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Covers

Front cover, goose hunter silhouette. Ektachrome transparency by Ken Stiebben using a Pentax Spotmatic, f/2.8, 1/15.

Back cover, bobcat. Ektachrome transparency by Vic McLeran shooting a Pentax Spotmatic, f/4, 1/125.

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"The year 1971 just may turn out to be the most important year of your life—and the lives of your children. History may cite it as a period when Americans finally woke up to the horrible mess we were making on this earth of ours."

So wrote Thomas L. Kimball, Executive Director of the National Wildlife Federation in the October-November issue of NATIONAL WILDLIFE magazine.

And yet, according to the Federation's third annual Environmental Quality (EQ) Index, America's environment continued to deteriorate during 1971.

While air pollution remained the most serious environmental problem and becomes even more dangerous every day, the 1971 EQ Water Quality Index held steady during the year.

"There's reason to believe we've hit the dirty bottom—and can now start the long climb back to the clean water Nature gave us," the report stated.

The Wildlife Index was not as optimistic but rather continued to deteriorate for the third consecutive year. Loss of habitat proved to be the number one threat during the year but chemical pollution of air, water and land was the second ranking cause.

"We lost a million acres of wildlife habitat in 1970, another million will be bulldozed in 1971, and the end is not in sight," the report claimed.

Birds of prey were reported to be in the most serious trouble with hawks, eagles and ospreys declining at rates as high as 20 percent per year. The list of endangered wildlife species now stands at 101.

Since the basic needs of wildlife are essentially the same as those of man, and since most species of wildlife are dependent upon a clean, fertile, and productive environment, it appears the battle for providing environmental quality is far from over.

Perhaps Kimball summarized it best when he stated, "We have NOT turned the corner in the battle of what we call the Do-or-Die Decade. Our EQ Index is lower, and our environment is more polluted than at any time in history. And our Trend Dial is still headed downward.

"But the sleeping giant that is America's good common sense—in this case, its ecological conscience—is beginning to stir. Now, the big challenge is to fully awaken to the need—and do something about it.

"You know very well that headlines and speeches and politicians' promises will never get the job done. It will take your hard work and crusading, as an individual, or within a group, to stop the downward EQ trend—and reverse it."

Along with Kimball we are counting on you in 1972.—LEROY E. LYON

Tonganoxie Mule Club gives a new twist to an old sport . . .

'Coon Hunts the Easy Way'

Text and Photos by
VIC McLERAN

A pale December moon rose slowly through barren branches as we moved into heavy underbrush astride the mules. The comfortable creak of saddle leather was muted by the distant baying of hounds.

Cresting a small brush-covered ridge, we paused for a moment to give our heaving mules a breather. Sitting there, we strained our ears against the chilly breeze, trying to follow the course of the hunt by the dogs' far off music. Below us, a small creek murmured softly as its

dark waters slid away to the south. From timber upstream, a barred owl uttered its familiar call and from a distant farmhouse, the faint smell of woodsmoke drifted up along the ridge.

Suddenly, among the night noises, we heard it, an abrupt change from the hounds' sporadic, bawling notes to a steady chopping sound.

"Treed," muttered one of the riders and we quickly neckreined our mounts down a steep embankment, fighting off frostcovered limbs and grapevines which could drag a rider from his saddle.

Pushing on, the mules slogged full-tilt across chilly creek waters into thick brush on the far side, headed on a line which would eventually bring us to the base of a big cottonwood, the hounds and a treed coon.

Riding along, I couldn't help but think how different this method of coon hunting was from the traditional one of following the hounds afoot. Although coon hunting has always been big with Kansans, members of the Tonganoxie Mule Club have given the old sport an entirely new twist through the use of mules on their nightly forays.

Jimmy Cauble, Lawrence, and his two boys are mounted and ready for another hunt with the Tonganoxie Mule Club. Coon hunting astride mules is a definite advantage for youngsters and older folks who might ordinarily have trouble staying up with the hounds on foot.



We asked Bill Owens, Lawrence, president of the Tonganoxie Mule Club, about the organization and its background.

"Even though we're the only club of this type in Kansas, the idea didn't originate here," he said. "We heard about it from some fellows down in Texas and Oklahoma. We tried it and liked it. However, the United Kennel Club later banned the use of mules on their night hunts since they felt it gave unfair advantage to the riders. Because of this, we formed our own club about a year ago."

When asked about the club's unusual name, Owens replied, "Since several of the club's founders were from Tonganoxie, they used it in the title."

With more than 30 members from Kansas, Missouri, Oklahoma and Nebraska, the club has been holding its own registered hunts and jumping contests periodically. These are open to mule riders only.

I asked club member James Coble, Lawrence, why the club used mules instead of horses. "We've found mules aren't nearly as spooky in the dark as horses," Coble replied. "Then too, mules can handle a rider in slippery, rocky areas where a horse couldn't. The mules are just much more sure-footed, which is what we need—especially at night."

The advantages of coon hunting with mules are many. Basically, the method simply makes the hunt easier and more enjoyable than hunting on foot—especially in the rough, hilly terrain of northeastern Kansas.

"With the mules we can cover ground more quickly than we could on foot," explained Carl Butler, Lawrence, owner of a Treeing Walker kennel. "The mules come in real handy when we have to cross creeks or the river during a chase." In really deep water, members have actually stepped up onto the saddle and crouched there until the mules reach shore again.

Since many coon hunters train their young dogs by letting them run with older hounds, the ability to reach the dogs quickly once they've treed is definitely an asset. "A young dog will lose interest if he has to stay at

the tree too long," said Carl. "With the mules, we're able to reach a tree more quickly than on foot."

Transporting an injured dog-or-hunter- back to the truck for a quick trip to town can be rough on foot. With mules however, the chore is much easier.

Muddy fields, brush thickets laced with briars, cold creek waters, swamps and steep, rocky ravines—all these can make it rough for a coon hunter on foot. But astride a sure-footed mule these obstacles become minor.

About the only hazards are overhanging limbs and grapevines. Because of these, most members have trained their mules to neck-rein. The battery-powered head lamps worn by members during their hunts leaves them with one hand on the reins and the other hand free to fight off overhead obstacles.

Most members have specially-

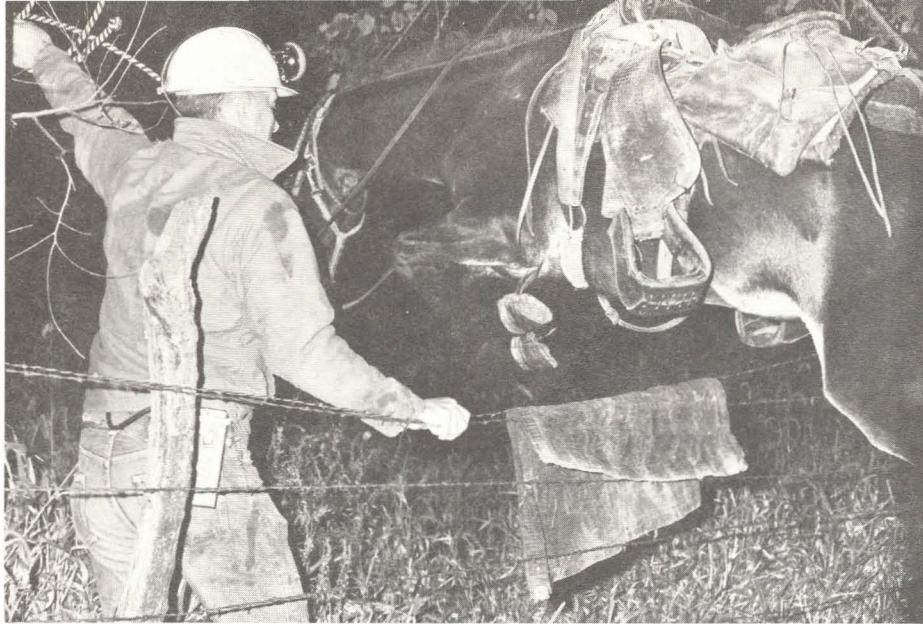
equipped campers and pickup trucks which carry both mules and hounds. Prior to an outing, hunters usually get together at one of the member's homes. After some coffee and conversation, they load mules and hounds in their trucks.

From there, they drive to some pre-determined area known to contain a high racoon population. Upon arrival, hunters unload their mules and adjust their equipment. Hounds are deployed and as soon as they strike a fresh track, everyone mounts and heads in the direction of the chase.

When the first fence of the evening is encountered, the mules' jumping ability is displayed. Prior to the jump, each rider dismounts and grabs a six to eight foot lead rope which is attached to the mule's bridle. Leading the animal up to the fence, the rider places a canvas tarp or heavy blanket over the top strand of wire. After some verbal coaxing, the mule lowers

Bill Owens, Lawrence, president of the Tonganoxie Mule Club, jumps one of his mules into a specially-equipped pickup truck designed to carry both mounts and dogs. Owens is so enthusiastic about hunting with mules that he's taken his mounts West after mountain lions and bobcats.





Carl Butler, Lawrence, takes his mule over a fence during one of the club's hunts. In addition to providing some protection for the mule's legs, the canvas tarp allows the animal to judge the height of the fence accurately.

its hindquarters, tucks its forelegs and goes over the fence like a frog. After crossing the fence, each rider grabs his tarp, stashes it behind the saddle, mounts and is off again.

Ralph Nuttall, Eudora, explained the use of the tarp. "By putting a tarp or blanket over the fence we provide some protection for the mule in case he doesn't quite clear the top strand. And since the mule can see the tarp easier than he can see the single strand of wire, he's able to judge the height of the fence better.

Nuttall said the training process starts when the mule is about one year old although the animals aren't ridden until they're two.

"We start the mule jumping a low board about one foot high. As he gets older and is able to jump higher, we increase the height of the board." Some mules can jump as high as five feet, Nuttall said. Unlike horses, mules jump flat-footed and don't need a run at their obstacle. This is advantageous in brush country where dense foliage often prevents clear access to the fences.

The height of the mules varies between 46 and 52 inches. Mature animals weigh between 600 and 800 pounds. Smaller mules seem to be preferred since they're easier to haul and are able to pick their way through dense brush easier than the larger animals. Female mules are called "mollies" and the males are known as "jacks" to mule enthusiasts. Members

say there is little difference when it comes to training the two.

The Tonganoxie Mule Club stresses good hunter-landowner relationships and club bylaws say that any member hunting without the landowner's permission will be ejected from the club. When hunting, members carry pliers, hammer and staples in their saddlebags. If a mule should happen to break a strand of wire the hunt stops while members mend the fence.

