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## Editorial

The American penchant for setting aside wild country is one of the world's strangest phenomena. It springs from tremendous wealth, both in terms of personal assets and land, but our wealth alone is only one factor in our land preservation urge, and probably not the primary one. Members of the Washburn expedition that first surveyed the Yellowstone region considered taking title to the land themselves to turn a profit on the tourist potential of the place. Strangely enough, they decided to press for a national reservation instead. That decision set the precedent for the establishment of a spectrum of public lands whose main purpose was conservation.

Of all the federal land classifications, perhaps the most surprising is the national wildlife refuge system. Parks, monuments, and national forest lands usually have some natural oddity or scenic value that makes them obvious candidates for public ownership, and they have the advantage of offering few profitable uses. Some land, like many of the BLM holdings in the Great Basin, is in federal ownership because no private interest could find a use for them.

National wildlife refuges seldom have either of these advantages. Their most spectacular features are the

wildlife that inhabit them. In some cases, this wildlife may be breathtaking, but in most, the impressive numbers or species persist for only a few weeks in one or two seasons. For the rest of the year, wildlife use is far less obvious or attractive to the general public.

In addition, many national wildlife refuges, especially those in the Midwest, are extremely fertile. They are often surrounded by profitable farms where similar wetlands or woods have been drained and put into production. Unlike most state wildlife lands, national wildlife refuges are not funded primarily by sportsmen. Although a number of refuges have been purchased with Duck Stamp funds, more have been created out of public land holdings and all are managed with general tax money. The American public's willingness to set such places aside and pay for their management shows a flicker of appreciation for some of the more subtle values of the continent's wild places.

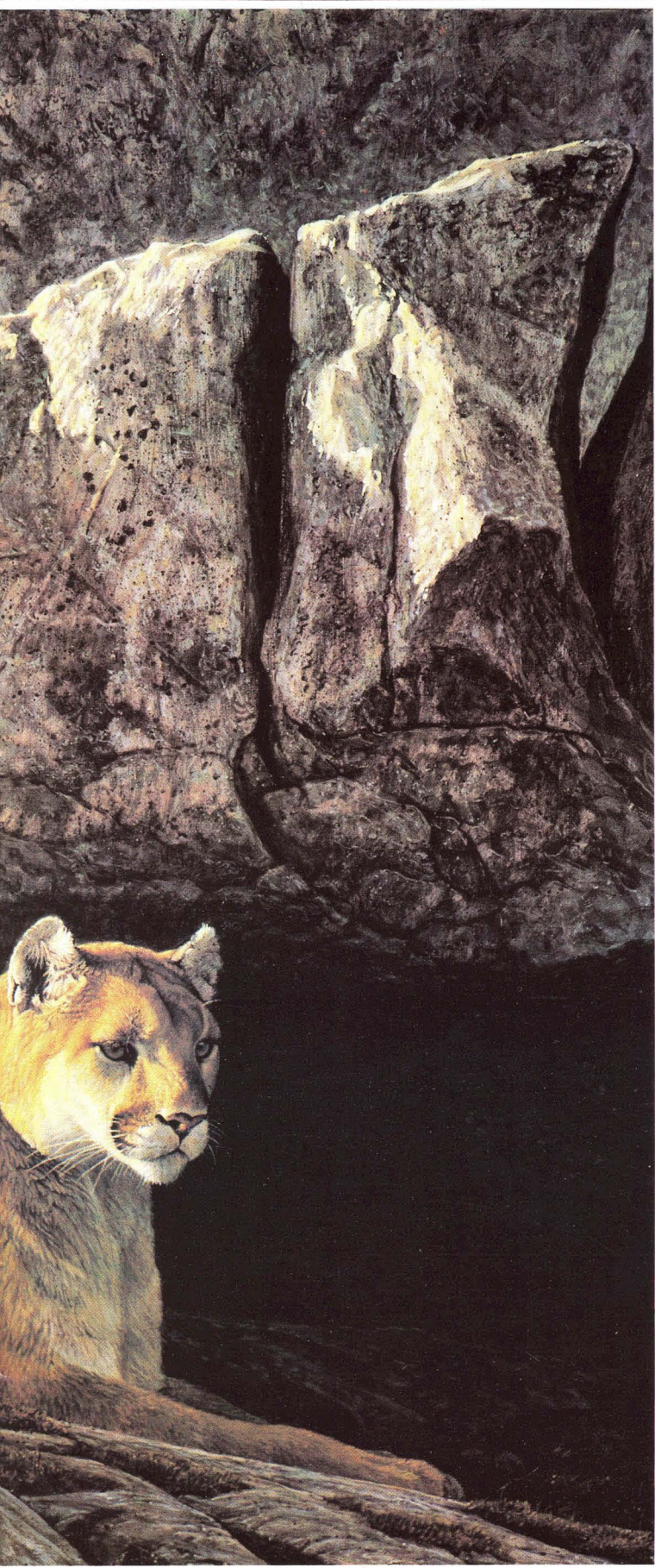
The refuge system has been faced with increasing difficulties over the last few years. Five or six years ago, the word was out that the system was about to undergo a long overdue renovation. The estimate for bare-bones catch-up work was \$250 million. To date, somewhere between \$180-190

million of that money has been appropriated, but the atmosphere in Washington is not promising for the appropriation of the remaining \$60 or \$70 million. This shortage in funding combined with the impact of inflation and an original work estimate that was probably too conservative leaves the wildlife refuges in a serious bind.

Refuges in the Lower Forty-eight comprise only 12 to 13 million acres of land. Their value to wildlife, especially waterfowl and shorebirds, has spiraled upward as privately held habitat has been eliminated. Their key role as migration staging areas and wintering grounds depends on intensive management, construction, and solid upkeep which have been at a near standstill for two decades or more.

Economic times aren't the best, and it's widely agreed that the key to controlling inflation is the control of federal spending. It's interesting, though, that there is room in the most austere budget for the \$3 billion Tennessee-Tombigbee water project in Mississippi and no room for a \$60 million refuge system renovation. It seems that ducks, geese, whooping cranes, and marsh wrens just don't know the right people.





## Kansas Cougar?

*George Anderson*

In his check list of Kansas mammals, Charles W. Hibbard credits William Applebaugh and J.H. Spratt with killing the last Kansas cougar on August 15, 1904 in the vicinity of Catherine, Kansas in Ellis County. At least this is the last free-living one of which there is a record at the University of Kansas Museum of Natural History.

In 1899, J.R. Mead writing in the Transactions of the Annual meeting of the Kansas Academy of Sciences recorded the following information on cougars. "Felis concolor (cougars) were rarely met," but he stated, this animal "was occasionally found in central Kansas in its first settlement, was common along the southern line of the state, gets more common in the Indian Territory, now known as Oklahoma. Its habitat was along the timbered streams and the prairies and hills adjacent."

He further remarked that in the fall of 1859 the Sac and Fox Indians, with the aid of dogs, killed one of immense size in a heavily timbered bend of the Solomon River, a few miles above its mouth. This was probably in what is now the extreme northeast portion of Saline County. He also recalled seeing "one on the White Water in Butler County, close to Mean's ranch, where Towanda now stands" in 1865.

In the winter of 1864 he "rode almost onto a very large male lion lying at length upon the prairie some three miles south of the junction of the Medicine Lodge and Salt Fork Rivers, near the great salt plain. His color harmonized so completely with the dead, brown, buffa-grass that he was not observed until I was almost onto him. He was not disposed to move from his position, and not having my rifle with me, I rode around him at a distance of fifty feet, and talked to him, but could not induce him to move, except his eyes and head, which followed my every movement. A bunch of wild horses nearby in a ravine may have been his

quest. I rode away, leaving him to his meditations," Mead concluded.

During April of this year I spent some time in the same area that Mead described along the Salt Fork River in southern Barber County. I suspect that the area still looks much the same as when he spotted the cougar 116 years ago. This area of the country is wild, rough, and beautiful and seems to offer everything a cougar would want.

In America, there are four of five typical large members of the cat family living in a wild state. The largest member of the family is the jaguar followed by the cougar, lynx, ocelot, and bobcat.

In Kansas we can honestly say, without reservation, that we have a healthy population of bobcats. According to Neil Johnson, furbearer biologist for the Commission, there are an estimated 10,000 bobcats in the state. The cougar is another matter. Nobody is giving estimates on numbers. In fact, very few are willing to admit the cougar exists at all within the state. An interesting point is that with all the bobcats in Kansas, very, very few people have observed them in the wild. The same thing applies to cougars in states where they are known to exist in good numbers. Nobody sees them and those who have can count themselves very lucky as cats are secretive and just plain don't want to be seen.

The color of adult mountain lions varies in solid but graded tones of yellow, brown, red, and gray. Color does not appear to be related to season or locality, though there is some degree of consistency within subspecies. Kittens are spotted, but these markings gradually disappear before adulthood.

In western North America, adult males generally weigh from 140-160 pounds and adult females weigh 90-100 pounds, but exceptions are to be expected. Females grow to seven feet in length and males to eight feet or more, including the tail.

In comparison, a Kansas adult male bobcat would probably weigh twenty-five to thirty pounds while the adult female would weigh fifteen to twenty pounds. Neither would reach more than three feet in length including its stubby tail. It would be very difficult to confuse a bobcat with a cougar, but I suspect that is the case each year in Kansas on some of the reports of cougars. Notice, I said some of the reports. While I have never observed what I believed to be a cougar in Kansas, a number of reliable people swear they have.

Dr. E. Raymond Hall, a noted mammalogist, commented on the possibility of a modern Kansas cougar population in his 1955 publication, *Mammals of Kansas*. "In many winters, Kansas newspapers carry accounts of a mountain lion having been seen in one or another part of the state. Most, and possibly all, such

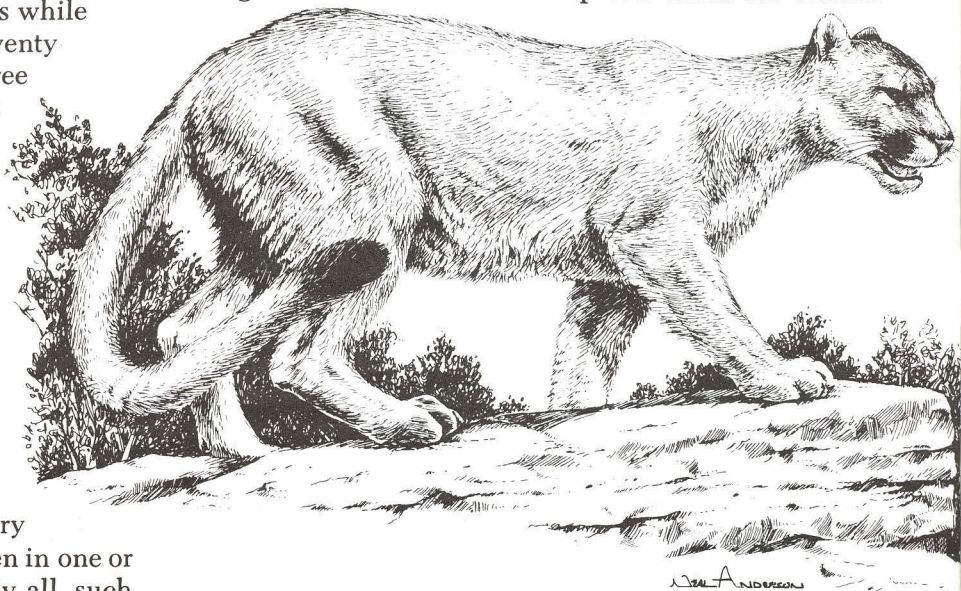
accounts of the past fifty years were based on nothing more than the desire of someone to write a story or on the too-vivid imagination of someone who saw an animal or a track that he could not identify with certainty. Now, however, the whitetail deer is reestablishing itself in Kansas. Since deer are the principal prey of the mountain lion, the big, tawny cat might again find his way into our state."

Since Hall recorded that information, deer have more than reestablished themselves in Kansas. According to Kent Monte, game research supervisor for the Commission, Kansas currently has an estimated herd of 50,000 deer of which eighty percent are white-tail and twenty percent mule deer. I doubt if a cougar would care about the differences between the two when selecting one for a meal.

**S**o we have the habitat, we have the food, but the question still remains. Do we have the cougar? Can an animal as large as an adult male or female cougar live within the state without being seen or leave evidence that they are here?

There have been numerous cougar reports from the public over the years. When the specific area was checked out, no trace of a cougar could be found, not even a track. This is one of the major points of controversy concerning cougars in Kansas. They don't seem to leave tracks. The vast majority of alleged cougar tracks have turned out to be dogs! Big coon dogs and most large farm dogs of mixed ancestry can lay down a track in soft ground or sand that are often thought to be a cougar's.

A good rule to follow when checking large tracks is to look for toenail marks. If you can see them, you're probably looking at a dog track. Cats rarely extend their claws when walking. A cougar track is like any other cat track, only magnified in size. The front foot is larger and the toes tend to spread when the animal



moves faster. The width of the track varies from three to over four inches and, of course, can be larger depending on the softness of the ground or on snow. A cougar may also leave a tail mark in snow.

Another characteristic of cougar tracks, according to Ellsworth Jaeger in his book, *Tracks and Trailcraft*, is that, unlike most cat tracks, those of the cougar seldom register. The cat often oversteps the tracks made by its forefeet when in haste, or does not quite cover the forefoot tracks when walking leisurely. Of course, the best way to positively identify a cougar track is to throw away the books and follow a few big cats firsthand, something few living Kansans have ever done.

The first cougar I tracked, after receiving the report from a landowner, turned out to be a 200-pound St. Bernard. In soft river sand, he had really laid down an impressive set of tracks, but we followed him to the farm where he lived and felt a little silly when he ran out to greet us.

