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SEPTEMBER-OCTOBER 1972

KANSAS

FISH & GAME



KANSAS FISH & GAME



September-October, 1972

Vol. 29, No. 5

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Front cover—Pheasant hunter silhouette. Ektachrome transparency by Ken Stiebben.

Back cover—Channel catfish. Ektachrome transparency by Ken Stiebben.

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KANSAS FISH & GAME is an official bi-monthly publication of the Kansas Forestry, Fish and Game Commission, Box 1028, Pratt, Kansas 67124. Subscription is free upon written request to adult Kansas residents. Articles in the magazine may be reprinted without permission provided proper credit is given. Second class postage paid at Pratt, Kansas, and at additional mailing offices.

PRINTED BY
ROBERT R. (BOB) SANDERS, STATE PRINTER
TOPEKA, KANSAS

1972



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All Hawks and Owls Protected

The myth of the "chicken hawk" dies hard.

That comment from the National Audubon Society was prompted by the recent agreement which extends the protection of the federal government to virtually all species of native U. S. birds, including the hawks which in the past have frequently been gunners' targets. Now anyone caught shooting any of these birds (except for game birds legally shot by licensed hunters) is subject to fine, imprisonment or both.

The new protection came about through an amendment to the Migratory Bird Treaty signed this spring by the United States and Mexico, adding 32 entire families of birds to those already protected under the laws of both countries.

But a law on the books won't protect a hawk from a farm boy who has been brought up to believe that all hawks should be shot on sight, and who does not know that shooting them is against the law; there's still a big job of public education to be done, and the Audubon Society intends to keep right on doing it.

The Society cites the so-called "chicken hawk" as a case in point: Many gunners still think that all varieties of hawks are chicken hawks, and that shooting them is a favor to the farmer. The hawks these gunners most often shoot, naturally, are those that are most easily seen and which present the easiest target; the broad-winged, soaring varieties, such as the red-tailed hawk, which circle slowly overhead. Far from being the farmers' enemies, these soaring hawks feed chiefly on rats, mice, squirrels gophers and other small animals which can be a serious problems to the farmer. The soaring hawks have been described as living mousetraps which help the farmer by helping to keep the rodent population in balance.

In addition, the Audubon Society discounts the claim of some hunters that bird hawks in the wild mean reduced numbers of game birds. Predator and prey relationships are part of the natural balances of a healthy system of wildlife. Hawks and game birds have existed together on this planet for more than 25,000,000 years, the Society points out; if the hawks were going to eat up all the other birds it would have happened a long, long time ago.

—National Audubon Society

In addition to federal statute, all hawks and owls are protected by Kansas law.

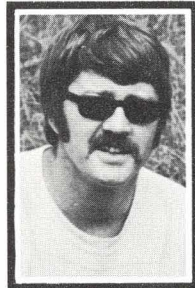
—Editor.

Kestrels . . . those feathered opportunists

by Vic McLeran

PRAIRIE FIRE!

It had started about 30 minutes earlier when sparks from a westbound freight ignited the grass along a railroad right-of-way. Now, fanned by a



McLeran

stiff northwest breeze, the flames were chewing their way through the winter landscape toward the road. Stopping the car, I noticed a male kestrel, or sparrow hawk, perched strategically atop a

roadside telephone pole about 40 yards away. The little falcon was staring intently at a plum thicket located several feet in front of the advancing flames. From time to time, the little raptor would bob his head, apparently trying to get a visual "fix" on something in the thicket.

As I watched, the kestrel lifted himself into the wind with several piston-like strokes of his long, pointed wings.

The bird flew directly to a spot about 20 feet above the thicket. Once there, he hovered in midair, looking like a miniature helicopter. Suddenly, like a dart, he dropped into the smoke which was swirling through the thicket below.

Getting out a pair of field glasses, I focused them on the area. Through the smoke I could barely distinguish the kestrel, his wings flapping and his talons making knife-like stabs at something in the brown buffalo grass. Then, his movements ceased abruptly and a curtain of smoke boiled over the bird, obscuring my view.

A few seconds later the little falcon rose, flapping heavily through the smoke and laboring with his burden. Clutched tightly in his talons was a full-grown field rat. Unable to rise more than a few feet with his heavy prize, the little falcon soon lit on a fence-post where he proceeded to dine on the rat.

Evidently, rodents and insects intent on fleeing a prairie fire are oblivious to a hawk's presence. As such, they make an easy meal for the alert raptor.

The little episode I'd just witnessed was a classic example of the kestrel's ability to recognize and capitalize on,

The American kestrel, commonly called "sparrow hawk" is actually a true falcon. And its abilities as an opportunist are amazing!





Photo by Bruce Wolhuter

This kestrel, with only one foot, was snared in Colorado by Bruce Wolhuter of the Cheyenne Mountain Zoological Park at Colorado Springs. The bird later was banded and released. While in captivity, it had little trouble killing mice despite its handicap. Cause of the missing foot was unknown.

the opportunity of taking a meal. Although this opportunistic tendency is present and well-developed in all birds of prey, it becomes extremely obvious when watching the kestrel. Some research on this bright, perky little falcon turned up quite a few interesting facts.

One of our most common birds of prey, the kestrel has a number of local names. Sparrow hawk, killy hawk (derived from its cry of killy-killy), grasshopper falcon and mouse hawk are just a few. To the biologist, the kestrel is known as *Falco sparverius* while falconers have affectionately termed the little bird "spawk."

The kestrel is actually a true falcon, distinguished from hawks by possession of longer, more pointed wings and a notched beak. Some scientists contend this notch evolved to enable the falcon to snap neck vertebrae on small prey items. The falcon-hawk misunderstanding exists since, under a broad classification, falcons are placed in the hawk family. In other words, all falcons are hawks but not all hawks are falcons.

As is true with most raptors, the female of the species is larger than the male. Female kestrels average nine to 12 inches in length while males measure eight to ten inches.

In coloration, the male is usually brighter and more distinctively marked than the female. Generally the male exhibits a tan breast, blue-gray wings, brown and black-barred back and a chestnut-colored tail with a broad subterminal black band tipped in white. On the birds' cheeks are a pair of black patches which act to

reduce the sun's glare—a definite asset for birds which depend on keen eyesight for their living.

Looking back through the annals of natural history, we see certain bird species which were very selective in their choice of food and nest sites. This selectivity reduced their chances for survival because if the original food supply or nest choice was eliminated, the species had nothing on which to fall back. Most species like this are now extinct, and understandably so.

Not so the kestrel! Primarily, but not exclusively, this little flyweight falcon is a cavity nester. He looks for an abandoned flicker or woodpecker hole in which his mate can lay her three to five blotched eggs. However, when natural cavities are not available, the kestrel's opportunistic nature takes over and he utilizes other sites. The research revealed some unusual locations.

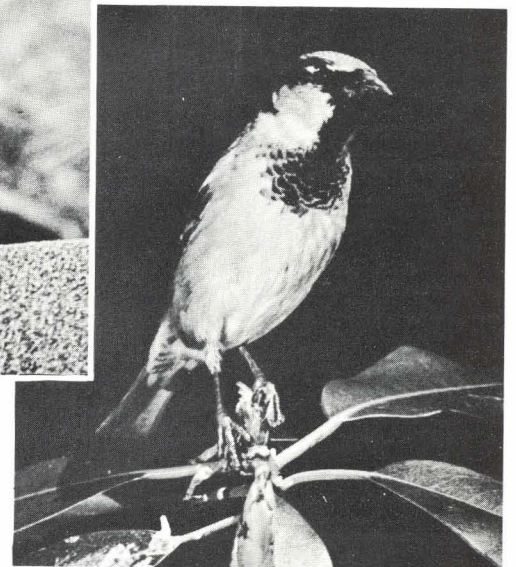
Dr. Theodore Sperry, biology professor at Kansas State College of Pittsburg, reported a pair of kestrels nesting on an old stone ledge at one of the KSC administration buildings. Perry Conway, Manhattan high school biology instructor, observed kestrels nesting in an old drain pipe at Calvin Hall on the Kansas State University campus. Marvin Schwilling, waterfowl



Photo by Leonard Lee Rue

Common pests like the starling (left) and the pesky English sparrow occasionally show up on the kestrel's menu.

Photo by Leonard Lee Rue



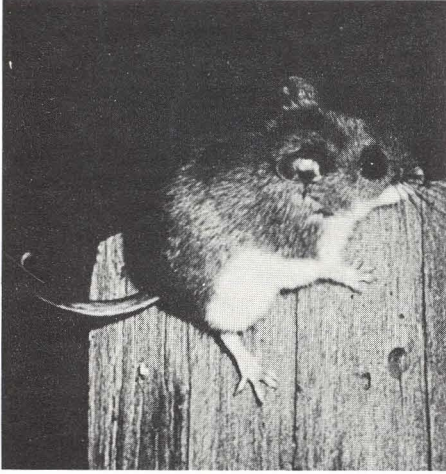


Photo by Leonard Lee Rue

Rodents like this white-footed mouse are common prey items of the kestrel.

project leader for the Kansas Fish and Game Commission, has seen kestrels nesting behind a loose board under the eaves of a rural school house. Frank C. Wood, Pleasanton, watched a pair of kestrels raising their young in complete harmony with a house full of purple martins!

In western states, kestrels often use crevices and holes in cliffs for their nests. Bruce Wolhuter, former Kansan, and now education coordinator for the Cheyenne Mountain Zoological Park in Colorado Springs, found a sparrow hawk's nest 30 inches back in a rock cliff. Wolhuter also located a kestrel's nest on the cement supports under a bridge in the prairie portion of Colorado.

Dr. Charles Ely, biology professor at Fort Hays Kansas State College, remembers seeing kestrels utilize old hay barns in Pennsylvania as nesting sites. "The birds would enter the barns through knot holes and hollow out a space in the hay," he recalled.

In England several years ago, a kestrel was found nesting in a barn loft within eight feet of an incubating barn owl! The two birds utilized the same entrance to the loft. When the owls left or entered the barn they passed within two feet of the kestrel and her eggs. Both species successfully reared their young.

Jerry Czech, New York biologist and natural science curator for the Rochester Museum and Science Center, has conducted studies on the kestrel for the past 15 years. "The most unusual nest site I've seen was in an unused

chimney of an occupied house," he said.

Following nest selection in April or May kestrels get down to the serious business of raising a family. The downy youngsters hatch following a 28 day incubation period, which is handled mostly by the female.

Sparrow hawks can be extremely aggressive in defense of their nest. John Giegling, associate editor of the *Purple Martin Capital News*, has watched kestrels drive away birds as large as red-tailed hawks from what the little falcons considered "their" nesting territory. Giegling also wit-



Photo by Jim Blakely

nessed a furious attack by a female kestrel on a great horned owl.

Once the eggs hatch, the little male is kept busy supplying the new family with food. Here again, the adaptive and opportunistic nature of the kestrel shows itself in the wide variety of food which the bird utilizes. During spring and summer months, kestrels feed heavily on many insects including grasshoppers, crickets, cicadas, locusts, spiders and even dragonflies. Marvin Schwilling once had a pet "spawk" which loved to catch dragonflies. The little falcon had learned that these insects congregated around a horse tank. Taking up a position near the tank, the kestrel would wait for the flies to

approach the water where he would capture them. In this case though, the kestrel had too much of a good thing because he eventually drowned in the waters of the tank.

Occasionally kestrels are "bluffed out" by aggressive spiders or insects. Carl Crumm, biologist with the Wichita-based Raptor Research Association of Kansas, once saw a large woolly spider bluff a kestrel. And in the book, *Birds of Prey of the World*, there is a photo sequence showing a kestrel attacking a praying mantis. When confronted by the falcon, the insect rose up in a threatening manner. This gesture surprised the "spawk" and gave the mantis time to escape.

Small rodents figure heavily in the kestrel's diet also. Several species of mice and rats, shrews, moles and ground squirrels have all been seen at the little falcon's nest. The kestrel's strength becomes obvious when you stop to consider that the birds average only three or four ounces in weight. Some of the kestrels' prey items like pack rats and thirteen-lined ground squirrels weigh as much or more than the hawks!

Snakes too, are occasionally taken by the kestrels. Early one June morning, I flushed a kestrel which was trying to carry off a surprisingly large natrix water snake. Bruce Wolhuter watched a sparrow hawk carry a small green snake to its nest and Marvin Schwilling has found garter snakes in kestrel nests.

Winged prey is also taken when the opportunity presents itself. English

Agricultural pests like the grasshopper and locust figure heavily in the sparrow hawk's diet.



Photo by Ken Stiebben



Photo by Perry Conway

The kestrel often hunts from atop a roadside pole or from high in a tree. When prey is sighted, the little falcon attacks with a headlong dash.

Photo by Perry Conway



sparrows, starlings, blackbirds and meadowlarks have all shown up on the kestrel's menu. The sparrow hawk's speed and flying ability is amazing. Several years ago in New Hampshire, one of these little raptors was observed catching a hummingbird in mid-air! It's this fantastic hunting ability which falconers utilize when they put the kestrel to work catching English sparrows and starlings.

In Colorado's Grand Canyon, sparrow hawks have been seen hunting around the entrance to small caves. As bats left their roosts late in the afternoon, the hawks would nab them on the wing.

Even crustaceans are occasionally eaten by the kestrel. Dr. Richard Johnston, ornithologist at the Museum of Natural History in Lawrence, once

Voles, or meadow mice, are a favorite winter food of the "spawk."

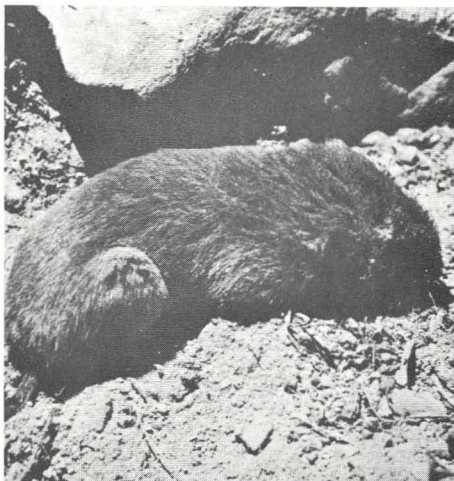


Photo by Leonard Lee Rue

found a small crab in the stomach of a kestrel on the California coast.

Every now and then, some really unusual items show up at the kestrel's nest. J. L. Lincer, a doctoral student in ornithology at Cornell University, once found some fish scales and scotch tape in a "spawk's" nesting cavity.

These resourceful little falcons have the habit of storing or catching excess food for future use. Frank C. Wood found one of these "storehouses" in an elm tree about 100 feet from the falcons' nest. "I climbed up and found a natural cup where three limbs joined," Wood said. "In it were six blue-tailed lizards, a small garter snake and a short-tailed meadow mouse."

With a varied diet like this, young kestrels are usually awing in five or six weeks. At this time, the adults start instructing the young in hunting methods. It's a lush time with newly-hatched insects, birds just off the nest and lots of young, inexperienced field mice on which the immature falcons can sharpen their hunting skills.

Basically, kestrels have two styles of hunting. In the usual method, the kestrel positions itself in a tree, atop a pole or on a line where it com-

mands a good view of the surrounding fields. Once prey is sighted, the falcon attacks with a headlong dash.

Jim Bryan, Cherryvale, the Commission's law enforcement supervisor for southeast Kansas, has watched sparrow hawks hunting pack rats in this manner as the rodents left their large stick nests built in hedgerows along the road. "When I saw the hawk dive, I'd usually stop the car to see if he had killed the rat," Bryan said. "On several occasions I found rats with small holes in the back of their heads. The hawks had apparently killed the rodents instantly."

Hovering is another hunting method employed by the kestrel, usually on windy days. With this tactic, the little falcon simply faces into the wind and maintains position by flapping its wings lightly. When prey is sighted the kestrel either drops on it immediately or lowers itself for a closer look. This habit of hovering has earned it the nickname, "windhover" in some areas.