Conservation too, is a primary concern of the Tonganoxie Mule Club. When the coon population seems low

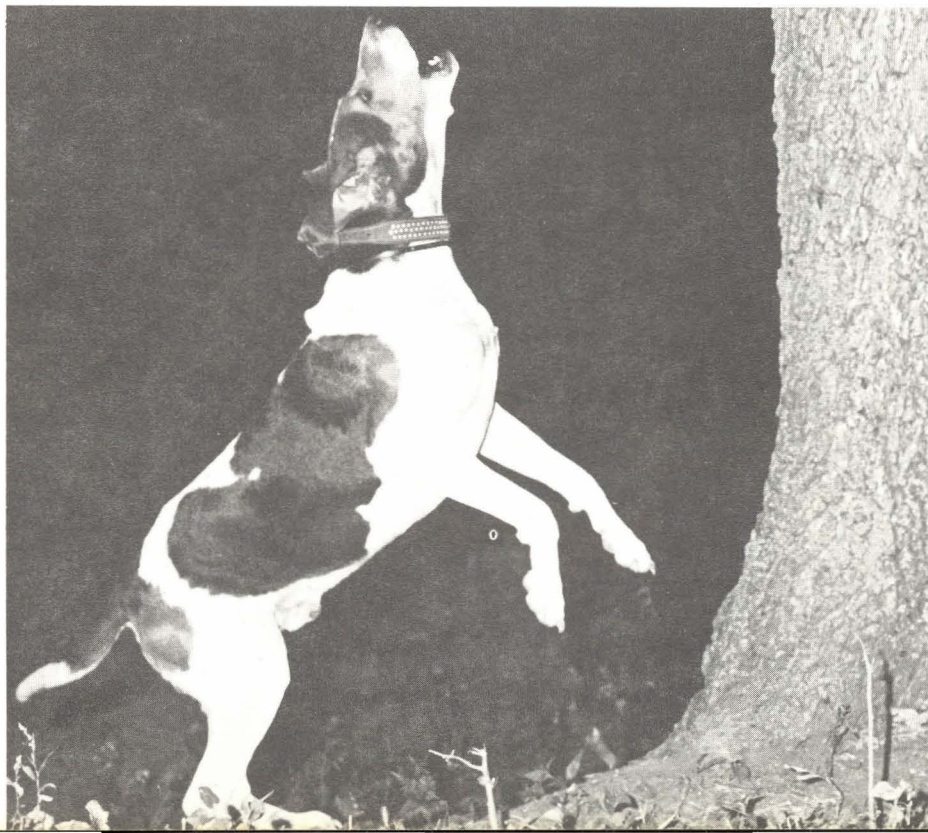
in an area, members live-trap coons and transplant them to low density areas. Then too, young coons are rarely taken on hunts since members prefer to let young animals remain in the wild while they mature.

Riding back to the trucks after a successful hunt with members of the club, I glanced at Carl's saddle and saw another advantage to mule hunting. Tied to his saddle horn was a gunny sack containing two coons we had taken during the hunt. Having coon hunted afoot as a kid, I could remember carrying two or three coons over my shoulder in a gunny sack. By the end of the night, I was always sure those coons weighed 50 pounds apiece. Letting the mule carry those coons sure beat struggling through the brush with them over our shoulder.

As we pulled up at the trucks and started loading the mules and hounds, Carl remarked, "Now you see why we're so fond of using these mules on our hunts. It sure beats heck outta' trying to stay up with those hounds on foot."

Thinking back over the night's hunt and remembering the ease with which we'd covered that rough country, I had to agree. This was truly, coon huntin' the easy way.

One of Carl Butler's treeing Walkers sings out, letting the hunters know he's treed a coon. In addition to hunting the dogs, Butler raises and trains treeing Walkers at his kennel north of Lawrence.



The

Elusive

Feline



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By
VIC McLERAN

“Seen any bobcats lately?”

If you're like a lot of people, your answer is probably no. And it's not surprising really, since the bobcat isn't an easy critter to spot.

There's this story about a couple who were picnicking in a densely wooded area. Before leaving, the husband suggested taking some pictures of his wife among the scenic foliage. Later, when the film was returned and the couple were going over the snapshots, they saw to their surprise a full grown bobcat stretched out on a limb several inches above the wife's head.

True or not, the tale certainly illustrates the bobcat's ability to remain unseen and blend with its surroundings.

Since many Kansans don't get the opportunity of a first hand look at the bobcat in its natural habitat, let's examine this shy, elusive member of the feline family.

Physical Description

Bobcats average 33 to 43 inches in length. The bobbed tail—from which the cat got its name—varies in length from five to seven inches.

The average weight of a bobcat is between 17 and 26 pounds. Most Kansas specimens fall in this weight range. The largest bobcat on record is a 69 pound male from Colorado which was killed in 1951. Two other males, weighing 59 and 58½ pounds, were taken in Nevada.

Joe Van Wormer, author of “The World of the Bobcat,” says that old expression about whipping one's weight in wildcats is just that—an old expression. In fact, he says, it's unlikely a 200 pound man could handle the average bobcat which weighs less than 20 pounds.

The cat's coat is tawny brown interspersed with gray. The head is marked with black lines while the body and legs are sprinkled with an assortment

of black bars and spots. The cat's ears are edged in black and tufted with long, black guard hairs. The tail tip is also black.

Mating and Young

Mating occurs during February and March in Kansas. Apparently this is the only period when males spend any time with the female cats. Contrary to many back-country tales, bobcats rarely breed with domestic cats. However, Wormer reports three instances where a male bobcat mated with female domestic cats.

During the courtship and mating period, the cats are apparently at their noisiest. Their squalling and screaming, while similar to that of domestic cats, is much louder. According to Stanley Young, author of “The Bobcat of North America,” the sounds can be heard a mile away. Some who have heard the screams say they are similar to those of a woman.

After mating, the female bobcat chooses from a wide variety of den sites, including cavities and holes in rocks and ledges, hollow logs and trees, windfalls, depressions beneath boulders or overturned trees, abandoned farmhouses and outbuildings.

Bobcat kittens are born in April or May following a 60 day gestation period. The kittens' eyes are closed at birth but open about 10 days later. An average litter contains two or three young. Kittens are weaned at about two months of age at which time the female starts taking them afield on hunting trips. The young cats remain with the mother into the fall months.

Hunting Tactics

The bobcat's extraordinarily keen senses make him an excellent hunter. Cats seem to rely more on vision and hearing than on a sense of smell. Their excellent night vision is similar to that of owls since the cats' eyes contain a

large amount of extremely light sensitive rod cells which enable them to utilize all existing light.

A bobcat's hearing is also very sharp. The black hair tips on each ear apparently act as antennas and aid the animal in picking up the slightest noise. Experiments with captive bobcats showed that specimens with these hair tips clipped could not respond to noises as quickly as those with unclipped hair tips.

How many times have you watched a domestic kitten stalk a blowing leaf or a drifting feather in mock hunting behavior? The young cat is merely sharpening hereditary hunting skills. Bobcat kittens are the same way. One researcher introduced a domestic rabbit to a five week old bobcat kitten. The young cat immediately leaped on the rabbit and clamped its jaws on the animal's neck in an obvious attempt to kill the rabbit. Even after the little cat's jaws were pried loose, it still wanted the rabbit.

Mature bobcats seem to hunt in the usual feline manner. Upon spotting movement of potential prey, the cat immediately freezes in a crouch. It then moves in with a slow, careful stalk, taking advantage of any available cover. When the stalking cat feels it is close enough, there is a quick charge of several feet followed by a powerful leap. The bobcat's strength is fantastic, enabling it to kill animals as large as mature antelope and deer. Feats such as these, however, are rare since the cat feeds primarily on rodents. If the prey escapes, the bobcat follows only a short distance before moving on to other quarry. After making a kill the cat eats its fill and if anything remains, he usually hides it and returns later when hungry.

An Arizona man once had a pair of tame bobcats which he used for quail hunting. The cats hunted by instinct and were reported to be very competent—although the owner had to share a few of his birds with the cats during each hunt.

Food Items

Most studies indicate bobcats feed mainly on small mammals with rabbits, rats and mice being the most common items. Other species in-

Fish and Game

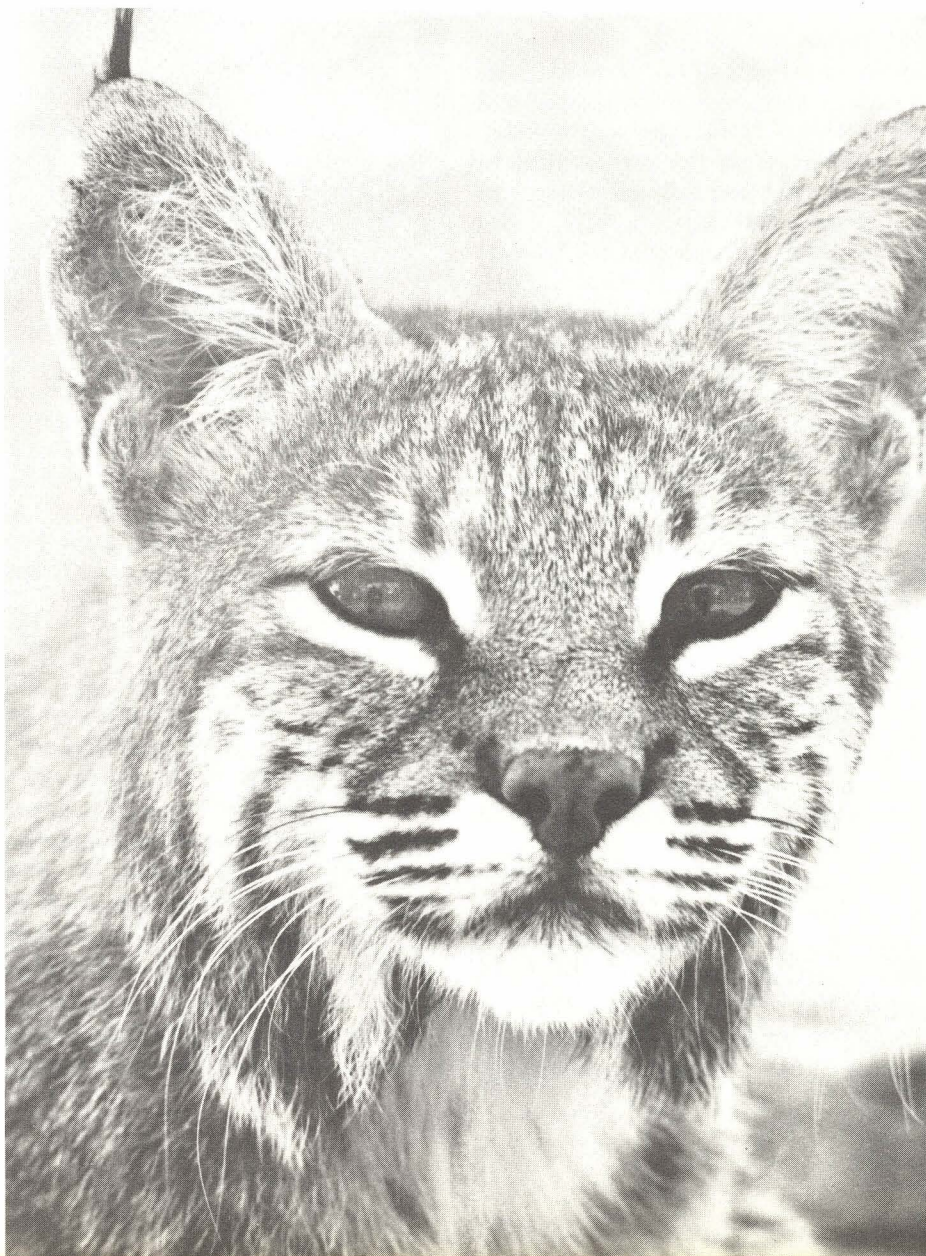
cluded in the cats' menu are: Squirrels, chipmunks, snakes, shrews, moles, opossums, racoons, skunks, muskrats, prairie dogs and pocket gophers. Various birds are occasionally taken when the opportunity presents itself. Fish, frogs and crawfish also show up in the bobcat's menu.

