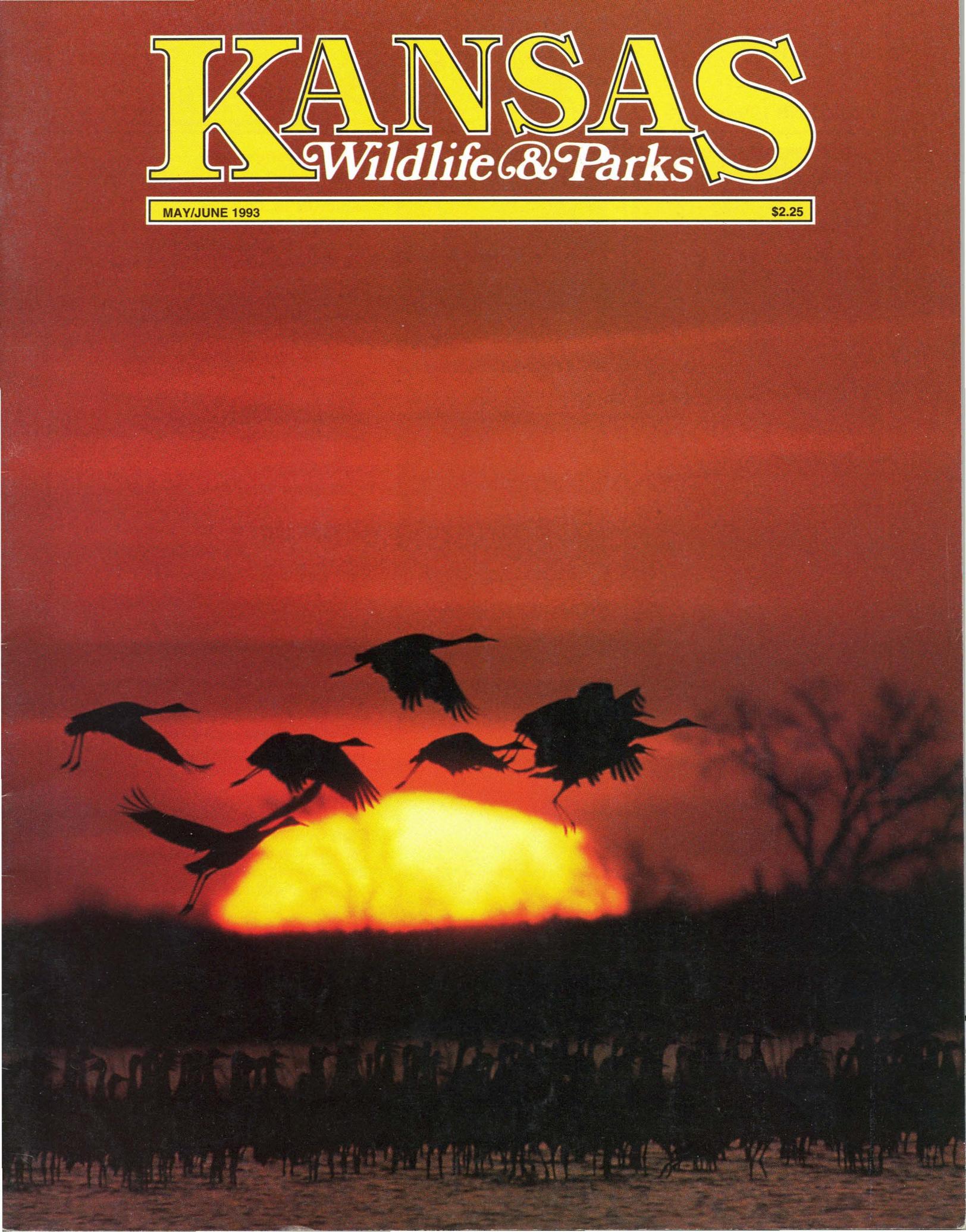


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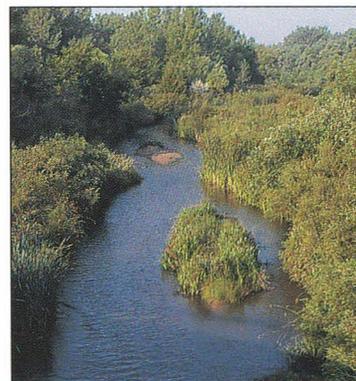
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About the covers

Front: Sandhill cranes take wing at sunrise over Quivira National Wildlife Refuge. Mike Blair photographed the scene with a 600mm lens, f/16 @ 1/250. **Back:** Water cascades down one of Kansas' most beautiful falls at Bourbon State Fishing Lake. Mike Blair composed the falls with a 24mm lens, f/16 @ 1/60.