Time and again, the kestrel's resourcefulness and opportunistic nature shows itself in various hunting episodes. Frank Wood described one such incident: "About 50 years ago, it was common practice to cut a few acres of corn and tie it in what we called shock fodder. Along about December, these shocks would have attracted a good number of rodents. When we went out to tear up the shocks, sparrow hawks would invariably show up to feed on the rodents

Small snakes like the garter pictured here, are occasionally seen at the kestrel's nest.



Photo by Leonard Lee Rue

we'd flush from beneath the shocks. They'd just sail in, grab a mouse and carry it away," he said.

Similarly, kestrels have been seen following a tractor as the farmer plowed or disced a field. As rodents were uprooted from their burrows, the kestrels would dive in to the attack.

At times, the kestrel can be downright ingenious in its hunting tactics.

promptly grabbed by a waiting kestrel!

Occasionally you'll hear some idiot raving about how sparrow hawks are responsible for the quail shortage. Although kestrels might take an occasional wounded or crippled quail, it's the exception rather than the rule. And they're certainly not responsible for any reduced quail population. The following incident illustrates the

through the branches of a spruce, 'locked' to the owl. As I ran up, the owl flew away. Picking up the falcon, I found it had lost one eye and suffered back injuries. It eventually died." Czech believes screech owls may also kill sparrow hawks when the latter are on the nest.

In view of the conflict which exists between screech owls and sparrow hawks, you can imagine how sur-

The adaptive and opportunistic nature of the kestrel reveals itself in the wide variety of food which the bird utilizes.

Arthur Cleveland Bent, in his *Life Histories of North American Birds of Prey*, mentions a kestrel's method of hunting cliff swallows: "The hawk sailed down to one of the swallow's nests, supported itself with one foot, hanging nearly upside down in the meantime, inserted the other foot into the nest and extracted its owner—an adult cliff swallow."

Always alert, the little kestrel seems never to miss an opportunity of pick-

falcon's preference for mice over quail:

The manager of a Virginia game farm noticed two sparrow hawks diving among some quail he kept in open-topped pens. Counting the quail, the manager was surprised to find all birds accounted for. Watching closely, he saw that the hawks were capturing mice that had been feeding on the quail's grain. The little falcons paid no attention to the quail!

As the golden days of summer wane, life becomes more difficult for the young kestrel. Colder weather means increased food requirements for the bird to maintain an adequate body temperature. At the same time, an absence of insects, reptiles and amphibians means a decreased food supply. This is Nature's "survival of the fittest" at its harshest. However, the opportunistic little kestrel simply turns his attention to rodents and field sparrows for his winter food supply.

Along with the problems of bitter winter temperatures and the daily hassle of catching enough to eat, the kestrel has another concern. Since he serves as food for other predators, he must remain alert constantly. Raptors like red-tailed hawks, great horned owls and screech owls are common enemies of the "spawk."

Jerry Czech was eyewitness to a screech owl-kestrel encounter. "I watched two screech owls grappling with a pair of kestrels that were roosting overnight in some trees in our yard," he said. "One kestrel was killed outright. The other tumbled down

prised some California biology students were several years ago, when they found four young kestrels and one baby screech owl in the same nesting hollow. The owl's presence in the hawk's nest is still a mystery.

There's some evidence that egg-eating reptiles like the black snake occasionally pose problems for the kestrel. Frank and John Craighead, in their book, *Hawks in the Hand*, mentioned finding live black snakes in

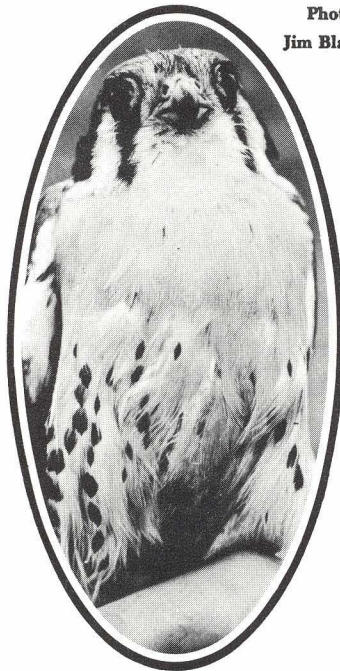


Photo by
Jim Blakely

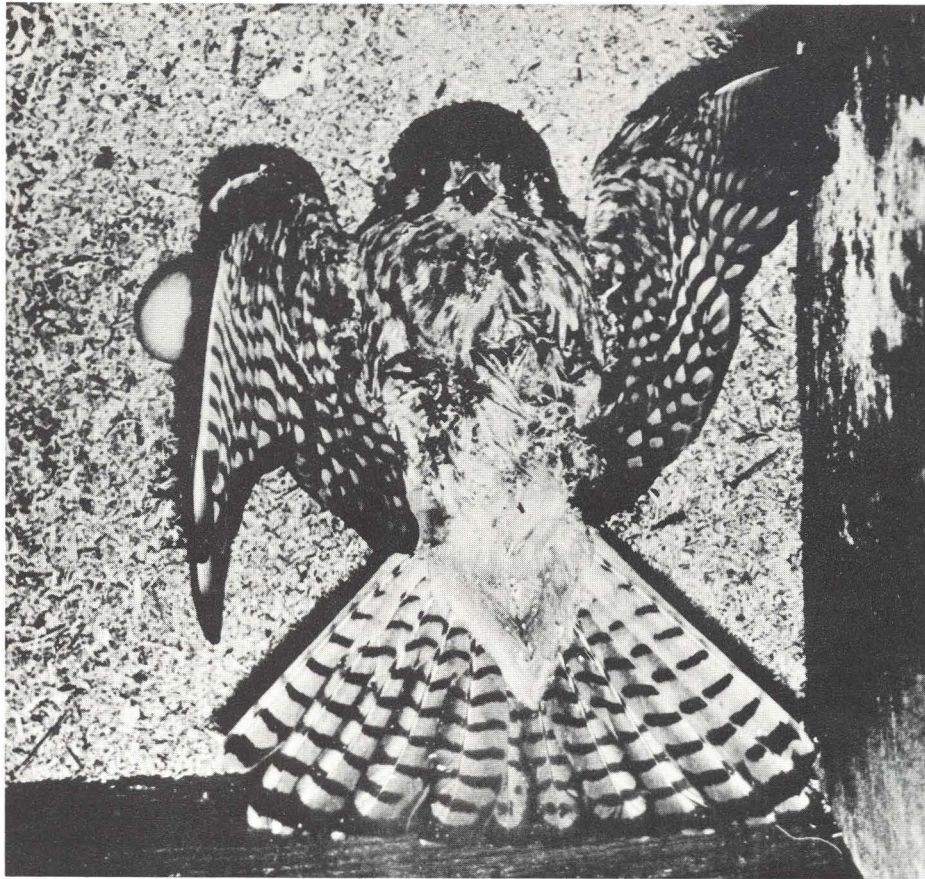


Photo by
Leonard Lee Rue

ing up a meal. A British ornithological publication several years ago reported an incident where a peregrine falcon was seen chasing a small finch. Attempting to elude the falcon, the finch dove into a bush—where it was

several sparrow hawk nest cavities. In all cases, the nests were devoid of eggs.

Raccoons too, will eat kestrels whenever possible. Years ago, I had a pet 'coon which would eat almost any-



Although sparrowhawks favor natural cavities like old woodpecker holes, as nesting sites, they'll utilize a number of spots including man-made boxes. Photo by Leonard Lee Rue

thing. About the same time, I had a sparrow hawk—for awhile. One afternoon I was out in the back yard with the hawk on my fist. The bird saw a grasshopper and fluttered down to nail the insect. It's a shame he didn't see the 'coon!

We asked Czech about this predation by 'coons: "I've seen evidence which indicates 'coons destroy many nests," he said, "usually on rainy nights in May and June after the young kestrels have hatched." Czech believes the rain may wash the birds' scent down the tree, thus helping the 'coon locate its prey.

Having studied kestrels for the past 15 years, Czech has seen some unusual incidents involving this little falcon and other birds. One such encounter involved a peregrine falcon, the kestrel's larger (and dangerously rare) cousin.

"I had just banded and released a kestrel," Czech explained. "As I watched it fly away, a large peregrine came flashing down in a terrific power dive. It struck the kestrel in an ex-

plosion of feathers, killing it immediately. The peregrine then grabbed its victim in midair and kept going."

Longevity records for the kestrel are rare but there is one reference to a bird which lived 14 years in captivity.

Man too, is responsible, both directly and indirectly, for the deaths of countless sparrow hawks. Even though all hawks and owls are protected by Kansas law, a few trigger-happy fools still believe "the only good hawk is a dead one." As a result, kestrels are killed each year by these ignorant gunners.

Also, there is some indication that the heavy use of "hard" pesticides has had a reducing effect on kestrel populations. Researchers at the U. S. Fish and Wildlife's Patuxent Wildlife Research Center in Laurel, Maryland, found evidence showing that Dieldrin and DDT induced reproductive failures in the sparrow hawk. The kestrel's main food items are insects and rodents. Both of these are often in close contact with herbicides and pesticides found in agricultural field

crops. Let's say a grasshopper eats a pesticide-treated soybean leaf. Unless the insect dies immediately, the chemical settles in fatty tissues of the 'hopper's body. Along comes the kestrel and "scarfs" him up. Since a kestrel will eat several 'hoppers each day during the warm months, it's not long before the bird accumulates quite a bit of pesticide in its system. When these pesticide levels reach a certain point, they eventually affect the egg-hardening process causing the bird's eggs to break before they're ready to hatch. This means fewer young each year. Eventually, the chemicals render the bird sterile. If pesticide levels become intolerable, the kestrel dies.

Yes, the little sparrow hawk is quite an opportunist, taking insects and mice wherever and whenever it can. Herein lies the danger! The kestrel can't distinguish between the "polluted" mouse and the rodent which is free of pesticides. In fact, it is these same mice and grasshoppers which have been exposed to pesticides that are most susceptible to predation. The pesticide in their system makes them slower, less alert and in the final analysis—easier for the sparrow hawk to capture. As a result, the bird continues to accumulate pesticides within its body, as it consumes prey items which have ingested pesticides.

There's something here which is both ironic and sad—it's the possibility that this opportunism, which has enabled kestrels to survive for so many years, may now be sounding the birds' death knell!



Photo by Perry Conway

THE KANSAS ZOO RESOURCE

By Ross Harrison

Photos Courtesy Topeka Zoological Park

Found in many Kansas zoos, the cassowary is one bird you wouldn't want to meet in a dark alley. This 150-pound, flightless, Australian bird has extremely powerful legs equipped with a mean pair of fighting feet. According to most zoo directors, the species has a natural hate for humans and has even killed a few men.



Fish and Game

A FELLOW IN MANHATTAN says he has a remedy for any malady of the forlorn:

"Take a man who carries the problems of the world on his shoulders, put him before a cage full of monkeys and all his woes will disappear." Dr. E. Frick should know. For nearly 40 years as director of Manhattan's Sunset Zoo, he's watched monkeys rehabilitate many a visitor.

For some unknown reason, Kansas has been blessed with many fine zoos. The American Zoo Directory lists only a few states which lead Kansas in the number of zoos per capita. In total, the zoos of Kansas are valuable resources and in a few cases they have enjoyed international attention and fame.

Although the Topeka Zoological Park is small compared to the San Diego (Calif.) Zoo, the professionalism of its staff has made it world famous. It is, for instance, the only

zoo in the world where golden eagles have successfully hatched and reared their young.

The Topeka Zoo also has gained distinction as being one of the few zoos in the world which have successfully reared a polar bear cub, born at the zoo. Also, presently on display at the Topeka Zoo is one of the rarest animals in the world, the Przewalski horse, a prehistoric relic of the only true wild horse in existence. Only 182 Przewalski horses are alive today.

An orangutan named Jim is a Topeka zoo resident who has oil painted his way into stardom. He uses a brush, not finger paints. One of his works sold for \$500 and one has been presented to the White House in Washington, D. C. A pair of elephants which speak on command is another unique feature of the zoo.

Soon to be added to the list of Kansas zoos is the Sedgwick County Zoo. It now is under construction with just

Born at the Topeka Zoo and hand-raised by the staff, this polar bear cub takes a rest in the zoo's kitchen sink. Only a few other zoos in the world have successfully raised a polar bear cub.





From the outside, the sign reads chimpanzee. People often try to judge animals with human guidelines, human ideas of taste, smell and attractiveness. Ever wonder how animals look at you?

At Manhattan and Garden City, there are quality zoos of a smaller caliber, containing many of the attractions of the larger zoos. At Clay Center and a handful of other Kansas communities, smaller displays of animals greet hundreds of visitors every year.

Due to lack of finances in a smaller community and the difficulty in retaining a quality staff, smaller community zoos are not able to conduct the research, keep the records, or construct the proper facilities to become famous beyond the borders of the state. Yet, the smaller community zoo is the pride and joy of its town and where the facilities are maintained well, they are interesting, entertaining and of some educational value.

Time magazine last fall reported a zoo philosophy that is becoming increasingly popular with the modern zoo. That philosophy finds education, conservation and high level research replacing the traditional purpose of the zoo—the mere display of animals.

Gary Clarke, director of the Topeka Zoo and president of the American Association of Zoological Parks and Aquariums, states on that subject: "The modern zoo must be more than just a showplace for animals. We can no longer justify the 'stamp collection' philosophy where a zoo attempts to have as many different species as possible at the sacrifice of a more important concept."

"That concept, which alone should determine the stature of a zoo, concerns how well the collection is utilized for educational and scientific purposes and the proper interpretation of animal life to the public. Also the reproduction of zoo animals and their longevity is of the utmost importance," said Clarke.

One reason zoos are becoming concerned with the reproduction and the longevity of their animals, says Clarke, is the days of the romantic African "roundups" are a thing of the past.

Besides the enormous expense involved in capturing and shipping wild animals of far off continents, many of

the children's animal farm open to the public. This zoo is being built with the best ideas gleaned from the best zoos in the country.

When the Sedgwick County Zoo at Wichita is completed in a few years, the design and manner in which the animals are presented to the public will comprise one of the most advanced zoo displays in the United States, possibly the world.

From certain vantage points, visitors of the Sedgwick County Zoo will be able to view a vast prairie area where several species of African, Asian, South American and Australian hoof stock will be grazing as if in their own native lands. Fences will not be seen. Instead, trenches or moats 10 to 15 feet deep, with hurricane fences running down the middle and below eye level, will separate the

clusters of animals on slightly elevated "islands" of prairie habitat. The display will appear like the animals are roaming free.

At Great Bend, a town of 16,000 population, there exists a zoo at Britt Spaug Park with as much to offer as many communities 10 times its size.

Jerry Tillery, former Kansas highway patrolman, now director of the zoo at Great Bend, has had more success in getting trumpeter swans to reproduce than any other zoo in the world. Tillery now is trying to get a pair of extremely rare nene geese (Hawaiian) to reproduce. It is thought that only 600 specimens of the rare goose remain in the world, according to Tillery.

Topeka, Great Bend, and Wichita, have perhaps the most noteworthy zoos of Kansas.

the exotic species are in danger of becoming extinct. Through their own conservation programs, zoos are breeding their animals against the day their numbers may vanish from the earth.

The new philosophy and all its concepts will be incorporated into the construction of every part of the Sedgwick County Zoo.

At Great Bend, evidence of this philosophy is apparent in Tillery's specialty—the reproduction of rare waterfowl.

And at Manhattan, the new philosophy is coming soon in the form of a gigantic \$60,000 beaver pond. Money for the pond is being generated through Kansas State University student organizations and an encouraged community spirit.

At Topeka, however, this philosophy is more pronounced than in any other Kansas zoo.

The animals of the Topeka Zoo are intentionally grouped so that visitors are enticed to compare and contrast the species. One display, Living Tree of the Animal Kingdom, demonstrates the relationship of all animal life on

Animal sentimentalists have argued since zoos began that a caged animal is an unhappy animal. But, as human beings, we must realize that wild animals do not feel or think the way we do. Just because we think we would be unhappy in a cage, is no reason to believe that a lion is unhappy in a cage.

