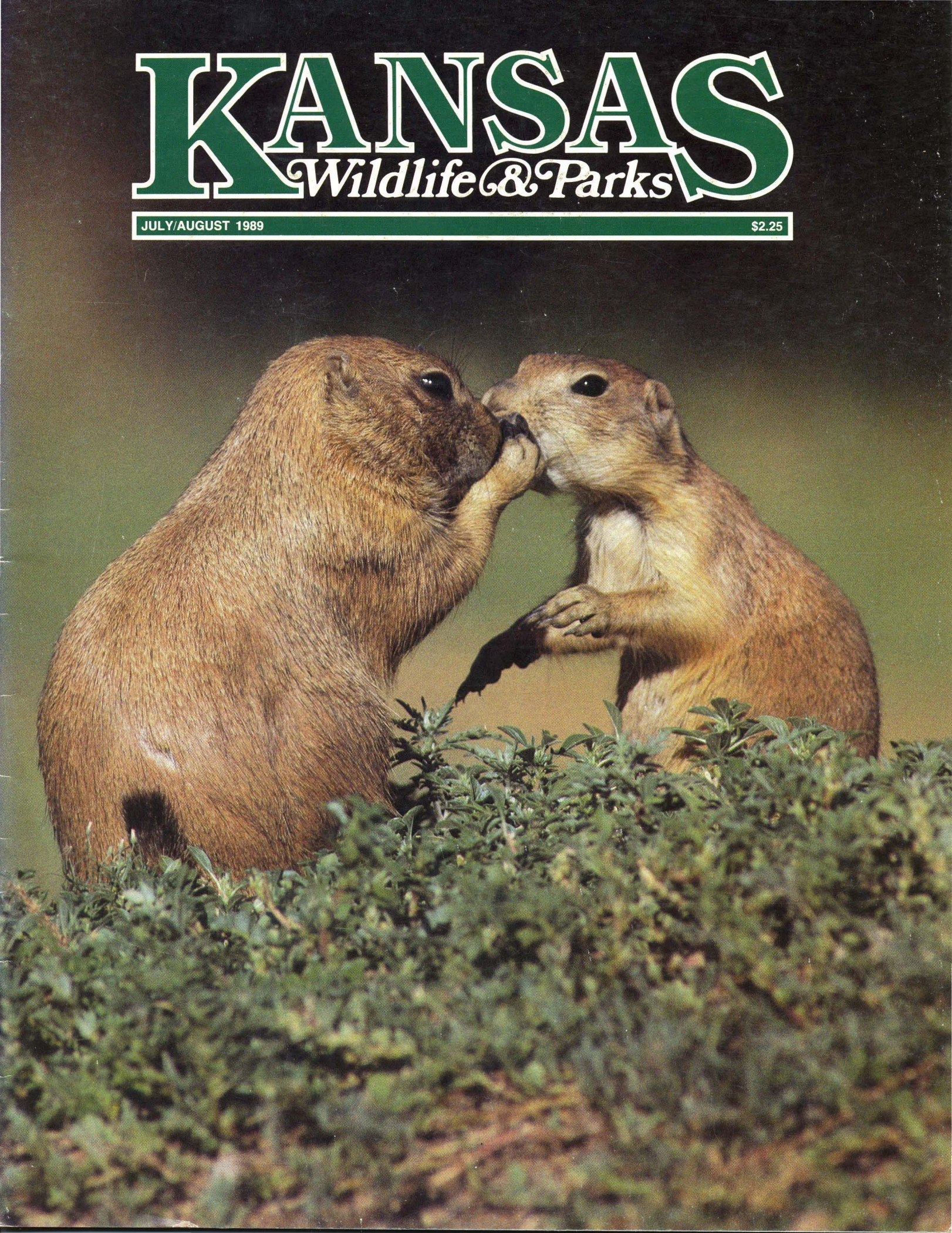
KANSAS Wildlife & Parks

JULY/AUGUST 1989 $2.25



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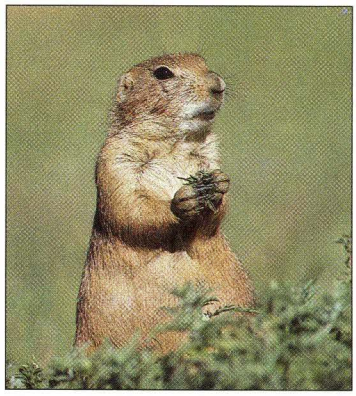

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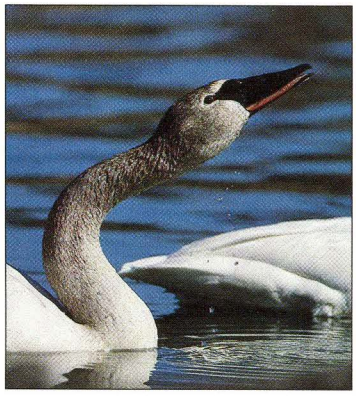

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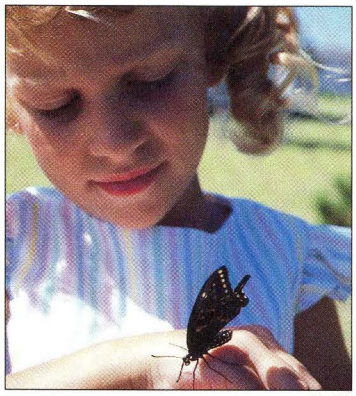

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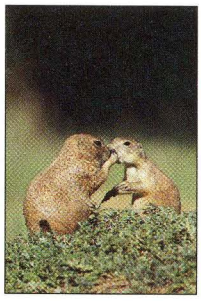

About The Covers

Front: A black-tailed prairie dog momentarily greets its youngster as the two forage in late afternoon at Kanopolis State Park. Mike Blair captured the intimate moment with a 600mm lens, f/11 at 1/125.

Back: A rare trumpeter swan pauses while feeding at La Cygne Reservoir. Photo by Mike Blair, 400mm lens, f/11, 1/250.

Editorial Creed: To promote the conservation and wise use of our natural resources, to instill an understanding of our responsibilities to the land.

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THE BUCK STOPS HERE

Dog Days?

As I've grown older, midsummer has become somewhat of an inactive period. I guess extreme heat and intense sun have more of an effect on my body now than they did when I was 12 years old. I never remember anything bad about summers when I was a kid. These days, I liken July and August to January and February, except that instead of sitting by the fire, I'll choose the air conditioner. But when I was young, July and August were times of fascination.

On those few summer days when I didn't ride my bike out to the county fishing lake, I'd beg Mom to drive my cousin and me to the farm pond. We spent hours fishing in the heat. If it got unbearable (which took a lot in those days), we'd jump in and cool off, or slip down to the creek below the pond. In the shade of the trees lining the creek, it was cool, and we could wade in the water and fish, or maybe just explore. Summer was a great time to learn about nature.

Since I don't have children of my own yet, I've forgotten how much fun summer can be. But parents with young children rediscover summer fun. In this issue, Mary Winder writes about how she is raising her three young daughters with nature. Life through new eyes is always refreshing. On High Ground, photographer Mike Blair remembers fishing trips with his Granddad and relates the fun of teaching a youngster about fishing (Blair's two young daughters are already out-fishing him). A warm summer day is perfect for that. Blair also gives some inside tips on hunting summertime squirrels. He grew up in the wooded hills around Mound City in southeast Kansas, and he's spent many a summer day slipping through the woods after squirrels.

Summer is also a great time to take a family camping trip to a state park. Parks and Public Lands field supervisor, Jerry Schmidt, lets us in on the Camp Host Program. The program enlists retired folks to spend the summer selling park permits at some of our state parks. There's lots of activities happening in our state parks throughout the summer. One might play a game of mud volley ball, a game of softball, walk along the nature trail and watch the warblers or pitch a game of horseshoes. And I'll bet that sitting on a lawn chair overlooking one of our reservoirs on a warm summer's evening will take the stress out of even the most taut person.

Now that I think about it, summer isn't so bad. It will never appeal to me as much as fall and spring, but I've still had some of my best times in the summer. Night fishing on farm ponds or using submersible lights for white bass on a reservoir is always appealing. Check out the Center Section for more summer fishing tips.

Speaking of the Center Section, this is Mark Shoup's first issue as associate editor, so give it a read and see how he's doing. Illustrator Dana Eastes has been equal to the challenge, and I think you'll like her work. We're also featuring a couple of new authors. Kevin Becker researched and wrote the article on Kansas prairie dogs. Becker has a wildlife degree and works at the Pratt hatchery. He's spent most of his life learning about and watching wildlife. I think some of this intensity shows through in the article. I mentioned Jerry Schmidt, author of the Camp Host article. Schmidt worked as manager of Cheney State Park for several years and was recently promoted to field supervisor in Region 4.

Dana Eastes illustration

This July/August issue has a little of everything; hunting, fishing, state parks and even a note about the new state-record nontypical bow-killed whitetail. And birders should appreciate Shoup's writing and Blair's photos on trumpeter swans. Blair was working on another assignment in southeast Kansas when he heard about trumpeter swans at La Cygne Reservoir. He recognized the rarity of these huge birds in Kansas and took advantage of the situation. Thanks to nongame biologist Marvin Schwilling for providing us with the support information.

Since several of us here at KANSAS WILDLIFE & PARKS magazine are relatively new, give this issue a close look and let us know what you think. We're open to advice, suggestions, criticism and maybe even a compliment or two. Your thoughts are our standards for success.

Mike Miller
editor

Little Dog On The Prairie

The social behavior of the black-tailed prairie dog is unique and fascinating. Once covering more than two million acres in Kansas, prairie dog towns cover only 50,000-75,000 acres in the state today.

by Kevin Becker
conservation worker
Pratt Hatchery

photos by Mike Blair

Prairie dog towns are viewed in many different ways. The rancher may view prairie dog mounds on his pasture with dismay. To the rancher, the prairie dog competes with his cattle for grass and mars the grassland with mounds and holes. To the casual observer, the dog town may look like an unusual collection of mounds topped with nervous rodents. But to wild predators and ground-dwelling animals, the prairie dog town may be home as well as a center of activity.

I first encountered prairie dogs while dove hunting with my family in southwest Kansas. The dog town was near an old farmstead where a windmill produced an ideal dove watering hole. I remember watching the resident prairie dogs scrampering to their mounds and barking furiously at our arrival.

Dove hunting near the dog town was never boring. Between flights of doves, I scanned the dog town for entertainment. It seemed that on every mound was an upright prairie dog watching our every movement. Observing a little closer, I noticed several burrowing owls bobbing up and down atop an abandoned dog mound. When we shot doves, I was amazed at how fast the prairie dogs could disappear down their holes. After several quiet minutes, the fat rodents would reappear, calling to each other with high-pitched chirps. But their above-ground peace was short. A long, narrow shadow slid across the town, and the prairie dogs quickly recognized the imminent danger of a northern harrier on the prowl. The hunting raptor's presence quickly sent the dogs back underground. Life in a prairie dog town can be exciting.

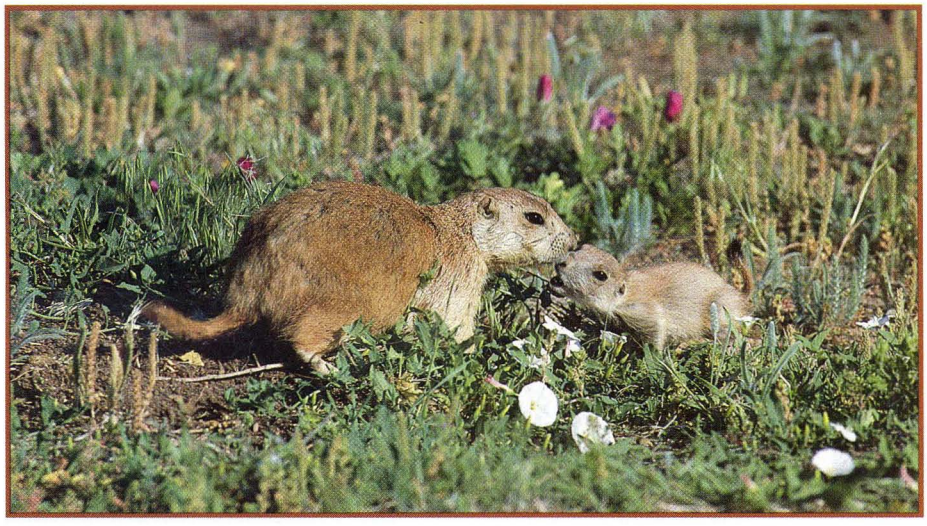
Indians called the prairie dog "Wishtonwish." The small rodents were a valuable food source for Plains Indians when large game was scarce. Zoologists discovered prairie dogs when Lewis and Clark brought back a pelt from their 1804-1806 expedition. The diaries of early American travelers frequently mention the plump rodent and its social behavior they observed as they traveled across the prairie.

Called prairie "dog" because of its barking alarm cry, the small rodent once thrived in vast colonies, or towns, across the Great Plains. There are records of a town observed years ago that contained an estimated 400 million prairie dogs. The town covered an area 250 miles long and 100 miles wide. In 1903, D. E. Lantz estimated that black-tailed prairie dog towns covered two and one-half million acres in Kansas. According to Robert Henderson, extension specialist at Kansas State University, prairie dog towns cover only 50,000-75,000 acres in Kansas today. Modern prairie dog towns are small and isolated, generally restricted to the western half of the state.

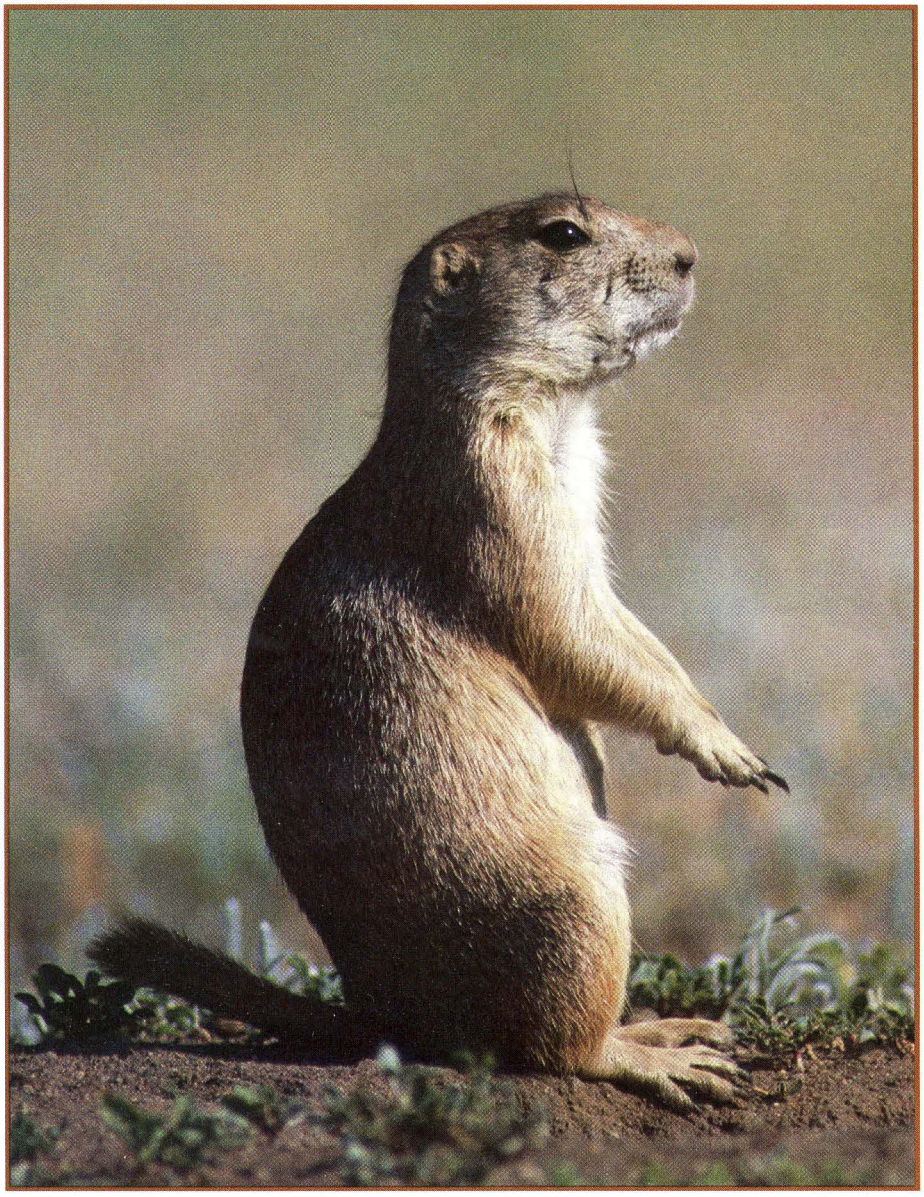
Eradication of the prairie dog began with early settlement as ranchers tried to clear pastures for cattle. Lacing oats with strychnine was the most common means of killing prairie dogs. Today, Kansas ranchers are still fighting to rid their pastures of prairie dogs. The prairie dog's biggest weapon in the battle is its fertility.