One man who has spent as much time as anyone running down reports of cougars in Kansas is Robert Henderson, extension specialist in wildlife damage control at Kansas State University. Bob told me that in the twelve years he has been with the Extension Service, they have never documented a single case of a cougar in Kansas, and he has traveled the entire state checking reports.

"We sent a picture of a suspected cat track to a pair of experts once," Henderson said. "One said it was a cougar and the other said it was a dog." But, in spite of not being able to document the cougar as yet, Henderson doesn't rule them out in the state. "Cougars have been documented in Missouri, Oklahoma and, of course, Colorado," he said. "Some of these have been close to Kansas borders. One cougar was shot in a garage in Colorado only five miles from the Kansas border."

The most promising report of a cougar that Henderson received came from the Council Grove area. "This man called and reported he had picked up a road-killed cougar and had the animal at his home," Henderson recalled. "I didn't waste any time getting there and he had a cat alright. An African lion. We checked the bones and the lion apparently had rickets and had been dumped by a circus that was in the area at the time."

A cougar has also been reported on the Konza Research Area which is located near Manhattan.

Henderson has heard of the report along with other reports of a cat along Deep Creek not too far from Konza. If the reports are true, Henderson says, it's probably the same cat

as cougars have large home ranges. Konza is 8,000 acres and, according

to Henderson, that would be only a small portion of a cougar's territory.

Movement studies conducted by biologists using telemetry in Arizona, California, Nevada, and Vancouver Island, British Columbia give an idea of cougar range and movement. The usual area of activity for established residents is about fifteen to thirty-one square miles for females and twenty-five to thirty-five square miles for males. Any given home range may be smaller or larger depending on seasonal and environmental characteristics. One male lion in California and another in British Columbia have been recorded in areas of 174 square miles and 250 square miles. Tagged juveniles in transient status have been recovered more than 100 miles from their original tag sites.

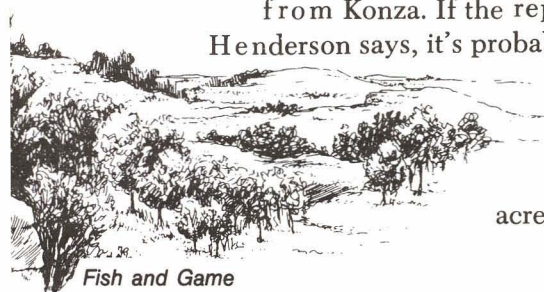
These movement studies were conducted in known cougar country. How they might apply to Kansas is unknown. Young cougars move to establish their own territory and rarely overlap into already claimed territory. A Kansas cat would not have a lot of competition so its range might be smaller. On the other hand, if the Kansas cougar's main food item is deer, it might have to move from area to area in search of its prey. Not that we don't have enough deer, as pointed out earlier, we have a good population, but deer are smart enough to stay out of an area where they run the chance of becoming a meal for a 150-pound cat. As slow as I am, I think even I would key in on that situation pretty fast.

Many people are of the opinion that cougars will only inhabit areas that allow them to await their prey from trees or rocky ledges. Not true. Most evidence indicates that the cougar will creep to within a short distance of their intended target and then make a rapid dash of one, two, or three leaps.

Using evidence largely gathered in the western states, cougar researchers have learned that, with one clawed paw grasping the prey's muzzle, the cougar snaps the neck at the first or second vertebra so that often the animal is dead almost on contact. If the victim lingers or is able to run, the cougar will hold onto the neck until the prey suffocates. Unlike dogs, cougars usually eat through the rib cage first, taking the heart, liver and lungs. Dogs, after pulling a deer down, will most often attack the rear and buttocks.

Livestock and deer kills in Kansas where the cougar is suspect generally show entry from the rear such as a dog or coyote would make. More often than not, any reported kill is in a state of decomposing and it's almost impossible to tell what actually killed the animal.

George Whitaker, northwest regional law enforcement supervisor for the Commission, has spent over thirty years in the field and told me that, while he doesn't rule out a cougar in the northwest, he has no evidence to support their presence. The nineteen-county northwest region has some excellent areas to support cougars but none have been confirmed to date.



Fish and Game

I also talked with Kenneth Knitig, state game protector at Goodland for over twenty years, about a possible cougar in his area.

"I suppose I've had as many calls on cougars or lions as any game protector and they've all turned out to be big coon hounds or some other large dog," Knitig recalled. "I did check a track once by a farm pond by Edson that looked different than any I had seen before. I made a plaster cast of the print and showed it to several people who thought it might have been a cougar but was never sure. I've either lost the cast or it's been thrown away. That's been a long time ago."

The June 29, 1978 *McPherson Sentinel* contained a report of mountain lion tracks and sightings in the area. The initial report, investigated by the McPherson County Sheriff's office, involved two sets of large animal tracks found in a secluded area northwest of McPherson. The tracks had been made in mud after a recent rain and some of them had dried in the shade and were well preserved. Photos of the tracks were sent to Kansas State University for identification and some of the droppings found near the tracks were taken to a local veterinarian for laboratory analysis. I don't know the results of the lab analysis on the droppings but Bob Henderson would have been at Kansas State at the time the track photos were sent to their department and Henderson has already said that they have never documented a cougar in the state as yet.

The people reporting these tracks were anxious to get the proper identification because of an experience they had earlier that spring in the same general area. At that time they observed two large animals that were less than 100 yards out in a field by a creek. The animals were reported to be large and thought to be deer at first, but when they walked away they walked hunched like cats. "They were definitely cats. I couldn't believe the size of them," the lady said. "I think they were mountain lions."

While some people are reluctant to say they have seen a cougar or mountain lion, McPherson county residents aren't a bit shy about it.

Another report in the same newspaper article told of a man who observed a mountain lion northeast of town walking beside a creek. "It was full-grown and goldish-brown," he said.

Still another local man told of his look at a big cat. "It was about two years ago when I saw a mountain lion while I was deer hunting eight and one-half miles north of Galva," he said. "It was during the rifle deer season. It was about noon, right before dinner when I saw that mountain lion sitting on its haunches over by a pasture fence near some trees, about one-eighth mile away from me. I had binoculars with me and I watched that cat for about two minutes just sitting there before he got up and walked off into the trees," he said. "The animal was definitely a mountain lion. I've seen bob-

cats before and this was no bobcat. I've been hunting ever since I was a kid, and I know the difference between a bobcat and a mountain lion."

There isn't any doubt in these people's minds that they've seen a lion and I'm certainly not going to tell them they didn't. If I ever see one in Kansas and report it, I would like to think I would be believed until proven wrong.

About a year ago, the Commission's Newton office received a report of a road-killed cougar in Cowley County in southcentral Kansas. I talked with Steve Capel, southcentral regional game supervisor for the Commission. Steve took the call from the Sedgwick County Zoo who had received the information from a trucker who reported hitting the cougar south of Dexter on Highway 15.

"I received the call from the zoo people telling me of this guy who reported running over a cougar south of Dexter," Steve recalled. "I called Carroll Lange, the district game biologist at Winfield, and gave him the location of the report to check out."

Carroll went to the spot where the trucker said he had hit the cat and could only find a spot of blood. After checking the area, he decided that someone had already picked up whatever was hit by the truck and left. Whatever was hit, we'll never know," Capel said. "We did find out that this trucker had stopped at a service station in Winfield and told several people about the road kill and we understand that a couple of kids may have overheard the conversation and checked the area first. If it was a cat, they never showed up with it, so we don't know."

In addition to this report, Capel has run down many reports of cougars in Kansas and, like everyone else, has failed to document a single cat. "Most reports turn out to have a logical explanation," Capel said. "Tracks turn out to be dogs; claw marks turn out to be injuries sustained by animals caught in barbed wire. What I can't account for is the people who say they 'saw' something. I really don't think we have any cougars in the state, but I wouldn't be too surprised if one turned up. I can fully understand that people might think they see a cougar because I've been in that situation myself," Capel continued.

"When I was working for the U.S. Fish & Wildlife Service in North Dakota a number of years ago, I thought I saw a lion one night while driving back to the refuge. My headlights picked up the hindquarters of a tawny-colored animal with a long tail going into a road ditch. My first thought was cougar. I drive back around the section and there he was . . . the refuge manager's golden retriever dog. If I hadn't taken the time to check further, I would have always wondered if I had indeed seen a cougar that night."

If there are cougars in Kansas, Capel is surprised that



they haven't been documented. With all the coyote hunting that goes on during winter months and deer hunters stalking areas that would be good cougar country, no one that he knows of has had an encounter with a cougar. Also the lack of reports of cougar kills strikes Capel as strange.

After taking one meal from a victim, the cougar will often, but not always, cover the remaining portion with debris, such as sticks, stones, dry leaves, and small limbs and twigs. Sometimes the entire carcass will be covered and other times the head and tail are left exposed. If the meat stays palatable, the visits to the carcass may continue until all the edible portions are entirely consumed.

I was talking with Bill Hlavachick, long-time game biologist with the Commission, and Bill told me of a sighting in northeast Kansas made by a biologist from Arkansas. It seems that the Commission had received a letter several years ago from this biologist informing the agency of his sighting near Tuttle Creek Reservoir while traveling through Kansas on a trip.

In a telephone conversation from his office in the endangered species section of the Arkansas Fish & Game Department at Little Rock, Sam Barkley recalled that sighting that occurred in October of 1977. "I was traveling to Colorado on I-70 and was near Manhattan, Kansas when I decided to camp for the night at one of your lakes, I believe it was Tuttle Creek Reservoir," Barkley said. "I pulled off I-70 at an exit ramp leading to the lake and had traveled only sev-

eral miles when my headlights picked up what I thought was a cardboard box in the roadway. As I got closer I saw that it was a small cougar feeding on a roadkill of some small animal in the middle of the road. I estimated the cat to weigh about eighty pounds. It was probably a juvenile but there was no doubt, it was a cougar. It ran off the road when I slowed down and disappeared."

During the conversation I asked Barkley what the status of the cougar was in Arkansas. "Probably like Kansas, low levels but they do exist," he said. "We have had three cougars shot in Arkansas since 1949, with the latest one taken in 1975. I have never seen one myself in this state, but I don't have to see them to know they're here."

Close by, and almost in the shadow of the Barkley sighting, came several more reports of cougars. Kathleen Bowman, wife of Tom Bowman, fishery biologist for the Commission at Wakefield, observed what she believed to be a cougar while driving to work in Manhattan several years ago. According to Tom, "she was east of Milford Reservoir early one morning on her way to Manhattan when her car lights picked up what she is sure was a cougar in the roadway eating on a road kill. She pulled to within two car lengths of the cat before it grabbed whatever it was eating and ran off the roadway."

On describing the cat to her husband, Kathleen said she did not think it was full-grown, that it had a rope-like tail, and pronounced shoulder blades. Apparently the report was not made public, but then an interesting thing



happened. Within two weeks of Kathleen's observation, there were two more reports of possible cougars within a mile or two of where Kathleen observed her animal. Tom said the two calls came into the Fish & Game office at Wakefield from motorists driving the same road. Both callers stated they thought they saw a cougar on or crossing the roadway.

Bowman suggested that I contact Red Gray at Junction City for another incident concerning cougars. He understood that Red might have taken a shot at a cougar in the area several years ago. Gray is an avid sportsman and long-time member of the Geary County Fish & Game Association.

I contacted Gray at Junction City by telephone and he confirmed the report. Red said he was hunting deer with a companion, Milt Rawlins, about four years ago in eastern Geary County. They were both sitting by a tree rattling antlers in an attempt to attract a buck when he noticed a large cougar setting on a rim rock looking at them. He managed to get Rawlins attention, and both men looked at the cat through the scope on Gray's rifle. He was using a new bolt action and decided to take a shot, but the gun would not fire. Firing pin problem. The cat left the rock and disappeared into the rough country beyond. After their nerves settled down, both men stepped the distance off to where the cat was and it was 150 yards. Red hasn't seen another cat since but feels a few are around.

The Barkley sighting near Tuttle Creek, the Bowman sighting east of Milford, Red Gray's report, and two others in the same area all occurred within thirty miles of each other. If you were inclined to do so, you could use the cluster of appearances as circumstantial evidence for a family of cougars. According to Young and Goldman in their book, *The Puma*, cougars up to two years old and weighing in the neighborhood of eighty pounds have been found with adult females. Many researchers believe that the female mates again at about this time and the young cats move on to establish their own territories. Dispersal of a litter of young cougars could account for the rash of reports in the Tuttle Creek-Milford area.

You've probably noticed that most of the people I've talked with concerning cougars in Kansas have hedged just a little one way or the other on their opinion. If you've worked with wildlife for any length of time you learn the hard way not to make brave statements that can come back to haunt you. Critters are, for the most part, fairly predictable in their actions and habits but there is always the exception.

There was, however, one Kansas biologist who threw caution to the wind and said there is a low-level population of cougars in Kansas. Marvin Schwilling works out of Emporia in the heart of the Flint Hills.

"If I could take two working weeks and dedicate this time to documenting a cougar in the Flint Hills, I'm

satisfied I could do it," Schwilling said with certainty. "This documentation would be in the form of a photo of the cat, the cat's track, or hair from a cougar."

Schwilling cites reports in recent years in several areas around Emporia, Admire, along the Verdigris River near Madison, and on upper Diamond Creek in Chase County. He knows of a track cast that he is satisfied is cougar, but since he was not present when the cast was made, he can't be sure where it was taken. He still feels it's authentic. No reason to believe otherwise.

"There is just too much we don't know about cougar behavior," Schwilling concluded. "There has been no real reason to concentrate any studies on them so we shouldn't be too hasty in saying they're not here. Sure, some of the reports are nothing more than someone wanting to see a cougar so bad that they can turn almost anything into one. By the same token, some of these reports are made by folks who don't know they're not supposed to see cougars and are content that they have seen one. No big deal."