The "happiness" of animals is fulfilled when their desires are satisfied.

Gary Clarke, director of the Topeka zoo, states that these, in order of importance, include: Freedom from fear, a full belly and sex.

Being born and reared in captivity and therefore accustomed to man, zoo animals are secure. Food, probably better for them than they could find in the wild, is brought to them regularly in a zoo and veterinarians are constantly reinforcing the animal's health. When that special time of year comes around, where possible, zoo animals are mated. In most cases, the mating is successful and families are formed.

So the next time you see a lion sleeping in a cage, don't impose your feelings on him and conclude that he is unhappy. He is sleeping, because that's what lions naturally do. African studies have shown a lion in the wild will sleep 20 out of 24 hours a day, while during those other four hours, the king of beasts leads a beastly life-and-death struggle. Not so in a zoo, however. That's where the lion and all the wild animals truly are kings.

earth. With the use of live specimens strategically caged in at their level on a plywood tree, it shows how group after group branched off and then through evolution gave rise to further animal groups.

The zoo's master plan calls for a

Tropical Range Forest to be built in a few years. Bars will be eliminated completely. Rather than have the animals in "jail," they will be displayed in beautiful habitat settings. The rain forest will be a large area of lush tropical vegetation with a spar-

This king-sized manicure, necessary for healthy elephant feet, is possible only if the elephant is willing. What appears to be a daily circus act is actually a therapy training session, which, according to Topeka Zoo Director Clarke, is needed to keep the elephants from becoming bored with zoo life.





Rarer than the paintings of Rembrandt, only 182 specimens of the true (Przewalske) horse, remain in the world. This one can be seen at the Topeka zoo.

At night, the red light is turned off and a white light is turned on and the animals settle down for their daytime snooze in the nighttime.

One of the most significant, yet unheralded contributions the Topeka Zoo has made to the zoo world began in 1963 with a pair of lion cubs. The cubs appeared to have a nutritional deficiency. Clarke consulted with Mark Morris, Jr., a veterinarian who heads a nationally recognized staff of animal nutritionists. Dr. Morris also is a member of the Topeka Friends of the Zoo, Inc.

The veterinarian diagnosed the problem as a common ailment known to have been affecting zoo cats for 100 years. He further deduced the problem was caused from a diet of horse-

would provide zoo cats with an adequate diet.

And so the Topeka Zoo embarked on a pioneering effort that has done more to revolutionize the methods of zoo feeding than anything else in the last 100 years—the prepared zoo diet.

The most noticeable result of prepared zoo diets has been the increased reproductivity of the animals which eat them. For example, at Topeka, a total of 17 tiger cubs have been born, reared and traded to other zoos since 1964 from just one pair of the now properly fed parents. That production record is one of the highest in the world.

There is one feature common to all the zoos of Kansas—thick and lush vegetation growing in and around the zoo's borders. Generally, this heavy growth is not due to the green thumb of the zoo directors.

Rather, it is a result of the ecology-wise movement which these zoos were participating in long before it was popular. Ever wonder what zoos do with the by-products of all those elephants, hippos and other zoo residents? You guessed it!

"Zoos must be more than just a showplace for animals."

**Gary Clarke, director
Topeka Zoological Park**

Meat which even when supplemented with vitamins and minerals proved inadequate for the large felines. Dr. Morris asked Clarke to join him in an effort to develop a prepared food that

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THE BILL OF RIGHTS FOR ZOO ANIMALS

The right to peace.

Don't shout at the animals or tap on the exhibits.

The right to sleep.

Don't wake them up just to see them move.

The right to protect their territory.

Stay outside guard rails. Don't touch or pet the animals.

The right to health.

Do not bring pets to the zoo. Your pets might transmit a disease.

The right to live free from torment.

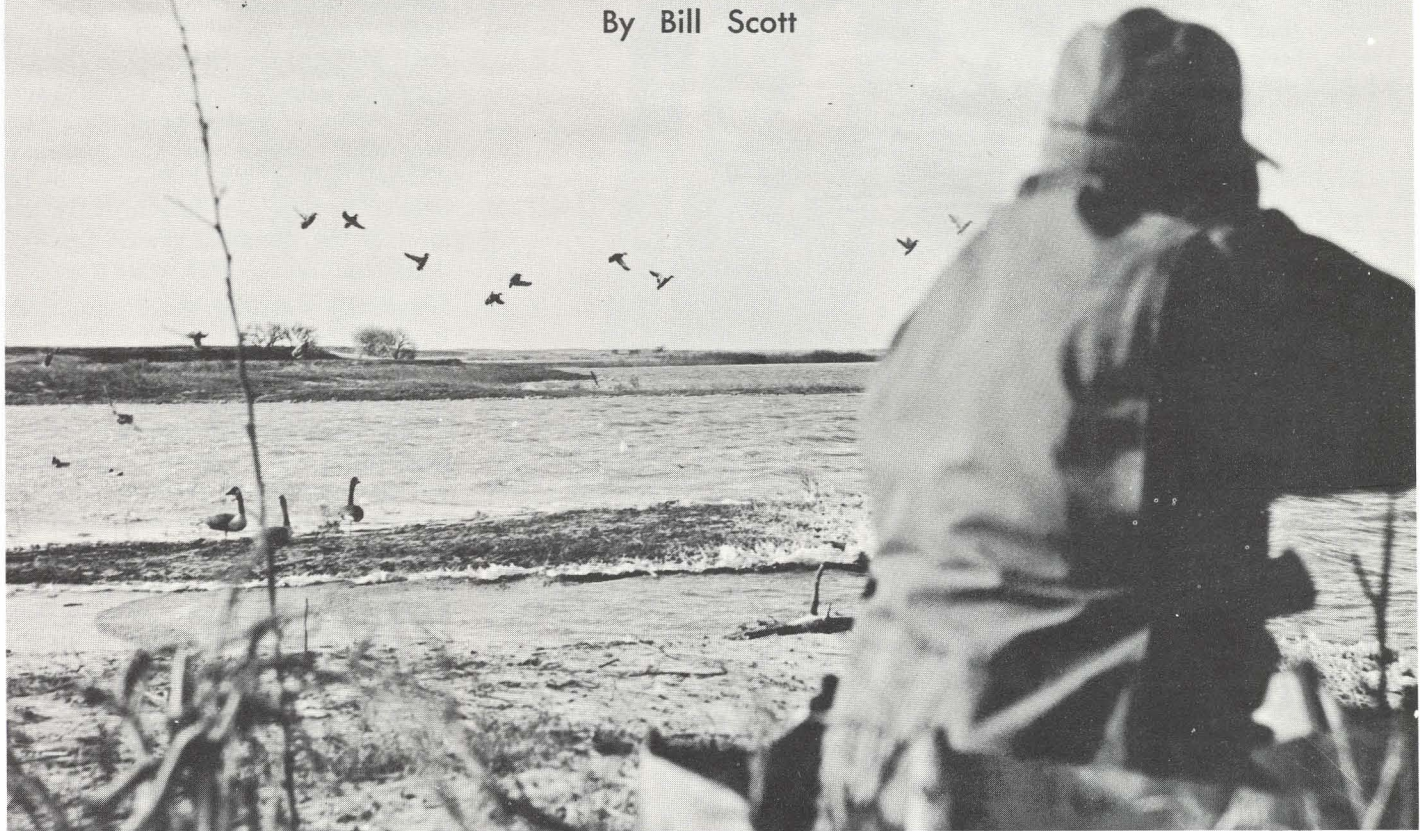
Don't throw objects at them.

The right to proper food.

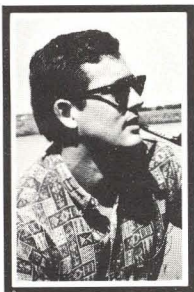
Observe signs and do not feed the animals.

'72 Waterfowl Wayfarings

By Bill Scott



JEAN DIXON'S handy horoscope isn't around, Howard Cosell I'm not, and my crystal ball is cracked. However, this I predict: 1972 duck hunting



Scott

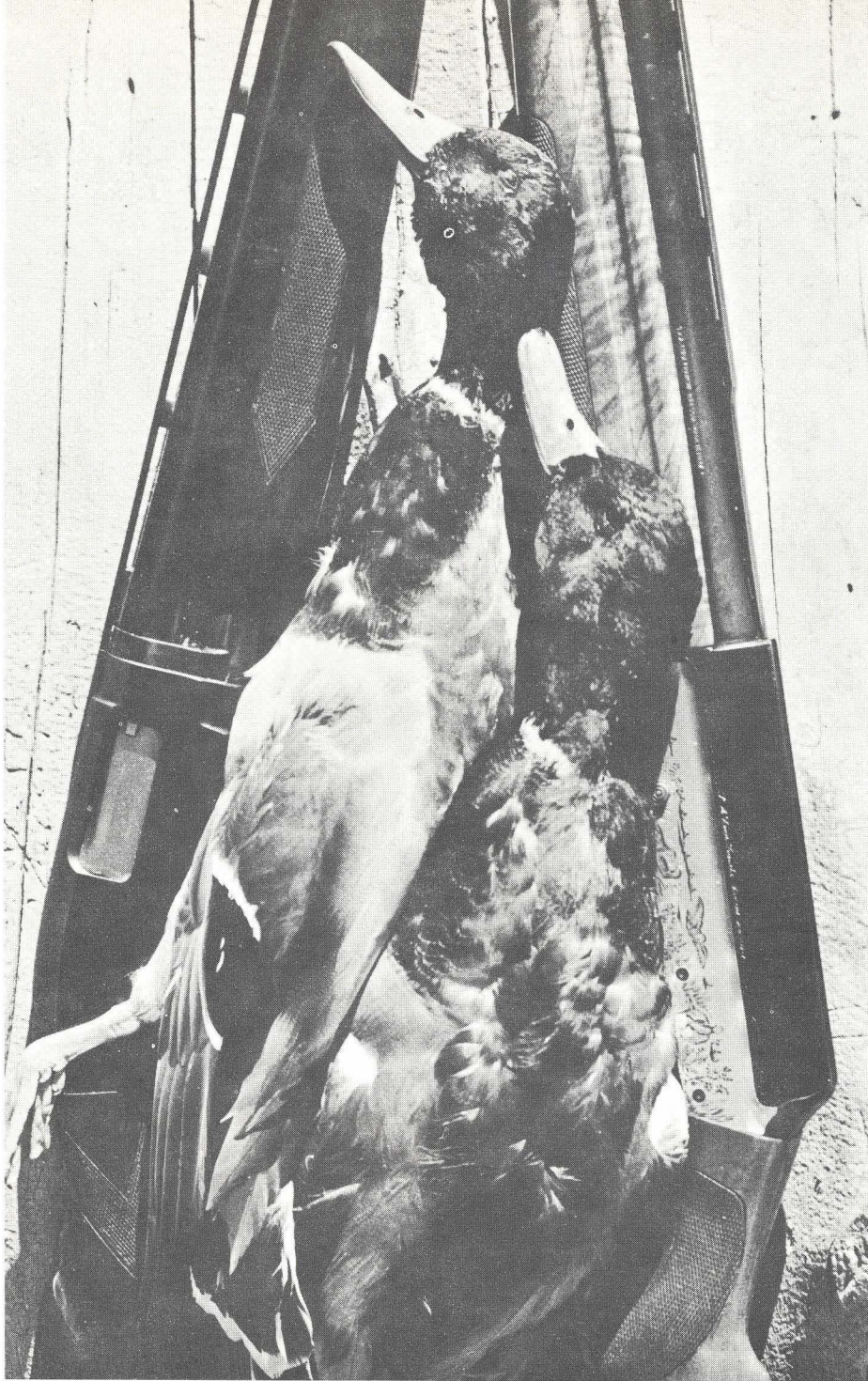
in Kansas will be nearly as good as it was in 1971. Go ahead, chuckle; I'm out on a limb and any one of a dozen variables could saw it off. But while you're chuckling, you might also be reaching for the gun solvent. Some of the experts are quite optimistic about this year's Central Flyway duck hunting. You may be, too, after you learn a few of the reasons why.

According to Marvin Schwilling, waterfowl project leader for the Kansas Forestry, Fish and Game Commission, more than 80% of the ducks U. S. scattergunners squint at come from Canada. And Kansas gunners are indebted for their ducks to the prairie provinces — Alberta, Saskatchewan, and Manitoba. Alberta and Saskatchewan, in particular, is the heart of our "duck factory." Schwilling explains:

"The men" of the Central Flyway Council "had pessimistic attitudes because snow, not rain, had fallen during the winter—good for the farmers, but not for ducks." In other words, heavy snow is needed to fill potholes the way rain does. But aerial surveys changed minds! The view from the air revealed a happy surprise—the potholes were in good shape and full of equally happy ducks. While it is true that in the smaller ponds ducks

were hard put to find a place to get their feet muddy, the situation was better than hoped for.

This change of opinion was due to two factors. First, drenching spring rains had moistened the parched lands of southern Saskatchewan and Manitoba. Second, observation difficulties had been encountered by Ducks Unlimited. The unusually hot weather had caused the early emergence of the aspens into full leaf and aquatic grasses had grown rapidly. It was no trick for wily widgeons and maneuverable mallards to hide. The Ducks Unlimited biologists suspected this had happened, and subsequent surveys confirmed their suspicions. As Kansas Waterfowl Project Leader Schwilling sums it up, "It looks like we have pretty good chances to repeat last year's water supply and numbers of ducks."



Spring and early-summer water supplies were good on the northern prairies and biologists are predicting good numbers of ducks this fall.

W. G. Leitch, chief biologist for Ducks Unlimited at Winnipeg, reports from the scene waterfowl nesting conditions are "excellent." The water supplies are good on the northern prairies, and DU men there are enthusiastic about the probability of a good hatch.

April was cool 'way up north in

Canada, but it was followed by a warmer-than-average May. That was all the drakes needed to start thinking about what the hens had been thinking about all along. Hordes of house-keeping ducks busted out all over Canada's watery wilderness as they got down to the serious business of nesting.

Things are going well—if.

The big "if" in this case is a four-letter word—rain. Whether you have too much or not enough of it, problems are created and solved by rainfall. And water is essential for waterfowl production—without it, you don't get ducks! At this writing, nesting sites are holding their own in both Saskatchewan and Alberta. But as chief biologist Leitch writes in *Duckological*, Ducks Unlimited's official survey report: "Water conditions—are becoming critical on the southern prairies where good rains will be needed in June and July to make the most of the potential prairie production."

Actually splendid water conditions have prevailed in ASKAMAN (Alberta, Saskatchewan, and Manitoba) for the past three years. This has been Mother Nature at her benevolent best, particularly since semi-arid conditions are the norm in the prairie. A fourth year of these idyllic moisture conditions would mean our potholes overfloweth, indeed. And so far, the rains are coming just about as requested in our crucial areas. Will they keep doing it? Keep your shotguns crossed men.

And let's give credit where credit is due. Last year Ducks Unlimited raised \$3,048,000 to construct 100,000 acres of wetlands projects. This year DU has set a goal of more than \$4 million—an all-time record since its inception in 1937. I asked Jon Tennyson, editor of *Ducks Unlimited* magazine, what the effects have been of this construction. He responded, "You people out there in Kansas know what dry weather can do"—I assured him we do know—"and in Alberta, the only water to be seen for miles and miles was DU water. There were clouds of waterfowl rising from these potholes and marshes. The cattle were actually coming over to DU land to water, because that was the only water to be had. I saw little ducklings swimming in between the cattles' legs as they stood in about knee deep water." We may very well owe some of our ducks this fall to DU.

