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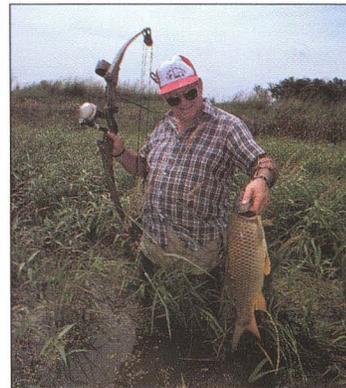
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About the Covers

Front: An Eastern pond-hawk dragonfly takes a break. As this species ages, it gradually turns powder blue. Mike Blair photographed the insect with a 400mm lens, f/11 @ 1/125. **Back:** A turkey vulture perches against the rising moon. Mike Blair photographed the scene from a boat with a 600mm lens, f/4 @ 1/125.

THE BUCK STOPS HERE

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

Equal opportunity to participate in and benefit from programs described herein is available to all individuals without regard to race, color, national origin, sex, age or handicap. Complaints of discrimination should be sent to Office of the Secretary, Kansas Department of Wildlife and Parks, 900 Jackson St., Suite 502, Topeka, KS 66612.



Evolution or Extinction?

If you believe in evolution, then you believe we are constantly changing in response to our environment. Physical change takes thousands of years and many generations to become evident. Behavioral change can occur much quicker and is sometimes just as important to survival. History shows that as the world has changed, those species that adapted and evolved, survived, those that didn't, perished.

Man has made significant changes in the Kansas environment throughout the last 100 years. As a result of our actions, we've watched rivers go dry, trees die and water tables drop. Ironically, rivers have always been one of the landscape's most attractive features to man. Indians fought bloody battles to secure river territories for the rich hunting ground and fresh water supply. White settlers nearly always built their communities along rivers. The endless supply of flowing water was handy for fresh water supply upstream, ideal for taking away trash and sewage downstream, and it even provided irrigation for crops.

After years of abuse, it's only been recently that rivers have been recognized as more than water troughs and trash dumps. Perhaps as rivers have been lost, we've realized how much they influenced our quality of life. The river's beauty and bounty—the trees, fish, wildlife and, of course, water—make our world a better place.

For the remaining rivers' sake, we need to hurry the evolutionary process. We're not adapting our behavior as the environment changes. Under our current lifestyle of free and wanton water use, rivers are disappearing. It's that simple. In fact, in many places, there's not enough water to go around, so we're fighting over who gets what's left. It's time we quit blaming droughts, dams and land-use changes, and made some real conservative efforts.

It only takes a look back to find out what happened to species that couldn't (or wouldn't, in our case) evolve. Their skeletons adorn our museums. Perhaps the injustice here is that the change occurring in our environment is controllable—even reversible. But we continue to make



Dana Eastes illustration

excuses to maintain our current way of life because we won't be the ones to answer. Future generations will suffer, not us. We'll move away. Farms will be abandoned instead of handed down. Small communities will be empty. The only evidence of once life-giving rivers will be the bleached trunks of dead cottonwood trees, like so many dinosaur bones, standing along the dry river bed. The wind-eroded landscape will attract few visitors, and harbor fewer residents.

Maybe that's the worst scenario, maybe it's not. Some will say it all sounds too gloomy, but the situation is full of potential. We have time to save what's left, maybe even restore it. It's up to us. We can adapt and evolve our lifestyle to match the environment, or we can stubbornly continue toward our own extinction.

Mike Mill



Nature's Flying Aces

text and photos by Mike Blair
staff photographer

Commonly seen along waterways as colorful, flying jewels, dragonflies and damselflies are elite winged predators with a fascinating life history.

Six inches deep in the murky shallows of a pond, a hawk-eyed predator creeps toward its prey—a smaller cousin of the same insect order. The attacker, more than an inch long and naturally camouflaged green and brown, sneaks along the pondweed until almost touching its victim. Then faster than the eye can follow, it shoots out a long, hooked appendage that was folded beneath its chin, and traps the victim helplessly against its jaws.

Steadily chewing and swallowing, the predator eats a huge portion of its still living victim, before abruptly casting it to the pond's bottom. The victim drags itself away to die, while the sated attacker moves ever closer to its more familiar life stage—the green darner dragonfly common to Kansas streams and marshes.

To watch an adult green darner lazily riding the breeze, you might never guess it's one of nature's most elite insect predators. Like other dragonflies—and their smaller cousins, the damselflies—it's mainly thought of as the bug perching on a young angler's bobber, or patrolling shorelines as a jewel of brilliant color. But there's more to their story. The biologies of these creatures are a fascinating part of wetland ecology, easily observed on the smallest waters.

Dragonflies and damselflies comprise the insect order Odonata, named for the teeth on their powerful mandibles. The immature life stages live in water, and adults are usually associated with aquatic habitats as well. However, the colorful adults spend much of their time on the wing, and some strong-flying species may be found foraging in prairie habitats miles from their wetland homes.

The Odonata are unique in appearance and easily recognized. They have four long wings, crisscrossed with veins. The compound eyes are large and many-faceted and usually comprise most of the head. The long, slender abdomen is often brightly colored. At rest, the dragonflies hold their wings in a spread position. Damselflies, the smaller insects of the order, usually rest with wings folded above the thorax.

Dragonflies and damselflies have many interesting local names, including devil's darning needles, snake



Dragonflies and damselflies comprise the insect order Odonata and are common in Kansas. Damselflies, such as the American rubyspot (facing page) and the black-winged (below), are weak fliers and fold their wings above the thorax at rest. Dragonflies like the common sanddragon (above) are skillful aerial hunters. Dragonflies spread their wings at rest.



doctors, and snake feeders. These were derived from an association with swamps and other brackish habitats and while colorful, provide no insight into the insect's behaviors. However, mosquito hawk, another colloquial name, aptly describes the Odonata's appetite for flies and mosquitoes.

Because they are predacious in all life stages, dragonflies and damselflies are beneficial insects. They are harmless to man, do not sting and are said not to bite. However, the largest dragonflies will chew on anything placed near their mouths, including their own abdomens, and may deliver a minor pinch to a finger. But all species may be handled without fear.

Dragonflies and damselflies differ greatly in their flight habits. Damselflies are weak and delicate flyers, flitting an inch or two above the water for short distances between perches. They're tolerant of each other, and it's common for them to line up like flags on a pole as they perch on an emergent twig.

Dragonflies, by contrast, are true aviators. Able to hover, soar and dart at speeds up to 60 mph, they can usually avoid hungry birds and easily catch flying insects, their primary food source.

Most dragonfly species have characteristic flight habits. The skimmers tend to zigzag, hovering in one place for a few moments, then changing directions and repeating this pattern. The clubtail dragonflies undulate over open land, looping 4-6 feet vertically for every 2-3 feet of forward movement. Many stream species patrol regular stretches of 100 yards or more, flying at characteristic heights, speeds and distances from the stream bank. The darners are tireless flyers and may range as high as 20 feet above the ground over fields near water.

When dragonflies do rest, they often use a favorite perch. This is defended against other dragonflies, and skirmishes involving perches are common.

Aside from flight skills, the Odonata are good hunters because of exceptional eyesight. Like many insects, they possess two kinds of eyes. The simple eyes, or ocelli, don't see an image but are sensitive



Dragonflies have the best eyesight of the insect world. The compound eyes of the green darner contain tens of thousands of individual facets—creating a mosaic image especially sensitive to motion.

to changes in light intensity. Their purpose is largely defensive, registering the shadow of a bird or other enemy. This stimulates the compound eyes to look for danger.

Well-developed compound eyes provide Odonata with the best vision of the insect world. In some dragonflies, each eye contains 28,000 facets. Each facet processes only one part of an image, so the insect sees one mosaic image made up of 28,000 parts. This acuity is primitive by vertebrate standards but efficient for dragonflies. To compare to human eyesight, dragonflies can probably register motion as far as 60 feet away but can't distinguish stationary shapes more than a few feet away.

Because their eyes are geared to

movement, they're adept at catching flying prey. Dragonflies catch their food on the wing by forming a basketlike arrangement with their legs to scoop up victims in midair. Usually, prey are small insects such as flies, small moths or mosquitoes. One researcher counted more than 100 mosquitoes in the stomach of a single adult dragonfly. The largest Odonata may attack bees, butterflies or other dragonflies for food. Dragonflies usually eat their prey on the wing, but weaker damselflies perch to dine.

Dragonflies and damselflies have a unique reproductive system unlike that of other insects. Male genitalia in all other insect orders are located at the end of the abdomen. But Odonata have their copulatory organs

located just behind the legs, at the front end of the abdomen. Sperm is transferred from the ninth abdominal segment to a special reservoir on the second segment when the male bends his abdomen downward and forward. Then, the male and female join in a "mating wheel," an unusual configuration that allows mating to occur.

The two sexes spend considerable time in tandem, with the male leading. The male clasps the female by the back of the head with special appendages at the end of its abdomen. When ready to mate, the female bends her abdomen downward and forward to contact the second segment of the male. Mating often occurs in flight, though it may also occur at rest.

Odonata lay their eggs in or near water. Depending on species, some remain in tandem while laying eggs. Tandem oviposition may last for hours. In some species, the pair patrols low over the water and momentarily separates each time the female dips to the surface. While apart, the hovering male stands guard, since unprotected females may be instantly grabbed and carried away by unpaired males. Potential rivals are energetically chased away.

Some families of dragonflies, and all damselflies, have a true ovipositor. This injection tube is used by females to insert eggs into plant tissues. Oviposition is commonly done in tandem with the male, while the insects perch on a plant stem. Eggs



Some dragonfly species deposit eggs directly into emergent plant tissue. Others simply dip into the water, washing eggs from the abdomen as they fly.

are usually inserted just below the surface of the water, no farther than the female can reach with her abdomen. But in some species, eggs are laid above the water, and in others, a female may crawl beneath the surface a foot or more to insert the eggs.

Other dragonfly families do not have well-developed ovipositors and use different techniques to lay their eggs. In most of these species, females are unattended by males as they deposit eggs. In one such family, the female lays eggs by hovering above shallow water with her body in a vertical position and repeatedly jabbing her abdomen into the soft, underwater mud. In other families, the females simply dip repeatedly

into the water as they fly along the surface, washing eggs from their abdomens.

Eggs usually hatch in one to three weeks but in some species overwinter and hatch the following spring. Odonata hatchlings (called naiads) undergo simple metamorphosis, meaning there is no pupal or resting phase between the immature and adult stages. Instead, as they grow, the naiads simply molt and become larger, doing this as many as 15 times before emerging as adults.

Most species have one generation a year. Some develop rapidly, reaching adulthood in less than a month from the time the eggs hatch. But others spend two or three years underwater as naiads.

Odonata naiads breathe through gills. In damselflies, gills are composed of three leaflike structures at the end of the abdomen. Gills help damselfly naiads swim by undulating like a fish tail. Dragonfly naiads have ridgelike gills located in the rectum. They breathe by drawing and expelling water through the anus. By forcefully expelling water, a dragonfly naiad uses jet propulsion to move quickly.

All Odonata naiads feed on small aquatic organisms. Some bury into the mud, camouflaging themselves to wait for passing prey. Others rely on natural camouflage to hide on underwater plant stems. The largest naiads are capable of killing tadpoles and minnows.



A pair of black-mantled gliders forms a mating wheel characteristic of all Odonata. This species develops from egg to emerging adult in as little as 30 days. Other species may require several years to develop.



Immature Odonata are called naiads and live beneath the water surface. Damselfly naiads possess leaflike gills used for breathing and locomotion. Dragonfly naiads are larger and breathe through ridgelike gills located in the rectum. Water forced through these gills provides underwater jet propulsion. Odonata naiads are fierce predators. **Below:** Newly hatched dragonflies require several days to gain full strength and coloration, though they can weakly fly. Until fully mature, they are known as teneral adults. This teneral is a blue dasher.

Prey is captured by a peculiar, segmented structure called a labium. The labium is folded under the head when not in use but can extend more than one-third the body length of the naiad when thrust forward. It contains several clawlike lobes which grasp the prey and retract it to the jaws.

Naiads don't kill their prey but simply begin eating wherever their jaws contact the victim. They are voracious eaters and attack smaller prey whenever encountered. Commonly, they eat only a portion of the victim before discarding it. Though fierce predators themselves, Odonata naiads are a preferred meal for other larger insect predators and fish.

When fully grown, a naiad leaves the water in early morning and rests on a plant stem or rock for its final molt. Some naiads wander many yards from the water before molting. The juvenile skin splits open, allowing the winged adult to dry and expand. For several days, it is called a teneral adult—capable of weak flight



but soft bodied and pale. Gradually the insect attains its full color and agility.

Odonata are usually brightly colored. Males tend to be more colorful than females. In some families, there are several adult color phases among females. In other families, adults may completely change colors with passing time, appearing to be separate species based on age.

Adult Odonata are relatively long-lived. The average adult damselfly lives three to four weeks, with adult dragonflies living up to two months. As they age, their delicate wings may become tattered though remaining functional.

Some pond dragonfly species are commonly infested with larval water mites. These are small, reddish mites that attach themselves to aquatic naiads and move onto adult dragonflies during the final molt. They ride on the underside of the host's thorax, feeding on the insect's blood until growing large enough to return to water as free-living adults. Though the mites may be present in substantial numbers, they don't appear to harm the dragonflies.

Dragonflies and damselflies are a common fixture of aquatic habitats. Easy to overlook, they form an important part of life's network over marsh, pond and stream. Spend an hour watching them, and you'll agree they're a fascinating part of Kansas' wildlife heritage. ♡



Small pennantes



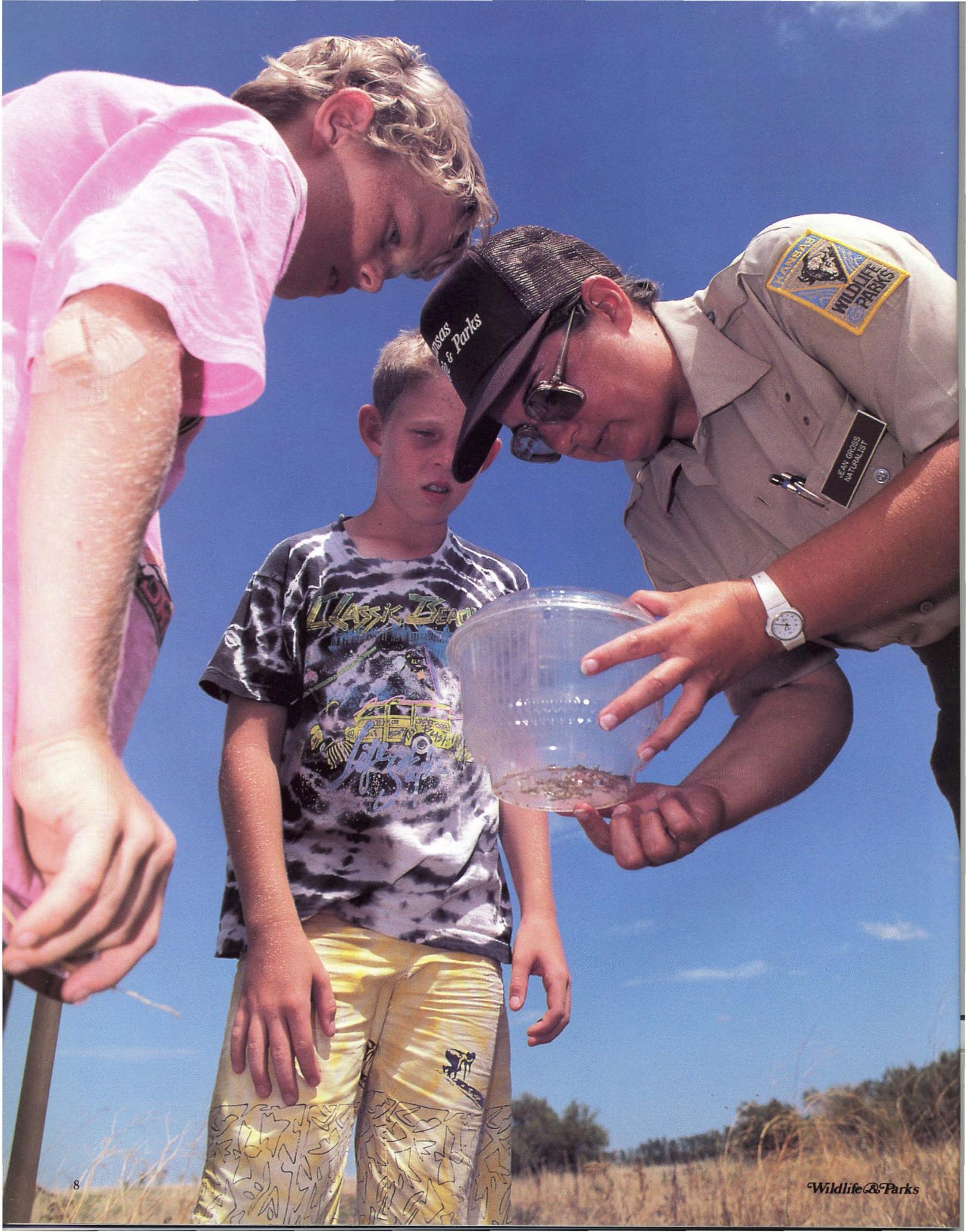
Widow skimmer



Civil bluets



Amberwing dragonfly



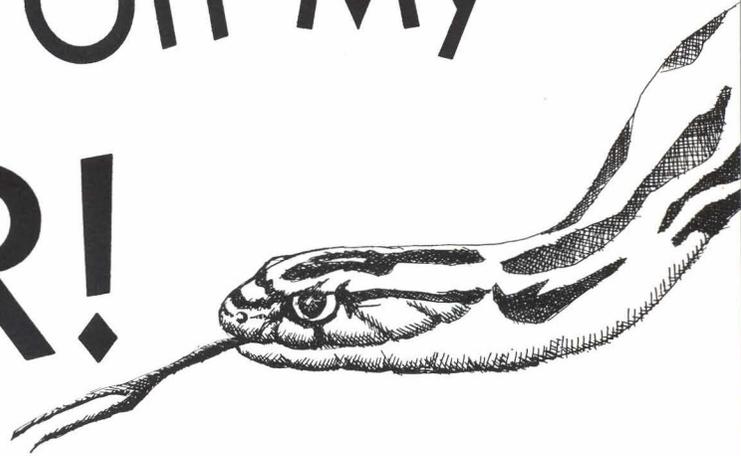
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SEAN CROSS
NATURALIST

CLASSIC BEANS

King Snake On My ZIPPER!



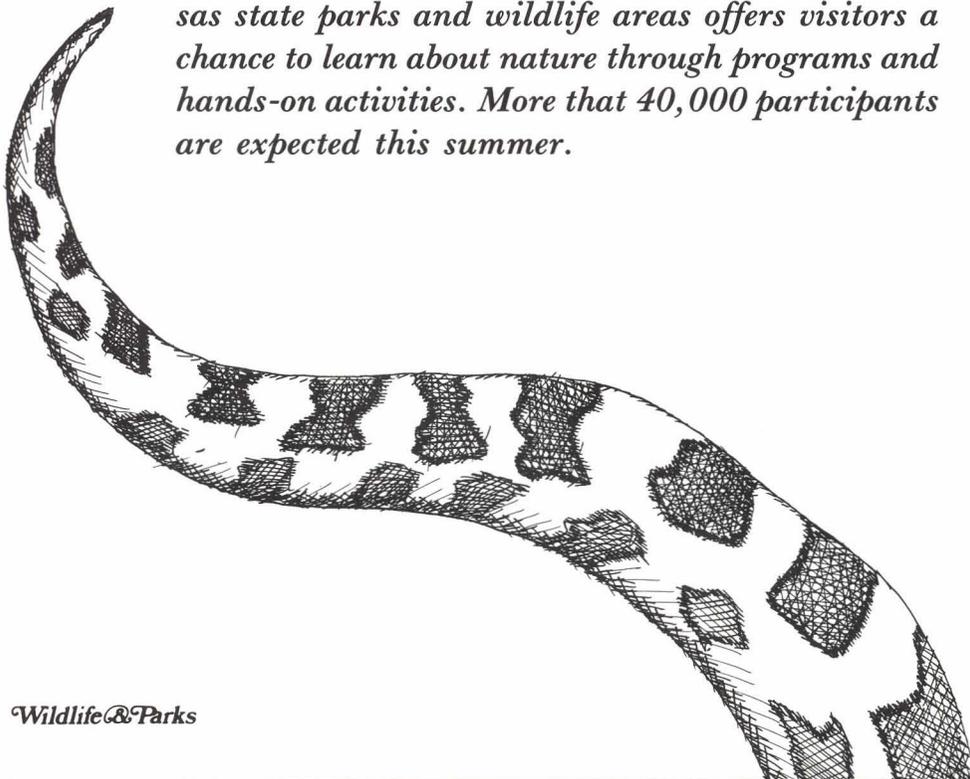
Nature Education At Its Best

by Rob Manes

wildlife and parks program specialist II

photos by Mike Blair

The nature interpretive education program at Kansas state parks and wildlife areas offers visitors a chance to learn about nature through programs and hands-on activities. More than 40,000 participants are expected this summer.



