

KANSAS

FISH & GAME



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Front cover—gray fox. Ektachrome transparency by Vic McLeran.
Back cover—raccoon. Kodachrome transparency by Ken Stiebben.

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"Hunting Luck"

Who has the most luck in hunting? According to Joe Linduska, director of public relations and wildlife management for Remington Arms Company, "hunting luck" is a minus quantity and the fellow who has the most *success* in hunting is the fellow who works the hardest at it.

"Hunting is pretty much like anything else," says Linduska. "You get just about what you put into it. If you are out to enjoy an outing and get the fullest benefit of the many, many facets of the outdoors in its varied moods, you can let the game bag become incidental and take your chances with 'hunter's luck.' But if you are out to fill your bag limit, trusting to 'hunter's luck' will seldom produce optimum results.

To bag game or catch fish you must not only have a certain amount of know-how but you must also put out a considerable amount of effort in making that know-how work. Some hunters seem to have a knack for being in just the right shooting position every time a bird is flushed. If game is walked up, they are invariably the ones who flush it. You might consider such people lucky but close observation usually shows that they are *working* at the job of hunting every minute in the field. They are apt to be keen students of wildlife habits. They know what kind of cover to hunt at what time of day and they watch for shifts in the wind. Their remarkable 'luck' is merely an energetic application of knowledge gained through hunting experience.

"Of course, hard work afield will not alone fill the game bag. A supply of game has to be there first. But the interested and energetic hunter will generally do something about seeing the proper habitat conditions prevail on the hunting grounds he used regularly.

"Some years ago, a creel census on the fresh waters of the state of Maryland, conducted cooperatively by the Department of Game and Inland Fish and the Department of Research and Education, showed that in the state 10% of the fishermen caught 46% of the fish. And 53% of the fishermen caught the remaining 54% of the fish. 'What happened to the other 37% of the fishermen?' you might ask. Well, according to the census, they simply caught NO fish. And that is what is generally known as 'fisherman's luck.'

"It's hard to say how closely these figures come to covering the game harvesting situation, but simple logic would indicate that they would not be far off the beam."—J. P. Linduska

MEET THE

From Minnesota, "Land of Lakes," to Kansas, land of sun-kissed waters. That's the route recently taken by Dick Wettersten, newly appointed Director of the Kansas Forestry, Fish and Game Commission.

Assuming directorship of the Pratt-based agency which now employs 190 persons, Wettersten, at age 40, brings an impressive list of credentials and a contagious enthusiasm for the job.

"I'm real excited about being director in Kansas for three basic reasons," Wettersten said after being on the job for only one week. "First, I'm impressed with the professionalism of the organization and the caliber of people on the staff," Wettersten said. "It's a well-staffed organization—in quality of course and not quantity."

"Secondly, I'm impressed with the interest people of the state have in game and fish and the appreciation they show for their wildlife resources."

"The third reason I'm so excited about the directorship in Kansas is simply this. I have never worked for another state which had such a wide variety of fish and game resources."

Kansas is indeed fortunate to obtain the services of a man who has gained widespread recognition and respect for his leadership and administrative ability in the wildlife conservation field.

Being director of wildlife conservation agency is nothing new to Wettersten. For nearly four years, from July 1, 1967 until February 1, 1971, Wettersten served as Director of the Minnesota Division of Game and Fish. In this position he was responsible for the programs and activities of the Division's staff of 367 employees and for administration of a \$7 million annual budget. During his tenure as Minnesota's director, he also made significant contributions to the state's legislative programs and was



responsible for achieving legislation to revamp Minnesota's license fee structure and up-dating the authority for hunting seasons.

Wettersten's career in wildlife conservation started while still a student at the University of Minnesota where he obtained his Bachelor of Science Degree in 1956 with a major in Fish and Wildlife Management. As a student, he worked as a game biologist with the Minnesota Division of Game and Fish and also with the South Dakota Department of Game, Fish and Parks.

Following graduation, Wettersten was employed by the Minnesota Division of Game and Fish as a game biologist. After only six months he was promoted to project leader in the Division's office in St. Paul—a position which gave him primary responsibility for the statewide game habitat improvement program. During this time he also served as the Division's federal agency coordinator on agricultural programs.

After working for the Minnesota agency for nine years, Wettersten accepted a fish and wildlife biologist position with the U. S. Fish and Wildlife Service, working in the office of river basin studies. In this capacity he was responsible for evaluation of

DIRECTOR

the impact on fish and wildlife resources resulting from Small Watershed Development activities in eight states.

After working 18 months for the federal government, Wettersten returned to the Minnesota Division of Game and Fish where he was named Supervisor of Technical Services. Here he was responsible for the lake sounding program, watershed investigations, laboratory facilities, and the aquatic nuisance control program. He served in this capacity until 1967 when he was named director of the agency.

On February 1, 1971, Wettersten was moved down to assistant director, a classified civil service position.

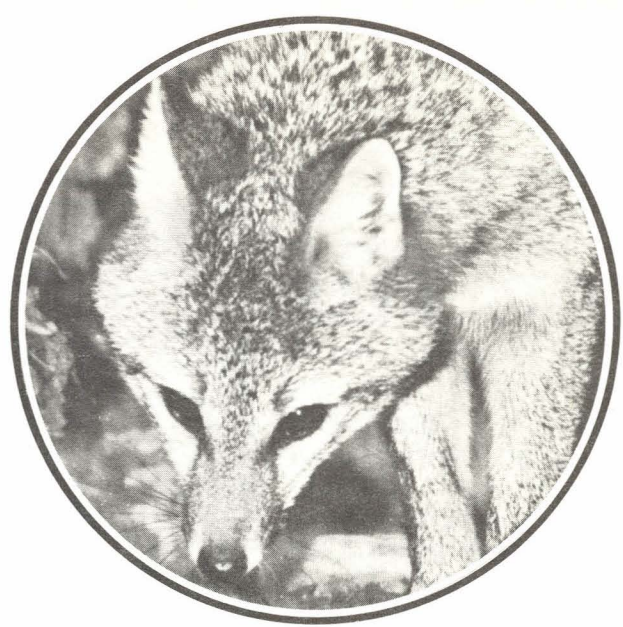
Even here though he continued budget work and served as the agency's legislative liaison. He held this position until his appointment as Director of the Kansas Forestry, Fish and Game Commission.

Kansas' new director is active in numerous wildlife conservation organizations. He is a life member of The Wildlife Society and is currently president-elect of the Association of Midwest Fish and Game Commissioners, an organization which includes wildlife conservation agencies in 14 states and two Canadian provinces. He is also a member of the International Association of Game, Fish and Conservation and has served on this group's executive board.

"The only regret I have about my new position is that I've been too busy to go hunting," Wettersten mused. Since his appointment he has spent considerable time in traveling throughout the state visiting Commission facilities and becoming acquainted with personnel as well.

Wettersten and his wife Bernice have three children: Jenny, 9; Erick, 7; and Kara, 2.

"Tree Fox"



Story and Photos by VIC McLERAN

It was a crisp, autumn morning with sunlight filtering through leafy remnants of summer foliage. A pair of crows sailed off to the south, cawing sassily as they spotted me. Breezes from the north, carrying a hint of colder weather yet to come, rustled through sumac thickets.

I was working my way slowly through oak timber keeping an eye peeled for squirrels. Earlier in the morning, I'd taken a pair but it was now nearly noon and bushytail activity had slowed. Figuring I needed one more squirrel for a really good Brunswick stew, I decided to hunt out a nearby creek branch. As I moved into some willows along the branch, I spotted an old hawk's nest about 50 yards downstream. The nest was located halfway up a sycamore which leaned over the creek at an angle.

Drawing closer, I noticed what appeared to be the tail of a fox squirrel dangling from the rim of the nest. Slipping the safety off my shotgun, I grabbed a stick and threw it into some branches near the nest. No response. I yelled and kicked the base of the sycamore, expecting the squirrel to leap out any moment. Still nothing. Evidently this was one bushytail which figured on waiting me out. Moving back several steps, I contemplated shooting into the nest.

Eyeing the tree, I figured if my shot didn't bring the squirrel down, I'd have little trouble reaching the nest.

About that time, the nest seemed to explode as a large, gray animal scrambled out and leaped to the ground. He hit running and quickly disappeared in a sumac thicket. What I'd mistaken for the tail of a fox squirrel actually belonged to a gray fox! This habit of climbing trees and occasionally utilizing abandoned hawk,

crow and squirrel nests for sunbathing platforms, distinguishes the gray fox from other Kansas members of the canine family, since it's the only one which climbs. In fact, its arboreal habits have earned it the name "tree fox" in some areas. Howard Stains and Rollin Baker in their "Furbearers of Kansas," reported observing a pet gray fox climb limbless, vertical trunks by clawing and hugging—literally "shinnying" up trees. Ernest Thompson Seton, noted Canadian author and naturalist, told of another gray fox which climbed a 60 foot tree in pursuit of a squirrel.

The gray fox is garbed in a grizzly, salt and pepper gray coat which contains some rusty red along the flanks and on the ears. It's this reddish color which causes some people to mistake the gray for its cousin, the red fox. The gray fox's undersides are white and the tail is dark gray with a distinctive black ridge along its entire length. The tail tip is always black while the red fox's tail tip is always white.

Although there is some difference of opinion on average weights of the gray fox, Charles and Elizabeth Schwartz, in their publication "The Wild Mammals of Missouri," list this average as from five to 14 pounds. The record North American gray fox, weighed 19 pounds. These average weights are slightly heavier than those of the red fox which vary from six to 12 pounds with a record of 16 pounds.

The average adult gray fox stands 15 inches at the shoulder and measures about 45 inches from nose tip to tail tip.

Many hunters and trappers contend the gray fox is more aggressive than the red fox, saying once gray foxes move into an area, red foxes leave. Leonard Lee Rue, author of "The World of the Red Fox," once placed a gray fox in a cage with a red. Rue said the red fox should have been dominant since it had been living in the cage for some time. However, after some scuffling, the gray was clearly boss of the cage.

The gray fox's preference for dense, heavily wooded areas makes him more common in the eastern part of the state than in central and western Kansas where he is replaced by the red fox. Dr. E. Raymond Hall of the Natural History Museum at Kansas University, believes the gray fox is increasing in Kansas. "During the past 25 years, there has definitely been an increase in the number of gray foxes in eastern Kansas," he said.

There is some indication the gray fox might be extending its range westward. "We recently had a confirmed report of a gray fox killed 14 miles southwest of Meade," Dr. Hall said. This is the farthest west the animal has been recorded in Kansas.

Depending on the amount of food available, a gray fox's home range may vary from five to ten square miles. However, during the winter breeding season, males seeking a mate may travel much farther. In winter, when food is scarce, this also may prompt the fox to range more widely. Since gray foxes are strictly nocturnal, they are observed less often than some of our other native wildlife.

There seems to be some indication

that foxes are either right or left "footed" in much the same manner that people are right or left handed. In the "World of the Red Fox," Rue mentions the findings of Joe Taylor, predator control expert for the New Jersey Division of Fish and Game. "In his fox trapping, Joe had noticed that he usually caught the animal by its left front foot. Intrigued by his discovery, he kept careful records of the next 100 foxes he trapped and found that 90 of them were caught by the left front foot. All were taken in the dirt hole set. Approaching the hole, the fox would stand with its weight on its left front foot so that the right front foot could be used to remove the bait. The instinct of these foxes to use the right front foot to do the delicate job of removing the bait proved to Joe Taylor that 90 percent of them were right-footed—the remaining 10 percent were apparently left-footed foxes."

Come February, with its late winter snows, the male or "dog" fox seeks a mate. During this time of year, the animals are often heard barking in the winter nights. The sounds are similar to those of the coyote but are slightly lower pitched. Courtship fights between rival males are often bloody affairs. Victor Cahalane in his "Mammals of North America," reports that on one occasion, a pair of battling males slid over the edge of a cliff and fell 90 feet to their death while a female or "vixen" watched nearby.

Monogamous in nature, gray foxes usually remain together for life after selecting a mate. Contrary to rumor, there are no recorded instances of successful breeding between gray and red foxes.

After mating occurs, the female selects a den for the two to five young which she will bear about eight weeks later. Ernest Thompson Seton wrote in his "Lives of Game Animals," that hollow logs and hollow trees are favorite den sites of the gray fox. This is in contrast to the red fox which generally prefers an underground burrow for its den. Other gray fox den sites include rock piles, deserted burrows, abandoned outbuildings and in one instance, a discarded ten-gallon milk can.

In Kansas, the young gray foxes are born during April or May. Blind and hairless at birth and weighing only three or four ounces, the youngsters soon develop into roly-poly pups. The vixen remains with the pups until their eyes open eight or nine days after birth. She then joins the male in providing food for the hungry brood. At about three weeks of age the young foxes start getting their first taste of meat in the form of regurgitated food from the parents. Later, the pups begin taking fresh food like mice, rabbits and other items which the parents bring to the den. Pups are weaned at about ten weeks of age. They remain with the adults through the summer months, learning to hunt for themselves. The family unit breaks up in the fall.

