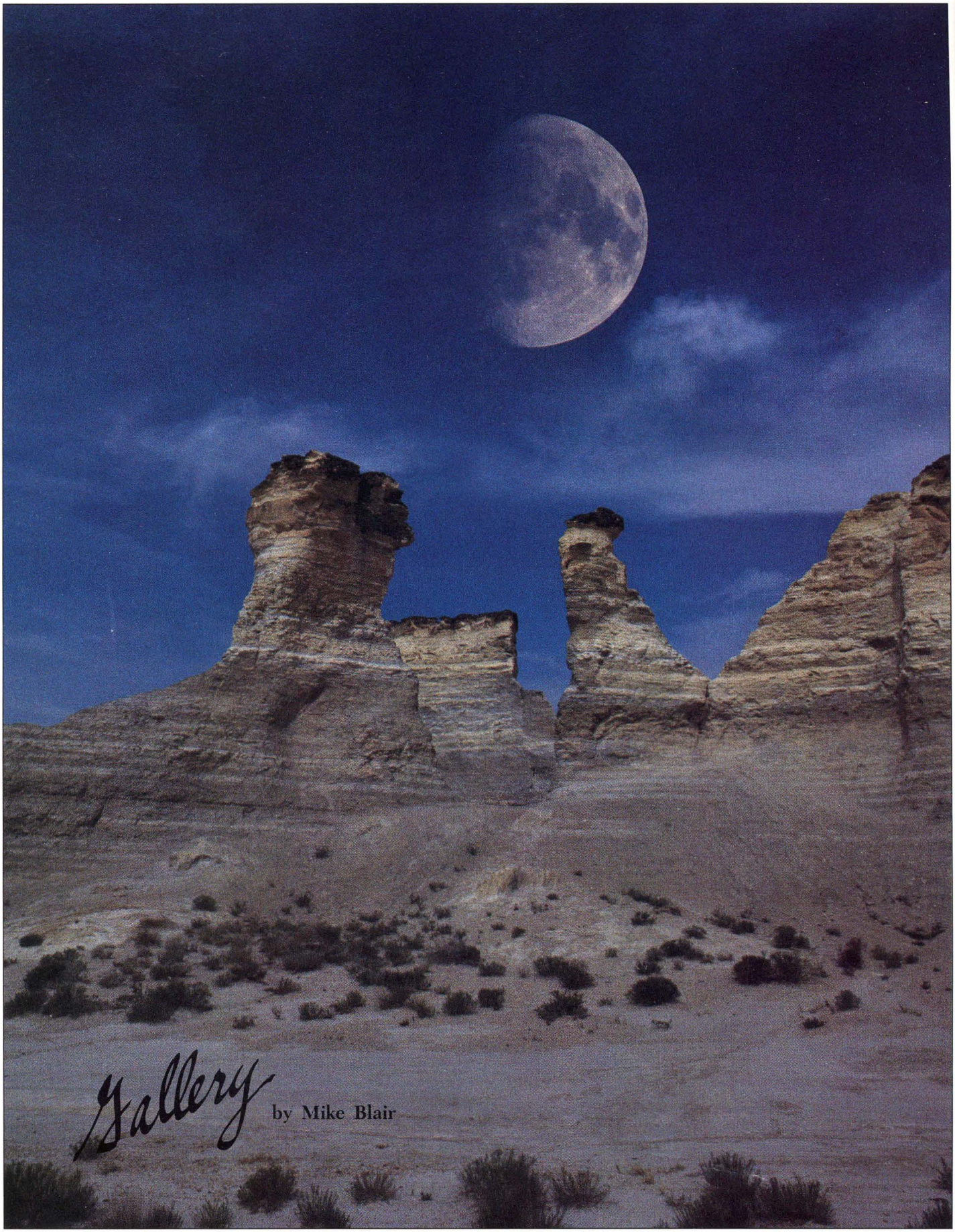
225 West Douglas, Wichita, Kansas

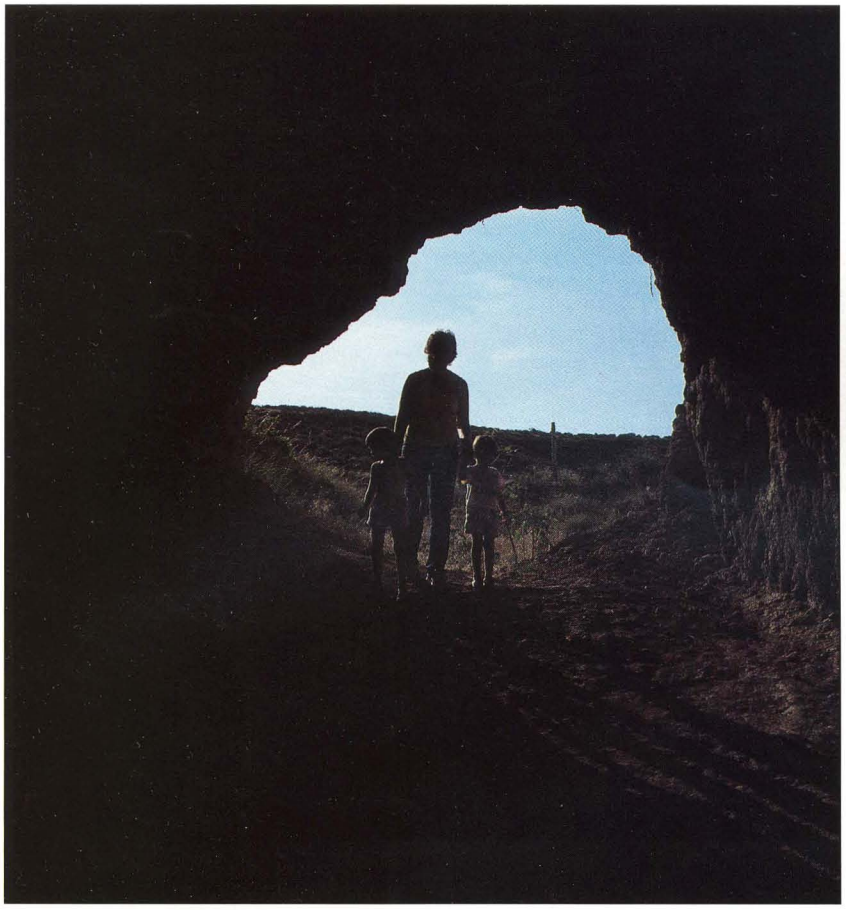
Friday 5-10 • Saturday 10-10 • Sunday 1-5
Admission-Adults $2.00
Children 12 and under Free

Join us for a wild weekend.