From time to time, reports are heard of a bobcat that is preying on poultry or livestock. These reports are generally isolated cases since bobcats prey on the most available, vulnerable species. For this same reason, bobcats have little effect on most game bird populations. Quail and pheasants are less abundant and much more difficult to capture than rodent species.

The bobcat's extraordinarily keen vision and sharp hearing make him an excellent hunter. Most biological studies indicate bobcats feed primarily on rodents with mice, rats and rabbits being the most common items. (Photos courtesy Oklahoma Department of Wildlife Conservation.)

Bobcats are known to kill and eat any domestic cats they can catch. Bill Lee, Barber County rancher, told of a bobcat trying to catch one of his house cats. One evening Lee heard a commotion outside the house. Upon stepping out the back door, he saw a mature bobcat chasing his Siamese cat into the garage. When the bobcat saw Lee, it turned and fled.

A biologist in California reported a valley near his home was overrun with domestic cats gone wild. Later, as bobcats began moving into the area, the domestic cats disappeared, apparently killed by their wild cousins.



Bobcats as Pets

Anyone who has ever seen a cuddly, little bobcat kitten probably entertained thoughts of taking the animal as a pet. For the most part though, bobcats don't make good pets. In instances where they did make suitable pets, the cats were invariably taken young—before their eyes were open. Most captives eventually have to be released or else confined to a cage. Feeding time especially seems to bring out the cat's wild nature. This was true of a pet bobcat owned by Royal Elder, state game protector from Manhattan. Elder said the only trouble he had with his cat was during feeding time when the animal became aggressive. Another fellow who kept a pet bobcat had an unusual feeding method. Since the cat got vicious when eating meat, its owner would take a slab of meat, call the animal and throw the meat in the bathtub. After the cat was in the bathroom, the door was shut. When the animal had finished eating, the door was opened. On one occasion, the owner went in before the cat had finished eating and he was attacked.

Apparently though, not all bobcats have this instinct. Rutherford G. Montgomery, in his book, "The Living Wilderness," writes of one bobcat which was being used in a Disney film. The cat was so tame it refused to kill a live rabbit.

"It acted just like a big house cat, purring when stroked, rubbing against my leg like any tabby. It was so mild and loving it did not fit the part of a fierce bobcat which it was supposed to play in the film. In order to arouse its wild nature a rabbit was dropped into the cage. Apparently this bobcat had never seen a rabbit before. While the rabbit crouched fearfully, the bobcat walked over and sniffed it. Then he lay down with his head against the furry belly, yawned lazily and closed his eyes."

A former wild animal trainer once kept three young bobcats as pets, allowing them to run free on his ranch. Before long, the "pets" had killed and eaten their owner's ducks and geese. The geese being much larger than the bobcat kittens, were able to hold the

kittens off for awhile with their powerful wings. But the young cats soon learned to "double up" on the geese and the big birds didn't last long.

In the wild, bobcats have a life span of 10 to 14 years. In captivity, where life is much easier, they apparently live longer. A New Jersey naturalist reported one male bobcat that lived for more than 25 years. Another bobcat in a zoo also lived for 25 years.

Bobcats for Sport

Looked upon merely as a "varmint" for years, the bobcat is gaining stature as a game animal in many areas. The traditional manner of hunting bobcats usually involves releasing the hounds once a "hot" track has been located. Using another method, hunters simply release their dogs in country bobcats are known to inhabit. Most of the enjoyment is derived from listening to the hounds as they work the track. The cat usually eventually trees or holes up and is either shot or allowed its freedom. Some hunters like to add a few thrills to the sport by climbing up to the treed cat, roping the animal and dragging it to the ground.

In Kansas, bobcats are taken inadvertently each year by coon hunters whose hounds pick up a bobcat track while coon hunting. Jimmy Shinn and Lee White, seasoned coon hunters from Fredonia, have accounted for quite a few bobcats in this manner. On one daytime hunt when the dogs were deliberately placed on a fresh bobcat track in light snow, Shinn and White were able to observe part of the hunt. The following incident illustrates the bobcat's courage and ability to remain cool under pressure. "During the chase, the cat kept making sharp, right angle turns," Shinn said. "And at each turn, the dogs would overrun the track and mill around trying to find it again. One time, after that old cat made his cut, he slipped up beside a tree and stood motionless, watching the dogs as they ran past, some of them within five or six feet." Most other animals would have panicked with a pack of hounds that close to them.

For years, the use of hounds to hunt bobcats was about the only method

employed. The introduction and subsequent popularity of predator calls changed that. Today, more and more hunters are using predator calls with amazing results. One veteran Oklahoma hunter "calls up" 15 to 20 bobcats each year. He's had cats come in as close as eight feet and says he's never seen or heard one approach, claiming they seem to materialize out of the brush.

Bob Henderson, predator control specialist and veteran predator caller from Kansas State University extension service, says bobcats are much harder to call than coyotes. "In the first place, there are fewer bobcats in Kansas than coyotes. Secondly, bobcats come in to a call much more cautiously than a coyote," he explained.

"While coyotes will often respond to the call on a run, bobcats come in so slowly and cautiously, they often see the hunter before he sees them and the cat just slips away unnoticed.

Illustrating the cat's wary, cautious approach, Henderson related the following: "I was calling in a brushy, creek bottom near Eureka, when I noticed a bobcat 25 feet away, blending perfectly with the foliage. I'd been looking directly at him but until he twitched an ear and the quick movement drew my eye, I was unable to see him. Another cat I called up moved so slowly that I timed him. By my watch, he took more than five minutes to raise and lower one paw in his stalk."

Trapping is another method, which although slower than hunting, seems to be effective in taking bobcats. Buster Hathaway, veteran trapper from Sun City, says bobcats are easier to trap than coyotes. Hathaway live-traps bobcats each winter and sells them to medical schools where the cats are used for research.

Hathaway told of an unusual trick old time trappers used in taking both bobcats and coyotes. Since these two species prey on domestic cats, the old timers used this to their advantage. They would tie a house cat to a fence post in prime coyote or bobcat country. They would allow the cat enough slack rope to reach the top of the fence post. Steel traps were concealed in a



Although looked upon merely as a "varmint" for years, the bobcat is gaining stature as a game animal throughout Kansas. The traditional method of hunting bobcats involves the use of hounds although predator calls are becoming popular with many bobcat hunters. There is no closed season on bobcats in Kansas and they may be hunted throughout the year.

circle out around the post . . . when a bobcat or coyote located the house cat, they came in expecting an easy meal. As the predators approached, the domestic cat would climb to the top of the post. Theoretically, the bob cat or coyote would then be caught in one of the concealed traps. However, Hathaway said one of the predators occasionally made it through the circle of traps unscathed. "Coyotes can't climb, but if the visitor was a bobcat, that ol' house cat was in trouble. 'Course, the Humane Society kinda' frowned on things like that," he added.

The Sun City trapper said bobcats remain fairly calm when caught in a trap. "Bobcats won't thrash around

and break a leg like a coyote will," he explained.

"Quick as a cat," isn't just an expression to Hathaway—it's a cold fact. "I've been transferring bobcats from trap to cage when they'll reach through the wire and git me," he said. "They move so quick and their claws are so sharp, you don't realize you're cut 'till you see the blood."

Invariably the question arises, "Are bobcats good to eat?" Some reports say the flesh is edible, even tasty, while others reports it's terrible. A park ranger once cooked a bobcat whose flesh he tasted and found awful. Even the ranger's dog refused to eat the meat.

Bobcat Enemies

Cougars are known to prey on bobcats where both species are found. In one instance, a cougar chased a bobcat up a tree where it killed and ate its smaller cousin.

Since bobcats share much of their range with coyotes, conflict would appear inevitable. For the most part though, such conflict between the two is minimal although on at least one occasion, a pack of coyotes was observed treeing a bobcat.

Several recorded incidents indicate some occasional conflict between the great horned owl and the bobcat.

The late Ernest Thompson Seton, Canadian author and naturalist, cited an instance where the bodies of a bobcat and a great horned owl were found at the base of a cliff. The cat's teeth were locked in one of the owl's wings and the bird had one talon embedded in the cat's head and the other talon in the animal's paw.

Evidently, one of the contestants had figured on making a meal of the other. During the struggle they had fallen from the cliff and were killed.

Although young and unattended bobcats may occasionally fall prey to large predators, such instances are probably rare. In the long run, it seems that man, with his hounds, traps, predator calls and habitat destruction, represents the greatest threat to the bobcat. Occasionally, though, the tables are turned and one hears or reads of a bobcat attack on humans. However, in most instances the cats were rabid. In Tennessee, a rabid bobcat was killed as it clawed its way through a screen door in an attempt to reach the occupants. On other rare occasions, hunters using predator calls have been pounced on, probably when the stalking cat mistook the caller for some sort of prey.

The bobcat's natural feline elusiveness make it's future in Kansas fairly secure. As long as there are rocky, timbered areas and a natural supply of food, chances are there will be bobcats around the state—even though you don't see them.

Million Dollar Gift

By LEROY E. LYON

A million dollar gift to the sportsmen of Kansas.

Perhaps that's the best way to describe the recent transfer of Farlington National Fish Hatchery from federal to state control. Where previously the hatchery was operated by the U. S. Bureau of Sport Fisheries and Wildlife, it is now under the administration of the Kansas Forestry, Fish and Game Commission.

While the hatchery may not be worth \$1 million in cold cash, Commission officials estimate the facility, complete with 26 ponds and buildings, has a replacement value of \$800,000—not a bad gift at all since it was obtained at no cost to the Commission.