Foxes, like other predators, are opportunists, preying on what is most readily available. Rodents, with their high population numbers, are more numerous than game species. Hence,

the opportunity for a predator to take field mice presents itself far more often than does the opportunity of taking a quail. A study in the neighboring state of Missouri showed more than 70 percent of the gray foxes' diet consists of rodents. An outdoor writer in West Virginia found that when a rabies epidemic had lowered the fox population on his farm, the rats nearly took control. As the fox population recovered, the rodents dropped back to their normal numbers.

Although an occasional gray fox may develop a taste for game birds, the animal's value as a check on rodent populations far outweighs the occasional pheasant or quail it might take. Dr. Paul L. Errington, Iowa State University ecologist, wrote, "In no place where I have studied foxes, pheasants and quail, in Iowa and Wisconsin, have pheasants and quail been important items in the fox diet."

Fox predation on rodents often has a beneficial effect on game bird popu-

Pausing occasionally to test the wind, gray foxes stealthily hunt the woodlands of eastern Kansas in search of mice and other rodents. Although eyesight and hearing are important to the fox in its search for prey, neither are as essential as the animal's amazingly keen sense of smell.





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lations. Dr. Ralph King found an interesting correlation between chipmunks, ruffed grouse and foxes in Minnesota. Chipmunks sometimes develop a playful habit of rolling grouse eggs out of the nest. Since the grouse doesn't retrieve the eggs, they go unhatched. Foxes, by preying on chipmunks, inadvertently eliminate many potential threats to grouse eggs. In southern states, this same correlation was observed between gray foxes, cotton rats and bobwhite quail. By eating cotton rats, the gray fox indirectly aids the bobwhite since cotton rats prey heavily on quail eggs.

Due to the gray fox's shyness, it seldom approaches farmsteads or game farms closely enough to become a problem. However, there are exceptions to every rule. In New Jersey, one "outlaw" fox took 63 pheasants from a game farm before it was trapped. In making these raids, the gray fox generally isn't credited with the intelligence of his red cousin. In one instance however, a male gray fox

was observed luring dogs away from a farmhouse while the vixen slipped in and grabbed a chicken. Because of these occasional raids on poultry, the gray fox isn't always welcomed by chicken farmers. On the other hand, the animal has been called an ally of orchardists due to the large number of destructive rodents it destroys.

Although it prefers flesh—mostly rodents—the gray fox is truly omnivorous—that is, it eats both plant and animal material. Recorded food items include: rabbits, mice, rats, insects, turtles, snakes, squirrels, lizards, moles, crawfish, birds, mushrooms, mulberries, wild grapes, watermelons, plums, peaches, sweet corn, persimmons, wild nuts, and strawberries.

A mature fox needs about one pound of food per day, although it often must settle for less. Meadow mice weigh a couple ounces apiece so it's easy to see how many rodents a fox family would require each year.

The gray fox combines excellent eyesight, sharp hearing, and a keen

sense of smell to make him an extremely competent hunter. Forward-facing eyes give foxes binocular vision which is three dimensional and is important to predators which pursue and capture swiftly-moving prey. Foxes are the only members of the dog family which have elliptical eye pupils. Leonard Lee Rue says this is probably due to the fact that foxes hunt mainly at night while coyotes and wolves hunt later into the morning and begin earlier in the evening while there is still daylight. Like all mammals except primates, foxes are color blind and view the world in varying shades of gray.

When hunting mice in a field, the fox watches and listens intently for the slightest squeak, rustling or movement in the grass which would indicate a mouse. Some authorities claim foxes can hear a mouse squeak 150 feet away. Upon locating the movement or squeak, a fox will pounce with both fore feet in the grass which conceals the rodent. A quick snap of the jaws and it's all over.

Although eyesight and hearing are important to the fox in its search for prey, neither are as essential as the animal's amazingly acute sense of smell. When hunting, a fox invariably works into the wind, enabling it to pick up the scent of potential prey. Gray foxes often rabbit hunt as a team. When a rabbit is sighted or jumped, one of the pair will remain concealed while the other circles the quarry and drives it back toward the hidden fox. The fox's sense of smell is so keen they have been trained to hunt birds. One Missourian had a gray fox with which he hunted quail. Upon scenting birds, the fox would crouch and momentarily flash point, giving the gunner an opportunity to get ready for the covey rise.

Evidently foxes are offended by certain odors. Shrews, moles and weasles exude a musk odor which foxes apparently find distasteful. Even after killing one of these small mammals, a fox will rarely eat it. Toads, with their mildly toxic oil glands, are similarly avoided by foxes.

The ancient sport of fox hunting has a colorful history, but for the most part, this activity revolved around the

red, not the gray fox. The red's popularity with fox hunters stems from its tendency to run for miles across the countryside leading hounds on a merry chase. The gray fox, however, is not fond of a long chase. He'll climb a tree or hole up quickly. Because of this distaste for long distance chases, the gray fox is not as highly regarded by fox hunters as his red cousin. In fact, the gray fox was considered so inferior to the red that early day fox hunters in Texas imported red foxes for their hounds to run. Some of the Walker brothers, famous hound breeders from Kentucky, moved to Texas just after the Civil War. They were so unimpressed with the native gray's running ability they imported and released 40 pairs

of red foxes between 1890 and 1895.

Even though the red fox is considered sportier than the gray, the latter is still occasionally hunted in some sections of the country. Hounds, usually Black and Tans or Walkers, are taken to good fox country and released. Once they locate the trail of a fox, the hounds are off and running. Clyde Ormond, in his book, "Small Game Hunting," writes, "One of the gray fox's tricks is to head for impenetrable cover to slow down the hounds. He then zig-zags back and forth much as a rabbit doubles back and forth when hard-pressed by dogs. This leaves an erratic trail and by the time the hounds have unraveled it, the fox is away and into another mass of foliage. Eventually the animal is

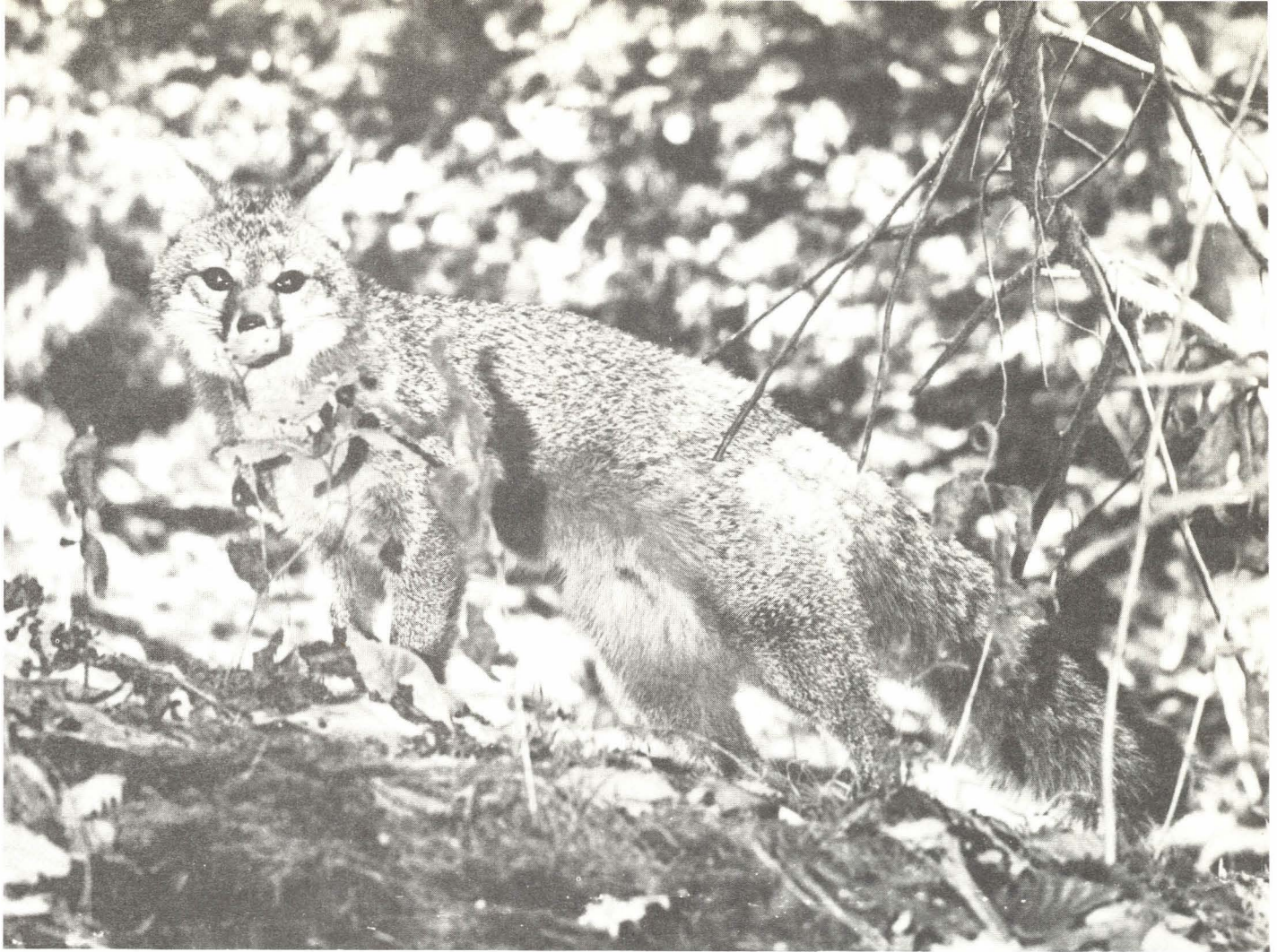
brought to bay—either in a tree or a den hole."

Although a few gray foxes are still taken with hounds, modern hunters have found predator calls effective. One hunter, calling from his car in broad daylight, lured a gray fox right up to the car—unusual since the gray is abroad very little during daylight hours. After some investigation and tire checking, the fox trotted off, satisfied there was no "dying rabbit" around.

In Kansas, there is no closed season on gray foxes and they may be hunted throughout the year but a valid hunting license is required. If the hunter sells the pelts, he is required by law to have a valid trapping license. Gray foxes may be trapped year around in

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Except for men with their hounds and predator calls, the Kansas gray fox has few enemies. There is some indication that on rare occasions, bobcats and coyotes will prey on gray foxes, especially where the species share a common range. Then too, that old nemesis, the great horned owl has been recorded as dining on gray fox pups when the chance presents itself.

J. Grinnel, in his "Furbearing Mammals of California," mentions predation on gray foxes by golden eagles. California trappers cited several instances where the large raptors had killed and eaten trapped gray foxes. One observer even watched a golden eagle strike and kill a free running gray fox. Upon examination of the animal, the observer found that the eagle's talons had punctured the fox's heart.

Porcupines, if handled carelessly,

can spell disaster for the gray fox. In New Hampshire, a gray fox was found in such an emaciated condition that she was caught by hand. The animal died shortly afterwards and the reason for her condition was then discovered. She apparently had tangled with a porcupine and her muzzle and mouth were so full of quills she was unable to eat. Other quills had worked into the fox's body cavity where they had punctured internal organs. For the most part though, disease, starvation and old age are the fox's greatest enemies. Mange, distemper and encephalitis can all act as control measures on a fox population which has become exceptionally high. Rabies especially, can have a devastating effect on fox populations. Although perfection of the Pasteur treatment has decreased the rabies threat to humans, fox-transmitted rabies can still be a serious matter when it comes to livestock. In one case, a single rabid fox

infected 20 cows in one brief rampage!

Cahalane says the life expectancy of a gray fox in the wild is about five years, probably longer in captivity. Rue places the age at eight or ten years in the wild and 12 to 14 in captivity.

For years, foxes and other predators have received a bad press. Nonetheless, as sportsmen become more enlightened, they are beginning to realize that predators, like the "tree fox" are essential for a well balanced wildlife community.

Predators were put here for a purpose and in the words of Dr. Paul Errington, "Predation is one of the main forms of natural exploitation, and it is by exploitation of something or other that all animals live. Foxes live as they can with what they have, according to their opportunities. If anything is wrong with that in principle, then life itself is wrong."

Right on!

Perry Lake

. . . A PAGE OF HISTORY

By R. ROSS MANES

Slowly, almost reluctantly Perry Lake began to waken. An unfelt breeze brushed carelessly at wisps of ground fog to expose dark water and grotesquely protruding trees. Far across the lake the sun began to paint the hardwood-covered hills with soft yellow and rose pastels. A covey of quail began to talk as I poured the last coffee from a small Thermos, or perhaps they were the ghosts of a Kaw raiding party, still prowling their hills. In the distance I heard the low chuckle of an outboard motor, an early morning fisherman, and the spell was broken. The lake was ready now—ready to teach children the delight of catching an eager bluegill and ready to entertain several hundred weekend guests.