See breathtaking taxidermy mounts of the most awesome whitetail and mule deer bucks taken during Kansas' twenty-five years of deer hunting. **Browse** among a sparkling collection of wildlife art displayed by more than forty of the Midwest's finest artists. **Learn** how professional wildlife photographers capture nature's beauty on film and videotape. **Be** one of the first to see artwork selected for the 1990 Kansas duck stamp. **Inspect** the latest in outdoor gear displayed by sporting goods manufacturers and retailers. **Win** one of numerous door prizes to be given away. **Take** home a new appreciation for the rich wildlife resources of Kansas.

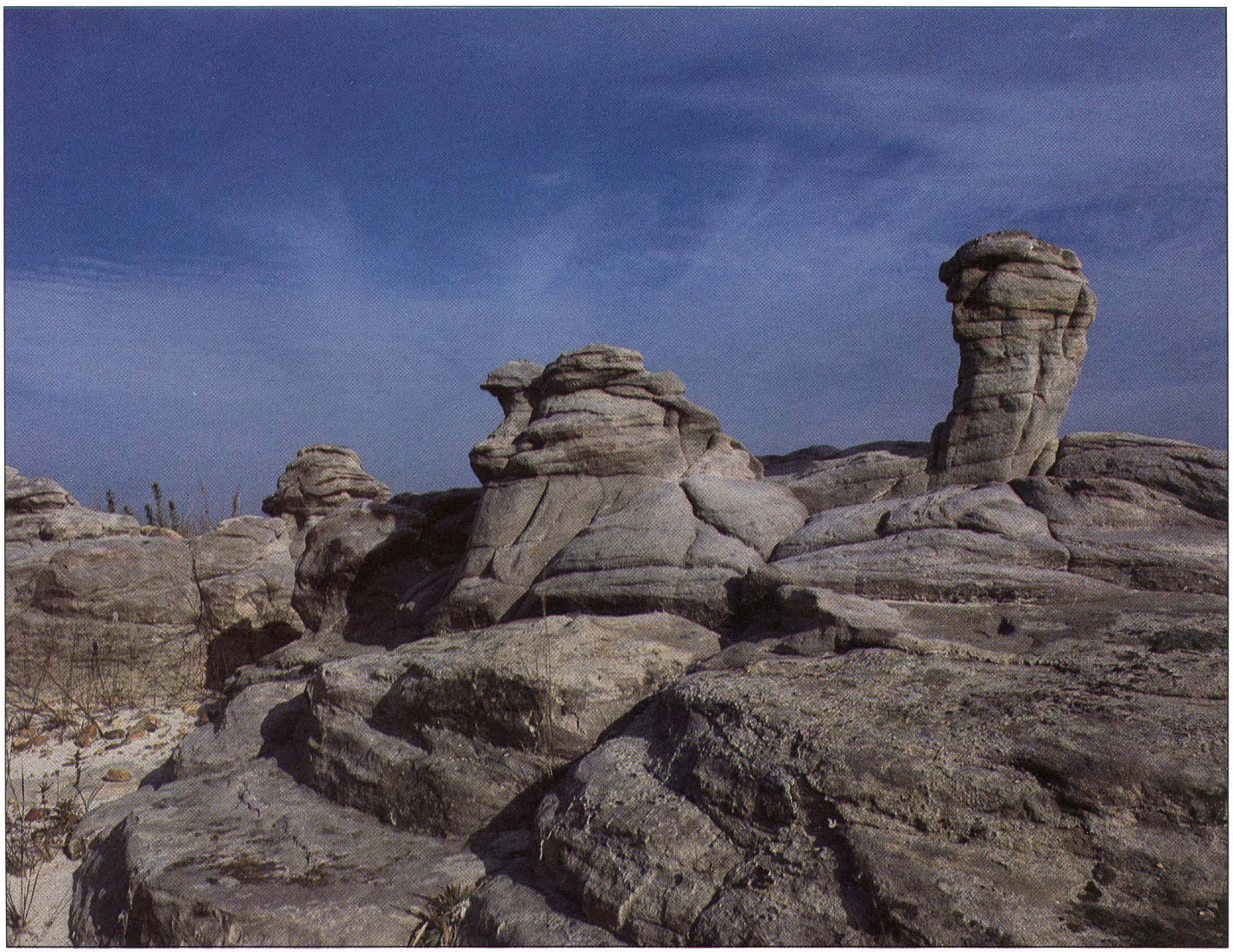
Co-sponsored by Kansas Department of Wildlife and Parks and KQAM Radio


Gallery
by Mike Blair



To out-of-staters, Kansas is flat, desolate country with little scenic value. In this Gallery, Mike Blair gives evidence to the contrary. There are many rough and wild places for those who venture off the paved surface to find them. Some of these geological sculptures were formed in violent earth upheavals, while others have been shaped by thousands of years of wind and erosion. **Opposite page:** Chalk pyramids and moon. Double exposure: moon, 600mm, f/4 at 1/500; scene, 24mm, f/16 at 1/v25. **Left:** Horsethief cave, Cheyenne County. 24mm, f/16 at 1/60. **Below:** Sandstone formation, Barber County. 50mm, f/8 at 1/250.

Opposite: Rock outcropping, Cedar Bluff Reservoir. 55mm, f/13.5 at 1/125. **Left:** Plant on rock face, Wilson Reservoir. 50mm, f/8 at 1/250. **Below:** Sandstone formation, Barber County. 24mm, f/16 at 1/60.