Schwilling's optimism is contagious. I have found myself, in discussing the issue with other fish and game people, to be pro-cougar and I've been anything but that over the years. While I'm personally leaning in favor of the cougar existing in Kansas in low numbers there are still a lot of questions in my mind to be resolved. Why has documentation been so difficult? Why, in spite of the rough country still in our state, are the animals not spotted more often? And then I ask myself the question . . . What if?

What if someday we start on another cold trail that becomes warmer and warmer and suddenly look up on a low branch of a cottonwood or a rock outcropping and the myth materializes. What then?

If and when this majestic cat does appear, it will be just a little more evidence that some of the wildest elements of the original prairie are still with us. That would be a piece of unexpected good luck for Kansans and the cougar. □

*Canadian Robert Bateman's wildlife art has been acclaimed throughout the world. He has done outstanding work on both North American and African wildlife species, game and nongame. Bateman experimented extensively in abstract art early in his career and the concern for abstract form still shows strongly in his treatment of the backgrounds in his paintings. In fact, Bateman claims that he chooses the specific background for a work before he chooses a subject animal.*

*Neal Anderson, creator of this article's pen-and-ink illustrations, is a regular contributor to KANSAS FISH AND GAME and NEBRASKA KALAND. He has also done work for NATIONAL WILDLIFE magazine. Anderson's work shows an unusual grasp of both the prairie landscape and the anatomy and behavior of its wild residents.*



Bruce Kintner

## Treetop Trophies

*Chris Madson*

**T**he average tract of Midwestern timber isn't much of a place to spend an August afternoon. It has the advantage of shade, I guess, but shade in itself doesn't have much effect when the air is dead and the humidity is right around saturation. The mosquitoes that make life miserable in backyards and pastures during the evening hide out in the shade of the underbrush during the heat of the day, resting, I think, but ready enough to swarm on any warm-blooded critter foolish enough

to wander in under the trees. The occasional trail that promises to lead out into the sun is draped with spiderweb, lined with poison ivy, and inevitably ends in a tangle of raspberry canes. A summer woodlot is a place for a land-bound trespasser to sweat himself dry, bleed, itch, and slowly suffocate. Even the natives of the place seem just barely able to tolerate it.

Except for the squirrels, that is. Chances are most of them have found a comfortable oak branch just under

the highest layer of leaves. They'll be spread-eagled there above the usual range of mosquitoes and deer flies, well-hidden, shaded, rocked by the afternoon breeze, absolutely limp, complacent, comfortable. The sole possessors of the good life.

Actually, the year-round reality of a squirrel's existence pretty well parallels the August impression of it. Compared to most small game animals, a squirrel has it easy. Groceries are certainly no problem. The nut crop



in a typical squirrel woods begins to ripen in August and produces a huge surplus all the way through early November. As a result of that production and the squirrel's habit of burying the lion's share of it, a squirrel population is one of the few groups of wild critters with a non-perishable food reserve set aside for the winter. Maple buds, hedgeballs, and, in emergencies, tree bark pad the hungry times through February and early March, and the flowers and buds of a wide

Ken Stiebben



variety of plants make perfectly acceptable squirrel food through spring and early summer. Wild fruits like mulberry, cherry, and dogwood along with insects and an occasional bird egg round out the summer, and that's not counting the cultivated crops that are probably available at the wood's edge.

In addition to the ample bill of fare, a woodlot supplies a squirrel with plenty of secure lodging. The best squirrel woods have a few grandfather trees, lightning struck and staggy at the top but with plenty of live wood in the trunk. Squirrels den up in the rotten hearts of these old trees and are almost immune to predators. Even in younger woodlots where most squirrels build their own nests for shelter, they're fairly secure while at home.

There are limits to this security, of course. Great horned owls take a lot of squirrels as do a number of other raptors. Ground-based predators like foxes and feral cats take a few, and an adventurous bull snake will occasionally find his way up into the trees and take young squirrels out of their dens. Overall, though, neither predator nor food shortage threatens a squirrel the way they would a cottontail, bobwhite, or pheasant.

The symbiosis between squirrels and timber makes the squirrel a unique challenge for a hunter. Squirrels are the smallest big game in North America. They cannot be successfully hunted with small game techniques. A rabbit or upland bird hunter can wade into the right cover, boot out his quarry, and take it on the fly if he's any good with a shotgun, but that sort of strong-arm technique puts most squirrels in dens or out of sight on the far side of a branch long before the hunter has a chance to see them. It's no accident that a successful squirrel hunter can turn himself into a top-flight deer hunter almost instantly if he takes it into his mind to try. What he learns in the squirrel woods about going softly and being patient applies to deer hunting every bit as well.

There are some obvious differences in the sensory equipment of squirrels and deer. A squirrel may have as sharp a sense of smell, but he doesn't seem inclined to use it the way a deer will. It's been proven that squirrels can locate nuts under twenty inches of snow by smell alone, but I've never had the feeling that a squirrel has reacted to my scent. This indifference to the scent of a predator may stem from the squirrel's association with trees. Often, a squirrel may be too high in a tree to smell a predator at ground level. With the view he has, he may be more inclined to depend on seeing an approaching threat, particularly when he's used to dodging raptors that can strike and be gone before they leave any scent.

The June opener on squirrels in Kansas is about as early as any in the United States and gives a would-be squirrel stalker a chance to try the raw youngsters early and the savvy veterans later on. Squirrel populations

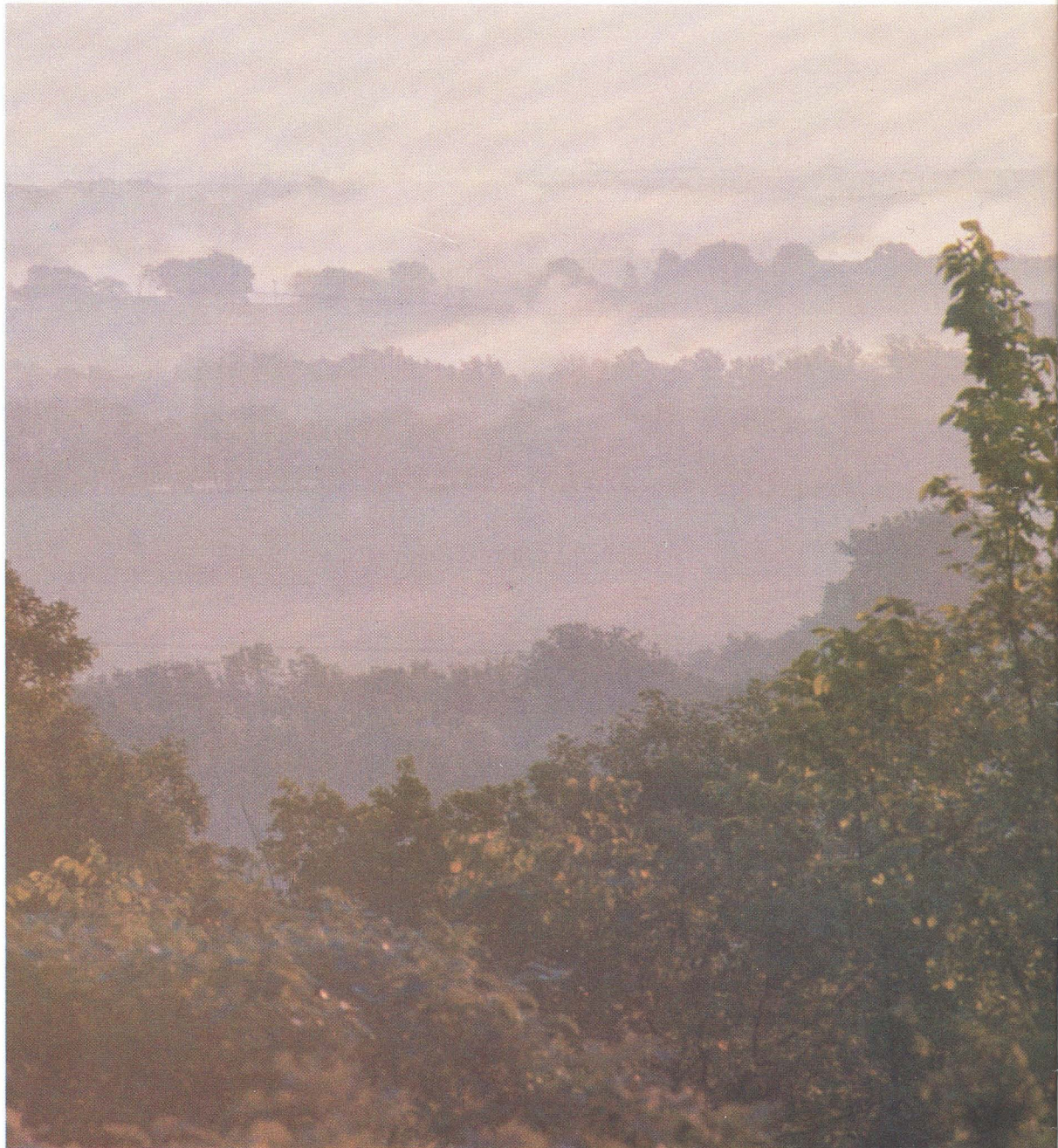
reach a broad peak in late summer and early fall, but it doesn't stay there for long after the little ones are weaned. Many of the young squirrels abroad in July end up as main courses for broods of raptors or young foxes before the summer is through. A lot of squirrel hunters, especially those who trace their hunting roots back to hill folk in the Ozarks or Appalachians, like to take their crack at this expendable group early in the summer. They claim that young squirrels are by far the best for frying and that they're likely to be gone before the leaves fall anyway.

Purist squirrel hunters turn their noses up at this sort of meat hunting, claiming that the woods are too hot for comfortable hunting during the summer and the

squirrels too well hidden by rank vegetation. They're wrong about the vegetation. The same leaves that hide squirrels hide the hunter as well. An average shot in July probably won't be more than twenty yards, but by November, it may well have stretched to three times that.

They're right about the heat, though. Mid-day squirrel hunting can be mighty uncomfortable until the middle of September. The only really practical time to be abroad is just after sunrise, and that's fortunate because it's also the time of peak squirrel activity. It's possible to find a squirrel occasionally in the afternoon, usually very high in the largest trees in the woods. In such situations, their tails often give them

*The woodlots and shelterbelts across most of Kansas are mainly fox squirrel country. The fox squirrel has probably always been a resident of the prairie edge and has prospered and expanded its range eastward with the clearing of the eastern forest. Parts of eastern Kansas also harbor the more tree-loving gray squirrel. Grays are often found mixed with fox squirrels but generally show a little more preference for the misty ridges and bottoms of the big timber. Photo by Park Carter.*



away by hanging over the edge of the branch they're lying on. Generally speaking, though, the most productive summer hunt begins before dawn. Gray squirrels may be out an hour or more before sunrise and are pretty well finished with the day's business by 9:30 or so. Fox squirrels start the morning a little later and persist farther into the day, but even among fox squirrels, the action will tail off after 10:00. If the weather's not too hot, there may be another short flurry of activity around sunset.

Squirrels forage indiscriminately through June, sometimes leaning a little on ripening wheat and other small grains when native foods are in short supply. The summer's first eating orgy comes with the ripening

mulberries. When the mulberries are on, a squirrel hunter can count on finding a mob of squirrels nearby. The trees may produce for three weeks or more. When the supply begins to tail off, the squirrel population spreads out again and takes advantage of a varied and abundant menu through mid-summer until the hickory nuts come on.

Squirrels will eat an amazing variety of things, but they really make fools of themselves over hickory nuts and pecans. Nuts of these species are far from being ripe in August, but the squirrels seem to prefer them in the moist, doughy stage they hit at this time of year. According to Ernest Thompson Seton, a turn-of-the-century hunter in southeastern Missouri once reported seeing 354 squirrels in a single bottomland pecan tree. That's a heck of a bunch of squirrels to cram into one tree, but after witnessing squirrel mobs in a couple of unusually productive hickory groves over the years, I'm not inclined to throw out the estimate entirely. It's significant that Seton himself saw fit to record the story. As one of the premier naturalists of his era, he probably knew as much about gray squirrels as any man before or since and apparently saw nothing inconceivable in it.

When squirrels are concentrating this intensely on one or two food items, it's vital for a hunter to find the hotspots. Just picking a place that feels right won't work. A hunter who doesn't know the favored trees in a woodlot is well advised to move quietly through the woods until he finds them. These probably won't be the same trees year after year, by the way. Almost any tree species goes through a cycle of productivity in which a very good year is followed by two or three leaner ones. In addition, there are bound to be outbreaks of disease or critical periods of bad weather that will thin or wipe out a year's crop. All in all, it's best to do a little prospecting even in the most familiar woods to make sure the local squirrels aren't meeting somewhere you don't know about.

Poking around in the squirrel woods is best done at a leisurely pace, probably not more than a couple of hundred yards an hour. At that rate, a hunter can cover a surprising distance in a morning's hunt without walking by too many active squirrels. A squirrel's morning meal is not generally a hurried affair. He noses around aimlessly, nibbling on potential food items and keeping a fairly sharp eye on his surroundings. If something catches his attention, he may stand motionless for two or three minutes studying it. If that something is you, it's important to give him plenty of opportunity to make another move and possibly show himself. Take two or three slow steps, feeling the ground under your feet as you set them down, and follow up with a couple of minutes of eye strain. As often as not, the squirrel you see won't look like a squirrel. He'll be a knot or short stub on a trunk or main branch. Give him a little time, and he'll tip his



hand.

Experienced squirrel hunters wrangle over the best firearm to use on squirrels. Early in the season, the shotgunner probably has the advantage. In heavy vegetation, it isn't unusual for a squirrel and hunter to meet nose to nose at fifteen yards or less. The squirrel will hold still just as long as he doesn't see a flicker from the hunter; the first move to shoulder a gun puts him on the run.

Studies have shown that a shotgunner will bring home more squirrels than a rifleman on the average, probably because of the shotgunner's success in the early season.