People throng to the clear waters of Perry Lake on hot summer weekend afternoons. Most of them haven't far to come. The huge earth-fill dam that holds back the waters of the Delaware River is only a mile or so north of U. S. Highway 24, approximately half-way between Topeka and Lawrence. Kansas City is less than an hour's drive away and fun loving folks from as far away as Wichita or Lincoln, Nebraska, make the trip in three or four hours. Visitors from points west can travel Interstate 70 most of the way. State Highway 924 crosses the upper lake area, intersecting U. S. Highway 59 a few miles to the east. All-weather roads parallel the shoreline around much of the lake, providing convenient access.

The surrounding area is so strongly tied to Kansas history that a trip there is like looking back in time. About ten river miles below the point where the dam now juts skyward, Daniel Morgan Boone, third son of that famed Kentuckian, strived successfully to help start the Kaw Indian Agency in 1827. Boone established the first settlement in Kansas in what is now known as Jefferson County.

The next major development in the county was the opening of a military freight road from Fort Leavenworth to Fort Riley in 1854.

The Grasshopper Falls townsite, which is now Valley Falls with a population of 1,200 people, was surveyed in 1855. The father of Buffalo Bill Cody, Isaac Cody, built a saw and grist mill at Valley Falls and later was elected Jefferson County Representative to the State Legislature.

About the time Grasshopper Falls was being surveyed, Dr. James Noble staked his claim to land where the present town of Oskaloosa now stands. Sam Peppard invented a "sailing wagon" is Oskaloosa in 1860, but readers with an eye on the women's liberation movement may be more interested in knowing that in 1888 the town elected a woman mayor and five councilwomen. That would be news even today.

The Kansas Pacific Railroad was responsible for the survey and platting

that started the town of Perry in 1865. A little later, in 1872, the town of Meriden was surveyed and built itself a post office.

Construction of Perry Dam and reservoir began in 1964 under the supervision of the U. S. Corps of Engineers. The dam and a large portion of the reservoir are located in the old Delaware Indian Reservation, and relics of early Indian activities are found along nearby creeks. The project was authorized by Congress in 1954 as a unit of the Kansas River and the Missouri River Basins Comprehensive Plans for flood control and related water resources development. Situated on the Delaware River approximately five miles above its confluence with the Kansas River, the dam permits control of water that might contribute to flooding. Construction was essentially complete by late 1968 and filling of the reservoir was begun in January, 1969.

Quiet little coves scattered along the timbered backwater tributaries of Perry Lake, offer true solitude for the camper.

Photo by Ken Stiebben.



The lake is conveniently located to attract summer visitors and it is well endowed with the features required to make it a recreation hotspot. At multipurpose pool, 12,000 surface acres of beautiful water invite fishermen, swimmers and boaters. Gently sloping, grassy points; steep, rocky hillsides; and deep, densely wooded coves make up some 160 miles of shoreline. The broad basin spreading just above the dam provides a vast expanse of deep, unobstructed water for high-speed boating and skiing. The main body of the lake narrows rather abruptly about 12 or 14 miles above the dam, but boaters with an inclination to explore can follow the winding channel of the Delaware several miles farther north. Quiet little coves come one after the other as you travel up the lake, and the twisting, timbered, tributary backwaters of Big and Little Slough Creek, Rock Creek, and Duck Creek offer true solitude during the week.

Visitors who prefer a little more convenience in their outings will appreciate the developed facilities that are liberally scattered around the lake. Well kept, attractive public use areas are easily accessible at Sunset Ridge, Rock Creek, Paradise Point,

Old Town, Longview, Slough Creek, Perry, Outlet, and Thompsonville. The Old Town area is particularly interesting because it overlooks the lake from the old Ozawkie townsite, hence the name. The original Ozawkie had the first post office and was the first seat of Jefferson county government. The present town is on the west lake shore across from the public use area. Two state parks, Jefferson Point and Delaware, have been established on either side of Rock Creek.

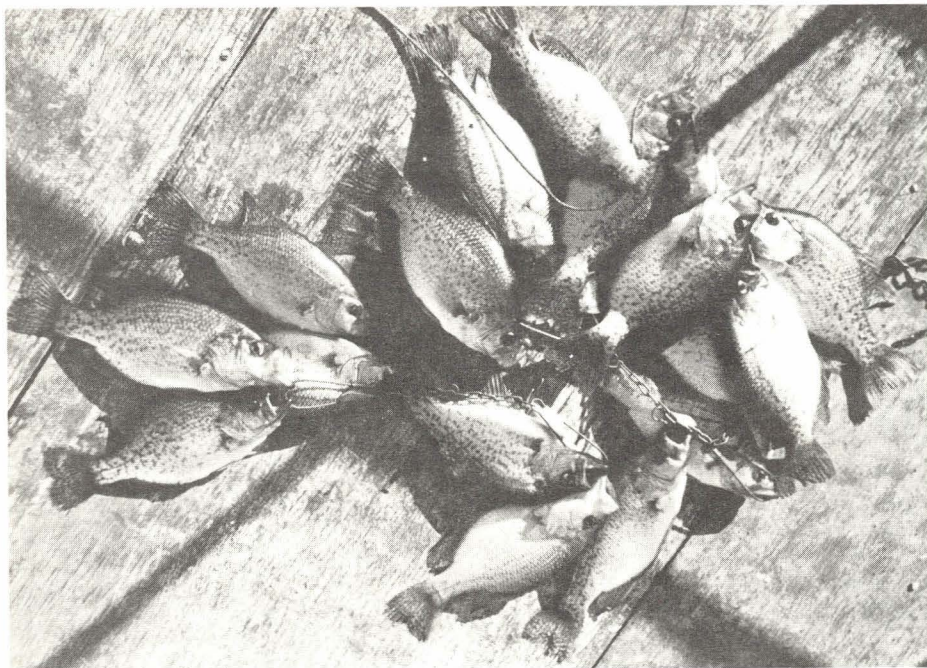
Excellent picnic table, shelters, camping pads, and shower-latrine buildings are available at most of these areas, and good launching ramps have been provided at all lakeside areas. A deluxe marina, located just north of the dam on the east side, offers boat storage, gasoline, groceries and tackle, as well as a restaurant for a quick snack.

Although the lake is still relatively new, and probably hasn't yet reached its peak, it has produced some terrific fishing. Fine catches of channel cat, crappie and bass have been brought in, and walleye made up some spectacular strings during early fall this year. While most walleye taken were not large, limits were the rule rather

than the exception. Of course, only experts catch fish consistently, but the lake's woody coves and rocky points are enough to make anyone reasonably successful.

Although Perry Lake is still relatively new, it has produced some terrific fishing for species like crappie, channel catfish, largemouth bass and walleye.

Photo by Thayne Smith.



At a spot near Valley Falls I stopped to let the dog exercise car-stiff legs. He stretched and shook himself, sneezing repeatedly as if trying to clear his nose of accumulated city odors. It was growing late in the afternoon and the air contained just a hint of the chill that bird hunters wait for impatiently each fall. Yellow lettered signs proclaimed the place a "Public Hunting Area."

Although the Perry Lake Game Management Area is still in developmental stages, the fertility of the land and existing arrangement of crops with isolated patches of cover is already producing fair upland game populations. The bobwhite quail is, of course, the chief game bird in this part of the state. His cheery call is heard in the early morning throughout the spring and summer. Very few pheasant make a home so far east, but more can be expected as habitat conditions are improved. Numerous cottontails inhabit the field borders and squirrels are plentiful in the timber. The numbers of deer in the Perry Lake vicinity have been described as "surprising" by local residents.

Share cropping agreements have been negotiated with regional farmers and strips of unharvested crops will alternate with harvested areas to provide near ideal hunting conditions this fall. Prospective hunters should be aware that private lands may lay adjacent to public lands. Ownership should be checked and permission obtained before crossing unmarked fences.

As is true of most intensively farmed



Perry Lake's convenient location should make it a recreational hot spot. At multi-purpose pool, 12,000 surface acres of beautiful water invite fisherman, swimmer, boater and water skier. The broad basin just above the dam provides a vast expanse of deep, unobstructed water for high-speed boating and water skiing.

Photo Courtesy Evinrude Motors

lands, cover is the primary deficiency in agricultural areas. To the average person it must appear that the dense vegetation growing along numerous small drainage systems would provide all the cover needed. Indeed, it probably would if properly distributed. Game managers learned long ago that arrangement is the key to optimum habitat.

The dog romped excitedly ahead of me, forgetting in his joy of release that he was supposed to be a professional. From the corner of my eye I saw a covey of quail burst from his feet as he tried vainly to establish a point. The birds flew strongly, finally settling in a small pocket of trees far out in the milo field. The dog was all business now as we made a gradual turn back toward the car, but I paid little attention to him.

As time permits, Fish and Game Commission personnel will plant strips of grasses, legumes and woody vegetation in and around farmland to break up large fields. They will also open small areas in existing brushy or timbered sites and plant food plots. It all takes time, probably five years

before the area begins to reach its potential. In the meantime, it will provide a good bit of hunting where little existed before.

Waterfowl hunting should also improve in coming years. Perry Lake is already an attractive place for teal, pintail, mallards and some of the smaller geese. As marshy lowlands are developed next to cropland they will come in greater numbers and remain for longer periods of time. Some waterfowl area has been developed and local hunters have noted an improvement.

The dog sniffed the ground as we made our way back. Faint impressions in the soft earth told of rabbits playing in the moonlight, and raccoons that prowled the fields, stealing grain. Deer had come this way too, their tracks much more distinct. The tracks were fresh and I half expected to see the deer dash from cover as I crossed noisily through a brushy draw. No deer came, but I followed the tracks along, watching the ground, and stooped to pick up a piece of flint that caught my eye. It wasn't an arrowhead, but it might have been, or a spear point to send a man's mind wandering back through the pages of history.

Photo by Leroy E. Lyon

Through a leased agreement with the Corps of Engineers, the Kansas Forestry, Fish and Game Commission recently obtained control of 11,000 acres of land for game management purposes. Nearly all of this is open to public hunting.





KANSAS FISH AND GAME INTERVIEWS

NOTE: This is the first of an interview series on Kansas sportsmen who have proven themselves outstanding in various outdoor activities. The interviews are designed to provide readers with information on the various techniques employed by successful hunters and fishermen. In this issue, Managing Editor Vic McLeran interviews Joel Packard of Mulvane, one of the state's finest bass fishermen. Most bass anglers are judged on their ability to bring in large bass consistently. In this respect, Packard measures up admirably! In the past five years, he's taken ten lunker Kansas bass—all of which exceeded the Fish and Game Commission's minimum qualifying weight of seven pounds for a Master Angler Award. Packard's largest trophy was an eight pound two ounce lunker. In addition, Packard has earned a Master Angler Award for Kentucky (spotted) bass. Employed as a general foreman at Cessna Aircraft in Wichita, Packard spends most of his free time chasing big bass.

McLERAN: How long have you been fishing for bass, Joel?

PACKARD: Since 1954.

McLERAN: Where is most of your bass fishing done?

PACKARD: Mainly in the state's smaller waters such as strip pits, farm ponds and state lakes.

McLERAN: What type of equipment do you use?

PACKARD: I like the Ambassadeur 5000 casting reel with power handles, 17-20 pound test monofilament line and a 5-5½ foot medium to heavy action rod.

McLERAN: In attaching lure to line what about snap swivels and knots?

PACKARD: Personally, I don't use a snap swivel. I attach the lure directly to the line with an improved clinch knot.

McLERAN: Do you do most of your fishing from a boat?

PACKARD: Yes I do, although in strip pits and farm ponds I've used the new float tubes and found them practical.

McLERAN: Do you use an anchor?

PACKARD: Yes, and when I'm attempting to fish out an area, I anchor the boat at both ends. This prevents the boat from whipping around in the wind and allows me to "feel" the

lure better when I'm fishing a plastic worm or jig and eel.

McLERAN: In the past few years, the plastic worm has become kind of a "super" lure. Do you fish plastic worms much?

PACKARD: Yes, I use Creme worms extensively. I've found that they're very flexible, hold a hook well, and don't tear up as quickly as some of the others.

McLERAN: How do you rig this lure?

PACKARD: When I'm fishing in brushy waters, I use a weedless 4/0 hook with slip sinker. If the bottom is fairly clean, then I use an offset-shank 4/0 hook imbedded in the worm to make it weedless. I also use a slip sinker with this type of rig.

McLERAN: Do you have any color preference in plastic worms?

PACKARD: The purple or wine-colored worms have paid off for me in the past and I've stayed with them.

McLERAN: What are some of your other favorite lures?

PACKARD: The jig and eel, Bomber and Zara Spook have all produced well for me. I'd have to say those lures are my favorites.

McLERAN: Any color preferences here?

PACKARD: I like blue or black on the Spook, crawdad or frog design on the Bomber and black on the jig and eel.