25 Years of DEER MANAGEMENT in Kansas

Nearly absent from Kansas by 1900, deer have made a remarkable resurgence in recent years. Much of the species' success is due to funding by sportsmen and enlightened management practices.

by Bob Mathews
assistant chief, Education and Public Affairs Division
and Keith Sexson
big game coordinator
Emporia

Considering the fact that deer have been around for 15 million years, it may seem ludicrous to look back at their past 25 years of existence as a "milestone." However, placed in the proper perspective, there is legitimate cause for us Kansans to celebrate this particular anniversary. Twenty-five years ago this fall, Kansas hunters took to the field for the state's first deer season in modern times. Slightly more than 5,000 firearms and archery hunters participated in that inaugural season. This fall, more than 50,000 firearms hunters and nearly 15,000 archery hunters will match wits with a whitetail or mule deer in Kansas. While those numbers represent a dramatic increase, they tell only part of the story.

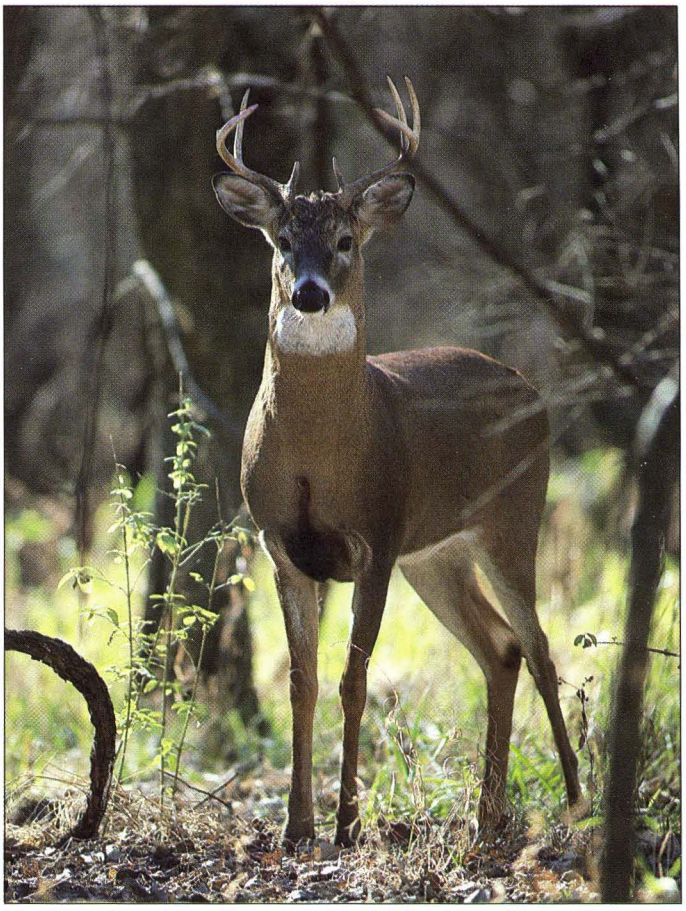
The fact that we have a healthy, dynamic deer population in Kansas today is, by itself, ample reason to celebrate. But the real cause for celebration is what we've learned . . . about deer and about ourselves . . . in the process of restoring this fundamental member of our wildlife community.

When Lewis and Clark's 1803 expedition passed through the site where Kansas City now stands, the Missouri River bottoms contained large concentrations of white-tailed deer. On his way to the Rocky Mountains, Zebulon Pike documented numerous whitetails in the eastern third of present-day Kansas, and abundant mule deer sharing the prairies farther west with bison, pronghorn and elk. For most Kansans, the subsequent decline in numbers and range of these large, native mammals is a familiar story. The massive conversion of prairie to croplands, along with uncontrolled hunting, profoundly altered wildlife communities throughout the Great Plains.

Our two native deer species retreated into the shrinking remnants of wild country. By 1890, deer were scarce in Kansas. By 1900, they were virtually gone from the state. Through the 1930s, deer were not abundant anywhere in the Great Plains. Ironically, the drought of the 1930s set the stage for the return of deer to Kansas. The prolonged drought reduced streamflows, allowing woody plants to better survive the scouring action of heavy flows. At the same time, conservation measures applied to the land, such as the planting of shelterbelts and placement of flood control structures further enhanced the growth of trees and shrubs.

Meanwhile, deer began re-occupying areas they had forsaken, relying on the regenerated cover along stream corridors. By the early 1950s, deer were being seen frequently in many parts of Kansas. Their numbers have grown steadily since, due primarily to enlightened management practices underwritten by sport hunters, and to the adaptability of the animals themselves. The millions of dollars hunters have devoted to the development of wildlife management in this country have paid off in a big way, considering the fact that deer numbers have rebounded from a low of around a half-million deer in the U.S. in 1908 to about 20 million today.

These days, wildlife managers apply a systematic, goal-oriented approach to maintaining a healthy deer herd in Kansas. The state is divided into 18 deer management units, each with its own unique character and set of challenges. Each unit is considered independently in the establishment of harvest goals and permit quotas. This allows more responsive strategies to be implemented to



Nearly extinct from Kansas in 1900, the sight of a young white-tailed buck like this is now common.

Ron Spomer photo

Father and son drag the son's buck from the field. The first modern deer season was held in 1965, when 5,000 hunters went afield. This year more than 60,000 Kansans will pursue deer.

Trophy-sized bucks like this one are the result of good management and a healthy deer herd. The largest bucks are usually 3½ to 7½ years old.

benefit regional deer populations.

One factor common to all management units is landowner tolerance. Since most of Kansas is in private ownership, landowner tolerance of deer is an important consideration. Wildlife and Parks biologists routinely consult farmers and ranchers to gauge the frequency and severity of deer damage to crops. Every five years, questionnaires are sent to 3,500 landowners randomly selected from ASCS county mailing lists to determine trends in landowners' opinions of deer. In 1965, few landowners considered deer a liability to their farming operations. In the 1980s, with burgeoning deer numbers in some areas, the story is different. Responding to that sentiment is exemplified in two deer-rich management units in southeast Kansas. To help stabilize deer numbers there, multiple hunting permits are being offered this year.