Nestled in a scenic setting along Drywood Creek just below the Farlington Lake dam, the hatchery was, at the time of transfer, the oldest fish hatchery in the state of Kansas.

In 1934, while CCC workers were building the earthen dam of Farlington Lake (Crawford County State Park), local residents discovered the Bureau of Sport Fisheries and Wildlife was interested in building a federal fish hatchery in Kansas. Since the new 150-acre lake could supply water for hatchery ponds, the Chambers of Commerce in Girard, Pittsburg, and Fort Scott joined together in securing approval of the site below the dam for the hatchery. Together they formed the Farlington Lake Association and raised funds to purchase the land. In June of 1939 the association donated 153 acres on which the hatchery is located to the Federal Government.

The first work on the hatchery began in 1940 as a WPA project. The hatchery site was cleared, pond drains built, and one residence completed before construction was halted by the outbreak of World War II.

In 1948, work on the project resumed and the hatchery was rapidly completed. The first fish were stocked from the Farlington in 1940.

Since becoming operational 22 years ago, the federal hatchery has stocked thousands of farm ponds in Kansas and Oklahoma. Through the years largemouth black bass, bluegill and channel catfish have been produced and stocked in farm ponds and lakes in both states. Generally from 1,500 to 2,000 ponds were stocked from the Farlington Hatchery each year.

"On an average we produced slightly more than two million channels and about one million bluegill and bass each year," said Bob Hiland, superintendent of the hatchery for nearly 23 years. Hiland was transferred to Farlington in 1948 from the Tishimingo hatchery in Oklahoma. From Farlington, Hiland was transferred to Cedar Bluff, the only remaining federal hatchery in the state.

In taking over the Farlington facility, Roy Schoonover, Pratt, Fisheries Division Chief for the Commission, said the hatchery will continue to be operated in a similar manner as that conducted by the Bureau.

As part of the transfer agreement

between state and federal officials, the Commission will now handle all farm pond stocking in the state. Previously both federal hatcheries and the state hatchery near Pratt supplied fish for farm ponds which met certain requirements.

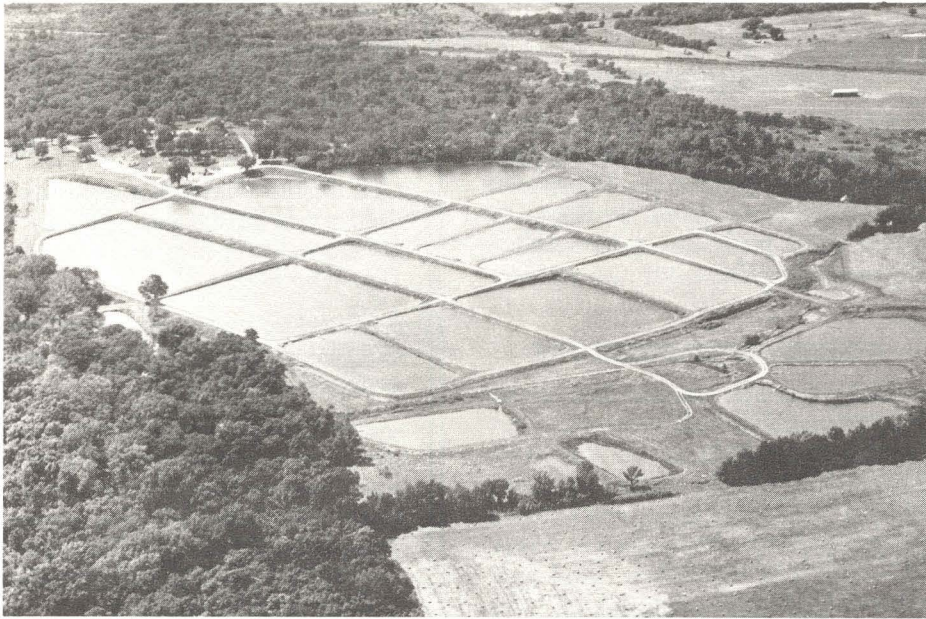
Thus, on the surface, the transfer from state to federal control may seem insignificant to Kansas anglers as far as production is concerned since all three of the same species are currently propagated at the Commission's Pratt hatchery.

But the change-over should prove to be highly beneficial for Kansas anglers. Under the Bureau's operation, about one-third of the hatchery's annual production was used to fill requests by federal hatcheries in other states while thousands of other fish were used each year to stock farm ponds and lakes in northeast Oklahoma.

But now that the Kansas Forestry, Fish and Game Commission has acquired the hatchery, all production will be used for stocking of farm

In a ceremony last August, control of the Farlington National Fish Hatchery was transferred from the U. S. Bureau of Sport Fisheries to the Kansas Forestry, Fish and Game Commission. Pictured from left are Charles Hulme, Commissioner from Great Bend; Bob Hiland, former superintendent of the hatchery; Jerry Brindle, research assistant to Governor Docking, Bill Fowler, Weir Commissioner; Fred Sears, Colby, chairman of the Commission and Warner Moore, Wichita, Commission attorney. (Photo by Ken Steibben.)





Nestled in a scenic setting along Drywood Creek, the hatchery contains 26 ponds and several maintenance buildings. Although the hatchery may not be worth \$1 million in cash, Commission officials estimate the facilities have a replacement value of \$800,000—not a bad gift since it was obtained at no cost to sportsmen of Kansas.

ponds and public waters throughout the state. Stocking-sized fish will not be used to meet stocking needs in other states.

In certain state lakes and other public fishing waters, there is often a need for channel catfish of a size larger than three-inch fingerlings which are normally used for stocking purposes. In some lakes it has been impossible to maintain catchable numbers of channel catfish through reproduction and survival of young fish. To maintain sufficient number of channels in these lakes and to insure survival of fish stocked in waters with established fish populations, it has become necessary to raise channels to a length of eight or ten inches by using rearing ponds where a feeding program can be carried out. By raising channels to a larger size, good survival can be expected after they are transferred to public fishing waters.

“Production of fingerling-size walleye and northern pike has also been severely limited due to the limited number of rearing ponds which we have had,” Schoonover said. “We simply have not had enough rearing ponds to provide for additional growth of these species.”

For the most part, the Commission

has stocked walleye and northern pike in reservoirs throughout the state when the young fish are only a few days old. Both walleye and northern pike fry are immature and extremely weak for a number of days after hatching and as a result the survival rate of fry is extremely low when stocked in reservoirs or lakes which contain established fish populations.

Fisheries personnel have been con-

ducting some experimental research at the Commission’s Meade Fish Rearing Station near Meade to determine if the highly cannibalistic northern can be raised to fingerling-size prior to stocking. From the initial research, northern fingerlings have been introduced in several state lakes and large reservoirs which have established fish populations and which did not formerly contain pike populations.

While it has not yet been determined how many, if any of the ponds at Farlington will be used for channel catfish, walleye and northern pike rearing purposes, the ponds will be fully utilized. If they are not used for rearing purposes but rather are used solely for production of channels, bluegill and bass, they will still be extremely beneficial since such use should reduce the number of ponds which will be needed at the Pratt hatchery for production. This in turn will provide extra rearing pond space at Pratt or at some of the other facilities owned by the Commission throughout the state.

Thus it appears the decision to declare the Farlington hatchery surplus to the needs of the Bureau of Sport Fisheries and Wildlife and the acceptance of the facility by the Kansas Forestry, Fish and Game Commission may pay some handsome dividends in future years for Kansas anglers.



First work on the hatchery began in 1940 as a WPA project. The hatchery site was cleared, pond drains built and one residence completed before construction was halted by the outbreak of World War II.

FRIED QUAIL

Dress quail and split down the back leaving the breast intact. Flatten out each bird with breast down and dust with salt and pepper on both sides. Roll each bird in flour. Place birds in skillet containing hot grease. The grease should come half-way up on the birds. Brown well on all sides, then cover skillet and turn down heat to low simmer. Cook 30 to 40 minutes and serve. Residue in skillet may be used to make cream gravy to go with mashed potatoes.

QUAIL PIE

- 6 quail
- 6 slices carrot
- stalk of celery
- 2 slices onion
- sprig of parsley
- bay leaf
- ¼ teaspoon peppercorn
- flour
- salt and pepper
- lemon juice

Remove breasts and legs and season with salt and pepper. Roll in flour and fry in grease. Add vegetables and peppercorn and cook five minutes. Cut backs into pieces and cover with cold water, cooking slowly for one hour. Drain liquid from vegetables and thicken with flour. Dust salt and pepper and lemon juice. Make biscuit dough for pie and fill with meat and broth. Put on top crust and bake 10 minutes at 450 degrees. Reduce heat to 350 and bake until done.

QUAIL WITH MUSHROOMS

Sprinkle quail with salt and pepper. Wrap a bacon slice around each bird. Place in baking pan and seal with aluminum foil. Bake about one-half hour at 450 degrees. Remove foil and add mushrooms. About one-half pound for five quail. Mushrooms should be heavily coated with butter. Roast until brown, uncover and baste once with butter.

PAN-BROILED QUAIL

Scald and clean. Do not skin birds. Split quail down back. Flatten out and put side down in pan. Dust with salt and pepper. Add basting with butter until birds are golden brown and cooked tender.

PHEASANT CACCIATORE

"Here's one for the good folks around Frontenac and Pittsburg."—Author.

- 2½ pound pheasant
- ½ cup olive oil
- 1 chopped onion
- 2 minced cloves garlic
- 3 cups canned tomatoes
- 2 tbsp. tomato paste
- 1 tsp. salt
- pinch Italian red pepper
- 1 tsp. oregano
- 2 tbsp. chopped parsley

Disjoint pheasant and sauté in olive oil until brown. Put the tomatoes through a sieve and add with all other ingredients. Simmer slowly until pheasant is done—about 30 minutes. Remove pheasant and let sauce continue cooking for an hour. Return pheasant to pot to reheat. Serve with spaghetti and Italian bread with garlic butter.

BROILED PHEASANT

Split young pheasant lengthwise, rub with olive oil and turn several times. Broil, preferably over charcoal, until brown and done. Olive oil, rather than butter, is recommended for open fire cooking. Cover liberally with favorite barbecue sauce.

BAKED PHEASANT

Cut up and soak the pheasant three or four hours. Add one tablespoon of salt and one teaspoon of soda for three or four birds. Drain birds, wipe dry, dust with salt and pepper and flour each piece. Brown in hot fat and place in Dutch oven or chicken fryer. Add a little water to pan gravy and pour it over the pheasant. Add one-half pint of cream and bake in oven for three hours at 300 degrees.

HUNTER'S

By VIC

With hunting seasons in full swing, wild game in the larder. Since more each year, this will be the first time so tion of wild game.

"But I've never fixed that kind of complain as she looks over a mess of brought home.