"People have to realize they can't just go out and take lunker bass anytime they feel like it—it takes time and patience."



"I like to visualize a big ol' bass down near the bottom with his gill plates flaring as he 'inhales' the lure."



"Since big bass spend most of their time near the bottom, the angler has to fish deep."

McLERAN: How do you fish the plastic worm and the jig and eel?

PACKARD: I cast the lure out and while it's falling to the bottom, I feed out line from the reel with my hand. By feeding out this line, the lure falls straight to the bottom and doesn't fall back toward the boat. You can fish several extra feet of water by doing this. After the lure is on the bottom, I take up the slack line and tip the rod tip up to move the bait several inches off the bottom. I then take up the slack line again with two or three turns of the reel handle. I repeat this until I have the lure retrieved.

McLERAN: How does the strike generally feel?

PACKARD: I think it varies according to the size of the bass. With small bass, it's usually a "tap-tap" feeling. When one of these little fellows has the bait he generally takes it and runs like mad. On the other hand, when a big bass grabs it, the feeling isn't as violent. It's more of a steady, loggy pressure. Then too, larger, bass don't seem to take out line as quickly as smaller bass. I like to visualize a big ol' bass laying down near the bottom with his gill plates flaring as he sort of "inhales" the bait. Of course there are exceptions to every rule and I've had little bass take a worm like big bass and vice versa.

McLERAN: Upon feeling a bass pick up the lure some anglers let him run, playing out slack line. How and when do you set the hook?

PACKARD: As soon as I feel the pickup, I take up slack line, lean forward with the rod tip close to the water, get a good grip and set the hook as hard as I can. I mean *really* set it. In fact, I'll set the hook as many as five or six times on a really big bass. I've found that since big bass are often near cover, if you give them any slack they often have time to foul the line in brush.

McLERAN: What do you consider the most important factor with regard to lures—color, size, depth, speed of retrieve or action?

PACKARD: I'd have to say depth. I think big bass are lazy, spending

most of their time on or near the bottom. With a jig and eel or plastic worm, you can keep your lure nearer the fish more of the time. I've always felt like you really have to show that lure to the lunkers.

McLERAN: How often do you change lures if they're not producing?

PACKARD: I generally don't. I'm not a lure changer. I try to stay with the lures which have been productive for me in the past. If I'm not catching fish, I figure it's me and not the lures. In other words, I simply haven't located the fish yet.

McLERAN: Do you pay any attention to the barometer when fishing?

PACKARD: Oh yes, I like some movement either rising or falling, preferably rising.

McLERAN: Do you follow the solunar tables when bass fishing?

PACKARD: I haven't done enough research on the tables to say much about them. Evidently there's something to them because a lot of the professionals use and abide by them.

McLERAN: Do you use a depth finder or electronic thermometer?

PACKARD: Not too much although I don't doubt their effectiveness. It's like the solunar tables—too many professionals, guides and other top notch fishermen use them for anyone to say they're useless.

McLERAN: What time of year do you consider best for lunker bass fishing?

PACKARD: Without a doubt, winter. By winter, I mean that period from November 15 through March.

McLERAN: Is most of this winter fishing done with the plastic worm or the jig and eel?

PACKARD: During winter, when water temperatures are colder, I stay pretty much with the jig and eel. I feel like it stays more flexible than the plastic worm. This flexibility seems to pay off with a more life-like action.

McLERAN: Many fishermen believe that bass, especially big bass, "school"

or congregate in the same area. Do you go along with this?

PACKARD: Definitely! I think conditions which make an area attractive to one lunker will appeal to other large bass. I also think that when one big bass is removed from an area, another lunker will move in to take its place.

McLERAN: What do you consider the best state lake for bass in Kansas?

PACKARD: Cowley County State Lake, but then that's probably because I'm more familiar with it than most of the others.

McLERAN: What method or procedure do you follow when trying to locate bass in a farm pond or state lake which you've never fished before?

PACKARD: I try to find old creek channels, road beds, deepholes, drop-offs, submerged ledges or other similar areas which might appeal to big bass. A depth finder is helpful here but you can find the same areas by dragging a plastic worm slowly along the bottom. When I find an area which contains characteristics I feel might attract bass, I anchor the boat at both ends and work my lure in a full circle. I believe it was Bill Dance who said '95 percent of the fishermen, fish with their backs to the fish.' After I work an area in this manner, I move on down the shore line and repeat the procedure.

McLERAN: What traits do you consider essential if an angler is to score consistently on lunker bass?

PACKARD: Patience, without a doubt! You have to fish deep and slow but above all—stick to it. People who want to catch big bass have to realize they can't just go out and take lunkers anytime they feel like it. Big bass don't come easy—it takes time and patience.

McLERAN: Just one more thing, Joel

PACKARD: What's that?

McLERAN: How long will it take us to reach your favorite bass pond from here?

PACKARD: Not long!

Outdoor Classroom



By FARRELL BREWER

Photos by Ken Stiebben

Boy, how times change! For years school systems taught the three R's—readin', ritin' and 'rithmetic. A fellow had to play hookey for the important things like huntin' and fishin'.

That's the way it was in what some refer to as the good old days. It doesn't hold true now, at least not at the Hesston school system where a class in outdoor education is being offered. The instruction offers students an opportunity to become adept in outdoor sports.

Carl Hershberger, math and physical education instructor at Hesston's middle school, approached the board of education with a project for an

outdoor classroom in 1969. The board showed interest in the program but turned it down stating there were no funds available for a program of this nature.

This did not dampen Hershberger's interest in the program. He immediately applied for a federal grant for new educational programs in Kansas. The project was one of 32 innovative programs selected to receive federal funding but was the only one in the outdoor education field.

With funding available, the project was initiated in the spring of 1970 by the Hesston School to interest students in the out-of-doors to the degree that they could get enjoyment from nature, effectively use nature's resources and at the same time learn to respect na-

ture and the rights of others' property.

Hershberger conducts the class entitled Outdoor Education in addition to his regular duties. The first year the class was offered 12 students signed up. This may not appear to be many but students are required to spend 90 hours of their own time in the field bass fishing, channel cat fishing and hunting with shotgun and rifle. The class meets evenings, weekends and during the summer vacation.

The class is in its second year with 17 students enrolled, 10 of whom are repeaters from the first class that signed up for another session. Although the class was designed to be co-educational only boys have enrolled. In the second year of operation the local board of education decided

the program was a good one and did not apply for federal monies but financed the project with local funds.

Even with the federal grant the first year and local monies for the second year's operation, equipment was a problem. Hershberger, an avid outdoorsman, furnished some of his own equipment for the class. He solicited help of lure companies and rod and reel manufacturers. "Their interest in a project of this nature was fantastic," he said. "I received a dozen complete outfits from different manufacturers and lures of all types from many firms. This set us up for the fishing phase of the class but guns and ammunition were another story."

Ammunition was purchased with available funds and class fees of \$10.00 per student. Hershberger invested some of his own capital and proceeded to do some swapping and trading to assure that weapons were available for all students. "I knew that some of the kids would have guns of their own but I wanted to make sure that we had new weapons for safety reasons," he stated.

Even though they received many lures, any angler knows they soon go by the wayside to the snarls and snags hidden under the water's surface. To gain mileage from funds available, the students under Hershberger's supervision, make their own lures, they

even make their own blood bait and an excellent catfish bait from ground and dried perch.

The lure making class is conducted in the basement of Hershberger's home. "Students come over for an evening and we make up a batch to last us for a while," he said. Three types of lures are made—a maribou jig, which consists of a hook molded into a weighted head and then the maribou is secured with thread. Hershberger designed the mold for the jig and enlisted the help of his brother, who is a machinist, to make the molds. The students do the actual work of lead pouring, attaching the maribou and painting the head. He

Sometimes the weather doesn't permit field trips for Hershberger's outdoor classroom but this doesn't stop progress. Here, students are assembled inside for some classroom work. Hershberger points out the techniques of lure making to John Nikkel, Danny Dilts, Larry Friesen, Harvey Rempel and Tim Drier.



said they have found black or yellow maribou to be the most effective. Another favorite is an imitation Mepps spinner. They order the parts for the spinner and assemble them to reduce the cost. Also fabricated by the students is an imitation Wiggly Jig that is a real "bass getter," according to Hershberger. When asked why only three lures were used, Hershberger explained "you can get too involved in lure making and not have time for the field trips where the real sport begins, and besides these are three of the top bass lures around."

Another item fabricated by class

members for fishing trips is a fishing tube made from inner tubes and nylon rope harnesses. Again, to cut costs, they took some old football shoes and attached an aluminum fin to propel themselves through the water. This served a dual purpose, not only did the homemade fins save money, they are more efficient than those available on the commercial market. The tubes are used for farm pond fishing where the shoreline is a mass of trees and hard to fish.

Where to take a class to instruct them on the skills of angling posed a problem. While there are several fed-

eral reservoirs and state lakes available they are usually too crowded to conduct a class. Hershberger leased several farm ponds and gained access to others. He will not allow class members to leave an area until it is in better condition than it was when they entered. They police the area for rubble and refuse left by others and take it to a suitable place for disposal. This small act of consideration for others' property has gained access to several good ponds.

"My idea is to get these kids to realize the importance of respecting another person's property. I feel that

Practice may or may not make perfect, but it sure helps sharpen the shooter's eye. Here, Instructor Hershberger watches Larry Friesen and Danny Dilts try their luck as Mike Smyth, game protector for the Kansas Forestry, Fish and Game Commission tosses clay targets.



if we didn't do this the landowner would finally rebel against us and other sportsmen," Hershberger explained.

Farm ponds are used for the project for two reasons; one is that they provide some of the best fishing in Kansas and the other is that it is easier to maintain a class on a smaller area than it is on a large reservoir.

The students are not graded on their ability to catch fish but rather on their interest and attempt to learn the skill. Hershberger said "students who complete the required 90 hours of field work receive credit for physical education class." Students who are enrolled say it is an enjoyable way to take care of their physical education requirement.

Hunting is another interesting part of the class but before the students are ready to go to the field many hours of preparation are required. Safety is a most important factor when handling firearms, Hershberger stated. "We spend several hours learning the proper way to load, unload and care for weapons. Several more hours are spent on a rifle range becoming proficient with the weapon on stationary targets."

"We also use shotguns in the class since bird hunting is an excellent outdoor sport. We also go through a safety program with the shotgun before taking to the field. A lot of people shoot at blue rocks for targets to become proficient with a shotgun. We tried that for a while but found it to be expensive, now we make mud balls for targets to cut the costs," he said.

What to hunt is not a problem. The class hunts anything that is in season. "When we finish the instruction phase of hunting, if ducks are in season we go duck hunting," Hershberger stated. "My favorite is quail hunting. I use my bird dog in this event to show the boys what it is like to hunt behind a dog," he said. Several of the boys have taken a liking to quail hunting and began to train dogs of their own. "I point out that using a dog in the field is conservation since we don't leave cripples to waste," said Hershberger.

Last year's class was culminated with a canoe-fishing trip to Canada.

Seven adult sponsors and several kids not in the class went along. Hershberger said the trip was probably the highlight of the year.

When asked if such a trip was in the offing for this year Hershberger said "I don't think so. I plan to spend this summer expanding the program to make it available to other school systems."

Hershberger, 32, is a native of Sedgwick and has hunted and fished most of his life. He is married and admits that sometimes his outings "aren't easy to explain" to his wife. However he admits that it is not much different now with the class than before, as he spent much of his free time in the field.