The tables turn later in the year, however. Like most small game animals, squirrels are quick on the uptake. The survivors of the summer get awfully sharp after three or four months of being shot at. As leaves fall, they can see farther and can hear a hunter coming through the dry litter two hundred yards away. It's still possible to slip up on a squirrel if you're painfully careful with your feet, but in the long run, you're better off sitting down and waiting for the squirrels to come to you. The boundary between a cornfield and a shelterbelt or woodlot is a particularly good place to spend some time, but by early October, the squirrels are less likely to be foraging on just one or two trees and will probably be spread throughout the woods.

The last month of the season is without doubt the domain of the rifleman. I often sit up in a tree in these last days, mainly to get a better look at squirrels moving along the ground. From such a vantage point, a hunter can stretch a scoped .22 to its outside limits. Wherever you decide to sit, it's important to get comfortable. Through the summer, it may take only two or three minutes of waiting to get a shot at a suspicious squirrel, but by December, that wait may be forty minutes or longer. Once the effect of your entrance wears off and a squirrel shows himself, it's wise to wait a few minutes for his neighbors to come out. The first shot or two from a .22 doesn't usually disturb squirrels that aren't being shot at, especially if there is no movement associated with the sound. A hunter who takes his squirrels clean and marks their fall carefully can sometimes kill a limit without moving.

There are a number of variations of the fundamental squirrel hunting theme. One of the most enjoyable I've ever heard of is floating for squirrels. Streamside trees get a little more sun than most of the timber in a woodlot and are often more productive of food and squirrels as a result. One or two hunters can drift with the current in a canoe or john boat and combine the pleasure of a day on the river with a good hunt. It's work best left to a shotgun, usually. Although a drifting boat makes no noise, squirrels will often spook at the sudden appearance of a strange object just about the time a rifleman is drawing a fine bead, and even if

the squirrel holds still, there's no guarantee the boat will.

Some squirrel hunters swear by a good dog. These are usually farm feists with good noses who stay close, work out the trails of squirrels that have just jumped for cover, and bark tree until their masters have a chance to circle the trunk and locate the quarry. Often, two hunters can be more effective at this game than one since the squirrel will do his best to stay on the far side of the tree from a single man. Many squirrel shooters like to hunt in pairs even without dogs. The two move slowly along a ridge or shelterbelt, each man watching for squirrels who are maneuvering around a high branch to hide from the other hunter. This technique is probably most effective early in the season, especially in smaller, younger timber with few den holes.

All these methods of putting a squirrel in the bag are effective at one time or another, but to my mind, there is one squirrel hunt that looms above all the rest. It starts at about sunrise on a limestone hogback that shows its bones here and there. The ridge shows signs of patchy lumbering. There are groves of young hickories interspersed through the older timber, a clearing that supports a mixture of native grass and blackberry, and, here and there, a huge open-grown white oak with massive low main beams, a good den hole or two, and a pedigree that stretches back to the Revolution. A small creek lined with sycamores, elms, and soft maple slips along the base of the ridge, and on the far side, the point of a small corn field comes part way up into the narrow valley.

The weather has been cold. The annual weeds have withered in the fall's first hard frosts, and there has been just enough rain to keep the woods from getting too brittle. The chill this morning isn't as penetrating as it has been, and the day promises to warm into Indian summer by afternoon.

If the hunter is a veteran of the squirrel woods, he'll unlimber a well-kept .22 bolt action and fade into the timber with no more burning goal than to find a soft place to sit and savor the day, but even if he's never tried squirrel hunting before, it won't take him long to settle into the calm of the place. There is no reason for him to hurry; this is a morning for absorbing a little quiet.

It's an odd thing that "wild" has come to describe something loud and rambunctious. Actually, the calm that a squirrel hunter finds during a day in the woods is the distillation of wildness. It is the same intense, yet effortless, focus that most wild things depend on throughout their lives. It's a strangely peaceful state of mind, involving very little rational thought but hours of concentrated observation, an attentiveness that has nearly been civilized out of most of us. It takes something special to bring it back, the right ridge, the right morning, the right man. A squirrel hunter. □



# the YELLOW Pages

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Governor John Carlin signs the proclamation designating Sept. 27 National Hunting and Fishing Day. Looking on are (left to right) Joe Rishel, Fish and Game commissioner; Ted Cunningham, Kansas Wildlife Federation executive director; and Bill Hanzlick, Fish and Game director. (Photo by Bruce Kintner)

### SPORTSMEN FOCUS OF SEPT. 27 FESTIVITIES

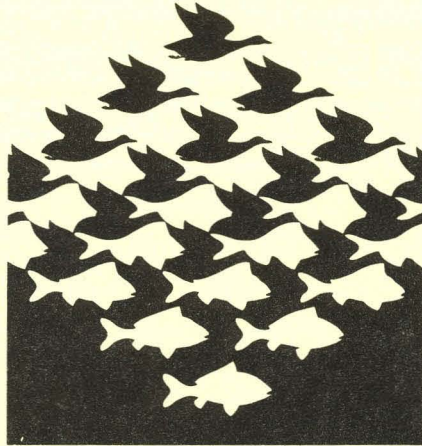
National Hunting and Fishing Day has been an annual occurrence for just nine years but it's steadily gaining in popularity. This year is no different. Festivities organized for Sept. 27 at several locations in Kansas are part of a national observance of the contributions of hunters, fishermen, and trappers to this country's natural resources.

Gov. John Carlin will be the special guest at Kansas Fish & Game's Pratt headquarters, where a full day of displays and demonstrations will honor the sportsman's role.

"I urge all citizens to join with sportsmen-conservationists in a rededication to the wise use of our natural resources and their proper management for the benefit of future generations," Gov. Carlin stated in a National Hunting and Fishing Day proclamation signed in Topeka last month. "The contributions of Kansas' hunters and fishermen to fish and wildlife conservation, recreation, and the economy are deserving of special recognition."

Among events planned at Fish & Game's headquarters is the largest wildlife art exhibit in Kansas. Local and nationally-known artists will exhibit some of the country's finest wild-

life art. Also planned for NHF Day festivities at Pratt are a frog-catching contest, free fishing in a specially-stocked pond, and live music. Several exhibits and displays will provide infor-



Helping Insure the Future

Sept. 27, 1980

mation on archery, fish cleaning, and other outdoor skills. Civic organizations will sell lunch to NHF Day participants at concession stands on the grounds.

More festivities are planned for Sept. 27 elsewhere in the state.

Paola's town square will be the site of one of the liveliest celebrations. Local sporting

goods dealers will display fishing and hunting equipment. Fishing tackle manufacturers will send representatives to exhibit their wares and help conduct a fishing clinic. A kids' fishing derby is planned at Paola's Lake St. Mary. Boat manufacturers and dealers will sponsor exhibits. The Fur Harvesters of Kansas will display various pelts and provide information and instruction on trapping and fur care. Fish and Game employees will show films and slide series and exhibit fish and wildlife management tools. Fish cleaning and preparation techniques will be demonstrated. Local musicians will lend the mood music throughout the day. Finally, buffalo burgers will be served.

The reopening of a rehabilitated Shawnee State Fishing Lake in northeast Kansas is planned in conjunction with NHF Day.

The Geary Fish and Game Association is sponsor of NHF Day events at Milford Reservoir. The agenda includes trap shooting, archery demonstrations, a buffalo burger feed, and more.

In Dodge City, the Village Square mall will be the site of exhibits set up by the Ford County Sportsman's Club. In addition, Fish & Game staffers will coordinate a kids' fishing contest at a pond on the campus of Dodge City Community College.

**STEEL SHOT ON HAND FOR MORE STRICT LAW**

A new federal regulation for waterfowlers this year requires the use of steel shotshells in all shotgun gauges for six popular hunting areas in Kansas which for the previous two years have required steel in 12-gauge shotguns only.

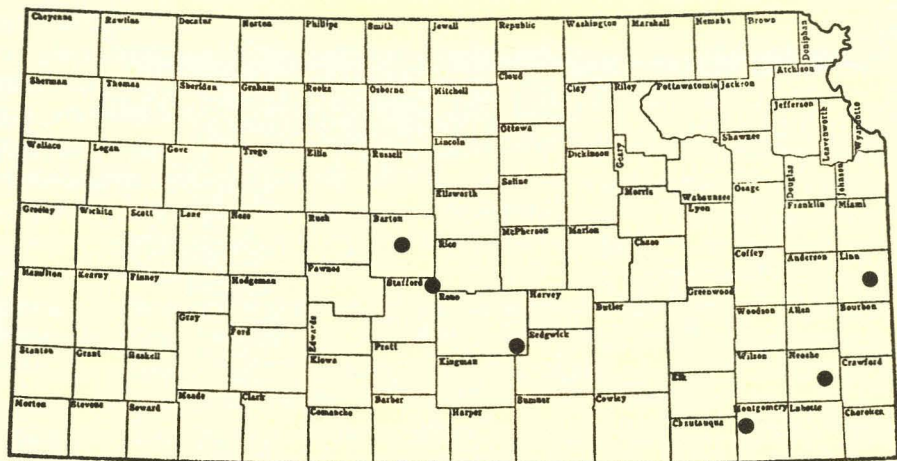
A survey of ammunition manufacturers and major distributors in Kansas has shown that hunters should have little problem in obtaining steel shotshells.

Winchester and Remington have said they will only provide 12-gauge steel shot loads. Federal Cartridge spokesmen say that company will have plenty of 20- and 10-gauge shotshells, along with ample supplies of 12's. The availability of steel shotshells locally depends on local store owners and

managers. Some may not choose to obtain large supplies of the 20- and 10-gauge loads.

The six waterfowl hunting areas where steel shot is required of all gauges are: Cheyenne Bot-

toms Wildlife Area (except the goose firing line south of pool 5), Quivira National Wildlife Refuge, Cheney Wildlife Area, Elk City Wildlife Area, Neosho Wildlife Area, and Marais des Cygnes.



Steel shot, in all shotgun gauges, is required for waterfowlers at Cheyenne Bottoms, Cheney, Quivira, Elk City, Neosho, and Marais des Cygnes wildlife areas.

## BUFFALO AUCTION SET FOR NOV. 21

Surplus buffalo from Fish and Game-managed herds will again be auctioned off this fall

at the Maxwell Game Refuge in McPherson County.

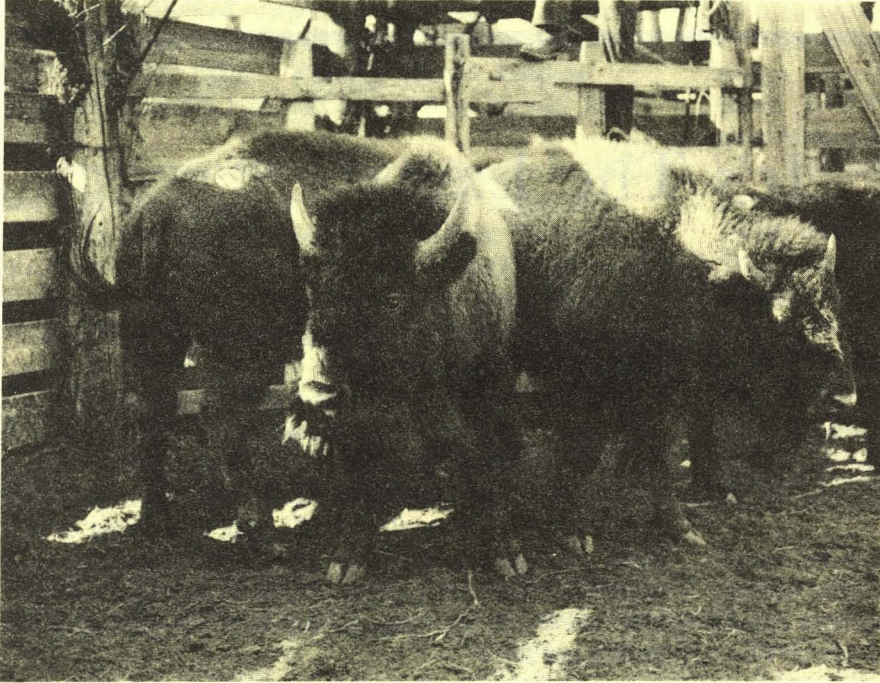
Sale of 85 head from herds at Garden City and Maxwell will begin at 11 a.m. Nov. 21 at the

Maxwell refuge corrals. Buyers from Kansas, as well as many other states, are expected again this year.

Last year's auction, in which 76 animals were sold, attracted buyers from as far away as Maine. Most of them were interested in adding to their own herds. The average price per animal figured out at around \$650, with the highest price reaching \$1,100 and the lowest \$350.

Terms of the sale are cash or personal check (if accompanied by a notarized authorization letter from the issuing bank). All buffalo over one year old will be brucellosis tested and accompanied with a health certificate. Buyers must pick up buffalo the day of the sale or make arrangements with the refuge manager prior to the sale.

For more information, contact Verle Warner, Refuge Manager, Rt. 1 Box 26, Canton, Ks. 67428 or call Fish and Game offices in Newton (316) 283-2482, Pratt (316) 672-5911, or Garden City (316) 276-8886.



*Last year, you could have bought one for anywhere from \$350 to \$1,100. Some folks who attended last year's auction came from as far away as Maine, and most were interested in acquiring additions to their private herds. Some of those same buffalo buyers... and some new ones...will get their chance again Nov. 21.*

## JUST ASK

A recent study performed for the National Shooting Sports Foundation among landowners in a representative sample across the United States showed that a distressing 52 per cent of them had posted their land against hunting.

Yet, when asked what was required to get them to allow hunting, almost exactly one-third of those posting said they would allow hunting if the would-be hunters would only take the time to ask permission to hunt. Think about that for a minute. If we project that nationally, one-third of the posted land could be opened to hunting merely by exercising common courtesy.