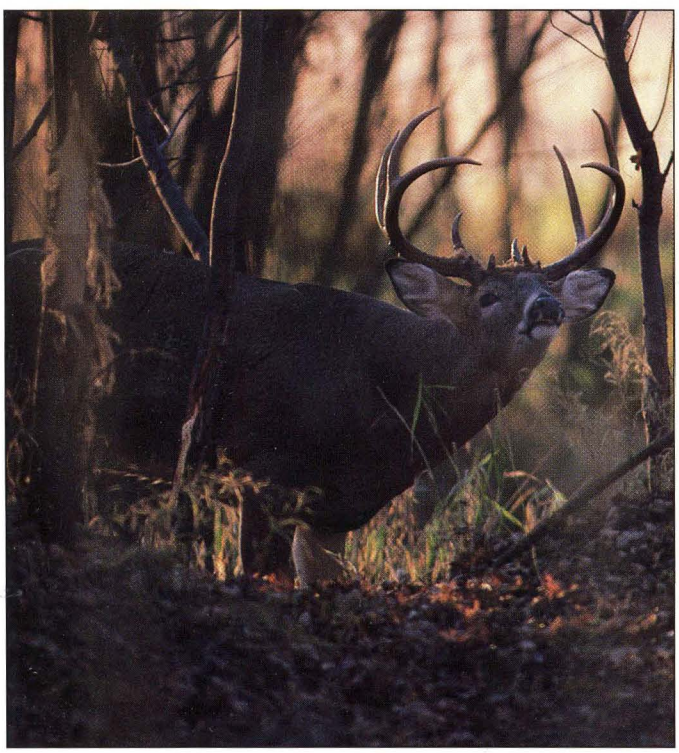
Deer hunters figure prominently in many strategies aimed at manipulating regional or local population levels. When the goal is to stabilize or decrease deer numbers in a given area, the most effective tool available is to allow hunters to remove female deer from the population. Such is the case for the two units mentioned above. Issuing more "antlerless only" permits will stabilize or decrease local herd size.

Conversely, if a population increase is the goal, the female deer are protected and "bucks only" permits are the rule. Kansas mule deer provide a case history. When Kansas deer hunting was opened in 1965, mule deer were the primary species in the western hunting units, and harvest goals did not differentiate the two species. An insignificant portion of the deer taken in western Kansas were whitetails. However, the expansion of whitetails into traditional mule deer country in succeeding years complicated matters. As the total deer population increased, thanks to the influx of whitetails, permit quotas out west were boosted. Further complicating the situation was the fact that mule deer are, by nature, more curious and, therefore, more vulnerable to hunters than the warier whitetails. The result was a disproportionately high take of mule deer by western Kansas hunters. In response to the problem of declining mule deer numbers, wildlife managers in 1979 began limiting the take of mule deer does by issuing "whitetail only" and "bucks only" permits in those western units. As expected, mule deer responded positively and their numbers appear to be on the rise.

Kansas wildlife managers are concerned about more than just numbers of deer. In establishing permit quotas, age structure of the deer herd is an important consideration, too. It's impossible to manage a deer herd so that every hunter can take a trophy deer every year, but the chances for a trophy buck in Kansas are better than in most states. Bucks from 3½ to 7½ years old grow the biggest antlers.

To monitor trends in age structure, firearms deer hunters are asked to submit the two primary incisors from harvested deer in special envelopes provided in their permit packages. By visual inspection, the teeth from fawns and 1½ year old deer are separated from those of older

Nothing can send fire through a deer hunter's veins like the sight of a big buck. In recent years, Kansas has gained a reputation for big bucks. Kansas hunters have many bucks listed in the record books of Boone and Crockett and Pope and Young.



deer. Samples of the adult incisors are sectioned and microscopically aged by counting the number of growth rings or dental cementum annuli. By adjusting permit quotas based on that information, a reasonable percentage of trophy bucks can be maintained in each unit. One goal specified in the Department's strategic plan is to maintain a buck age ratio of no more than 60 percent yearlings in the harvest.

Some of the most important players in the effort to safeguard Kansas' deer resource are conservation officers. The illegal take of deer in some parts of Kansas is believed to equal the legal harvest. While there is no way to confirm that theory, conservation officers have enlisted a variety of new techniques during the past 25 years to counter illegal and unethical taking of deer.