Twenty-some giggling girl scouts, a good-natured state employee, and a snake with a bad attitude make for wild educational experiences.

Its called interpretive nature education. It employs hands-on, intimate involvement to unravel nature's most complex and important secrets. The Kansas Department of Wildlife and Parks never offered a full-scale, formal program of this type before the summer of 1990. That May, 20 of the state's brightest natural resource college majors began what promises to be one of the Department's most successful public attitude-changing efforts.

The 1990 "naturalists," as they're called, were selected from nearly 100 interviewed applicants. They were chosen for their nature knowledge, their communication skills and their enthusiasm. The naturalists conducted interpretive education pro-

grams for visitors at Kansas parks, state lakes and wildlife areas. Often working frantically, they prepared, organized and promoted seven programs each week throughout the summer. By early August, they had entertained and educated more than 27,000 program participants. Most were angler-campers looking for something to do on a Friday or Saturday evening.

The public's reaction, measured both via formal, written evaluations and casual observation, was almost unanimously positive. There were failures, of course—movie projectors that didn't work, rain-outs and more than 100 scheduled programs that no one attended. Still the overall average program participation exceeded 20. Those who came were entertained and received strong messages about wild Kansas, the importance of wildlife management and the often unappreciated natural heritage that graces the state. The most popular program topic, by far, was "Snakes." Some 115 people showed up to hear a single program about these misunderstood, legless herps at Prairie Dog State Park, in sparsely populated northwest Kansas.

The snakey story of a Missouri wildlife education professional perfectly illustrates why interpretive education is almost always better than books, movies, or lectures about animals. It's a mostly-true story that goes something like this:

Rod is a long-time educator of the wilds; a teacher-conservationist. His dedication and enthusiasm for imparting understanding of natural flora and fauna have gained him widespread recognition. His jolly personality and glinting eyes that set atop round cheeks make Rod a natural kid (and adult) attractor. He's good at what he does.

One warm Friday afternoon, Rod stood amid a semicircle of wide-eyed girl scout campers. His audience sat patiently. The lasses stretched their necks to cast cautious-curious glances at three snake boxes. Rod had carefully placed the cages in some tree shade behind him. Each girl scout conjured her own vision of the hideous creatures that might lurk in the boxes. Many had never seen a live snake.

"Which is slimier?" Rod queried



Along with formal programs, the naturalists use hands-on activities to acquaint participants with many different aspects of nature. Here a youngster collects prairie insects.

the crowd. "A piece of boiled okra or a snake?"

"A snake!" they replied in unison, not knowing, for the most part, what okra was.

"Let's find out!" Rod shot back, casting an ornery glance at the fidgeting little ladies. He carefully pulled a red-sided garter snake from one of the wire-topped boxes. The audience gasped. A few drew back, but most edged closer. The snake, accustomed to human touch, glided gently between Rod's fingers and soon into the hands of the braver scouts.

As Rod expected, there was no need to launch a lecture on the natural history of garter snakes. The girls pulled every important fact from him with an endless barrage of ques-

tions, as they passed the snake around:

"What does it eat? Is it poisonous? (Rod took extra time to answer that question.) Is it a boy or a girl? How does it have babies? Do snakes sleep at night? Do they hibernate? Where does it live? Where does it poop?"

He carefully—almost lovingly—answered each question, making sure the snake's ecological importance and needs were unmistakable. The youngsters were having fun. They were learning. Their attitudes were changing.

Rod pulled other snakes from the boxes—a bull snake, a black rat snake, and (fatefully) a prairie king snake. It was the king snake that made Rod's interpretation really

work that warm girl scout day. It also caused his heart to palpitate, his forehead to sweat, and his waist to gyrate . . .

Rod's short, stout fingers gently gripped the king snake as he hoisted the lovely, brown-mottled creature from its secure box. The normally docile snake recoiled violently from a bespectacled blond-haired girl who lunged for a closer look.

"Wait!" Rod cautioned too late. The two-foot-long reptile wriggled frantically toward the ground. A few of them sensed something was wrong and jumped up to flee. Rod tightened his failing grip. There followed more frantic snake wiggling, then disaster.

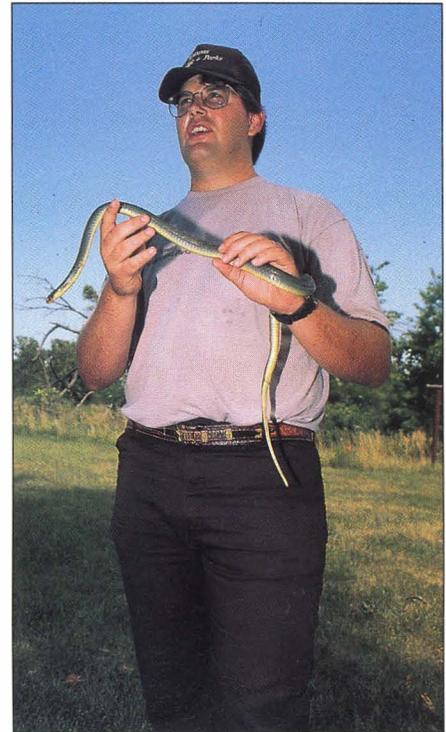
The panicked animal turned back toward its keeper, who made one last failed grab for it. Then the snake struck, catching Rod squarely at the bottom of his trousers zipper. Rod lost his grip entirely. The snake's tiny back-curved teeth snagged deeply in the double-knit fabric of his pants.

Its mouth wedged open, the squirming creature dangled helplessly between Rod's short, dancing legs. The awe-struck audience sat silently. Rod began to perspire as his fingers pried at the snake's lips. No use, he had gained a new appendage, at least for the time being.

First there were almost-inaudible giggles, then muffled laughter from under cupped hands. After a few seconds came a cascade of runaway belly laughs led by Rod. Tears ran down his red cheeks and he jiggled uncontrollably. He had their undivided attention.

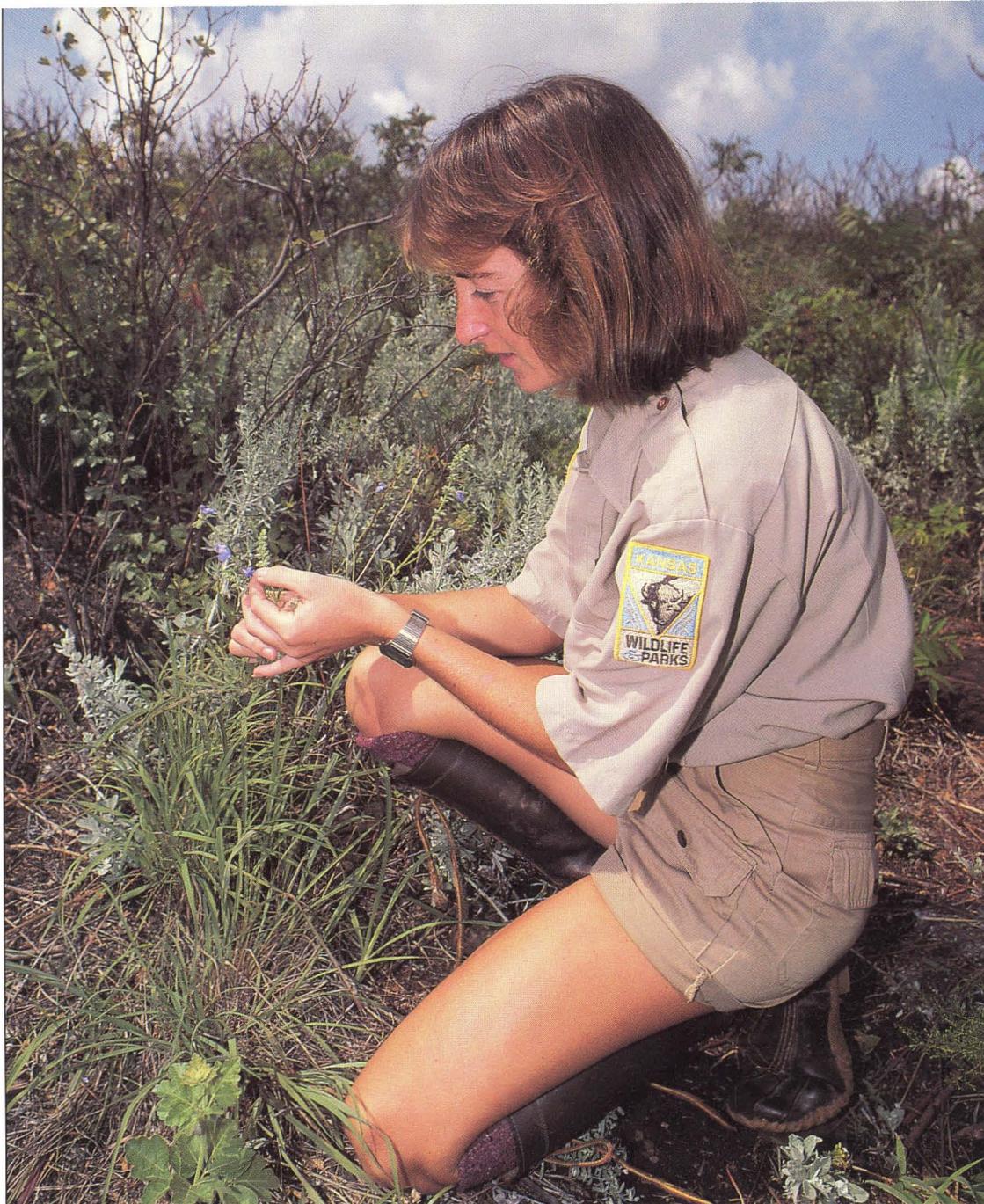
Then the first sincere question: "Does that hurt?" And other concerned inquiries: "Is he trying to eat you? Are you sure he's not poisonous? Is he biting your . . ." A scout leader interrupted, "Mr. Green, can I, uhmmmm, help you?"

Rod refused aid. As he wiped the tears from his still-laughing face, he answered each question, delivering a



Rob Manes photo

Naturalist programs cover a variety of subjects dealing with nature. More than 27,000 participants enjoyed programs in Kansas state parks last summer. The most popular programs were the ones about snakes, especially those with live subjects.



Although wildlife subjects are popular, naturalists also teach participants about native plants and their importance to wildlife. Programs will be given at more than 150 state parks, lakes and wildlife areas this summer. For more information, contact your local Wildlife and Parks office.

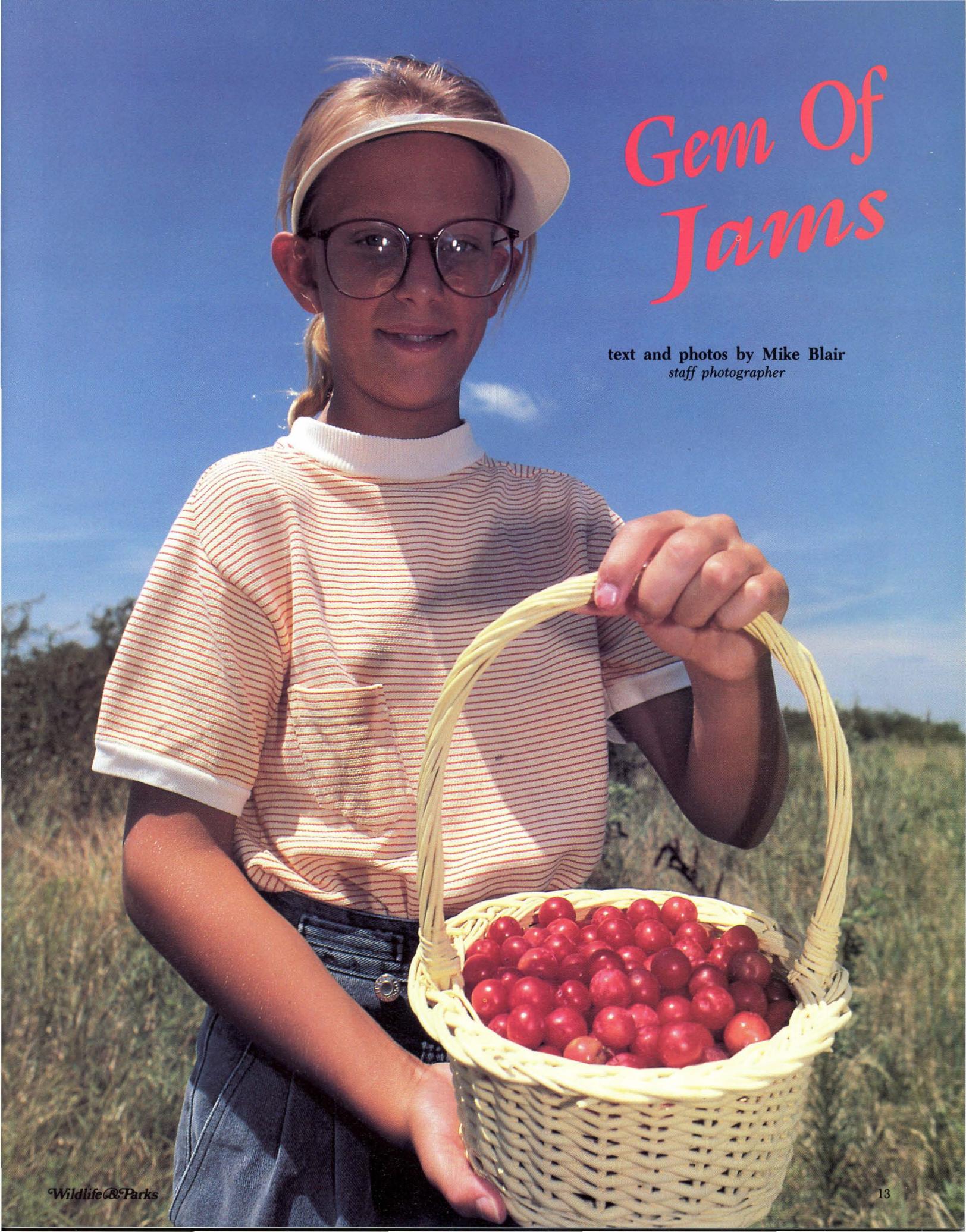
forceful message about wildlife, about predators, about habitat, about the connectedness of all living things. It was, as interpretive naturalists call it, "a teachable moment."

That week, after the girl scouts broke camp and went home, many parents received an education about the importance and likable nature of snakes. Fewer backyard snakes were pointlessly killed by shovel-wielding adults in northwest Missouri that summer. When grown, their children will be better equipped to appreciate wildlife and to make wise decisions that will ensure a healthy environment.

The Kansas interpretive naturalist program will continue to blossom. Other states' wildlife and park agencies have successful, long-established programs that attest to that prediction. An estimated 40,000 Kansas public lands users will receive the Gospel of the Wild through interpretation before the 1991 summer ends. Each of those people will be better able to enjoy, understand, and conserve wild Kansas.

If you're interested in attending an interpretive program at one of Kansas' 150-plus state parks, lakes, and wildlife areas, you can obtain a schedule of planned programs at

most park offices. Programs are offered several times each week in all state parks. They include many different formats, including nature hikes, bird watching outings, films, lectures, cultural arts and history presentations, and live wild animal programs. Interpretive programs are offered on most Friday and Saturday afternoons and evenings. They are generally open to children and adults, with some activities designed for specific age groups. No program admission fee is charged, although appropriate permits are necessary for park entrance. 

A young girl with blonde hair in a ponytail, wearing a white visor, glasses, a white and orange striped short-sleeved shirt, and blue jeans, is smiling and holding a large white wicker basket filled with bright red cherry tomatoes. She is standing in a field of tall grass under a clear blue sky.

Gem Of Jams

text and photos by Mike Blair
staff photographer

There's nothing better than wild plum jelly, unless it's remembering how much fun it was picking the plums and making the jelly yourself.



When wild plums ripen, it seems that every chigger for miles migrates to the plum patch. It isn't because chiggers like plums. Instead, their purpose is to lie in wait for pail-toting visitors who come to harvest the tangy fruit.

Then, while the hapless pickers work, chiggers have them for dinner.

This, however, is not sufficient cause to forsake the fading tradition of gathering wild plums. Across Kansas there is vast, sweet bounty, free for the taking. The heat of July ripens the tart fruit, dripping color throughout the dense thickets. Those who cash in on this produce will find it well worth any discomfort.

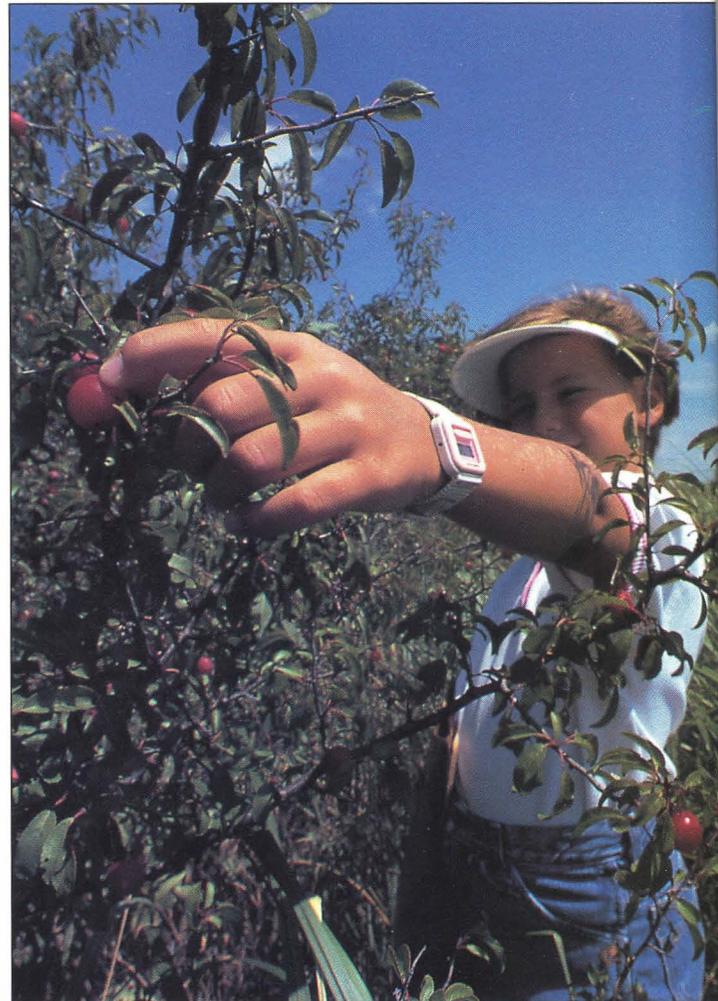
A half-hour of picking scarcely dents a good plum thicket, yet provides enough fruit for a year's supply of jam preserves. With each taste, the recollection of a hot, July outing becomes more pleasant.

Sandhill plums are at their peak by late July. These plants form dense thickets of small trees throughout much of the state, but they are most common in the sandhills of central and western Kansas. They are seldom taller than 5 feet and form light green clumps readily seen from long distances. The bright red fruit is highly visible and tart to the taste.