The prairie dog is very prolific, so far enabling it to withstand encroaching civilization and eradication efforts. Breeding season usually begins in late January or early February and lasts for about three weeks. The gestation period is 28-32 days, and the average litter consists of four to six young. In late March or early April,

Poised to dive for the security of their burrow, this prairie dog family can disappear underground in the blink of an eye. The close-knit colonies rely on warning "barks" to signal approaching danger.



This behavior resembles kissing, but actually allows prairie dogs to smell glands in the mouth to identify other members of the community. It's not uncommon to see a young prairie dog greet all dogs near it with a "kiss."



Sitting upright atop its mound, this sentry gets a better view of the area. Keeping grasses and weeds cropped close to the ground allow the dogs an unobstructed view and deprive predators of stalking cover.

pups are born hairless and with eyes closed. The young will venture above ground six or seven weeks after birth and fend for themselves at 10 weeks. At six months, the dog will be fully grown. Average lifespan is seven to eight years.

There are four species of prairie dogs recognized in the U.S. These include the black-tailed prairie dog, white-tailed prairie dog, Gunnison's prairie dog and Utah prairie dog. The black-tailed prairie dog (*Cynomys ludovicianus*) is the burrow dweller common on the Kansas prairies. It inhabits the Great Plains from southern Canada to Mexico. The blacktail is a robust, territorial squirrel, pinkish-brown in color with a buff-white belly. The tail is rarely longer than one-fourth of the body length and has a black tip. An average blacktail is 14-16 inches long and weighs 2-3 pounds. Blacktails don't hibernate but may go into a mild state of torpor if severe cold weather persists for several days.

The white-tailed prairie dog (*Cynomys leucurus*) is a close cousin of the blacktail. The whitetail inhabits the sagebrush plateaus of the Rocky Mountains from southern Montana to northeastern New Mexico and northern Arizona. The whitetail is pinkish-buff with black flecks on its back and has a light colored belly. Dark patches are noticeable above and below the eyes. The short tail has a white tip. The average whitetail is 14-15 inches long and weighs 1½-2½ pounds. The habits of the white-tailed prairie dog are similar to those of its black-tailed relative, however, the whitetail engages in less social behavior and hibernates.

The Utah prairie dog (*Cynomys parvidens*) and Gunnison's prairie dog (*Cynomys gunnisoni*) are more similar to the white-tailed prairie dog. Utah prairie dogs are found in southcentral Utah and are on the Endangered Species List. The Gunnison's prairie dog inhabits western Wyoming, northwestern Colorado and northeastern Utah.

Black-tailed prairie dogs are social creatures, displaying many unique communication sounds and actions. The namesake barking cry, which gives the rodent its common and genus names (*Cynomys* comes from the Greek word meaning "dog mouse"), is a warning signal. When the alarm bark is sounded, a fast dash is made to the burrows. A threatened prairie dog will stand over its burrow singing a chorus of high-pitched yips, each accompanied by a flick of the tail. Finally the dog will drop to a crouched position and with one last flick of the tail, disappear down its burrow. Moments later, the prairie dog may cautiously peek out of its hole to see if danger still haunts the colony. When the coast is clear, the dogs will stand on their mounds and throw their front feet into the air, sound a high-pitch yip, then crash to the ground on all fours. This maneuver, apparently meaning all's clear, looks as though they are praising some prairie god.

Blacktail colonies are close-knit. Residents greet each other by making mouth contact. This behavior, which resembles a kiss, actually allows one dog to recognize another by touching incisors and smelling the glands in the mouth. If a prairie dog is grazing near another individual, one may run up to the other and greet it with a kiss and then return to feeding. Kissing is common among young, as they may scurry around greeting all prairie dogs in the area. Mouth contacts are also made prior to grooming one

another. If a prairie dog doesn't allow another dog to kiss it, this rejection usually stimulates a snarl, resulting in either a kiss or a game of chase.

During the hot summer days, the prairie dog is most active during the morning and evening hours. On cooler days, they're active throughout the day. Most of the day is spent foraging for food, 98 percent of which is green vegetation. Grasses eaten by prairie dogs include brome grass, bluegrass, wheatgrass, gramagrass and many others that grow near the burrows. It has been estimated that 250 dogs can eat as much as a 1,000 pound cow. Occasionally prairie dogs will eat insects, especially grasshoppers.

Prairie dogs expend a lot of time building their colonies. Burrows are dug during the spring or fall months with the long, sharp claws on their front feet. Soil is pulled underneath the body and kicked away with the

Attempting to identify possible danger, a family lines up behind its parent. Notice the fresh battle scars on the adult in the foreground. The wounds may have occurred in a territorial battle with a rival prairie dog.

Obviously relaxed, a prairie dog enjoys being groomed by a colony member. Grooming is one of the many social behaviors exhibited by black-tailed prairie dogs. ***Opposite:*** Caught in midbark, this blacktail is throwing its head to the sky and sounding the "all's clear" call.

The mounds and burrow systems are all-important in a prairie dog's life. The burrow, which may reach 16 feet deep, is home and protection. The mounds can be 3 feet high and 4 feet across.

hind feet. The entrance of the burrow is normally 6-8 inches in diameter, but decreases to around 5 inches farther below.

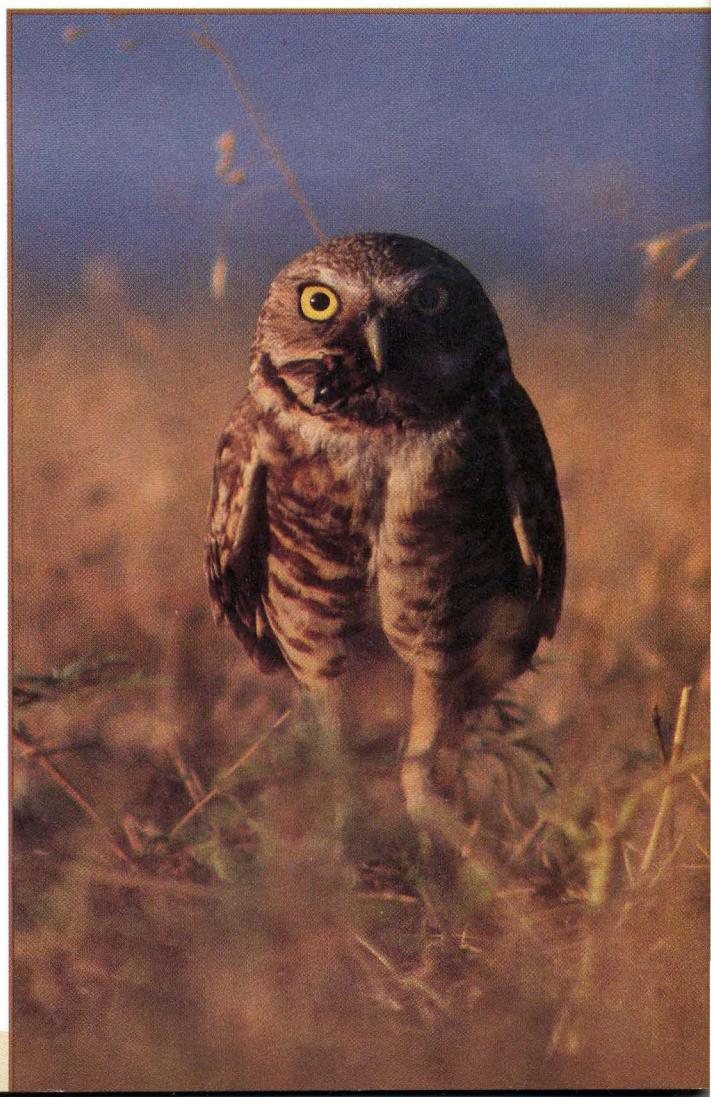
Depending on the soil type, terrain and climate, tunnels may reach 3-16 feet deep before branching out. A guard room is located 3-6 feet below the surface. This is merely a shelf off the entrance tunnel enabling the prairie dog to listen for danger before venturing out. Many loops and branches may exist on a single tunnel. An 8- to 10-inch bedroom chamber is located off the main tunnel. The bedding consists of dried grasses and other debris. Usually a toilet room is also constructed.

Burrows will have entrance and exit mounds to serve as lookout points. The crater-shaped mounds, which may be 3 feet high and 4 feet in diameter, also prevent flooding in the tunnels. Mounds are built when

Soil is pulled underneath the body and kicked away with the hind legs when building burrows, usually in spring or fall. Soft soil is then pushed and tamped down with the front feet and nose to build the mound.

Varying the height of the mound affects circulation in the burrow. The mounds are used as lookout points, prevent flooding in the burrows and provide a good place to stretch out and soak up some morning sun.

Prairie dog burrows are also important to burrowing owls. Although they are capable of digging their own homes, the small ground-dwelling owls seem to prefer abandoned prairie dog burrows.



Prairie dogs are potential meals for a variety of predators including the coyote. The badger may be the most effective predator because of its digging ability, but raptors such as the Swainson's hawk also hunt over prairie dog towns. Rattlesnakes and bull snakes may prey on young prairie dogs but are little threat to adults.

the soil is moist and workable. The prairie dog will carry and push dirt to the burrow entrance, then tamp the structure solid with its paws and blunt nose. After the mound has baked in the sun, the structure turns rock hard. Ventilation in the burrow can be regulated by the height of the mound.

Sitting upright on its mound, the prairie dog has many predators to be wary of. The black-footed ferret was once the primary predator of the prairie dog. But as the large dog towns have been eradicated, the ferret has disappeared. Last seen in Kansas in 1957 near Studley (Sheridan County), this member of the weasel family is the rarest mammal in North America. Many ferrets were probably victims of secondary poisoning when strychnine-laced baits were put out for prairie dogs.

Today, the prairie dog's primary predators are man, hawks, badgers and coyotes. The badger is best adapted to catching prairie dogs because of its digging skills. Other mammalian predators may include the bobcat and fox. Rattlesnakes and bull snakes cause no real threat to adult prairie dogs but may prey on the young. Many avian predators including prairie falcons, eagles, ferruginous hawks, red-tailed hawks, Swainson's hawks, rough-legged hawks and northern harriers are seen near dog towns at various times of the year.

Many non-predatory animals also frequent prairie dog colonies. Burrowing owls rely on the prairie dog, using abandoned burrows for homes. This small, slender owl is capable of digging its own burrow, but finds abandoned prairie dog burrows more convenient. The thirteen-lined ground squirrel, another ground-dwelling member of the squirrel family, commonly fills a niche in the dog community, and the box turtle and meadowlark are also common on dog towns. Prairie dog towns are just that, small towns in the grasslands buzzing with activity.

Stalking Summertime Squirrels

text and photos by Mike Blair
staff photographer

The summer woods can be downright miserable. Stinging nettles grow head tall, and poison ivy waits at every footstep. Mosquito swarms patrol the air and legions of ticks lurk in the grass below. The lush undergrowth steams in the sun like a sauna. If it weren't for squirrels, the woods would be unbearable at this time of year.

For some Kansas hunters, heat and insects are a small price to pay for a chance to stretch hunting season through the slow months of summer. This is especially true when the quarry is as challenging and tasty as the gray and fox squirrels that live in the state's woodlands.

Kansas has an abundance of squirrels, along with one of the most liberal seasons in the Midwest. The season runs from June 1 through December 31. Plentiful game and the extended hunting opportunity make squirrel hunting a favorite pastime for young and old alike.

Kansas squirrel hunters can hunt both the fox squirrel (left) and the gray squirrel (right). The fox inhabits timbered areas across the state, but the gray is limited to the oak-hickory woodlands of eastern Kansas. Eastern hunters will get chances at both, but the gray is considered more wary.

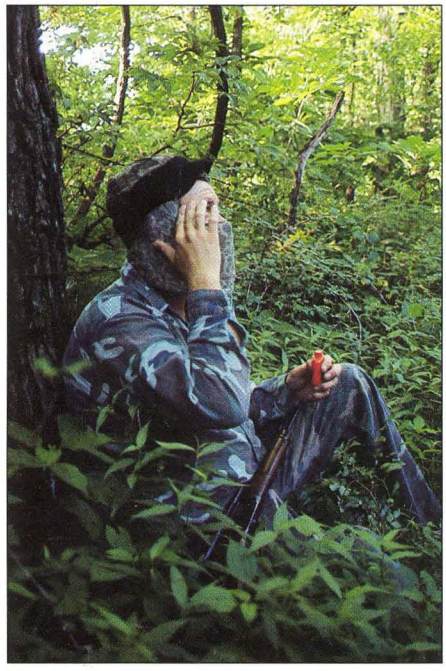
It doesn't take any fancy equipment to hunt squirrels. A .22 rifle and a pocketfull of short cartridges is just right, although shotguns in any gauge will certainly do the job. The .22 offers the advantages of less noise upon firing and little damage to the meat, but the shotgun is superior on running targets. Some hunters prefer a .22/.410 combination to give them both advantages in a single gun.

Patience is a necessary ingredient to successful squirrel hunting. Whether sitting in one place or stalking through the woods, unnecessary movement is certain to tip off the hunter's location. Squirrels have keen eyesight and keep a close watch for approaching danger. Slow, steady movements are best to avoid detection. It's also a good idea to wear clothing that blends with the surroundings.

Many hunters believe squirrel hunting is best during the fall months, but surprisingly, the opposite may be true. In early summer, squirrel populations are at their peak, and an abundance of young animals increases the odds for success over older, more wary squirrels. In addition, the young squirrels provide better table fare than old, and this in itself is a strong incentive for hunting early.

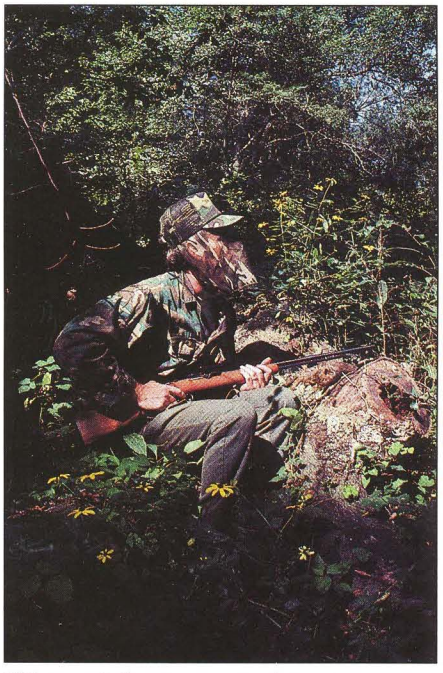
Thick foliage on trees, usually assumed to be a hindrance, is also often an advantage to the hunter. Summer squirrels spend most of their time foraging in tree crowns for buds, berries and unfallen mast, and the leaves help conceal the hunter's movements. The swishing sounds of leafy branches slapping together frequently betray a squirrel's location as it jumps from limb to limb. An alert hunter will sometimes find more squirrels by sound than sight during the summer months.

Though squirrels will be found liv-



It's a good idea to carry and use insect repellent during a summer squirrel hunt.

In June and July, squirrels seek out mast-producing trees and feed on the unfallen nutlets. Walnut, pecan, oak and hickory trees are particularly productive hunting sites through the summer.



Gene Brehm photo

Sitting quietly near a good mast tree may produce several squirrels before moving on.

ing throughout wooded areas where water is available, there are specific trees which serve as centers of activity at various times of the year. This is related to food production, and when properly identified and hunted, these trees can be hotspots for squirrels.

In early June, mulberry trees can offer some of the summer's finest squirrel hunting, with good trees often producing a number of squirrels an outing. When such a tree is found, it pays to arrive before daylight and sit quietly until quitting time. Downed squirrels can be retrieved as you leave.

From June through September, walnuts, pecans, oaks and hickories develop their mast crops, and both gray and fox squirrels eagerly seek the green nutlets for food. Hedge apples forming on Osage-orange trees are also a possible food source during this time.

Walnuts and pecans are particularly good trees to hunt during the summer months, and squirrels can readily be found in them by listening for the sound of their cuttings. Squirrels in dense clumps of foliage can be located by the sight of nut pieces falling from the crown in conjunction with these sounds.

As acorns and hickory nuts mature in October, squirrels begin spending much time on the ground in search of the fallen mast. Hickory nuts are sweeter than acorns and will be favored until they are gone. The next choice is acorns from the white oak group, since they are less bitter than those of the red and black oaks. Oaks whose leaves have rounded lobes are better bets than those whose leaves have points.

As leaves fall and the woods become more open, it is difficult for the hunter to move through the timber unnoticed. Dry leaves accumulated beneath the trees make quiet walking nearly impossible. A good trick is to sneak down the bed of a dry creek, paying particular attention to nut trees with large tops. When a good tree is found, it's best to sit down and wait.

Gray and fox squirrels have different habits, but eastern hunters are likely to get chances at both. Grays are considered to be more wary than their larger cousins and thus more difficult to bag. They are confined to the oak-hickory woodlands of eastern Kansas and are most active at dawn and shortly after.