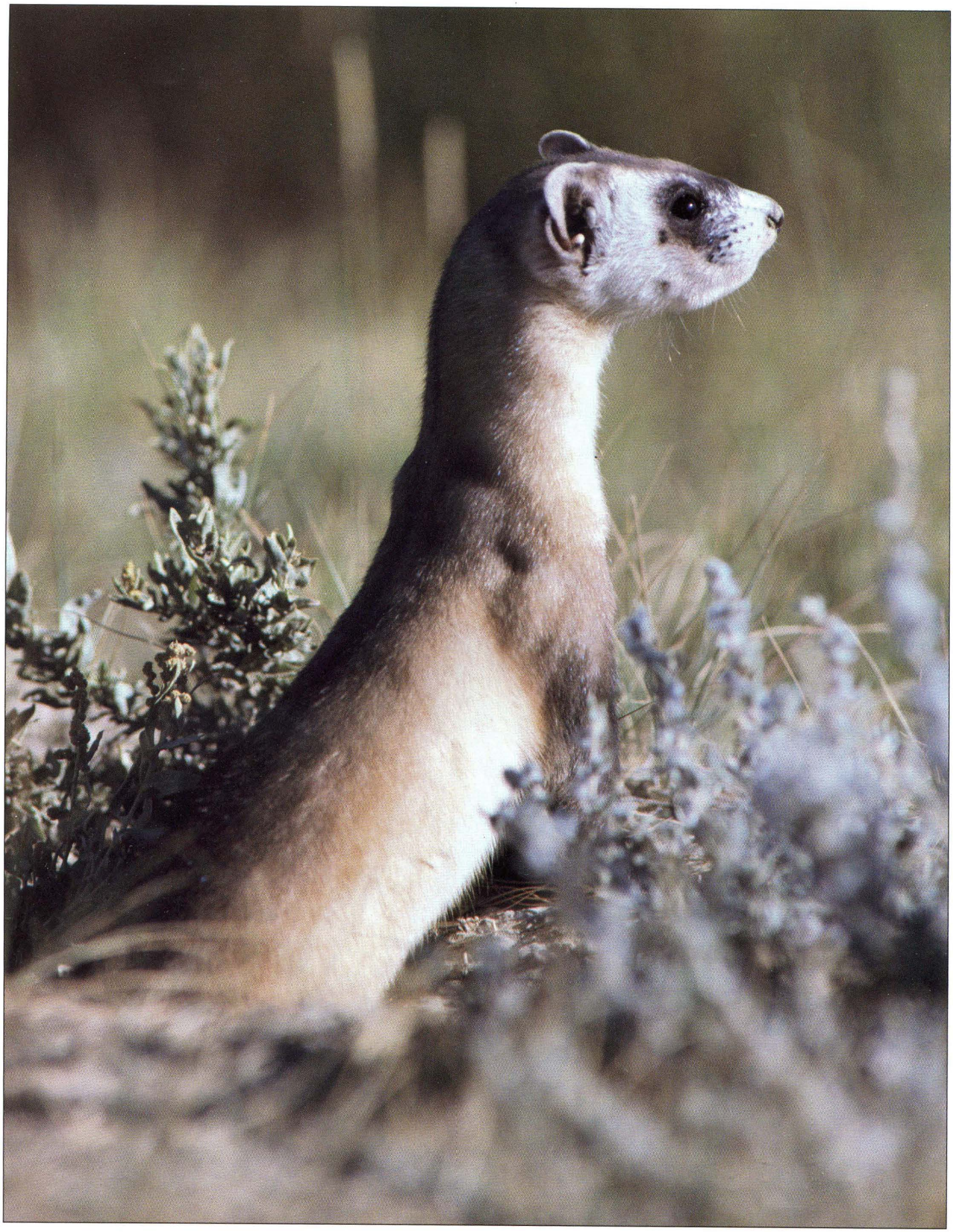
One of the most effective techniques involves the help of all Kansas citizens. Operation Game Thief was introduced in the 1980s. The program invites any Kansas citizen who witnesses a violation to call a toll-free telephone number (1-800-228-4263) to report it. The complaint is immediately forwarded to the conservation officer nearest the origin of the violation for action. While the service applies to any wildlife-related violation, deer poaching is one of the most reported.

Conservation officers have, in the past three years, employed another innovative technique aimed at illegal and unethical deer hunting. Officers place a full-body taxidermy deer mount in locations where illegal road hunting and trespass are rampant, then observe and apprehend violators who mistake the decoy deer for the real thing. The technique allows officers to apprehend violators in the act but, more important, serves as an effective deterrent as word of the technique spreads among would-be violators around the state.

Finally, one of the most effective insurance policies against mismanaging Kansas' deer resource is simply a well-informed public. The more people know about deer and what they need to survive, the more efficient will be the future management of our deer.

Kansas deer resources have come a long way from the dark days of the early 1900s. We've learned from bitter experience that this popular species is not to be taken for granted. It's appropriate that we pause now and consider how much has changed in the past 25 years. It's appropriate, too, that Kansas hunters be allowed the luxury of revelling in this Silver Anniversary year.

Among the projections we can make about the upcoming hunting season is that roughly four out of ten archery hunters, and seven out of ten firearms hunters, will bring home some venison. We also know that ten out of ten hunters will come home with vivid memories, stories worth telling and retelling, and a generous share of "smarts" conferred on them by some of the state's leading citizens: Kansas deer.



Return of the MASKED STRANGER

The black-footed ferret was once relatively common across the Great Plains states, including Kansas. Now nearly extinct as a result of prairie dog eradication efforts, the ferret's last hope is a captive breeding program.

by Dan Mulhern
endangered species biologist
U.S. Fish and Wildlife Service
photos by LuRay Parker
Wyoming Game and Fish Department

It's after sundown, and a light breeze is blowing. In the soft light of a half moon, a solitary figure moves stealthily through the town. A black mask adorning its face, the figure slinks from dwelling to dwelling, inspecting each entrance. Unlike most nighttime prowlers, the searching is not for a vacant home to rob, but for an occupied one. The distant call of an owl freezes the prowler in its tracks. As silence returns, the search continues, and the masked stranger gradually disappears into the night.

The described scene, once common in our country before 1900, no longer occurs. It is not a result of improved law enforcement, but rather a result of human negligence and the demise of the prowler's habitat. Today, concerned individuals in many states are working to restore this scene to the American landscape.

Why? Because the "town" described is a prairie dog town, and the masked prowler is a black-footed ferret, the rarest mammal in North America.

The black-footed ferret, of the family *Mustelidae*, closely resembles a large weasel, to which it's related. Averaging slightly more than 18 inches long, the ferret is a tawny yellow color with a distinctive black face mask, black feet and legs, and a black-tipped tail. The ferret's association with prairie dog towns is one of life and death. Black-footed ferrets are almost completely dependent on prairie dogs for survival. They kill and eat prairie dogs and use prairie dog burrows for shelter and denning.

Black-footed ferrets formerly ranged across the Great Plains states including Texas, Oklahoma, New Mexico, Arizona, Utah, Colorado, Kansas, Nebraska, Wyoming, South Dakota, North Dakota and Montana, as well as the Canadian province of Saskatchewan. And evidence suggests the ferret probably occurred in northern Mexico as well.