Some have said that farmers and landowners don't want to be bothered by strangers walking across fields to bring a halt, however temporarily, to fall

field work; and others say they got weary of a steady procession of city strangers at their door--but that isn't what the survey shows.

Private land is, after all, still private land; and no sportsman should object to presenting himself to the landowner. It would certainly seem that it isn't the hunting that landowners object to so much as it is having people presume to use their land without asking. If we can believe the survey, one-third will say "come in" once they've been properly approached and know who's on their land.

There's food for thought there for all hunters. Take the time to get to know the man who owns the land you hunt on. Stop in before you leave, too, and share your bag with him. A card at Christmas helps. Be the good citizen in the field that you are the rest of the year and maybe, just maybe, those 'no hunting' signs will begin to fall.

## JUNCTION CITY ANGLER CLAIMS GOLDEYE RECORD

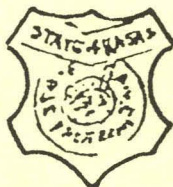
Mike Augustine is alone at the top.

Augustine, a Junction City resident, set a new state record for goldeye--a seldom sought and

seldom caught species of fish--during a summer fishing trip to Milford Reservoir. Augustine caught the 2 lb. 4 oz. fish on a Vibra-Tail lure near Big K Marina.

The record was previously held by Kris Eenhuis, Wakefield, who hooked a 1 lb. 14½ oz.

goldeye at Milford in 1973. Gold-eye resemble gizzard shad and are members of the mooneye family. The species was named for its prominent golden eyes, which make it possible for the fish to make effective use of the dim light in muddy waters.



## It's The Law.

### LAW RECLASSIFIES YOUNG FISH & GAME VIOLATORS

Sixteen- and 17-year-olds who violate fishing and hunting laws will be tried in court as adults as the result of a law passed by the Kansas Legislature.

Persons younger than 18 formerly were referred to juvenile courts for fish and game violations, said George Schlecty, assistant chief of law enforcement for Fish and Game. The

bill was introduced and passed into law for several reasons, Schlecty said.

Since hunters and fishermen in Kansas are required to possess a license after they reach age 16, he explained, the legislature determined that they should be considered adults in the courtroom as well as in the field. All violations of state fish and game laws in Kansas are misdemeanors. In recent years, Schlecty noted, there has been an increasing number of violators under age 18.

### COURT RULES FOR WETLANDS ACQUISITION

A federal judge has ruled that the State of North Dakota may not continue to block the U. S. Fish and Wildlife Service's acquisition of small wetlands in that state, according to the Wildlife Management Institute.

North Dakota enacted laws

and established policy in 1977 that paralyzed the Service's effort to acquire small wetlands (waterfowl production areas) as authorized by federal law. The state contended that the governor must agree to such easement or fee title acquisitions and he had refused to do so. The federal government, consequently, sued the state.

Judge Bruce M. Van Sickle

of the U. S. District Court of North Dakota heard the case and stated that "neither State nor gubernatorial consent is a prerequisite for a valid acquisition by the United States of small waterfowl production areas..." Judge Van Sickle found that the provisions requiring consent by the state and approval of the governor for purchasing wetlands easements are in the Migratory Bird Conservation Act. He said that no similar provisions are in the Migratory Bird Hunting Stamp Act, which the Service uses as its authority to acquire the waterfowl production areas.

### WATER TALK ON TAP

The Kansas Audubon Council is sponsoring the Kansas Water Conference Saturday, Oct. 11, at Barton County Community College in Great Bend. The purpose of the conference is to bring together those governmental agencies and organizations involved with the

current water situation in Kansas and discuss long range programs that will benefit all Kansans.

The conference will involve short presentations on various aspects of the water situation in the state. Topics will range from the effects of water shortages on wildlife to long range predictions of water availability in Kansas.

The state is expected to appeal the decision, but conservationists are hopeful that the ruling will stand. North Dakota wetlands account for a large percentage of waterfowl produced in the contiguous U. S.

## HUNTING LICENSE RECEIPTS CLIMB

More people hunted and fished in the U. S. last year than in 1978, the Wildlife Management Institute reports. Sportsmen also spent more for licenses, tags, permits and stamps in 1979 than in any preceding year.

The number of hunting license holders increased in the U. S. to 16,551,886 in 1979, up from 16,277,225 in 1978. Fishing license holders increased from 25,150,352 in 1978 to 27,947,397 in 1979.

Hunters spent \$199 million for licenses in 1979. That is \$14 million more than in 1978. Fishermen paid \$174 million for licenses in 1979, up \$15 million from 1978. Thus, sportsmen contributed to a record \$373 million in license fees last year for state fish and wildlife agencies to manage the resource.

From 1923 through 1979, hunters paid \$2.9 billion for licenses. Since 1933, fishermen have paid \$2.6 billion for licenses.

Sportsmen also help finance fish and wildlife conservation in other ways. Through manufacturers'

excise taxes on sporting arms, ammunition, handguns and archery equipment, sportsmen provided another \$94 million which was collected by the U. S. Fish and Wildlife Service and apportioned to state wildlife agencies under the Federal Aid in Wildlife Restoration Program. A similar tax on certain fishing equipment furnished the states \$30.4 million for fisheries management under the Federal Aid in Sport Fish Restoration Program.

Since the firearms and archery tax collections began, sportsmen have paid more than \$1 billion. Since the fishing equipment tax was initiated, fishermen have contributed \$327.5 million.

The federal duck stamp is another 'tax' hunters pay to enjoy and perpetuate their sport. Through 1979, duck stamp receipts totalled \$197.6 million. The money is used by the federal government to protect wetlands vital to migratory waterfowl and many other types of wildlife.

Over the years, hunters have paid \$4.1 billion for state and federal permits. Fishermen have paid \$2.9 billion. These monies are in addition to that which sportsmen contribute to fish and wildlife as general taxpayers.

## WILD TURKEY STAMPS FUND RESEARCH EFFORT

California wildlife artist Walter Wolfe has won the National Wild Turkey Federation's 1980 Wild Turkey Stamp Contest, conducted annually in Augusta, Georgia.

Wolfe's entry, titled 'Explosion in Corn,' was judged best in a field of 126 original paintings from all over the nation. His design depicts two turkey gobblers taking flight from a cornfield, and has been reproduced on the Feder-

ation's fifth Wild Turkey Stamp, purchased voluntarily by conservationists, philatelists, and private collectors. Revenues from sale of the stamps are used for education, restoration, and research.

In addition to the limited stamp issue (only 50,000 printed), a signed and numbered limited edition of art prints (6½ X 9 inches) has been produced and is available through most reputable wildlife art dealers.

The 1980 Wild Turkey Stamp is now available for a tax-deductible



donation of \$5 per stamp or \$50 per sheet of 10, while supplies last. A free stamp brochure is available by writing the National Wild Turkey Federation, Edgefield, S. C. 29824.

## DEER BOOSTERS UNITE

We've all heard of Ducks Unlimited and Trout Unlimited. Now comes Deer Unlimited.

The national pro-hunting organization, which is aimed at promoting good sportsmanship and fighting antihunting legislation, has announced the availability of the first 'Deer Stamp.' The first annual Print of the Year depicts a pair of whitetails painted by nationally recognized wildlife artist Ralph J.

McDonald.

The deer stamp project is patterned after the state and fed-



eral duck stamp programs. Each print has an accompanying stamp showing the same image. Only 1,000 print and stamp units are available.

Edens noted that his organization would be marketing the prints and stamps as well as through art galleries and frame shops across the country. More information concerning the project can be obtained by contacting Deer Unlimited, Inc., P. O. 509, Clemson, S. C. 29631.

## CONSERVANCY CAPTURES MAJOR WILDLIFE AREA

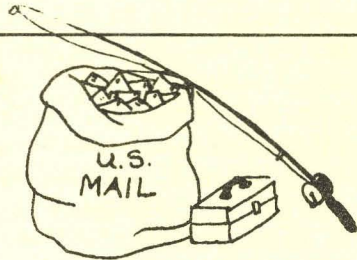
Using a grant of \$10,886,000 from the estate of the late Katharine Ordway, The Nature Conservancy will purchase 54,000 acres of sandhill prairies, forest, and river

front in northcentral Nebraska, the Wildlife Management Institute reports. The property adjoins the Ft. Niobrara Wildlife Refuge.

The purchase grant is believed to be the largest cash contribution ever made for a private conservation effort. Plans call for the Conservancy to exercise its options on

the property, which fronts 22 miles on the Niobrara River, within the coming year. The area is superb wildlife habitat.

It was Mrs. Ordway's benevolence that also made possible the establishment of Kansas' Konza Prairie, an 8,600-acre tallgrass preserve south of Manhattan.



## LETTERS to the EDITOR

We welcome letters to the editor, and ask only that they be kept as short as possible. Address correspondence to: Editor, Kansas Fish & Game, Rt. 2 Box 54A, Pratt, Ks. 67124.

### CONGRATULATIONS

Just had to congratulate you on the very fine July-August issue of 'Kansas Fish & Game.' The pictures were outstanding. The articles were good, not sentimental but educational and practical. I hardly see how you can find material enough to keep up the high class production.

**Edwin J. Frick, D.V.M.**  
Manhattan

*(Dr. Frick, professor emeritus of veterinary medicine at Kansas State University, is a long-time supporter of outdoor recreation. His gift to Fish & Game of a 59-acre tract of land along Deep Creek in southeast Riley County is a prime example of the generosity of donors to the agency's WILDTRUST program. A story on WILDTRUST appeared in the last issue of 'Kansas Fish & Game.')*

### MISTAKEN IDENTITY

I very much enjoyed the article "Summer Stream," with its excellent photographs, in the July-August issue. I did note an error in the photo caption on page 22. The bird shown is not a

Great Blue Heron. It is an immature night heron, either a black-crowned or a yellow-crowned; the immatures of both species are very similar in appearance. My guess would be immature Yellow-Crowned Night Heron.

In closing I would like to say thank you for a wonderful magazine on Kansas wildlife. Keep up the good work.

**Lloyd D. Moore**  
Kansas City, Ks.

*It's a good thing you're keeping an eye on us, Lloyd. We received several comments similar to yours after the last issue was published. Fish & Game's nongame biologist Marvin Schwilling told us the bird is a black-crowned. Your educated guess agrees with the opinions of several others who pointed out our error. We stand corrected. And thanks for your compliments and interest.*

### KIND WORDS

The July-August issue of 'Kansas Fish & Game' is one of the best yet. I was particularly impressed with your editorial.

I am pleased to see your publication taking a stance on a very important issue.

As a native Kansan, I am very fond of both our game and nongame wildlife, and I am quite proud of the Kansas Fish & Game Commission, its staff, and your publication.

**Gary K. Clarke**  
Topeka

*(Mr. Clarke is zoo director at the Topeka Zoological Park.)*

### A DESERVING BROTHER

Enclosed is a subscription request and check for a three-year subscription for my oldest brother, Cliff.

His work has taken him from the state of Kansas to Washington state, where he still spends as much of his free time as he can in the outdoors.

My father, who raised nine kids during the 40's and 50's and couldn't afford the time for such pleasures as the outdoors affords, couldn't teach us about hunting and fishing. So the job fell to Cliff.

I know Cliff enjoyed showing his five younger

brothers how to hunt and fish as much as we loved going with him. I might also add I've been through a hunter safety course in California. Most of the gun and camp safety Cliff taught us kids was exactly as the course taught it. But Cliff's methods of instilling the finer points of hunter safety were not as gentle as the course instructors' methods.

So this subscription is, in a small way, in appreciation for Cliff making possible the many hours of outdoor fun I've had over the past 25 years.

If he can't have the fun of shooting cottontails on a cold January day with six inches of snow on the ground, maybe he can at least share it with me through some article in 'Kansas Fish & Game' magazine.

I know 'Kansas Fish & Game' will return many happy memories of the Kansas outdoors for him. It's a fine magazine.

Lynn L. Bowles  
Salina

### SHRINKING STRINGERS

"Why can't we catch white bass trolling like we caught a few years ago?" This question has caused us to think back. It is true. A few years ago it was common practice for us to come in after a couple of hours trolling with from eight to 15 nice white bass. We always stopped fishing when the two of us had caught a maximum of 15. However, this is no longer the case.

During the past two summers we find ourselves trolling many more hours and catching very few fish. We now consider ourselves lucky to catch one or two fish in two or three hours trolling. In mentioning this to other fishermen, all too

often we have heard this answer: "You're not doing it right. Why, four of us caught several hundred the other night using crawdads."

We also heard this and similar stories from other fishermen: "We smelled this putrid odor, and when we investigated we found a pile of rotting white bass that someone had thrown away."

Why don't we stop this waste by putting a limit on white bass? It is the belief of many of us fishermen that a limit should be placed on this species. We think this would give each fisherman and sportsman an equal opportunity to catch his fair share. A 10- or 15-fish limit would stop this gluttonous practice and enable the schools to scatter throughout the lake in sufficient numbers to give the average angler a better opportunity to catch them.

J. R. Linville and  
Wesley Bernstorff  
Lyons

*A regulation is being drafted that addresses the problem of wasting fish. The 'wanton waste' regulation would make it illegal to dispose of fish in the manner you relate, and would require that fish be taken home and used, if retained in possession.*

*Typically, white bass are present in numbers far greater than can be caught by anglers using a lake. They are prodigious spawners. They grow quickly but are short-lived, with an average life span of three to four years. As a result, fish not caught often die of old age. Another consideration is the fluctuations that can take place in white bass populations from year to year. In years with many fish, anglers do well.*

*During years of low white bass populations, only those anglers in the right place at the right time catch fish.*

### STRANGE SQUIRREL

We have a squirrel that runs in our yard that, to us, looks mighty peculiar. I thought you may be interested.

I don't know much about squirrels. This one looks like a very large rat--dark gray almost in color and has absolutely no hair on his body or tail.

People have stopped and asked what this animal is. So, we aren't the only ones who think he looks rather odd. He isn't very much afraid. I got within ten feet of him one morning on a riding mower.