Fox squirrels are found throughout the state and are common along drainages of elm-ash-cottonwood timber. They tend to be late risers and may wait until midmorning to leave their nests. They are active through most of the day.

This summer, instead of dreaming of the fall hunting season, spray on the bug repellent and pick up your rifle. Then head for the woods and find out for yourself why squirrels offer some of Kansas' finest sport.

IT'S A TOUGH JOB...

. . . but somebody has to do it.
Retired couples spend the summer in camping
trailers at select Kansas state parks.
They collect permit fees and provide public assistance.

by Jerry Schmidt
parks and public lands field supervisor
Haven

photos by Mike Blair

When you arrive at a Kansas state park, the first thing you need to do is purchase permits for the stay. In the past, that could have been difficult to do, depending on the time of day and location of the state park office. Now, throughout the state, this task is easier thanks to the Camp Host Program. The program consists of primarily retired couples who stay in their RV at the park and work part time selling permits and providing information.

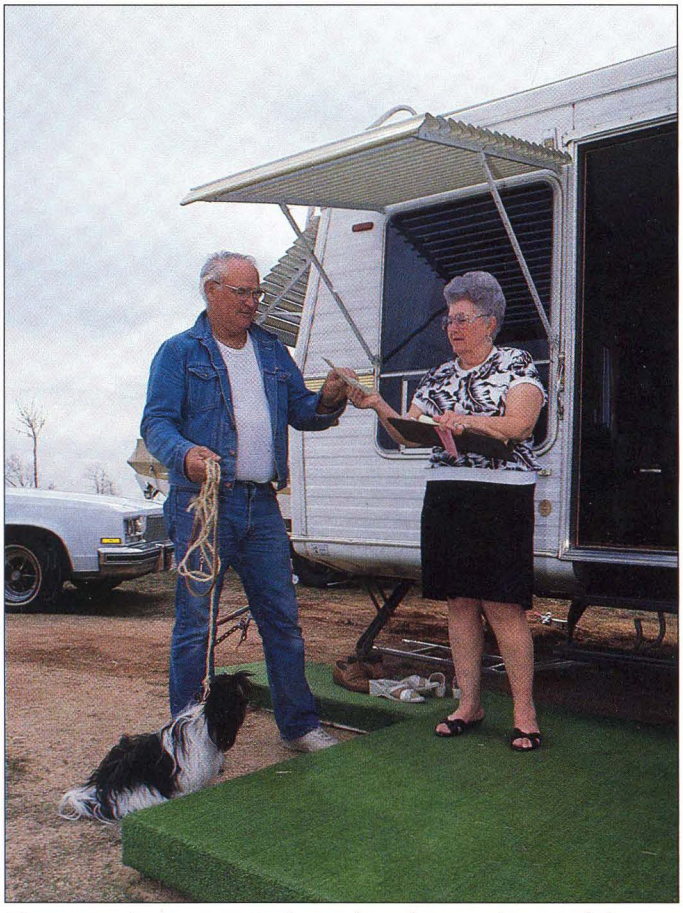
The Camp Host Program started at Scott State Park in the early 1970s. Dennis Rickard, the park manager at the time, accepted an offer from the Good Sams Camping Club for members to collect fees at Scott State Park on a volunteer basis. It was nicknamed the "Ma and Pa Program." It worked out well and soon expanded to other parks. As its popularity grew, this program became an important method of collecting fees in many state parks by the early 1980s.

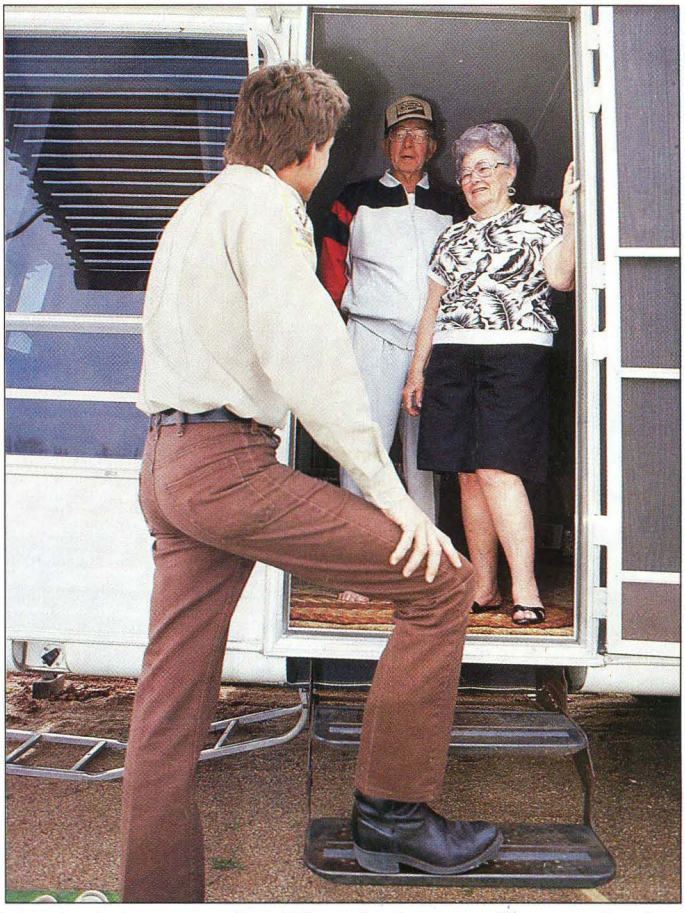
Today, the program is used in 18 Kansas parks and has both retired couples and single individuals participating. The hosts range in age from 50 to 80 years old. They collect fees in campgrounds, at gate houses and in offices, and some also help with mowing, cleaning facilities, and other maintenance.

Why would these people want to do this type of work? After all, they have to work weekends, always be available to the public, listen to complaints, process permits with 100 percent accuracy, and endure some unpleasant weather. Well, first of all, they are all outdoor enthusiasts and would rather be in a park atmosphere all summer than cooped up at home. When they aren't collecting fees, they can relax, fish, boat and visit with other campers. The camp hosts enjoy meeting new people and visiting with campers. Some hosts have only recently retired and aren't ready to stop working. This job keeps them busy and their minds sharp. And above all, camp hosts are staunch supporters of the Kansas state parks. They believe in the value of parks and are willing to work to improve them.

Presently, there are camp hosts at Cheney, Clinton, Crawford, Elk City, El Dorado, Fall River, Glen Elder, Kanopolis, Lovewell, Melvern, Perry, Pomona, Prairie Dog, Scott, Toronto, Tuttle Creek, Webster and Wilson state parks. The most extensive camp host program exists at El Dorado State Park where as many as 18 couples have worked during a busy summer. Two host couples is the average at most parks.

Next time you purchase a park permit from one of these individuals, take time to visit with them. They are eager to share their knowledge with you to make your park stay more enjoyable, and you'll find out just what quality people they are.





Most camp hosts are retired couples who spend most of the summer living in their camp trailer. When they're not selling permits, they can enjoy the lake, visit with other campers or just relax in the park atmosphere.

Robert D. Channell painting

KANSAS WILDLIFE ART SERIES

THE SERIES

Since 1984, the Kansas Wildlife Art Series has promoted awareness of Kansas wildlife and recognized the talent of Kansas wildlife artists. The series is an annual, limited-edition sale of signed and numbered art prints and stamps depicting Kansas wildlife. Each print in the series is reproduced from an original painting by a noted Kansas artist. Robert D. Channell of Hays was selected as the 1989 Wildlife Art Series winner. Channell is a member of Quail Unlimited, Kansas Bowhunters Association, Kansas Wildlife Federation and Minnesota Deer Hunters Association.

THE PRINT

The design is printed in full color on rag paper stock. Image size is $20\frac{5}{8}$ inches × $14\frac{3}{4}$ inches. Each print is signed and numbered and complete with artist's biography, along with a statement of the Kansas Wildlife Art Series' long-range objectives. There will be a limited number of these prints available, which sell for $100 each. Unsigned stamps are available at $10 each. For an order blank, contact: Mary Lou McPhail, Asst. Director, Travel & Tourism Development, Kansas Department of Commerce, 400 W. 8th, 5th Floor, Topeka, KS 66603-3450, or call (913) 296-7091.

center section

Edited by Mark Shoup

LETTERS

WATERSHED USE

Editor:

I reside in Elk County and I take advantage of, and very much enjoy, all my hunting and fishing privileges. I've been in several states, but I think Kansas has got to have one of the best fish and game management systems in the country.

Most of the fishing I do is in farm ponds and watersheds. I've often wondered, and have been asked about, the fishing laws and regulations concerning so-called "government built" watersheds. I've heard all kinds of different opinions on this subject.

Would you please send me some information about the laws and regulations on watershed ponds? How are they stocked? Do you have to have a fishing license? Do you have to have permission? Is there a fish limit? If there is a property line crossing the watershed, do you have to have permission from both owners? Does the state have any control after it's built?

I am very proud of our Department of Wildlife and Parks.

Dan Johnson
Wichita

Dear Mr. Johnson:

Your questions concerning the use of watershed ponds are good ones. Surveys show that, like yourself, more fishermen prefer pond fishing to fishing on any other body of water in the state.

State watershed ponds are created through the Watershed Development Program under the supervision of the Soil Conservation Service. Generally, they are not subject to state fishing regulations unless they are stocked by the state. Permission must be obtained from the landowner before you can fish.

In order for a pond to be stocked, a pond owner or tenant and pond owner must fill out a Fish Application, available through the Department. An aerial photograph of the pond must accompany this application. To receive fish in the fall, this application must be completed by July 1. To qualify for state stocking, the pond must be 1/2 surface acre, have some water at least 8 feet deep, and have no fish population.

Two combinations of fish are available. For muddy ponds, channel catfish only will be stocked. In clearer ponds, a combination of channel catfish, largemouth bass and bluegill is used. Catfish and bluegill are stocked in October, and bass are stocked the next summer.

The size of the pond governs who can fish it. If the pond is more than 20 surface acres, the owner is required to allow access to anyone asking permission, for ten years following stocking. (The key phrase here is "anyone *asking* permission.") For impoundments less than 20 acres, the landowner may restrict access but is encouraged by the Department to let people fish. All state regulations concerning licenses apply to these ponds except that the landowner, tenant and any relatives living with them may fish without a license. Wildlife and Parks law enforcement officers will have free access to enforce regulations.

Although there are no length limits on these ponds, the creel limits are the same as those listed in your Kansas Fishing Regulations brochure.

If a property line crosses an impoundment, a fisherman need only obtain permission from the landowner on the side of the water he wishes to fish. In this situation, state fishing regulations *do* apply whether the pond has been stocked or not because it cannot be legally classified as a "private pond."

The state has control over the watershed after it is built only to the extent that these regulations apply. Additionally, state hunting and trapping laws apply whether or not the pond has been stocked. *Shoup*

SATISFIED HUNTER

Editor:

Thought I would drop a line and tell you about the most enjoyable hunt of my 60 years hunting. It happened last season in Kansas.

I hunted seven days over two outstanding bird dogs — one a pointer, the other a setter. During those seven days, those two dogs pointed 38 large coveys of quail and quite a lot of pheasants. I shot two or three pheasants, a few quail and lots of pictures. You see, I never hunt just for the meat; if I did, I would stop at the first supermarket.

Both pheasants and quail seem to be up about 25 percent over 1987.

I would also like to take this opportunity to give some good advise to those complaining about no birds: stop road hunting, invest in a good bird dog and leave your yard pets at home.

The game officials seem to be doing an outstanding job.

Everett L. Patrick
Clearwater, Fla.

BRITISH READER

Editor:

To thank you for a most enjoyable read from your KANSAS WILDLIFE & PARKS magazine. Yes, even I get a copy over here in Gloucestershire, England, from my friend Harvey.

The reference to the term "hunting" that crops up now and again in your magazine means much the same here, although some of it may come under the heading of "sport." My friend in Northfield, Vt., tells me it's a necessity in New England to hunt for deer to help out with meat supplies for the winter months.

Here in Gloucestershire, they hunt fox and deer with about 15-20 couples of hounds. The most famous must be the Duke of Beaufort's hunt, which operates from the Duke's own home, Badminton House, in the village of Badminton. The average field is about 40 horses. The huntsmen and whippers-in wear green hunting coats, black caps, and white breeches and a shine on their boots you could see to comb the hair. The Duke won't have it any other way.

The other pack is the Berkley Hunt, which is no less famous. They hunt from Captain Berkley's home, Berkley Castle, in the town of Berkley. They hunt in black caps, yellow coats, and white breeches. They average about 30 horses, and the foot-followers are mainly farmers and farm labourers.

Each hunt has its own area to hunt. However, sometimes they cross one another and a proper pantomime occurs when the hounds have to be sorted from each other. The winter months from October to March are the times they hunt. Bad weather doesn't seem to deter them except for frosty ground, which may cut the pads of the hounds.

If there is anyone in Kansas would like a few lines or a tape, "only to happy to oblige." To thank everyone for the kindness and generosity shown, a sincere,

Robert Hedges
Gloucestershire, England

Dear Mr. Hedges:

I confess that I had to look up "whippers-in," so for those of our readers as uneducated on matters of hunting and hounds in the Old World as I am, whippers-in are those persons who assist the huntsmen in handling of hounds during a fox hunt. *Shoup*

OTHER MAGAZINES

Editor:

I would like to take this opportunity to tell you how much we have enjoyed your fine magazine, and how proud I am as a native Kansan of KANSAS WILDLIFE & PARKS. We also receive the *Louisiana Conservationist,* and I am curious now if every state has such wonderful publications to their credit. Please continue the excellent work. We look forward to every issue.

Mrs. John H. Carter
Bunkie, La.

Dear Mrs. Carter:

I'm glad you enjoy the magazine and continue to subscribe.

Each state has an agency which might be considered a counterpart to our Department of Wildlife and Parks. Their names vary widely, from "resource commission" to "game and fish department" to "department of conservation." Most agencies also have a magazine, but magazines often differ widely in emphasis.

Although the quality also varies, many are fine publications. We like to think ours is one of the best. *Shoup*

PARKS ONLY?

Editor:

Find my renewal enclosed. I continue to enjoy the excellent photos and coverage of Kansas wildlife. My main concern is the reorganization of the Fish and Game Commission and the Park and Resources Authority.

I fear that soon there will be a Kansas *PARKS* and wildlife, with most of the emphasis on parks. As a lifelong trapper, hunter and fisherman, I feel that the bulk of the Department's duties should pertain to the wildlife. This state is, after all, almost completely private land. I don't argue that our parks should not be maintained and improved. I just don't want them to take priority over our wildlife, in state politics or in our magazine.

I also especially enjoy stories about hunting, furbearers and trapping. Why is there no lifetime furharvester license?

Kirk Woods
Winfield

Dear Mr. Woods:

Your concern for the management of Kansas' public lands and wildlife resources is appreciated. The Wildlife and Parks Department administration shares your concern and holds a similar view regarding public land management.

New management plans for existing Kansas parks and wildlife areas will target enhanced wildlife habitat and natural aesthetic values. Similarly, most newly acquired lands will be treated with less intensive development schemes.

Already, plans for reduced park mowing, where appropriate, and increased native vegetation are being implemented. In many cases, the improvement and maintenance you refer to will translate into more natural areas and better wildlife habitat. The Department's primary objectives target improved environmental resource conservation and the best possible outdoor experiences for its patrons.

Regarding the lifetime furharvester license: low demand is the main reason Kansas doesn't offer one. When lifetime hunting and fishing licenses were established, few comments were received regarding the furharvester's license. It may be an item for future consideration, however. *Rob Manes, Division of Parks and Public Lands*

THE LAW

IN THE SPOTLIGHT

In June 1988, conservation officer Bruce Peters, Lakin, received a telephone call from the Kearny County Sheriff. It seems that one of the local farmers had spotted some spotlighters and taken down their license tag number. Peters called conservation officer Dennis Sharp, Holcomb, and they paid a visit to the owner of the car at his workplace.

After extensive questioning, the man confessed that he had been using a spotlight to look for game, and he provided the names of two other men involved. During the course of the investigation, the spotlight, pheasant feathers and deer hair were found in the man's vehicle. Pressed for more information concerning the deer hair, the man admitted to shooting a deer with a .22 rifle on April 15, 1988, in Finney County.

On July 7, 1988, the owner of the vehicle pleaded guilty to several counts involving the shooting of the deer and was fined $900 plus court costs.

On July 13, all three men pleaded guilty in Kearny County to several charges involving spotlight hunting and shooting pheasants without a license. All three were fined in this case. *Shoup*

NEW LAW

If you are one of the many Kansans frustrated by the light sentences given to poachers, you can rest a little easier. In April, the Kansas Legislature passed a law making it a felony to possess illegally killed wildlife valued at more than $500. Gov. Hayden has signed the bill.

The legislation establishes legal values for certain species, based upon their rarity and demand on the black market. Eagles, buffalo and elk are each valued at $500, so illegal possession of just one of these animals is now a felony. Deer values are set at $200 each, making possession of three illegally taken deer a felony. Owls, hawks and falcons are $125; wild turkeys are $75; furbearers are $25; quail, pheasants and unspecified gamebirds or animals are $10; turtles are $8; and bullfrogs are $5. All other animals not mentioned here are also valued at $5.