Another species of plum in Kansas is the goose plum. It is common only in the southeastern part of the state. The trees, which grow from 8-10 feet tall, are typically found in fencerows or along woodland edges.

Goose plums are small and bright red, except for a speckling of pale dots not found on other Kansas plums. They are generally considered the tastiest of all wild plums. Goose plums ripen slightly later than sandhill plums, usually in early August.

The final native Kansas plum is known simply as the wild plum and is found everywhere except a small southwestern portion of the state. This plant attains treelike dimensions, sometimes growing 15 feet tall. Like its two cousins, it forms dense thickets, but its size and dark green foliage are distinguishing features. Wild plums pro-



It's late July and the sandhill plums are red and ripe. Although pickers may have to put up with a few chiggers, the reward of sweet, natural jelly is worth the work and itching.

duce large, orange-colored fruits which ripen in August.

Regardless of species, native plums produce excellent jams and jellies. The sweet-tart taste provides a perfect complement to wild game dinners, and the red color of the preserves is attractive on the table.

Plan to pick approximately 5 pounds of wild plums for jelly, or 3 or 4 pounds for jam. Jam requires fewer plums, since the skins of the fruit are used in the recipe. When making jam, spotted or discolored plums should be discarded to avoid their presence in the finished product.

Plums should be washed, pitted and crushed to prepare for jam or preserves. If jelly is desired, the fruit should be washed, pricked and cooked down over low heat to

extract the juice only. The juice is then strained through a jelly bag to prepare for final cooking.

Wild plums contain large amounts of pectin, a natural jelling agent. This virtually guarantees jelling success, even for inexperienced cooks. It also ensures excellent, fruity flavor by keeping sugar content to a minimum.

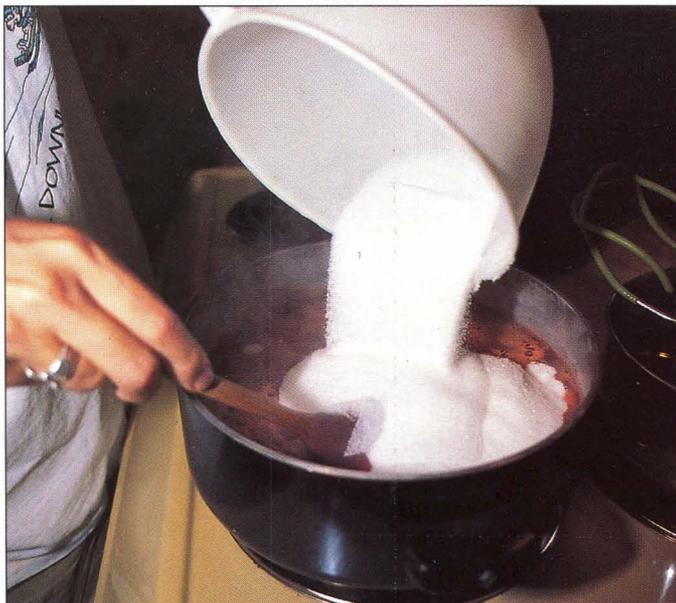
Commercial pectins can be used with wild plums, but are not recommended. First, combined with the naturally high pectin content of wild plums, the commercial addition tends to produce rubbery preserves. Added pectins also demand a higher percentage of sugar to fruit to make the juices jell, calling for as much as 60 percent sugar to 40 percent fruit juice. When sugar exceeds fruit, the taste



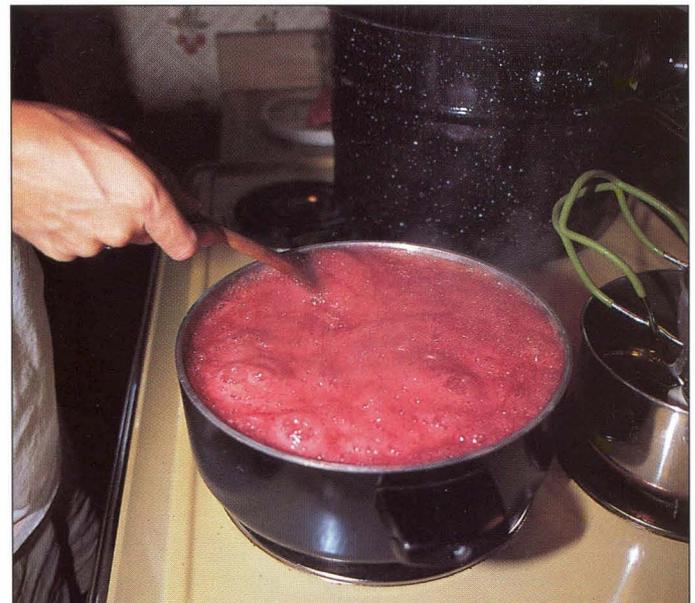
Commercial pectin is not necessary, but can be used. Start with 5 pounds of plums.



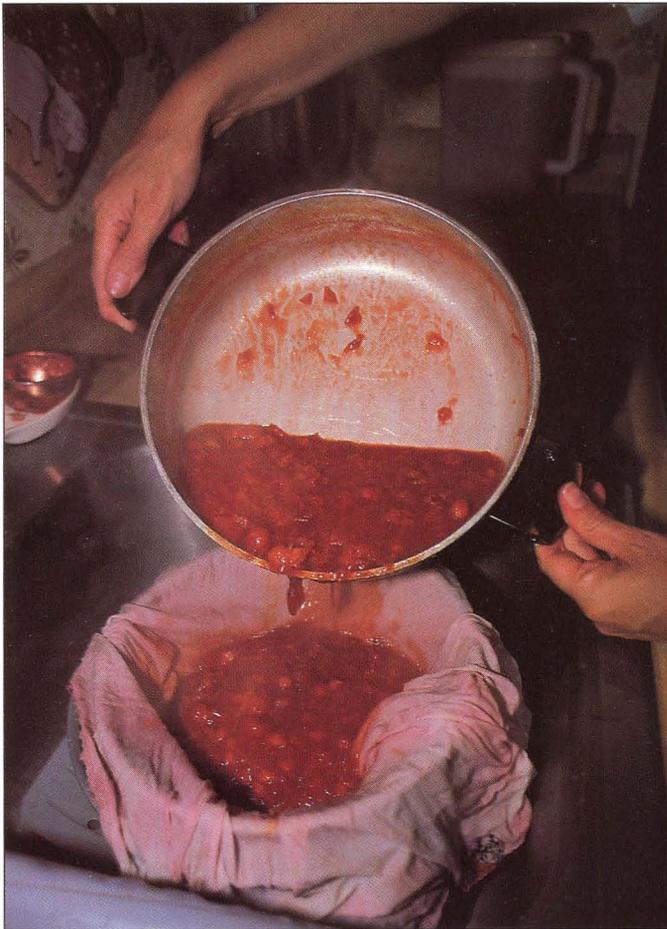
Plums should be washed, pitted and crushed for jam. For jelly, extract the juice only.



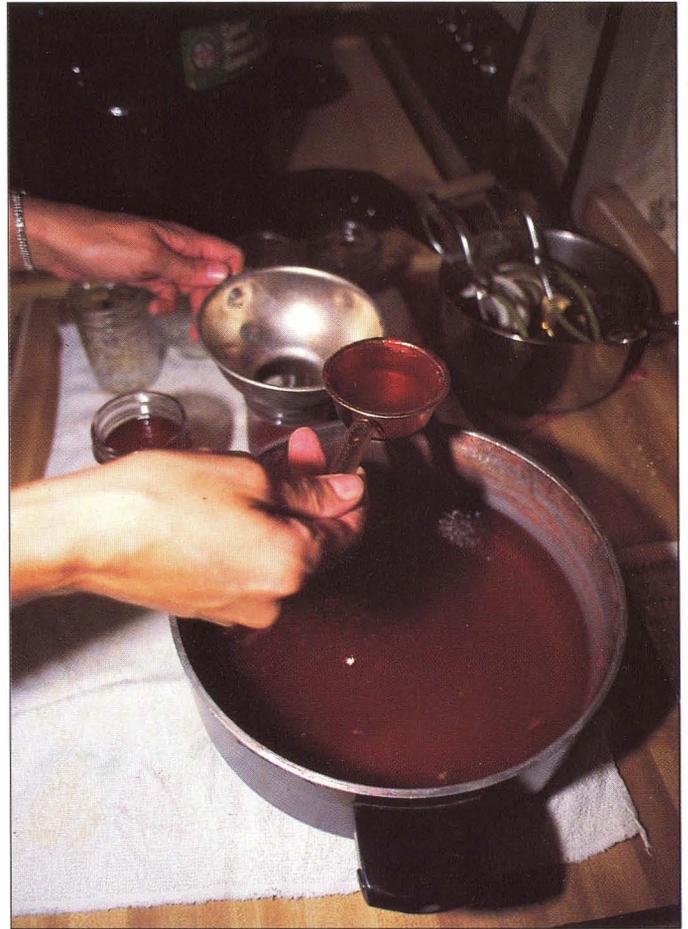
Add $\frac{7}{8}$ cup of sugar for each cup of juice. Honey can be used but requires longer cooking.



Simmer juice for about five minutes, skim off froth, then add sugar and boil for ten minutes.



For jelly, the juice should be strained through a jelly bag before final cooking.



Test for jelling by letting juice drip off spoon. If two drops run together at center, its ready.

of the fruit is obviously diminished.

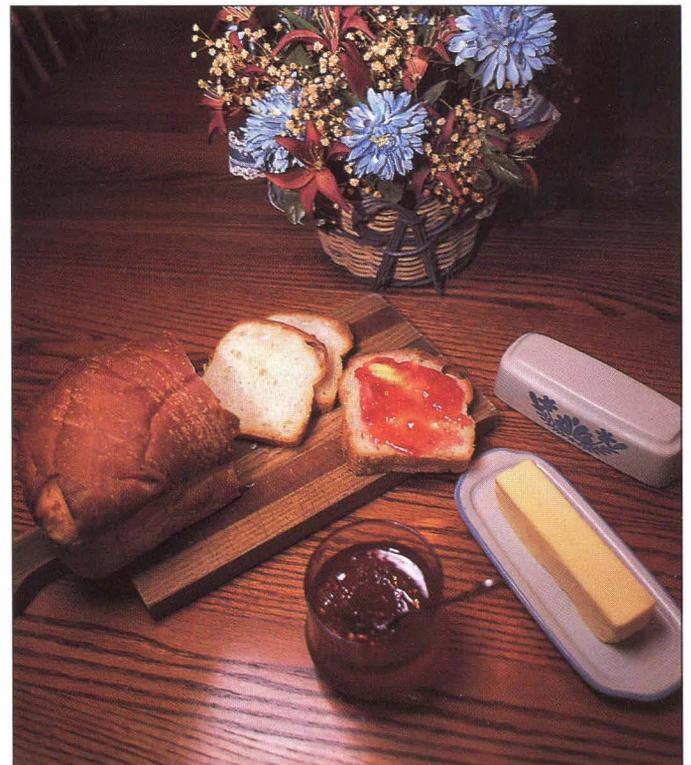
For the best wild plum preserves, start with four cups of fruit or juice in a stainless steel pan with a flat bottom. Have ready $\frac{7}{8}$ cup sugar for each cup of juice ($3\frac{1}{2}$ cups). Honey can be used to replace up to one-half the sugar, but longer cooking time will be required.

Simmer the juice uncovered for about five minutes, and skim off the froth. Add the sugar, stirring until dissolved. Boil the mixture for about eight to 10 minutes after the sugar has been added, and then test for jelling. Dip a small amount of jelly with a spoon, cool it slightly, and then let it dribble back into the pan from the side of the spoon. If the jelly is thin and syrupy, cook it some more. When two large drops form along the side of the spoon, then come together and form as a single drop when they fall, the jelly is ready to jar and seal.

Wild plum juice may be extracted and frozen up to six months for later use.

To participate in wild harvest is to know a special satisfaction. To gather without having planted, to reap without having sown—this is the reward for those who seek nature's abundant accommodation. But remember, always ask permission when picking on private lands.

This summer, take an outing for wild plums. You'll enjoy it all year. 🍷



center section

Edited by Mark Shoup

LETTERS

URBAN BIRDER

Editor:

I was particularly interested in Margy Stewart's article (KANSAS WILDLIFE AND PARKS, March/April 1991, Page 39) concerning the variety of birds in Kansas. I, too, hail from the Great Lakes region and moved to Wichita five years ago. Although I am a far cry from an avid hobbyist, I began watching birds about 3 1/2 years ago.

It happens that I live only a mile from my workplace, so I generally walk to and from work. My route takes me through a section of the golf course adjoining Wichita State University, including a series of small ponds serving as water hazards. I noticed many kinds of birds on the course, so I finally decided to make a species count.

Even I was surprised that the list totaled 34 species. I saw Mississippi kites, turkeys, northern oriole, red-headed and red-bellied woodpeckers, eastern and western kingbirds, great egrets, and all kinds of herons, including black-crowned and yellow-crowned night herons. One year, I even saw a Louisiana heron, apparently at the farthest edge of its range.

All these and more on an urban golf course, surrounded by four lanes of traffic and parking lots.

Sue Weiland
Wichita

TOLERANCE THE KEY

Editor:

Congratulations to associate editor Mark Shoup for his insightful approach to the subject of hunting in his "High Ground" piece, "A Deeper Look" (KANSAS WILDLIFE AND PARKS, Sept./Oct. 1990, Page 45). I support him in

encouraging us all to take a deeper look. For you see, I am his friend, the subject of the relationship he described.

As a child raised in the Northeast, I perceived hunting as a game. I would imagine myself stalking the wilderness, free of supervision, armed with a trusty weapon in pursuit of an animal to kill.

Since then, native Kansans have described to me an upbringing quite different from mine. One older gentleman told of his family's reliance on squirrels and other small game for food during the Depression. The sobriety with which he spoke was disturbing to me. No games here.

The counterpoint was presented by way of the animal rights movement. Through only a brief affiliation with these folks, I was quickly initiated to the dark side of man's dominance over the other species: the fur trade, cruelty of the leg hold trap, factory farming and veal production, to name but a few. I wondered: Was there really any merit to the enduring popularity of hunting? What about fur trapping? Or has technology made these activities obsolete?

I suppose its all in how you choose to look at it. In the article's closing, Mr. Shoup depicts the sport's more passive virtues: pastoral settings and the attendant feeling of simply being out there with friends or family, or just by oneself. If these attributes comprise the rationale for why twentieth century man hunts -- and if it's no longer a quest for food -- then can not these same objectives be met with only the aid of a camera?

Mr. Shoup's prognosis for me is accurate. And although I will never "pump a shell into a Model 12," nor will I ever "harass a 16-year-old bowhunter" for his or her indulgence. Through having taken

my own "deeper look," I learned that hunters are not hell-bent on the wholesale slaughter of the food chain. As for me, count me now among those of your readership who favor Mike Blair's dynamic images of mallards in formation, or a buck on the hoof.

Joe Fittipaldi
Huntsville, Alabama
(formerly New Jersey)

PERMISSION ERROR

Editor:

I must take exception to your reply to Mr. Don Munger's letter (KANSAS WILDLIFE AND PARKS, March/April 1991, Page 18). Mr. Munger and a companion had received written permission from the landowner to hunt on property that the landowner had also leased to another for pasture. The tenant ran Mr. Munger and his partner off the land, threatening to call the local conservation officer.

Under Kansas landlord-tenant law, when a landlord leases property, whether it be a house or pasture land, he ceases all right of entry to that property (except for inspection of the property upon giving reasonable and prior notice). Unless the landlord expressly retains the right to hunt or to allow others to hunt on the property when he leases the property, he does not have the right to either hunt himself or to give others permission to hunt.

In the situation to which Mr. Munger referred, the landlord did not have the authority to grant Mr. Munger access -- unless it was granted in the lease agreement -- so the written permission may have been invalid.

Technically, Mr. Munger and his companion may not have had the necessary permission. However, the tenant probably would not have pursued charges too vigorously because he could endanger

the relationship he has with his landlord.

DeAnn E. Hupe
Department Counsel
Topeka

LANDOWNER PERMITS

Editor:

As printed on the big game forms, a landowner is one who own at least 80 acres of land in Kansas. Does this mean that a landowner must hunt in the unit where his or her land is located?

Glenn E. Stoskopf
Wichita

Dear Mr. Stoskopf:

There are two deer permit choices that hunters may make as landowners or tenants this year. They may obtain a "Hunt on Your Own Land" permit for \$10.50, or they may enter the regular firearms deer permit drawing as a landowner or tenant. A "Hunt on Your Own Land" permit requires the permit holder to hunt only on land owned or rented for agricultural purposes. However, these permits are guaranteed and may be applied for July 1 through the season's end. They also allow the holder to take any deer.

The regular firearms permit for landowners and tenants who are successful in the drawing costs \$15.50 and allows the holder to hunt anywhere within the management unit applied for, but you must qualify as a landowner or tenant in the unit you wish to hunt. These permits are not guaranteed, and holders are restricted to the species and sex of deer permit applied for.

While the general firearms deer permit for landowners restricts the permit holder to the management unit applied for, the "Hunt on Your Own Land" permit would allow the holder to hunt more than one management unit if he or she owned land in more than one unit. However, "Hunt on Your Own Land" permit holders must hunt only on their own land with those permits.

Landowners, like all other hunters, may also obtain leftover firearms and

unit archery permits and as many as two deer game tags (\$10.50 each) for Unit 12. --Shoup

JACKRABBIT DECLINE

Editor:

I grew up on a farm northwest of Sabetha back in the 1920s and 1930s. Back then, we had a lot of jackrabbits, even up until the late 1940s and early 1950s. I have not seen one now for ten years. Could you tell me what caused their demise? Would it be feasible to restock these rabbits in eastern Kansas.

Eldon Rokey
Sabetha

Dear Mr. Rokey:

Your question is one commonly asked by folks who grew up in the western half of the state. While there is no scientific evidence that would explain the jackrabbit's demise, some educated guesses can be made.

An important factor is likely destruction of habitat. The jackrabbit's natural habitat is shortgrass prairie, but as tallgrass prairie ranches were overgrazed, jacks also moved into these areas. Initially, this activity, along with crop production, helped the jackrabbit by providing habitat and food. But as more and more prairie was destroyed, lack of habitat became a problem.

Another factor is raptors, or more correctly, raptors and farming. I've heard many a farmer tell of turning over a jackrabbit nest while working ground, only to have entire litters wiped out by hawks. Of course, you can't blame the raptors. They're just taking an easy meal that wouldn't be available if not for the activities of man.

Overhunting is another possibility. In the past, jackrabbit drives covering entire townships destroyed thousands in a single day. Today, a hunting limit of ten per day has eliminated this factor.

The most controversial of possible causes for the jackrabbit decline is the use of pesticides. Prior to World War

II, most such chemicals were relatively mild. However, the development of DDT radically changed the way the agricultural industry looked at pest control. Despite increasing awareness of environmental issues, powerful chemicals such as parathion, which can kill birds and mammals, are still in use today. Although we can't be sure that pesticides affect them, jackrabbits would be more vulnerable than their cousins the cottontail because jackrabbits prefer open fields to the sequestered shelterbelts and riparian areas, areas less likely to receive a spray.

Take your pick; any of these factors could have caused the jackrabbit's decline. --Shoup

CCC READER

Editor:

I want you to know that I consider KANSAS WILDLIFE AND PARKS magazine about as excellent as a magazine can be. I always look forward to it.

I am an old man, born in Kansas May 23, 1911. A lot of mileage, right? I have been in California since I got out of the army in 1945. In 1935 and 1936, I was in the Civilian Conservation Corps and worked on the dam at Lone Star Camp near Lawrence.

Thanks to Mike Blair for the beautiful wildlife photos.

Ray E. Henry
Fresno, California

Dear Mr. Henry:

It's good to hear from someone who worked with "Roosevelt's Tree Army." Lone Star Lake is a county lake now, and is not managed by our Department. However, I'm happy to report that it is still a beautiful recreational lake, surrounded by trees and offering good fishing.