We see him at some time almost every day. We have maple trees west of the house and, at present, he seems to relish the seeds that have fallen to the ground. Just wondered whether the squirrel could be carrying a disease or if it is okay.

Mrs. Alvin Lampe  
Nashville

*Our best guess without seeing the animal is that he is suffering from a severe case of mange. In that case, he would probably show some scabs and crust where he had been scratching. Mange does not always kill squirrels. An animal that recovers will eventually grow its hair back, although it may look as if it has been shorn for awhile.*

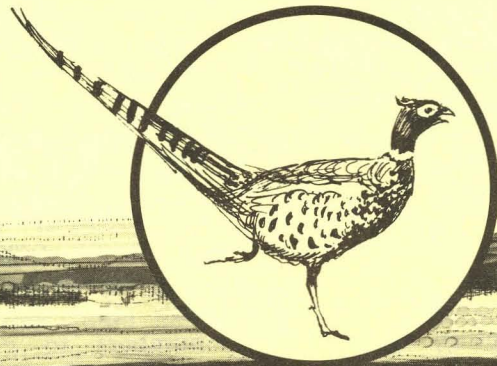
*If it is mange, it's probably caused by an infestation of mites that tend to parasitize only squirrels. There is probably little reason to be concerned about the spread of the disease to any other animals.*

# Give wildlife a break

And give yourself a break, too. There are many sound ecological and soil-erosion control reasons for allowing windbreaks to stand and for creating new ones. Windbreaks reduce wind erosion and evaporation loss in growing crops while adding to snow retention. They also effect increased weight gains on livestock sheltered in their lee and reduce fuel bills for sheltered buildings.

Important to wildlife in an era of clean farming, windbreaks and hedges are often the best, perhaps the only, winter cover for quail, pheasant, rabbits and other wildlife. Where it is necessary to pull out an old windbreak, pile the resulting brush around (not in) a gully. As time passes, excellent cover for wildlife will develop. They'll benefit and so will you, as a farmer and as a sportsman.

**NSSF** National Shooting Sports Foundation  
1075 Post Road  
Riverside, Conn. 06878





***Gifted insect hunters and woodcutters, woodpeckers have a unique function in Kansas timberland.***

# **Woodhammers**

***Marvin Schwilling***

**N**o family of birds is better known to more people than the woodpeckers. Most are not migratory so are visible at all seasons of the year. They too are widespread in North America occurring in all of the fifty states. They are not melodious singers but make their presence known by loud drumming on dead trees which is meant to warn other woodpeckers not to intrude into their feeding or home territories. The pounding is much more subdued when the birds are digging out insect larvae, ants and other food items or when chiseling out a cavity for nesting or roosting.

Woodpeckers have been around a long time. They got their start about 25 million years ago in the lower Miocene era, and the long, slowly changing period in the interim has provided time for them to populate nearly all the earth's forested areas and to adapt into the specialists they are today. World-wide there are in excess of 200 different species, some forty-five of which are found in the United States with our Kansas checklist registering eleven when the red and yellow-shafted flickers are listed separately.

Woodpeckers, in general, are not attracted to young healthy woodlands but rather to mature and old woodlands where there are standing dead trees or large

trees that provide fungus-infected dead and dying limbs or weather-broken tops. Here they are birds of the tree trunks and have many adaptations to a unique way of life. Their bills are straight and sturdy, sharp-pointed and are used to chisel through or under the bark in search of wood burrowing insect grubs, spiders, and ants. They also use their bills to chisel out their nesting cavities as well as night roosting cavities.

Woodpecker tongues are exceptionally long and usually tipped with a varying number of barbs and coated with a sticky saliva. After a woodpecker has drilled through the outer tree bark to reach the tunnel of a wood boring insect grub, it projects its tongue into the burrow and spears the insect larvae. Sapsuckers, which are also true woodpeckers, exhibit a different tongue adaptation. They are fond of sap which they obtain by pecking rows of small holes through the bark of live trees. Their brushlike tongue is then used much like a paint brush to lap up the flowing sap. It also serves as a tiny broom to sweep in the insects attracted by the flowing sap.

All this insect grabbing and wood chiseling could not go on if the woodpecker were not firmly anchored to the tree trunk. This is accomplished in two ways. A

woodpecker has two toes on each foot facing forward and two backward, a tong-like arrangement that is perfect for gripping tree limbs. Secondly, a woodpecker's tail feathers have heavy center shafts that are stiff and pointed and prop the bird up as it clings to the trunk or limb of a tree.

Slamming its head against a tree sometimes as often as a hundred times a minute would scramble the woodpecker's brains if the bird's head weren't specially adapted to take the punishment. The bones between the straight, hard, chisel-pointed beak and the thick skull are not rigidly joined as they are in most other birds. A spongy elastic tissue connects these flexible joints and serves as a shock absorber. Strong neck muscles provide the force behind the blow and bristly feathers around the nostrils filter out the wood dust as the woodpecker chisels away.

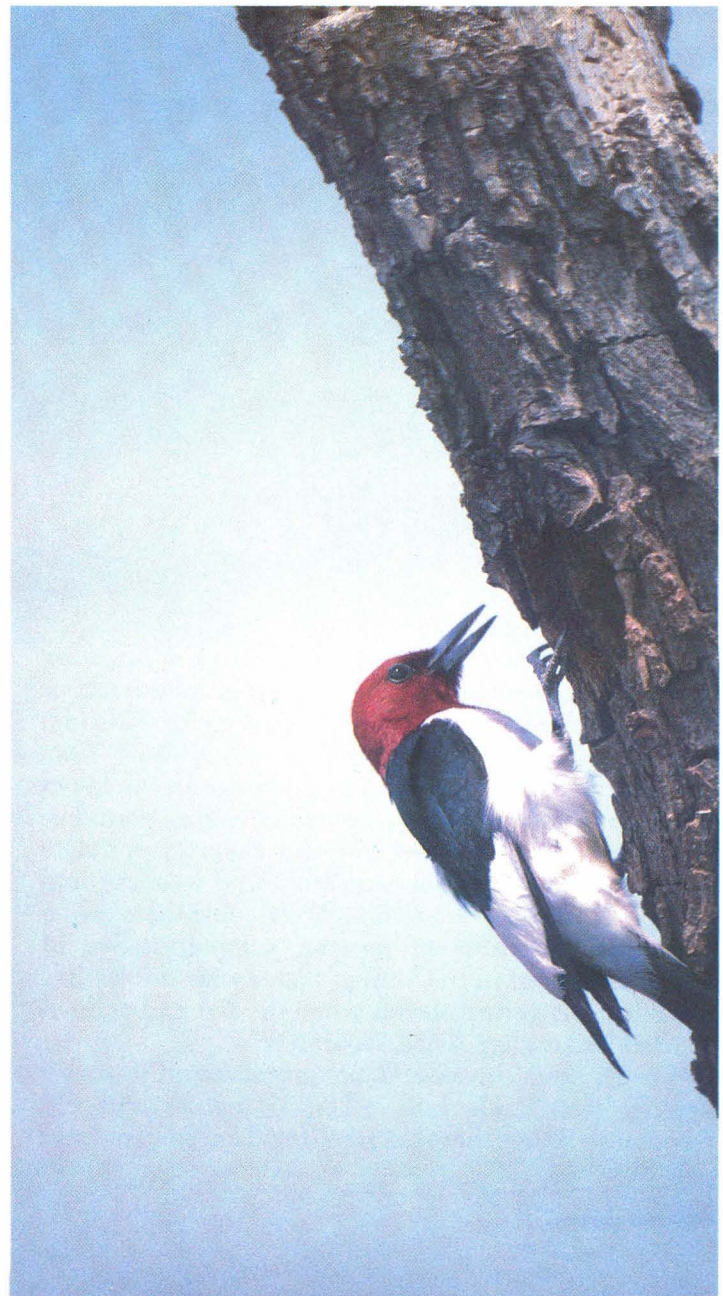
The yellow-shafted flicker is a common year-round Kansas woodpecker. In winter, the yellow-shafteds are joined by the more migratory western mountainous red-shafted flickers. Over 125 nicknames are in use for this bird—yellowhammer is surely the most common. Others include wilcrissen, high-hole, yockerbird, harry-wicket, etc.

Flickers spend more time on the ground than other woodpeckers and, consistent with such a habit, their plumage is a protective brown instead of the usual black and white of most other woodpeckers. The slight curve of the bill is an adaptation for poking about ant-hills. They extend their long, sticky three-inch tongues down into the anthill; wait until the ants are swarming over it, and then withdraw them into their mouths. As many as 5,000 of these insects have been found in the stomach of one flicker. Ants normally make up about half of the flicker's diet. The remainder of its summer diet consists of other insects. In winter, the flicker supplements its diet with small berries and seeds and often winters at backyard bird feeders.

Hairy and downy woodpeckers are very much big and little brother counterparts. Their black and white color patterns are very similar. The males of both species can always be distinguished from their mates by the red patch on the back of male's head—the entire top of the head is red on young and can be confusing in late summer. The hairy averages about one third larger than the downy and has a noticeably larger bill. When observing these birds in the field, best identifying characteristics to separate the two are the spots appearing as black bars on the white outer tail feathers of the downy. The hairy's outer tail feathers are without spots or bars. Also, the small bill of the downy can be easily distinguished from the proportionally larger bill of the hairy.

Recent studies of hairy woodpeckers show an interesting difference between sexes. Male hairys have a ten percent longer bill than females. It is believed that, since these birds have a long period of courtship in

*The woodpecker tribe varies widely in its habits and food preferences. The common flicker (below) is most common in meadows and on lawns where it dotes on ants. Red-headed woodpeckers (bottom) also like open country but concentrate more on vegetable matter like acorns than most woodpeckers. The pileated woodpecker (right) is a bird of the big timber where it feeds mainly on insects. (Flicker by Ken Stiebben; red-headed woodpecker by Ray Brockus; pileated woodpecker by Karl Maslowski).*





*The downy woodpecker (right) is a bird of wooded edges and backyards known for its appetite for insects, especially harmful ones. The red-bellied woodpecker prefers larger pieces of timber and eats more vegetable matter. Both are common visitors at winter bird feeders. (Photos by Barbara Pratt).*



January, this difference in bills permits the pair to use the food resources of their habitat more effectively and permits the pair to feed and travel together without direct competition such as might disturb a close and intimate pair bond.

"Beautiful" best describes the red-headed woodpecker. Its brilliant scarlet hood, glossy blue-black back, and clear white breast make it very striking. Generally red-heads are summer birds in Kansas. A few do remain through the winter in suitable areas but this is a very small portion of the total population. They are late nesters for woodpeckers, returning to Kansas in April and nesting in May. They are birds of both upland and lowland woodland habitat. They are not birds of the heavy dense timber but prefer edge or open woodland. Redheads are very tolerant of humans and are common residents in the city and public parks.

Redheads commonly forage by "flycatching" and in August feed heavily on grasshoppers and beetles; however, they favor vegetable food more than most woodpeckers. Acorns are a favored fall and winter redhead food. During my years at the Marais des Cygnes Wildlife Area, I found redheads each fall would completely fill with small acorns and pecans the prothonotary warbler nest boxes we placed over the marsh and would then pack the entrance with strips of wet bark. These stashes were seldom if ever utilized and it was necessary to empty the boxes each spring.

With more red on its head than on its belly, the red-bellied woodpecker is a handsome bird. Because of the transverse bars of black and white that cross its back, it is sometimes called the zebra woodpecker. During the summer months, this species is rather shy and usually keeps to the heavy woodlands. Here it most often chooses nest sites in dead limbs of live trees or live trees infected with heart rot—whereas red-headed woodpeckers generally dig their nesting cavities in the trunks of dead trees. During the winter months, it is one of the more common woodpeckers around bird feeders and suet blocks.

The big, crow-sized pileated woodpecker is the largest woodpecker found in Kansas. It is a bird of mature bottomland timber and is generally found only along the larger rivers in the eastern edge of the state. The presence of pileated woodpeckers in an area is detected by the large rectangular bathtub-shaped holes these birds cut for nesting and roosting or even the feeding holes they cut as they grub out carpenter ants and the larvae of wood burrowing insects.

Pileated are spectacular black and white gangly woodpeckers with bright red headcrests. Sexes are similar; however, the female has a blackish forehead and lacks the red whisker stripe of the male. They have a slow sweeping wingbeat that shows flashing white underwing areas. Like most woodpeckers, they excavate more cavities than they use for nesting or night roosting, providing nest sites for other similar-sized cavity nesting birds such as screech owls and wood ducks.

Two species of sapsuckers (true woodpeckers) are known in Kansas. However, the Williamson sapsucker is known from only a few records. The yellow-bellied sapsucker is a low-density winter resident throughout Kansas. Fall arrivals are seen early in October and last seen in the spring about mid-April. They are the only woodpeckers whose chisel strokes through the bark of trees are aimed primarily at getting sap to drink and soft sapwood to eat rather than insects or insect larvae. They drill rows and rows of little wells around the trunk of a live tree and return to them at intervals for several days to lap up the oozing sap with their brush-like tongue.