Fish are valued according to a list published by the American Fisheries Society.

Violators of this new law face punishment of up to five years in state prison and a $5,000 fine. In addition, a judge may revoke the violators' hunting and fishing privileges for up to 10 years. If migratory species are involved, including waterfowl, poachers are also subject to federal fines and prison sentences.

This new law should go a long way toward deterring poachers, particularly the professional market poacher. *Wichita Eagle-Beacon*

ILLEGAL CAVIAR

In 1986, the water levels in Missouri's James River dropped dramatically, revealing hundreds of paddlefish carcasses tied together and weighted down. This led to a series of underground investigations lasting more than a year, and a number of people have been arrested or are facing charges of paddlefish poaching. State and federal agents went undercover, working directly with violators who have been netting the fish for their eggs, which are valued as caviar.

Two men who are allegedly involved with an illegal operation in which paddlefish eggs are processed into expensive caviar were arrested in April near Osceola, Mo. The men worked mostly on the Osage River in southwest Missouri. The arrests stemmed from a joint investigation by Missouri Department of Conservation officials and special agents from the U.S. Fish and Wildlife Service. Officials said the illegal operation had been supplying caviar to markets both in the United States and Europe.

Ron Glover, special investigations supervisor for the Service, said he expected more arrests later. Officials did not release the names of the men arrested because of an ongoing investigation.

The poachers use 10-inch mesh nets designed to take only the biggest fish. Those working the operation immediately puncture the air bladder so the carcass will sink. "If it's a female, they take the eggs and if it's a male they just dump it back in the river to get rid of the evidence," Glover said.

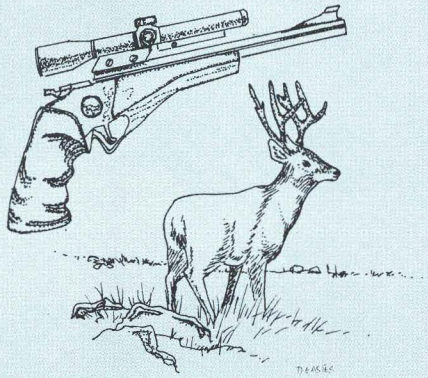
In similar cases, individuals have been arrested in St. Clair and Stone counties in Missouri, and two Oklahoma men were arrested for paddlefish poaching at Table Rock Lake. The netters in these activities will be charged with misdemeanor poaching. However, a number of people involved in buying and interstate transportation and sale of the eggs will be facing federal felony charges.

Missouri's illegally taken and marketed paddlefish eggs are routinely exported to Russia and other European countries. Traditional sources of this caviar were Middle Eastern strugeon until the Iranian hostage crisis and other turmoil in the region. When those sources dried up, caviar dealers turned to the closely related paddlefish. Market fishermen began their operations in Tennessee, where market paddlefishing is legal. These populations soon declined, and when they did, the market went underground.

According to officials, the caviar market is a tightly knit network of poachers, buyers, and retailers who know each other. "We've worked on the case for more than a year and there is a wide network of those who buy and sell the eggs," Glover said. Paddlefish caviar retails for between $250 and $300 per pound. Each female paddlefish averages 8 to 10 pounds of raw eggs, which processes to half that amount in caviar. Glover estimated that an illegal netter could easily take more than $20,000 worth of paddlefish eggs in a week. One man bragged to agents that he had once made $86,000 in one week.

The daily possession limit of paddlefish is two with a 24-inch minimum length limit in the Lake of the Ozarks. Paddlefish eggs may be possessed only by the legal taker of the fish. *Associated Press*

HUNTING



HANDGUN HUNTING

July is the month for deer firearms applications, and for many hunters anticipating a challenge, it's time to break out the side arms and begin practicing. In recent years, handgun hunting has gained in popularity. Forty-nine states now allow small game hunting with handguns, and 37 states, including Kansas, allow handgun hunting for big game. It is estimated that 1.5 million handgun hunters enjoy this sport each year.

Many big game handgun hunters polish their skills using small caliber handguns on rabbits or squirrels. Twenty-two or .22 magnum rimfire cartridges are suitable for these game animals, but for anything larger, .221, .223, or other loads should be considered. Scopes are sometimes used on small game when long, standing shots are possible. However, most small game hunters prefer open sights where running shots require quick sight alignment. Because of the size and wariness of the game and the need for top-flight marksmanship, many handgunners consider small game hunting to be the toughest of all to master.

The big game handgunner must remember that he is using a firearm with considerably less power than a rifle of the same caliber. He should be able to judge the distance at which he can place his shots within a 5 inch circle, and never take shots beyond that distance. The shooter should always use two hands, and a rest is advisable if possible. Most experts recommend that a handgunner not attempt to take big game with anything less than a .357 magnum for white-tailed deer. For mule deer, .41 magnum or .44 magnum are recommended. Kansas law requires the handgunner to use "centerfire handguns, using a case 1.280 inches or greater in length and a bullet greater than .23 inches in diameter" when hunting deer or antelope.

As with bowhunting, handgun hunting requires extra preparation and practice with the weapon. Handgun hunting demands a high level of marksmanship as well as excellent hunting and stalking skills to bring the shooter within effective range. However, these extra challenges often bring an extra sense of accomplishment. *National Shooting Sports Foundation*

BIG GAME SEASONS

At the April 28 Wildlife and Parks Commission meeting, action was taken which will give each Kansas hunter the opportunity to take as many as five deer in 1989. Commissioners also approved a separate muzzleloader season for Sept. 22-30. Muzzleloaders who are unsuccessful during this period will be able to use their permits to hunt with their primitive weapons in the regular firearms season, Nov. 29-Dec. 10.

Under the new system, hunters could obtain their regular permit in the initial drawing. They could then obtain a leftover permit in a second drawing for those units with unfilled permits. In addition, all hunters will be able to purchase up to three "bonus" permits for antlerless deer in the Chautauqua Hills and Lower Arkansas River Valley regions. These bonus permits will be sold over the counter from July 1 through Dec. 1. These permits will not be valid until 24 hours after purchase.

The regular archery permit allows the bowhunter to hunt statewide and take one deer of either species or sex. To obtain a second archery permit, bowhunters may purchase a "unit" archery permit or a permit leftover after the regular firearms drawing. Unlike the regular archery permit, the unit permit requires that the hunter specify a particular management unit. The unit permit requires a bowhunter to hunt with that permit in the specified unit and allows him to take one antlerless deer.

In separate action, the Commission reinstated a minimum .230 caliber restriction on deer rifles and passed regulations prohibiting the use of mechanical devices on hunting bows which lock at full or partial draw, compound bows which feature more than 65 percent let-off at full draw, and bows with electronic or chemical devices attached to bow or arrow.

Permit application brochures were mailed in mid-June to all individuals who applied for a firearms deer permit in 1988. Application forms will also be available at Wildlife and Parks offices and at most license vendors. The following application periods and hunting seasons will be in effect for 1989.

Statewide Archery Deer – Purchase permits July 1-Dec. 31. Season runs Oct. 1-Nov. 28 & Dec. 11-31.

Unit Archery – Purchase permits July 1-Dec. 31. Season runs Oct. 1-Nov. 28 & Dec. 11-31.

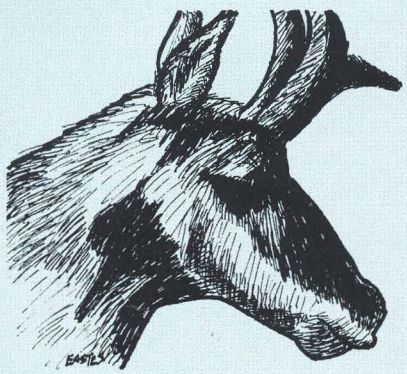
Firearms Deer – Application period is July 1-July 14. Season runs Nov. 29-Dec. 10.

Fall Archery Turkey – Purchase permits July 1-Nov. 28. Season runs Oct. 1-Nov. 28.

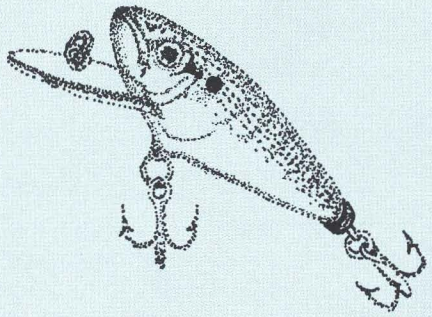
Fall Firearms Turkey – Application period is Aug. 1-Aug. 18. Season runs Oct. 11-Oct. 22.

Elk – Application period is Aug. 1-Aug. 18. Season runs Sept. 9-Sept. 17. (Application and season are the same for firearms and archery.)

Muzzleloader Deer – Application period is July 1-July 14. Season runs Sept. 22-Sept. 30 & Nov. 29-Dec. 10. *Shoup*



FISHING



TOP BASS LURES

There are as many arguments for what is the best bass lure as there are fishermen. Many fishermen also get skunked from time to time using their favorite lures and go home wondering what might have worked better. Still other fishermen "get lucky" using the most unlikely of baits. Although there is really no true science to picking a bass lure, educated guesses based on a variety of experience can be the best guidelines for success.

The May 1989 issue of *Sports Afield* contains results of survey information compiled by Homer Circle from the magazine's State Fishing Awards Program. Anglers around the country reported on the effectiveness of their lures, and from this information, Circle has compiled a list of the top ten bass lures in America. Here is the list, and some suggested methods of using the lures.

1. In-line spinner — Use near cover and pull just fast enough to spin the blade.

2. Plastic worm — Texas rig with 2/0 or 3/0 hook and one-eighth- to three-eighths-ounce sinker. Throw near cover in dark water, let the worm sink to the bottom and retrieve slowly, keeping your line tight.

3. Live bait — Shiners, nightcrawlers, frogs, minnows and crayfish are all good. Cast a shiner near cover, with enough slack that the bait can swim into cover.

4. Jig 'n' pig — Use one-quarter ounce jig head with plastic or hair skirt. Attach pork frog and move the lure very slowly over the bottom.

5. Slim minnow — On calm water, cast near or in cover and let the lure lie. When ripples disappear, try to imitate a dying minnow by twitching the line and letting the lure bob back to the surface.

6. Surface commotion — There is a variety of lures in this category. Cast near cover and let the lure lie, then retrieve just fast enough to manipulate the lure's action.

7. Crankbait — Use when bass are hard to catch because fast action may elicit reflex strikes. Just cast along cover and reel in so that the lure dives.

8. Vibrator — Cast near weeds and let the lure drop to the count of one second per foot of drop, then reel in slowly. This lure is also a good drifting or trolling bait.

9. Overhead spinner — Can be worked fast just under the surface. Can also be pulled slowly just off the bottom. Cast and let the spinner sink before reeling in. If the line goes slack while sinking or feels odd in any way, set the hook.

10. Spoon — Throw weedless spoons far into cover and pull through however you can, letting the spoon swim through open areas and settle into holes for a moment. Troll deep dropoffs with treble-hook spoons. *Shoup*

DEPTH FINDER FACTS

The ultrasonic signal sent out by the transducer on a depth finder travels through the water at 4,800 feet per second. It strikes a target and returns to the transducer in less than the blink of an eye.

Most people envision the shape of this signal as that of an inverted ice cream cone. This is a myth. Theoretically, the cone angle appears more like an elongated tear drop.

The center of the cone angle is the strongest part of the signal. As the signal widens, it tends to grow weaker. Thus, those targets which appear on the outer edges of the transducer signal tend to be less predominant than those passed directly over. It is possible to increase the area of coverage with the transducer cone angle by increasing the unit's sensitivity setting. When sensitivity is increased, those targets positioned in the outer lobes become more distinguishable.

Many anglers believe they are seeing more area than is actually reflected by the depth finder. A theory regarding the amount of bottom coverage with a standard 16-degree transducer signal says to take the depth of the water and divide by four, giving the diameter of the cone angle at that depth. Thus, if you were fishing from the bow of a standard bass boat in 16 feet of water with the transducer mounted off the foot of the trolling motor, you would be covering an area of considerably less diameter than the width of your boat.

A 40-degree sensor will cover a much wider area, but is generally not recommended for freshwater fishing. The area covered by this sensor will amount to almost three quarters of the actual water depth. In 16 feet of water, the width of the 40-degree cone will be about 11½ feet.

The wide angle transducer designed for 200 KHz units has a 32-degree cone angle. With this transducer, the simple formula for determining the coverage is to divide the depth by two.

Contrary to some beliefs, the ultrasonic signal from a transducer will not scare fish and it will show fish in shallow water. *Humminbird Release*

RUBBER BODIES

Every time a new lure design appears, I'm tempted to spend a whole month's pocket money to stock my tacklebox with the gadgets. When they were new, willow-leaf spinner baits were intriguing. Soft-head jigs caught my attention too. Still, the fact is that most fishing lures are more attractive to me than to fish.

My tacklebox is tangled with lures of all descriptions, but it seems I use only the same few reliable baits, generally ignoring the glittery, gadgety ones. My all-time favorite lures may be those made of rubber or soft plastic. True, lure makers have introduced countless perversions of the simple rubber-bodied baits, but it seems most profitable to stick to basics. Following are some observations about how and when to use rubber bodies.

For panfish (sunfish and crappie), I like curl-tailed rubber jigs or small rubber grubs. Yellow, white and green are top colors for

clear water on sunny days. Brown and black are good for low light and murky water. Fish the bait in a slow bouncing motion, or use a bobber and a crawling slow retrieve.

For white bass, stick with yellow or white swimtail jigs or larger flat-tailed grubs. Black and crawdad colors are sometimes good at night. In flowing water, use a slow retrieve that lets the lure drift with the current. In impounded water, let the bait fall briefly between fairly fast retrieves.

Catfish will take rubber-bodied lures too, particularly scented ones. A slow bottom-hugging retrieve is generally best. Some rubber catfish lures are little more than containers for prepared (stink) baits, and they work.

For black bass, of course, the ol' plastic worm is pretty unbeatable. Among the countless colors, most successful bass anglers wet only a few — black, grape, electric blue and motor oil. You can add a fire tail to just about any of those colors and get positive results. Of course, retrieving the worm properly is critical. Use short hops, keeping the bait within about a foot of the bottom. As with all of the baits mentioned here, keeping your line straight is essential. Large flat-tailed grubs are good bass attractors too. Dark green, crawded-colored and chartreuse are top-notch tints.

You may also want to try a rubber frog for black bass. Dark green and black are good colors. If you're after real lunkers, you may want to throw a black 10-12 inch worm.

This all boils down to some pretty simple guidelines for stocking your tacklebox with rubber baits: yellow, white, black, crawdad and brown jigs with flat tails, swim tails or curl tails (same colors for flat-tailed grubs); black, grape, motor oil and electric blue worms. Throw in an occasional green or black frog and a black lunker worm. Use light colors when visibility is good, dark colors in low light or murky waters. Keep your line tight. There you have it.

Of course, there are reasons for buying all those other flashy colors and styles. Occasionally, they're the only ones that catch fish. Besides, anglers who have every color known to anglerdom always have lures to trade away, and their tackleboxes are sure pretty. *Rob Manes*

FOR WHAT IT'S WORTH

NEW HORIZONS

by Mark Shoup

To see a world in a grain of sand
And a heaven in a wild flower,
Hold infinity in the palm of your hand
And eternity in a hour.
William Blake

Blake was not alone. Man has made many attempts, philosophical and physical, to make the world "fit" . . .

As I drive east on Highway 50, a fluorescent red sun burns the mist, leaves a shadowtackle of branches shimmering in the new light. I am aware of the horizon moving down, the earth's relationship to the sun, my own insignificance.

Suddenly, my pickup bears down on a dove in the road. In an awkward, almost lethargic take-off, it barely clears my bumper. For an instant, I have a notion of the bird's perspective. A dove would never desire, as did Blake, to "see a world in a grain of sand." It lives in a pragmatic world where concerns are more immediate. Eternity is a split second. The dove doesn't question where it fits into the universal scheme.

Among all creatures, only man must bear the burden of pondering such an odd question. Unfortunately, he seldom does. It is a difficult question. The answers often threaten his power — and what creature willingly limits his power?

I turn south on 281 and think back to early April. As a relief from the commute to my new job with the Department of Wildlife and Parks, I spent the night in the Department "bunkhouse" on the second floor of the Pratt Wildlife Museum. In the museum's main hallway, I stood looking up at three mounted heads made visible only by the dim light of an aquarium. An elk and a bison faced each other high on the walls to my left and right. In the middle beyond them, a pronghorn stared silently. The only sound came from the bubbling aquarium — an eerie rhythm that seemed to suspend time. An elk is a huge animal, but I was struck by the bison's mass, which dwarfed the elk's.

For a moment in this bubbling half-light, I could imagine Kansas when these great beasts were common, when big and little bluestem, Indian grass, and buffalo grass stretched for miles. I could imagine Rattlesnake Creek cutting a crystal-clear winding path through the grasslands where a cornucopia of wildlife grazed and hunted. For a moment I could imagine it.