In the mid-eighties -- some fifty years after you worked on it -- the lake was drained for repairs on the dam. At the bottom of the lake, workers found a 1935 Ford. Officials later located the owner in Wichita who said he had driven the car in the lake while a student at KU. --Shoup

LAW

HOT VENISON ICED

On April 29, Kansas Department of Wildlife and Parks officials, in conjunction with the Kansas Board of Agriculture and the Dickinson County Attorney, brought charges against a Herington meat processing firm for illegally processing and selling deer meat.

Over a period of several months, undercover officers made several purchases that exceeded \$500, constituting felony violations.

Three owners of the locker were charged with felony commercialization of wildlife. They were charged with selling wild venison and trading processing services for deer meat, which is considered "bartering" for wildlife. These are the first felony wildlife charges ever filed in Kansas.

In addition to the wildlife violations, several felony charges dealing with sanitation in meat processing operations are pending with the Board of Agriculture.

When jailed on April 29, bond for the trio was set at \$20,000 each. --Shoup

VIOLATIONS PLUS

Last November, conservation officer Doug Whiteaker, Fort Scott, was contacted by a landowner who was almost shot by trespassers when they fired at some quail from a road adjoining his land. The landowner had gotten their Missouri license tag number.

Whiteaker checked the registration on the plate and discovered the owner's name. The next day, he found one local who knew the owner of the Missouri vehicle. Apparently the man had been living in Kansas, but had recently moved to Missouri. He still owned land in the area, the local man said, and he told Whiteaker where the trespasser might be found.

Whiteaker found the vehicle in question and talked to the owner who, after an initial denial, admitted that he and his nephew had trespassed. The CO also discovered that the man had a Kansas hunting license because, he claimed, he had

just moved to Missouri. Whiteaker cited the man and his nephew for trespassing.

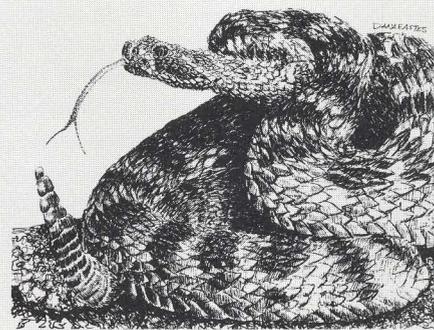
But Whiteaker did not drop the case. He contacted Missouri conservation agent Don Resicka to investigate. Resicka discovered that the man had been a Missouri resident for at least six months. The Missouri agent went to the man's home, confiscated the man's Kansas hunting license and three quail and a prairie chicken the man had taken in Kansas.

Whiteaker then turned the case over to U.S. Fish and Wildlife Service Special Agent Case Vendel. Vendel cited the man for violation of the federal Lacy Act, transportation of illegally obtained game across state lines.

Both the owner of the vehicle and his nephew were fined \$250 for trespassing. For violation of the Lacy Act, the vehicle owner was fined \$200. --Shoup

RATTLED POACHER

On April 5, conservation officer B.J. Thurman, Elkhart, received a phone call about a Moscow man who had several live rattlesnakes stored two houses from a daycare center. Stevens County officers



accompanied Thurman to the house of the suspect, a man who was on probation for illegally killing a deer in January.

The suspect's pickup was in the drive when Thurman arrived, but no one answered the door. A cage in the back of the pickup held seven live prairie rattlesnakes, so Thurman made a second trip to the man's house. This time he answered the

door, and Thurman asked if he had any rattlesnakes. The man said that he had 20 or 30 and led Thurman back to the same garage from which officials had confiscated the illegal deer in January. In the garage, 53 prairie rattlers buzzed in an old refrigerator tipped on its side. Thurman found another 26 in an ice chest. In all, the suspect had 86 rattlesnakes.

He told Thurman that he planned to take the snakes to Oklahoma to sell during the annual "rattlesnake roundup."

Although there is no closed season on rattlesnakes, the possession limit is 5 and a hunting license is required to take them.

The man was fined \$100 for being over limit, plus \$32 court costs. The hunting license charge was dismissed, and the man spent three days in jail. --Shoup

GOOSE IS COOKED

On February 23, Miami County Sheriff's Deputy Randy Cornelius was enjoying the evening at his rural home near Paola when he heard shooting from the timber at a nearby neighbor's house. About 15 shots rang out, and a goose fell dead in his yard.

Because goose season was closed, Cornelius called conservation officer David Ellis, Osawatomie. Cornelius and Ellis then went to the neighbor's house to investigate.

They learned that the neighbor's brother had shot the goose and then departed for his Olathe residence. He had apparently been target shooting when the geese flew over, and he fired a volley of shots at them with his .223 rifle.

Because the suspect lives in my jurisdiction, Ellis passed this information to me. I went to the suspect's home, but he wasn't there, so I left a message.

Surprisingly, when I returned home and checked my answering machine, I found that the goose shooter had called and confessed to the crime on the answering machine.

I then drove back to the culprit's house, this time to advise him that he would face a federal charge for his act. When all the facts were established, U.S. Fish and Wildlife Service special agent Case Vendell cited the Olathe man for taking a snow goose during closed season. He paid a fine of \$325. --Bruce Bertwell, conservation officer, Olathe

ISSUES

T & E FISH

Two fish already on the Kansas Endangered and Threatened list are now determined to be Endangered or threatened nationally. The fish are the Neosho madtom (*Noturus placidus*), designated as a threatened species, and the pallid sturgeon (*Scaphirhynchus albus*), designated to be endangered.

The Neosho madtom is distributed primarily in the Neosho River drainage, which includes the Neosho, Cottonwood and Spring rivers in Kansas. The fish is a small species of the catfish family, with adults averaging less than 3 inches long. It is a mottled dark/light brown fish with pale bars on the tail fin and dusky streaks on the dorsal and anal fins.

This species is found in riffles of small gravel substrates, usually less than 1 inch in diameter. The substrates must be loosely packed so the Neosho Madtom can wriggle into the gravel. Their primary food is aquatic insects.

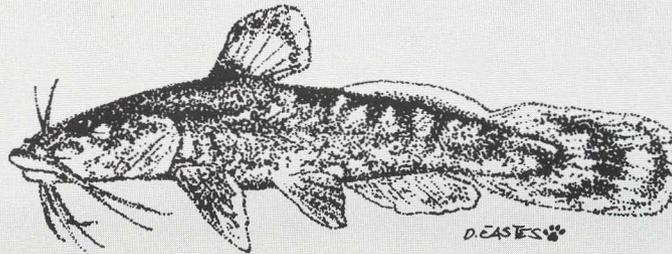
The range and population of the Neosho Madtom has decreased because of major stream reservoirs, drought, removal of gravel bars, feedlot pollution, siltation and chemical pollution. The continued construction of watershed impoundments may also have an adverse effect on the Neosho madtom population.

The pallid sturgeon is a primitive fish with a flattened, shovel-shaped snout. Its mouth is toothless and far under the snout, and its skeletal structure is primarily cartilaginous. It has a white, smooth belly with a grayish-white back. It is one of the largest fish found in the Missouri-Mississippi river drainage, with specimens approaching 85 pounds.

Nationally the pallid sturgeon is confined principally to the Missouri and lower Mississippi rivers below the mouth of the Missouri river. In Kansas, it is known only from the main stream of the Missouri river and the lower Kansas river.

It is a bottom-dwelling fish of larger turbid rivers with swift currents and firm sandy bottom. Pallid sturgeon feed primarily on aquatic insects and small fish. They spawn between June and August.

Pallid sturgeon populations have shown a decline in numbers and reproductive success for the last four to five decades. The decline can be attributed to dam construction on the main streams, alteration of river channels resulting in



destruction of their specific habitat, reduced stream flow, chemical pollution and commercial fishing. --Gerry Horak, wildlife researcher, Emporia

PLOW SAVES LAND

Shelterbelts were originally planted in Kansas to delineate property lines, fence livestock and reduce wind erosion. The cover produced by these shelterbelts was also valuable to wildlife, and in many parts of the state, shelterbelts still provide essential wildlife habitat. But shelterbelts do have one minor drawback. As trees grow larger, their roots extend into adjacent fields and compete with crops for water. This can result in reduced yields in portions of fields within 75 feet of trees. As a result, some farmers have ripped shelterbelts from their land.

There is, however, a more cost-effective way to eliminate this problem and still retain wildlife and erosion control benefits of shelterbelts. In the 1970s, the Kansas State Extension Service and the Kansas Department of Wildlife and Parks conducted a five-year project in which several shelterbelt-saving techniques were studied. Of the methods researched, the root plow alone resulted in the ability to grow satisfactory stands of grain right

stands of grain right up to the shelterbelt.

Root plowing is simply the severing of tree roots so they do not reach into adjacent ground and compete with crops for water. Root plowing is usually done with a heavy-shanked chisel adapted for this particular purpose. Most tree roots grow within 2 feet of the surface -- where they can do most damage to crops -- and the root plow easily severs these roots.

Wildlife and Parks officials suggest a few tips for farmers interested in root plowing: 1) stay 15-18 feet from the trunk of the tree and at least as far as the edge of the branches so you can cultivate over the root plow furrow; 2) avoid buried pipelines and cables; 3) make two trips over the furrow, the first at 12-15 inches and the second all the way down; and 4) treat once every ten years because tree roots regrow into the field at an approximate rate

of 1 to 1 1/2 feet per year.

A number of root plows are available free of charge from the Kansas Department of Wildlife and Parks, so farmers can treat their own shelterbelts. A bulldozer with a ripper blade, frequently used in laying pipeline or cable, will also work nicely. For more information, contact your local Department of Wildlife and Parks office, or call the operations office, (316) 672-5911. --Shoup

KANSANS BACK T & E

A random telephone survey conducted in March by the Department of Human Ecology at Kansas State University showed that Kansans strongly support protection of threatened and endangered species. Researchers asked 550 Kansas adults numerous questions to measure their attitudes toward and knowledge of these rare species.

Preliminary results indicate an overwhelming 96 percent of the respondents either support or strongly support maintaining a state list of sensitive species, in addition to the federal threatened and endangered categories. More importantly, 97 percent agreed that it is important for the Kansas Department of Wildlife and Parks to continue to identify and protect

critical habitats needed to perpetuate these species.

Kansans indicated broad support for considering threatened and endangered species' needs before approval of such activities as dam construction, gravel dredging in streams and road construction.

Says Jack Lacey, Secretary of the Department of Wildlife and Parks, "This survey demonstrates a strong mandate for protecting our state threatened and endangered species, even ones that may be rare here but are common in some other states. All of us should consider these results when debating threatened and endangered species issues."

The survey was conducted in late March and was directed by Robert H. Poresky, Ph. D., who says the response estimates are accurate within 3 percent, plus or minus. Those interested in the project and its results should contact the KSU College of Human Ecology for more information. --Ken Brunson, urban nongame coordinator

GUARD DONKEYS

Officials with the Missouri Department of Conservation report that livestock producers in the "Show Me" state are using an unusual method to reduce coyote predation on pig farms. Pork producers have discovered that burros not only form strong bonds with other domestic animals, they protect their young from marauding coyotes and wild dogs.

The gregarious donkeys are apparently more effective than gas guns and traps. Always on the alert and particularly antagonistic toward canines, donkeys have also been used in Missouri to protect sheep. They are cheaper than guard dogs, require no training and feed themselves on natural forage.

Because donkeys tend to socialize only with their own kind if other donkeys are present, officials suggest just one guard donkey per area. Females or geldings are also preferred because they are seldom too aggressive. --Shoup

ENVIRONMENTALITY

Renewable energy [solar, wind and geothermal power] is clean. It creates more jobs per unit of energy than conventional fuels and is increasingly reliable

and adaptable. Renewables could wean the United States from its dependence on foreign oil. Best of all, renewable energy has come down in price.

Still, federal funding for renewable energy programs has sunk from \$830 million in 1980 to \$110.5 million a decade later, [about one-fourth the price of a single B-2 bomber]. --National Wildlife Federation's "The Leader"

CLEAN WATER NOW

In the first major move of the battle to re-enact the federal Clean Water Act, nearly 40 national and regional organizations joined forces last March and released an Agenda for Clean Water. Under the banner "Prevent, Protect and Enforce," the groups urged Congress to revise the law to prevent pollution, protect critical ecosystems and strengthen enforcement.

The Clean Water Act was passed in 1972, but according to the Environmental Protection Agency (EPA), 17,000 water bodies around the country remain heavily polluted by the annual influx of billions of pounds of pollutants, many toxic.

"The ultimate goal of the Clean Water Act was the elimination of water pollution by 1985," says David Dickinson, conservation associate for the Izaak Walton League. "It's now 1991, and we still have a long way to go before all our waters are even fishable and swimmable." --Izaak Walton League "Tip Sheet"

BLM INITIATIVE

The Bureau of Land Management (BLM) unveiled its *Riparian-Wetland Initiative for the 1990s* last January, a plan designed to improve management practices on the 23.7 million acres of riparian (stream and river corridor) wetlands that BLM manages -- primarily in western states.

The plan lists four goals: to restore and maintain riparian wetlands so that 75 percent are functioning properly by 1997; to protect riparian wetland areas and associated uplands through proper land management; to ensure an aggressive riparian wetland education program that includes training and research; and to improve partnerships and cooperative restoration and management.

The BLM has proposed spending \$10

million in the next 10 years to implement its goals. However, a preliminary goal to restore 75 percent of BLM riparian wetlands to "good" condition was scrapped as being "unrealistic," according to BLM officials. --National Wetlands Newsletter

WATERFOWL U.S.A.

A group of southeast Kansas sportsmen have found a way to express their concern about the future of wetlands and waterfowl habitat in their own backyard. These concerned waterfowl enthusiasts formed the Neosho chapter of Waterfowl U.S.A., the first chapter in Kansas.

Waterfowl U.S.A. is a national, non-profit conservation organization dedicated to raising funds for wetland habitat management and restoration throughout the United States. Founded in 1983, the organization has more than 100 chapters in 25 states. The group hopes to enlist biologists, sportsmen and bird enthusiasts to ensure that America's natural heritage is preserved. Eighty percent of every dollar raised by chapters goes directly to local waterfowl and wetland projects, 10 percent goes to chapter development within the chapter's state, and 10 percent goes to the national headquarters to cover administrative costs.

The Neosho Chapter has selected the Neosho Wildlife Area, near St. Paul, as their primary project area. The chapter's first goal was to help the Department of Wildlife and Parks ensure that migrating waterfowl at Neosho Wildlife Area would have adequate food during their fall and spring migration. The group raised \$5,700 at its first annual banquet and auction held last winter in St. Paul. This money was used to purchase a six-row planter so that area managers can plant corn and milo. The crops will be flooded in the fall to provide a much needed food source.

The Neosho Chapter already has plans for its second annual banquet and auction this fall. Future chapter projects include nesting structures and other habitat enhancements.

For more information on this organization, contact Waterfowl U.S.A., P.O. Box 50, Edgefield, SC 29824, or call (803) 637-5767. --John Silovsky, Parks and Public Lands field supervisor, St. Paul

FISHING

PLAYIN' PANFISH

They're called bream, sunperch, pond perch, panfish and a wide variety of other names, depending on species. Most folks in Kansas call them perch. Ichthyologists, however, call them sunfish. Perch is a different family altogether.

More important than their name is their accessibility to young people. As society becomes more urbanized, many people are looking for ways to put their kids in touch with nature. Fishing is the all-time favorite avenue for making this contact. However, kids get bored easily, and if the fish aren't biting, an outing intended to turn a kid on to the outdoors can have the opposite effect. This is where sunfish come in. While they are not large fish, sunfish are the most plentiful and easiest to catch of all Kansas sportfish. A



cane pole, bobber and worm are all that's required to keep a kid occupied.

Pound for pound, sunfish are amazingly fierce fighters. Look for them in quiet water, 2-8 feet deep. Ponds or reservoirs are usually better than streams. Look for areas with visible cover, especially aquatic vegetation or boat docks, and fish near these. Steep, rocky banks and underwater brush are also good. Any light pole will work. Simply rig it with a small bobber and hook. Live bait such as crickets are good, but worms are the best bait for sunfish. If you don't have live bait, small jigs will also work. Experiment

with different depths from about 2 1/2 feet. If you haven't caught a fish within 5 minutes, move on to another spot. Once you find a school of sunfish, you'll be hard-pressed to keep bait on your hook - and your kids will have a ball.

If you have found fish, but you or your young companions are having trouble hooking them, try one of two things. First, see if the hook is too big for the fish's mouth. Some sunfish, such as bluegill, have very small mouths and require a small hook. Try a size 6 or 8. Second, if you think the hook is small enough, try waiting longer before setting it. Many sunfish will nibble a bait before actually taking it. Let the bobber dance on the surface until it goes completely under, then lightly set the hook.

Many sunfish are too small to keep unless you are using them for setline bait. If you are after bait, look at this as another opportunity to involve your youngster in outdoor activities. Your children may be too young to check lines at night, but they're not too young to help catch bait. If you're after something for the dinner table, bluegill and green sunfish often get large enough to fillet if you catch a

dozen or more, and they make great table fare.

One last tip for introducing your youngster to the fishing experience: remember that it should be fun for everyone. Don't stay out too long at first, maybe an hour or two, and don't forget the sunscreen. If your kids are unlucky or awkward, or just don't do things the way you think they should, be patient. If they become bored, want to chase frogs or throw rocks rather fish, let them have fun their own way. They will want to come along the next time, and sooner or later they'll catch the fishing bug. --Shoup

HUMPBACK BASS

It was Perry Lake on a cool spring evening, just after a rain. The sun was back out and the mosquitoes were swarming. As I came around a bend in the road, I noticed a lot of excitement down by the water's edge.

As I approached, I heard someone say that a fisherman was fighting the largest bass of his life, and he was sure it would be a state record. He asked if I would stay around to verify the catch, so I obliged and listened to the conversation.

"I've been fighting this sucker for the last fifteen minutes," the fisherman said to the onlookers. "Why, just after I baited and threw that fresh nightcrawler out there on the bottom, that bass hit hard. When I set the hook, it came clear out of the water and tried to spit the hook at me."

The fisherman talked while he tried to gain ground on whatever was on the end of his line. Then he noticed me.

"Am I glad to see you, officer!" he said. "I've been waiting for a fish like this for years. I think it might even be a state record."

At this point, I asked if he was sure what he had hooked into.

"You bet," he replied. "I've been catching largemouth for years, and this one is putting up one heck of a fight."

Moments later, the fight was over, and the fisherman had landed the biggest fish of his life. He had won the battle, and he was bubbling with happiness, shouting, "Look at the size of this baby. It's got to be a state record."

Then I burst his bubble.

I told him it was certainly the biggest fish I'd seen in quite awhile, but it wasn't a largemouth bass. It was a drum, often referred to as a "humpback."

The fisherman could not believe it at first, for he had been sure it was a bass when it broke water. The audience agreed with my identification.

The fisherman was distraught, embarrassed and much more. But this fish story has a happy ending.

The drum was a monster. It weighed 26 pounds, 8 ounces, just five pounds shy of the state record, and the fisherman received a Master Angler Award for his efforts. --Joe Lienemann, conservation officer, Atchison

FOR WHAT IT'S WORTH TOBACCO ROAD



BLUES

by Mark Shoup

I first encountered chewing tobacco at about age ten, in the late 1950s, when one of my dad's best friends was the local high school football coach. He had two boys about my age and a third just old enough to tag along. Coach was a helluva coach, a real man's man, and a Redman man to boot. Coach, his boys, Dad, and I often went fishing together in the summer. We always looked to Coach for inspiration -- whatever we thought might help us catch more fish, from the way we hooked our worms to the way we wore our hats.

Coach was the consummate fisherman, and he always looked and talked the part. He spoke with a wad of Redman packed in his cheek, a cheek any major leaguer would admire. If the fish weren't biting, Coach was never restless. While the boys and I were swatting flies, getting bored and hot, Coach, wad in cheek, always looked relaxed and confident, as if he knew something the rest of us didn't. He even spat with a graceful disregard for adversity.

One summer day in 1958, we were fishing the Cheyenne Bottoms inlet canal. The fishing was particularly slow.

"I'm bored," complained Clark, the oldest Coach kid.