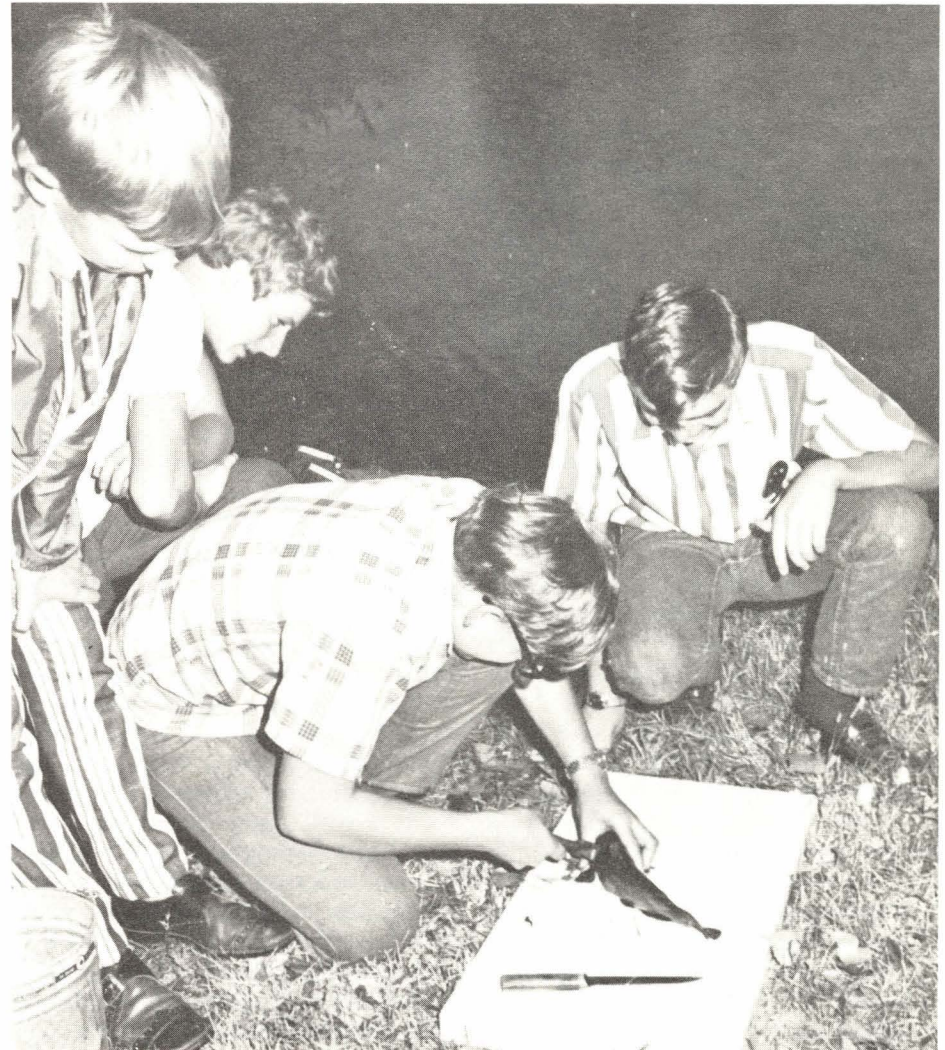
When asked how he proposed to ex-

pand the program he said, "I feel one suitable outdoor classroom can accommodate several school systems if the students could be bussed to a central location." He has written to the education commissioner of Kansas and proposed such a project. With approval, Hershberger plans to contact other school districts to explain the project.

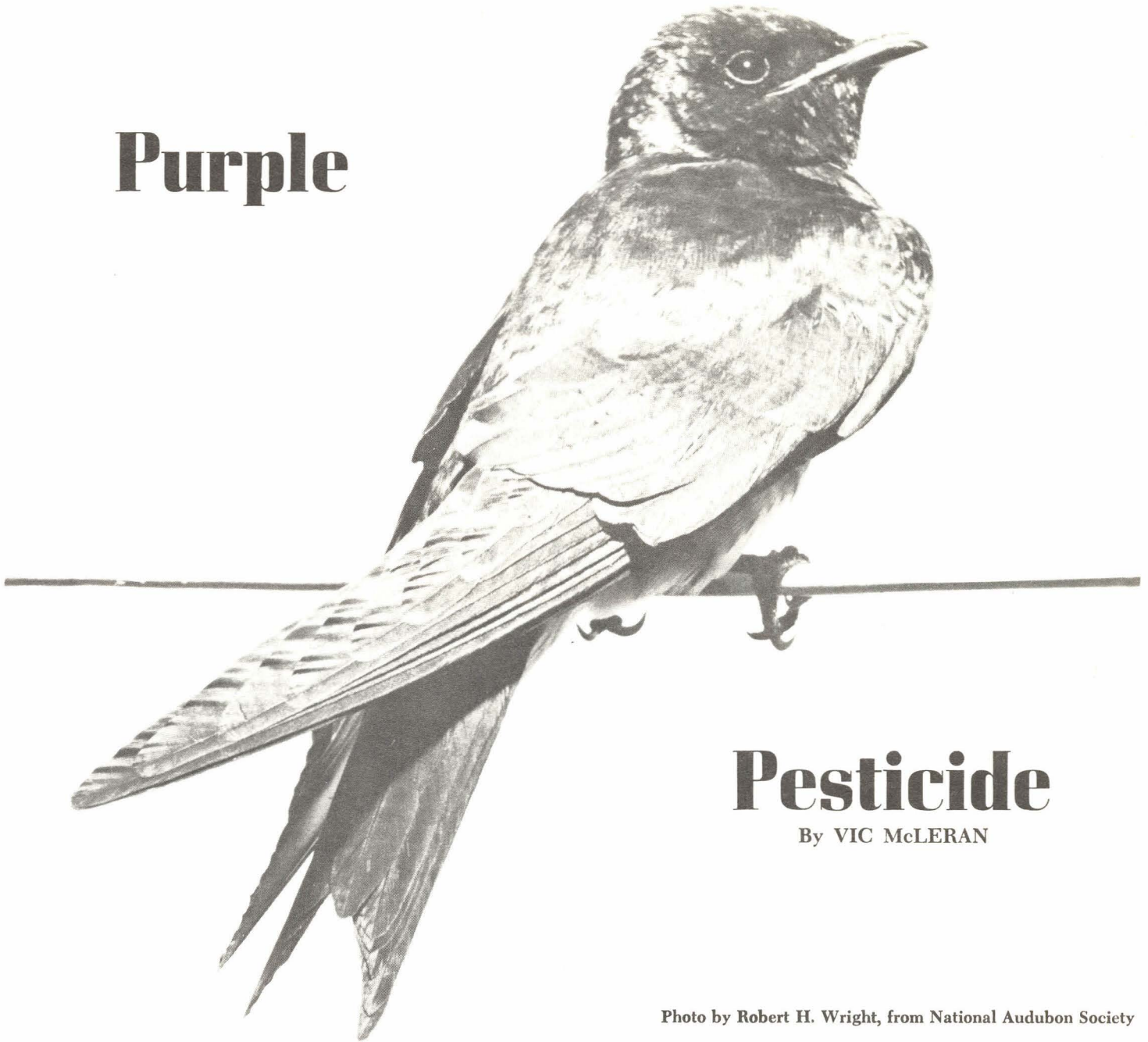
Hershberger said if anyone is interested in the project he would be happy to explain it to them if they would contact him at Hesston, Kansas.

"I think if we can get today's kids interested in the outdoors, they'll direct their energy in that direction rather than utilizing it on other projects that could possibly get them into trouble."

You have to clean what you catch is the by-word of the outdoor classroom. Larry Friesen is doing just that as classmates Tim Drier, Harvey Rempel and John Nikkel observe.



Purple



Pesticide

By VIC McLERAN

Photo by Robert H. Wright, from National Audubon Society

"Lookin' for a nice, safe, bio-degradable pesticide that will rid your backyard of flying insects?"

If so, then purple martins, a natural pesticide, may be your answer!

In the past several years, few birds have received as much publicity as *Progne subis*—purple-hued member of the swallow family. Arguments over the bird range from claims which credit purple martins with eating up to 10,000 mosquitoes per day to criticisms that say the martin is an enemy of honeybees, doing more harm than good.

Regardless of this controversy, the

purple martin is one of America's favorite birds and certainly one of our most effective insect eradicators. Although the species has only recently caught the general public's eye, purple martins have enjoyed a close association with man for a long time. In fact, the Indians recognized the bird's value as an insect eradicator years ago. By hanging hollow gourds from teepees and tree limbs, Choctaw and Chickasaw tribesmen attracted the little purple birds to their villages. The martins in turn, ate large numbers of flying insects which concentrated around the Indian villages.

Later, as the country was cleared, many hollow cavities which served as natural nesting sites for purple martins were destroyed. Indiscriminate use of the chain saw hastened the birds' demise until it reached a point where the purple martin population was in serious trouble. About this same time, DDT began receiving its bad name. Purple martin fanciers saw their chance! They started promoting the bird as an insect eradicator bar none, and began advocating a "martin house in every backyard."

Companies specializing in purple martin houses sprang up; placards,

banners and stickers praising the bird appeared; governors and mayors began proclaiming the spring season as "purple martin time," towns with large purple martin populations began billing themselves as "purple martin capitals" and bars even featured a purple drink called, what else—a purple martini!

Today, the purple martin population seems secure with more and more martin houses appearing each year.

Why all the interest in purple martins? "I think it's because of the birds' cheerful nature," said Roy Harding, president of the Wichita-based Air Capital Purple Martin Society. "They are simply a lot of fun to watch as they fly around the backyard, wheeling and diving to capture insects. Then too, they seem to really enjoy having people around."

There is some indication that an interest in purple martins leads to a deeper involvement in conservation and ecology. "We've found that once people become interested in purple martins they often go on to become involved in ecology and the problems of our environment," explained Glenn Miller, secretary of the ACPMS.

The purple martin spectacle begins anew each spring when the birds migrate north from their winter home in Brazil. Forerunners, called "scouts," precede the main flock and begin appearing in Kansas about mid-March. These scouts are male birds and quickly set about the business of establishing nesting territories, often after vigorous fights. The competition is so keen between males for possession of certain nesting compartments that one observer watched a pair of males battle for more than 30 minutes!

Females arrive soon after, at which time mate selection occurs. Following this activity, nest building begins and lasts three or four weeks. The nest itself is a framework of twigs and is lined with leaves and straw obtained from the ground. Purple martin experts say this is the only time the birds are seen on the ground since their long wings and short, stubby legs make walking difficult.

The female purple martin lays from three to eight, white eggs, with five being the average. After the young

martins hatch about two weeks later, parent birds will often eat the egg shells for their calcium content. As a rule, martins raise only one brood but reneesting may occur if the first clutch is destroyed.

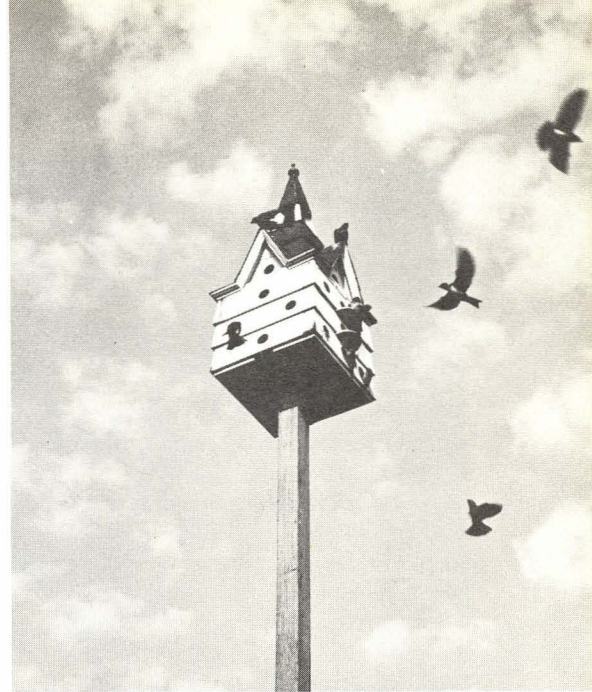
Once the young are hatched, both parent birds are actively engaged in capturing flying insects for the hungry brood. The youngsters' rapid growth rate requires each baby bird to be fed at intervals of seconds from sunrise to sunset. This, coupled with the fact that each adult bird eats its weight in insects prompted some authorities to say the number of flying insect pests consumed by a pair of martins and their offspring each year is not only beyond calculation, it is almost beyond comprehension.

Approximately 25 days after hatching, the young martins leave the nest and begin capturing insects on their own.

The purple martin's diet consists entirely of insects such as house flies, mosquitoes, ants, wasps, beetles, dragon flies and occasionally, bees. This last item has created some controversy. A bee keepers association in Texas charged that the purple martin was an enemy of bees, claiming the birds would fly above the approach to a bee hive and easily capture the honey-laden bees. Purple martin fans countered with the claim that dragonflies, one of the martin's principal foods, preyed heavily on honey bees. So, fanciers asserted, by feeding on dragonflies, the martin was indirectly aiding the honey bees.

A Florida entomologist even dared to suggest purple martins don't eat very many mosquitoes. The scientist claimed mosquitoes remain close to the ground, in or near dense vegetation, except during dusk, dawn and nighttime. Purple martins, he said, did most of their feeding higher in the air, above ground level foliage and slept at night. As a result, the martins actually had little contact with the pests. As proof, a study was cited which found no mosquitoes in the stomach contents of 230 purple martins.