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After The Big Chill

Since the magazine must be planned, written and put together several months before it finally reaches your hands, it's always difficult to write this column. For example, this May/June issue should be about spring and summer, but as I'm writing this, winter refuses to bow out. I guess I'll have to daydream a little and get into the right frame of mind. I'm *really* tired of winter anyway, so a little summer daydream might be good for me.

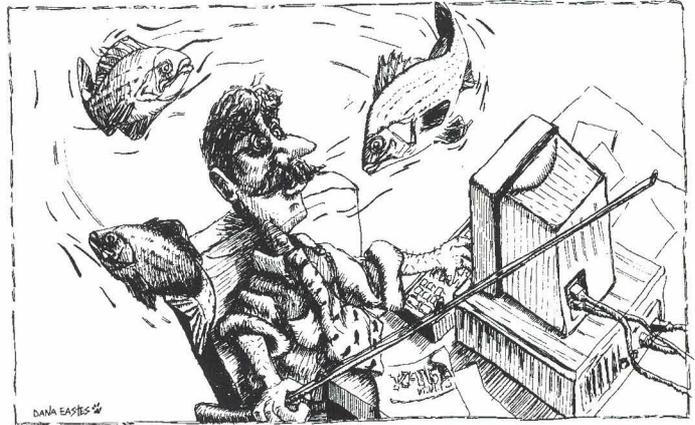
Ah! That's better. Eighty degrees and sunshine feels good after the big chill of 1992-1993. Now I can do all those things I've been dreaming about this winter; like fishing . . . and fishing . . . and maybe . . . fishing. That's not to say there aren't many more things to do this spring and summer than fishing, it's just that I'm a little (maybe a lot) one-track-minded.

Many Kansans spend much of the summer at state parks, and there has never been a better time to visit one. Many improvements have been made, both in facilities and in activities. One of the most obvious changes, and perhaps most enjoyable, is the summer naturalist program. Through the winter, Parks and Public Lands Division employees spend a great deal of time selecting individuals to serve as park naturalists. Many of these people are college students studying natural resource curriculums, and they have a genuine interest and love for the outdoors.

The naturalist program provides each state park and some wildlife areas with full-time interpreters who make presentations, lead hikes and develop other outdoor activities for visitors. And the programs are popular with park goers. More than 100,000 have attended these activities since the program was implemented in 1990, and they learned about local natural history, wildlife, outdoor activities, explored hiking trails and generally made their park stays more enjoyable.

Hiking trails are also among the improvements at many parks. These trails vary from less than a mile to several miles long and provide hikers with a chance to get away from the hustle and bustle of a weekend park. Many have informational signposts along the way, pointing out the unique natural characteristics of the area. Some have bluebird nest boxes along them, and all provide the hikers a chance to see wildlife in natural habitat.

Special events might also attract your interest in state parks, and they include jamborees, bluegrass festivals, mud volleyball tournaments, triathalons, mountain bike races and more. It's really a mistake to overlook



Dana Eastes illustration

Kansas state parks when you're looking for outdoor fun this summer.

Wildlife areas shouldn't be overlooked either. While many of us frequent wildlife areas throughout the hunting seasons, they can be nearly deserted in the spring and summer. But if you enjoy wildlife watching, many of our wildlife areas provide prime opportunities, especially in the spring. Wildlife management efforts at the areas benefit game species, but the native habitat, food plots and other projects attract many more nongame species.

Cheyenne Bottoms and other wetland areas commonly attract thousands of migrating shorebirds and waterfowl. Seeing one of these marshes during the peak of migration is a thrill, not to mention a challenge in identification of the species. Many of the wetlands host a variety of nesting waterfowl through early summer, and while certain areas may be off limits to protect nesting species, they all afford prime viewing opportunities.