Plains Indians were familiar with the black-footed ferret. They used ferret skins as ceremonial objects and included ferrets in their stories. American Fur Company records from the 1830s indicate ferrets were trapped on the plains of the upper Missouri River Basin. The species may have been relatively common at one time, but its secretive, nocturnal nature makes it a very low-visibility creature, resulting in human ignorance of its natural history and role in the prairie ecosystem.

Habitat for the ferret is defined by one factor: prairie dog colonies. North American prairie dog colonies were estimated to occupy 692 million acres in the late 1800s. By 1910, 100 million acres still remained. If this

habitat was fully occupied by black-footed ferrets at densities observe in more recent populations, as many as 5.6 million ferrets could have been supported at the turn of the century.

What happened to reduce this widespread species to one hanging on the brink of extinction? Unfortunately, as is the case with some other species, the arrival of white man on the plains seemed to signal the beginning of the end for the black-footed ferret. Farmers, anxious to settle new land, plowed many acres of prairie. Cattlemen saw the grass-loving prairie dog as a competitor, and the burrows a threat to cattle. Efforts to reduce or eradicate prairie dogs began in earnest.

From 1916 to 1920, following the availability of inexpensive rodent poisons, prairie dogs were poisoned and eradicated from 47 million acres in six western states. This factor, coupled with natural disease susceptibility, took its toll on the prairie dog. Various estimates suggest there has been a 90 percent to 95 percent reduction of historically occupied prairie dog habitat since the early 1900s. Remaining prairie dog colonies are smaller and more isolated. During this period, the black-footed ferret, an innocent bystander in the range war, began to quietly disappear. No animosity was exhibited toward the ferret, but its dependence on prairie dogs made it an indirect casualty of prairie dog control campaigns.

In the 1950s, biologists still believed ferrets occurred across a broad area of its range, although in very low numbers. Of approximately 130 counties and provinces where ferrets had been found since 1880, only 10 were recorded to have ferrets by the 1960s. Subsequent declines led many to fear the worst for the species.

In 1967, the black-footed ferret was given legal protection under the Endangered Species Preservation Act (which was modified twice and replaced with the Endangered Species Act of 1973). The ferret has maintained its designated status as an endangered species. In 1974, the U.S. Fish and Wildlife Service established a Black-footed Ferret Recovery Team to develop a recovery plan. Meanwhile, search efforts for ferrets continued through the species' former range.

The black-footed ferret is the rarest mammal in North America. The only known surviving are in captivity. Ferret numbers plummeted due to eradication of the prairie dog.

In 1964, a black-footed ferret population was discovered in South Dakota. With this discovery began 11 years of extensive studies. Biologists located more than 90 ferrets and documented 38 young produced from 11 litters. This was a highly dispersed, low-density population scattered over approximately 7,700 square miles.

By 1971, poor reproduction and a lack of additional ferrets to help boost the faltering South Dakota population prompted the Fish and Wildlife Service to capture six of the animals. The ferrets were taken to the Service's Patuxent Wildlife Research Center in Laurel, Md. for the purpose of captive breeding. Four of these animals died after inoculation with a modified live vaccine for canine distemper, a disease which is now known to be 100 percent fatal to black-footed ferrets. Through 1974, three more ferrets were brought to Patuxent as the wild population faded. Reproduction of the captive animals was unsuccessful, and in 1979, the last ferret died in captivity, closing the book on the South Dakota population.

In September 1981, a ranch dog killed a black-footed ferret near Meeteetse, Wyo., leading to the discovery of a nearby population. The ferrets were found distributed among 7,400 acres of prairie dog colonies in an area of approximately 77 square miles. Research was immediately initiated, studying such aspects as tracking and locating ferrets, estimating abundance and distribution, and finding techniques to radio-monitor, capture and safely handle the animals. A total of 186 young were produced from 1982 through 1984. Population estimates ranged from 88 to 95 ferrets in 1983 to 129 in 1984.

In 1982, the Fish and Wildlife Service designated the Wyoming Game and Fish Department lead agency on ferret recovery in the state. The Department established a Black-footed Ferret Advisory Team to advise it on ferret management and research. A decision was made in 1984 to begin captive breeding as soon as possible, with live-trapping of ferrets scheduled for fall 1985. That summer, however, a sylvatic plague outbreak reduced the prairie dog colony by about 20 percent.

Then in August 1985, low ferret population counts and the sudden disappearance of ferret litters generated concern that a problem was developing among the ferrets as well. The problem was subsequently diagnosed as canine distemper, threatening the entire ferret population. Population estimates in 1985 went from 58 ferrets in August to 31 in September and 16 in October. Meanwhile, attempts were made to live-trap as many of the animals as possible. Most were captured during 1985 and 1986, with the last known free-ranging ferret captured in February 1987. A total of 18 ferrets were captured, one of which soon died.

A captive breeding facility funded by the Fish and Wildlife Service and the Wyoming Game and Fish Department, to be managed by the state, was partially completed at the Sybille Wildlife Research and Conservation Education Center in 1986. Work continues to upgrade and expand the facility, and captive breeding efforts are ongoing. Two litters were born in 1987, producing the first captive-bred black-footed ferrets to survive to adulthood. With additional births in 1988 and 1989, including 70 surviving young this year, 128 ferrets resided in captivity, including 17 wild-caught and 111 captive-bred animals.

With these modestly successful beginnings, there is guarded optimism for the future of this species. But where to we go from here? Current recovery efforts focus on three primary approaches: maintain and increase a healthy captive population; continue the search for additional wild ferrets; and evaluate existing prairie dog habitat to determine suitable sites for ferret reintroductions.

The captive population is understandably receiving much of the attention these days. Questions about reproductive techniques are being answered as the program progresses. Disease is still a major concern. In order to avoid having all our ferrets in one basket, so to speak, the population has recently been split, sending captive-reared young to breeding facilities in Virginia and Nebraska. Some of these ferrets contributed to reproduction in, this, their first year.

Because of the low number of original wild-caught animals (18), the genetic stability of the expanding captive population is in question. For this reason, discovery of additional ferrets in the wild would be a tremendous benefit to the program. But the chances of this happening becomes less likely each year.