Now I ponder this straight black highway, one of many products of my species' power. There is irony in this road. It is at once a symbol of man's abiltiy to destroy the environment and to manipulate it intelligently — to make up for past mistakes. It is taking me to a job I already love and feel is important.

I am charged with promoting and conserving wild Kansas, and at KANSAS WILDLIFE & PARKS there is a legacy of quality and professionalism I must live up to. The people I work with are friendly, helpful, talented and hardworking. Their knowledge of outdoor activities is thorough and levelheaded. I must also live up to your expectations, our readers, and help produce the quality magazine you have come to expect.

There are many things to ponder, but this is a job where I must think. Many issues concern me. I am a hunter and fisherman, a conservationist and a writer. I have much to learn, but I also hope I have something to give. I expect that you will be writing me with your questions, your ideas, your advice, and your criticism. I will consider them all respectfully.

I am happy to be here, at this frighteningly strange time in the earth's history. We are at a crossroads where we might continue to destroy the earth, or we might realize our true place in a small universe: we might become caretakers of our planet. I hope that I can serve the small portion we call Kansas in the latter cause.

ISSUES

HABITAT DESTRUCTION

While headlines across the nation report the destruction of rain forests in the Amazon basin, habitat and ecosystem destruction go unabated in the United States, even in Kansas. The Environmental Services Section (ESS) of the Kansas Department of Wildlife and Parks (KDWP) reviews nearly 1600 projects a year which affect rivers and wetlands within the state of Kansas. These reviews are performed under a variety of federal and state laws; however, KDWP has little direct regulatory authority in most cases unless fish passage is obstructed; threatened and endangered species are affected; or the project is a hydropower development. The ESS's goal is to prevent habitat destruction by making recommendations that offset habitat losses, thus making development as compatible with the environment as possible.

To inform readers of such issues, we will report on a few of the many projects reviewed by the ESS in each magazine issue. Efforts to reduce habitat destruction during development are made possible only with broad citizen support. For information regarding projects in your area, the regulatory roles of various state and federal agencies, or ways you can help, write to Environmental Services Section, Kansas Department of Wildlife and Parks, RR2, Box 54A, Pratt, KS 67124. *William G. Layher, Environmental Services*

DEWATERED RIVER

The South Fork of the Solomon River in Sheridan County, is a dewatered stream. According to the Bureau of Reclamation, over-irrigation from the alluvial aquifer adjacent to the stream has dewatered the river. Additionally, extensive soil conservation practices in the area prevent rain runoff from reaching the stream, eliminating aquifer recharge. In a 1985 report from the Kansas Fish and Game Commission to the Kansas Water Office, this river represented only a part of the 1,000 miles of fishable Kansas streams whose fisheries have been totally destroyed by dewatering.

Recently, a local landowner on the South Fork applied to the Division of Water Resources in the State Board of Agriculture to replace 7,400 feet of meandering river bed with 850 feet of straight ditch. The original channel was to be filled and farmed.

The Environmental Services Section of the Kansas Department of Wildlife and Parks reviewed the project and found that other landowners up and down the river had already filled the streambed and were "farming the river." KDWP opposed the request to further destroy the river ecosystem, citing accelerated erosion, increased nutrient loading downstream after heavy rainfall, destroyed wildlife habitat, and loss of remaining instream river values. The once permanently flowing river is now mostly dry, but does contain pools after rains and functions much like a long, narrow playa wetland, furnishing seasonal habitat to waterfowl, furbearers, amphibians, turkeys and many nongame species.

The KDWP notified the Agricultural Stabilization and Conservation Service (ASCS) of possible swampbuster violations under the federal Food Security Act of 1985. ASCS replied that no hydric (water holding) soils were located at the site and even though the ground along the river was saturated and could support hydrophytic (requiring much water) plants, no "swampbusting" had occurred.

The KDWP then requested the U.S. Army Corps of Engineers to use its "discretionary authority" to put the "headwater" project, normally approved under general permit with no public review, on public notice for public review. The Corps complied and issued a public notice. The KDWP requested denial of a permit, citing that the project did not meet the Clean Water Act's definition of a water-dependent project. KDWP was joined by the State Extension Forestry, the Solomon River Basin Advisory Committee, local individuals, and the U. S. Fish and Wildlife Service in opposing the project.

At the time of this writing, it is not known whether the South Fork Solomon River's ultimate destruction will be approved under state and federal environmental protection laws. If so, future reclamation of dewatered streams will prove even more difficult. *William G. Layher*

WAKARUSA BOTTOMS

The Wakarusa Bottoms is a valuable natural resource, a riparian wetland ecosystem that includes designated critical habitat for the threatened northern crawfish frog. Ripe for development with the proposed South Lawrence Trafficway opening up Lawrence's southern frontier to urban sprawl, the Wakarusa Bottoms is at best a dysfunctional wetland ecosystem since the U.S. Army Corps of Engineers built Clinton Reservoir in 1977. Clinton Dam prevents the seasonal flooding that annually rejuvenated the Bottoms.

In October 1987, the Corps sent a wetland investigation crew to Wakarusa Bottoms to assess complaints of illegal wetland filling by three landowners. The Corps found that one landowner had filled 9.8 acres, another 16.4 acres, and a third 20 acres. The Corps issued cease and desist orders to prevent further wetland damage. As required by the Clean Water Act, the Corps issued public notices describing the projects. The Act is intended to protect critical natural resources, and by legal definition, the Wakarusa Bottoms deserves protection. It has hydric (water holding) soils, hydrophytic (requiring much water) plants, and is at least seasonally flooded by heavy rainfall.

The Environmental Services Section of the Kansas Department of Wildlife and Parks — along with the U.S. Fish and Wildlife Service, the Environmental Protection Agency, Jayhawk Audubon Chapter, Baker University, Kansas Biological Survey, and several concerned citizens — opposed these permits without some compensation to the ecosystem. The National Wildlife Federation also took interest. As a result, a mitigation proposal was developed that will enhance 80-100 acres

of wet prairie habitat on the Baker Wetlands, a parcel within the Wakarusa Bottoms owned by Baker University and operated as a scientific and natural preserve. The enhancement will come at the expense of the three developers.

In many cases, mitigation of wetland losses requires an acre for acre at the site. This solution is different in that the three landowners are pooling their resources to enhance existing wetlands within the same ecosystem. Although the quantity of land may not balance out, when quality and quantity are combined into habitat units, the benefit to the habitat and its wildlife should help offset the losses due to the illegal filling. *Larry Zuckerman, Environmental Services*

BONE CREEK

A dependable public water supply is a valuable commodity in southeast Kansas where groundwater quantity and quality are on the decline. The Southeast Kansas Alternative Water Supply Steering Committee, representing seven small communities in Crawford and Cherokee counties, is proposing to form a wholesale water supply district and to construct a 510-acre reservoir designed to yield 2.15 million gallons of treated water per day. The proposed reservoir site is in the upper reaches of Bone Creek, a tributary to West Fork Dry Wood Creek which is in the Marais des Cygnes River basin.

The local sponsors have contacted the Kansas Department of Wildlife and Parks concerning the effects on wildlife. Since the sponsors are seeking both state and federal funding, an assessment of environmental impacts was required. A field assessment by Wildlife and Parks personnel found the proposed site contains some of the highest quality woodland wildlife habitat to be found in either Crawford or Cherokee county. Even more significant, the site is within an area of designated critical habitat for the broadhead skink, a state-listed threatened species.

The site is also within the probable range of and contains habitats suitable for the conservation of three additional threatened species: the central newt, eastern spotted skunk, and northern redbelly snake.

The project sponsors are currently working with the Department's Environmental Services Section to ensure that measures can and will be taken to offset habitat losses. *Robert D. Wood, Environmental Services*

DANGEROUS ALIENS

The monk parakeet is abundant thoughout South America, but it is a highly destructive species whose importation is restricted in the United States. Many states, including Kansas, have specific laws banning these exotic birds.

Considered one of the most destructive avian species in the Western Hemisphere, the monk parakeet could potentially do more damage to indigenous species than either the European starling or the English sparrow, which are also imported species. Flocks of these birds have been known to destroy large crops of grain and fruit in South America and Europe. Because of its aggressive nature and prolific breeding habits (a single pair can raise 40 young in a single season), monks in the wild could wipe out a number of desirable species of birds. Once established, they would be impossible to control.

In April, the Pennsylvania Game Commission reported that a number of monk parakeets had been discovered in pet shops around the state. As a result of this unlawful importation, a massive search is under way to locate these birds. The hope is that they will be discovered before any can escape into the wild.

People are naturally attracted to unusual or exotic species of animals, but this attraction can lead to unwitting environmental damage when animals kept as pets escape and establish themselves in the wild. This danger should be taken into consideration when adopting a pet.

In addition to the monk parakeet, Kansas regulations ban a number of other species, including the walking catfish, silver carp, bighead carp and Asian raccoon dog. *Shoup*

ECOSYSTEMS ACT

The idea of creating an Endangered Ecosystems Act is one which has been kicked around in conservation circles for years. Perhaps its time is coming. The January-February issue of *Endangered Species Update* features an article by Constance E. Hunt outlining the need for, and many of the elements of such an Act.

The article points out the fact that when the Endangered Species Act is envoked, it is often the habitat of the species which is endangered. In such cases, habitat loss is the true problem. The concentration on single species, therefore, is often misguided. Projects destructive to delicate ecosystems often continue while biologists are busy trying to save a single species in captivity.

Hunt states that "while the funds and energies of responsible agencies are expended on attempting to resuscitate the fading species, the species' habitat in the wild may continue to decline, bringing still more species to the brink of extinction. If the endangered species is successfully reared in captivity, biologists may proudly march out of their labs with a potentially growing population of the species, only to find that no habitat exists to support it."

While individual species are important, unique associations of species are perhaps more important. When these associations begin to deteriorate, it is an indication that the entire ecosystem is in danger. Under present law, however, a unique ecosystem may be destroyed if its member species exist elsewhere.

Under the proposed Endangered Ecosystems Act, ecosystems thought to be "significant on a national level" would be researched on a state-by-state basis by teams of government, community, and private organizations. If determined to be endangered, they would then be protected from further destruction. The legislation could also authorize grants to states to help manage these areas. In some cases, restoration of destroyed ecosystems might also be recommended.

All of this, of course, would require "considerable interagency cooperation, as well as cooperation between the public and private sectors." The benefits, however, would include protection of valuable natural resources in a much more comprehensive way than does the protection of individual species. It also might save the public money in the long run by eliminating the need, in many cases, for repeated litigation involving each endangered species in an ecosystem. *Shoup*

NATURE

URBAN TURKEYS

To many urban dwellers, wildlife common in rural areas seems unusual, even exotic. City folks may seldom have the opportunity to see many species, especially big game. When they do, it is an event that helps reunite them with an intangible, but essential part of their beings. It is an event worth talking about.

Johnson County residents may now have the chance to experience such events with greater frequency. In 1984, wild turkeys were introduced at the Sunflower Munitions Plant area. This area was chosen because it has good timber, forage and water, and because hunting is not allowed, thus giving the birds a chance to establish themselves before moving into huntable areas. Nine hens and three gobblers were released in this area. According to district wildlife biologist Dan Lekie, they have done very well. Their numbers have grown, and their range has expanded four to five miles to the east and 10 to 12 miles to the south.

In February, 12 miles to the east of the Sunflower Munitions release site, one tom and six hens were released at Shawnee Mission Park in a joint effort between the Department of Wildlife and Parks and the Johnson County Parks and Recreation Department. This marks the first urban release in Johnson County, an area where turkeys were once abundant. The turkeys were released on the Oakridge Farm property, a section of the park not open to the public at this time but planned for future development. The remote area should allow the turkeys freedom from contact with the public during the initial period of their introduction.

"I feel confident the turkeys will stay in the Shawnee Mission Park area," Lekie said. This is good news for residents in the area, who should begin seeing the birds around Oakridge Farm in the near future.

An additional possibility exists for these turkeys. Although highways and urban development could keep them apart, the two groups may one day merge their ranges, considering their proximity. This wildest of birds may frequent the most "civilized" of environments. *Shoup*

RIVER PLAZA PROJECT

Enactment of the Kansas Nongame and Endangered Species Conservation Act in 1975 gave the Kansas Fish and Game Commision, now Department of Wildlife and Parks, broad responsibilities for conservation of all wildlife, both game and nongame. Subsequent regulations under that act established lists of threatened and endangered species to be protected. It also provided for protection of species' habitats. Under current regulations, sponsors of publicly funded or permitted projects that affect critical habitats must obtain a Department permit. Permits issued contain various conditions which protect, restore and/or replace habitats that are critical to the conservation of threatened or endangered species.

One such project. called the Kansas River Plaza, is located on the south bank of the Kansas River immediately downstream of the Bowersock power plant and Dam. At the project site, the Kansas River is considered critical habitat for the endangered bald eagle. Bald eagles have traditionally wintered along the Kansas River since presettlement days. Currently, the area immediately downstream of Bowersock Dam is a critical resting and feeding area to wintering bald eagles.

The construction plans called for removal of several perch trees and, more significantly, included a pedestrian promenade and open parking lot directly on the exposed river bank. These features would place much human activity in close proximity to the eagle's feeding area.

The Department began working with the City of Lawrence and project developers in August 1988. In February, 1989, after considerable discussion and negotiation, a permit was issued. Mitigation measures required the sponsor to redesign the parking lot to reduce the number of streamside trees removed, plant vegetation between the parking lot and the river to screen human activity, design features to screen or eliminate human activity on the river side of the building during winter months, establish two conservation easements to protect existing nearby areas used by eagles, and plant trees to replace those removed during construction.

The Department will be closely monitoring the project to ensure that all permit conditions are being met. *Robert D. Wood, Environmental Services*

LOUISIANA WETLANDS

Lake Ophelia National Wildlife Refuge (NWR), a planned 30,000-acre expanse of bottomland hardwood backwater swamp in Avoyelles Parish, Louisiana, has been dedicated as the 448th unit of the NWR System. The new refuge was the U.S. Fish and Wildlife Service's number one acquisition priority under the Lower Mississippi Joint Venture of the North American Waterfowl Management Plan.

Located about 30 miles southeast of Alexandria, La., Lake Ophelia NWR will provide wintering habitat for an anticipated 100,000 mallards and pintails. Many other duck species, including blue-winged teal, gadwalls and wood ducks, also use the area. The new refuge also provides habitat for American alligators, bald eagles and many other species.

The Fish and Wildlife Service acquired the initial tract of land for the refuge, encompassing 1,536 acres, on June 30, 1988. The Nature Conservancy, a private national conservation organization that acquires and protects habitats of significant wildlife or botanical value, is currently purchasing a 7,874 acre wetland in the vicinity of Lake Ophelia. The Service is scheduled to aquire fee title to 5,150 acres of this tract. The Service has also tentatively reached a lease/purchase agreement with a private land owner to acquire an additional 3,200 acres.

The Fish and Wildlife Service also intends to acquire approximately 12,000 acres for the proposed Grand Cote NWR, which is near Lake Ophelia. The Nature Conservancy is assisting the Service with this acquisition as well. *Interior Department Release*

NOTES

COOL IT!

National Wildlife Federation's (NWF) Project "Cool It!" is urging college campuses to fashion projects in their own communities that will help halt the global warming trend, says NWF President Jay Hair.

The student-led "Cool It!" program was kicked off nationwide on April 22, the date annually celebrated as Earth Day. By Earth Day, 1990, the 20th anniversary of the first Earth Day, student-initiated "Cool It!" projects will be well underway.

The "Cool It!" campaign will culminate the Earth Day, 1990, activities with a report on student achievements toward stemming global warming and the announcement of special merit awards for outstanding and creative projects. Special merit projects will receive $2,500 awards to be used for environmental programming at the college or in the community.

Under the program, a single project will be recognized by NWF on each campus. The recognized project will be encouraged to involve all possible segments of the university community in devising a sound, local approach to the problem of global warming. The local programs are expected to become sustainable community projects rather than ending when today's college leaders leave the campuses.

"The scope of acceptable projects is wide," says Jody Thomas, director for Earth Day Programs. In some cases, the local effort could be an extension of an existing program. For example, some campus "Cool It!" projects may expand existing recycling programs to double or triple the amount of waste that is reused. Other campuses may try to persuade food establishments to eliminate plastic packaging that contributes to the problem of global warming.

"In all cases, the projects will produce measurable results, not only heightening the public's environmental consciousness, but making progress towards specific environmental goals," Thomas said.

In recent years, scientists and natural resource experts have presented data clearly indicating that man-made pollution is radically changing the Earth's climate. By some estimates, even a few degrees of warming in the next several decades could transform some farming communities into dust bowls, put coastal communities under water and speed the extinction of some wildlife species.