For those who want to see the prairie like it may have appeared hundreds of years ago, visit Maxwell Wildlife Refuge. Situated east of McPherson, Maxwell is a native prairie sanctuary where the elk and buffalo still roam. There are also other native wildlife to see as well as an ideal birdwatching site at the nature trail along McPherson State Fishing Lake.

Check it out. I can't list nearly all the parks, trails and wildlife areas across Kansas in this column, but it's safe to say there's one near you. Take some time this spring and summer and discover some of the wild secrets hidden here.

Mike Miller





Sandhills In The Sky

by Kevin Becker
GMRT, Pratt Fish Hatchery
photos by Mike Blair

It was a beautiful March day. The warm sun was much needed after the long, cold winter. As I fished a Barber County farm pond, a distant harmony of trumpet-like cries filled the air. I scanned the bright, blue sky until I finally pinpointed the culprits; a large flock of sandhill cranes was soaring overhead. These slender, graceful birds were a welcome sight, indicating spring was imminent. On their long migratory journeys, sandhills can often be seen in the Kansas sky in spring and fall.

In many instances it seems as though they are attempting to climb a series of invisible spiral staircases. Actually, this spiral ascension is an effort to catch a ride on the "Kansas Thermal Express." Thermals are slender columns of warm, rising air, or updrafts, caused by uneven heating of air near the earth's surface. Soaring birds such as cranes can gain altitude on thermals and glide, saving valuable energy on their long trip.

A vocal member of the family *gruidae*, the sandhill crane is almost always heard prior to being seen. Its loud squalling "garoo" carries great distances. Sandhills are gregarious, and vocalization is an important means of communication, especially when flying in their V-shaped formations. With a wingspan of 6-7 feet and outstretched necks, flying sandhills are easily identified.

Appearing somewhat reptilian, sandhill cranes are tall, long-legged, stately birds standing 40-48 inches and weighing as much as 15 pounds. They have a bald, red forehead with a predominantly gray body. Plumage on the rear has a tufted appearance. Feathers often seem rust flecked from the iron-rich soils of their arctic nesting grounds. Immatures are more brown than the adults. Sandhills have drab, black legs and beaks.

Cranes have long necks resembling those of the large herons. These two species can be distinguished by their differences in flight behavior. Sandhill cranes fly with their necks extended and legs dan-



Sandhill cranes migrate across Kansas each spring and fall, moving between their nesting grounds in northern Canada and wintering areas in Texas, New Mexico and Mexico. Kansas wetlands are important stopover points during the long flight.

gling behind their short tails, whereas herons fly with their necks doubled back in an S-shape. The crane's upstroke wing beat is faster than that of the heron.

Sandhills require large, remote, marshy areas for breeding habitat. The prairie pothole region of the northcentral U.S. was once widely used by cranes for nesting sites. Excessive draining of these wetlands was the major downfall of the crane population at the turn of the century. Even today this critical habitat is in danger of vanishing. Through the implementation of the National Wildlife Refuge system in the late 1930s and laborious management efforts, sandhill crane populations rebounded to their healthy numbers today.

Sandhill crane numbers have increased to an extent that eight states within the Central Flyway offer crane hunting seasons: Colorado, North Dakota, South Dakota, Wyoming, Texas, Oklahoma, Montana and New

Mexico. Cranes are hunted much like geese, with large spreads of decoys on grainfields. Sandhills are extremely wary, difficult to decoy and may reach flight speeds of 35 mph. With eyesight similar to that of an eagle, the big birds can detect anything unnatural or any ill-timed movement. When grilled or smoked, cranes are excellent table fare.

Sometime in February or March, sandhill cranes leave their wintering grounds in Texas, New Mexico and Mexico and migrate north to the tundra regions of Canada, Alaska and Russia where they breed and nest. The Platte River in central Nebraska is a popular stopover site for approximately 80 percent of the worldwide sandhill population. For about four to six weeks, roughly 540,000 sandhill cranes assemble on the Platte to rest and feed. One can only imagine what this concentration might have been like when the vast numbers of cranes bred over most of the interior

U.S. To replenish their fat reserves before resuming their northward journey, cranes eat wheat, corn and other grains as well as more traditional diet items including snails, earthworms, frogs, mice and other small prey. Once nourished, the flocks move north.