Like the stock market, duck populations are up and down according to regions. Generally, puddlers are hold-

ing up well, but divers like cans and reds continue on a hesitant decline. Here's a duck-by-duck account as of mid-June:

Mallards—again increased in Alberta and are at an all-time high since DU surveys were taken in 1953. Mallards also increased in southern Manitoba where the Cumberland Marshes are now back to their former water levels. There was a decrease in the Interlake area and numbers remained about the same at The Pas.

Pintails—unchanged in Alberta, large reduction in western Saskatchewan, good increase in Manitoba.

Blue-winged teal—same population levels in Alberta, down in a big way in Saskatchewan, up in southern Manitoba but down in the rest of that province.

Canvasback—about the same levels as the base periods of the 1950's both in Alberta and Saskatchewan, but down from recent years.

Redheads—increased in both southern Manitoba and Alberta, and are now firmly entrenched well above the base period of the '50's. However, the numbers of this diving duck dove in Saskatchewan and parts of Manitoba.

THE POINT SYSTEM

Waterfowl hunters, we don't harvest ducks in Kansas this way—not yet. We may someday soon.

People are talking about the point system. Some announce it with the gusto of a bugler trumpeting the new dawn: "A new area of enjoyment for the waterfowler."

Some don't think it works—"is no good. Most duck hunters shoot and look later."

Some wax eloquent: "By dawn's early light, it's almost impossible to tell drake from hen and yet another decision in the duck marsh, where you go ostensibly to get away from decisions."

And one of the top enforcement agents in the Central Flyway feels it asks too much of the hunter: "The average hunter still cannot identify waterfowl on the wing or in the hand; the most we can hope for is that he realizes it is a duck. Complicated

waterfowl regulations compound this factor and create nothing but problems for the hunting public due to their inability to comply with them."

In "Pointers on the Point System," May-June 1972 issue of KANSAS FISH & GAME, George Valyer introduced us to hunting by the point system. Proposed in 1966 by John Rose, a Minnesota sportsman, this experiment was employed by 13 states in 1971. Included in the list are Central Flyway states such as Nebraska, South Dakota, Oklahoma and Texas. Simply stated this system assigns a certain number of "points" to each duck, according to their abundance and availability. Hunting ducks by the scorecard, you might call it.

Under the point system, all ducks are assigned 10, 20, or 90 points. Cans and red were 100 point ducks in '71, but no hunting is allowed on these species this year. In other words, if you shoot a can or red in '72, de judge may very well be coming for you! *Know your ducks.* Hen mallards, wood ducks, and hooded mergansers tally 90 points. Twenty point ducks include mallard drakes, ring-necked duck (Black Jack), black duck and pintail hens. The roll call is completed with all other species of either sex pegged as 10-point ducks. An important factor of the point system is that if 90 is the total value of the ducks you've already downed, you can still bag one more, even a 90-pointer.

If the prowler of the potholes can identify his ducks on the wing, though, he has cashed in on the second benefit of hunting by points. But if he doesn't know a wood duck from a widgeon, he may have to play Monopoly the rest of the day.

Duck identification takes practice. Becoming a good sleuth of the slough means reading the clues ducks give you. Habitat, actions, colors, shape, size and voice are all give-aways. Actions are one of the best. Watch a flock particularly closely as it maneuvers in the air. Loosely-formed groups characterize mallards, pintails, and widgeon. Teal and shovelers rush by, also in small groups. Redheads "boil up": canvasbacks shift to V's.

The point system has resulted in interesting side effects. K. Duane Norman, Pacific Flyway biologist for the Bureau of Sport Fisheries and Wildlife, writes "The lone drake index on breeding grounds is the lowest since 1959, and may be a by-product of the point system."

The "point" to remember: Duck hunting should be gratifying in Kansas this fall.

NOTE: Since this article was written, the five-member Kansas Forestry, Fish and Game Commission has adopted the point system of hunting waterfowl. A brochure on the point system will soon be available from game protectors, license vendors or from the Commission's Information—Education Division, Box 1028, Pratt 67124.

Last year, Ducks Unlimited raised more than three million dollars to develop 100,000 acres of waterfowl habitat. Kansas waterfowlers may owe some of their ducks this fall to the organization's efforts. Photo by Ken Stiebben



Fishin' With The First Lady

(an' a few bad omens)

By Vic McLeran



Photo by Vic McLeran

IT WAS KIND OF LIKE a blind date—I didn't know what to expect!

Wild thoughts were running through my mind—"What if she's too big to get in the boat" I asked myself. "We'll probably have to bait her hook and take the fish off for her," I thought. Never having seen pictures of Meredith Docking, wife of Kansas Governor Robert Docking, and knowing nothing about her, I wondered what I'd gotten myself into. Before the day was over, Mrs. Docking probably wondered the same thing.

It all started earlier when we heard Mrs. Docking liked to fish. Thinking it would make an article for the magazine, I'd made the necessary arrangements to take her on a crappie fishing trip to nearby Perry Lake.

Meredith Docking, wife of Kansas Governor Robert Docking, shows off a "nice" six-inch crappie she took on a recent trip to Lake Perry. Martin Hokr (right) a super crappie fisherman from Topeka, provided the first lady with some expert advice.



Photo by Barry Burkhart

Now, I was sitting in the hallway of Cedar Crest, the governor's mansion, waiting for Kansas' first lady to make her appearance. To kill time, I was sparring around with two of the resident house cats. I'd taken a couple of pretty good left hooks from this tortoise-shell tabby when I heard someone enter the hallway. Looking up, I saw an attractive blonde.

"Must be a friend of the Dockings," I thought and turned back to lay a quick right cross on the gray tom cat. "I'm Meredith Docking," the blonde said. I could feel the shock setting in as I stumbled to my feet, trying to disengage myself from the cats, one of which (the gray) had a fang embedded in my hand. "Really super first impression," I thought, "sittin' there foolin' around with a coupla' cats."

Mumbling some kind of goofy introduction, I told Mrs. Docking it looked like we were ready to go. Opening the door with a scratched and bleeding left hand, I tried to kick the gray tom without Mrs. Docking seeing me. (They're her cats.) The gray saw it coming and ducked behind the door.

On the way to Perry, the bad omens reared their ugly heads. Mrs. Docking said her refrigerator had gone on the blink the night before and the maid had failed to show up for work that morning. Talking about her interest

in fishing Mrs. Docking said, "I love to fish but I never catch anything. Not only do I fail to catch fish, but nobody who fishes with me catches anything." I shivered. It sure didn't sound good.

Born in Elkhart, Mrs. Docking was raised in the dusty Oklahoma panhandle. She became interested in fishing during her college days at the University of Kansas. A true nature buff, Mrs. Docking is a member of Audubon and the Kansas Ornithological Society.

When we reached the lake, more bad omens were waiting. It had rained for two days, the water looked like chocolate milk and the barometer was steady. But the worst omen of all was leering at us from behind a beard. Hippie? Dope freak? No, just Barry Burkhart, outdoor writer for the *Topeka Capital-Journal* newspaper. When making arrangements the week before, I'd called Burkhart and asked

if he could get us into some crappie. Barry, who writes the popular "*Inside on the Outside*" outdoor column, assured me we'd catch fish and said he'd meet us at the Perry Lake Marina. With that one phone call, I'd almost blown the "whole" thing!

Also at the marina were Ross Manes, staff writer for *KANSAS FISH & GAME*; Glen Hurst, the Commission's law enforcement supervisor for northeast Kansas, and Linda King, a *Capital-Journal* society reporter who was there to cover the event from a woman's point of view.

We loaded the two boats, putting Mrs. Docking, Linda, Ross and Glen in the Commission's craft and Barry and me in his boat. As Hurst leaned over to start his outboard, a nut fell off the starter and dropped into 20 feet of water. The omens were still with us. As we finally pulled away

from the dock Burkhart once again blurted his optimism. When "bad luck" Barry is optimistic, look out!

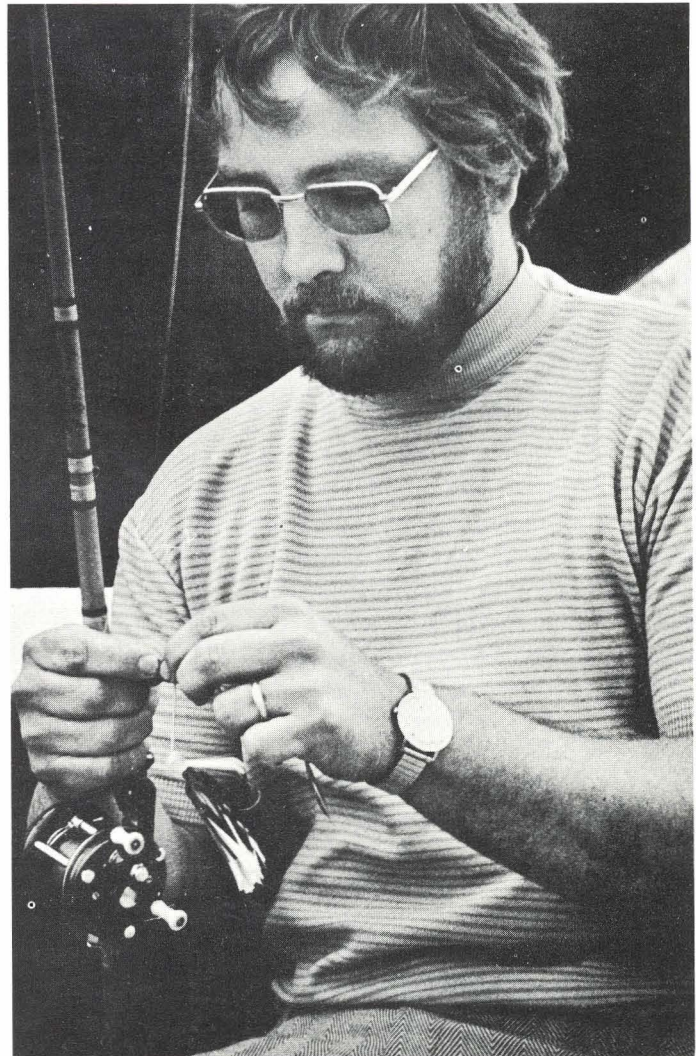
After a cold, spray-soaked, smelly ride, (the dummy had spilled a jar of shad entrails in his boat) we pulled into a wooded cove on the lake's north end. Submerged brush and flooded timber made the area look fishy.

True to his word, Burkhart caught a fish right off the bat—a nice bass of about a pound and a half which he immediately released. Since fish have never really come easy for me, I allowed as how we maybe should have kept that bass. Burkhart, who was trying to kick the cigarette habit, rolled an enormous quid of Red Man around in his mouth and said, "Naw, we won't need little fish like that, we're really gonna' get into 'em today." There it was again—that ominous optimism. Mrs. Docking, who

The author (below) and Mrs. Docking with some Lake Perry crappie. "Bad luck" Barry Burkhart, (right) outdoor writer for the *Topeka Capital-Journal*, attaches one of his favorite "limb" lures to some 195 pound test, steel-core shark line. During the day's trip, Burkhart amassed a really super string of tree limbs—some of them quite large!



Photo by Barry Burkhart



also has experienced problems filling stringers with fish, agreed saying, "Barry, if you catch another one like that let's keep it." Watching her handle a rod, I realized Mrs. Docking was no beginner.

Barry and I moved our boat deeper into the flooded timber leaving the others fishing over some submerged brush. Tying on spinner-baits, we began working the "chocolate" for bass. An hour later, we were still fishless. I reminded Barry of the "little" bass he released earlier. That's when started talkin' ugly to me.

Heading back, we stopped at the other boat and found Mrs. Docking and Linda fishless. Manes had taken a couple fish and Hurst had caught three or four small crappie. Hunched dejectedly in the bow, Hurst muttered something about trying for carp with doughballs. Manes, who formerly worked with the Arizona Game and Fish Department, said he wished he had a gill net. Things were lookin' bad.

Barry said we'd check a distant cove where he'd "always" caught crappie in the past. The others agreed to follow shortly. As we pulled into this "never fail" cove, Barry assured me it contained some excellent crappie.

Thirty minutes later we were still without fish. "I've never failed to catch fish in here," Burkhart complained. "I just can't understand it." Mrs. Docking's words came back to haunt me. "Nobody who fishes with me catches anything."

"I should have contacted John King," I told Burkhart, referring to WIBW TV's Outdoorsman. "He'd have found fish for us," I said, emphasizing "He." His professional pride wounded, Burkhart growled and choked on his Red Man.

The wind picked up and pushed us around a rocky point on the shoreline. That's when we saw him—a lone angler in a boat about 100 yards down the shore. The guy had two rods out and was hauling in slab-sized crappie like he did it every day of his life.

Burkhart cut the outboard and slyly let the electric trolling motor move us as close as possible to this crappie fishing genius without offending him.

Getting out our rods, we started fishing while casting secretive glances at this guy to see how he was catching all those crappie.

"See if you can tell what color jig he's using," Barry whispered out of the side of his mouth. Since my vision is roughly equivalent to that of a mole and this guy was about 50 yards away, I knew it was gonna' be tough. I cast what I thought was a sly glance in his direction. "Quit starin' you dummy," Barry hissed, "You want him to see you?"

I growled something unprintable and made another cast. Crappie are

cially when he's found fish. This distance varies according to the first angler's tolerance. If he's an amiable sort, willing to share the fish, you can end up in his boat. If he's not, he'll usually let you know about it.

But the day was growing shorter and our fish basket wasn't exactly bulging with crappie. So we decided to check this guy's tolerance limits. With the electric trolling motor, Burkhart eased our boat closer to where this guy was still hauling in fish.

About this time, the guy yelled, "Hey Burkhart, whataya' doin'?" We both looked up as if we didn't know



The First Lady is all business as she concentrates on her crappie fishing. An enthusiastic nature buff, Mrs. Docking is a member of Audubon and the Kansas Ornithological Society.

school fish during the winter and early spring months prior to spawning. As a result, they group up in large concentrations at this time of year. The real trick is finding these schools since the fish aren't hard to catch once you've located them. And this guy really had them located.

There's an old written rule of fishing etiquette which says you keep your distance from another angler—espe-

anyone was within miles of us. "I haven't seen you in months," the stranger continued. Burkhart just looked at the guy with a dumb stare, searching his mind for a name. "Remember me?" the guy asked, "Martin Hokr."

A gleam of recognition flashed in Barry's eyes and he about fell out of the boat asking Martin how he was

doing, how had the family been and oh yeah, was he catchin' any fish.

Now **Martin Hokr**, a Topekan, is a rare individual. Not only is he one heck of a fisherman, he's a nice guy who's willing to share his good fortune with other anglers.

"Pull your boat up next to mine," he said, "There's enough crappie here for everybody."—really a rare guy.

Sarcastically, I told Burkhart I'd know whom to contact the next time I wanted to fish Perry.

"They're down about eight feet, right on the bottom," Martin said. We both made a cast and Burkhart promptly caught a beautifully-marked four-foot cottonwood limb. More ugly talk.

Abut this time, Mrs. Docking's party pulled around the bend. We motioned them over. As they pulled alongside, I asked Martin to show Mrs. Docking his fish. Obliging, he pulled up a basketful of enormous crappie. The Governor's wife looked, did a double take and almost fell out of the boat. "I've never seen that many crappie," she exclaimed.

Eventually we all started catching crappie, but nothing like Martin. Even Mrs. Docking, who said she "never caught fish," took several crappie. I particularly remember a "nice" six-inch crappie she boated. (Anytime the governor's wife catches a six-inch crappie, it's a "nice" fish!) Burkhart, in the process of removing a sycamore branch from his jig, looked

Perry Lake, 12,200 acre reservoir northeast of Topeka, provided the setting for our trip. The lake is producing well and some anglers feel it could become the best lake in the state for largemouth bass fishing.

at Mrs. Docking's crappie and twittered something about her catching "bait fish." In her poised and gracious manner, Mrs. Docking just looked at him and smiled sadly.

Hokr and Mrs. Docking seem pleased with their crappie which were taken in spite of Burkhart and all the other bad omens.