"But global warming isn't inevitable," noted Hair. "People created the problem and we can affect much of the outcome. The Wildlife Federation picked the issue of global warming for the 'Cool It!' program because we can still change the course of our folly." *National Wildlife Federation*

BELT BUCKLES

A few 1989 Kansas Wildlife and Parks belt buckles are still available. These limited-edition buckles are made of brass and carry the Department logo. They are 2 1/2 by 3 1/4 inches and can be purchased from the Pratt offices, care of Barb Theurer, for $12 plus $2 shipping and handling. There are also a few 1986 and '87 buckles left at the same price.

In addition, Wildtrust T-shirts and hats are available. The T-shirts sport a wild turkey print, and the hats will feature an embroidered coyote. Children's shirts are $6 plus $1 shipping and handling, and adults' are $7 plus $1 shipping and handling. Hats are $5 plus 50 cents shipping and handling. *Shoup*

CALLING ALL ARTISTS

We know that wood ducks will be the subject of the 1990 Kansas Waterfowl Stamp, but we won't know until Sept. 29 which artist will design the stamp. That's the date a panel of judges will announce a winner in the art contest sponsored by Ducks Unlimited. The art judging is part of the Kansas Wildlife Art Expo/Silver Anniversary Deer Classic set for Century II Exhibition Hall in Wichita, Sept. 29-Oct. 1.

Only Kansas artists are eligible to enter the duck stamp contest. The artwork must feature wood ducks and should be 13 inches wide. Stamp art must be the artist's original design and cannot be copied from other published paintings, drawings or photographs.

Artists interested in entering the competition should contact Barbara Jackman, Petersen Prints, 6725 Sunset Boulevard, Suite 429, Los Angeles, Ca. 90028. *Mathews*

FISH AND FUR CLASSES

The 1989 Kansas Wildlife Federation (KWF) Hunting, Fishing and Furharvesting School will be held at Rock Springs Ranch, south of Junction City, on Oct. 28 and 29. Following a format similar to previous years, the school will offer participants a variety of courses, including fishing and furharvesting techniques, bowhunting, upland/waterfowl hunting, and big game hunting. Most of the instructors have taught at the school before. The program is conducted by the KWF Conservation Education Committee with cooperation and assistance from the Kansas Department of Wildlife and Parks and the Kansas State University Extension/4-H.

"Learning by doing" will be the focus of the classes. After short classroom sessions, students and parents in the fishing course will test their skills with expert fishermen acting as coaches and guides. In the furharvesting course, the students will actually set traps on Saturday and check them on Sunday morning. The upland/waterfowl course will provide the students with the opportunity to wingshoot under the watchful eye of a qualified coach. Parents will also have a chance to brush up on their shooting skills. In addition, training and hunting with dogs will be a part of the upland/waterfowl course.

Safety, ethics and responsibility will be stressed at every opportunity in all courses. On Saturday evening there will be a program on outdoor ethics and responsibility. A nightime bow shoot and a coon hunt with hounds will follow.

Taxidermy and reloading demonstrations will also be included in the school.

Registration applications will be available in county extension offices in August, or by sending your name and address to KWF HFFH School, P.O. Box 5715, Topeka, KS 66605. *KWF*

NATURE'S NOTEBOOK

by Joyce Harmon Depenbusch, Wildlife Education Coordinator

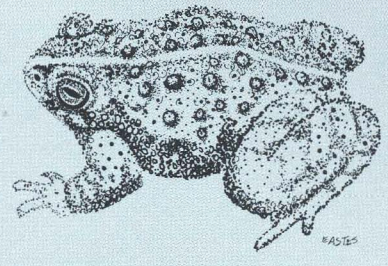
Spend some time looking for, listening to, and learning about some interesting amphibians —

TOADS

Five species, or kinds, of toads live in Kansas. The family of toads Bufonidae has 279 species worldwide. All toads have thick, glandular skin and short limbs. They tend to burrow and are terrestrial (live on land).

In Kansas, toads have adapted to most parts of the state. The Woodhouse's toad has been found throughout Kansas. It prefers lowlands and sandy areas. This 2½-4 inch long toad is active from March to late September, using the burrows of other animals to hide in. The Woodhouse's toad eats beetles, spiders, ants, insect larvae and bees. They are helpful to humans because they eat large numbers of insects daily, and have even been known to eat as much as two-thirds of their weight in one day!

Woodhouse's toad

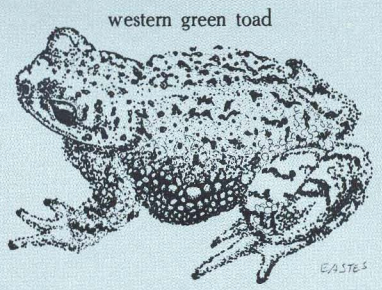


Most toads hide beneath the ground or rocks during the day and hunt for food at night. The Great Plains toad searches for beetles and ants from April to September. It moves underground for the winter. Male Great Plains toads "chorus" to attract females in the spring and early summer. Eggs are laid in long strings in water; each female may produce up to 20,000 eggs. The young tadpoles grow in the pond until adulthood. The adult Great Plains toad is generally 2-3½ inches long. In Kansas, this species is found from the Flint Hills west.

Great Plains toad

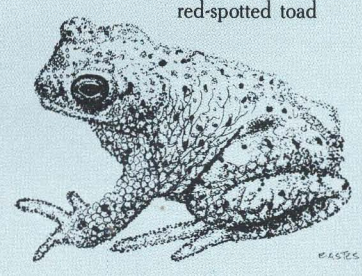
The western green toad is typically under two inches in length with green, yellow and black spots on its body. In Kansas, this species is found only in open grasslands in the far western counties. The western green toad is very secretive and active mostly at night. Breeding occurs in ditches, stock ponds, cattle tanks and flooded fields throughout the spring and summer.

western green toad



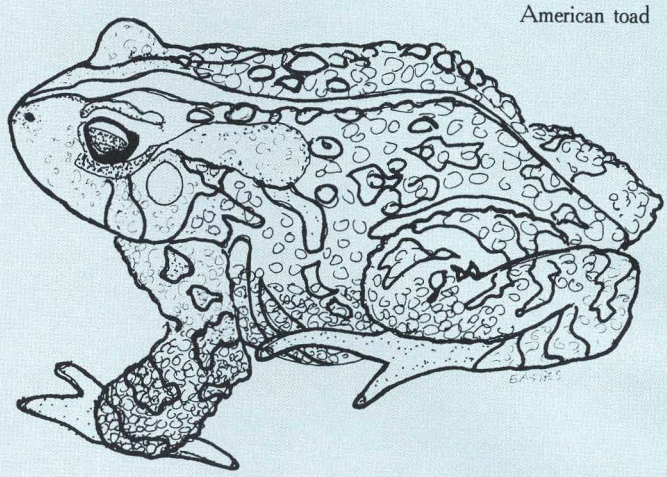
Red-spotted toads earn their name from the sometimes red warts on their otherwise brown or gray bodies. Ranging in size from 1¼-2½ inches in length, this toad eats ants, beetles and bees. Its habitat is rocky areas of dry prairies and canyons in the Red Hills and southern High Plains. As with most toads, the female red-spotted toad is larger than the male.

red-spotted toad



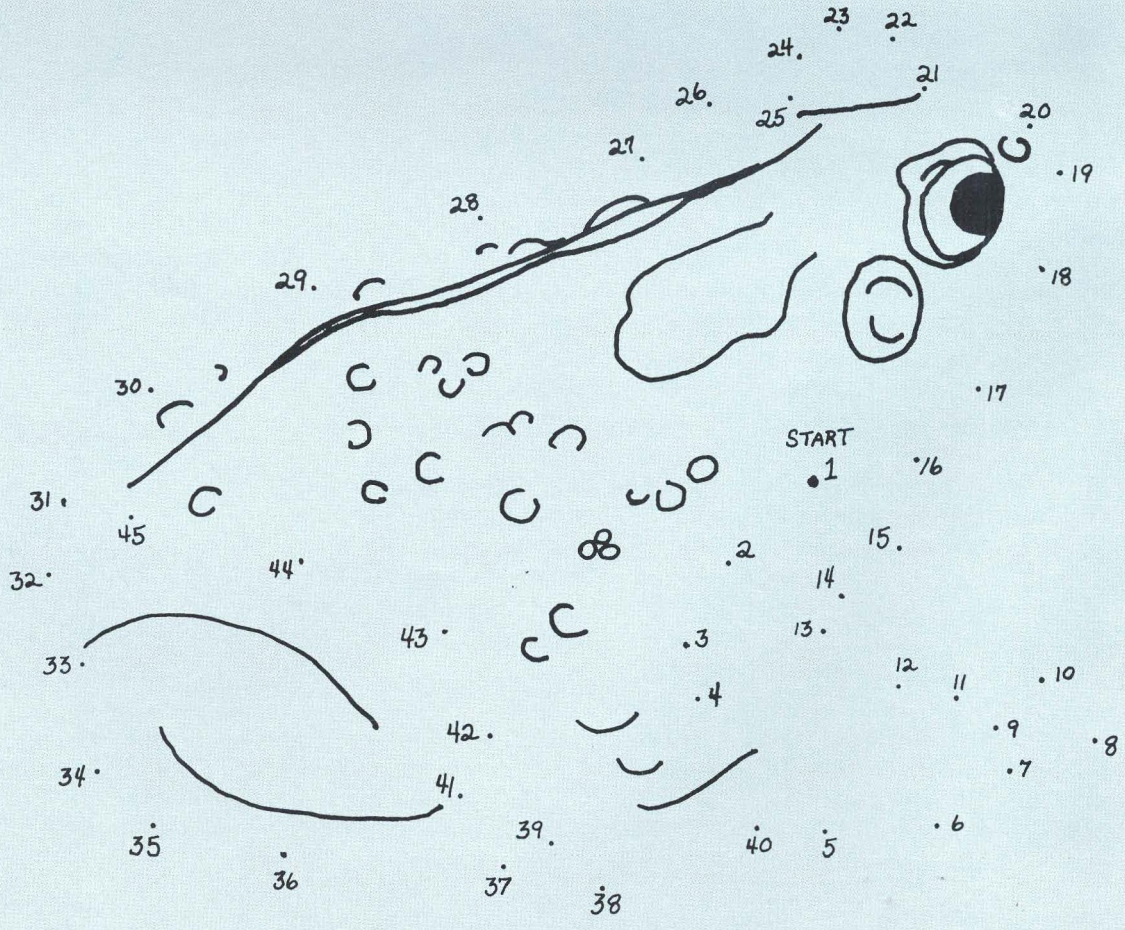
Found mainly in Eastern Kansas, the American toad is active in rocky woodland areas from March to October. Generally 2-2½ inches long, this species eats beetles, crickets, grasshoppers, leaf-hoppers, spiders and ants. In the spring, American toads gather at upland streams or ponds and chorus to attract mates. One female may lay 4,000 to 20,500 eggs in double strands.

American toad



Color the American toad shown above as follows: The body can be gray, light brown, or reddish brown. The patches and spots are dark brown or black. There is a light stripe down the back which can be colored white.

CONNECT THE DOTS



Spicebush swallowtail butterfly, rear underwing. 2.5×, 55mm lens reversed on bellows, f/11, 1/60.

Gallery

by Mike Blair

A Delicate Canvas

Skin deep, butterflies and moths are colorless creatures whose wings are a framework of hollow veins and clear membranes. But with a clothing of scales, they are among nature's most beautiful animals.

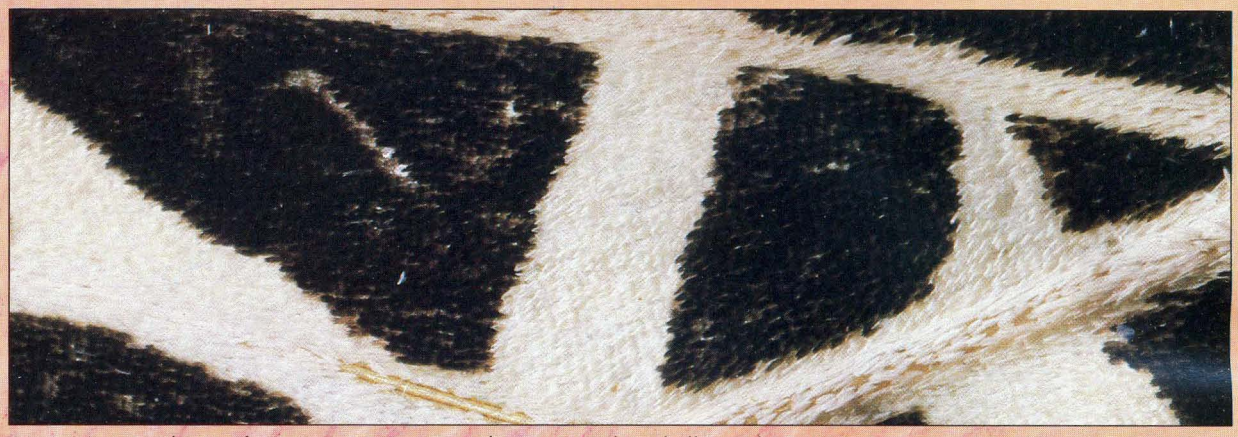
Scales are minute and delicate structures that come off like dust in one's fingers when the insect is handled. Individual scales are set in sockets of the wing membrane and may form rows or random patterns across the wing. Scales overlap each other like shingles on a roof.

Though scales are pigmented, their small size and arrangement may determine apparent color. Scattering, the reflecting of light in all directions, is a common condition of scales that appear white. Interference is another condition where superimposed scales are separated by a distance equal to a particular wavelength, exaggerating that color while cancelling others.

Scales often form beautiful patterns, ranging from subtle, barklike camouflage markings to colorful eye spots meant to startle an attacking enemy.

Functionally, scales smooth airflow over the wings and body and help maintain high muscular temperatures necessary for flight. Some scales also produce sexual pheromones.

Close-up, the patterns and colors of butterfly scales provide a fascinating study of nature's intricate detail.



Virgin tiger moth, top forewing. 2.5×, 55mm lens reversed on bellows, f/11, 1/60.

IO moth, top rear wing. 2×, 55mm lens reversed on bellows, f/16, 1/60.

Regal fritillary butterfly, rear underwing. 2.5×, 55mm lens reversed on bellows, f/16, 1/60.

Monarch butterfly, rear underwing. 1.8×, 55mm lens reversed on bellows, f/16, 1/60.

Polyphemus moth, top rear wing. 1.5×, 55mm lens reversed on bellows, f/16, 1/60.

Beauty On The Brink

by J. Mark Shoup
associate editor
photos by Mike Blair

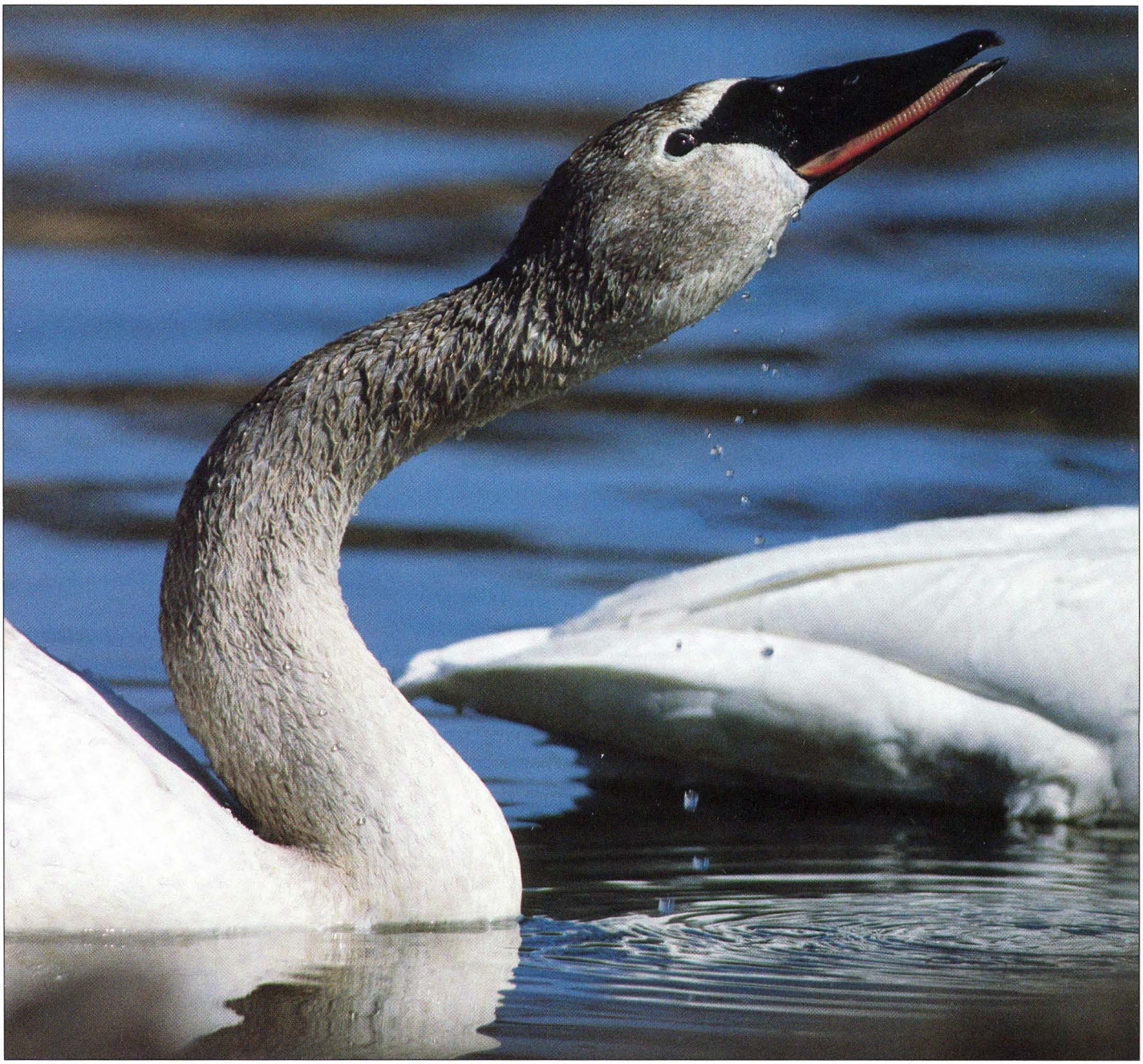
Among what rushes will they build,
By what lake's edge or pool
Delight men's eyes, when I awake some day
To find they have flown away?
-William Butler Yates,
"The Wild Swans at Coole"

The huge white bird's grace and beauty on water belie the display you are about to witness. Head held high, it glides across the water, oblivious to the much smaller Canadas and mallards which make way. Its ivory neck arcs proudly, curving down to the stunning contrast of coal-black beak. The head bobs, then preens and dips, pulling grass from the marsh bottom.