When the cranes reach the tundra, the mating season is distinguished with a spectacular courtship dance. The unique ritual is a sophisticated sequence of dances between pairs or amidst a group of mixed pairs. Resembling clumsy ballerinas, the pairs perform a repeated series of synchronized leaps and bows while bellowing loud trilling noises. First, the male bows to the female with wings hanging loosely to its side. The female responds with a bow, then both birds perform a succession of spasmodic hops. The dance can continue until both birds are exhausted.

Sandhill cranes are monogamous, meaning they mate for life once they reach sexual maturity,

usually at four years of age. However, if one of the pair is lost, the survivor will seek another mate.

When mating is completed, a mound of marsh grasses and uprooted plants serves as a nest. Two buff-colored, brown-spotted eggs are laid a couple of days apart. Incubation, which lasts 28-30 days, starts when the first egg is laid, so the hatch is staggered. The male helps with incubation and rearing the young. Young cranes, called colts, are capable of leaving the nest shortly after hatching and can run in only two days. Aggression between nest mates is common, sometimes resulting in the death of the younger, weaker offspring.

There are two species of cranes in North America, the other being the rare whooping crane. Whoopers are large white birds with a red face and cap. The large white wings are distinguished with black primary feathers. Immatures are similar but have a brown head and neck. Like the sandhill, whoopers migrate

through the Great Plains region via the Platte River basin in Nebraska. In Kansas, one might be lucky enough to see whooping cranes at Cheyenne Bottoms Wildlife Area, Quivira National Wildlife Refuge or Kirwin National Wildlife Refuge. Stopovers at these wetlands areas are often brief, usually lasting only overnight.

In 1941 only 20 whoopers were known to exist in the wild. Through extensive conservation efforts, the wild whooping crane population has grown to 161 birds today. Organizations, such as the International Crane Foundation, are also working to maintain whooping and other crane species through captive breeding programs.

There are three flocks of whooping cranes across North America: the Wood Buffalo-Aransas flock, the Grays Lake flock and a small flock of six recently released in Florida. The largest of the three is the Wood Buffalo-Aransas flock, which numbers 148 birds. These birds winter at



Although mating and nesting takes place on the tundra regions of Canada, Alaska and Russia, cranes can be observed in preliminary mating dances as they stop to rest in Kansas. The dance starts as birds bow, then begin jumping in an almost comical routine. Often several pairs will perform within the same circle. Before much of the wetlands disappeared, many cranes nested in the northern U.S.



Weighing up to 15 pounds and spreading 7-foot wingspans, sandhills rely on thermals to allow them to glide through much of their long flights, conserving energy. Adults have a bald, red patch on their forehead and are gray in color. The other North American crane, the rare whooping crane, is white with distinctive black wing primary feathers.

the Aransas National Wildlife Refuge on the Gulf Coast in Texas and nest at the Wood Buffalo Park in Northwest Territories, Canada. The seven birds in the Grays Lake flock winter in New Mexico and return to Grays Lake National Wildlife Refuge in Idaho during the spring.

The Grays Lake flock is unique. Whooping cranes there are raised by sandhill crane foster parents. Whooping crane eggs are taken to Grays Lake and placed in sandhill nests. Sandhill foster parents incubate and rear the young, never knowing the difference. Cross fos-

tering has not yet been successful in producing a breeding pair of whoopers, but cross fostered whoopers do return to Grays lake each spring and pair bonding is evident.

While the two species of cranes are similar, the sandhill has shown to be much more adaptable to the changing environment. The whooper is barely hanging on. While conservation and management efforts and careful monitoring will continue, both species' existence depends on one important factor: habitat. Quality wetland habitat must be maintained, not only in the winter-

ing and summering areas but throughout the migration routes. Successful nesting requires that the birds arrive after the long journey in good physical condition, which depends on stopovers that provide resting space and abundant food supplies.

If this critical habitat is maintained, sandhill cranes will continue to fill a niche in North America's ecosphere as they have for the last 10 million years. And they will continue to be the messengers of approaching spring or fall; welcome sounds and sights to those lucky enough to live within their flyway. 



While many cranes may stop in Kansas, most only stay overnight. The main staging area is on the Platte River in Nebraska, where more than 500,000 sandhills may gather before moving on. The shallow, sand-bottomed river is an ideal feeding and loafing spot.