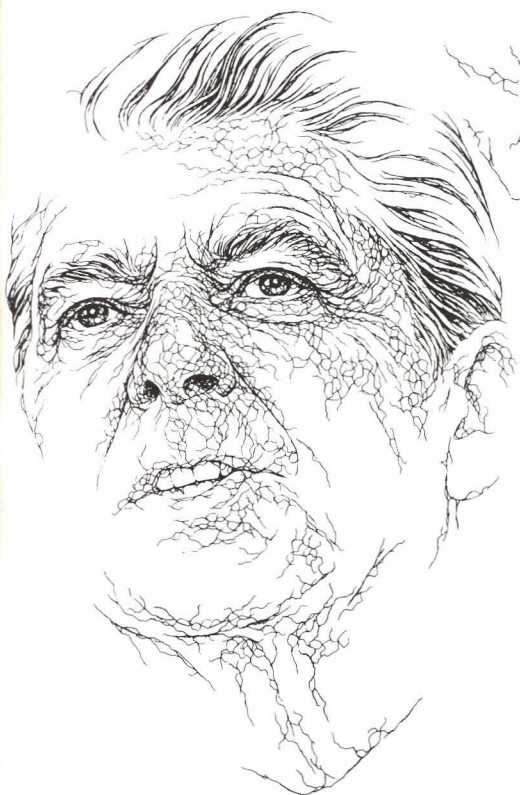
Few people are familiar with the ladder-backed woodpecker in Kansas. They are birds of the arid Southwest known in Kansas only along the Cimarron River in Morton County. In the spring of 1950, Richard and Jean Graber spent about three months in southwest Kansas and considered this to be the most common woodpecker along the Cimarron River. However, Mark Ports failed to record the bird at all in 1978 during June, July, and August and had very few sightings during the same periods in 1979. Thus it appears to occur in varying numbers over a period of years.

The least known woodpecker in Kansas is the Lewis woodpecker. This dark-colored woodpecker is a bird of the west that occasionally strays into western Kansas and is recorded as a vagrant as far east as Illinois.

There are about eighty-five species of cavity nesting birds in the United States. Forty-five of these are woodpeckers, leaving forty other species that use old woodpecker holes or natural cavities. The abundance of nesting cavities for these birds seemed sufficient until the recent population expansion of the European starling and the increasing energy heating shortage.

Starlings nest earlier than most of our native birds. By the time most of the natives return to their nesting areas, they find starlings already in possession of the more desirable cavities, and they also find an overall scarcity of the dead and dying trees in which good cavities are formed. There is a widespread feeling among fireplace owners that this overmature timber is worthless and may even harbor insects and disease that harm younger trees. In fact, older trees occupy a unique, vital place in the ecology of a woodlot. Indiscriminant removal of the snags and dying trees in a forest inevitably means the removal of woodpeckers and a host of other animals that might otherwise help keep insects and other pests in check.

This association between woodpeckers, old trees, and other cavity-using birds and mammals is an excellent example of the complexity of relationships in most wild communities. If we expect to hold onto the best of our wild places, it's important for us to understand a little more about the way they work before we lay into them with chain saws. Aldo Leopold said it best—"The first rule of intelligent tinkering is to save all the parts." In a Kansas woodlot, that includes old trees—and woodpeckers. □



## **Wildlife Profiles of the Presidential Candidates**

**Rod Baughman**

**A**s the Presidential election draws near, pollsters tell us a large number of voters are still undecided. And this in spite of thorough campaign coverage provided by the press, as well as the efforts of the candidates themselves to put their names and faces before the public as frequently and as convincingly as possible.

To inform our readers of where the three Presidential contenders stand on wildlife-related issues, we have drawn upon the resources of the League of Conservation Voters, a national, non-partisan campaign committee that evaluates and supports environmental candidates in elections. The following issue profile is a condensation of a section of the League's recent report, *The Presidential Candidates: what they say . . . what they do . . . On Energy and the Environment*.

## Wildlife—

**Carter:** The President's record on wildlife issues is mixed. The Administration's record seems to be strongest on wildlife management and the protection of wildlife habitat, and weakest on the protection of endangered species.

Before an endangered species can enjoy federal protection, it must first be listed by the Interior Department. This process has come to a virtual standstill. "We were closer to having a listing for endangered plants in 1976 than we are in 1980," said a botany

parts and products, and wild plants." He asked all agencies to join in a coordinated effort, and later created a new wildlife section in the Department of Justice to enforce the law.

In both his 1977 and 1979 environmental messages, President Carter reiterated his concern about the future of the great whales and his support for a moratorium on commercial whaling. The President also prohibited commercial whaling within the 200-mile U.S. Fishery zone, a move supported by environmentalists.

The Fish and Wildlife Service under Carter has done far more than any previous Administration to mitigate

*Gene Brehm*



expert at Interior's Office of Endangered Species. Environmentalists are disappointed that Interior Secretary Cecil Andrus and his Assistant Secretary for Fish and Wildlife, Robert Herbst, have made no visible effort to expedite the program. Although President Carter at a November 1979 meeting with environmental leaders told Andrus explicitly to "expedite the program," very little has changed.

President Carter has made an effort to improve the enforcement of existing laws against international trade in endangered species products. In his 1979 environmental message, he spoke out strongly against the "massive illegal trade in wild animals, wild animal

the loss of habitat from federal water projects. The Interior Department has written new regulations to improve the enforcement of the Fish and Wildlife Coordination Act to achieve this goal, but these have been postponed, partly because of resistance from some other agencies. The Interior Department is also working to assure minimum instream flows of water in rivers on public lands, something which is essential for fish and many wildlife species. Here again, implementation in the field has lagged behind official policy. The Carter appointees are making a sincere effort but are having trouble overcoming an entrenched bureaucracy and political pressure.

In his 1977 environmental message, President Carter said, "I am directing the Secretary of Interior to (1) encourage states to apply existing federal aid to the management of all species of wildlife, and (2) propose other measures to improve the conservation of non-game wildlife."

The Council on Environmental Quality, the Fish and Wildlife Service, and the Department of Agriculture have argued that state wildlife programs are not sufficiently funded to provide adequately for non-game species, but they have stopped short of pushing non-game legislation that would require the states to address this problem. Any push for legislation has been blocked by the Office of Management and Budget (OMB) which strongly opposes a new non-game program, arguing that it is costly and unnecessary because existing hunting and fishing excise taxes are sufficient to take care of wildlife needs. The OMB has testified to the Congress to this effect, and in the absence of any personal action taken by the President, it looks as if any significant non-game program will have to wait.

**Anderson:** Most of John Anderson's initiatives on wildlife issues concern the protection of wildlife habitat rather than of species themselves. For example, Anderson was instrumental in getting wilderness status for the Arctic National Wildlife Range in Alaska. Anderson has also sponsored the establishment of the Seal Beach National Wildlife Refuge in California and the Minnesota Wildlife Refuge System.

Anderson has voted both ways on the question of whether to exempt the Tellico Dam from the Endangered Species Act. In 1978, he voted for an amendment to exempt the dam from the act. But in 1979, he evidently changed his mind, perhaps because he was incensed at the way in which Tellico was hastily tacked onto an appropriations bill. This time, Anderson defended the Endangered Species Act and voted against the dam.

Anderson voted against the bill setting a 200-mile fishery zone, which was necessary to prevent fisheries

from suffering severe depletion from foreign ships using fine mesh nets.

In his response to the League of Conservation Voter's questionnaire, he was not willing to say he would push vigorously for a moratorium on all whaling if president, but he did say he would enforce existing legal sanctions against nations that violated international treaties or whale conservation efforts. These sanctions would involve either trade embargoes or a limitation on foreign fishing within the 200-mile limit.

**Reagan:** Because the California Fish and Game Department opposed spending money to restrict the im-

portation of endangered species, Reagan vetoed such legislation in 1973, but he signed the bill in 1974, at the urging of some groups of environmentalists. His appointment of Ray Arnett, a hunter and an outspoken supporter of conservation rather than preservation, as director of California Fish and Game Department drew fire from many preservationists but met the approval of most conservation professionals.

Reagan has addressed the issue of endangered species in his campaign literature, where he states that blind enforcement of the Endangered Species Act can unnecessarily impede economic growth and energy production.

On one occasion, Reagan addressed the issue of baby harp seals, stating, "The harp seal is not in danger of extinction . . . the herd is growing . . . the seal hunt, in terms of humaneness, compares favorably with the method of dispatching domesticated animals which provide us with our daily food."

## Wetlands—

**Carter:** A major legislative battle over the Clean Water Act concerned section 404, which gives the Corps of Engineers authority to restrict dredging and filling of wetlands. The Environmental Protection Agency joined environmentalists in fighting successfully against a move to gut this provision.

In May 1977, President Carter issued an Executive Order directing federal agencies to avoid giving direct or indirect support to new construction in wetlands, and calling for a public review of any plans to modify them. Carter estimated that the U.S. has lost over 40 percent of its original 120 million acres of wetlands.

The Carter Administration has succeeded in making major reforms in the Soil Conservation Service's stream channelization policies, which had previously been a major threat to wetlands and river bottom lands. Under new guidelines the SCS has put more emphasis on conservation and reduced its channelization.

Environmentalists have criticized the Administration's weak implementation of section 208 of the Clean Water Act, designed to combat non-point source pollution, *i.e.*, polluted runoff from farms, feedlots, mines, and city streets. Federal agencies are directed to help states develop "best management practices" and to coordinate area-wide waste water treatment efforts, but the Administration's regulations don't give the states proper guidance and almost nothing has been accomplished.

**Anderson:** Early in his career, Anderson voted against two amendments to protect wetlands. One of these by Congressman Reuss (D-WI) would have pro-



hibited new stream channelization projects. Channelization often turns natural streams into relatively sterile ditches, destroying wetlands in the process. In 1975, Anderson voted against an effort to increase funding for acquisition of wetlands for migratory birds. But Anderson later reversed himself and supported environmentalists in the most crucial struggle over wetlands in 1976. There was a major drive to gut Section 404 of the Water Pollution Control Act. Anderson voted against an amendment by the powerful House Majority Leader Jim Wright (D-TX) to strip the Corps

tain percentage to the State, to pay the costs of oversight and enforcement.

Among other actions, Reagan's representatives on the new Water Resources Control Board required oil companies to clean up wastes they had dumped into San Francisco Bay river deltas that were hurting fish and wildlife.

Reagan avoided any federal intrusion by setting up a state program stronger than the one required by federal law. California also lobbied for strong EPA regulations that would be consistent with its own program.



Ken Stebben

of Engineers of eighty percent of its wetlands jurisdiction. On the League of Conservation Voters questionnaire, Anderson reaffirmed his position that the federal government does have a responsibility to protect wetlands and that the law should be enforced with greater vigor.

**Reagan:** Reagan supported and signed the Porter-Cologne Water Control Act, which was the strongest state water pollution law in the country. The act linked water rights to water quality, so that anyone using water from a river was legally responsible for its condition upon return. The act further required localities receiving federal water treatment grants to pay a cer-

## Agriculture—

**Carter:** Carter's Secretary of Agriculture Robert Bergland agreed not long ago to release 12.8 million acres from the federal set-aside program for crop production. This action directly affects wildlife. When set-aside land is out of production and seeded to permanent cover crops, it provides stable habitat for many species of birds and mammals. The release action was taken to increase grain production for export. Unfortunately, history shows whenever set-aside acreage decreases, wildlife populations tend to suffer as a result.

On the positive side, the Carter Administration has

initiated several studies on the various aspects of agricultural resource protection.

**Anderson:** Valuable agricultural land in the U.S. is rapidly getting paved over by highways, flooded by dams, ripped up for mining, and subdivided into suburban development. Much of this land also provides habitat for wildlife.

Very few pieces of legislation that would do anything to protect farmland have come to the House floor. Anderson has supported two such provisions, one in 1974 when he voted for House consideration of a bill to provide federal grants to states that wanted to establish land-use programs to protect areas of critical environmental concern. Silt and agricultural chemicals carried by runoff from poorly managed farmland pollute streams, often seriously altering fish habitat. Anderson was a leader in the effort to pass the 1974 water pollution act, which made the first tentative effort to address the problem of runoff from agricultural lands.

**Reagan:** During his tenure as governor of California, Reagan set up his own Local Government Reform Task Force to study land-use planning. As a candidate, Reagan has not made land a priority issue, and he rarely addresses land-use concerns in his speeches. His campaign literature does not mention the problems of agricultural land conversion, soil erosion, or other agricultural resource protection issues.

## **Parks and Wilderness—**

**Carter:** The Carter Administration worked closely with environmentalists on several battles in the Congress to add important areas to the National Park System. Perhaps the most important was the effort to expand the Redwood National Park in California. In the end, Congress added 48,000 acres to the park and created a 33,000-acre buffer zone that could be purchased if necessary. The Administration has become

increasingly tightfisted about park appropriations. Funding for park land acquisition, management, and maintenance has actually been declining in real terms during the last two years. Carter has reneged on a 1976 campaign pledge to spend almost \$700 million over ten years on maintenance and rehabilitation to halt the deterioration that is evident in many parks. He dropped this proposal after the first year, and the park management staff has remained static despite twenty-three new additions to the National Park System.

The President recently decided to slash funding for the Land and Water Conservation Fund by about seventy-five percent in fiscal 1981. This fund provides the

money for the parkland acquisition authorized in the Congressional battles where the Administration lobbied side by side with environmentalists.

The Carter Administration has supported the designation of specific wilderness areas that were being debated by the Congress, but badly disappointed environmentalists on the biggest wilderness issue of all, the RARE II evaluation.

As the program moved ahead, an alliance of timber companies and local business interests began to apply intense pressure to finish it quickly and to minimize the amount of wilderness. This pressure was reflected in the final results: only about 15 million acres or 26 percent of the total were allocated to wilderness, as compared to 36 million sought by environmentalists.

President Carter's record on wild and scenic rivers has been very notable, and a considerable improvement over that of previous administrations at the national level.

In his 1977 Environmental Message, Carter recommended eight significant additions to the National Rivers System. The Administration followed through with much of the necessary support work required, and five of them were designated by Congress in the fall of 1978. Carter is the first president to take the National Wild and Scenic Rivers program seriously, and to set up and follow orderly procedures for designating new rivers. The Administration is doing a sorely needed review to improve this process and a National Inventory of Rivers to locate those which deserve protection under his Presidential Directives issued in August 1979. This will affect hundreds of rivers throughout the country.