Suddenly it straightens taller in the water. A surprisingly swift zig-zag, and a wake is pulled behind tailfeathers. The neck stretches, and the wings fan out and out—8 feet across the water. Wings beat in slow-motion arcs. The bird is steaming toward you now, its webbed black feet running across the surface. Wings rasping, "rhaa-oomp...rhaa-oomp," the great white bird is airborne in a spray of crystal winter water.

Now the "trumpet." The King of Waterfowl, the graceful white beauty of the winter Great Plains Marsh, lets loose a blast more closely resembling an air horn on a diesel truck than a musical instrument. You jump like a frightened cat, then freeze as it passes over. You feel the heartbeat in your temples. You are not sure what has taken your breath away—the grace, the size, the trumpet or the shadow of the bird that covers you as it passes over, bleating into the distance.

Water cascades from a cygnet's bill as the swan takes a drink. A young swan's neck feathers are dirty gray until the bird matures. Adult plumage is snow white.



You have seen your first trumpeter swan, 8-foot wingspan, 30 pounds, 5 feet in length—the largest waterfowl in the world.

What's the nature of this scenario? No, you are not an early 19th century trapper. You are not a visitor to a Wyoming, Idaho or Montana refuge. You are in Kansas, present day.

If you had been the observer in this drama, you could have been at La Cygne Lake, in northeastern Linn County, last February. For the past three years, a few trumpeter swans have been observed wintering in Kansas. At La Cygne, a large male trumpeter and four cygnets spent the winter in an area once abundant with these now rare, magnificent birds. The mother died of uncertain causes on the flight down to La Cygne. For Bruce Holt, Linn County Park manager who has lived in this area all his life, these were the first trumpeters he had seen. The group was identified through binoculars by the adult's neckband, placing the family's origin at Hennepin Parks, in Minnesota. This area of refuge is largely devoted to the trumpeter's restoration.

Once found in huge flocks throughout most of North America, the trumpeter was nearly extinct by the turn of the century. In the 1800s, thousands of the birds' skins were sold on the London market. Their plumage was used as adornments, covering and powder puffs. Ironically, John James Audubon preferred the resilient trumpeter swan quills for pens. In 1918, the Migratory Bird Treaty Act made hunting trumpeters illegal, but their numbers in the U.S. plummeted to 66 in 1933 due to habitat loss and poaching.

Standing at the edge of ice cover, a cygnet preens elegantly. The warm-water discharge from the power plant at La Cygne Reservoir provided the swans with open water throughout the winter.

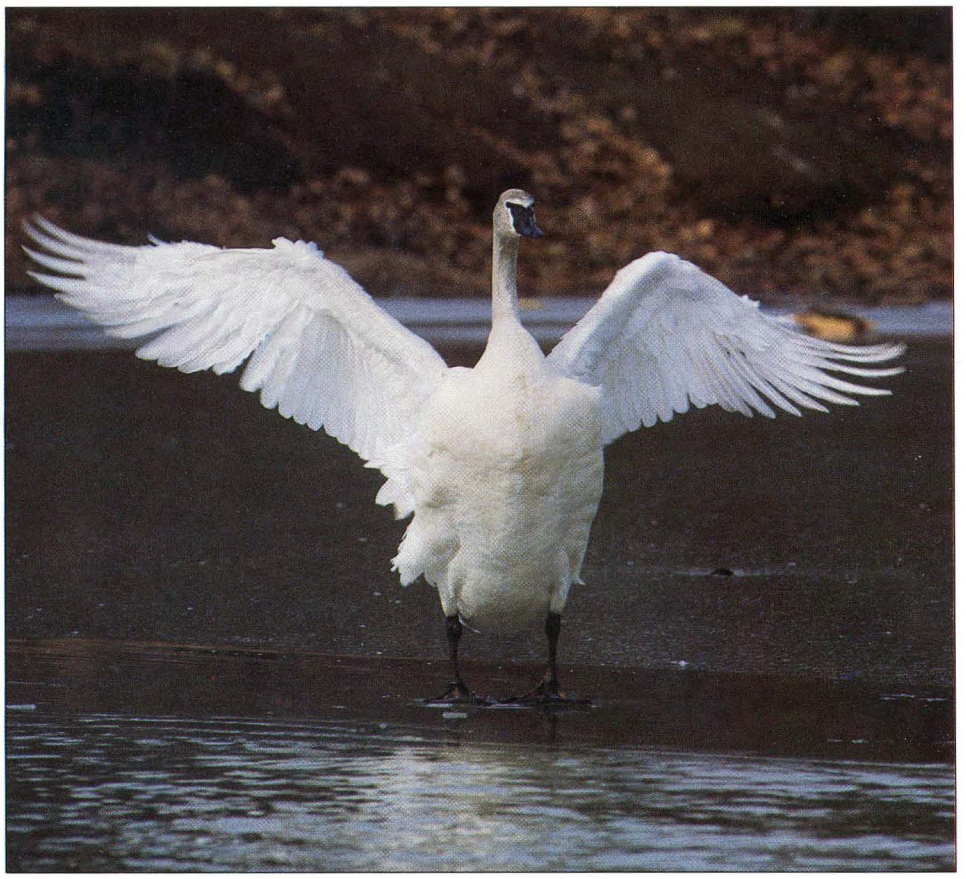
In a desperate effort to save the birds from extinction, the federal government acquired a vast tract of land in the isolated Centennial Valley of southwestern Montana. The Red Rock Lakes National Wildlife Refuge was then established as a sanctuary for the birds. Once established in this area, breeding colonies were transported to sites in Oregon, Nevada, Wyoming, and other places, such as Hennepin Parks. It has been a slow struggle, but there are now some 10,000 swans in Alaska and possibly 2,000 along the U.S.-Canada border from Wisconsin to the Pacific coast.

The comeback has been slow for many reasons. Trumpeters, which mate for life unless one dies, are slow to mature. They form pairs at age three, but may not breed until they are five years old.

Their long, slow take-offs also endanger them. Fences and highlines frequently down the swans, although if they survive such collisions they seldom repeat the accident. Trumpeters are also very curious birds, which can often be dangerous in the wild. Not the least of the trumpeter's problems is the fact that they need large areas of open marsh for feeding and nesting sites—areas which are continually lost to farming and urban development.

Another obstacle to the trumpeter's comeback has surfaced in recent years. An inveterate bottom feeder, the trumpeter will root through a marshbed pulling both plants and grit from the mud. In 20th century waterfowl ecosystems, one particular piece of grit—lead shot—has become readily available to waterfowl. Shot is picked up and stored in the gizzards of ducks, geese and swans. This muscle squeezes the grit to help digest the bird's food, and lead shot is

A young swan stretches its already enormous wings. When fully grown, the wingspan may reach 8 feet, and the bird may weigh 30 pounds. Nearly extinct at the turn of the century, trumpeter swans, the largest of waterfowl, have made a comeback in recent years.



The family group that wintered at La Cygne Reservior lounges in the midafternoon sun. Identified by the neck band the adult male wears, the group was traced back to Baker's Refuge in Minnesota. The adult female died on the journey south last fall.

ground into fine particles and absorbed into the system. The trumpeter is slowly poisoned by the lead.

Although the use of lead shot in all federal and most state wildlife areas is now forbidden, this problem is not easily solved. Lead does not break down in the ecosystem. This was graphically demonstrated last winter at Sunny Lake in Hennepin Parks. Sunny Lake had been purchased by the Parks 25 years ago, and no hunting has been allowed there in that time. Last year's drought brought the winter water level down to where the trumpeters could reach older parts of the lake. They could now reach areas where lead shot had been deposited more than 25 years ago. The result: 22 of 51 trumpeters at Sunny Lake were killed by lead poisoning. Although new advances have been made in treating these birds, few receive treatment. Wild trumpeters run the risk of lead poisoning if they are feeding in any area that once allowed the use of lead shot.

Trumpeters usually migrate long distances between established wintering and nesting sites. (The exception to this natural behavior exists at the Centennial Valley site. Here the same natural hot springs which fuel Old Faithful keep water warm year round for the swans.) Fortunately, the trumpeters which winter at La Cygne returned to Baker Refuge in Hennepin Park. Baker has yet to experience any problems with lead poisoning.

Although the trumpeters are curious birds, they can also be a bit cantankerous. During the breeding and nesting season, they become quite aggressive. Like the Canada goose, the male swan (called a cob) fiercely protects the female (called a pen), the eggs and young. Three to seven eggs are laid in a nest which may be five feet in diameter, and aggression builds until the eggs are hatched. It then gradually wanes until fall when the trumpeters are once again amiable. Unlike their imported cousins, the mute swan, this aggression does not usually extend itself to other waterfowl.

The struggle of the trumpeter swan exemplifies the dilemma facing all wildlife in the latter part of the 20th century. Increasingly, the needs of man—perceived or real—are in conflict with the needs of other life on the planet. Sadly, we humans often fail to see these needs as being one and the same.

There is, however, a hopeful second act in our small drama. The La Cygne cob and cygnets made it safely back to Baker's Refuge this spring. To close the act, the cob has paired with a young pen. They were observed nesting and may raise young. It appears that if nature has its way, the trumpeter swan will once again delight men's eyes.

NOTE: The saga of the trumpeter swan now includes a human organization dedicated to expanding their range and numbers. The Trumpeter Swan Society helps manage refuges, track migrations and count swans. They are also involved in administrative work with groups buying land for habitat acquisition. (For more information concering the work of the Society and their upcoming September conference, contact Donna Compton, Conference Chair, Trumpeter Swan Society, 3800 County Road 24, Maple Plain, MN 55359.)

HUNTER 1

Ken Fowler knew his 1988 buck was a monster, but after official scoring, it turned out to be the No. 1 nontypical bow-killed whitetail in Kansas and the No. 2 in world Pope and Young Club standings.

by Mike Blair
staff photographer

The license plate on Ken Fowler's pickup is a source of ribbing these days. Ever since his wife surprised him with the personalized tag a year ago, HUNTER 1 has identified the coming and going of an ardent bowhunter and noted tournament archer.

But now that Fowler's 1988 buck is certified as the new Kansas archery record for nontypical whitetails, the license plate has new meaning. Was it an omen, his buddies wonder, or simple coincidence? And where can their wives get them a lucky personalized tag?

The 23-point buck, taken in Reno County on Oct. 2, with an official score of 257 0/8 Pope and Young points, beats the existing Kansas archery record that stood since 1968. The deer also moves into second place in world Pope and Young standings for its category.

Fowler, 37, of Buhler began bowhunting 10 years ago at the suggestion of a friend. Archery became a year-round hobby and a way for the hunter to maintain his shooting skill between deer seasons.

Though many tournament archers use sophisticated gadgetry and lightweight bows to improve their scores, Fowler excels with his normal hunting gear. He shoots a 70-pound compound bow with quiver attached and shoots heavy hunting arrows with the aid of glove and sights. His many wins in competitive archery have earned him the rank of Master Archer.

A Kiowa Indian, Fowler is often teased about possessing innate skills with a bow and arrow. "I wish it were true," he laughs, "But I sometimes practice up to four hours at a time, until I can group my arrows in a 4-inch circle at 40 yards."

The years of bowhunting have taught Fowler much about deer, paying off in two previous Pope and Young trophies. But this year, he wanted to hunt an exceptional animal. A scouting trip in late August revealed the monster buck he was to take.

"I was sitting in a tree when the big deer and two other bucks fed by only 30 yards away. I kept trying to count tines, but there were so many, I couldn't keep them straight. I went home and told my wife I saw a huge buck that would be a new state record," he recalled.

With a hunting companion, Fowler visited the area almost daily for the next month. Staying out of the deer's home, the hunters watched from a distance for the buck to go to feed. But the large deer was seen by Fowler only once more in September.

On Oct. 2, with bow season barely open, the hunter was frustrated by the apparent absence of the giant buck. Finding a used trail, he climbed into a tree, hoping to use a doe tag before darkness fell, (1988 marked the first year that Kansas archers could purchase a second "doe only" permit in some units.)

When halfway up the tree to his stand, he spotted a better tree to shoot from and quickly changed stands. Shooting one arrow to the ground for practice, he retrieved it and climbed up to wait for a deer.

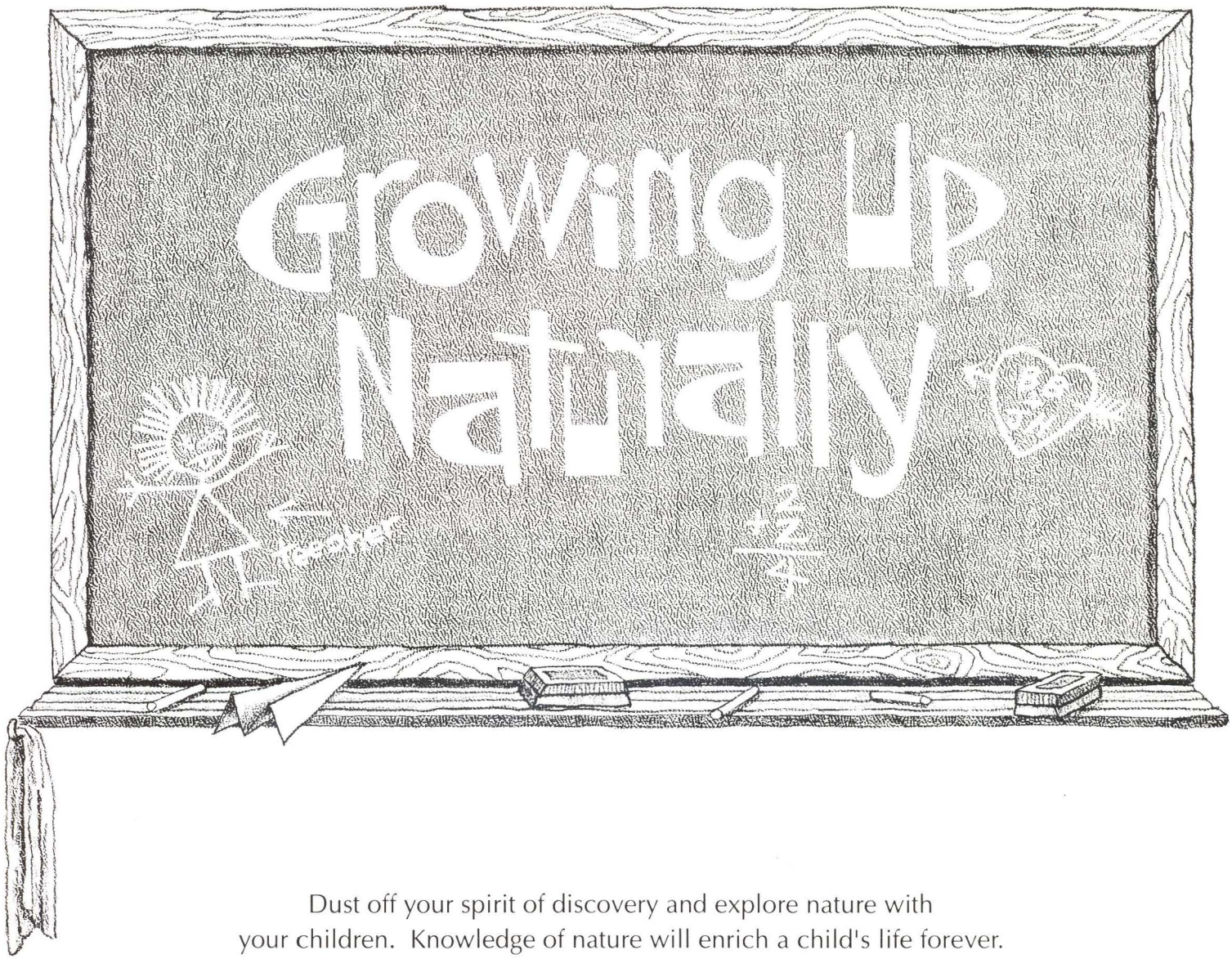
"It was about 6 p.m.," he recalls "when I saw a deer coming through the woods. I assumed it was a doe and got ready to shoot.