Actually there's nothing mysterious True, there are some pretty exotic rec game can be cooked as easily as chicke tasty. The following are some recipes were taken from various cookbooks and they're delicious and should delight the Give 'em a try and see!

RABBIT GRAVY

After frying rabbit, add a tablespoon of minced onions to the skillet and sauté two minutes. Stir in four table- spoons of flour, adding butter if needed. Add one cup of milk and one cup of beef or chicken broth and a tablespoon of chopped parsley and salt and pepper. Simmer until thick- ened. Serve on mashed potatoes with hot biscuits.

BARBECUED RABBIT

- 1 rabbit
- olive oil
- ¼ stick butter
- 2 buds garlic chopped
- 1 small onion chopped
- ¼ cup Worcestershire Sauce
- ½ cup catsup
- ¼ cup water
- 1 tsp. chili powder
- 1 tbsp. lemon juice
- ½ tsp. oregano
- dash of tabasco sauce

Split rabbit, rub generously with olive oil and broil over charcoal until nearly done, turning often. Meanwhile, sauté garlic and onions in butter two min- utes, and add other ingredients. Sim- mer ten minutes, strain, brush sauce on rabbit until used up. Serve with salad and baked or French fried pota- toes.

DELIGHT

McCLERAN

Many Kansas households will soon have and more hunters are taking to the field housewives are faced with the prepara-

...ff before," the young housewife might amp quail or pheasants her husband has

...r difficult about preparing wild game. es around, but for the most part, wild or beef. And the results can be just as or common Kansas game species, which magazines. Although simple to prepare, successful hunter.

FRIED RABBIT

Section rabbit and dust with salt and pepper. Flour the pieces and brown in grease or oil. Add four tablespoons of water and cover skillet. Turn rabbit several times and continue cooking at low heat until tender. Remove and serve with mashed potatoes, gravy and a vegetable.

RABBIT STEW WITH DUMPLINGS

- 1 rabbit
- flour to dredge
- 2 tbsp. flour
- ½ stick butter
- 4 medium onions chopped
- 1 stalk celery
- water to cover
- salt and pepper
- pinch of thyme
- 1 bay leaf
- 1 tbsp. chopped parsley
- dumplings

Section rabbit and dredge in flour. Sauté in butter and the two tablespoons of flour to brown. Add onions and stir two minutes. Add all other ingredients except dumplings. When the rabbit is nearly done, spoon in four or five dumplings so they rest on the rabbit and don't sink under the sauce. Cover and let simmer 15 minutes. Serve with vegetables or salad.

BAKED SQUIRREL

Section squirrel and flour. Brown in skillet. Place in covered baking dish. Cover with one cup of milk or cream, one-half cup chopped celery, one half cup of chopped onions, small can of mushrooms. Bake until tender.

FRIED SQUIRREL

Dress and section squirrel. Soak in salt water until free of blood. Roll in flour and fry in skillet with enough grease to bubble around each piece of meat. Over each section of squirrel, shake salt, pepper, meat tenderizer, and herb seasoning. Fry each side until tender and golden brown. After each side is browned, turn heat down and add a glass of water to skillet. Cover with a tight lid and steam until tender.

BRUNSWICK STEW

- 6 squirrels
- ½ stick butter
- ½ cup chopped onions
- ½ cup canned tomatoes
- 2 cups lima beans
- 2 cups corn
- 4 medium potatoes cut up
- 1 bay leaf
- ⅛ tsp. thyme
- hot red pepper to taste
- salt to taste
- water to cover
- 2 tbsp. parsley

Cut and section squirrels and sauté in butter until lightly browned, add onions and sauté two minutes, stirring. Add water to cover squirrels, simmer until nearly done. Add all other ingredients. Cover with water, stir often, simmer into thick mushy stem. Serve hot with cornbread.

SWISS STEAK VENISON

- 1½ pounds round steak
- 3 large onions
- 1 medium stalk celery
- 1 cup tomatoes
- 2 tbsp. Worcestershire Sauce
- Salt and pepper

Steak should be about 1½ inches thick. Dip in flour, season with salt and pepper. Brown in grease or oil. When meat is brown on both sides, add

other ingredients. Cover tightly and cook in medium oven (350) or over low flame on top of oven till tender (about 1¼ hours). Remove meat and make gravy from drippings in skillet. Serve with baked potatoes and green salad.

VENISON ROAST

Wash meat several times in water, vinegar and salt solution. Spike meat with tiny sections of garlic. Sear roast in small amount of bacon grease over open flame. Remove from heat and add 2 cups of water. Cover meat and cook slowly in oven at 300 degrees for about three hours. Mushroom gravy may be made with meat stock.

VENISON POT ROAST

Sear roast in heavy iron skillet as you would a beef or pork roast. Add water to allow for steaming, salt, pepper and onion or garlic. Cover tightly and steam until tender. Carrots and potatoes may be added about 30 minutes before roast is done.

CHARCOALED VENISON CHOPS

Wash and dry four venison chops, roll in seasoned flour and brown in grease until brown and tender. Set aside and mix barbecue sauce, ½ cup catsup, ¼ cup vinegar, ½ tsp. garlic salt, 1 tsp. liquid smoke, 1 tbsp. Worcestershire sauce and a dash of tabasco. Mix well and pour over chops. Place chops over charcoal until well-heated and tender.

VENISON STEW

Section meat in bite-sized chunks. Chop three onions, chili peppers, celery, parsley and oregano into iron pot. Heat olive oil and braise vegetables for three minutes. Add meat. Add half cup vinegar to tenderize meat. Let fry with lid on, stirring frequently. Meat will produce its own juices. Cook until it begins to turn white then add oregano. Add two cans tomatoes, four or five potatoes cut up into squares. Add same amount of carrots. Let this cook for 1½ hours. Thicken with a little flour.

Waterfowl Bonanza

By LEROY E. LYON

Photos by Ken Stiebben

Quietly and almost without fanfare, Kansas is emerging as a top-notch waterfowl hunting state.

If you have any doubts about this transition, take a look around this fall and spring when waterfowl are migrating through the state. Then you will probably agree that waterfowl management areas and reservoir game management areas operated by the Kansas Forestry, Fish and Game Commission are playing major roles in attracting and holding large numbers of ducks and geese during fall and winter months.

But, while you're visiting various areas, don't overlook three National Wildlife Refuges managed by the U. S. Fish and Wildlife Service—Quivira in Stafford County, Kirwin in Phillips County, and Flint Hills, located on the upper reaches of John Redmond Reservoir in Coffey County. These areas add icing to the cake.

To hear grandfather tell about the "clouds of ducks and geese" which swarmed from marshes, potholes and rivers as settlers moved into the state, it may seem at first glance that Kansas has always hosted large numbers of wintering waterfowl.

Such is not the case although to a certain degree, Kansas has always been visited by migrants which winged south in fall and then returned north to breeding grounds in spring.

As the state was settled, little thought was given to the plight of ducks and geese which depended on swamps, marshes and potholes for survival. With potholes drained and streams filling with silt covering natural waterfowl foods, waterfowl became more concentrated in the few remaining water areas with suitable habitat. But here they were increasingly subjected to market hunters who had few laws and regulations to restrict them.

Thus, after a period of time when wintering waterfowl numbers continually declined, it appears significant

that at long last efforts of many sportsmen, both past and present, are beginning to pay dividends. Almost without our being aware of it, large flocks of wintering ducks and geese are once again a common sight in the Sunflower State.

For migrating waterfowl to make their winter homes in Kansas, three major requirements must be met—protection, a good food supply and plenty of water.

Where the requirement of water was once a severe limiting factor in our state, construction of waterfowl management areas, reservoirs, farm ponds and city, county and state lakes have provided this basic need.

Sportsmen of Kansas early recognized these needs and began urging the Kansas Forestry, Fish & Game Commission to acquire and develop some waterfowl management areas where public hunting could be provided. At the present time the Commission owns four such areas which, through the years, have been developed specifically for waterfowl. These projects comprise 32,190 acres of land and water, of which 20,106 acres are open to free public hunting. Of the four, Cheyenne Bottoms is the largest—and an important area in the Central Flyway.

JAMESTOWN

Of the four waterfowl management areas, Jamestown is the oldest and represents the first attempt by the Commission to establish a hunting area for migratory waterfowl. In 1931 the Commission purchased 1,064 acres of salt marshland near Jamestown in Republic County at a cost of \$19,621. Originally purchased for use as a state park, the Commission judged the area to be unsuitable for that purpose. In response to numerous sportsmen requests, the Commission authorized conversion of the marsh into a public shooting ground. A small dam was erected in 1932 to impound 765 acres of shallow water. For years the area was known as the Republic County

Shooting Grounds or Republic County State Lake.

Now, some 40 years later, the area is known as the Jamestown Waterfowl Management Area and features two shallow man-made lakes. The original 765-acre lake is now known as North Lake while the other 500-acre pool, Sportsman's Lake, was purchased by the Commission in 1961. A 483-acre tract of land adjacent to the west edge of the area was purchased in 1966. Altogether the area now consists of 2,728 acres of which 1,265 acres are covered with water when both lakes are full.

Sportsman's Lake and about 381 acres of adjacent land are presently maintained as a refuge and a loafing area giving waterfowl another basic need—protection.

Waterfowl sanctuaries, or refuges, are absolute necessities to stop and hold migratory birds during hunting seasons. Without a refuge, waterfowl would be subjected to hunting pressure when they arrive on the area. They would then soon leave and would not be available to the hunter throughout the rest of the season. For this reason, refuges are important in the management plan.

No hunting of any type is permitted on the refuge but the rest of the area is open to hunting of all game in season. During the waterfowl hunting season, ducks use the refuge for loafing and resting but make flights into surrounding feeding and hunting areas.

Mallards sometimes winter on the area in numbers up to 30,000 but retreat to nearby Lovewell Reservoir during periods of heavy ice cover.

CHEYENNE BOTTOMS

One of the most ambitious plans ever devised in the United States for development of a waterfowl management area was construction of Cheyenne Bottoms as it is known today—a project which has paid handsome dividends for Kansas waterfowlers.

Prior to acquisition and development by the Commission, this area northeast of Great Bend was a natural basin, or "sink-hole" about six miles wide and ten miles long.

Prior to settlement, this natural marsh of some 12,290 acres provided top waterfowl hunting during wet years. According to legend, Cheyenne Bottoms was so named because the Pawnee and Cheyenne Indians allegedly once fought a long battle for control of the excellent waterfowl hunting grounds. The Cheyennes supposedly won the battle giving the area its name.