"There's no fish in here," grumbled David, the third Coach kid.

Bobby, the middle Coach kid, just winged a rock in the water, then lowered his head instinctively, already regretting the act. Coach glared at him and spat.

I was silent.

"You boys need to fish harder." Coach spat in the water. He stared at his line as the lecture began. "Fishing isn't just a matter of throwing in a line and sitting on your butts. It's philosophy, technique, attitude." He looked at Clark,

ten yards down the bank from him. "You boys want to go home?" he asked.

"No!" The answer was four-part harmony.

"Then start having fun!" Coach ordered.

We quickly reeled in our lines, freshened our baits, cast back into the canal, and sat rigidly watching the water, poles in hand. Having fun.

After a suitable silence, Coach called on me. "Mark, come here. Bring your pole."

I reeled in and came running.

"Let me see your bait," he said as he took my line. "Look at this." He was talking to all of us. "You've only got one worm on here. Put on a big glob. Remember, big bait, big fish." He bent down, pulled three more worms from a coffee can, and threaded them on my hook. "Try this," he said. As I turned to go, he stopped me. "Wait a minute." He grabbed the wriggling hook on my line and fired a brown stream of spit on it.

I swear those worms stuck straight out from the hook in every direction. As I turned to leave, they were rigid. By the time I reached my place on the bank, they were limp. Holding the pole at arm's length, I cast my line.

Within seconds, the pole nearly jerked out of my hands, and few minutes later, I was dancing a jig with a two-pound channel cat flopping in the grass. The other boys were dancing with me.

After that, everyone wanted Coach's magic potion added to his bait, and we were soon back at our places, baits freshened and outlooks renewed. Unfortunately, the expected action did not occur. Ten minutes later, we began to squirm.

"Hey, Coach," I called, feeling suddenly bold. "What does tobacco taste like?"

"It tastes like crap and will make you sicker 'n a dog," he answered.

"How come you chew it, then?" I persisted.

The other boys were listening now, oblivious to their lines.

Coach just looked at me with a smirk on his puffed cheek. "Want to try some?" he asked.

I looked down the bank at Dad. Inexplicably, he just shrugged. None of the boys let out a peep, but their eyes were as big as half dollars.

"Yeah!" I answered with the absolute enthusiasm of the totally ignorant.

Coach pulled a pack of Redman from his hip pocket and opened it. What he handed me looked like shredded manure, but it smelled kind of sweet. I pushed it into my cheek, picked up my pole like Mickey Mantle stepping to the plate, and glanced sideways at Clark and the boys, who were dumbstruck. I sprayed some juice at the canal, then sucked that leaf like candy.

I just had time to notice the boys huddled around their dad, each receiving his communion, before the bank tipped 45 degrees. My pole fell to the ground like a lead weight, and I staggered behind the truck, claiming nature had called.

Literally, I dropped out of sight. For a moment, I could hear voices. "Hey, this is great stuff, Dad." "Pato! I'm gonna catch a big one now." "Where's my pole?" Then silence. Soon, David flopped down beside me.

"Marky, I don't feel so good." His face was pale green.

Clark and Bobby weren't far behind, and the four of us lay there, seeing brown stars as ground rolled over sky. Then another voice, this time my dad's.

"Ho boy, I think I got a big one now, Coach!"

"Bring him in easy," Coach coached. "Whoops, there goes my line, too! We got us some action now, John!"

There we lay, unable to move when just a few feet away the fish hammered every cast Dad and Coach made. We were helpless, never realizing -- never having been told -- that we should have spat, not swallowed.

Nature soon corrected the oversight.

HUNTING

BIG GAME DATES

Statewide Archery Deer -- Purchase permits July 1-Dec. 31. Season runs Oct. 1-Dec. 3 & Dec. 16-31.

Unit Archery -- Same as statewide archery.

Firearms Deer -- Application period is July 1-July 12. Season runs Dec. 4-Dec. 15.

Muzzleloader Deer -- Application period is July 1-July 12. Season runs Sept. 21-Sept. 29 & Dec. 4-Dec. 15.

Fall Archery Turkey -- Purchase permits July 1-Dec. 31. Season runs Oct. 1-Dec. 3 and Dec. 16-Dec. 31.

Fall Firearms Turkey -- Application period is Aug. 1-Aug. 16. Season runs Oct. 9-Oct. 20.

Elk -- Cimarron Unit: Application period is Aug. 1-Aug. 16. Season runs Sept. 28-Oct. 6.

Ft. Riley Unit: Season runs nine days between Sept. 1 and Oct. 31. Exact dates are to be determined by Ft. Riley. (Application and season are the same for firearms and archery.)

Antelope Firearms -- (Application period was June 1-14.) Season runs Oct. 4-7.

Antelope Archery -- Application period is June 1-Sept. 20. Season runs Sept. 21-29. --*Shoup*

BUDGET PRACTICE

Whether wingshooting or targeting clays, practice makes perfect. A March 1991 *Field and Stream* article by Bob Brister notes a few simple techniques for improving your shooting without blazing case after case of shells.

His first tip is to find where your gun shoots, using the "sheet test." Simply draw a dot on a old sheet, hang it up in a safe place, step back about 30 yards and fire at the dot. Start from the ready position before each shot, then shoulder the gun and shoot. Concentrate on the dot, not the gun barrel, and shoot at least ten shots -- until you have shot a hole in the sheet -- before walking up to the target to check. The hole is the center of your

pattern.

Once you know where your gun shoots, the meat of the technique comes into play. In the privacy of your home, mount and point your gun 100 times a day. Place an empty hull in the chamber to protect the firing pin, then mount and fire at objects in the room. (To save wear on the firing mechanism, just pull the slack trigger after a few snaps.) Later, advance to following the line between wall and ceiling in the room.

For more details, see Page 114 of *Field and Stream*, March 1991. --*Shoup*

OK TO Cu AND Ni

The U.S. Fish and Wildlife Service has announced that it considers copper or nickel thin-coated steel shot to be steel shot, not another form of non-toxic shot. The ruling clarifies the legality of copper- and nickel-plated steel shot for migratory waterfowl hunting.

Some companies coat steel shot with copper or nickel -- comprising about 1 percent or less of the shot's weight -- as rust preventatives. --*Shoup*

GOVERNOR'S ONE-SHOT

Although there has been a change of administration, the annual Governor's

One-Shot Turkey Hunt, which former governor Mike Hayden began in 1987, was held again last April. Governor Joan Finney and a number of other dignitaries attended the event

The Kansas Department of Commerce purchased permits for all participants, and local and state businesses provided prizes for both the turkey hunting and sporting clays competition. Top Gun, the prize for the largest turkey, went to Frank Gaines, a state senator from Augusta. Adrian Hansen, a Maryland seafood wholesaler, won the sporting clays competition. --*Shoup*

DANGEROUS DEER

Donald Dahl, Oklahoma City, has hunted pheasants with friends near Kirwin for many years. Last winter, however, he had the hunting experience of his life.

Dahl and his friends were walking a belt of cedar trees when a whitetail buck ran directly over him, trying to elude the other hunters. During the collision, the deer fell on top of Dahl, and in a panic to get up and out of the area, the deer thoroughly stomped the daylights out of the bewildered pheasant hunter.

Dahl received a bloody nose, some sore ribs, a chest with numerous hoof prints, and hands and fingers left tingling.

Undaunted, Dahl returned to Kansas in January for a late-season pheasant hunt, proving that he was not discouraged by the aggressive Kansas whitetails. --*Larry Stones, conservation officer, Kirwin*



NATURE

STATE BIRDS

The most common state bird in the U.S. is the cardinal, followed by the western meadowlark, then the mockingbird.

BUTTERFLY GARDEN

As watchable wildlife, butterflies and moths suffer a paradoxical image: they are almost universally appreciated and ignored. Most people know what a monarch is but often confuse it with a viceroy. Swallowtails are familiar to some, but few people who are not entomologists can identify more than four or five butterflies.

In fact, there are literally hundreds of species of butterflies, moths and skippers (all of the order Lepidoptera) in Kansas. Butterflies have exotic names such as red admiral, painted lady, wood nymph and question mark. Moth names are no less intriguing; sphinx, leopard, hickory-horned devil and polyphemus (the Cyclops) are just a few.

If their names are intriguing, the creatures themselves are even more so. Hatching from an ovum, or egg, Lepidoptera begin life as caterpillars. After weeks or months of feeding, the caterpillar forms a mummy-like chrysalis around its body and enters the dormant stage. The final change is the most magical stage of meta-

morphosis. From the tightly wrapped chrysalis emerges the delicate, often stunningly beautiful adult.

Many Lepidoptera species have specific plants they favor and will seldom eat anything else. Monarchs, for instance, are attracted exclusively to the milkweed family. Regal fritillaries prefer violets.

This can make for an interesting and rewarding challenge -- the butterfly garden. The first step in developing a butterfly garden is to become familiar with the species you want to attract and what plants they need. A reference book is essential for this, and should be available at your local library.

In general, Lepidoptera are attracted to a variety of wild and domestic flowers, shrubs and trees. Butterfly weed and milkweeds, marigolds and asters, lilacs and honeysuckles, and redbud and hawthorn are a few good bets.

After deciding on the species you wish to attract, pick a large, open space where the butterflies will get plenty of sun. Plant flowering ground cover and other flowers. Bordering shrubs and trees can provide shelter as well as nectar sources. Several puddles should also be provided for watering. Buckets filled with sand and water and topped with perching rocks or sticks will work quite nicely.

In time, butterflies and skippers will grace your backyard. Although most of the more beautiful moths are nocturnal, the large white-lined sphinx is a common daytime moth you may encounter.

Besides being sources of entertainment for humans, butterflies and moths pollinate crops and flowers, serve as important links in the food chain and are critical "environmental indicators."

Planting a butterfly garden can be an entertaining activity and can help develop environmental awareness, particularly in children. For more information, find a copy of *The Butterfly Garden*, by Mathew Tekulsky, at your local library or bookstore. For simple identification and background on butterflies, send \$1 to the Kansas School Naturalist, Box 50, Emporia State University, 1200 Commercial St., Emporia, KS 66801-5087, and request a copy of the Checklist of Kansas Butterflies, by Marvin Schwillig. An excellent reference book is *Butterflies and Moths of Missouri*, by Richard and Joan Heitzman, available for \$13.50 from the Missouri Department of Conservation, P.O. Box 180, Jefferson City, MO 65102. This book covers all but one or two species found in Kansas, includes color photographs and concentrates on habitat requirements, behavior and seasons for each species. --Shoup

BUGS AND BITES

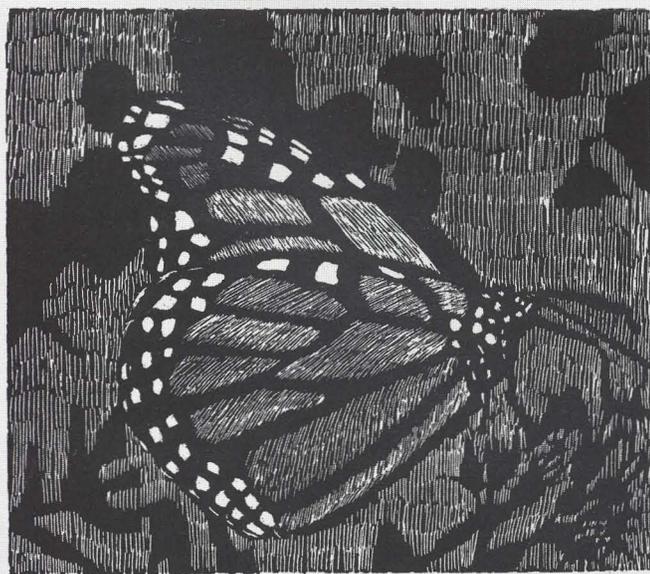
Most people suffer no more than temporary discomfort from insect bites and stings. About 5 percent of the population, however, has an allergic reaction to them, called an anaphylactic reaction.

If a sting shows a minor reaction such as localized pain, itching, redness or swelling, remove the stinger (if it's a honeybee sting) and apply ice. Wasps, hornets and yellowjackets retain their stingers and can sting repeatedly.

Honeybees sting only once; the stinger and venom sac are left in the tissue. Do not grasp the stinger and venom sac with tweezers or fingers. This will only inject the remaining venom into the tissue. Instead, scrape them from the wound with a knife blade, scissors or fingernail.

People who enjoy the outdoors should carry an insect bite kit. These kits contain instructions, antihistamines and injectable epinephrine. These medicines can reverse the effect of some bites and stings but must be properly used. Some people can have allergic reactions to medications in the kit. Read directions carefully. Better yet, seek your doctor's advice concerning your kit before going afield.

In the event of an adverse reaction, get medical attention immediately. --*The Longhunter Society Journal*



NOTES

ART DEADLINE

Wildlife artists across the country are reminded that the deadline for entries to the 20th annual National Wildlife Art Show and Sale is August 1, 1991.

The show will be held February 20-23, 1992, and offers more than 60 positions for painters, carvers and sculptors working with wildlife, outdoor and western themes. The show is sponsored by Ducks Unlimited and proceeds help that organization with North American wetland habitat preservation and restoration projects.

The show will be held at the Doubletree Hotel in Overland Park, Kansas. For more information, contact the National Wildlife Art Show, P.O. Box 7728, Shawnee Mission, KS 66207, or phone (913) 888-6927. --Shoup

BOAT GUIDE DEBUT

With more than 150 lakes, 10,000 stream miles and 55,000 ponds, Kansas waters provide a wide range of boating opportunities. To help ensure an enjoyable boating experience, the Kansas Department of Wildlife and Parks has released a new guide to proper outfitting and operation of watercraft.

The publication combines previous brochures into a single, compact guide that can easily be kept on board as a quick reference. Included in the guide is the latest information on registration procedures, safety and safety equipment, operating rules and other regulations for watercraft. The guide also features helpful tips on personal watercraft (jet skis), boating and alcohol, and marine security.

"There is a wealth of basic safety information in the Kansas Boater's Guide as well as an easily understood presentation of Kansas boating rules and regulations," says Wildlife and Parks boating education coordinator Steve Leggans. "We hope the booklet will encourage safe and responsible water recreation in Kansas."

The Kansas Boater's Guide is available at Wildlife and Parks regional offices or directly from the Department's

Operations Office, RR2, Box 54A, Pratt, KS 67124. Boaters renewing their registrations by mail will automatically receive a copy of the guide. --Marty Burke, *Region 2 wildlife information representative*

CAMPGROUNDS DELUXE

The Kansas Department of Wildlife and Parks, with assistance from the Coleman Company, now offers campers the opportunity to enjoy a weekend outdoors without investing hundreds of dollars in camping equipment. The Department provides campsites complete with equipment donated by Coleman. Although the program is available to everyone, it is designed for inexperienced campers who have little equipment.

The program, called Rent-A-Camp, provides basic camping gear for four and costs only \$15 per night. Included in the package are campsite reservation, a 10-foot by 11-foot tent, propane stove, propane lantern, propane fuel, cooler, cots or foam pads for four, picnic table, fire ring and broom.

Campers may rent camps at seven state parks: Cheney, Clinton, El Dorado, Pomona, Prairie Dog, Tuttle Creek and Wilson. Advance reservations may be made by telephoning park offices or by mailing Rent-A-Camp applications available at these parks.

Anyone planning a trip should remember to bring other camping essentials, such as bedding, cookware, food, water jug, flashlight and insect repellent. Unless campers have annual park permits, vehicle permits (\$3 per day) and campsite permits (\$2 per day) must also be purchased. --Shoup

KWF AWARDS

In March, the Kansas Wildlife Federation (KWF) presented its annual Conservation Achievement Awards for outstanding environmental conservation accomplishments.

The top honor, Conservationist of the Year, went to former Department of Wildlife and Parks Assistant Secretary Dr.

Alan Wentz. Wentz was cited for work toward preserving the state's wetlands, improving public areas and increasing revenue for Kansas wildlife resources.

Bert Wilson was named Wildlife Conservationist. Wilson is a unit supervisor for the Department and is responsible for management of Chase and McPherson state fishing lakes, Council Grove and Marion wildlife areas, Maxwell Game Refuge and the McPherson Wetlands.

The crew of the Community for Recycling Environmental Waste in Dodge City was named Conservation Organization of the Year for recycling efforts in Ford County.

Troy Schroeder, Fisheries and Wildlife regional supervisor for the Department in Hays, was named Water Conservationist of the Year.

Ronald J. Briggs received the Land and Soil Conservationist Award. Briggs is a district conservationist for the Soil Conservation Service in Mound City.

Dave Wilmore, a Lyon county landowner, received the Forest Conservationist Award.

Air Conservationist of the Year went to Max Norman, former vice president in charge of community services for the Greater Kansas City Chamber of Commerce.

For volunteer work in outdoor education, John Garrard, Lincolnville, received the Outdoor Education Instructor Award.

Connie Elpers, a naturalist with Wichita Wild, received the Conservation Educator Award.

Conservation Communicator of the Year went to Dr. Robert F. Clarke, professor of biology at Emporia State University. --Shoup

BOATS AND BUCKS

More than 90,000 registered pleasure boats cruise Kansas waters each year, utilizing 340,000 acres of lakes.

Including boats, outboard motors, boat trailers and marine accessories, boating sales total \$37 million annually.

In the past five years, nearly \$3 million has been generated by these sales for Kansas boating safety programs. These funds are collected from excise taxes on boating equipment under the Wallop-Breaux amendment to the Federal Aid in Sport Fish Restoration Act. --Shoup

NATURE'S NOTEBOOK

by Dana Eastes

ALLIGATOR SNAPPING TURTLE

Macrolemys temmincki (Troost)

The rare reptile relic of Kansas

The alligator snapping turtle is the largest of all turtles in Kansas. It is known to weigh more than 230 pounds and have an upper shell length in excess of 30 inches. A durable critter, the alligator snapper can live to be 200 years old.

The alligator snapping turtle can be identified by its long, saw-toothed tail; upper shell with three rows of ridges; small lower shell; and large, hooked beak. The lower shell is gray and the rest of the body is a uniform brown or gray.

This turtle heavyweight lives in deep waters of large rivers and lakes. Only the female leaves the water to nest and lay eggs. The alligator snapper is no ninja but could inflict a nasty wound to anyone in reach of its large jaws. Its eating habits vary from night to

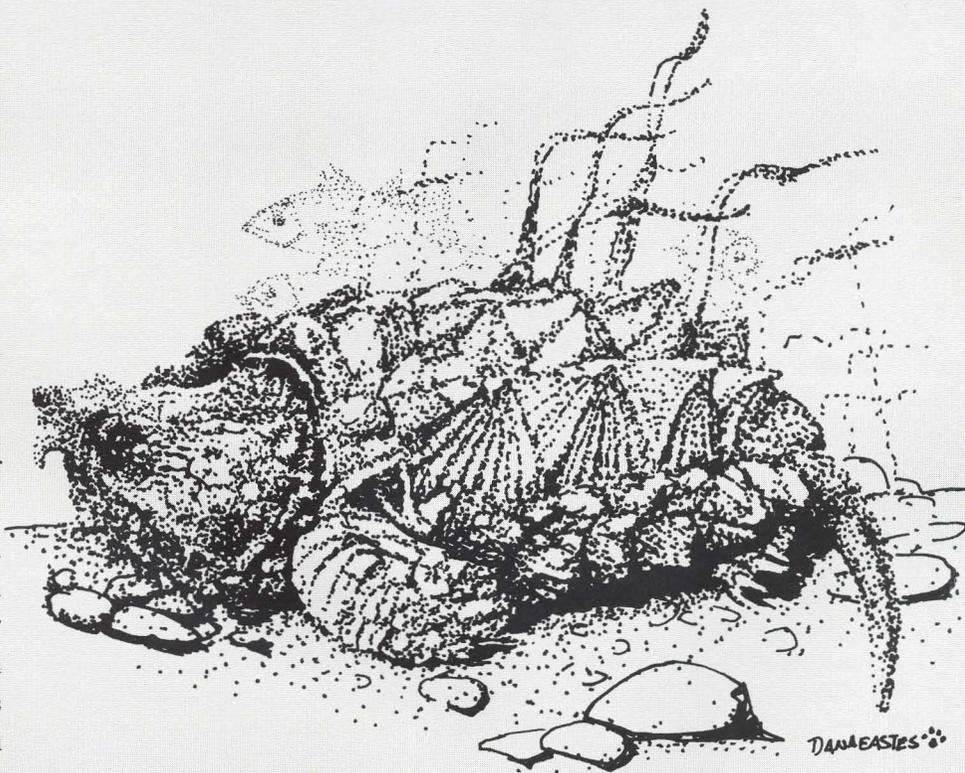
day. Excluding pizza, it eats almost anything. By night, it stalks and overpowers its victims. Dur-

in for a closer look, the turtle slams the trap shut and has a meal.