Finding suitable reintroduction habitat is a top priority. Baby ferrets in a cage do not a wild species make. And the longer the population is maintained in captivity, the greater the risk of breeding a domesticated strain of animals unfit for survival in the wild. Experimental reintroductions are tentatively scheduled for 1991. Initial releases may occur in the Meeteetse, Wyo. prairie dog colonies. This is where wild ferrets last existed, and where we know the most about what to expect in terms of normal behavior.

Depending on the initial success, additional releases will occur in suitable habitat. Many of the remaining prairie dog colonies in North America aren't suitable. To achieve the desired goal of 10 or more wild ferret populations, only 10 percent to 12 percent of the remaining acreage of prairie dog colonies will be required.

There are many unanswered questions in the reintroduction program. Unfortunately, biologists don't have the luxury of many years to gain answers. When excess ferrets become available for release, they will provide the answers. And we will all be anxiously watching and waiting, hopeful that the masked stranger will again prowl the plains.

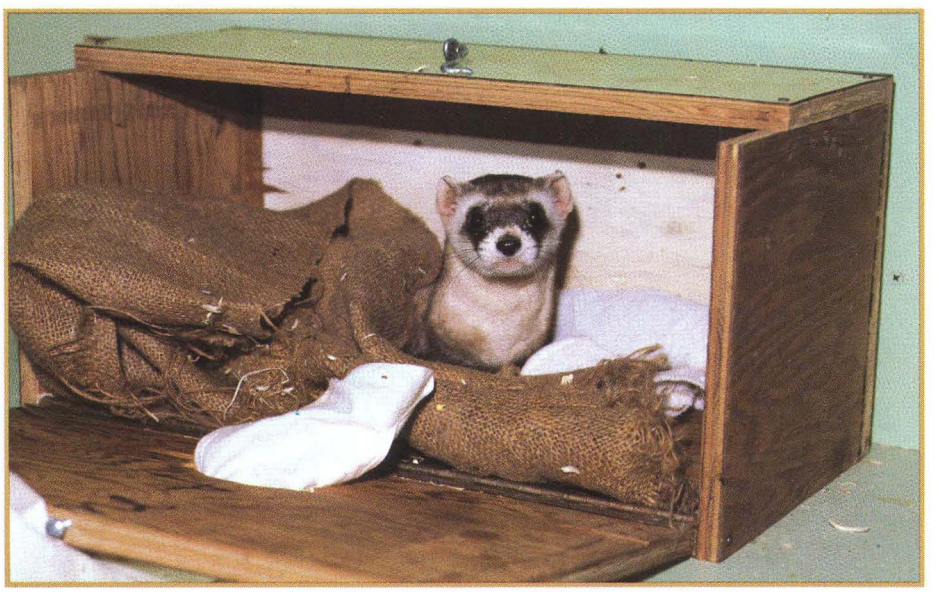
The Black-footed Ferret In Kansas

In November 1978, a black-footed ferret skull was discovered in Gove County. This was the first physical evidence of the species in Kansas since 1957, and represented only the third specimen collected since 1935. It was impossible to determine the precise age of the skull, however, it is a reminder of black-footed ferrets in Kansas in the not-too-distant past.

No one knows for sure if black-footed ferrets still exist in Kansas. But each year that passes without a ferret discovery diminishes the possibility. Sightings of ferrets are still reported from Kansas, the most likely coming from Morton County in the extreme southwest. But despite follow-up investigations by the Department of Wildlife and Parks and the State Wildlife Extension Service, none of the sightings have been verified.

As is the case throughout the country, the key to the black-footed ferret in Kansas is the prairie dog. We've already looked at the historical friction between prairie dogs and agriculture. In a farming and ranching state like Kansas, where does the prairie dog stand?

While it is estimated that 50,000 to 75,000 acres of prairie dog colonies still exist in Kansas today, the towns have been fragmented. Many Kansas prairie dog towns are small and isolated, decreasing their ability to support black-footed ferrets. Colonies of 1,000 acres or more are recommended for reintroduction purposes. Colonies may be represented by a single large dog town, or by several smaller towns within 4½ miles of one another (considered together as a complex). The distance of 4½ miles is based on the known distance a ferret may travel in one night. It is not known how many, if any, complexes



This ferret at the Sybille Wildlife Research Center in Wyoming is one of the 18 adults captured near Meeteetse, Wyo. A total of 111 young ferrets have been produced at the Center through the spring of 1989.

of this size exist in Kansas.

If proper habitat is found in Kansas, the state still won't rank among the top one or two reintroduction sites. But the goal is to achieve the widest distribution of wild ferrets possible, which could include every state where they formerly existed. If the captive breeding project meets its high expectations and initial stockings are successful, marginal habitat areas, such as Kansas, will be considered. But there is one basic question: do we want black-footed ferrets in Kansas? And that raises yet another question: do we want to maintain prairie dog populations in Kansas?

Answers to those questions probably depend on your perspective and what you do for a living. A cattle rancher may legitimately see prairie dogs as an economic liability. But can we answer questions of a species' survival based on bank accounts? The question of the "value" of a prairie dog town may be a philosophical one, one that the prairie dog could easily ask of us as well.

A prairie dog town is not just a pasture with a lot of holes punched in it swarming with rodents. It is a complicated ecosystem that supports a variety of wildlife including burrowing owls, migratory shorebirds, hawks, coyotes and a host of other birds, mammals and reptiles. In another time, the black-footed ferret depended on the prairie dog town as well.

It is this link with prairie dogs that makes people hesitant to support the reintroduction of ferrets. No one is opposed to ferrets, but there is a fear that ferrets will represent blanket protection for the prairie dog; that once a ferret is released, that particular dog town can never be touched again. This is not true, thanks to special experimental population rules adopted by Congress for reintroduced species. Some experimental populations may be considered nonessential to the overall population of the species and would not carry the full restrictions of the Endangered Species Act. Therefore, any reintroductions of ferrets on private land in Kansas and elsewhere, would be conducted in a manner that would not restrict or hinder normal use of that land. Should the need arise for management of prairie dogs in a reintroduced colony, it could be accomplished through coordination between the landowner and the wildlife agencies involved. Obviously, management in this case is not synonymous with eradication, as some people may view it.