Photo by Vic McLeran

As the afternoon wore on, action slowed but we continued to catch occasional crappie. The governor's wife was having problems setting the hook on some of her crappie. When she mentioned this, Burkhart noted that "some of us have it and some of us don't." I quickly tried to apologize for the bearded clown's remarks. But Mrs. Docking once again just smiled sadly and assured me it was alright—said she'd come to expect things like that from people who worked for the *Capital-Journal*.

Burkhart just grumbled and set the hook on another limb. Intrigued over his fantastic string of luck on tree limbs, I inquired about his method. He muttered something about using a "borrowed" rod—claimed he wasn't "familiar" with it.

By the time we called it quits that evening, we'd managed to help Martin fill a second basket with crappie. Even Burkhart, after amassing a fantastic string of tree limbs, made the

switch to crappie and started catching fish. Mrs. Docking seemed to enjoy herself and what had started out as a bad trip ended on a pretty good note—even with all those bad omens.

Later that evening, over a few cold ones, Burkhart, Manes and I agreed Mrs. Docking was "good people." We'd found her poised and charming. My earlier fears about her being too big for the boat (she's only five feet tall) or her not being able to remove fish from the hook, were unfounded. She handled herself like a veteran. And Burkhart's reputation as a guide didn't suffer too much either. After all, he'd led us to Martin Hokr. But the next time I want to take Mrs. Docking fishing, I think I'll call Martin. Now if it's tree limbs we're after

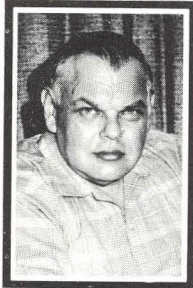


National Hunting & Fishing Day

By George Valyer

SEPTEMBER 23 is a special day, dedicated just to you, Mr. and Mrs. Sportsman and Sportswoman. It's a special day that has been dubbed NATIONAL HUNTING AND FISHING DAY.

It is official nationwide by virtue of the fact that a proclamation by President Richard Nixon has made it so and the Congress of the United States has declared it by joint resolution.



Valyer

It is official in Kansas because Governor Robert

Docking has proclaimed it in honor of the contributions of good sportsmen to the cause of conservation.

National Hunting and Fishing Day had its beginnings in an obscure way last year. During the summer, the idea of a special day dedicated to sportsmen began forming and an attempt was made to get the ball rolling. Unfortunately, time was a problem—there just wasn't enough of it to do more than generate a few ripples in the stream. Several state governors, including Governor Docking of Kansas, were approached and did sign proclamations declaring the fourth Saturday of September as National Hunting and Fishing Day but little

in the way of activities could be generated. Many sportsmen didn't even hear about it until after "their" day has passed. This year, it's a different story.

In January representatives of 46 major national organizations met in the Nation's Capitol to formulate plans for a National Hunting and Fishing Day. Spearheaded by the National Wildlife Federation, Izaak Walton League of America, Wildlife Management Institute, National Shooting Sports Foundation, National Rifle Association and a host of other organizations, plans for the nationwide observance began to take shape rapidly.

Under the cosponsorship of 34 Senators, led by Senator Thomas J. McIntyre of New Hampshire, a resolution was introduced in the U. S. Senate asking the President to proclaim National Hunting and Fishing Day. A similar resolution sponsored by Representative Bob Sikes of Florida was introduced in the House and both were passed unanimously in April.

Senator McIntyre probably said it best while speaking of the outdoor sportsmen of the nation. "It was they who—decades ago—sounded early alarms about the raping of the land, the pillaging of forests, the pollution of lakes and streams and oceans, the indiscriminate slaughter of fish and wildlife. It was they—even then—who were trying to do something to stop it. For a long time—a very long time—we didn't listen. And for an even longer time we didn't credit them with what they were doing for all of us."

Rogers Morton, Secretary of the Interior, recently said about National Hunting and Fishing Day, "The American hunter and fisherman through his deep personal interest in our wildlife resources has paved the way for the growth of our modern wildlife management programs. His

Kansas Governor Robert B. Docking issued a proclamation recognizing the sportsmen of Kansas and National Hunting and Fishing Day. This year's NHF Day will be observed September 23.



purchase of licenses and permits, his payment of excise taxes on hunting and fishing equipment, and his voluntary contributions to a great variety of conservation projects are multimillion dollar examples of his concern for wildlife populations and habitat preservation."

For many years the only funds available to Federal and State Governments for conservation of natural resources came from the fees and special taxes levied solely on hunters and fishermen. Even more important is the fact that these fees and taxes were paid willingly by sportsmen who were grateful for the opportunity to play a part in the conservation movement. To date, some two and one-half billion dollars have been the sportsman's special contribution to the conservation of our nation's natural resources.

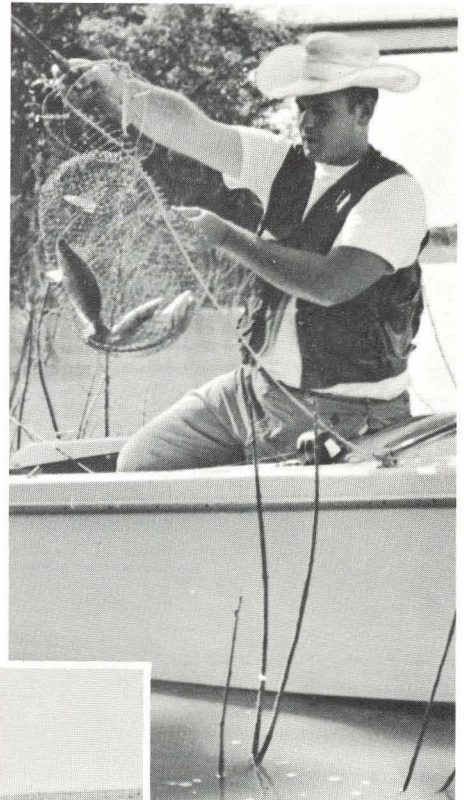
The purpose of National Hunting and Fishing day is to call attention to the contributions hunters and fishermen make to our national welfare and to introduce the nonhunting and non-fishing public to the outdoor sportsmen in their community who have been so concerned with the maintenance of a quality environment.

From border to border and coast to coast, sportsman clubs and conservation organizations will be holding open house on September 23. Some Clubs will have a day of conservation movies while others will be staging demonstrations of the correct use of outdoor sports equipment.

Many of the American public have never had the chance to cast a plug or shoot a clay bird and these activities will be available at club houses and organization lands. Other sportsman organizations will be erecting displays in downtown store windows calling attention to conservation and ecology problems and suggesting solutions.

The Kansas Forestry, Fish and Game Commission will be observing National Hunting and Fishing Day by holding open house at all of its installations in the state. Personnel of the department will be on hand to greet sportsmen and answer their questions. Richard Wettersten, director of the Commission, has extended a cordial invitation for all Kansans to visit their nearest State Lake, regional office or Game management Area.

No matter how you look at it, Saturday, September 23, 1972, shapes up as a great day for the outdoor sportsman. We heartily urge you to enter into the spirit of the day. Bring along a friend or neighbor and maybe he, too, will gain a little understanding of the vital concern which has marked the sportsman's contribution to the conservation of our natural resources.



Sunflower hunters and fishermen not only pay their own way, but their dollars also provide hours of non-related outdoor recreation for groups such as campers, picnickers and nature enthusiasts.

Good Hunter Health . . . a way to live

By Ross Harrison

WITHOUT ENOUGH PREPARATION on how to take a bull by the horns, you can easily get gored to death.

And if you aren't the fleet-footed athlete you were at 25, that first big hunting trek this fall can be just as lethal as the horns of that bull—that is if you aren't physically ready for it.

Too often hunters neglect their most delicate piece of hunting equipment, their own body. Good hunter health is essential to a happy hunt, more so than a gun that shoots straight or a dog that points true. Good hunter health insures more hunts will come; woe is the day the avid hunter has to hang up his gun because of ill health.

Whether the hunter contracts pneumonia, suffers the aches and pains of cramping and stiff muscles, or is stricken with a heart attack, most maladies could be avoided if the hunter would treat himself with as much care as he does his gun and dog.

Most hunters, for example, will keep their guns oiled and in good condition during the off season. They know a gun will last longer and perform better if they take time to keep it in good shape. And most hunters keep their dogs trim; they vaccinate them for rabies and other diseases and occasionally they'll give their dog a good run to keep its muscles in tone.

It is beyond reason why a man would keep everything but his own body up to snuff.

There is a feeling of youth and toughness a hunter gets when he puts on his hunting boots, his vest or canvas jacket and lays his shotgun across his arms. It makes him feel like he's Daniel Boone, reincarnated. Nothing was too tough for Mr. Boone, much less a 10-mile hike through a brush-tangled field or forest. The fact being, however, most hunters sit behind a desk 50 weeks a year or are employed at something else much less demanding of their muscles. The heart, you will recall, is a muscle.

Like a dog penned up during the entire off season, or a gun wet with dew put in the case without a good oil wiping, a man who has not taken care of himself prior to hunting will

not perform correctly, to say the least. To say the most, a heart attack could stop a man from performing at all.

Heart attacks in hunters are the same as they are with anyone else. They can maim, cripple or kill, many times without warning, and they can strike persons with no previous history of heart problems.

Authorities conclude many times hunting has nothing to do with an attack. It could come, as it does to many, as the result of a long history of being overweight, smoking or drinking to excess, and out of mere coincidence it might strike the man while he is hunting. But, there are cases of heart attacks which authorities claim are aggravated by the strenuous exercise of hunting, especially when the hunter's heart is not accustomed to the stepped-up pace. Hunt-



Harrison

Many a first-day hunter spends valuable hunting time setting on a log, huffing and puffing. While an occasional breather is advisable, a pre-hunting exercise program will keep you going when the going gets tough.

Photo by Ken Stiebben



ers in the range of 40 to 50 and older should take some precautions with their hearts.

Talk to your doctor. Tell him what your hunting plans include and the type and amount of exercise it will entail. A cardiogram might be in order, to show just how strong and regular your heart is. A doctor might prescribe a medicine that would help your heart in periods of extreme laboring. He might just tell you to take it easy. Listen to him. If you want to keep hunting, the doc will tell you how. More than likely, the doctor would recommend some particular exercises for your heart (and for some of your other muscles too) which should put you in the kind of shape you need to enjoy the hunt, whether you are 30 or 60.

Don't be ashamed if your heart is weak. Tell your hunting partners of the situation and be sure to secure some advice from your doctor as to how your hunting companions could help you if you would suffer an attack.

Not really sweating the strains of an arduous hunt on his heart, a younger man could become besieged with the "screaming meemies" when he settles back after a long day's hunt. His muscles feel like they are turning into a twisted ball of steel.

Several weeks prior to the first hunt, walks and bicycle rides around the countryside (take the dog, he needs the exercise too) steadily build up the leg muscles to the point that a hunt would do little more than just tire his young body. When taking one of your pre-hunting jaunts, don't forget to wear your hunting boots. Let them and your feet get reacquainted. They will be together many long hours and a gentle break-in should secure a lasting friendship. Also, don't forget that you'll be toting a seven to eight-pound gun, so don't neglect those arm muscles before the season or they'll get shaky with fatigue when you need a steady aim.

Exercise can accomplish marvels. A Nebraska physician reported at an American Medical Association conference two and a half years ago that a 91-year-old man, who had virtually no physical exercise in 20 years, was able to run a six-minute mile after two years of a graduated fitness program. Above all, physicians warn that

exercise should be started out gently.

Still, a guarantee of a healthy hunt can't be issued to every hunter, regardless of his good physical condition. Like crossing a thoroughfare in Kansas City, watching out for those big trucks high-balling it through the busy streets when lo and behold you get canned by someone on a motorcycle.

Hunters, veterans and beginners, face such a sneaky type of threat from the perils of cold, especially in the later parts of the season. From a mild flu to pneumonia to severe frostbite, most of the times you won't know you are afflicted until it's too late. Again, a few precautions are in order.

Flu, pneumonia and other viral diseases are brought on when the body's resistance is down. The afflicting viruses are around us everyday and the potential for catching them is always there—some persons being more susceptible than others.

Doctors say high resistance to such afflictions is maintained by lots of sleep, balanced diets and maintenance of an appropriate temperature around the body. When one, or any combination of these are out of whack, the body is ripe for infection. Since diet and sleep are dictated by each particular individual's way of life, let's

Hunters too often neglect that most delicate piece of hunting equipment — their body!

take a look at how to keep your body at a suitable temperature.

Since we're talking about fall Kansas hunters, a look at how to keep warm in cold weather, and just as important, how to keep from getting too warm in cold weather should cover the subject.

The Kansas Department of Health reports that 42 persons in the state died of exposure between 1961 and 1970. The statistics do not indicate how many were hunting at the time of death. But, some of the listed circumstances of death, such as "Improperly clothed victim found frozen in field" or "Victim died of embolism (blood clot) due to amputation of foot which had frozen during the winter," could be easily identified with

COOLING POWER OF WIND ON EXPOSED FLESH

ESTIMATED WIND SPEED (MPH)	ACTUAL THERMOMETER READING (°F)											
	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
calm	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
5	48	37	27	16	6	-5	-15	-26	-36	-47	-57	-68
10	40	28	16	4	-9	-21	-33	-46	-58	-70		
15	36	22	9	-5	-18	-36	-45	-58	-72			
20	32	18	4	-10	-25	-39	-53	-67				
25	30	16	0	-15	-29	-44	-59					
30	28	13	-2	-18	-33	-48	-63					
35	27	11	-4	-20	-35	-50	-67					
40	26	10	-6	-21	-37	-53	-69					
	LITTLE DANGER (for properly clothed person)						INCREASING DANGER					

hunting. Many of the circumstances of death were listed only as "Victim died of exposure to cold, no details," and six of the 42 victims were said to have been intoxicated.

An outdoors clothing and camping gear manufacturer of Colorado, Gerry Cunningham, reported in Colorado Outdoors five point for hunters, or anyone spending time outside in the winter, to keep in mind: Thickness is warmth; keep your torso warm; avoid sweating (allow for ventilation); keep your head covered when cold, uncovered when warm; and keep your metabolism up to the point that it's providing heat (Indian wrestle with yourself, for example).

Cunningham's pointers sound simple. They are. But they are effective and they require a little studying to grasp just what they mean. Winter outdoor dress, from your skin progressing outward explains it better.

Cunningham suggests a ventilating net underwear be worn next to your skin. This type of underwear will keep moisture out of your outer garments by allowing ventilation to whisk the moisture away. He says the so-called "insulated underwear" should not be worn next to the skin as it does not allow for ventilation. He says, however, that insulated underwear does exactly what it's name implies—it insulates. It can be worn outside the net underwear and beneath a jacket.

When Cunningham refers to thickness, he refers to insulation. Air should make up most of that thickness, he claims, as it is one of the best insulators known and it is also one of the easiest to carry around. He prescribes a goose down jacket. Duck down, he says, is not as fluffy and light. A goose down jacket will breathe to allow ventilation. It will hold air to make a good insulator. The jacket will not restrict movement



Frost bite is encouraged by tight-fitting boots, gloves or ski bands and naked noses protruding into a cold Kansas wind.

or burden a hunter with extra weight. On top of that jacket, he suggests something that will keep the wetness and the wind out. For that combination a five-ounce, very tightly woven cotton fabric will work fine. However, he prefers a wind parka of 2½-ounce nylon fabric and a separate, plastic coated nylon poncho, also of 2½-ounce fabric.

In all these jackets, the trick is to get them with two-way zippers that can open at the neck and at the waist. When you are prepared for 20-degree weather and a 20-mile-an-hour wind (making a windchill of 10 degrees below zero) and the wind quits blowing and the temperature soars to 30 degrees, it is unhandy to peel off your garments and carry them. Two-way zippers open so that fresh air can circulate and prevent a perspiration buildup around your torso. Warm sweat can turn to frigid ice if the wind would pick up again and the temperature drop!