Martin fans however, claim such allegations are pure bunk, based on limited research. In rebuttal, they



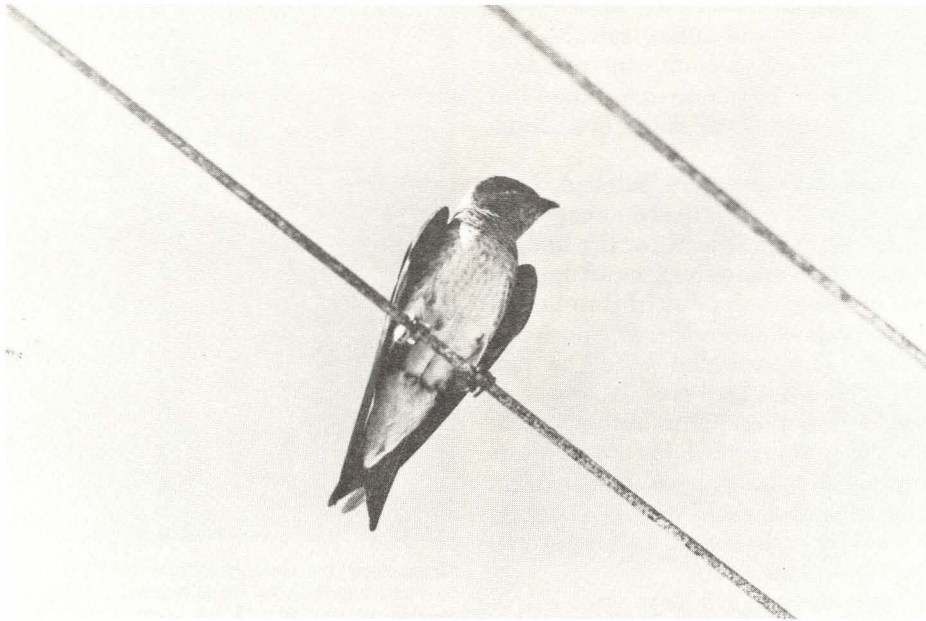
Gregarious by nature, purple martins love to nest together in large colonies. Purple martin houses should be erected on poles, 15 to 20 feet above the ground in an open area, free of buildings and trees.

Photo by Luoma from National Audubon Society.

mention the Kansas doctor whose car struck a low-flying purple martin. Upon examination of the bird's stomach, more than 300 mosquitoes were found. Then, too, they claim the martin's digestive juices are so powerful that mosquitoes are often dissolved within minutes.

Further, they contend that mosquitoes are most active during the period just prior to darkness. During the same period, they say, martins are at their busiest, flying and swooping about capturing the little pests.

In fact, some purple martin supporters insist martins eat more than 2,000 mosquitoes per day. Writing in *Look* magazine, Jack Star quoted J. L. Wade, Griggsville, Ill., as saying martins can eat 10,000 mosquitoes a day. However, Wade, one of the country's foremost purple martin authorities, does say the birds aren't necessarily selective, but they merely eat the type of insect which is most available in the area. People often wonder about the bird's unusual mosquito-catching ability. Rather than catch the insects singly, the martin locates a swarm of the pests and flies into the group with its mouth open wide. The martin's mouth contains a sticky substance which traps the insects. When its mouth is full, the martin compresses



Telephone or electric lines near the martin house are OK since the birds like them for perching sites. Experts claim purple martins will eat 2,000 or more mosquitoes per day.

Photo by Allan D. Cruickshank from National Audubon Society.

the mass of mosquitoes into a pellet and either swallows it or takes it to the nestlings. All this is done on the wing. Martins obtain drinking water by flying just above the surface of a pond and scooping up water in their bills.

Following their summer activity of raising a family and devastating the insect hordes, purple martins leave Kansas around the middle of August for their winter home in South America.

Being gregarious by nature, purple martins love to nest together in large colonies. In the past, most martin houses were made of wood. These however, had their faults. For one thing, they were too hot. Secondly, mites, which bother adult birds and can even kill the young, infested the wooden structures. Then too, starlings and sparrows would quickly take over a wooden house if given a chance. Hollowed-out gourds, although acceptable, aren't very durable and don't last much more than a year or two. Plastic or aluminum martin houses seem to be the answer. They're cooler than the wooden structures, offer fewer crevices for mites, are easier to clean and starlings don't like them.

For those interested in purchasing a completed martin house, Birdland

Distributors, 720 S. Pinecrest, Wichita 67218, features several aluminum and plastic models. Some even use a 25-watt bulb to heat individual compartments in case of late spring cold snaps which are devastating to purple martins.

Even though the trend is toward plastic and aluminum martin houses, some people still like to build their own. For the woodworking buff, a set of 10 complete plans with step by step directions is available for \$1 from Nature Books Publishers, P. O. Box 12157, Jackson, Miss.

Purple martin houses show up in all sizes and shapes. Springfield, Mo., boasts a martin house shaped like a mosque while Monticello, Ind., has one that looks like the Seattle Space Needle. In Lake Charles, La., the Men's Business Club mounted 1,000 nesting compartments on the 120-foot tall Lake Charles Peace Memorial—kind of a purple martin skyscraper.

People often complain of putting up martin houses but never drawing any martins. Merely putting up the house is not always enough to attract the colorful little birds. Purple martins are fussy about their living quarters and, as many people have discovered there are certain conditions which must be met.

Roy Harding pointed out some of these requirements. First, he said, purple martin houses should be erected on poles 15 to 20 feet above the ground. They should be placed in an open area, free of buildings and trees. Nearby telephone or electric lines are OK since the birds like them for perching sites. Nesting compartments within the martin houses should measure eight inches square while circular doorways, placed one-half inch above the floor of the compartments, should measure 2½ inches in diameter.

Harding says the secret of having martins return year after year is making sure the houses are cleaned out and ready for occupancy when the scouts arrive each spring. This compartment cleaning should be done in the fall after the birds have gone south. He also advises enthusiasts to open only a few doorways until the whole flock returns.

To prevent access by starlings and sparrows while the martins are gone, the doorways should be plugged. In an attempt to discourage these unwanted guests, martin fanciers have resorted to cage traps, air guns, rubber snakes, mousetraps and even loud-playing radios.

Since martins are bothered by mites, the enthusiast should sprinkle the compartments with sulphur or some other harmless insecticide.

R. B. Layton, author of the authoritative book, "The Purple Martin," mentions several reasons why martins may reject houses. Since squirrels will eat eggs and young birds and have been known to jump as much as 25 feet from a tree limb to a martin house, the bird's house should be at least 30 feet from overhanging limbs or similar vantage points.

Snakes too, are fond of eggs and young birds. To put the martins at ease, shrubbery and other dense vegetations which might harbor snakes should be cleaned away from the base of the pole.

House cats are another enemy which may drive the purple martin from your neighborhood. To prevent squirrels, cats and snakes from climbing the pole to the martin house, many martin fanciers attach a circular sheet of metal to the pole at right angles.

Some reports indicate screech owls occasionally prey upon purple martins. In one case however, a pair of screech owls nested compatibly in one compartment of a large martin house while ten purple martins occupied the remaining rooms.

Competition from other species over nesting compartments can often drive martins away. English sparrows and starlings are the most common competitors but bluebirds, tree swallows and even house wrens will occasionally try to take the martins' nesting compartments. The little wren has even been known to enter the martin house and throw out the martins' eggs.

Weather, in either extreme, can be fatal to purple martins. Late cold snaps in the spring can wipe out local insect populations. When this happens, purple martins can starve in a short time. A few martin fans have been successful in feeding the birds artificially when the natural food supply is gone. One Indiana woman fed a mixture of hamburger, cottage cheese and raisins to hungry martins. Another purple martin enthusiast in Minnesota, catches and freezes flying insects and keeps them in jars for emergencies like these. For the most part though, purple martins can't be induced to accept artificial food. Instead, they either starve or migrate back to warmer, more southerly climates where insect populations are thriving.

Almost as dangerous to purple martins as cold snaps, is the intense heat of summer, which can kill young martins in the nesting compartments. Harding stresses the importance of using white paint on martin houses to reflect the summer heat. Adequate ventilation holes in the martin houses are also essential.

"Those interested in additional, detailed information on martins, martin houses and our organization, can send me a stamped, self-addressed envelope and I'll be happy to answer them," said Harding. The address of the ACPMS is 720 S. Pinecrest, Wichita 67218.

For such a small bird, purple martins are surprisingly long-lived. Banding returns indicated martins occa-

sionally reach seven or eight years of age although the average is much lower. The oldest martin on record, according to U. S. Fish and Wildlife records, is a bird which lived 13 years and nine months.

The purple martin's voracious appetite for insects has made him popular with a number of different groups. People involved in agricultural endeavors are especially fond of the martins. Around livestock and dairy barns, martins are extremely beneficial in exterminating insects which irritate cattle and inadvertently reduce weight gains and milk production. In southeastern states, tobacco farmers have found that purple martins nesting near tobacco fields have proven effective in reducing the moth which is responsible for tobacco hornworms. Cotton farmers too, have found the purple martin aids them by preying on the boll weevil. Georgia peach growers have established martin colonies in their orchards to control the curculio beetle, a common orchard pest. In Washington State, foresters are attempting to build up purple martin populations since they estimate a single family eats about 300,000 forest insect pests each year!

Purple martins even have something to offer dog owners. The Greater St. Louis Veterinary Association recently

urged dog owners to provide houses for purple martins. Mosquitoes, they say, are a common carrier of the parasite causing heartworm infection, a severe canine affliction. Since martins feed extensively on mosquitoes, they indirectly aid dog owners.

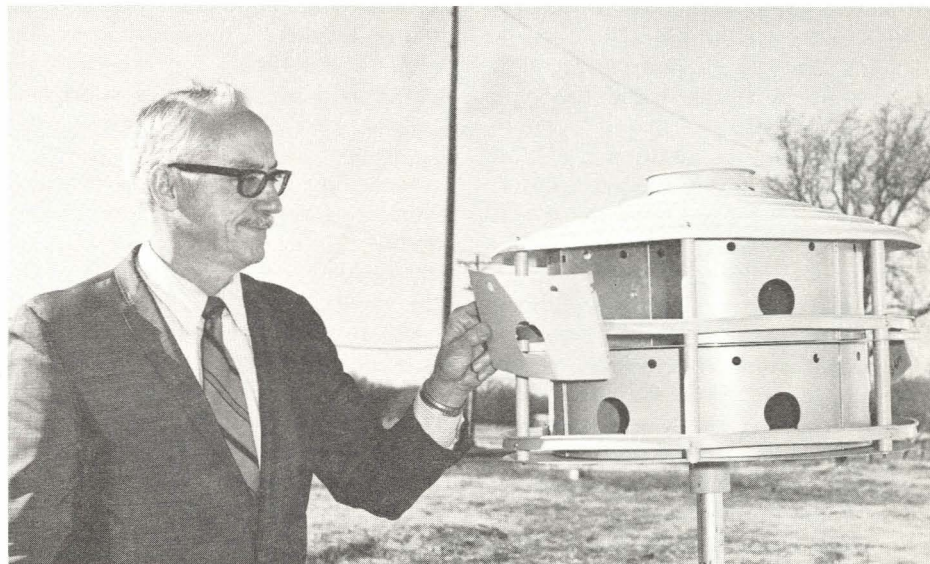
Lakeside resort owners have found the martins an asset too. Since mosquitoes thrive around water, they can make it miserable for vacationers. A colony or two of martins seems to solve the problem.

In some cases, the establishment of martin colonies has actually resulted in substantial savings on pesticide bills. Griggsville, Ill., which bills itself as "The Purple Martin Capital of the Nation," hasn't had to spray its fairgrounds with DDT since installing purple martin houses. The birds are so effective in controlling insects that the fair committee saves \$1,000 per year on insecticide bills!

In this era of "hard" pesticides, the martins are a welcome sight. Their ability to reduce large numbers of insect pests safely and naturally, makes it easy to see why "purple pesticide" has become such an "in" thing. Farmer, nature lover, stockman or just plain old bird watcher—the purple martin has something to offer them all.

Roy Harding, president of Wichita's Air Capital Purple Martin Society, displays a completed purple martin house from Birdland Distributors. Made in aluminum and plastic, some models even feature a 25-watt bulb to heat individual compartments in case of late spring cold snaps.

Photo courtesy Kansas Gas and Electric.



"Tall Man" of the Commission

By GEORGE VALYER

You could spot him easily in almost any room or among almost any group of people. All you had to do was look for one of the tallest men in attendance and it would probably be Noel Mullendore.

With quiet assurance, the Commission's attorney has guided the legal fortunes of wildlife conservation in Kansas for the past 40 years. His dedicated and inspiring efforts have guided the Commission through difficult times. Now, he is ready to retire from his position but his shoes will be hard to fill.

To adequately tell the story of this man would require a volume that would read like a history of the Forestry, Fish and Game Commission. Space limitations dictate that only the highlights of his career can be reviewed.

Like many respected and dedicated men, Noel came from a rural background. His father was an early-day farmer and rancher in Elk County and Noel grew up on a horse, herding cattle on the beautiful bluestem grassland of his home. Here, he learned to love the land and the wild creatures around him.

His formal education began in a one-room country schoolhouse but in 1913 he transferred to the Howard, Kansas, school system, riding horseback eight miles to town each day. After graduation from high school, he attended Washburn Law School in Topeka and was admitted to the Bar in 1924. Shortly thereafter, he hung his shingle in Howard and has been there ever since.

But Elk County could not contain this budding young lawyer. Before long, his influence was to spread throughout Kansas.

His honesty, integrity and devotion to a cause were not going unnoticed. In 1931, Governor Harry Woodring appointed Noel Mullendore to the post of Deputy State Game Warden and Attorney for the Kansas Forestry, Fish and Game Commission.