If the black-footed ferret is to roam the prairies of Kansas again, some landowners must be willing to coexist with the prairie dog. Those persons may not want prairie dogs spreading beyond current limits, but they don't want to wipe them out either. The future of the black-footed ferret in Kansas will rely on people who are interested in the species, persons who would be proud to be a part of wildlife history in the making.

If this sounds like you or someone you know, contact Dan Mulhern, U.S. Fish and Wildlife Service, 215 Southwind Place, Manhattan, KS 66502, or call (913) 539-3474. Who knows? Once reintroduction techniques are perfected, Kansas may again be home for a native species absent for many years. There are many Kansans who would be happy to welcome the masked stranger back.

These young ferrets represent hope for the future. As the captive breeding program succeeds, plans are to reintroduce ferrets to wild prairie dog colonies in many areas of the ferret's former range.

HIGH GROUND

by Marc Murrell

Coming Home

Thinking back to May 1987, there were many exciting things happening in my life. I was graduating from Kansas State University with a fisheries and wildlife biology degree, I was engaged to be married, and I accepted a fisheries management job on the coast of North Carolina. I was excited as I embarked on a new life, but I was apprehensive about being more than 1,300 miles from family and friends and an accustomed way of life in Kansas.

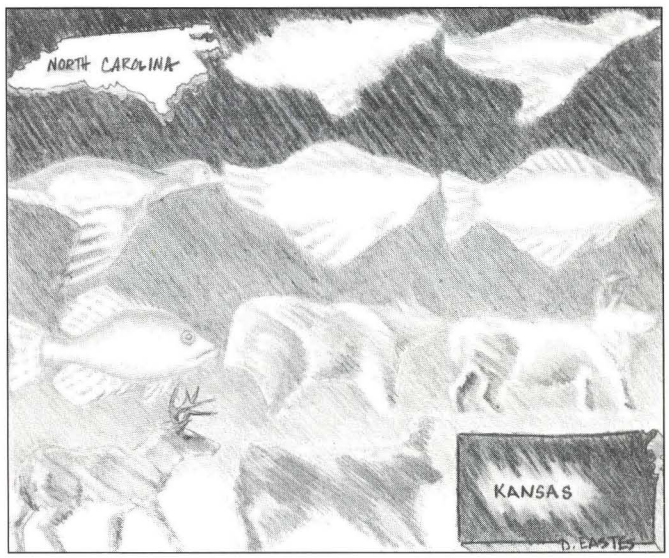
I loaded all my worldly belongings into a rental truck and prepared for the long journey. The last thing on the truck was my Brittany hunting companion Brandi. My mother and sister cried as we said our goodbyes and to this day, Chari claims she only cried because she was going to miss Brandi. I still don't believe her.

Twenty-four driving hours later, Brandi and I entered Tarheel country. Thousands of acres of towering pine trees lined the highways. It was beautiful country. As I settled in and started my new job, I realized that I was going to love North Carolina. I had been worried about living in a town of only 5,000 people but was pleasantly surprised to find Edenton had everything I needed. Some of the friendliest people I've ever met live in Edenton. Our next-door neighbors took us under their wing like part of their family. I thought of Graham, their 21-month-old boy, as one of my own.

Since I spend much of my free time hunting and fishing, I soon found many similarities and differences between Kansas and North Carolina. In Kansas, I fished for bluegill, crappie and stripers. In Carolina I fished for bream, speckled perch and rock, same song, different verse. I lived an hour from the Atlantic Ocean and the Outer Banks offered some of the best surf fishing in the world. I caught flounder, bluefish, mackerel, spot, croaker and other species that I hadn't grown up with in Kansas. I also visited a nearby waterfowl impoundment that had a large population of blue crabs. The biggest blue crab I ever caught was 22 inches from claw to claw — much bigger than the crawdads I used to catch in Kansas.

Carolina also boasted a large white-tailed deer population, and hunters could harvest five per season. The deer were smaller than Kansas deer, but the liberal limit allowed me to enjoy a long hunting season. The quail hunting could be fair at times, but most land was privately leased and gaining access was difficult. Briars and thorn bushes were the norm, rather than the hedgerows and grassy draws in Kansas. Pheasants were not abundant, so they weren't hunted much.

There was much I dearly loved about Carolina, but something was missing. When I returned to Kansas for the Christmas holidays after nearly two years, I began to think about coming home. I was married now and had



Dana Eastes illustration

gained a new group of people to call family. It would be nice to be close to home and see our families more than once or twice a year.

I realized how much I missed the hunting and fishing I had grown up with in Kansas. Carolina was wonderful, but cackling pheasants, stringers full of big crappie, and the possibility of taking a once-in-a-lifetime buck all were tugging at the back of my mind. Being away from Kansas wildlife taught me to appreciate what most Kansans take for granted. When I told about Kansas quail hunting when flushing a dozen coveys was the norm, Carolina quail hunters' eyes would glaze over. Kansas provides some of the best hunting and fishing opportunities of anywhere in the country.

I applied for and received a wildlife information representative position with the Department of Wildlife and Parks. But that left me with another dilemma.

Leaving Carolina was one of the toughest decisions I will ever make, but the proximity of my family and the Kansas outdoors outweighed the things I loved about the east coast. So I loaded up our accumulated belongings and said goodbye to the Tarheel state. I had a tear in my eye as I turned onto the highway. It symbolized something both happy and sad. Happy to be heading back to family, friends and Kansas, but sad to say so-long to North Carolina.

I'm back in Kansas now and it feels great. I'll miss many things about North Carolina — Kel, Kathleen, Graham, Stephen, surf fishing, the lack of snow and wind, the people of the North Carolina Wildlife Resources Commission, and Carolina itself. But like someone once said, "It doesn't matter where you're from, there's no place like home."

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