Not only is this the largest turtle in Kansas, but also the rarest. Kansas is the northern edge of this species' range. Preferring a warmer climate, few alligator snappers have been found in the state. What few alligator snapping turtles we do have may also be affected by pesticide use and flood control projects in our southeastern Kansas

rivers. It is currently on the SINC (Species in need of Conservation) list.

In May 1991, Doug, Greg, and Scott Larkin of the Tyro area, caught an alligator snapping turtle while baiting lines along Onion Creek, a southeast Kansas stream.



This relic was only the fourth recorded find in the state since 1886. Attached to the turtle was a radio transmitter, so the brothers turned their rare catch over to Wildlife and Parks.

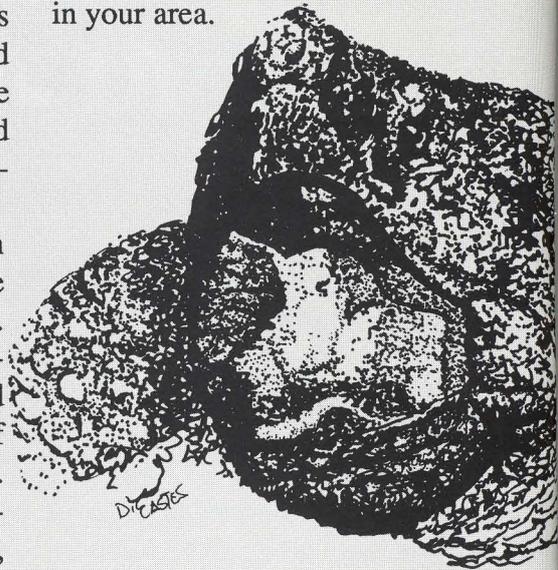
This turtle happened to be one caught five years ago by Wildlife and Parks field supervisor Doug Blex. The transmitter quit not long after it was released and he lost track of the turtle. The turtle weighed 60 pounds and is thought to be more than 50 years old. David Edds, a biology professor at Emporia State University was also in

the area doing research on the alligator snapper at the time of its capture. Edds and Blex reattached two radio transmitters to the turtle and released it back into the wild to further their study of this elusive creature.

If you would like to observe an alligator snapping turtle, visit the Topeka or Sedgwick County zoos.

If you happen across an alligator turtle, this is what you should do: First of all, give it plenty of room; its bite can be dangerous. Second, inform a parent or guardian of your sighting. And third,

call the Wildlife and Parks office in your area.



Take the TURTLE TEASER

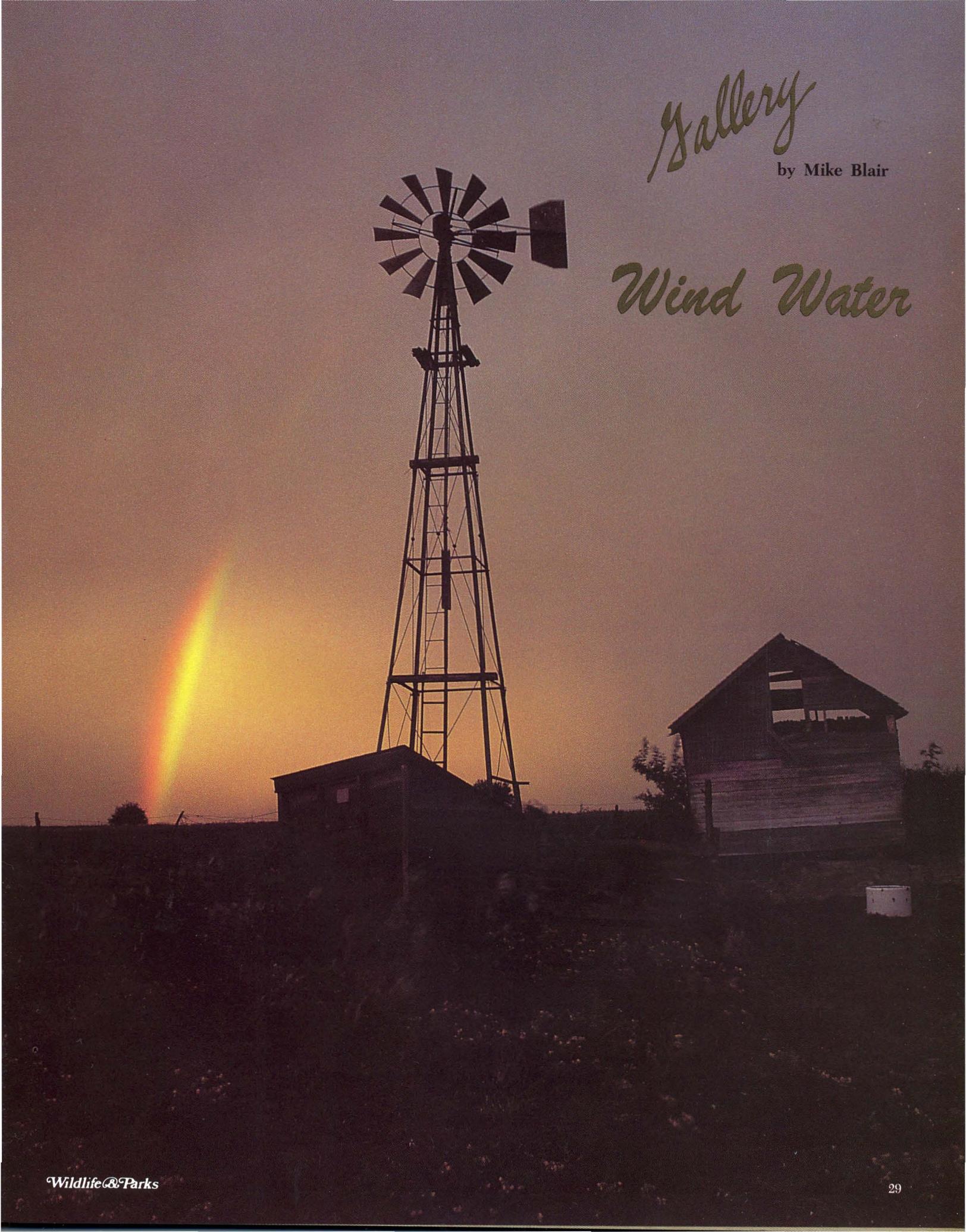
See how much you've learned about the alligator snapping turtle by answering the following questions.

1. True or False. The alligator snapping turtle is common to all waters of Kansas.
2. The alligator snapping turtle can live over _____ years.
3. True or False. During the daytime, the alligator snapper lies on the bottom of deep water and wiggles its tongue like a worm to attract fish into its mouth.
4. There have been only _____ documented sightings of the alligator snapping turtle in Kansas.
5. True or False. This reptile prefers warm temperatures.
6. True or False. The alligator snapping turtle is at the southern tip of its range in Kansas.
7. True or False. Alligator snappers eat pizza like the ones on TV.
8. True or False. If you happen to sight or catch an alligator snapping turtle, call a Wildlife and Parks office in your area.

Gallery

by Mike Blair

Wind Water





Moon: 200mm lens, f/11 @ 1/60, Scene: 28mm lens, graduated filter, f/11 @ 1/25

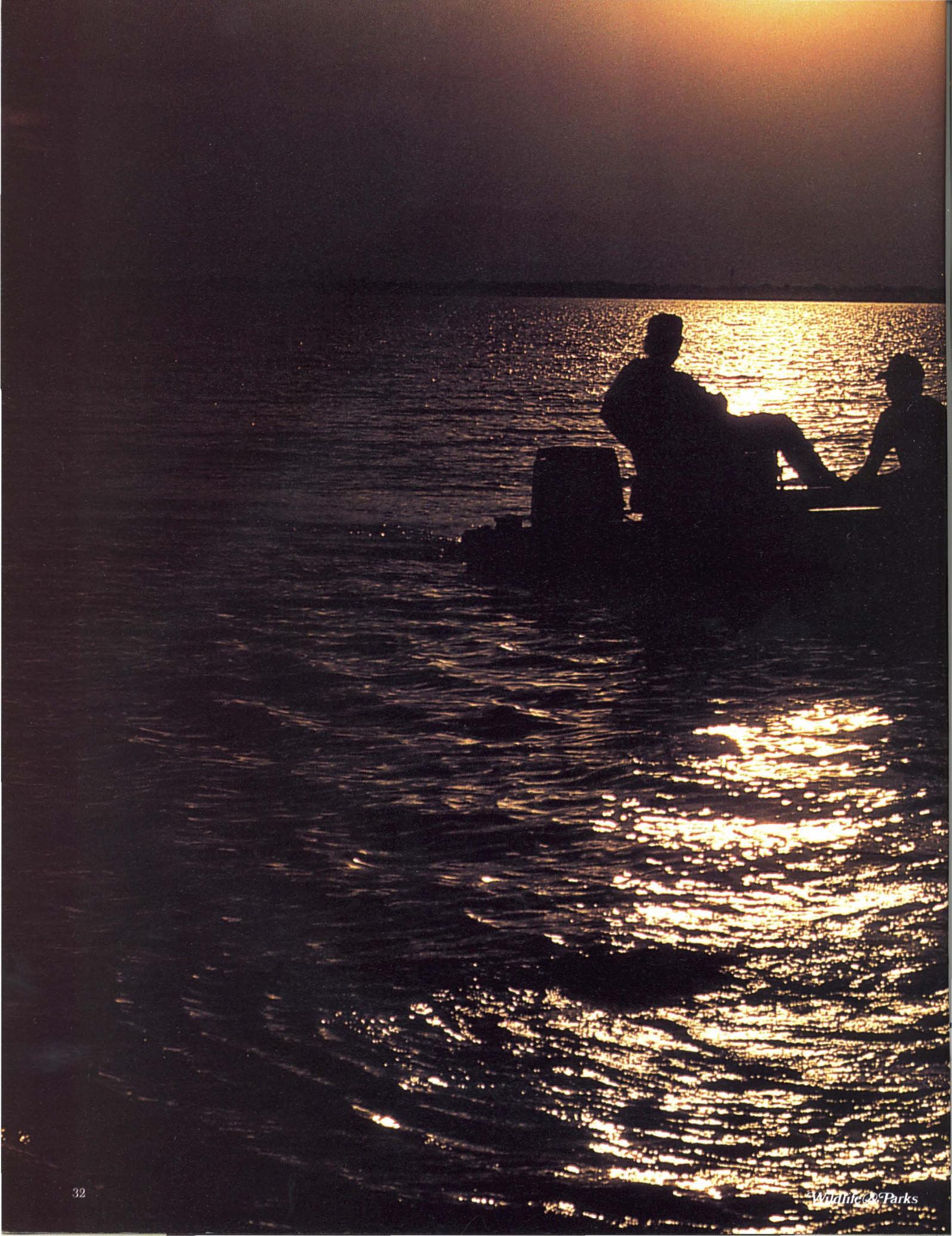
Previous: 50mm lens, f/5.6 @ 1/15

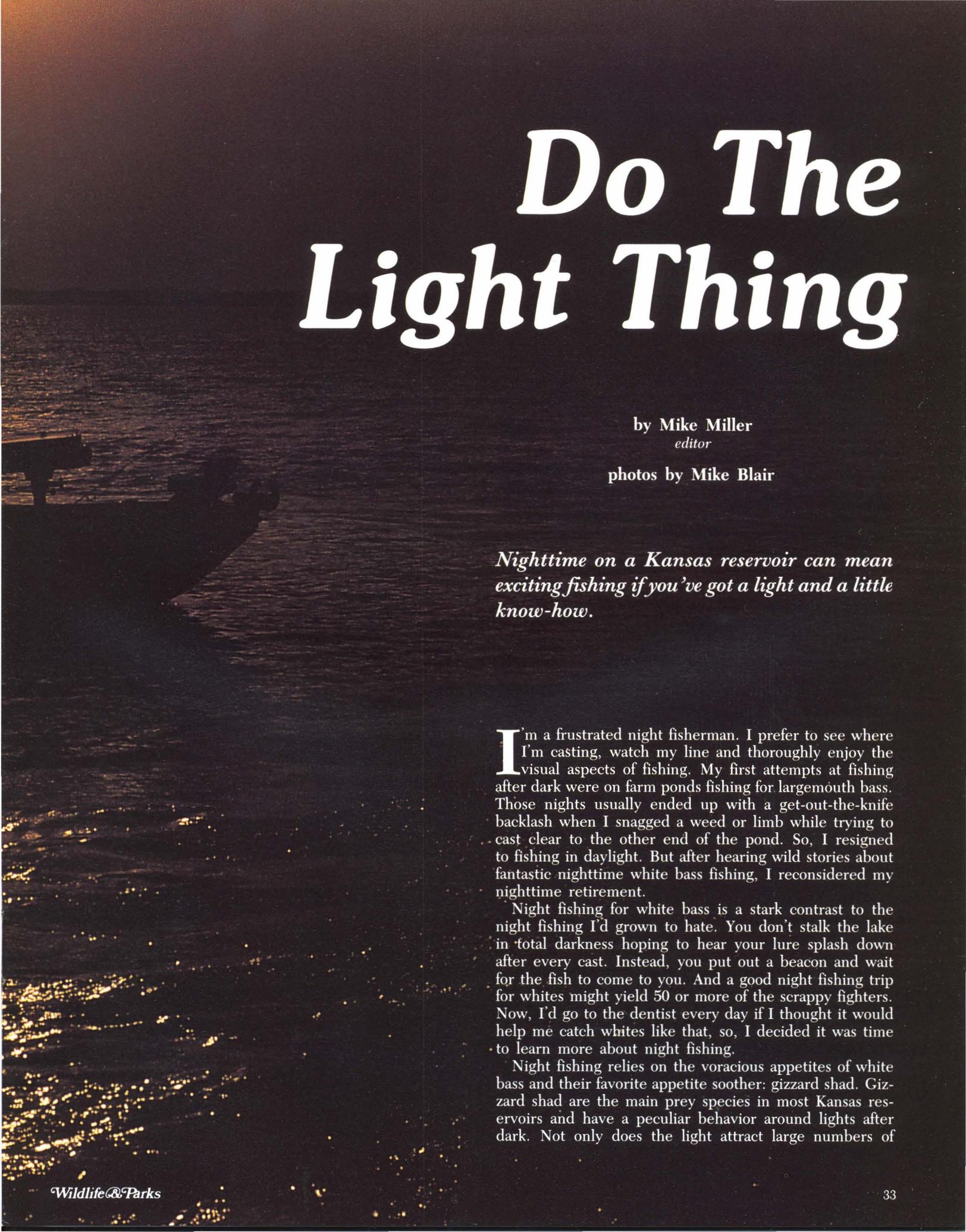


28mm lens, time exposure, f/4 @ 60 sec.



600mm lens, f/16 @ 1/250





Do The Light Thing

by Mike Miller
editor

photos by Mike Blair

Nighttime on a Kansas reservoir can mean exciting fishing if you've got a light and a little know-how.

I'm a frustrated night fisherman. I prefer to see where I'm casting, watch my line and thoroughly enjoy the visual aspects of fishing. My first attempts at fishing after dark were on farm ponds fishing for largemouth bass. Those nights usually ended up with a get-out-the-knife backlash when I snagged a weed or limb while trying to cast clear to the other end of the pond. So, I resigned to fishing in daylight. But after hearing wild stories about fantastic nighttime white bass fishing, I reconsidered my nighttime retirement.

Night fishing for white bass is a stark contrast to the night fishing I'd grown to hate. You don't stalk the lake in total darkness hoping to hear your lure splash down after every cast. Instead, you put out a beacon and wait for the fish to come to you. And a good night fishing trip for whites might yield 50 or more of the scrappy fighters. Now, I'd go to the dentist every day if I thought it would help me catch whites like that, so, I decided it was time to learn more about night fishing.

Night fishing relies on the voracious appetites of white bass and their favorite appetite soother: gizzard shad. Gizzard shad are the main prey species in most Kansas reservoirs and have a peculiar behavior around lights after dark. Not only does the light attract large numbers of

shad, it also disorients them, making them easy targets.

So, you might say, night fishing is easy. You put out a light, set out your lines and wait for the fish. But nothing is that easy, as I found on my first few attempts. I found plenty of shad and, for a short time, felt pretty smug as I watched a huge school of them circle my light. But after several hours of jiggging and swatting mosquitos and nary a white bass, I admitted defeat to night fishing again.

After talking to some of the experts I blamed for my renewed interest in night fishing, I learned that night fishing was just like any other fishing. Location and presentation are the key factors to success. If you don't put your bait or lure in the right place, you won't catch fish. Finding a place to anchor and put out your light is critical if you want to catch more than an occasional white bass. The problem is that shortly after the young shad hatch, the reservoir appears to be teeming with them. Just about anywhere you set out a light will be a good place to attract shad. But white bass and other game fish are particular about the places and depths where they hang out and they areas they travel through. If you haven't positioned your boat over one of their hangouts or underwater highways, you're out of luck.

I consulted avid night fisherman, Joe Koops, who runs a sport and tackle shop in Downs near Glen Elder Reservoir. Koops generally begins his night fishing trip shortly before sunset. Checking submerged humps and creek channels in 18 to 25 feet of water, he watches his depth finder for schools of shad with larger game fish below them. "Or if the whites have been chasing shad on the surface during the afternoon and evening, I start graphing for fish in those areas," he said. Typical white bass water would include a point that juts out near a bend in the creek channel, a steep shoreline near the creek channel, submerged road beds or railroad trestles, and sharp bends in the creek channels.

Koops starts thinking about night fishing in early June after young shad begin showing up. "I've had good nights as early as June 1, and some guys will even go out earlier," Koops said. "The shad are pretty small that early,

sometimes no bigger than your thumbnail, but they still attract whites. It seems to get better as the shad grow."

Koops prefers calm nights for two reasons. First, he has generally caught more fish when the wind was calm, and it's much easier to position and hold your boat over structure when the wind's not jostling the boat. It's a good idea to anchor at both ends of the boat, even a slight breeze will swing a single-anchored boat off the spot.

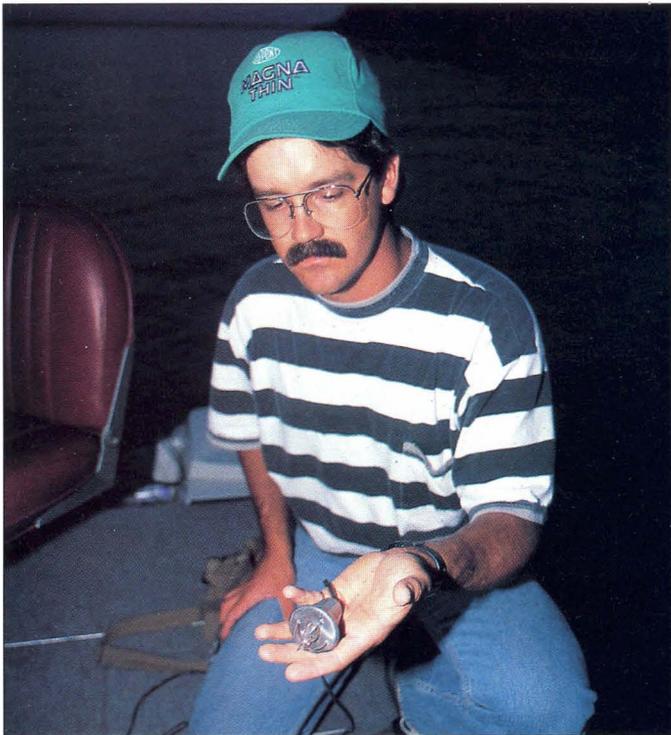
Once Koops positions the boat, he places the lights. He likes the submersible halogen lights, and drops them to just below the boat's hull. "Some guys like the floating lights because more light reaches the surface and they can see their lines better. I prefer the submersible and keep a fluorescent black light on board. Monofilament glows in the black light and you can easily see it to tie knots."