Mittens are preferred over gloves for warmth, but dexterity is limited so much that Cunningham advises gloves consisting of two types. The outer being water resilient and tough. The inner, woolen and thick. Extra inner gloves of wool should be taken along on the hunt as the first pair will undoubtedly become soaked with sweat—a good target for frostbite if it gets cold enough. Gloves should not be too tight to hinder that finger-warming blood circulation, but not so loose as to allow cold air inside.

Leather boots, waterproof with a wax sealant (oils and greases soak into the leather and reduce the natural insulation ability), fitted with plastic mesh insoles and surrounding a foot with a high quality, thick wool sock on it is Cunningham's plan for an efficient and comfortable foot warmer. He says if felt insoles are used, an

extra pair should be brought along because the felt also will collect and hold sweat like a sponge and conduct the heat of your foot right out through the sole of your boot.

Frostbite isn't as feared in Kansas as it is in Montana, for example, but that is a big mistake made by a lot of hunters. When the cold Kansas wind whips by your face and your ears are sticking out, it wouldn't take too long to freeze them solid. Ski bands probably do more harm than good by restricting blood flow and offering little insulation. The buddy hunting system offers a safeguard to frozen ears.

Keep watching your hunting partner's ears, especially after they've been hurting him and if they begin to turn white. When they are white, they are probably frostbitten. Don't rub them! That's a good way to erase an ear right off his head. Protect the ear, finger, toe or whatever, from the wind and cold if frostbite is suspected. Gently hold a warm sock or part of clothing over it. The best thing to do is get to the hospital fast. Doctors suggest neither snow nor fire for a frostbitten area. Rather, protection from further cold and a moderately warm covering. If you have to walk and your foot is suspected of being frozen, don't try to thaw it before you walk. A thawed foot with any pressure on it (if you could stand the pain) could cause serious mechanical damage to the tissue. You can, however, walk on a frozen foot. The best cure for frostbite in any case is prevention.

So you're in good physical shape and your heart is beating properly; you're warm enough, but not sweating; and you see a deer grazing around a bush. You pull up slow and quiet like, squeeze the trigger and he drops. Not stressing your heart, you approach your prize in a brisk walk, only to find out it's a calf.

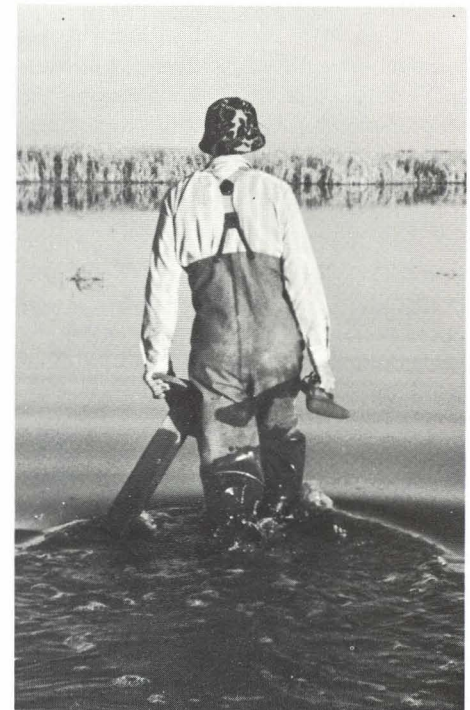
The National Rifle Association claims three of the major causes of hunter tragedies (and they're talking about human tragedies, not farm animals) are directly related to vision. The American Optometric Association states 350,000 of the seven million hunters in the United States are color blind.

With much riding on your sight, the least of which being whether you can hit anything, a vision checkup prior to hunting is not a bad idea. The Optometric Association suggests a six-point checklist be considered: Clarity, or the ability to sort out objects of similar shades at a distance; focus, or the ability to see clear, sharp lines from your first sight to the end sight to the game you're pointing at (a common failing among 40-year-olds); ability to judge distance; peripheral vision, or the ability to look at an object and still perceive objects to either side (tunnel vision is the opposite); color vision; and glare, in which sunglasses will aid tremendously.

A first aid kit, packed with the aid of your doctor, consisting of such items like gauze, tape (adhesive and elastic), scissors, bandages, compresses, a scalpel and a thermometer will conquer minor mishaps. The doc might also throw in some antihistamine for hay fever, a hemostat to stop severe bleeding and advice on a good snakebite kit.

Use your head, stay healthy and enjoy the hunt. You'll be in better shape to recover from that car accident on the way home.

Photo by Ken Stiebben



Of Teeth & Time

By Bill Peabody

Big Game Biologist

Field application of a new technique enables biologists to determine deer's age by examination of the animal's teeth.

WHENEVER DEER HUNTERS get together the talk centers around who got the biggest buck?, what did he weigh?, how many points did he have?, and how old was he?, —to say nothing of the tale of the big one that got away. Many of these questions were answered for hunters when they brought their deer to a checking station for examination by Commission personnel.



Peabody

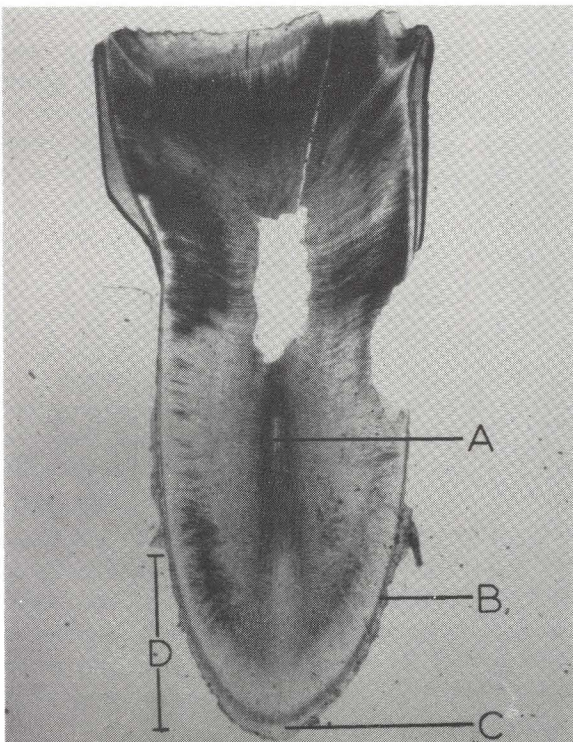
Weight and antler development are indicators of a deer's physical well-being and also tell the biologist something about the quality of the range on which the animal lives. Deer weights obtained at checking stations during the past seven years have proven what we have long suspected—that farmland deer are generally fine physical specimens. "Hat rack" bucks are not uncommon in Kansas as a check of Boone and Crockett Club, Pope and Young Club and Kansas' Trophy Deer Awards records will attest.

But what about a deer's age? How do you tell the age of a deer and what do we do with the information after

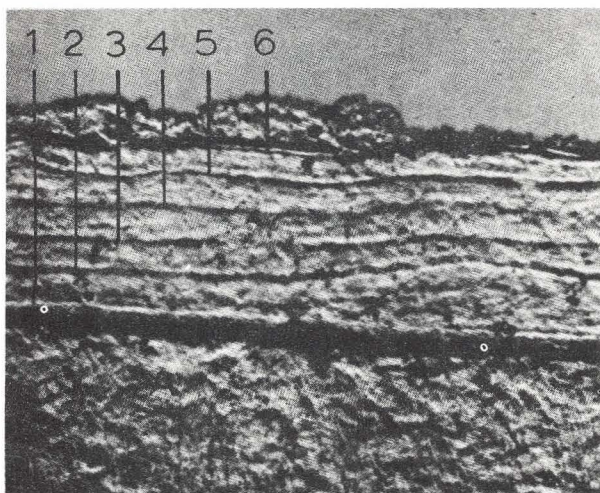
we have it? For many years biologists have used and are still using the tooth replacement and wear technique to determine deer age developed by researchers in New York and Utah. This method requires that a trained technician examine the lower mandible of a deer to determine the stage of tooth replacement (in the case of young deer) and the degree of wear on the cheek teeth (molars) of older animals. This technique works well on young deer where tooth replacement is occurring, but on older animals an "educated guess" is required to ascertain age based on the amount of molar wear. Some technicians trained and experienced with this method are quite adept at telling a deer's age, while others have difficulty. Besides technician ability and experience, another factor is involved—do all deer teeth from various regions of the state wear down at the same rate? Preliminary work indicates that the teeth of deer in some areas of Kansas are harder than those from other regions. Might not this effect the amount of wear? What about abrasive materials (e.g., sand) on vegetation upon which deer feed? It has been shown in other states that abrasives on deer browse and the type of food eaten does make a difference.

THE PROBLEM

If it is so difficult to correctly tell the age of adult deer by using the tooth wear and development method, why hasn't somebody found a better way? And, if the "old" method of determining deer age is not accurate, why continue to operate expensive checking stations that are an inconvenience to the hunter when we no longer need the quantity of biology data obtained from 1965 to 1971?



Shown here are the various parts of a deer's tooth. A. pulp cavity, B. dentine-cementum interface, C. cementum, D. Area of cementum from point D to tip was found best for annuli examination.



Pictured here is the cross section of a six-year-old deer's tooth. The annuli, or annual growth layers, are numbered. Each line represents one year in the animal's life.

Research biologists have developed a new way to tell a deer's age. To be used in Kansas the method required modification and Stan Brown, former graduate student at Kansas State Teachers College of Emporia, found a fast, accurate way to make use of the technique so that it could be used as a practical field "tool" in the management of our deer herd.

The technique consists of examining thin sections made from the primary incisors of deer and counting what has been determined to be annular structure (dark lines or "rings") in the dental cementum of the teeth. Two Canadian biologists, working with a sample of known-age deer, revealed that these annular structures could be directly related to a deer's age. In simple terms, it is much like counting the growth ring in a tree.

THE METHOD

All permittees hunting deer with firearms during the 1971 season were provided with postpaid envelopes on which instructions and a diagram had been printed showing the procedure to use in removing the two front teeth (primary incisors). We requested that successful hunters remove the incisors from their deer immediately upon killing it and to record the species of deer taken, sex, management unit and county in which the deer was killed. Ninety per cent (2,314) of 2,569 successful hunters removed the incisors from their deer as directed and sent them to the Commission. Needless to say, hunter cooperation was excellent as it has been during

the short 7-year history of deer hunting in Kansas.

Teeth submitted by hunters are prepared for examination by first separating the incisors and removing any flesh adhering to the root. The tooth root is then flattened on its long axis to about one-third its original thickness by using an electric, medium-grade grinder. The flattened root section is then ground down to about .008 mm. thickness in two stages by using 100 and 280 grades of carborundum powder placed on glass plates. A cork is used to apply pressure to the root section when grinding down in a circular motion. Tooth sections are then cleaned and rinsed in xylene solution before mounting on slides. This entire procedure takes about 15 minutes per tooth.

Completed tooth sections are then examined under a transmitted light microscope and the annuli are counted. The annuli are the dark lines shown in the accompanying photographs. Each annulus (dark line) represents one year in a deer's life.

CHECKING STATIONS

vs.

INCISOR ENVELOPES

In addition to the limitation of the tooth wear and development method of deer age determination discussed earlier, there is also the problem of maintaining checking stations to sample all or a portion of the legal harvest. Operation of check stations represents a considerable economic and manpower investment. In Kansas, it is impossible to establish stations on

major hunter ingress-egress routes as they do in some states. Access to most of our deer range is unlimited. Therefore, in the past we have resorted to mandatory checking, using a large number of stations so that successful hunters would not have to travel more than 30 miles (one way) to get their deer carcass validated. In 1969, the last year for statewide compulsory checking, we operated sixty-four stations for five days to examine 1,668 deer. At a minimum investment of \$20,000 it cost the Forestry, Fish and Game Commission \$12 per carcass to examine those deer.

On the other hand, by using the deer incisor age determination technique modified by Stan Brown, the age structure of the 1971 firearms harvest was prepared at a cost of \$1,115 with the help of successful hunters who removed and sent in the two teeth requested. The work was accomplished in about 400 hours compared to 3,200 to 5,700 man-hours of check station operation.

ADVANTAGES and DISADVANTAGES

The use of deer incisors collected by hunters to determine the harvest age structure does not mean that we will not operate deer checking stations periodically to obtain biological data as the need arises. However, as long as it is necessary to know only the ages of deer, mandatory stations are not needed. The incisor annuli count method of determining age is more accurate than the tooth replacement and wear technique, does not involve the expensive and time-consuming operation of checking stations, and inconveniences hunters less.

There are several disadvantages in not having checking stations. First, it is impossible to prepare immediate post-season harvest estimates for the news media. Hunters now have thirty-six (36) hours to report their kill on the questionnaire provided with their permits, and unless response is good, kill estimates are not available for at least a week after the season ends. Secondly, the Commission loses some contact with the hunter. While some of those hunters that shot deer complained about having to drive to a

checking station, many appeared to favor getting their deer weighed and examined by station technicians. This was especially true of hunters who shot large, trophy-quality bucks and if weather conditions were favorable.

SO WE CAN TELL A DEER'S AGE —HOW DO WE USE THE INFORMATION?

The harvest age structure is important in determining a deer herd's population dynamics. Wildlife managers are able to determine the extent and influence of hunting pressures on various segments of the population, the percentage of young deer (fawns and yearlings) in the kill provides information on current and past reproductive performance as well as survival rates, and deer population models can be derived which can be used in formulating sound management recommendations.

For example, we know that young deer are more vulnerable to hunting pressure than adults and that they are the most numerous age classes in the population. A consistently high percentage of 1.5 year old bucks in the harvest sample indicates a high hunter kill which may or may not be coupled with a rapidly increasing deer herd. The less the herd is increasing the more the percentage of yearlings in the kill reflects the true mortality. Yearling whitetail and mule deer bucks comprised 65% of the statewide antlered harvest in 1971, but on a management unit basis the percentage of yearlings was as high as 83% for mule deer in the Smoky Hill Unit and 76% for whitetails in the Middle Arkansas and Solomon units.

A consistently low percentage (40%-45%) of 1.5 year old bucks in the harvest indicates a low hunter kill and also probably a more stabilized deer herd. If however, we should find the 2.5 year old age class equalling or outnumbering the yearlings we would suspect that this might have been caused by a serious fawn production failure of the previous year or that the yearling age class was underharvested the previous year. This situation has not occurred in Kansas.

Farmland deer walk a thin line between survival and "deer heaven"! Only 8.3% of the total antlered deer harvest in 1971 was older than 3.5 years of age. It is a wise buck that lives longer. Motor vehicles, dogs-coyotes, poachers and hunters all take

their toll of the herd. It is the wildlife manager's job to see that as much of the harvestable surplus as possible is not wasted. Accurate deer age determination is just one of several "tools" used by the manager to carry out that objective.

How old is he? How long did it take for him to reach this magnificent size? Questions like these are answered by examination of one of his teeth.