While it has no outlet, its tributary drainage of 170 acres was too small to maintain a body of water in the basin. In one 50-year period before development, the basin was only covered with water on two occasions as a result of torrential rains in the drainage area. At other times, usually in fall and winter months, only a portion of the basin was covered forming a natural marsh. However, in periods of drought the Bottoms was totally dry and agricultural interests took over the area. It was the dry years of the 1930's which prompted the Commission to

purchase the Republic County Shooting Grounds since Cheyenne Bottoms was completely dry and afforded no waterfowl hunting.

In the early 1890's two brothers by the name of Koen made extensive surveys of the Bottoms during a dry period and determined it would be feasible to construct a ditch from the Arkansas River west of Great Bend to the basin for the purpose of irrigation. The ditch was completed in 1897 and for 100 days water was diverted into the basin. Local farmers, however, were not enthusiastic about the project so the ditch was abandoned.

While the project failed it was successful in one respect. It proved water could be channeled into the Bottoms without the use of pumps.

During "dust bowl" days, sportsmen began urging the Commission to purchase the basin and develop it for waterfowl hunting. In 1942 the Commission began purchasing land in the basin for the purpose of establishing a waterfowl refuge and public shooting area. By 1948 a total of 19,778 acres had been purchased at a cost of \$709,049.

Using one of the state's several waterfowl areas, this hunter swings on a trio of teal during September's special teal season. Although lack of water was once a limiting factor on waterfowl in Kansas, construction of waterfowl management areas by the Fish and Game Commission have remedied this problem.



Since its acquisition by the Commission, the Bottoms has undergone an extensive development program which has cost more than \$3 million.

Inlet canals from Wet Walnut Creek and the Arkansas River were dug and diversion dams built to provide a dependable supply of water. An outlet canal was also constructed to take care of surplus water and to provide manipulation of water levels.

In the early 1950's, dikes were constructed in the Bottoms to hold water in five separate pools. The reason for building five separate pools was to provide more efficient control of water levels—necessary to properly manage the Bottoms for waterfowl.

As is done with other waterfowl areas, management includes seasonal draining and flooding of pools to control undesirable vegetation, promote production of desirable food and cover plants, permit seeding of Japanese millet and farm crops, and permit maintenance of dikes, dams, blinds, canals and water control structures.

At the Bottoms, management techniques are based on summer drainage of some pools, summer aerial seeding of vegetation, and reflooding of the pools in fall. All pools are maintained at full elevation, 18 inches of water, until spring migration has passed.

A rotation of draining pools has been established so each unit is drained and aerial seeded to Japanese millet every third year. Ideally water is removed from certain pools in late May then diverted back into the pools in late August or early September. This year pools two, four and five were drained and reseeded. Water and food conditions were excellent this year at the start of the waterfowl hunting seasons.

Pools one and five have been set aside for loafing or refuge areas for migratory waterfowl. No hunting is permitted during the regular duck and goose seasons north of the shooting line in pool five or in any of pool one. However, pool five was opened for hunting during the last two special teal seasons due to low water conditions in the hunting pools.

Pools two, three and four are open to hunting of all game in season. A shooting line has also been established along the south border of pool five and hunting is permitted south of this line. This firing line is a favored goose hunting area. In addition to the basin area, there are about 25 miles of inlet and outlet canal which may be hunted where not posted as refuge.

In pools, two, three and four, 167 two-man concrete blinds have been constructed. These blinds are available on a first-come, first-served basis and there is no charge for use of a blind. However, all hunters are required to first obtain a permit at the headquarters office on the west side of the area. Hunters using permanent blinds should arrive at least one hour before shooting time.

In addition to hunting from blinds, shooting is permitted in the hunting pools from 300 yards outside the last row of blinds to the boundary of the pools. Hunters not using permanent blinds may not walk through blind areas to reach other hunting spots.

Hunters using non-blind areas are not required to check in at headquarters.

During migration periods in spring and early fall, all species of waterfowl known to Kansas can be found at the Bottoms. As many as 600,000 ducks and 40,000 geese, mostly Canadas or whitefronts, have been censused at one time.

Mallards normally winter in numbers up to 50,000 but may leave the area for short periods when extreme temperatures freeze the water areas. Despite ice conditions, as many as 5,000 large Canadas remain on the area. A terminal wintering population of giant Canada geese is developing with about 4,100 being observed last December.

The Bottoms is not only home to migrants during migration and winter months but also provides nesting areas for at least 13 species of ducks. Local production, principally blue-winged teal, varies considerably depending on water conditions. According to data compiled by Commission personnel, 1,200 ducklings were hatched on the area in 1966. In 1969, 12,500 ducklings were produced.

MARAIS DES CYGNES

While construction was still continuing at Cheyenne Bottoms, the Commission began planning construction of a marshland waterfowl refuge along the Marais des Cygnes River in Linn County. For centuries the river had been an attraction for waterfowl of every description. Early French trappers found the valley teeming with waterfowl and apparently named the river, "Marais des Cygnes," meaning, Marsh of the Swans.

Construction of the 6,646 acre waterfowl area began early in 1955 and waterfowl hunting was first permitted in 1958 — the same year Cheyenne Bottoms was dedicated. Unit A (Burr Oak Lake) and Unit B (Wood Duck Lake) were completed in 1955 while a third lake, Unit C (Flathead Lake), which serves as a refuge, was completed in 1958. No hunting is permitted on Flathead Lake or adjacent land which is located within the refuge.

In 1968, an additional water area was impounded to form Unit E. Hunting is permitted in this new unit as well as in Units A and B.

Waterfowl hunters are required to stop at the headquarters check station, leave their hunting licenses and pick up permits to hunt the waterfowl area. After the hunt, hunters must again report to the check station to pick up their licenses and show bagged waterfowl. Such a procedure allows Commission personnel to keep a complete record of harvest and hunting opportunity.

Numbers of ducks using the area are most impressive during spring and fall, sometimes reaching 150,000 birds. Mallards now winter in numbers up to 120,000. Wood ducks use the man-made marsh as a staging area in the fall and as a result many "woody's" are taken by hunters.

Wood ducks nest on the area in natural cavities and in nest boxes erected for their use. Local production is almost entirely limited to wood ducks.

There are no significant concentrations of geese apparently due to lack of sufficient "open" space and insufficient protection from harassment.

As with the other waterfowl management areas, the marsh is attractive to other forms of wildlife. About 200 species of birds have been recorded on the area. Deer are found throughout the area and timbered areas host abundant populations of both gray and fox squirrels. Cottontail rabbits and quail provide considerable hunting, particularly on south and east portions.

NEOSHO

Alert to the need for a second waterfowl area in southeast Kansas, the Commission in 1959 selected for development a 3,000 acre tract of land near St. Paul in Neosho County. As a result, 2,976 acres of land were purchased at a cost of \$575,446 and construction of three waterfowl pools was started in 1960. By 1961 three of the present four pools were completed and waterfowl hunting became a reality on the area in 1962.

Located on the broad, flat, flood plain below the junction of Flat Rock Creek with the Neosho River, pumps provide water from the creek for flooding of all four pools. Prior to the hunting seasons, pools one, two and four are covered with one or two feet of water. Crops standing in the water make for excellent hunting. Water is drained from pools one, two and four in late winter while pool three, the refuge, remains flooded throughout the entire year. Hunting is permitted in pools one, two and four.

Waterfowl hunters who use the Neosho area are no longer required to check in and out of the area such as is required at the Marais des Cygnes. Hunters can expect to be contacted periodically by area personnel to determine hunter success and biological characteristics of the waterfowl harvest.

As with the other management areas, many species of waterfowl use the 2,976-acre area during migration periods. Mallards winter in numbers up to 130,000.

Waterfowl hunters are not the only ones receiving benefits from the areas. Other game may also be hunted in season on the public hunting portions and fishermen are allowed to fish in certain pools from mid-March until

near the beginning of the waterfowl season and at all times on Cheyenne Bottoms.

While the areas are managed specifically for waterfowl, nongame species benefit as well. Outdoor enthusiasts other than hunters and fishermen often visit the areas to photograph and observe the many wild creatures. Ornithologists find the areas ideal for bird watching and educators often arrange field trips for high school and college groups so students can conduct some first-hand ecological studies of a marsh. Others just visit the areas to observe waterfowl and show birds in a natural environment.

RESERVOIRS

But construction and development of the four waterfowl management areas are only part of the total effort expended by the Commission to provide more public hunting opportunities for Kansas waterfowlers.

In addition, construction of federal reservoirs and implementation of waterfowl management plans on reservoir lands have also been instrumental in increasing numbers of wintering ducks and geese.

Since 1962, 96,000 acres of land and water have been licensed to the Commission on federal reservoirs giving the state agency a total of 138,200 acres under license for game management and public hunting purposes.

Most reservoirs are constructed for flood control which means some lands licensed to the Commission are subject to periodic flooding. The most practical use of these lands is management for ducks and geese since reservoirs do attract and concentrate large numbers of waterfowl. When additional management techniques are added, the areas become even more attractive for migrants.

Since water alone does not attract and hold large numbers of waterfowl for long periods of time, the Commission has attempted to provide the other necessary requirements—marsh areas, refuges and large feed fields.

While the Kansas Forestry, Fish and Game Commission has played a vital role in increasing waterfowl hunting opportunities for Kansas hunters, it is

really the hunters who deserve credit since the Commission's only source of revenue is derived from the sale of hunting and fishing licenses and from certain federal excise taxes which are also paid by sportsmen.

Without question the most important factor in the development of waterfowl hunting areas in Kansas must be attributed to the Federal Aid in Wildlife Restoration Act, commonly known as the Pittman-Robertson Act, which was passed by Congress in 1937.

The intent of Congress in passing the act was to provide additional funds to various state wildlife conservation agencies to finance programs designed to restore game populations depleted by widespread habitat destruction during previous periods of rural settlement.

Such funds were made available through imposition of an 11 percent excise tax on sporting arms and ammunition. P-R tax monies are collected and placed in a special fund adminis-

tered by the United States Bureau of Sport Fisheries and Wildlife. The monies are redistributed to states on the basis of geographical size and the total number of persons who purchase hunting licenses. On every project approved by the Bureau, P-R funds will cover up to 75 percent of the cost.

Thus for every dollar the state has spent on waterfowl development since 1939, the Bureau has reimbursed 75 cents. Large sums of P-R monies were used in the construction and development of the Cheyenne Bottoms, Marais des Cygnes, and Neosho areas.

Since 1939 more than \$7 million has been made available to Kansas—a prime source of the revenue needed to finance most of the costs in the waterfowl restoration program.

For hunters and those who just simply enjoy the opportunity to see and hear waterfowl rising from a marsh, the effort expended through the years has certainly been worth it all.

For everyone it's been a dream come true.

Holding aloft his first teal of the year, this hunter can look forward to continued good duck shooting in Kansas. Almost without our being aware of it, large flocks of wintering ducks and geese are once again a common sight in the Sunflower State.



Black Powder Appeal

By VIC McLERAN

"What would anyone want with a muzzle loader?"