Under the Commission set-up in those days, the Governor was automatically chairman of the Commission

and meetings were held in the Governor's office in Topeka. The only reason Noel was made a deputy warden was so that he could be paid. Funds were not available for an attorney—they were for game wardens.

Initially, he was paid the sum of \$125 per month but this wage didn't last long. The depression of the early '30's was upon the land and Commission employees voluntarily accepted a pay cut so the functions of the department could be carried on. Noel recalls that employees without families sometimes missed paychecks so that those with children to support could be paid. Eventually, all back wages were paid and the department began its slow climb to a position of solvency and leadership in conservation activities.

Mullendore recalls reaching many milestones during his 40 years of service. One of the outstanding highlights had its beginning in 1937 when the Pitman-Robertson bill passed Congress giving each of the states Federal Aid money to be spent on approved wildlife projects. Although the initial funds were small, the acquisition and development of the Cheyenne Bottoms was begun in 1941 as a Federal Aid project. The talents of the Commission's attorney were immediately put to use. Noel was handed the responsibility of negotiating the purchase of some 19,000 acres of land for the nationally-known waterfowl area in central Kansas. The abstracts of the land he purchased for the State of Kansas and for the use of sportsmen made a stack 48 inches high for this one project alone.

According to Mullendore, it was a moment of extreme satisfaction when the last title to the final piece of property needed for the completion of the Cheyenne Bottoms was finally delivered. It culminated many years of effort on the part of the attorney and the results of his efforts, as well as those of other Commission employees, will be appreciated for years to come by those who enjoy seeing waterfowl winging against the sky.

Two other waterfowl areas had

their beginning when Noel Mullendore tucked his pad under his arm and went out to negotiate with farmers and landowners. Land acquisition for the development of the Marais des Cygnes Waterfowl Management Area and the Neosho Waterfowl Management Area were also headed by the "Man From Howard." His ability to negotiate for the purchase of land at a fair price has earned him respect from realtors, landowners and Commission members. Doubtless, he has saved the sportsmen of Kansas many thousands of dollars by his knowledge of land values.

Noel frankly admits that land transactions have been the most enjoyable part of his work. Court appearances, although a part of the work of the Commission's attorney, do not particularly appeal to him. He much prefers the informal give and take of a negotiating session where he can become involved with people on a personal basis. This facet of his character reveals a warm liking for people and his desire to render a service to his fellow man.

When looking back on his four-decade career with the Forestry, Fish and Game Commission, Mullendore recalls the dedication of the employees and the outstanding leadership of many of the Commission members. In all, he has served under a total of 53 commissioners and eight directors.

He also worked closely with many Kansas legislators in his effort to obtain workable conservation laws. In the early '30's, game seasons were established by the legislature which met every other year. Needless to say, this arrangement left much to be desired in the management of Kansas wildlife resources. Mullendore worked tirelessly in his efforts to obtain for the Commission the right to establish regulations for season lengths and bag limits. In 1943, his efforts paid off with the passage of a bill which gave the Commission the authority needed to properly manage game and furbearers.

Noel remembers the days when the Fish and Game Commission was an agency with few employees and com-

manded little respect from the hunters and fishermen. Game and fish law violations were numerous and conservation was just a word with little meaning to most persons. The most active conservation organization in Kansas during the depression era was the Isaac Walton League and even their numbers were few and their voice weak.

Today's sportsman, in general, has a different outlook, according to the attorney. He believes that the average fisherman and hunter has a much better attitude toward conservation laws and the management of our wildlife resources. "In the early days, a hunter wasn't satisfied unless he brought home a wagon load of game," Mullendore said. "Now, he is more concerned with the opportunities his

grandchildren will have for hunting."

Noel is very pleased with the progress the Fish and Game Commission has made during the past 40 years. He feels that the growth has been well planned and will be of long-range benefit to the sportsmen of Kansas. It is his opinion that the advent of Federal Reservoir construction in 1949 marked the beginning of the biggest change for both hunters and fishermen by adding thousands of acres of water and the availability of additional land for use by hunters. The increased opportunities for fishing and hunting have resulted in increased license sales and greater revenue to build the department.

With two score years of service now behind him, Noel Mullendore is ready to take things a little easier. But

you can be assured that he is not planning to fold his hands and occupy a rocking chair. He plans to continue the practice of law in Howard and will be able to enlarge his practice since he will be free of his responsibilities to the Commission. However, his advice will be sought on future occasions when a particularly knotty problem arises.

I am sure that all sportsmen of Kansas who know of his activities join with us of the Commission in passing along our heartfelt thanks for a job well done. Although his physical stature of six feet, one inch places him above the average in height, his stature of service is mountain high. Truly, he has been the TALL MAN OF THE COMMISSION.

Since 1931, Noel Mullendore has guided the legal fortunes of the Kansas Forestry, Fish and Game Commission. Mullendore is now ready to retire after having served under a total of 53 commissioners and eight directors.

Photo by Ken Stiebhen.



NO LIMIT-SHOOTING

By VIC McLERAN

Outlined against a blue-gray autumn sky and looking like a wedge-shaped fighter squadron, three crows sailed in from the southeast. Dropping smoothly over a row of golden cottonwoods, the birds cawed outrageously as they spotted the stuffed owl and the ebony decoys.

"Just a little closer," Hoeme muttered from his camouflaged position in the tall horseweeds.

When the birds were about 30 yards out and still coming, he whipped the 12 gauge to his shoulder and swung on the lead crow. Spotting movement, the black bandits veered sharply, but it was too late! Hoeme dropped his bird neatly while my first shot only loosened tail feathers. Swinging ahead of the dark target, I managed to score on my second shot. Looking around, I saw Hoeme fold the last crow in an explosion of black feathers.

Along with Tom Bruce, Kansas Highway Patrolman, Duane Hoeme, and I were doing some "no limit shooting." Hoeme, Pratt County undersheriff, had obtained the landowner's permission for us to try and reduce the Stafford County crow population. Crows in twos, threes and small flocks, responded steadily to our electronic crow call and stuffed owl decoy. For close to two hours we had some excellent shooting before the evening flight faded out. In these days of reduced game populations, increased competition for available hunting land and shortened hunting seasons, crow shooting offers a chance for the nimrod to sharpen his wingshooting skills on an unlimited basis. Since farmers have never been overly fond of the black bandits, chances of getting permission to hunt crows on private land are pretty good.

Then too, crow shooting is an excellent way to get in some late-winter gunning when seasons on game species

have closed. Besides all this unlimited shooting, there's a certain satisfaction in outsmarting one of Nature's craftiest critters.

The Crow

Corvus brachyrhynchos, as the crow is known scientifically, has been around a long time. And his bad reputation goes back just about as far. King Henry VII of England even placed a bounty on the birds. Down through the years, crows and their cousins the ravens have been considered evil omens. Evil or not, the crow with its crafty intelligence, has survived in spite of man's poisons, his bounties, guns and even his dynamite. Not only has the crow survived, he's flourished! Dwight R. Platt, writing in his unpublished master's thesis at the University of Kansas, noted, "Since the settlement of North America, the number of crows has greatly increased and its range has been extended slightly."

Since crows love grain, the mid-western part of the United States contains the country's largest crow concentrations. Kansas, especially the central and western part of the state, has large numbers of the black rascals. Reno, Harvey and Stafford counties have exceptionally high populations.

The annual cycle for a crow begins in late winter when the male seeks a mate. Following courtship, the pair builds their nest of sticks, preferably in a conifer.

Eggs vary in number but the average clutch contains four or five greenish eggs splotched with brown. The young birds hatch about 18 days later. After five or six weeks in the nest, the young crows strike out on their own in loosely-knit flocks.

The crow's diet, more than anything else, has been responsible for the bird's bad reputation. And this diet includes just about anything, dead or alive! Biologists say the crows' menu is

about 30 percent animal matter and 70 percent plant material. The crow's taste for bird eggs and young birds makes him especially unpopular with many people. Corn is another food item of the crow which causes the farmer some concern. The bird's ingenuity in locating food illustrates its intelligence. Dick Mermon, author of "Crow Shooting Secrets," told of a Pennsylvania farmer who planted a field of corn in a manner designed to fool the crows. He alternated the rows by planting corn in one row and nothing in the next. It only took the smarter crows several days to learn that by working a straight row once they located a seed, they could continue feeding. Working the field in this manner, the crows soon had the planting destroyed. A farmer in Maryland tried to fool the birds by planting seeds of corn so many feet apart. The crows were confused at first and settled down to figure out the problem. Several of the Ol' Timers pecked the ground until they came up with a seed. Finally it was just so many steps and peck, so many steps and peck, before the field was cleaned.

However, like most of Nature's creatures, crows aren't all bad. The large number of green bugs, grasshoppers and other insect pests they destroy helps balance out their so-called "bad" habits.

It's this intelligence coupled with a great deal of native wariness, which makes the crow such a challenge to the hunter.

When and Where to Hunt

Even though crow shooting is a year around sport, some seasons are better than others. Since the birds congregate in large flocks during late fall and early winter, hunting is then at its best. During this time of year, crows roost each night in the same general vicinity. In the early morning, they can be seen leaving the roosting

areas for a day of scavenging and feeding. Late in the afternoon there is another mass movement back to the roost. These flights often follow the same pattern and a few late afternoon jaunts to the country will usually enable the hunter to locate flyways. A pair of binoculars is helpful here. After determining the birds' general flyway, be sure to find out who owns the land and then obtain permission to hunt. Most farmers, once they learn you're after crows, will be glad to have you. Experts feel it's wise not to shoot in the vicinity of the roosting area, since crows will often move out and the hunter will have to locate them again. It's best, they say, to simply hunt the flyways which lead to

and from feeding and roosting areas.

Feeding areas too, can offer excellent shooting although the birds generally forsake these areas for other spots after they've been heavily hunted. Garbage dumps, freshly-manured fields and newly-planted corn or maize fields can be shooting hot spots, especially during early morning hours. Once the hunter has located either a flyway or feeding area, he's ready to think about putting up a blind. Elaborate blinds and camouflage clothing aren't always essential for a successful crow hunt. In areas where the birds haven't been hunted heavily and aren't wise to the ways of the hunter, little is required in the way of concealment. However, crows catch

on quickly and it's not long before the unconcealed hunter isn't getting his birds. So for the most part, proper concealment will pay off with more crows.

Blind and Camouflage Clothing

Crows seem to have an ability to distinguish a hunter and his weapon from the background even though the hunter remains motionless. Because of this, camouflaged clothing and well-concealed blinds are important to the serious crow shooter. For permanent blinds which can be used year after year, some shooters construct an elaborate sunken box and border it with an evergreen hedge. More temporary blinds can be constructed easily out

Shotguns and shells, camouflage clothing, electronic crow call and a stuffed owl decoy—all are part of the crow hunter's paraphernalia. With this equipment and a valid Kansas hunting license, shotgunners can have year around "no limit" shooting.

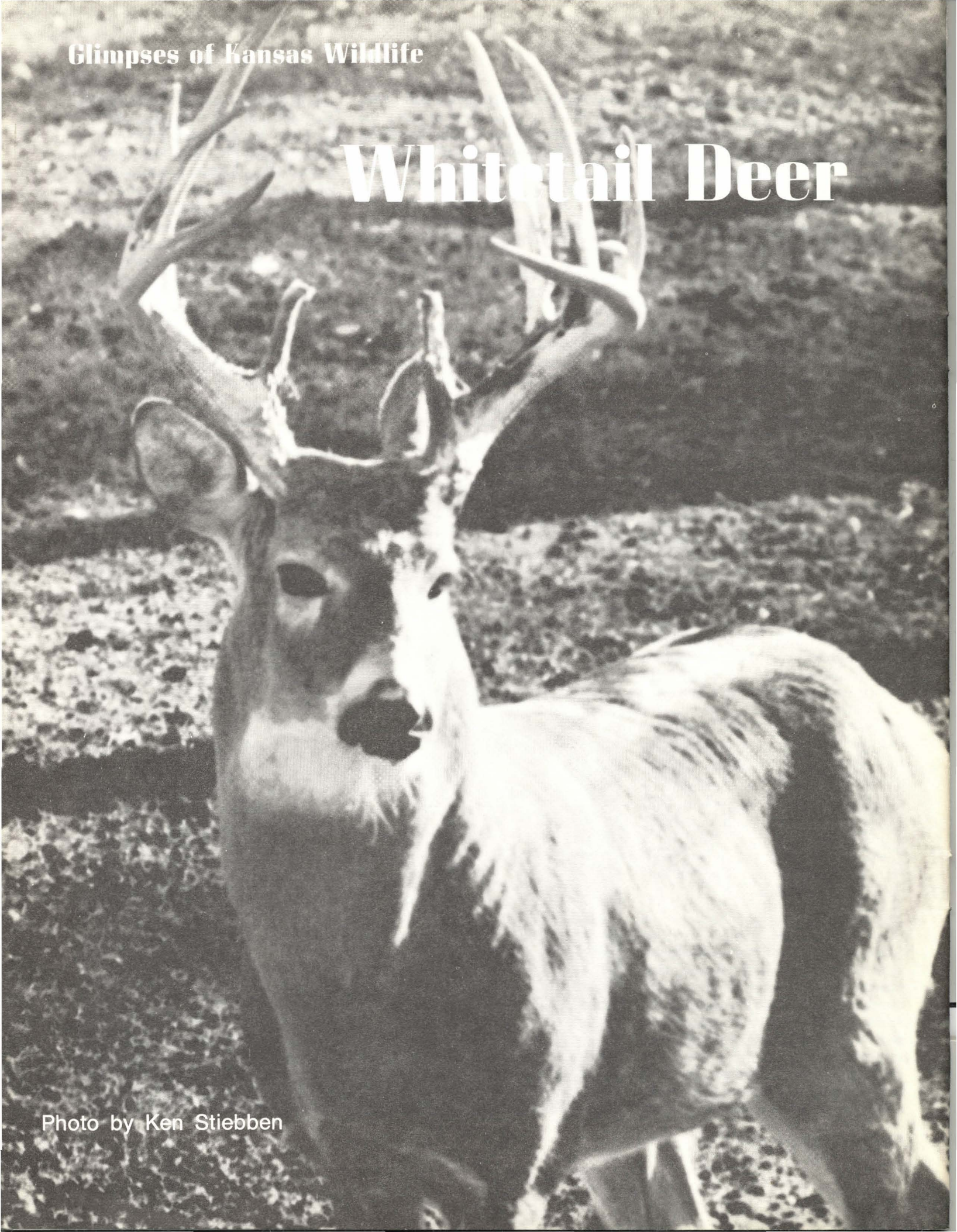
Photos by the author.