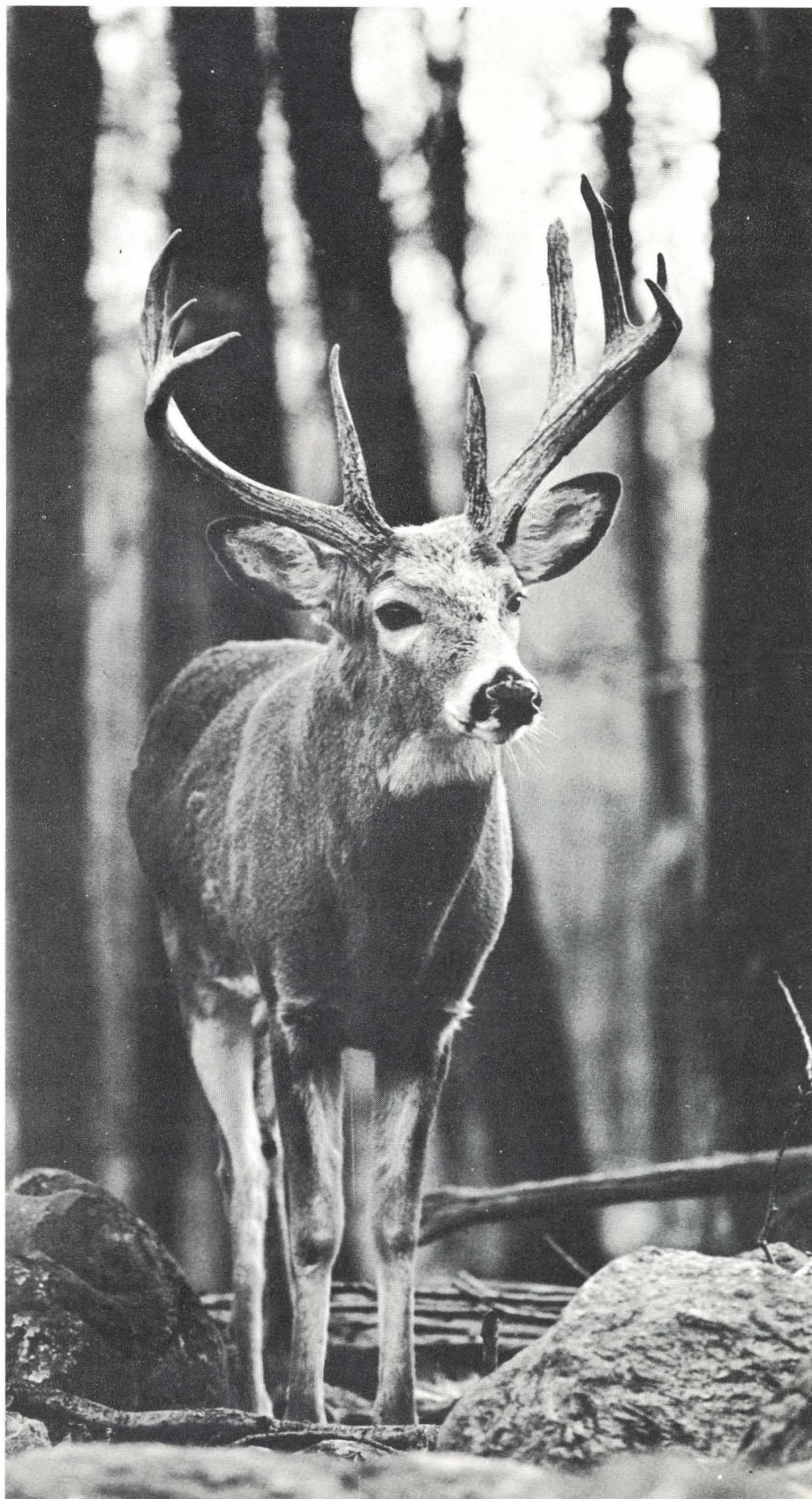


Photo by Leonard Lee Rue

Why Field Trials?

By Ross Manes

Photos by Ken Stiebben

A GALLERY of perhaps forty people watched intently as two rangy, lunging English pointers led their handlers to the starting point. Steam

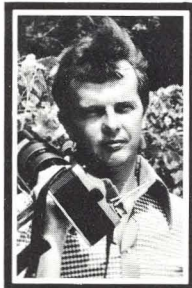


Manes

jetted from the nostrils of the observers' mounts, and a low murmur ran through the crowd as one of the dogs whirled, snarling and snapping at his brace mate. The handler checked his dog roughly, raising its feet from the ground with the short leather lead.

The two dogs stood now, almost identical to the untrained eye as the handlers styled them, gently curving long thin tails to point at the gray, overcast sky. Each dog was seeking the opening advantage in the race they knew was coming. Two shrill whistles sounded as one, and at the end of a 10 foot leap the two animals slammed together, each striving to upset the other on a line toward some distant point of birdy cover.

By the time the handlers had swung into the saddles on patient horses the dogs were little more than specks on a broad sea of dead grass and weeds.



Stiebben

When the gallery had formed a slowly moving line, permitting everyone an open view, the liver and white pointers were gone from sight. These were true all-age, field trial dogs, attached to their handlers only by instinct and months of training to whistle and voice.

After fifteen minutes of riding at the ground-eating pace of walking horses neither dog had yet reappeared, but a solitary mounted figure was waving his hat vigorously on an open ridge nearly a half-mile away. Both handlers stood in the saddle, trying to identify the distant figure as their own scout. Then one turned quickly to the closer of the two judges trailing slightly behind and called point. This was the moment. The handler, followed by a judge, permitted his horse to ease into a trot, but checked him short of a gallop.

As the two riders approached the

scout he waved his badly crushed hat toward a clump of sumac near the bottom of a long sloping draw. Nearly a hundred feet downwind of the brushy pocket the dog had stopped, petrified by instincts older than his breed and stronger than any other feeling.

The handler dismounted and drew a small revolver from the pocket of his canvas coat. The success or failure of his efforts as a trainer would be determined within the space of two or three minutes, but his actions were confident. He strode toward the big

Muscle and good body structure, exemplified by this pointer, are essential for speed and stamina in a hunting dog.





Good training of fundamentals can result in a highly-polished gun dog like the Brittany shown here.

dog, pistol in one hand, leather lead in the other. Softly but audibly he spoke to his frozen bird dog, "wup," and the animal quivered slightly in response. Barely in front of the pointer the man began his search, switching the tops of grass clumps with the latigo leash, carefully probing weeds with a boot toe. It wouldn't do for the birds to come out behind him. As he approached the clump of sumac the handler intensified his efforts, flaying and kicking each small patch of vegetation. The leather lead popped against a sumac head, sending rust colored berries flying, and eight or nine plump bobwhite quail burst from the center of the thicket. Ignoring the birds, the man looked over his shoulder at the dog and very deliberately raised and fired the blank pistol. The small report was hardly heard by the gallery, watching closely from nearly a hundred yards away.

The dog was now twitching noticeably, his eyes moving to follow the flight of his "find," but he remained in his head up-tail up stance. His handler pocketed the small pistol, and walked back to touch the dog's head. He rewarded the expectant animal

with a harsh, nearly growled "awright," and watched the pointer launch himself. Not in the direction the birds had taken, but toward a small finger of timber over a quarter mile away. The performance was over. Win or lose, man and dog had

done what was expected of them in a field trial.

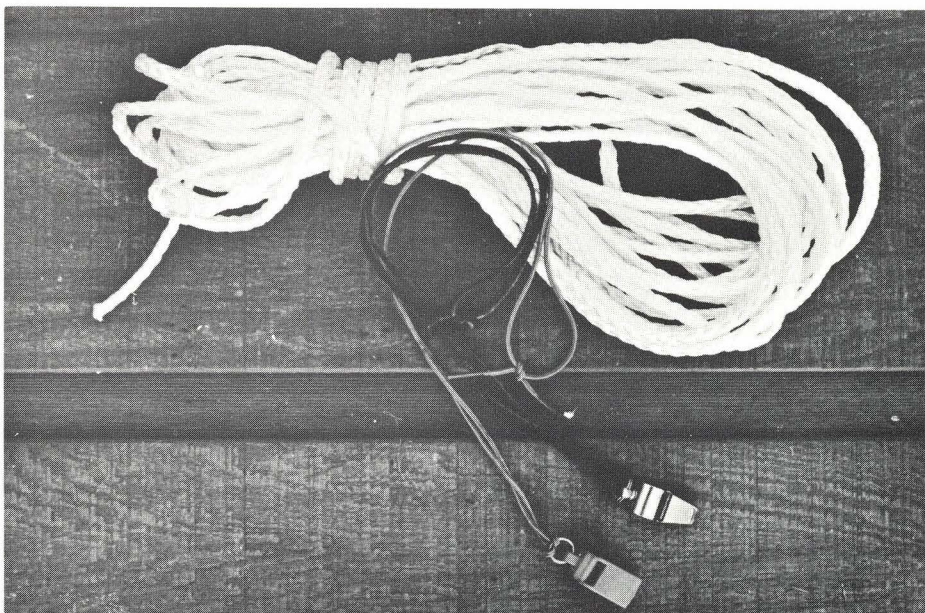
A new-comer to field trialing was in the crowd that day and his comment was nothing new to the more experienced onlookers. "Well," he said, "that's real fine, but I can shoot more birds over my old potlicker than that high-powered-son-of-a-gun." He was probably right, so why even have a field trial anyway?

First, a field trial is not "simply" a field trial. It is an event composed of several stakes, each one designed to consider the age of the dogs, the abilities of the handlers, and the desires of the owners or handlers. The stakes may be open, amateur, or limited. Each of these categories can be, but usually aren't applied to the basic categories of puppy, derby, shooting or gun dog, and all-age.

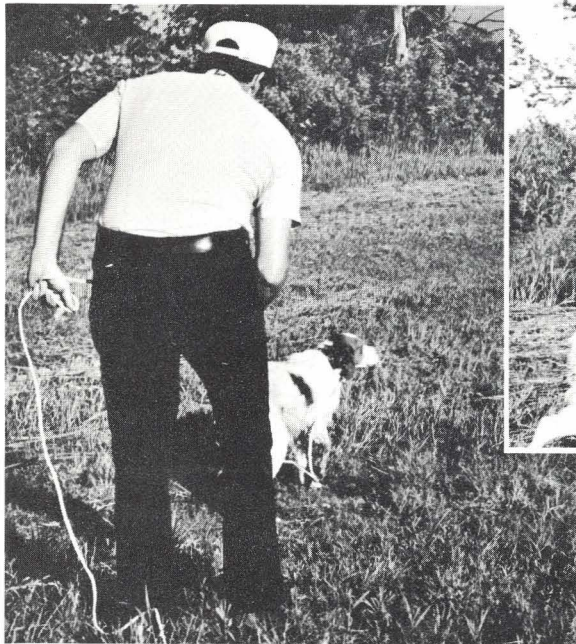
Entries in the basic stakes are determined by age. The two large national organizations that sanction field trials vary slightly in their age standards, but essentially puppies must be from six to eighteen months, derby dogs up to but not more than two years, and any dog is eligible to run in the shooting dog and all-age categories.

Field trial judges have at least two things in mind when they admire dogs that require two men on horses

A check cord and whistles are essential in training hunting dogs, whether you're a novice or a professional.



The author works his brittany with check cord and whistles. Field trials place an emphasis on many of the same qualities which make a good shooting dog.



just to keep them in the state. One, the big running dog has the body structure and musculature that permits the speed and stamina so absolutely necessary in a hunting dog. More important, the wide range and consistent speed indicate the inherent desire to hunt that makes a good gun dog. Breeding records indicate that the characteristics of speed, stamina and desire are inherited, but seldom at maximum levels. Thus, two of the wildest running animals in the country will likely produce pups of only average ability, with an occasional exception. The average pups are the ones most of us like to hunt with.

The other aspects of a field trial dog that most often draw criticism from the uninitiated are those of standing when the birds fly and when they are shot. Admittedly, these are not usually natural acts on the part of the dog, but must be trained. They are, however, practical in most hunting situations.

At least two unfortunate things can happen if a dog is allowed to break point on wing or shot. First, any birds which don't rise with the initial covey break will be scattered by the dog. Secondly, the dog that is going with the birds may not be watching

the bird his handler knocks down, and certainly will not be in a position to mark second or third falls for the better gunner. Finally, there is the frustration of having the over-exuberant bird chaser bound into the middle of the covey just as they set down, while the hunter is still trying to find his first bird without the aid of his faithful companion.

Although the steady - to - wing and shot requirement places the premium on the trainer's ability rather than the dog, it does measure the dog's ability to take training. A very few, very wild running dogs are untrainable. At least they can't be trained within the limits of usual methods and reasonable time periods. For that reason it is extremely important to field trial judges that dogs exhibit an inclination to training by the time they reach shooting dog age. This insures a balance between an intense desire to hunt and an inherent compatibility with man.

The other characteristics of an "ideal" field trial dogs are mostly either natural—or non-existent, and they are desirable in any bird dog. Backing, or honoring another dog's point is a matter of manners, and permits two companions to hunt their dogs together without heated discus-

sions on the ancestry of the mangy mongrels. Natural and swift relocation of birds which have run, along with some "style" on point are difficult factors to judge and can't really be considered absolutely essential. Nevertheless, they do add pleasure to a hunting trip and when a field trial judge demands them it shows he is definitely looking for ideal hunting traits.

Aside from the noble aspiration of maintaining excellence in bird dogs, field trialing offers a scant possibility of money in the pocket. Many, if not most, dogs are campaigned in field trials with the hope of making a champion for breeding purposes. Undoubtedly, champion-bred pups sell quicker, and for more money. Remember the guy that didn't think much of field trial dogs? You should hear him talk about old pot-licker's champion great-great-grand uncle when he has pups to sell.

There are several good books available on bird dog training, but the best way to learn is firsthand, from an established expert. Although a handful of basics will get you a reasonably competent meat dog, it's the little known tricks learned by experience that produces a truly polished pointing partner. KANSAS FISH & GAME Magazine will try to give you some of these tricks-of-the-trade through interviews with professional trainers in a future issue.

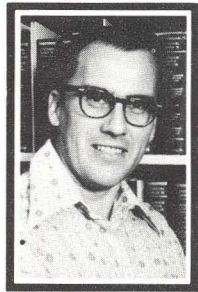


Thoughts...

by BOB WOOD



WITHIN THE LAST several years, various forms of public pressure have caused many agencies and firms to change their operations to lessen their impact on the land. But, just because many people are at least aware of their natural surroundings for the first time, we cannot afford to relax. Economics and demands for creature comforts will always play the up-



Wood

per hand in determining man's activities on earth. Oddly enough, governmental agencies, while catering to public demands, are often involved in questionable programs which have adverse environmental impact.

In recent weeks, there have been several items in the news which had a tendency to cause a pause for thoughts.

First was a newspaper account of a statement by a U. S. Corps of Engineers official in which he commented on the proposal to make the Arkansas River navigable to Wichita. The paper credited the official with the following statements:

"Supporters of efforts to develop the Arkansas River into a navigable stream to Wichita should plan to pursue the project at least 20 years.

... Even if Congress fails to approve raising the discount rates on Federal projects to 7 per cent as presently proposed, budgetary trimming, re-evaluation of budget priorities and environmental questions

could be expected to cause long delays in the proposal."

I should hope so! Notice how the official recognized the presence of a "re-evaluation of budget priorities," but as could be expected, made no mention of the necessity of a re-evaluation of environmental impact, or even an up-dating of whether river navigation to Wichita would be economically desirable 20 years from now.

We must give the official a little credit however. He was quoted further, "People in Wichita should continue to be interested in it and pursue it, but they should look for alternatives."

There is an alternative transportation system already in existence. It would seem, if funds spent on making unnavigable streams navigable had been put into the nation's railroads, both our riparian ecosystems and a once major industry would be in much better shape.

* * *

Another recent announcement came from the U. S. Department of Interior. The Alaska oil pipeline construction authorization was approved. This question was undoubtedly a tough one to answer. I do not envy those who had to make the decision. There is no question the northern Alaska oil will be needed. By the same token, there is no question permanent scars will be made on the arctic landscape. There will undoubtedly be many court battles ahead before much construction is started, but I do not doubt the pipeline will be built.

What bearing will the Alaska pipe-

line have on Kansas? It's hard to say at this time. Directly, it may have mostly benefits through providing Kansans oil for energy. We must be cautious, however. Many precedents will be established in the pipeline's construction. Do not doubt those precedents will eventually find their way to the Kansas prairies.

* * *

One final item caught my eye. This time from the U. S. Department of Agriculture. Referring to the imported fire ant control program in the South, the USDA has reduced their proposed pesticide broadcast application in 1972 from 11 million to only 7 million acres.

Concern over poisoning the land has caused them to make a whopping 36% cut in area of application. Only 7 million acres treated. That shouldn't alarm anyone!

I hope USDA never turns its collective eye toward our little harvester, the moundbuilding prairie ant.

These news items made me wonder if the Federal Government is working for me, or against me.