Considering all the sophisticated weapons available to the modern hunter, it's a valid question. In fact, the recent growth of popularity in primitive weapons prompted the Kansas Forestry, Fish and Game Commission to authorize use of muzzle loaders for the 1971 deer season. In view of this, we decided to ask some questions of our own about black powder enthusiasts, their weapons, their organization and its activities.

Bernard Kendall and Don King, both of Wichita, supplied most of the answers. Kendall is secretary of the Chisholm Trail Antique Gun Association (CTAGA) and King, also a member, builds muzzle loaders for a living.

The CTAGA is a Wichita organization of antique gun buffs. Formed in 1957, the club has 120 members although only about 20 are classified as muzzle loading "purists," said Kendall. The CTAGA is the only active organization of its kind in the state and is affiliated with the National Muzzle Loading Rifle Association. This national organization has more than 13,000 members including 50 from Kansas.

Kendall said muzzle loading can be approached from two points of view—either as a hobby or as a sport.

"As a hobby, muzzle loading weapons are used mainly for target shooting," he said. "When the activity is regarded as a sport, the black powder weapons are used mainly for hunting."

Nostalgia has recently become an "in" thing. This fondness for things out of the past is exemplified by the large number of people now collecting relics of the past such as antique cars and furniture, old bottles, books and guns. Apparently, this nostalgia thing plays a large part in the appeal of muzzle loading weapons.

"For me, and I think for a lot of other fellows, involvement with a muzzle loading weapon seems to provide a link with the past, a kind of kinship with the simple way of life and the

men who lived that life years ago," King explained. "Then too, there's the challenge of placing yourself in the hunt with a one-shot weapon which, when compared to today's weapons, is rather primitive."

"I agree with Don," said Kendall. "It's kind of an attempt to relive or recapture part of the colorful past."

This attempt to relive portions of the past are obvious at some of the club's get-togethers. The scene often resembles something out of the 18th century with black powder buffs crouched around small campfires, dressed in coonskin caps, buckskin clothing and moccasins. Powder horns, Bowie knives and tomahawks all lend an air of authenticity to the gathering.

This involvement with the past is reflected in the club's campouts or shooting matches. "During our outings, we try to duplicate as nearly as possible the conditions which existed when our forefathers hunted and camped years ago," Kendall explained.

"On our camping trips for instance,

we take only the barest necessities, like an iron skillet, some salt, black powder and a blanket, eating what we shoot. We also light all our fires with flint and steel. In fact, we even have contests to see who can get a fire going the quickest using only flint and steel."

At their "shoots," black powder enthusiasts compete not only with their flintlock rifles, but with other weapons which were utilized years ago. "Knife and tomahawk throwing contests are real popular with our group," Kendall said. "Members wrap a string around a log and pace off several feet then stand back and see who can split the string with either a knife or tomahawk.

"In our shooting contests, we'll set up a playing card edgewise and see who can split it or we'll see who can drive a nail in a tree using a muzzle loader.

"The main thing is to try and perfect our skills with weapons which our ancestors used years ago in the daily fight for survival," Kendall added.

Bernard Kendall, secretary of the Chisholm Trail Antique Gun Association, a Wichita organization of gun buffs, loads his muzzle loader. The CTAGA, with 120 members, is the only active organization of its kind in the state and is affiliated with the National Muzzle Loading Rifle Association. (Photos by Farrell Brewer.)



Even the club's turkey shoots are a throwback to earlier times. "We've actually used live turkeys in some of our shoots," Kendall said. "In this competition, a turkey is tied behind a large log. The riflemen are placed about 50 yards out and as the turkey pokes his head over the log, they're provided with an opportunity to shoot."

This "purist" attitude of copying as close as possible our forefathers' habits, was probably exemplified best by King during last winter's blizzard. During the storm, King donned his buckskins, grabbed a muzzle loader and took to the woods. The moist snow quickly soaked through his buckskin moccasins, chilling his feet. When asked why he didn't wear rubber boots, King replied, "It didn't even occur to me. Our ancestors didn't have access to rubber boots and for me to have worn them would have been almost like cheating."

Another appeal seems to lie in the challenge of hunting with a one shot weapon.

"You've only got one shot and you have to make it good," King said. "You seldom get a second chance with the muzzle loader."

Strangely enough, the disadvantages to hunting with a flintlock are inherent in this "one-shot" appeal.

"Besides having only one shot, muzzle loaders don't have the range of most modern weapons," King continued. "For this reason, we have to work in much closer to game than the hunter who shoots a modern weapon. But then, that's part of the challenge. It really gives you an idea of just how good a woodsman you are."

Due to this necessity of getting as close as possible to game, King feels muzzle loading hunters are seldom responsible for wounded or crippled game.

Using muzzle loading weapons, CTAGA members have taken game ranging from rabbits and squirrels up to deer and elk. "There's one muzzle loader enthusiast in California who's traveled to Africa and taken elephants and rhino with his black powder weapons. Quite an accomplishment for the so called 'primitive' weapons," King said.

Fish and Game

Members of the CTAGA, through weapon demonstrations and discussions, were instrumental in persuading the Commission to legalize use of muzzle loading weapons for taking deer during the 1971 season. Weapons must be at least .40 caliber or larger. Experts say a .40 caliber ball, like the one used in primitive black powder guns, has an impact comparable to that of a 20 gauge shotgun slug.

Kendall said a number of members do all their upland game bird and duck hunting using only muzzle loading weapons. "You can imagine the thrill of taking game with a weapon which you've constructed with your own hands," Kendall said.

King, who has built more than 100 flintlock rifles in the past few years, said interested persons can get into the black powder game one of two ways. "Interested persons can either purchase a kit and assemble the weapon themselves or they can buy a completed flintlock." Kendall said kits start for less than \$100 while completed weapons sell for a minimum of \$300.

Although the initial expense of purchasing a muzzle loader can be costly, the weapons are fairly inexpensive to shoot. King said it costs about one and one-half cents per round to fire the black powder jobs.

When loading the weapon, a pre-measured amount of black powder is poured into the barrel. A lead ball or "bullet" is placed on an oiled patch and both are positioned with a ram rod. King explained that the oiled patch acts as a lubricant while the lead ball is traveling the length of the bore. The gun's hammer contains a

piece of flint which strikes steel, creating a spark when the hammer is tripped. This spark ignites powder in the flash pan. This flame in turn ignites the powder in the barrel and the weapon discharges.

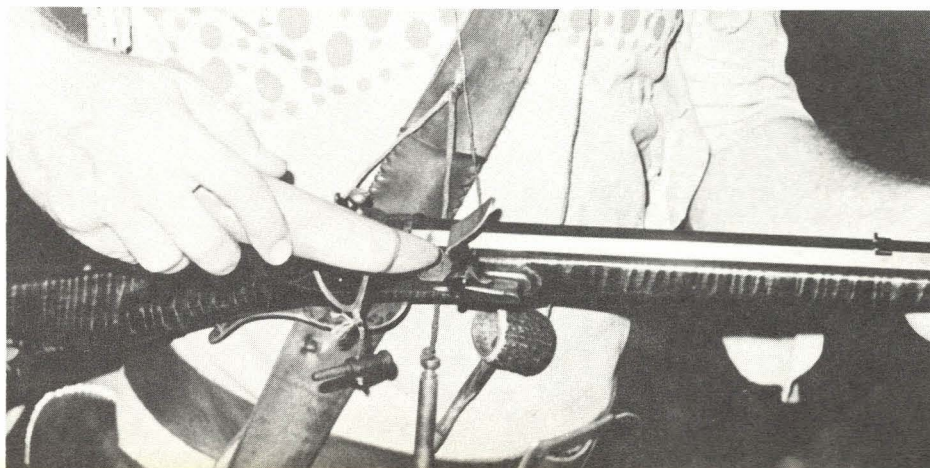
Black powder enthusiasts make a distinction between flintlock rifles and percussion weapons. Flintlock guns utilize flint and steel to ignite the powder charge while percussion or "cap and ball" weapons used a percussion cap to ignite the charge. Percussion weapons evolved after the true flintlocks and are not as primitive.

Nostalgia for the past and the excitement of a challenge—both factors seem to be part of the appeal which black powder holds for its followers. Building and shooting a flintlock rifle enables the black powder buff to relive part of this country's colorful past. The challenge of hunting with a flintlock rifle presents almost the same kind of situation our forefathers faced daily. Through this challenge, muzzle loading enthusiasts acquire a feeling of kinship with men like Daniel Boone and Jim Bridger—men who helped carve this country out of a vast wilderness.

Larry Koller, writing in his "History of American Guns," summed up this kinship with the past pretty well when he wrote, "Any man who raises a gun to his shoulder, sights down the barrel, and squeezes the trigger inherits—and perpetuates—something from the vivid past."

Romantic? Yes. Practical in terms of filling your game bag easily? Not really. But for today's handful of black powder enthusiasts, muzzle loaders are the only way to go.

Muzzle loading weapons obtained their name simply because they're loaded through the muzzle. After pouring a pre-measured amount of powder in the barrel, a lead ball is positioned in the barrel with a ram rod. The gun's hammer contains a piece of flint which strikes steel, creating a spark when the hammer is tripped. This ignites the powder which discharges the weapon.





Glimpses of Kansas Wildlife

Ring-Necked Pheasant

Photo by Thayne Smith

Phasianus colchicus. That's what a scientist calls him.

To hunters who seek him each autumn, the scientific name, regardless of how it's pronounced, simply can't begin to do him justice. To them he is just a wily pheasant which deploys every trick in the book to make fools of grown men.

Regardless of what he is called, the ring-necked pheasant is a leading game bird in Kansas and the provider of many thousands of hours of hunting pleasure. While he's a gorgeous creature, he is also a rugged bird and most elusive when pheasant season arrives. If he wants to disappear, he can hide under a clump of grass. But if the situation calls for more drastic action, old *Phasianus* can take a choice of scooting along on foot or flying out of sight.

The ring-necked pheasant is an exotic game bird—a native of Asia. The chicken-sized bird was introduced in the United States in 1880 and then found a home on the Kansas prairie in 1905-1906 when the Kansas Forestry, Fish and Game Commission stocked 1,500 pairs in 84 counties.

Today, these colorful game birds are distributed over all but the south-east portion of the state. The principal pheasant range is west of a line from Phillipsburg to Coldwater.

Pheasants live along "edges"—those areas where two or more cover types come together. They normally will be found near the edge of a field, draw, lagoon, fencerow, shelterbelt or other type of cover where they feed or hide.

Grain, weed seeds, wild fruits and berries make up the bulk of a pheasant's diet. Also included in the bird's fare are some insects and vegetative materials.