As the shad begin to gather around his light, Koops switches on a graph or flasher. If he marks fish below the shad school, he notes the depth and drops his jig to that vicinity. Usually the game fish will hang just below the shad school and pick off the stragglers. Another way to find the right depth is trial and error. Drop the jig to the bottom then raise it a crank or two. Then raise the lure one or two reel-handle turns every so often until a fish is caught. To find the right depth again, simply drop the jig to the bottom and raise it the prescribed number of cranks.

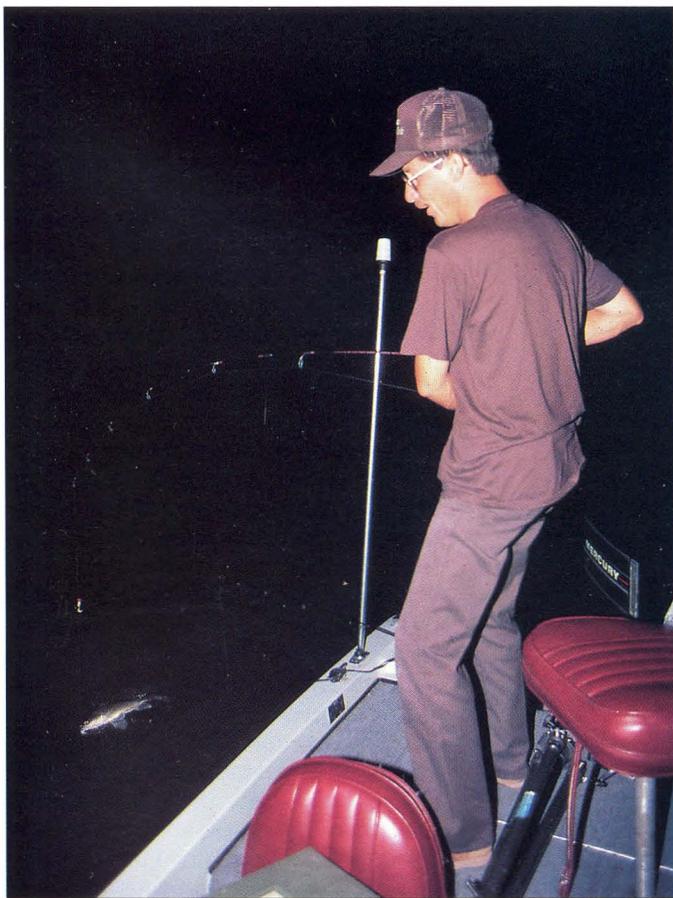
Small rubber-body jigs are the most popular night fishing lures, although minnows, crayfish or live shad are also effective. The technique is strictly vertical jigging. Hold the bait or lure at the desired depth, raise it up, let it free-fall back down, then hold it suspended for several seconds. Strikes will almost always come when the bait is falling or while it is suspended. "I think a lot of fishermen move their jig too much," Koops added. "Some nights, it seems that nearly all strikes come while the bait is held still." Those strikes will usually be detected as light taps, and you'll want to set the hook quickly after



Positioning the boat over the right depth and structure is the key to successful night fishing. These anglers patiently wait for the whites to show up after the light has been set out.



Small, submersible halogen lights have become popular for night fishing. Some anglers prefer the floating lights because they allow more light at the surface.



Making the dark wait worth while, a fat white bass finally comes to the surface. Light tackle is recommended so that delicate strikes can be detected.

a hit. Concentrate on your line and rod tip, and you'll catch more fish.

Rubber-body jigs have become popular for night fishing because of the wide variety of colors they come in. At night, the exotic colors seem to work best. One of the Glen Elder favorites is the bright orange split-tail. Koops favors bright orange with black stripes or the firecracker, a clear blue with multicolored sparkles. Other popular nighttime colors include hot pink, black, brown and gray.

Later in the summer, a jig tipped with bait, especially minnows or live shad scooped up around the light, might be needed to tempt the whites.

A 5½- or 6-foot, medium or light action rod with a spinning reel filled with six-pound line is ideal tackle. It's not uncommon to catch 2-pound whites and an occasional walleye, so make sure the drag is smooth. Light line and a sensitive graphite rod will let you detect more strikes.

After my initial failures, subsequent night fishing trips have been much more enjoyable. And I know as I get over my frustration about being in the dark, I'll enjoy night fishing for reasons other than great fishing. Most fishermen and pleasure boaters leave the lake as the sun sets, so a few night fishermen have the water to themselves. It's quiet and peaceful. The fishing action can be exciting, and you never know what you've got on the end of your line until it appears in the dim glow of your light.

According to fisheries biologists' predictions, good white bass lakes include Kirwin, Kanopolis, Wilson, Glen Elder, Clinton, Milford, Tuttle Creek, Cheney, El Dorado, Marion, Elk City, Fall River, John Redmond, La Cygne, Melvern, Pomona and Toronto reservoirs.

Before you go, remember that common sense is especially important on the lake at night. Boating on a large reservoir in the dark can be disorienting. Landmarks fade into the horizon and the dark sky gives little evidence of direction. Handle your boat with extreme caution and always display the running lights required by law. Familiarize yourself with the area you'll be fishing so the return trip to the boat ramp won't be a harrowing adventure. Never get in a hurry on a dark lake. Always get a current weather report before you launch. Calm, ideal fishing conditions can be followed by violent summer thunderstorms. Keep an eye on the sky for lightning and approaching storms, and never wait until the last minute to start for the ramp.

Another consideration involves ethics. On rare occasions, night fishing can be so good that fishermen can literally load their boats with white bass. There is no limit on white bass, but keep only what you can use. Bringing in hundreds of fish is no longer a sign of a skilled angler, but, rather, can be viewed with disgust. Keeping more fish than you need only to give many away robs the resource of fish that you and others could have caught another day. Remember that a 2-pound white bass is three or four years old, and will take that long to be replaced. Keep what you want and release the rest. It's that simple.

Night fishing can be a fun and exciting way to spend a cool summer night. And the fishing can be excellent at a time when daytime reservoir fishing is slowing down. Don't forget to take along an extra flashlight, bug spray, rain gear, an extra jacket, and a spot light for finding shoreline and obstacles . . . and have fun. ♡



The Carrion Crew

by Pat Silovsky
education coordinator
Milford Education Center

photos by Mike Blair

Vultures may not have a pleasant image, but they do a clean-up job that few others want.

Although considered raptors, or birds of prey, because of their strong, hooked beaks, few people hold vultures in the same esteem as the eagles and their relatives, the hawks and falcons. To most, vultures conjure up images of death and dying. As bearers of bad news, they would seem to be things to condemn, however, nothing could be further from the truth. We are indebted to vultures and other scavengers for the clean-up job they do. Feeding on carrion, or dead animals, vultures are nature's garbage crews.

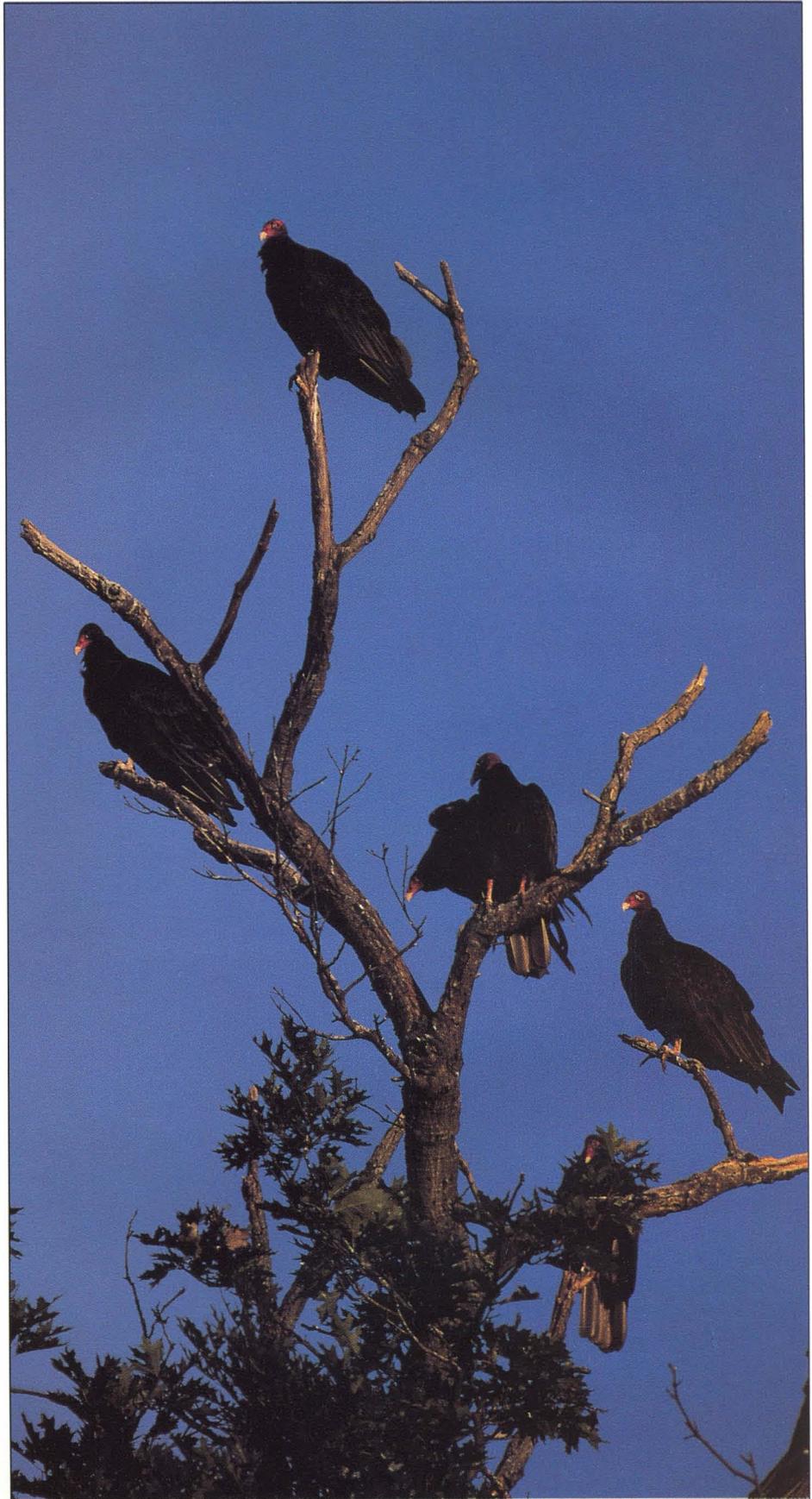
Four species of vultures live in North America (Family Cathartidae)—the endangered California condor, the rarest bird in North America; the turkey vulture; the black vulture; and the king vulture, found from Mexico to South America. The turkey vulture, *Cathartes aura*, the most wide spread species, is a common summer inhabitant of Kan-

sas and, on occasion, a winter resident as well. Black vultures, *Coragyps atratus*, are occasionally seen in the southeast corner of Kansas.

The turkey vulture is so named because with the red skin on its featherless head and its dark body feathers, it resembles the wild turkey. Many people mistakenly call it the turkey buzzard. Early settlers thought these birds were the same as the European buzzards—carrion-feeding hawks of the Accipitridae family. Though they are not related to the Old World scavengers, the name buzzard is still in common use.

The turkey vulture is a large bird with a wingspan of nearly 6 feet. Powerful and graceful fliers, they deserve admiration as masters of the air. Able to soar effortlessly by riding thermal updrafts, they may circle for hours without a wingbeat. Thermals are “bubbles” of hot air that rise from the ground as it heats up. Imagine a thermal as a smoke-ring with a column of air rising through the center, spinning rapidly. Vultures glide around the inside of the ring and use the rising air to hold them aloft. (A glider pilot uses the same principle to fly his craft.) Consequently, vultures are late risers in the bird world, not seen aloft until the ground has heated up and thermals have formed.

Since vultures seldom kill their own food, their feet are weak and not used for grasping prey as in other raptors. Though primarily scavengers, they have been known to take live prey such as grasshoppers, mice, young herons and newly-born pigs. Since it doesn't select its victims, the vulture is not choosy about its food. Snakes seem to be a favorite but such unlikely food as tadpoles and pumpkins have been recorded. Bent (1937) in his *Life Histories of North American Birds of Prey* lists an account of a flock of 62 vultures hard pressed for food, feeding on pumpkins. Undoubtedly, the automobile has benefitted vultures by providing an abundant and reliable food source in the form of road kills. In the 19th century, before the advent of the automobile, the birds concentrated around the slaughterhouses and open garbage dumps. Although it is not known if vultures were actually more numerous then, they were, no doubt,



Turkey vultures are gregarious, often roosting in large groups. The large birds sport wingspans of nearly 6 feet, allowing them to soar on thermals for hours without a wingbeat.



Although not pleasant to humans, rotting flesh is the vulture's delicacy. Turkey vultures have difficulty breaking through skins of large animals, so they must wait for the carcasses to decompose.

more visible.

For years a controversy has revolved around whether vultures locate food by smell or eyesight. The sense of smell is poorly developed and of minor importance to most birds, however, the turkey vulture has the largest olfactory system of any bird. Experiments suggest that the turkey vulture does indeed use its good sense of smell to locate food. They have been observed ignoring mouth-watering carrion until they picked up the scent and will not approach a carcass if a human is upwind. The black vulture and California do not share this well-developed sense of smell and depend on sight to find their food. Most likely, the turkey vulture uses a combination of both sight and smell to help it locate tasty morsels. They are not above using their neighbor either. When a circling vulture finds food, other vultures will take a cue from the bird's descent and converge on the carcass. Luckily, vultures are social animals, often feeding and roosting together. Roosts may contain several hundred birds. Unlike most birds that roost standing on one foot, vultures squat resting the breast on the feet.

Despite their heavy beaks, most vultures have difficulty breaking through the skins of large animals, so

they must wait for the carcass to decompose. Small animals such as rabbits or skunks pose no problem and can be readily consumed. Rasp-like tongues enable the birds to pull flesh into the mouth and their featherless head is well-suited for plunging deep into decomposing carcasses. The absence of feathers on the head means they have no problems cleaning blood-stained feathers. Contrary to

popular belief, vultures are relatively clean creatures not prone to spreading diseases. They cannot spread hog cholera or anthrax, as many people believe, even though they may feed on animals which have died from these diseases. Pathogens like the cholera virus are destroyed by passing through the intestine of the vulture. Their practice of sunning themselves by perching on a stump,



Vultures don't build nests, but will use other birds' abandoned nests. Caves, hollow stumps, bare ground or old buildings are more common vulture nest sites.

facing the sun with wings outstretched and motionless, is likely done to help rid the bird of parasites and to dry feathers or gather heat. Although not a pleasant sounding practice, vultures may defecate on their legs to help destroy bacteria or to cool themselves off. This is why the legs may appear white instead of the normal pale red.

Turkey vultures return to their breeding ranges sometime between February and April. Spring arrival in Kansas is from about March 7-30. Breeding displays involve a courtship dance followed by an aerial courtship. During the dance, the males parade around in a circle, hopping toward one another with the wings outstretched and trailing, the head lowered. The female, saving herself for just the right one, does the choosing. Afterwards, the pair can be observed soaring and wheeling about through the air. Grunting and hissing may be heard during the courtship, but since vultures lack a syrinx, or voice box, these are the only sounds the birds can produce.

Eggs are laid on the bare floor of a cave, in a hollow stump, under an abandoned building or on the ground in dense brush. No attempt is made to build a nest, however, nests of other birds may be used. Though turkey vultures are gregarious, they are solitary nesters.

One to three cream-colored eggs with dark blotches are laid, and both parents spend time incubating. Distinguishing the sexes is difficult, as with most raptors, vultures are alike except the female is larger. The young hatch in 38-41 days completely helpless and covered with long, white down (except for their black face). They don't stay helpless for long, though, and by the end of the first week, they are moving around in the nest. Their eyes are open from the start and even at a very young age they will hiss aggressively at an intruder.

Both parents feed the young by regurgitation. Young will thrust their beaks deep into the parent's gullet to reach the food. Adults are protective, especially when brooding very small young and will even feign death to distract an intruder. If that tactic doesn't work, vultures have another interesting defense: they may dis-



This immature vulture shows the large, well-developed olfactory organ. Turkey vultures are known to use their sense of smell to locate decomposing carcasses. Most other species rely on sight to locate meals.



Vultures are commonly seen perched with wings spread. This practice probably helps rid the feathers of parasites, dries feathers or warms the bird.

gorge a recently eaten meal. The foul-smelling result usually works, and, since the vultures are quite accurate regurgitators, the intruder may retreat wearing the mess.

Young stay in the nest for eight to 10 weeks, learning to fly when they are 70-80 days old. The juvenile plumage is much like that of the adult's except the skin of the head and neck is blackish-brown instead of red. The red head is acquired after the first year molt. A one-year-old bird can be distinguished by its two-toned beak, which is ivory with a dark tip.

The birds leave Kansas for their winter range sometime between Sept. 24 and Oct. 28. Some birds travel as far as South America, however, most probably only go as far as southern U.S. or Mexico. It is possible to find turkey vultures residing in Kansas throughout the winter. These may be birds that summer here and never leave, or they may be northern birds that decided Kansas is far enough south to migrate. During migration, turkey vultures may fly at altitudes of 4,000-5,000 feet.

Turkey vultures are truly unique animals sharing their habits with few other vertebrates. They do a dirty job and provide a valuable service in our environment. Watch the skies for a soaring vulture and you'll marvel at their effortless flight. If you'd like to see one close up, visit the Milford Conservation Education Center near Junction City where a non-releasable vulture is kept for use in education programs about these fascinating birds. ♡



Because turkey vultures rely on thermals, or columns of warm, rising air, for their sustained flight, they are usually late risers, waiting for the sun to warm the air.



Bent Bow And Flying Fin

by Mark Shoup
associate editor

photos by Mike Blair

The bowhunter can cool off during the hot summer and sharpen his archery and stalking skills through the exciting challenge of bowfishing.

You're surrounded by water, and you've lost track of time. Mid-summer sun dances off a glassy surface occasionally disturbed by gentle, windblown ripples. A bead of sweat or water, or both, drips from your nose. Depth perception temporarily lost, you are hypnotized by glittering, seamless surroundings. Suddenly, out of the corner of your eye you see movement. It's a fin slicing the perfect surface, the wake heading right for you.

Your adrenalin kicks in, but you don't dare move a muscle. There's a drumming in your temples—Dum dum, Dum, dum, Dum-dum, DUM-dum, DUMdum, DUMdum, DUMdum . . . faster and faster . . .

Okay. Okay. This isn't a scene from *Jaws IX*, but it is one of the most exciting summer outdoor activities in Kansas. It's bowfishing, accessible statewide and a sure bet when both fishing and hunting opportunities may be at their lowest.

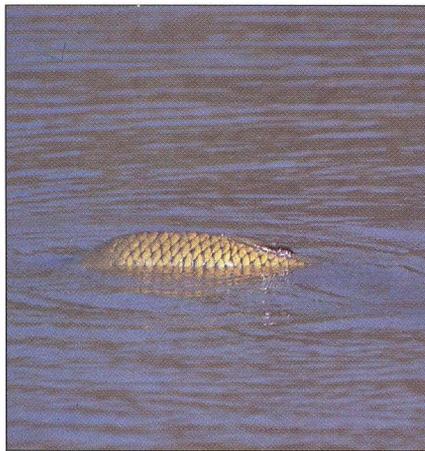
Ironically, what may be the most unpopular fish among Kansas anglers is the most popular with bowfishermen. Carp often stir pond and river bottoms, making them turbid and sometimes disturbing other species, but they are readily caught by fishermen and make sporting quarry for archers.