Granted, no one person nor agency has the complete answer to the questions raised by the activities we have mentioned. But, systematic thought must be given them. The fundamental ecological concept of nature is that all things are interrelated. One change results in another change and further changes result from that. This action-reaction continues until the entire ecosystem is different than before. Unfortunately, man has a penchant for altering ecosystems adversely. Thought must be given to all parts of all ecosystems before irreparable damage has been done. Man's current "after the fact" attitude is untenable.

Glimpses of Kansas Wildlife



Coyote

Photo by Ken Stiebben

By Bill Scott

"DADDY, LOOK! Is that a coyote?"

The car's headlights had caught a small, dark doglike animal racing across the road. Then, as suddenly as it appeared, the phantom had been swallowed again by the blackness of the night.

What father and son had just glimpsed was *Canis latrans*, the coyote.

Probably no other animal has been so romantically interwoven with the old West, and at the same time, so eloquently cursed by farmers and ranchers.

A shy and usually nocturnal animal, the coyote has always been a fascinating subject for sportsmen. A bit shaggy and doglike, the coyote is a little smaller than a Collie, perhaps best resembling a small German Shepherd. The coyote has erect, pointed ears and a bushy-looking tail. Color varies from almost black to nearly white, but is usually gray. "Mini-coyotes" may weigh as little as 18 pounds, but the average weight is about 30 pounds and some coyotes weigh 40 pounds or more.

That person missed something who has never had the hair on the back of his head raise or felt little prickles dance up and down his spine at the howl of the coyote. But happily, with the immense popularity Westerns have enjoyed for years, more people know the sound of the crooning coyote than ever. A thrilling and eerie sound, it is a series of sharp barks or yips becoming increasingly higher in power, ending in a long squall that trails downward. Most commonly heard during the mating season in late February, March, and April,

coyotes also howl for pleasure as well as calling to other coyotes.

Gulliver's travels certainly have nothing on the coyote. Coyotes love to roam and truly live the nomadic life which they symbolize. Frequently a single coyote covers nearly half a county in its ramblings, since its normal home range is 25 to 30 miles in diameter. Only when feeding young does the coyote vary its pattern, usually staying within five miles of the den. The coyote can run 45 miles per hour for short distances and can swim well. With these kind of credentials, the coyote covers a lot of ground in a short time.

Setting up housekeeping for the coyote involves "something new, something borrowed, something blue," just like humans. Something borrowed is the unused den of a skunk or badger into which mama coyote moves. Something new is the litter of pups, ranging from two to 19, but averaging five to seven. Something blue may be a nearby farmer when he realizes the coyote has become a neighbor.

The prospective mother coyote looks for a south-facing den in any location that gives her a sense of security. Steep slopes or banks with or without brush, hills in open prairie fence rows, hollow logs, or old granaries may become the home of the family-to-be. Dens may also be found in bases of large trees, rockpiles, or caves. Steep railroad rights-of-way devoid of brush also are prime spots for coyote dens. Coyotes will dig their own dens if the soil is not too hard and enlarge the burrow of a skunk or badger if it is convenient.

Dens are fairly inconsistent in their construction and depth. Some go straight back in a bank while others go straight down two or three feet, then level off. Quite often coyote dens have "false leads," or branched dens. Dr. Gier, KSU biology professor and author of "Coyotes in Kansas," says:

"The length seems to depend to a large extent on the ease with which the earth can be removed. One den, dug out by Ed Coffey of Manhattan, had its opening on a steep slope of a sandy bank and extended horizontally and almost straight for nearly 30 feet.

This den had the nest near the end, and had two short side branches."

The den's location is changed rather frequently by the mother. Even when less than six weeks old, the pups are carted around in her mouth like a new groom getting chivareed in a wheelbarrow. One would expect lots of tracks, fur, and food accumulated around a den opening, but with a coyote, it is not so.

The young are usually born in late April or May after a gestation period of 58 to 63 days. They come out of the den for the first time at three weeks of age. The pups are weaned when about eight weeks old. Next come the hunting lessons often taught jointly by papa and mama. During the first excursions the pups are ecstatic clowns, tumbling over each other in the excitement of being the first to hunt. The parents are usually forbearing and make effective teachers.

In the cartoon show, "Wile E. Coyote" always gets the worst of it when he is once again "outfoxed" by the crafty Roadrunner. But that's not often true in real life. Coyotes are second to none in their cunning. They have to be to survive. Other animals, faced with the same dilemma, have gone the way of extinction. Coyotes will actually ignore the whizzing automobiles and patrol the highways at night, cleaning up road-killed birds and other small game. And they even have their own "hunting highways." These may be a series of cattle trails, roads and other open areas along which they can ambush game as their mate or pack drives it by them. This is carefully planned, and this runway is sometimes 10 miles long.

Another index of intelligence is an animal's willingness to cooperate with other animals in the attainment of a common goal. When brother coyotes are not nearby, a coyote is too smart to be snooty when food beckons. He'll go wherever the action is. A coyote will sometimes run with greyhounds on a hunt, for example. The coyote's ingenuity on the hunt often results in a lost meal for other critters, like the badger. A typical situation goes like this: The badger finds the burrow of a ground squirrel and starts to dig it

out. Coyote takes up his position at the exit. The ground squirrel panics at Badger's digging and bolts out the exit smack into Coyote. He marches off with the goodies, and what does Badger get for all his hard work? Nothing but frustration. In this case, the finder is the weeper!

A final indicator of intelligence is an animal's fondness for play. Coyotes are often observed playing with each other, with other animals, and with birds as well.

Because of their extreme cunning, however, coyotes frequently run into conflict with man. Hunters cuss the coyote for decreasing populations of game birds like pheasants and quail. Farmers often suffer severe losses in livestock, particularly calves and sheep, and in poultry like chickens and turkeys. All of these losses are usually blamed on marauding coyotes. But do these losses always show the misbehavior of a coyote, or is he sometimes blamed for what another animal has done?

There are three ways to determine the diet of any animal: direct observation; examining the animal's feces; or by analyzing stomach contents of dead animals. In "Winter Food of Kansas Coyotes," a study conducted by Dr. Otto W. Tiemeier, biology professor at Kansas State University, stomach contents were analyzed exclusively. He determined from this the daily, monthly and annual food consumption. Stomachs were studied for the six years 1948 to 1953.

Dr. Tiemeier's studies covered the most critical time of the year for the coyote as far as the food supply is concerned—December, January, February, and March. Stomachs from 1,250 coyotes were examined of which 379 were empty or contained only debris. This large number of empty stomachs was from trapped animals. Coyotes shot on a hunt, for example, would be more likely to have at least something in their stomachs.

The study found that during these months coyotes were almost strictly carnivorous—that is, almost every-

thing they ate was meat. More than 99.8 per cent of all the foods was composed of animal material. Rabbit was most frequently found, with 55.7 per cent. Carrion, or dead animals, was next with 25.4 per cent. Third was rodents like the field mouse, white-footed mouse, harvest mouse, and cotton rat 9.4 per cent. Fourth was chicken with 7.4 per cent; however, Dr. Tiemeier says:

"It appeared unlikely that an average of 7.4 per cent of the coyote's winter diet would consist of chickens that they had caught and killed since most chickens were penned during these months—Probably many of the chickens had died and were discarded where coyotes could find and eat them. Many—were undoubtedly disposed of in fields and pastures," Dr. Tiemeier concluded.

Coyotes thus became conditioned to take live chickens, and this encour-

Don't miss the KANSAS FISH & GAME Interview with three outstanding bow hunters in the November-December issue.

ages them to enter farmyards for food. Dr. Tiemeier continues:

"—it was quite clear—that food habits could be cultivated. It is, therefore, extremely important that chickens, lambs, pigs or calves that die should not be left where coyotes can get them."

And hunters swear the reason pheasant or quail hunting "ain't what it uster be" is because of the coyotes. Coyotes do eat pheasants, quail and prairie chickens, but these game birds comprised only 1.1 per cent by weight of the coyote's food in Dr. Tiemeier's study. This is an extremely small percentage by anyone's standards, and it

is highly likely that many of those game birds caught by a coyote were sick or injured. Coyotes are opportunists and are always looking for "easy pickin's." Game birds in good shape are enough to give any self-respecting coyote an ulcer, since healthy birds fly quickly and easily at a small sound. It's just not worth the effort for the average coyote to try to catch a "game" game bird. Of course, there are exceptions. One of the most comical sights in the wild is watching a coyote making a long, patient stalk, then rushing at his prey. When the bird explodes and wings off, the coyote can get the most disgusted look on his face. Watch a coyote try it once. He tries it—but he doesn't like it!

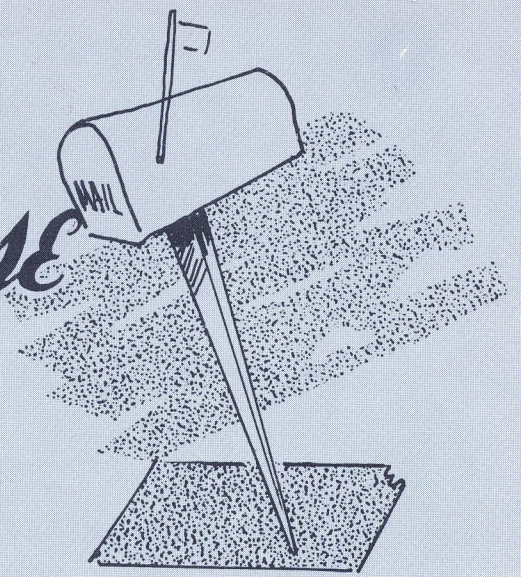
Coyotes show an astonishing versatility in their diet, a willingness to eat almost anything that is available. For that reason, during the spring, summer, and fall months coyotes are more rightly termed omnivorous. Included in their diet in smaller or larger amounts are a wide variety of foods such as watermelon, wild grape, hackberries, corn, osage orange "hedge apple," wheat, crayfish, lizards, snakes, skunks, sparrows, red-winged blackbirds, cow droppings and afterbirth, grasshoppers, crickets, June beetles, and even a few red-tailed hawks and crows!

It is hard to study the coyote and not develop a certain fondness and admiration—grudging or otherwise—for him. His supersharp senses that enable him to survive against almost impossible odds, his instinct for play, his devotion to his family, and his crooning but eerie howl make him a creature that commands our respect.

And by the way—did you know that if you pronounce his name "kioot" (long "i" and "o") you are pronouncing it incorrectly? It is true, pardner. South of the border down Mexico way, they pronounce it "ki-o-tee," and this is the preferred pronunciation.

In any event, to the coyote: Long may his howl be heard across Kansas prairies.

Readers' Response



Right On—"I just finished reading 'The Straight and Narrow' in your July-August issue. Right on! It should really wake a few people up. As a 4-H participant, sportsman and just plain human, I'm very interested in channelization. I know there isn't much I can do at age 15 to help but I write to congressmen protesting and try to help encourage those who can, to fight these needless wastes of our land, rivers, and destruction of wildlife. Thanks for speaking out."
—Terry Craft, Valley View 4-H, Oxford.

Backward Way of Looking—"In reference to Ross Manes's article, I think he should take a look at both sides of his argument when he says it isn't necessary to reclaim farmland because there is a surplus of crops. For one thing, this is a backward way of looking at it. This would be the same as a businessman that had the opportunity to earn \$20,000 from one company but could earn \$40,000 from another company in the same deal. Surely he would take the better one. Obviously clearing trees and brush is going to hurt wildlife but I believe all of the fish and game wildlife areas and lakes are more than making up for the natural land lost to reclamation. I farm near Tuttle Creek Reservoir. Being farm-minded, I also think the thousands of acres flooded and taken away from crop production have to be replaced with more land by pushing trees and draining swamps. This ground which was flooded was river bottom land that would have produced the best crops. Also, the world population isn't decreasing, it's increasing. And it's going to take more crop land to feed the world's population in the future."
—Jimmy Schlegel, Blue Rapids.

You have a good point in comparing the farmer to a businessman with the opportunity to double his income. However, there is an additional consideration which was not brought out in the article. As taxpayers, hunters, fishermen and other users of our wild environment are required to pay for habitat destruction that financially benefits a select few individuals. The farmer can't be blamed for taking advantage of a situation which we find deplorable.—Ross Manes.

Colorful But Slanted—"The July-August issue was read with interest, particularly Mr. Manes's colorful, if somewhat slanted, rendition of the evil nature of SCS and Corps of Engineers flood control projects. Since you have unearthed the alleged crim-

inal deeds of these scoundrel federal agencies, why don't you give the people of Kansas a fair shake by doing a story on the fantastic benefits afforded by completed watershed projects in eastern Kansas for fishing and hunting enthusiasts. Your magazine is a great sales story for Kansas, so why not examine issues such as this in their entirety?"—Dale Steward, Engineer, Pawnee Watershed, Joint District No. 81, Jetmore.

As the article pointed out, there is an "encouraging inclination to consider the wildlife resources on projects being undertaken in Kansas." Unfortunately, the contents of the reply to Mr. Schlegel still apply. You can't replace apples with turnips and until watershed projects provide public hunting and fishing, the recreationist still isn't getting much for his tax dollar. You're right about one thing. The article is slanted—toward essential consideration for wildlife, hunters and fishermen.—Ross Manes.

A Great Service—"Your series on the poisonous snakes of Kansas is one of the finest of its type I have seen. All of the articles have been thoroughly researched and extremely well written. The shots are quite good as well. The latest on the "Moccasin Myth" may be the most valuable, at least for the snakes. We've been fighting the battle for non-poisonous water snakes in Kansas for years, but your article sums things up so adequately—and the opening was great. My congratulations to you and the Kansas Forestry, Fish and Game Commission for a great service to a misunderstood, but so important group of animals—our native poisonous snakes."
—Gary Clarke, Director, Topeka Zoological Park.

For The Scouts—"Please add my name to your mailing list. As Scoutmaster of a local troop, I would appreciate receiving the last three issues which contained articles on copperheads, rattlesnakes and the water moccasin. I saw a friend's copies and thought they were real nice write-ups."
—Gordon Wing, Topeka.

KANSAS FISH & GAME invites all readers to submit their comments, suggestions, likes and dislikes to Readers' Response. In each issue the magazine will feature as many letters as space permits. We reserve the right to edit and condense letters.

—Editor.

Disagrees—"In regard to the article on cottonmouths, I just have to disagree with you. Several times I have seen dark, short-bodied, blunt-tailed water snakes. When killed, these snakes' mouths looked like they were full of cotton. I enjoyed the article on mushrooms. The pictures which accompanied the article left no doubts as to which kind is safe."
—Mrs. Betty Teeter, Willard.

We don't doubt that you saw some dark, short-bodied, blunt-tailed water snakes which had pale mouths. However, we seriously doubt they were true cottonmouth water moccasins. All myths die hard. The moccasin is no exception.—Editor.

Cleared Up Misconceptions—"Your articles on snakes have cleared up a lot of misconceptions I had, especially about cottonmouths. I've heard some oldtimers telling stories about 'cottonmouth' and suspected they were myths. I would also like to know if the cover pictures on your magazine can be purchased. I had been wanting to get a subscription to an outdoor magazine but then I heard about KANSAS FISH & GAME. It's every bit as good as the kind you have to pay a lot for."
—Lee Levenson, Manhattan.

Waiting For A Haircut—"While waiting to have my hair cut recently, I came across your May-June issue. I was able to complete the rattlesnake article by Vic McLeran and the fish and game recipes. Please add my name to the mailing list."
—Edwin A. Gorsky, Director of Admissions, Bethany College, Lindsborg.

There's something ironic about you reading one of Vic McLeran's articles while waiting for a haircut!—Editor.

Of Great Interest—"I received a January-February issue of your magazine from my good friend, Bob Neese, game protector from Hugoton. He felt I would be interested in your publication. He underestimated my interest. Both of the articles—Tree Fox and Purple Pesticide—were of great interest to our entire family. Please place us on your mailing list."
—Jack Smith, Liberal.