When it comes to beauty, no other game bird in Kansas can match the ringneck. A typical cock pheasant has a blue-green head with tufted "ears" and a patch of bare, reddish skin around the eyes. He also wears a white collar which gives him the ring-neck name. The rest of the cock's plumage is a varied pattern of iridescent colors—blue, green, red, burnished copper, yellow and white. He has a long, magnificent tail which is cross-barred with black and brown markings.

By contrast, the hen's plumage is a drab, mottled blend of brown, light

buff and black—a perfect camouflage that renders her practically invisible when sitting on the nest. She also has a long, pointed tail, though not so long as the male's.

The ringneck cock is a well armed warrior. He has spurs, or spikes, on the back of his legs just above the feet which are used during spring courtship battles. These rough projections grow slowly and by a rooster's first autumn are short, blunt, lusterless and rough. But, by the second fall, spurs are hard, dark, glossy and pointed. Early in the hunting season these characteristics can be used to distinguish between young-of-the-year and adults.

During winter months, pheasants flock together. Cocks and hens may be in the same flock but it is not uncommon for a winter flock to be either all cocks or all hens. In late February or early March, groups start breaking up and cocks begin establishing courting territories.

Individual boundaries or crowing territories are not exact or permanent but each cock regards a particular area as his private domain and defends it from trespass by other males. If another rooster enters the territory, a battle begins. Hens are free to come and go as they choose and are courted by males as they enter territories.

Crowing is the territorial call of the male. Hens are attracted to a rooster's territory by his raucous cuh-aw-w-w-cak call. The call is followed by six to eight wing claps which can be heard a short distance away. When a cock courts the hen he struts around her several times taking short, rapid steps. The wing nearest the hen is held in a drooping position and tail feathers may be partially spread as he displays his brilliant plumage in an obvious attempt to impress his lady love.

Courtship continues for several weeks during which the cock gathers a harem of three to seven or more hens. Even when numbers of each sex are nearly equal, there are usually several hens to a cock while some males remain single. Therefore, it is practical to harvest more cocks than hens during the hunting season without upsetting production success.

Actual mating usually does not begin until a month or more of courtship. In Kansas, the cock and hen usually mate in late April or early May.

By early May, the hen begins laying a clutch of brownish-olive colored eggs. There are usually 11 or 12 eggs per clutch, sometimes there may be as many as 20. Incubation does not begin until all eggs are laid.

Pheasant nests are built on the ground in shallow depressions and may be found in wheatfields, hayfields, pastures, roadside rights-of-way and fencerows.

After an incubation period of 23 or 24 days, all eggs in the nest hatch within a 24-hour period. Chicks develop rapidly and when two weeks old are able to fly short distances. They are fully grown when 18 weeks of age. Plumage also develops rapidly and by the time hunting season arrives in November, most young roosters appear in adult plumage.

The beautiful boss of the Kansas prairie "lives fast, loves hard, and dies young." The average life span of a pheasant is less than one year although some live longer. Studies show there is an annual population turnover—replacement of old birds by young ones—of 50 percent or more. This annual loss is fairly constant whether there is hunting or not. Thus hunting provides an opportunity to wisely convert some natural mortality into human use and recreation.

Current hunting regulations permit harvesting of cock birds only. Since there is no open season on hens, hunters must make positive identification before shooting.

As with other forms of wildlife, what is done to the land and its plant cover determines whether pheasant populations flourish or decline. Providing adequate cover and food (habitat) throughout the entire year is the key to pheasant abundance.

It makes little difference what title you tag on *Phasianus colchicus*, the wily pheasant from Asia. He has earned a place of honor among the native fauna of Kansas and has received the respect and admiration of sportsmen and farmers alike.

Phasianus colchicus. However you pronounce it, you can almost hear the raucous cackle of the ringneck as he bursts from cover and see the gaudy plumage as he towers straight up on the rise.

Phasianus colchicus—perhaps the name isn't so bad after all.



Thoughts...

by BOB WOOD



We are in a time of protest and hunters are not without those who protest against them. A growing legion of anti-hunters, using spurious ecological and moral arguments, appear determined to forbid all from the sport of hunting.

Our recent thoughts were centered on considering sport hunting from an ecological point of view and found nought to condemn it. However, man's activities are tempered by personal beliefs and ethics. As a result, most current arguments against hunting stem from individual moral objections to killing certain living things.

Man, in so-called modern civilizations, no longer must hunt to obtain food. The moralist view, therefore, would appear to have a sound basis for argument against sport hunting. But, no matter how sound moral objections to hunting may appear, they are usually based on one or more of several invalid premises. To counter a ban on hunting, we must study those premises in the light of fact.

Consider, if you will, that all wild animal populations evolved free from all influence of man and their sole purpose for being is peaceful coexistence. Hunting to kill, therefore, is unnatural, thus immoral.

This premise is completely foreign to biological truth. Human populations evolved with, had influence on and were influenced by other animal populations. Contention that sport hunting upsets the delicate "balance of nature" has no basis in fact. Man

has always been a hunter. Nearly all animal populations have always been hunted, either by man or other animals. Hunting of some organisms by other organisms is an important function within our ecosystem. Death must play a part in the existence of any viable population. Losses of individuals are vital to survival of populations by removing surpluses, thus aiding in preventing overuse of food, cover and living space.

For the most part, the level of wildlife mortality is geared to existing habitat conditions. There is no argument that by virtue of his advanced technology, man has eliminated or endangered many wildlife species through destruction of their habitats. Sport hunting, however, has never been a tool for wildlife elimination nor habitat destruction.

A second premise used as basis for moral argument against sport hunting is that wild animals have the same psychological and emotional development as humans. Nearly every wildlife manager has felt the anthropomorphic sting of the "Bambi Myth" at some time in his career.

In no sense can human psyche and emotion be attributed to wild animals. True, in some situations, some animals tend to exhibit behavior that may approach emotion, but in no way is the reasoning and retentive power of the human brain duplicated. Life and death are a natural part of the everyday existence of all wild animals. Through development of our ecosystem, a functioning predator-prey relationship among wild animals has evolved. Prey species have no pro-

longed sense of loss when a member of their population dies, whether by man's hand or another predator.

Another premise, tied closely with the first, assumes man, through adoption of certain moral or ethical attitudes, can set himself outside the world ecosystem.

Such would be an impossibility. Man is as much a part of nature as a quail or coyote and his predation on game through sport hunting is as natural as a bobcat or hawk hunting for food. Modern sport hunting is regulated so its influence is lost among the multitude of natural controls annually governing game population levels.

In conclusion, our thoughts are not intended to justify the "rightness" of hunting to all people. Our attempt is to put modern sport hunting into proper perspective as an individual thing. In true definition, sport hunting *per se*, is neither right nor wrong morally. Such hunting must be considered as merely one form of natural predation. Natural predation within our world ecosystem is a necessary function and can have no moral connotation of right or wrong.

Should someone decide to stop hunting in favor of merely seeing a deer and is thereby fulfilled, so be it. By the same token, should a novice take up a sporting arm and obtain similar fulfillment from a successful hunt, he is not a destroyer of all things living and beautiful. His urge to hunt is a natural instinct having a proper place in overall human behavior and bears no influence on survival of game as species.

Reader's Response



Rates above OUTDOOR LIFE and FIELD & STREAM—Please add my name to the mailing list to receive **KANSAS FISH & GAME**. I recently saw a copy which I promptly borrowed. It has plenty of information in it. In fact, I rate it above **OUTDOOR LIFE** and **FIELD & STREAM** as it is about Kansas and what's happening here.—**Edwin J. Maycroft, fire chief, Atchison.**

A Close Observer—“I have been a close observer of the Kansas Forestry, Fish and Game Commission for more than 20 years. The increase in the staff of the Information-Education Division is a real accomplishment and will fill a great need. I think the addition of color to your magazine and an increase in the number of issues per year will also be a great help to Kansas people in providing information about wildlife and ecology. I'm writing to extend congratulations to you for this fine effort and for the hope that you can continue your plans for the future.”—**F. Robert Henderson, extension specialist, Kansas State University.**

Glad We Spoke Up—“I'd like to say two things about your magazine. First, I think it is the best in the country. Secondly, I would like to pat Bob Wood on the back for his **THOUGHTS** column in the July-August issue of **KANSAS FISH & GAME**. I'm glad somebody finally spoke up about all the mini-bikes and other off-the-road vehicles. They are not only fouling up the ecology, but also tearing up the beautiful terrain. I'm only 15 years old but I do have an opinion, obviously not in favor of off-the-road vehicles. Way to go Bob, keep 'em coming!”—**Mitch Fanestil, Prairie Village.**

Excellent Coverage—“I wish to thank you for the excellent coverage given to David Chamberlain's young hunter safety clinic in your July-August issue of **KANSAS FISH & GAME**. Vic McLeran did an outstanding job and we are most grateful.”—**Charles Dickey, Director National Shooting Sports Foundation, Riverside, Connecticut.**

Transplanted Kansan—“As a native Kansan who many years ago moved south to Oklahoma, I am extremely grateful to still be on the mailing list of your publication. Your July-August issue was excellent. I especially enjoyed your stories on mourning doves.”—**Joseph W. Morris, vice president and general counsel, Amerada Hess Corporation, Tulsa, Oklahoma.**

Interesting and Helpful—“In the May-June issue of **KANSAS FISH & GAME** magazine, I particularly enjoyed the article about black widow and brown recluse spiders. I thought it interesting and to quite a few people, helpful, I'm sure.”—**Calvin Ringer, Wichita.**

Read Nearly Every Article—“My brother told me about your magazine. I brought a couple of his issues home and my son (who's an avid outdoorsman and would have us sell our home and move to the country in a tent,) read nearly every article. Please put us on your subscription list.”—**Gary Deeter, Topeka.**

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

—Editor.

Played An Important Role—“The tree distribution program of the Kansas State University Division of Extension Forestry had a record-breaking year in 1971. Your magazine, which ran an article in the winter 1970 issue on our program, played a large role in helping with this important environmental program in Kansas. Many thanks for your cooperation in the tree distribution program.”—**Thayne Cozart, assistant extension editor, Kansas State University.**

Non-Resident Subscriber—“I would like to subscribe to **KANSAS FISH & GAME** as I have purchased a non-resident license every year since 1967. My 1971 non-resident fishing license number is 277778 and my hunting license is numbered 280435.”—**Richard Hill, Appleton City, Mo.**

*When requesting a subscription for **KANSAS FISH & GAME**, out-of-staters must include the number of their non-resident licenses.* — **The Editors.**

Liked Back Cover—“Would you please advise how I may obtain an original of the excellent back cover photo taken by Vic McLeran for the September-October issue of **KANSAS FISH & GAME**?”—**D. V. Thomas, Mission.**

Sorry, but our present policy prohibits the sale of photos which are used in the magazine since they are considered property of the Commission.—**The Editors.**

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