Once water temperatures reach 60 to 70 degrees, these prolific breeders begin to spawn. Large schools may "stage" in shallow water and wallow for hours before breaking into spawning groups. These groups generally consist of one large female and three or four smaller males. As females move through weeds and other shallow areas laying eggs, the males follow, as if herding the female, and fertilize the eggs. This activity starts in early spring and can last all summer.

Carp are great fighters under any circumstances, but in shallow water the action can be furious. A 15- or 20-pound carp will put up quite a battle, and 30-pounders are not uncommon. Many bowfishermen have reported shooting more than one carp with a single shot.

Before you take the bowhunting challenge, you need some basic equipment. If you are a target archer or a bowhunter, your equipment needs are minimal. Reel, line and an arrow are all you need. The simplest reels are spool reels. About 5 inches in diameter, these reels look like a large, flat thread spool. Some tape onto your bow, others screw on. Many bowfishermen believe spincast reels release line better and make retracting line easier. Whichever reel you choose, be sure you get one that releases line smoothly and holds it tightly.

Solid fiberglass arrows are durable,



A patient bowfisherman will notice carp as they forage in shallow water. Carp also come to the surface to feed on cottonwood seeds, mulberries and other items.

inexpensive and accurate enough for the close-range shots of bowfishermen. Arrow points should have reversible barbs. This keeps you from unscrewing—and sometimes dropping—your point each time you shoot a fish. Line should be attached to reel with braided nylon or dacron line, 50-pound test or stronger. From time to time, check the first few feet of line for frayed edges, cut them off and reattach the line as necessary. Lost arrows can quickly take the fun out of bowfishing.

If you plan to fish riffles or rocky

areas, carry a file to periodically sharpen your point.

Purchasing a bow can be a more complicated decision. Longbows, recurves and the wide variety of compound bows available all work well. Compound bows allow the archer to hold his draw much longer than longbows and recurves. However, the more primitive bows are much lighter, and many archers prefer the maneuverability they offer. Keep in mind that longer bows will be more difficult to shoot when wading deep water.

To begin looking for a bow, find a dealer who will let you try several different bows, preferably on several different occasions. Take your time making this decision. If you know an experienced bowhunter or bowfisherman, take him along to offer pointers. Find a bow that is comfortable, has the proper draw length, and feels good when you shoot it. Once you find a bow you like, make sure it has a sturdy enough arrow rest to accommodate a bowfishing arrow. Some rests (particularly U-shaped wire rests) will not support this heavy arrow.

A bowfisherman's tackle is not complete without polarized sunglasses, which cut glare and allow better vision below the surface.



After a careful stalk to get in front of a feeding carp, this bowfisherman waited for the fish to swim by before making an accurate shot.

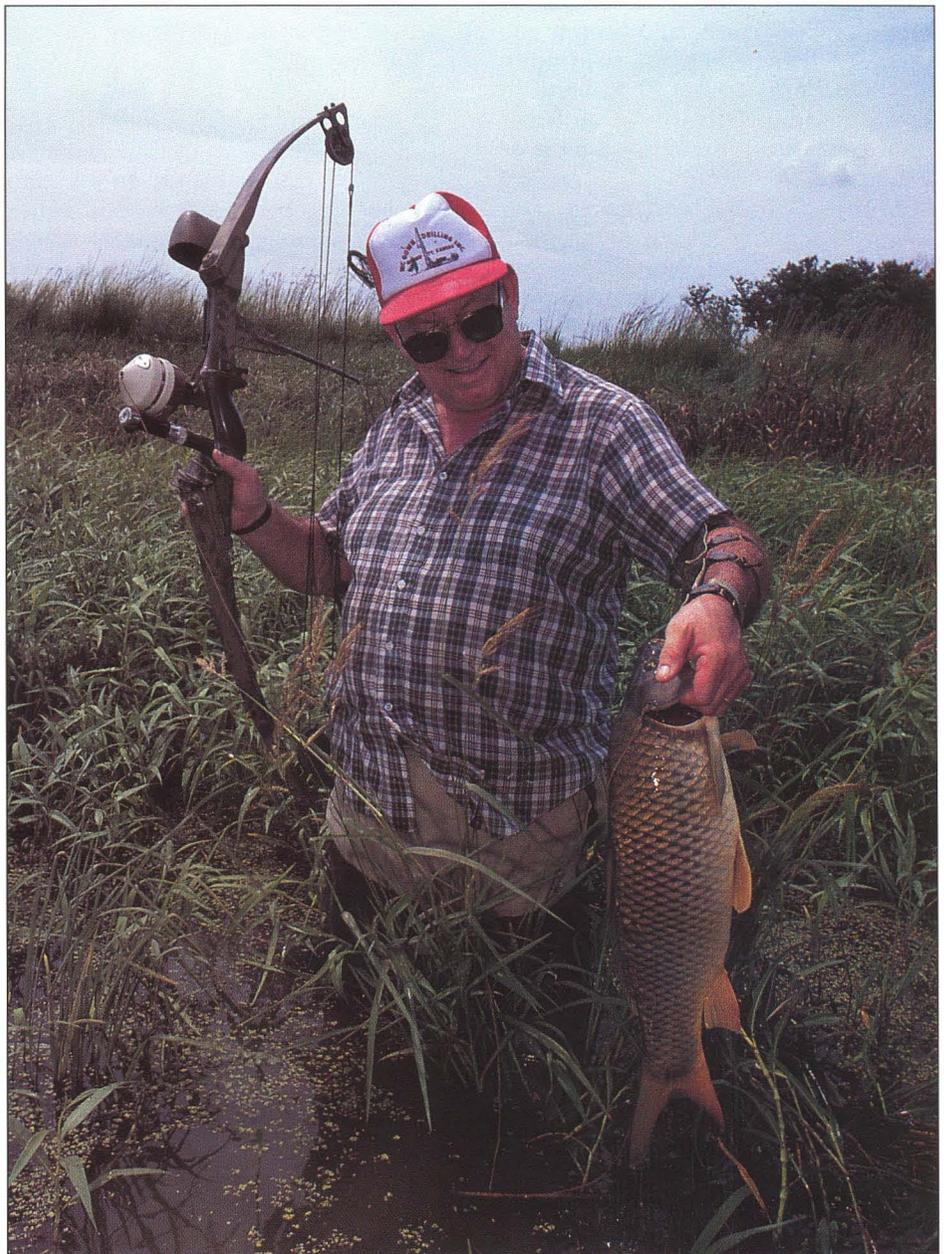
Locating fish is the next step. Carp can be found in any Kansas water, but scouting is still important. Because large females tend to stay in deeper water except when spawning, the warmer, upper ends of lakes are usually best. Shallow coves near vegetation are also good. In streams, look for backwater washes and junctions with feeder streams. Carp, like many other creatures, have preferred territory. Certain stands of vegetation or shallow areas may appeal to them more than others, so if you find carp in an area one day, be sure to check it again. Look for similar areas elsewhere.

A favorite time for bowfishermen is when cottonwood trees drop their cotton. Cotton gathers in eddies of slow-moving water, and carp feed on the swirling white puffs, often in large numbers.

Another good spot for carp is under mulberry trees. Many fish feast on falling mulberries, and carp are no exception. Unlike cotton, however, mulberries sink fairly quickly, so the area of opportunity is limited. If you can't get close to an overhanging mulberry tree from the bank, and the water is too deep for wading, a flat-bottomed boat is the ticket. This usually requires two people—one to paddle and one shoot—but if you move slowly, shooting from a boat can be very productive. (Unless you have uncanny balance, a canoe is not recommended!)

Gar can also be taken from a boat. Move slowly into fallen trees or brush and look carefully. Gar suspend themselves just under the surface near brush, waiting for unsuspecting prey. Motionless, they often look like a branch on a limb. Once you've arrowed a gar, be prepared for the fight of your life.

Late afternoon and evening are probably the best times to bowfish, after the wind has subsided. You can pick a likely place to wait—just as a bowhunter does for deer or turkey—or you can spot carp in the water and stalk them. The latter is the most difficult because carp are wary fish, especially in shallow water. Wade slowly through the water, taking care not to splash or stumble. When you see a fish, try to determine where it is going and get ahead of it, if possible. It's much easier to let the fish



Carp can be found in just about any Kansas water, especially shallow wetlands. They grow large, up to 40 pounds, and are a challenge to the bowfisherman.

come to you than to chase it.

When setting up your shot, place yourself so that you are not looking into the sun and your shadow is not cast across the water where the fish will swim. It's hard to shoot when the sun's in your eyes, and your shadow will frighten the fish.

Keep in mind that this sport is anything but shooting fish in a barrel. Carp are nervous and extremely aware. If they see or detect you, they will bolt.

Seeing may be believing, but when it comes to bowfishing, what you see is not necessarily what you should

shoot at. Most bowfishermen have had the eerie experience of shooting at fish after fish, only to have the shots go over the fishes' backs. This is caused by refraction of light as it penetrates water. Light actually bends when it enters water, and this makes objects appear higher in the water than they actually are. This can be frustrating for the bowfisherman, but with a little practice, it's easy to compensate for.

Like all outdoor sports, bowfishing requires ethics. Never discard fish on the bank or in the water. If you don't want to eat your quarry, try to find

someone who will. Never intrude on other bowfishermen, and keep a safe distance from campers, fishermen and picnickers. In fact, it is illegal to bowfish within 50 yards of an occupied boat dock, swimming area or picnic site.

Always be close enough to your target to identify it as a rough fish.

No discussion of carp fishing can go without a discussion of eating them. As table fare, carp suffer from a cultural bias in the United States. We call them "trash" fish, inedible or, at the very best, fit only for the starving poor. Nothing could be further from the truth. In Europe and

Asia, carp are propagated for their meat, and in England they are not only considered excellent cuisine, they follow trout as the second most popular sport fish.

The real culinary drawback of this neglected fish is bones. In addition to the ribs, spine and vertical bones running up and down from the spine, carp have fine Y-shaped bones throughout their flesh. This is a problem easily solved. After filleting the fish, score the fillets. Slice two-thirds of the way through the fillets, parallel to the ribs, every one-quarter inch. It's also a good idea to remove the dark longitudinal band of red meat,

which is stronger tasting than the rest of the fish.

As with any fish, carp should be kept alive until dressed. Some fishermen gut fish immediately after they are caught and put them on ice.

Fillets can be baked, canned, fried, pickled, pressure cooked or smoked. Preparation does not have to be fancy, but most cookbooks have recipes that make any fish an excellent meal, even carp.

All waters are open to bowfishing unless posted otherwise. Regulations vary, so bowfishermen should check with local authorities. Only nonsport-fish may be taken bowfishing. They include: carp, drum, white amur (grass carp), threadfin and gizzard shad, goldfish, gar, suckers (including carsuckers and buffalo), eel, sturgeon, goldeye and bowfin. Bowfishermen must possess a valid Kansas fishing license. Arrows must have barbed heads, and each arrow must be attached to the bow by a line. Crossbows are illegal for bowfishing. There are no creel or length limits on legal rough fish.

You may not encounter sharks, but bowfishing can be an exciting way to learn a hunting skill as ancient as the bow itself. It also provides a perfect opportunity to hone deer hunting skills. Whether you hunt big game or not, it's a pleasure to lose yourself in a summer afternoon, bow in hand, stringer full and sun setting before you're ready to leave.

Recipes: Here's a couple from KANSAS WILDLIFE magazine (July/August 1985, Page 13).

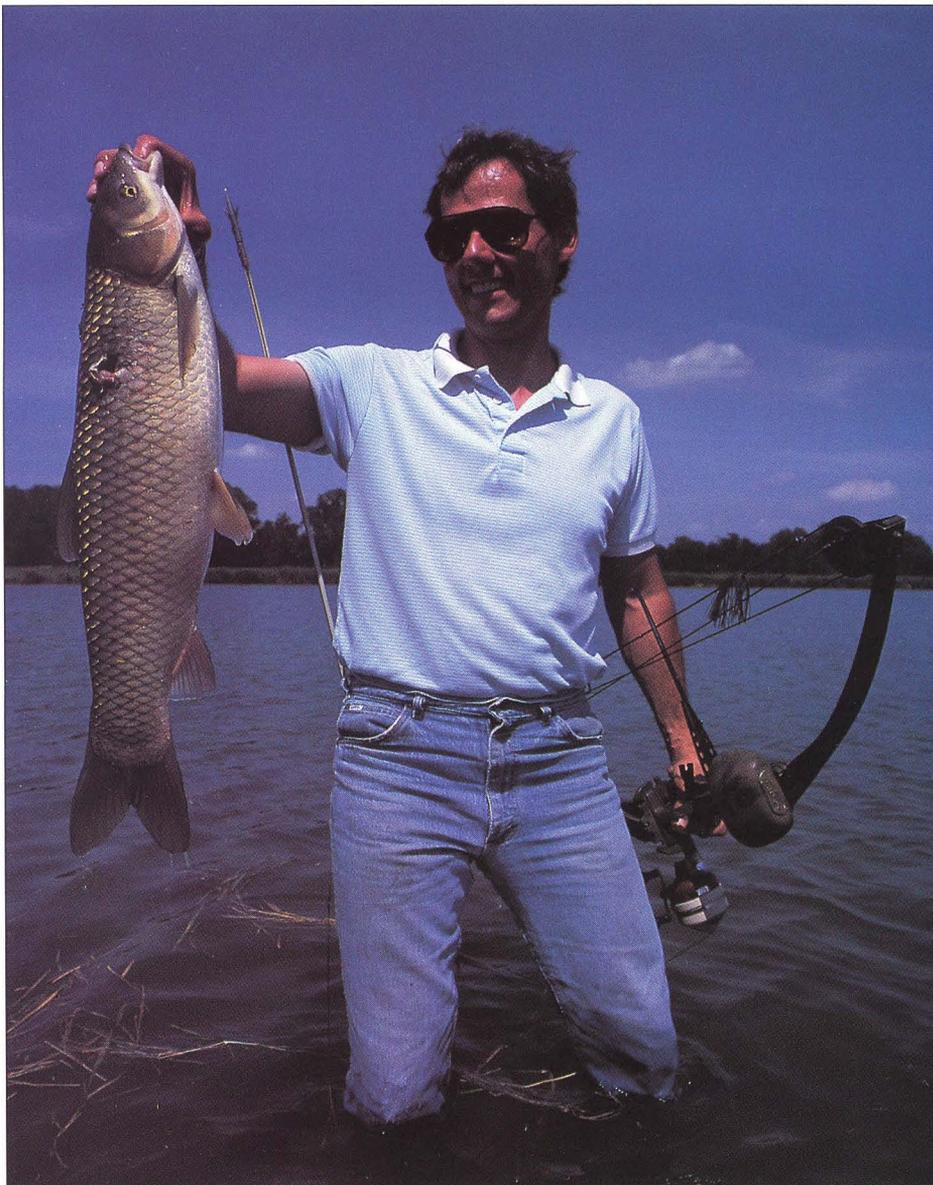
CANNED CARP

Fillet and cut fish in 2-inch pieces. Pack pieces in clear pint jars. Add one teaspoon salt, three teaspoons vinegar and one drop Liquid Smoke per pint. Pressure cook process for 80 minutes at 10 pounds pressure.

POOR MAN'S LOBSTER

Requires two quarts water, two tablespoons salt and two or three pounds of fillets.

Cut fillets into finger-sized pieces. Drop pieces in salted boiling water and boil for 2 to 4 minutes. Serve pieces with melted butter or cocktail sauce. 



All non-sportfish are legal for bowfishing. The white amur, or grass carp, is an especially wary fish, difficult for the bowfisherman. However, they are great fighters and delicious.



Dog Fishing

A couple of summers ago, a Japanese television crew came to Kansas to spend a few weeks shooting video of a prairie dog town. We located an expansive dog town for our foreign guests, then left them to their own devices . . . until they decided they needed a captive prairie dog for certain set-up video shots.

"No problem," we responded with reassuring smiles and blank intentions.

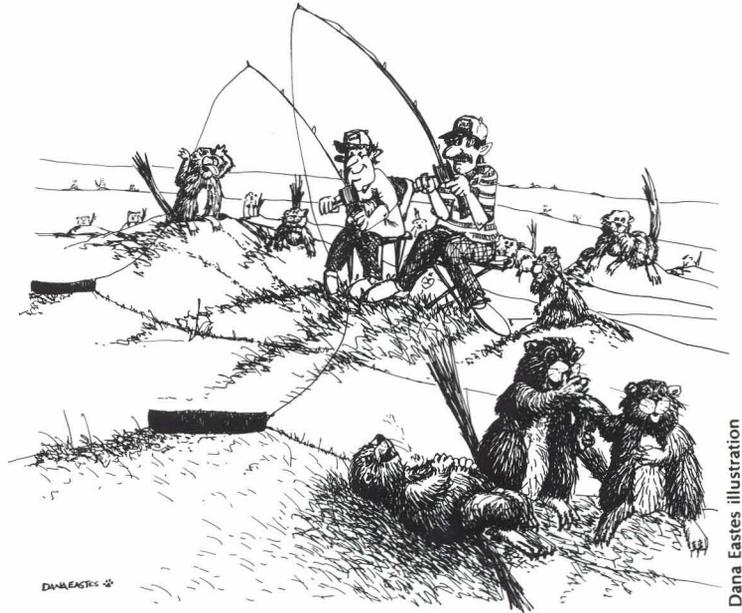
"How are we going to do this?" we asked ourselves later as we headed back to town to gather the undetermined equipment required for our undetermined plan to capture a dog.

After some discussion, we concluded that a surefire strategy hadn't yet been devised for this particular problem. We would have to invent a solution. We skulled out some bizarre alternatives but none of them held much promise. We were ready to admit that we had taken on the impossible. Then, someone suggested "fishing" for them. After the hoots and jeers died out, we decided it was our only hope.

Baitcasters in hand, Mike and I arrived at our new fishing grounds that Saturday afternoon and went to work. We rigged noose-shaped leaders of cotton rope and placed them at burrow entrances we knew were active. We each laid a noose around the rim of our targeted burrow opening, and peeled off about 30 yards of 12-pound-test line as we backed off to a pair of folding camp stools. What followed was a fair amount of waiting. The wait was aggravated, of course, by the sight of dogs popping in and out of every other hole in sight while the two we had chosen had gone stone-cold dormant.

Undaunted, we relaxed in the shade of our hat brims and occasionally stole swigs of iced tea from the jugs at our feet. We must have been a sight: a couple of addled country boys casting to mirages in the middle of wide open, waterless prairie. Fortunately, no witnesses were around except our foreign friends. Mercifully, they discussed our progress in a language we didn't understand.

Then it happened. A dog peered warily over the lip of the burrow entrance I had selected. I leaned intently toward him and slowly reeled the slack from my line. It took a while for things to develop; it seemed to me this animal was being unusually cautious, even for one whose life is fraught with predators on all sides. Finally, he moved from the depths of the burrow so that my noose lay even with his mid-section. STRIKE!!! I jerked the rod tip and saw the dog tumble out of the hole toward me. Then I made a critical mistake; I failed to back away from



Dana Eastes illustration

the hole to prevent my catch from diving back into his burrow. Truth was, I was momentarily stunned that this little scheme had actually worked. Almost worked, that is. Before I could blink, the dog disappeared into his subterranean sanctuary. I heaved on the line again. The noose come sailing toward me . . . full of hot August air and nothing else.

"Awwwwww!" Mike was sitting there grinning and critiquing my technique.

I'm assuming the grapevine works pretty well among prairie dogs. If there's trouble at one end of a 40-acre town, it will be old news at the other end by the time you can say, "Missed him." We sat there broiling for another hour or so until, assured that every dog within a mile had been tipped off, we gave it up. We trudged over to the video crew to offer our excuses. They listened politely but I could tell they had already launched their own plan.

They hired a backhoe operator to come out the next day to dig up a burrow. In less than an hour, they had two pups and an adult in captivity, and were talking excitedly. Despite the language barrier, I figured their conversation reflected my own thoughts: "Necessity is the mother of invention . . . but some inventions serve only to help one appear foolish."