Glimpses of Kansas Wildlife

Whitetail Deer

Photo by Ken Stiebben



By LEROY E. LYON

A flash of white and it disappears from sight. So it is with the white-tailed deer, the most plentiful big game animal in North America.

The whitetail is aptly named because of the white undersurface of its flag-like tail which is displayed as the graceful creature bounds off through the woods with tail held aloft. With the white hairs erected and the large, white "flag" waving back and forth from side to side, no one can mistake the distinctive trademark. When alarmed, one of the whitetail's first actions is to hoist the flag—an act which alerts the entire herd without a sound.

For some reason bucks generally do not raise their tails when they run.

About seven months after breeding, usually in late May and throughout June, fawns are born. Does having young for the first time usually bear only a single fawn; thereafter they have twins and occasionally triplets.

Some authorities believe the whitetail doe uses the white signal to guide her fawns from danger as they run after her.

Although the whitetail is well known, the most common misconception about this sleek animal is its size. The size of adult deer varies according to the quality and quantity of forage available to the herd throughout the entire year. Usually, however, the back of a full-grown whitetail is seldom higher than the waist of an average man (from 36 to 40 inches).

Whitetails prefer timbered areas for their homes and as a result are most numerous in the eastern two-thirds of the state. Some, however, are found in western counties. The whitetail's distribution is closely related to

wooded, brushy areas along watercourses but occasionally whitetails may be seen in grasslands with limited woody cover. Usually whitetails select the borders or edges of timbered areas rather than dense, uniform stands of trees.

Whitetails apparently prefer to stay close to where they were born. If a good food supply and plenty of cover is available, they tend to stay within an area ranging from one-half to one and one-half square miles. Some deer, particularly bucks during breeding season may cover a larger area.

Deer require from 10 to 12 pounds of food per day. Since they are browsing animals, they feed mainly on vegetable material—browse from the leaves, buds, twigs, and bark of woody plants. The whitetail also consumes a wide assortment of weedy plants, cultivated crops and certain kinds of fruits when available. In Kansas farm crops particularly corn, sorghum, winter wheat, alfalfa and soybeans, comprise the bulk of the year-round diet except in summer when green forbs become predominant.

Since Kansas is largely an agricultural state, whitetails in our state enjoy a high level of nutrition. Without a hunting season to control the expanding deer population, deer could become a major problem to agricultural interests. To prevent this and to stabilize the deer population, statewide hunting seasons, both firearms and archery, are being allowed each year to harvest surplus animals. By using this method of control, Kansas' deer population can be maintained within the economic limits imposed by our agricultural industry.

All whitetails shed hair twice each year. In the spring they wear a new coat which is reddish-brown in color. In autumn this hair is shed and replaced by a greyish-brown winter coat of two layers; an undercoat of soft hair and an overcoat of long, kinky hollow hair provides all-important air pockets which in turn gives excellent insulation during cold, snowy winter months.

Antlers, which are formed and shed each year, normally occur only in bucks. Growth of antlers usually starts

Photo by Leonard Lee Rue.



in April when the antler base, located on the skull, begins to enlarge. Growing antlers are enclosed in a plush-like covering of soft skin and fine hair commonly called "velvet."

A network of blood vessels in the velvet nourishes the antlers until they are fully formed. During spring and summer months bucks treat the sensitive antlers with care to prevent damage to the fast-growing antler tissue.

A buck usually does not grow antlers during his first year but has small knobs where future antlers will grow. At this stage he is called a "button" buck.

Full antler size is reached in August or September, shortly before breeding or "rutting" season. As breeding season approaches, the buck rubs the dried and itching velvet covering off by polishing the antlers against the trunks of trees and saplings. During the breeding season these hard, highly-polished antlers are used to defend territory against other bucks.

Sometime toward the end of the breeding season, usually from late December to mid-February, the antlers become loosened around the base and are shed. Fallen antlers do not last long since mice and other rodents gnaw them for their high mineral content.

A person cannot tell a buck's age by his antlers. Antler development is not an indication of age but rather an indicator of nutrition and the amount of food consumed. In the buck's second year, he will usually develop spikes—in this stage he is known as a "spike buck"—but such a buck feeding under ideal food conditions can skip the spike stage and go on to develop into a "rack" buck.

About seven months after breeding, usually in late May and throughout June, fawns are born. Does having young for the first time usually bear only a single fawn; thereafter she will have twins and occasionally triplets.

At birth each fawn weighs between four and seven pounds; bucks are usually slightly heavier. As soon as possible after birth the doe leads the fawns away from the place of birth to another place of concealment. Generally, but not always, twin fawns are bedded in separate locations. Spotted

fawns blend in well with the vegetation in which they are hidden.

Fawns are also protected for several days by a lack of scent and the doe stays away from the fawns as much as possible so she will not attract attention to the young by her scent. However, the doe remains somewhere nearby where she can observe danger or hear the fawns if they call to her.

Except for nursing periods fawns are relatively inactive for the first two weeks following birth. But, when three to four weeks of age, the fawns begin to follow the doe and start eating their first solid foods.

Full antler size on whitetail bucks, like the one here, is reached in August or September. During the breeding season, these hard, highly-polished antlers are used to defend territory against other bucks.

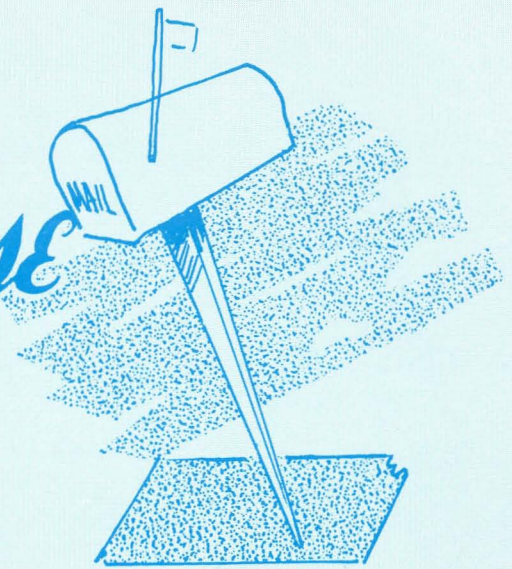
Whitetail deer are the favored big game for a large majority of hunters; the esthetic value of the majestic whitetail cannot be measured. Non-hunters also enjoy the sight of the graceful creature as it leaps effortlessly over a fence, bounds through the woods, or stands alert, suspiciously eyeing every movement of the human intruder.

To both the hunter and non-hunter, the world is a more enjoyable place to live because of the presence of the whitetail deer.

Photo by Leonard Lee Rue.



Readers' Response



Sadism of the Hunter—"In the July-August KANSAS FISH & GAME, there is an article entitled 'Mourning Dove.' The author states, 'The average life span is from nine to ten months.' From what authority do you get your information? My neighbor picked up a crippled mourning dove 13 years ago and made a pet of it. The dove is still going strong and we do not know how old it was when first found. If a bird weighs from 3½ to 5 ounces, as you state in your article, it can hardly be considered a food necessary for our survival in a world of plenty. Therefore, it must be the sadism of the hunter that prompts them to kill the mourning dove. Frankly, I love to hear the mourning dove and would never shoot one since they do no harm. Eight out of ten people I talk to feel the same way."—**Marion J. Renner, M. D., Goodland.**

There have been many competent investigations on mourning dove population dynamics over the past 20 years. Many are cited in the publication, AMERICAN GAME BIRDS OF FIELD AND FOREST: THEIR HABITS, ECOLOGY AND MANAGEMENT, by Frank C. Edminister, a well known authority in the field of wild-life management. Those investigations indicated a dove population will suffer annual population turnovers varying from 50 to 70 percent. On the average, we can expect a 60 percent turnover each year which results in an average life expectancy of nine to ten months for the mourning dove. Personally, we don't agree with your opinion regarding hunters and feel your 'sadism' label is ridiculous. However, you're entitled to your opinion. You can read some of our thoughts on the subject in KANSAS FISH & GAME. Also, we don't doubt that eight out of ten people you talk to feel the same as you do. Through a course of natural human behavior, people tend to associate with individuals having attitudes similar to theirs. Regardless of your opinion, the fact remains that mourning doves are a sporting game bird which produces an annual surplus that can safely be harvested. Barring wide scale destruction of suitable dove habitat, both hunter and non-hunter can continue to derive their respective enjoyments from our continental dove population.—**The Editors.**

Unusual Usage—"I visited a friend's home last week and saw the picture of the great horned owl on your September-October magazine. I had been looking for a picture like this which I could use as a model for putting eyes in ceramic owls, so I borrowed my friend's copy. Please put my name on your mailing list."—**Mrs. Logan Taggart, Emporia.**

Had to Frame It—"Just a note to let you know we really enjoy each issue of KANSAS FISH & GAME. We also like the beautiful covers, especially the owl on the September-October issue. I just had to frame that."—**Alice Dronberger, Havensville.**

Pleased About the Law—"Just finished reading your September-October issue. Mr. McLeran is to be congratulated for his excellent article on the great horned owl. We residents of University Park are admirers of the owl and are pleased that there is a protective law now in effect. Mr. Manes' story of Tuttle Creek was another enlightening article. Thank you for such an informative, illustrated magazine."—**Mrs. C. E. Shenk, University Park, Manhattan.**

Was Amazed—"I'm on the staff of the Topeka Zoological Park in charge of bird keeping. I read your September-October issue and was amazed by Vic McLeran's great horned owl article. It was very well done, educational and at the same time enjoyable."—**Ken Kawata, Topeka Zoological Park.**

Wants Mailing Label Changed—"I thoroughly enjoyed your September-October issue, especially the article on the great horned owl. The colored photo on the back is fantastically beautiful and would

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.**

make an excellent piece for framing if it were not ruined by the mailing label. I suggest you put the mailing label on the front of the magazine so the beautiful color photos on the back may be saved for framing."—**Glen P. Snell, District Conservationist, Soil Conservation Service, Howard.**

We've had quite a few comments on both the article and the back cover photo of the great horned owl. It's always good to know when readers are pleased or displeased. A lot of the credit for our covers has to go to Robert R. (Bob) Sanders and his fine crew at the State Printing Plant. Without 'em, we wouldn't have a magazine. We realize the mailing labels are something of a problem and we're considering a change.—**The Editors.**

Delightful Article—"What a delightful article your September-October issue carried on Tuttle Creek Lake! Those of us who live near the lake and love it especially appreciate your observations."—**Mrs. Paul Thompson, Chairman, Tuttle Creek Lake Development Committee.**

Mercury Pollution—"Just finished reading Farrell Brewer's article, 'Mercury in Kansas' in the September-October issue of KANSAS FISH & GAME. I think it is a truly great article on how mercury pollution can be a problem even in a non-populous area like Kansas. Along this line, I would be interested to know the extent of lead poisoning in our state's environment."—**Harry D. Beggerly, Pittsburg.**

Doesn't Come Often Enough—"Really enjoy reading your magazine and especially liked the articles on mercury in Kansas and the Bobwhite quail. The only thing I dislike about the magazine is that it doesn't come through the mail often enough."—**Mark Ziegler, Topeka.**