**Anderson:** Anderson has usually supported the creation of new parks and wilderness areas outside Alaska as well. In 1978, he was a co-sponsor of a bill to strengthen protection of the Boundary Waters Canoe Area in northern Minnesota, which is the most popular wilderness area in the country.

The main controversy revolved around the use of

motorboats and snowmobiles. Anderson gave a floor speech in support of the Vento amendment to phase out most of these motorized uses, a very controversial action in Minnesota.

Anderson also supported the Redwood Park Expansion Act, and voted against an amendment to send the bill back to Committee to reduce its acreage. In previous years, Anderson has also supported the creation and expansion of the Indiana Dunes National Lakeshore, and voted for a much needed increase in the authorization for the Land and Water Conservation Fund, which is used to finance nearly all parkland acquisition.

On wilderness issues outside Alaska, Anderson's record is not quite so consistent. He was absent for the vote on the Endangered American Wilderness Act, although he told *Congressional Quarterly* that he would have supported it had he been present. However, Anderson voted against a bill authorizing a study of nine potential wilderness areas in national forests in Montana.

On the League of Conservation Voters' questionnaire, Anderson indicated he feels that the Carter Administration's RARE II wilderness designations for the National Forests were too small and should be ex-

partment's planning office when he reorganized the State government, and as a consequence, no comprehensive plan was developed.

The governor began to change his attitude in 1971, when he signed a bill creating the Bagley Conservation Fund to set aside some left over tax revenues for park acquisition. Later Reagan agreed to a statewide bond issue, and voters approved spending \$250 million more. Reagan's Parks Department made excellent use of this money, and bought up eighty-three miles of coastline. Reagan also signed a state wilderness bill giving permanent protection to 105,000 acres.



Chris Madson

panded. Anderson is opposed to wilderness "release" legislation that would bar certain areas from further consideration as wilderness.

**Reagan:** In his first gubernatorial campaign in 1966, Reagan charged that his opponent's extensive parklands acquisition program was a buying spree. Too much land had been purchased and not enough developed for public use, he claimed. During his first four years as Governor, Reagan tried to block the creation of any new parks, saying that this should wait until the Parks and Recreation Department had published a master plan for developing recreational facilities in the existing parks. However, Reagan dismantled the De-

Reagan also signed into law the Nejedly-Z'berg Forest Practices Act of 1973, which is considered one of the strongest laws to regulate logging in the world. It gives citizens standing to sue, sets tough restrictions on clearcutting, even on private lands, and requires that members of the public outnumber industry representatives on the State Board of Forestry.

Reagan berated the U.S. Forest Service for mismanaging the national forests by not allowing more timber cutting. Claiming that "dead trees are pure waste and are harmful to the forest," Reagan argued that timber companies should be allowed to increase their harvest of mature and dying trees in the forests. □

# Do-it- yourself Doves

*John Madson*

*Reprinted from The Mourning  
Dove, published by Winchester  
Group, Olin Corp.*

**I**n most of the American mourning dove range, poor habitat is not a critical factor. There is generally enough nesting cover and food. Widespread habitat improvement is not really practical nor necessary. But it can easily be done on an intense local basis with some phenomenal results.

Created dove habitat falls into two general types: balanced, year-round habitat meant to produce doves, and feeder fields meant to draw doves for the hunting season.

When veteran dove biologist Dan Russell was asked to suggest ideal conditions for doves on a forty-acre area of the first type, he came up with this:

- twenty acres: cropland, cereal feed grains, no fall plowing;
- eight acres: pasture, including a pond, in a combination of food and water;
- one acre: random conifers for nests and shelter;



two acres: natural stream and stream bank  
for water, grit, nesting, resting;  
one acre: food plots of small grains, scat-  
tered through the area on an  
average of about a quarter acre  
per every ten acres.

Dove habitat can be enhanced in the course of normal farming operations by planting corn in wide rows and interseeding with grasses and legumes. With no fall plowing, of course. The soil is protected from weathering and erosion and the fields are attractive to many forms of wildlife. Doves will give such fields eight times the use that they make of fields planted to corn in the usual ways, and such planting is particularly valuable in winter and extremely early spring.

Technically, baiting mourning doves is unlawful. You may not carry grain or other bait

into a shooting

area and hunt doves over that scattered bait. However, it is lawful to plant a field with grains or plants attractive to mourning doves, and harvest all or part of it, or none at all. Any grains or grain residues left as a result of normal agricultural operations can be legally shot over. In other words, doves can be hunted over bait grains where that bait is growing. But bait cannot be moved from one place to another for the purpose of attracting doves for hunting.

Most "dove fields" are created for hunting although their benefits extend to wildlife before and after the hunting season as well as to hunters during the actual gunning period. This has been a common practice for many years, particularly in parts of the South where managed dove fields may be a profitable sideline to normal farm operations.

Example 1: In 1972, farmer Jim Southern began growing sunflowers in his fields just north of Savannah, Tennessee. Before the opening of the dove season



there were an estimated 150,000 doves feeding in those fields and the Wildlife Resources Agency persuaded Southern to open the fields to hunting. The venture was a huge success, and was repeated in 1973.

Before the September 1 opening of the second season, strips were harvested from the mile-long sunflower fields. The unharvested strips served as blind areas for hunters, and the harvested strips were strewn with sunflower seeds. Over 1,200 hunters were there on opening day and over 1,100 bagged their 12-bird limits. The total opening-day bag figured at between 13,000 and 14,000 mourning doves.

The fields were gunned at intervals until the middle of September when hunting was closed so that the rest of the sunflowers could be harvested. Proceeds from the last two-day shoot were donated to Ducks Unlimited. It was estimated that about 150,000 doves fed in the vast sunflower fields while shooting was going on, and 25,000 doves were taken. What did this mean in terms of income? Well, there were two grades of fees. For \$10 you were hauled to and from the shooting points and your birds were dressed for you. If you walked into the fields, and dressed your own doves, the tab was \$5. We don't know the hunter total during the time these fields were open to the public. But assuming that all of those 1,200 opening-day hunters took the \$5 special, that's a lot of fringe benefit. Incidentally, the sunflower seeds brought an average of \$75 per acre, and some fields had a second crop that averaged \$50 per acre!

Example 2: Writer Carlos Vinson tells of a farmer near his Tennessee home who wasn't able to harvest a ten-acre wheat field because of wet weather. When things finally dried out, weed growth made harvest impossible. In early September he bush-hogged the entire field with the idea of discing the shattered wheat and maybe getting another crop. But when he saw all the doves that were drawn there, he got another idea. He opened that little field to hunting for three weekends, charging hunters \$2 apiece, and netted \$250.

In 1974, a survey was made of two dozen Tennessee landowners known to have fee hunting for doves.

There were six different crops involved: corn, silage, millet, millet and soybean hay, oats, wheat, and sunflowers. Millet and bean hay was the crop most frequently used for dove hunting, followed by wheat, silage, sunflowers, millet, and oats. Hunting fields ranged from one to 500 acres, and about sixty-three percent of the farmers held hunts on 25 acres or less. Fees varied from \$2 to \$10 for an afternoon of hunting—with the \$2 fee the most frequent. The farmers involved earned from \$50 to \$1,500 for the season's shooting, with an average income of \$12 per acre. Most of these farmers managed their own hunting, but about 20 percent turned over the management to civic organizations or private clubs.

Some of these commercial fields are specifically

managed for doves and dove hunting; many are just farming operations of the types that bring doves and the possibility of some fee shooting. By contrast, dove fields developed by state game and fish agencies are usually carefully tailored for the purpose.

The Tennessee Wildlife Resources Agency works with two types of dove lands: Wildlife Management Areas that include dove fields and managed hunting, and private lands that are leased by the agency and developed for dove hunting. Private landowners are paid \$10 per acre for fields smaller than thirty acres that are leased for dove hunting, and several fields larger than that were leased at a cost of \$300 per field. The average lease cost for 3,000 acres ran about \$5.50 per acre.

There's a lot to be said for this system of leasing dove fields from landowners. One is cost—the Tennessee Wildlife Resources Agency spent about \$11.35 per shooter trip on wildlife management areas and only \$1.63 per shooter trip on leased dove fields. As a result, it was concluded that dove field management on state wildlife areas should be increased only when such management could be done through sharecropping or some other means. They also felt that the number agreements should be increased near metropolitan areas and that more landowners should be encouraged to provide private shooting—for a fee, if necessary. In 1974 Tennessee had twenty-three wildlife management areas with managed dove shoots and sixty private fields that were leased for dove shooting.

In Illinois, a new dove management program on various state areas is providing some excellent gunning. In 1976, thirty-two of these areas had a harvest of 33,185 doves by 7,064 hunters. As game biologist Floyd Kringer points out, dove field management on public lands has the same potential as waterfowl hunting on public lands, and doves can be attracted, held, and hunted on such lands in ways that are remarkably parallel to waterfowl. However, larger numbers of doves can be concentrated in smaller feeding situations than waterfowl. For example, twenty to forty acres of sunflowers can easily yield a season's harvest of 2,000 doves.

In the Illinois dove management program, sunflowers have proven to be the most effective and economical way to attract doves. The Peredovick variety is among the best. This small Russian sunflower is highly successful for dove fields, perhaps because its black seeds are quite small and easily eaten by doves. The large seeds produced by some common varieties of sunflowers are too large for a dove to easily swallow.

Kringer recommends that a dove field be plowed and disced as if planting corn. Treflan is used at a rate of 1½ pints per acre and can be applied as early as four weeks before planting. Disc the field at least twice in a criss-cross pattern for it is vital that the Treflan be thoroughly mixed with the soil.

Plant as early as possible in the spring; sunflowers can stand temperatures in the high twenties once they have sprouted, and can be planted earlier than corn. It takes about 120 days for Peredovick sunflowers to ripen and they should be ripe at least two weeks before the dove season opens.

Illinois area managers plant sunflowers with corn-planters; row planting is usually the best, for it is easier to find downed birds. It's important to have the ground bare between the rows—hence the Treflan. Sunflowers should be seeded at a rate of five or six pounds per acre.

In midsummer before the sunflowers ripen, feeding patterns by local doves can be established with strips of Proso or German millet that run through the sunflower patches or are planted near them. Millets mature earlier than sunflowers and are attractive to local doves, and as the sunflower fields ripen there are birds already using the area. Early use and progressive buildup of doves will usually result in larger feeding flocks that are harder to drive off by shooting. Some managers believe it's a good idea to locate small sunflower fields in the vicinity of the larger fields. These smaller patches are never shot over; they are held as inviolate refuge areas. This certainly works on carefully managed waterfowl areas, and there's no reason why it shouldn't work with doves.

In intensive dove field management, it's as important to manage hunters as it is the birds. Kringer likes to see shooting cut off at about 4 p.m. to allow doves to visit the fields during part of their normal afternoon feeding time without harassment. If shooting begins at 1 p.m. there are three hours of gunning—and at an intensively managed dove field that's planted to sunflowers, three hours will see a lot of action.

I was on hand last year on September 7 when dove hunting opened after Labor Day weekend on one game management area in southeastern Illinois. Shooting began at 1 p.m. and there were plenty of hunters on hand—including a number from Indiana. The fields of ripened sunflowers were alive with birds, and it was a rare hunter who didn't manage to limit out in three hours of shooting.

The dove fields were bordered with brushy woods. Hunters spaced themselves along the edges and I heard no arguments. It all worked out just fine. The only problems were caused by restless souls who just couldn't stay put. Wandering around through the open fields flushed with dove fever, sometimes shooting at low birds toward the wooded edges, these wanderers were generally pains in the neck. But except for that, the afternoon was a huge success. I didn't talk to a hunter who wasn't excited and happy about the whole situation.

If a dove management area is big enough, Illinois game managers recommend separating it into three units that are far enough apart so that one can be shot over without disturbing doves in the other two units.

Shooting can be rotated, with each unit being gunned every fourth day. Each unit should be at least 80 to 100 acres, and although it need not be all in one field, the larger the field the better.

Most experienced game managers are outspoken advocates of such state dove management, pointing out that a minimum of expense and effort can produce a maximum amount of shooting for a surprisingly large number of hunters. At 1976 prices, Illinois' dove management had a basic cost of about \$29.25 per acre. This breaks down to about \$3.50 for Peredovick sunflower seed per acre, about \$3.75 for 1½ pints of Treflan per acre, and maybe an additional \$22.50 for 200 pounds of 12-12-12 fertilizer if the soil happens to be poor. If no fertilizer is needed, the cost is minimal.

The area we hunted last fall was managed in the ways described, and nearly 5,000 doves were taken from those sixty-five acres in September alone. Dove management works, and works fast. It is doubtful that any other kind of game management can produce such spectacular results so quickly.

Best of all, it needn't be an involved process that calls for a big investment in land, equipment, or expertise. A couple of hunters can easily develop the same thing on bits of waste land. With a few dollars and a couple of friendly farmers, a pair of hunters and their children could have more dove shooting than they'd probably want to buy shells for. It's not an idle dream, either—we have middle-income friends who are doing it.

There has been some concern that heavy shooting on concentrated doves might almost wipe out a local nesting population. But in Illinois at least, gun pressure on dove management units is apparently spread evenly among local birds and migrants. Banding studies by the Illinois Department of Conservation on and near several key dove management sites have indicated that shooting there had "a negligible effect on the breeding colony on and around those areas." Most of the doves in the initial study were banded on the sites themselves, yet only 8.2 percent of all the banded doves were taken by hunters on those management areas.

Doves are a natural for pay-as-you-go hunting. From the hunter's point of view, it offers easily accessible shooting at a reasonable fee. To the farmer, it's a bit of extra income that may involve no special investments in time, land, or money.

Providing quail, pheasant, or waterfowl hunting for a fee requires the presence of those species, obviously, and that means special facilities for pen-reared birds or the presence of good natural habitat, or both. By contrast, it is possible to have excellent dove shooting on land unfit for any other major game species—clean-farmed land with crop residues that only a dove may be interested in. □