"When it got closer, I saw antlers, and then I thought, 'It's him!' The buck stepped out and suddenly smelled where I picked up the practice arrow, but I shot before he could spook. He was just 15 yards away."

Seeing a perfect hit and complete penetration, Fowler immediately climbed down and followed the trail across the river. He found the deer a short distance away.

After the required 60-day drying period, two certified Kansas Pope and Young scorers measured the antlers and came up with 252 4/8 points. Word of the large deer spread quickly, and Fowler was invited to the biennial Pope and Young Club meeting in Boise, Idaho in April. There, a five-member judging panel scored the deer officially at 257 0/8 points. The buck received first place in the nontypical whitetail category in the 1987-1988 Pope and Young competition.

Mike Blair photo



Dust off your spirit of discovery and explore nature with your children. Knowledge of nature will enrich a child's life forever.

by Mary Winder
Troy

photos by Mike Blair

"The opossum's in the birdbath. The opossum's in the birdbath," my five-year-old daughter, Ginger, announced excitedly, sounding much like Paul Revere. Her three-year-old sister, Elizabeth, brown eyes gleaming, was right at her heels. "Come and look," Ginger added impatiently as I finished pinning a fresh diaper on their baby sister, Abby.

I plucked up the baby, wrapped her in a blanket and headed out the back door into the moonlit night with Ginger and Elizabeth close behind. We crept quietly up to the fence and watched with wonder as the silvery opossum leisurely drank from the

birdbath 12 feet away. He glanced at us once and then waddled slowly into the bushes.

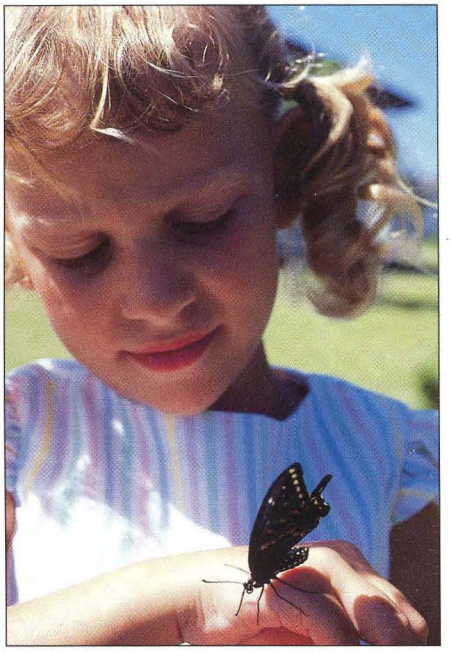
As soon as he was gone, Ginger and Elizabeth began chattering about how neat it was to see the opossum in our yard. "He got a drink right out of our birdbath," Ginger exclaimed. "And did you see his feet?" Elizabeth said. "They were pink!"

Listening to their animated voices and seeing their shining faces, I knew that their father and I had made the right decision when we chose to encourage our children to know, love and respect nature.

My husband and I both derive much pleasure, peace and strength from nature. When our first child was born, we promised that we would explore the natural world with her in the hope that nature would enrich her life as it has ours. We made the same promise to her two sisters when they were born.

We do not teach structured lessons about nature, we simply encourage our daughters to discover and respect nature through daily experiences and by example. A friend once told me, "You take care of what you love." We believe that by exposing our children to nature at a young age, they will come to love it and want to take care of the earth when they are adults.

Children have an instinctive curiosity about natural things and processes. Almost any child is interested in bugs, rabbits, birds, plants, rocks, soil and snow. We simply strive to foster this innate curiosity in our children. And we try to always act in a manner that illustrates our own strong feelings of respect and love for nature. Facts can be added later, when the children are old enough to



Children are interested in even the simplest of nature's creatures. A butterfly may seem almost magical to a youngster marvelling its beauty for the first time.

Even if you live in a city, nature is nearby. Watching flowers emerge, grow and then bloom is a good lesson in nature for children.

understand and assimilate them. And the facts will be much more meaningful when they are resting upon the strong, broad base of our children's positive experiences with nature.

Since we live in the country, nature is always near. And we decided to bring it even closer by inviting wildlife to our yard, with our children's help, of course. We have all enjoyed and learned from this ongoing family project.

To begin with, we planted a variety of trees and shrubs in our yard to provide food and cover for birds and other small animals. We consulted local Kansas Department of Wildlife and Parks personnel and wildlife books for ideas on improving habitat in our yard.

Our children were eager helpers. They pressed soil around fragile roots, lugged little buckets of water for the seedlings through the summer and even pulled weeds and laid down mulch.

Now, we not only have more wildlife visiting our backyard, but just as importantly, our children know the wonder of planting a bush or tree, nurturing it and watching it grow. They also realize the habitat needs of wildlife.

There have been other nature related projects that the children have helped us accomplish. We've used discarded Christmas trees to construct brushpiles in our yard, providing cover for rabbits and other small animals. We put out birdseed and keep a birdbath filled with fresh water. And each fall, our family picks up ears of corn left in the fields after harvest to feed some of our wild visitors through the winter.

"It's like a treasure hunt," explained Ginger when she described the corn gathering to her city-bred grandfather. And it is like a treasure hunt. We walk through windswept November fields searching for the golden yellow ears of corn among the brown shades of soil and dried stalks.

Even if you live in the city, wildlife is nearby. You just have to look a little harder and use your imagina-

A blindfold can add a new dimension to the perception of nature. Touch a dandelion to a child's cheek, raise a flower to the nose or put tiny hands on the rough texture of tree bark. Then watch the fascination grow.

tion. All children, whether they live in a city apartment, a split-level in the suburbs or a farmhouse in the country, deserve the opportunity to explore nature.

All towns have a park where children and parents can explore and learn about the natural world together. They can explore trees, grasses and plants; examine leaves, seeds, bark, roots, pine cones and flowers; observe and identify birds and insects; inspect soil and rocks; and probably find water in some form to investigate. A hand lens or pair of binoculars can add another dimension to the explorations.

Parents may find nature hikes or classes sponsored by the city recreation department or other group. Teachers should be encouraged to include nature activities in the curriculum at school.

Put a bird feeder and basin of water out, even in a small yard or on an apartment terrace. A little corner of the yard could be given to children for their very own garden, or allow them to plant seeds in pots of soil indoors.

Weather is an interesting phenomenon that occurs everywhere and shouldn't be overlooked when introducing a child to nature. Our children have helped me to see rain, snow and wind in fresh new ways. And don't forget the changing seasons, sun, moon, stars and clouds above as subjects for nature exploration.

The time of day can add a new perspective to the natural world. Go for a walk at night and watch for swooping bats and night insects. Listen for hooting owls, or lie on your back and gaze at the winking night sky. Or go for an outing at daybreak with your child and listen to the quiet become transformed with the sounds of the birds as they warble, chirp and trill.

Encourage children to use all of their senses to investigate nature. I've taken our two oldest daughters on a "sensory walk," blindfolding them and guiding their hands to touch a variety of natural objects. I crumble dry leaves near their ears and watch them delight at the crackly sound. I stroke their cheeks with a fluffy dandelion seed head and they sigh with pleasure. I ask them to hug a tree, smell the grass and wiggle their bare toes in the mud. It's a great adventure for children and adults alike, and it allows both to experience the natural world in a new way.

Don't worry if you feel inept when it comes to identifying animals or classifying rocks. It is feeling, rather than knowledge, that's really important here. If you desire, you can learn more about the names and facts from various sources. Every library has, or can obtain for you, books and magazines about nature. We often read nature-related books and magazines to our children and we all learn together. The Kansas Department of Wildlife and Parks also has literature available on many subjects. Contact them for more information.

There's a fascinating natural world out there with color and drama, and spectacular sights, sounds, smells, tastes and touches. It's waiting for anyone who will take the time to experience it. I invite you to dust off your spirit of discovery and go outside with your children to explore nature together. Their lives, and yours, will be forever enriched.

A special bond forms when parents spend time with children learning about nature. Lessons learned will instill an appreciation for nature that will last the rest of a child's life.

HIGH GROUND

by Mike Blair

Old Fashioned Adventures

One of the great discoveries in a child's life occurs the day he learns that beneath the smooth surface of a pond, there live slippery, scaly creatures that can be caught by hook and line.

Fish! There's a certain fascination about them. Unseen except for an occasional ripple, unheard except for a slurping strike deep in the cattails, they lurk in dark water in wait for offerings of a most special kind of person: a fisherman.

To a youngster, a fisherman can be almost anyone. Anybody with a rod and reel who knows the way to the creek is a fisherman. Anyone who can spade a wedge of earth to collect worms, or even a dad who's come straight from the sporting goods store with a handful of new equipment and the uncertain prospect of his first fishing trip, qualifies. And that's faith.

It's the reason, too, that fishing is made for kids. Only they possess the imagination that makes fishing a real, old-fashioned adventure. The kind of adventure that makes chasing grasshoppers through meadow grass an exciting prerequisite to baiting a hook. Or the kind which leaves Sesame Street forgotten in favor of a ride in a rowboat. Or best of all, that which lets them know they're growing up, and someone believes they are big enough to be a part of such an important outing.

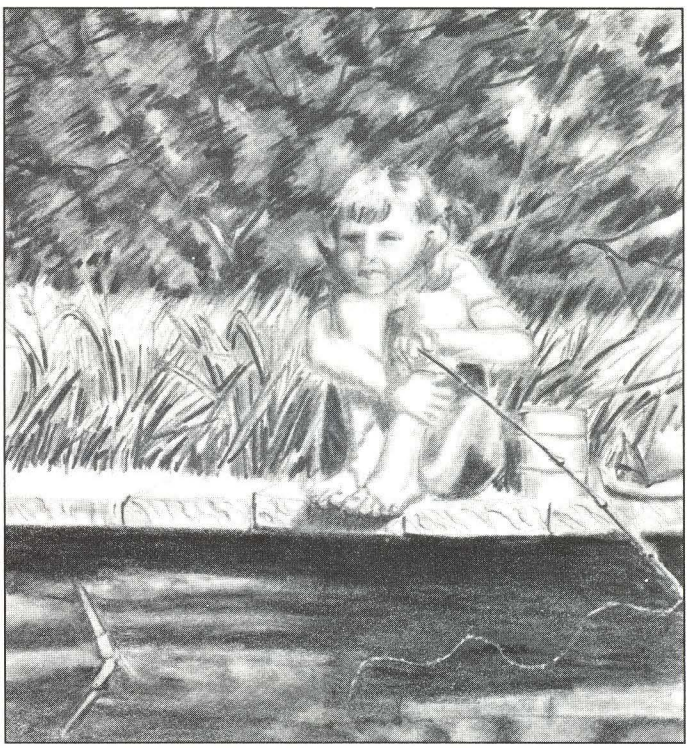
You remember how it was, don't you? Your first fishing trip, when someone special introduced you to what has become a way of life?

For me, it was a graying man and his Oklahoma farm ponds that opened the door to the world of angling. Granddad always made time during our visits to load cane poles into his Studebaker pickup and take dad and me to the big pond with the sunken car. We'd stop at the creek crossing to seine a bucketful of minnows and make our way to the weathered dock where he liked to fish. He'd unwind the fishing lines and set the bobber to the right depth before baiting each hook. Then, making sure I was watching, he would cover the baits with streams of Red Man tobacco juice.

"That'll get 'em," he'd say, handing me a pole. And sure enough . . .

There was nothing like waiting quietly before a spread of colorful bobbers and nothing like it when they danced to striking fish. The bouncing tug against the tip of a pole expanded a boy's world like nothing else.

All youngsters need a chance like that. A chance to be in the open air, to study the way ripples spread on the water. A chance to wade barefoot in a creek, or to turn over rocks in search of crickets. A chance to hear the redwing's "*conk-a-ree*," and to watch how they build their nests in waterside reeds. Or to get to know their dads and granddads in the special way that fishing allows.



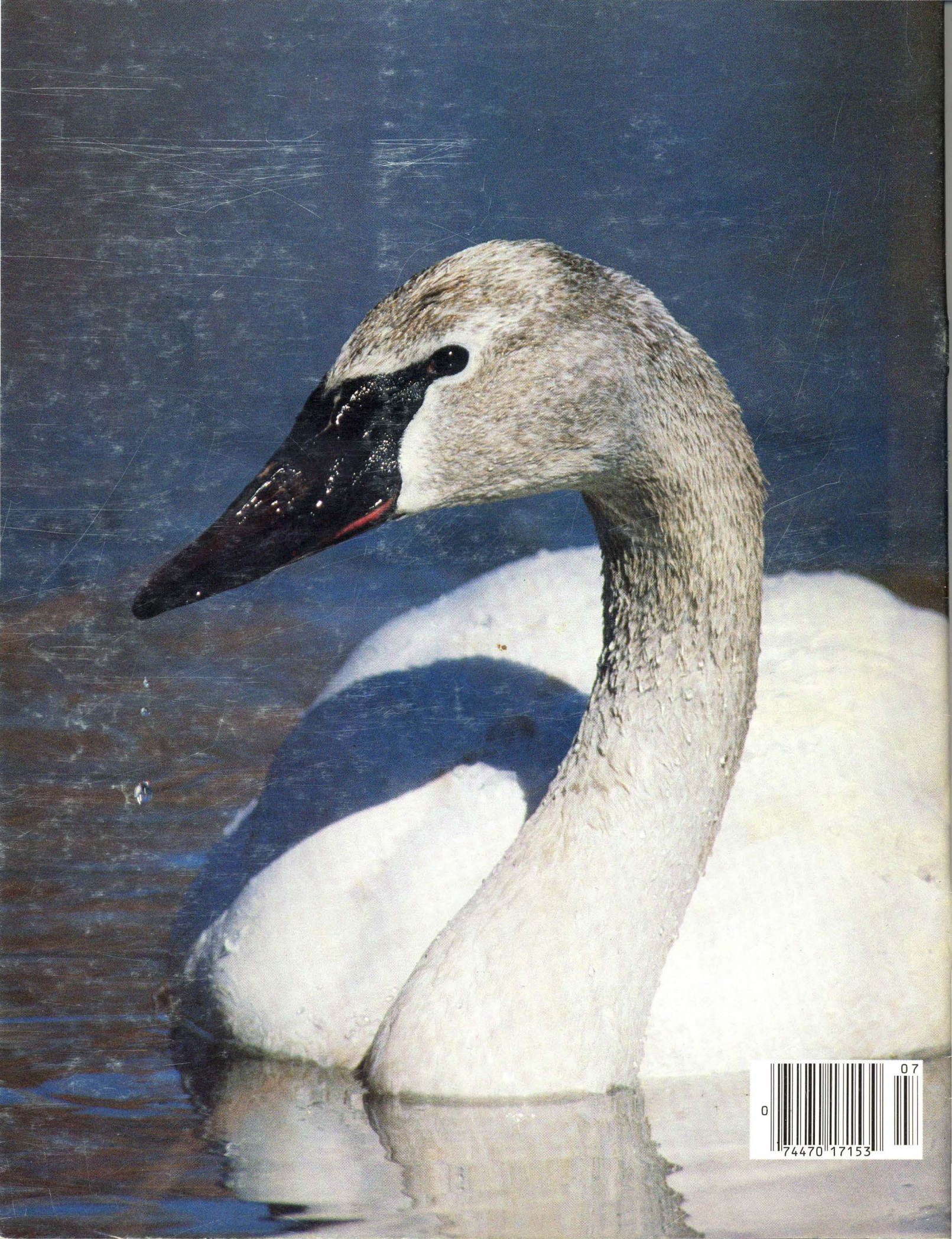
Dana Eastes illustration

But fishing is sophisticated these days. The roar of an outboard has largely replaced the bouncing pickup on the way to the pond. A glance at a graph recorder instantly tells the fisherman water depth, bottom structure, and even to a degree, how many fish are beneath him.

Drop a Fat Rap, Buzz Bullet, or a Tinsel Tail jig into a school of bass, and it's a good bet you'll haul in fish. When they quit biting, you head down the lake until you find another school.

It's fun, but it's also science. And it doesn't leave much room for a child's imagination. Somehow, the cane pole with a wiggling worm on a hook is still the best way to satisfy a five-year-old's questions. And it's simple enough for him or her to understand.

Do you want to have some fun this summer? Take a young boy or girl fishing the old-fashioned way. Teach them about herons and muskrats, and show them how to catch crawdads. Tell them the biggest fish stories you know, and spit some tobacco juice on their hook. Then sit back and watch them become fishermen.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