The Redear Challenge

text and photos by Mike Blair
staff photographer

While not common across Kansas, the redear sunfish does provide some exciting and challenging fishing at several state and community fishing lakes. Although it looks similar to the bluegill, avid redear fishermen will tell you the two fish are not alike when it comes to catching them.

The huge black rat snake slithered across the surface, swimming cobra-like with its head above water. It dashed fearlessly at my float tube, raising doubts (as well as my adrenalin) about its intentions. But the snake passed a few feet away, swam to a dead snag, and climbed to a fork 8 feet above the water. There it watched as I probed the shallows of Mound City Lake with a fly-rod.

Thirty feet in front of me, a room-sized cove in a grass flat held the payoff for hours of searching — a spawning bed of redear sunfish. The big males, handsome in black-and-silver breeding colors, obliged to attack my sinking nymph when it disturbed their nesting duties. But the trick was to find the unseen nests and detect momentary strikes as fish inhaled the intruding fly.

Difficulty was part of the allure. Easier panfishing could be found in bluegill beds, also active at the time. These better-known cousins of redears were far less finicky about what they would hit and required less attention to technique. But success on redears spelled greater thrill, in payment for the extra trouble to catch them.

The conditions of the bed were ideal, though apparently identical to acres of similar habitat that produced no fish. Redears nest in soft mud next to vegetation, in contrast to preferred bluegill spawning habitat of sand or fine gravel. Redears also nest slightly deeper than bluegills, preferring water 1 1/2 to 3 feet deep. The water was 70 degrees at the surface, just warmer than the optimum 68 degrees necessary for a redear spawn.

I couldn't tell what made this place different, but it didn't matter. Redears were here, and they were biting. Lifting my flyline, I cast a nymph to a stump surrounded by grass, and let it sink until the top of the floating line edged beneath the surface. Slowly I worked the fly along the bottom, stripping the line



Fly gear may be the best equipment to catch finicky redears. Plan to fish small flies slowly in deep water.

in an inch at a time.

Suddenly the line tip flickered, and I set the hook on a frantic fighter that taxed my 5-weight rod. Thirty seconds later, I measured the dandy 10-incher and dropped it into the fish basket hooked to my float tube. The basket was growing heavy with colorful males.

Redears first attracted my attention as an uncommon but logical candidate for serious warm-water flyfishing in Kansas. The challenge was evident in written descriptions of the fish, which proclaimed it a "good sport fish, but difficult to catch . . . bites gently, dropping the bait at the first resistance."

I asked around and soon located a pond stocked with redears. Using

bluegill tactics, my first attempt proved everything I'd read. I simply couldn't catch them until I worked the fly deep, and very slowly. They were small but scrappy fighters. I wanted to try again, where the fish were bigger.

Probably all Kansas redears are stocked fish, though it's possible a few natives exist in Cherokee County. They are currently found throughout the state in ponds and small reservoirs, but they do best in warm, clear water with aquatic vegetation. They are

best stocked with, rather than instead of, bluegills, since bluegills produce more forage for bass and other predators. Redears occupy a different niche and are a bonus to anglers.

Redears are native to the southeastern U.S., where they are known as shellcrackers. This local name is derived from the redear's food preference for snails, whose shells are ground up with a special set of teeth in the redear's throat. The fish eats the snail and spits out the shell.

This unusual trait explains why redears need special fishing tactics. They will eat aquatic insect larvae and minnows, but they rarely feed on the surface. The standard bluegill popping bug routine is



While redears prefer deeper water than bluegills, they move shallow during the spawn, usually in mid-May. Coves with submerged brush and vegetation produced most fish for the author at Mound City Lake.

Larry Blair photo



Larry Blair photo

Conventional bluegill popping bugs won't work for redears. Best bets are nymphs and other sub-surface flies. The author caught most fish with a tediously slow retrieve that kept the fly on or near the bottom. Strikes were usually soft and difficult to detect.

ignored by this species, which requires a deep and slow sinking presentation.

In fact, redears occupy the deepest water of all small sunfish, preferring to stay near the bottom away from shoreline. They like shade and hang out around stumps, roots and submerged logs. In summer they may stay in water 25 to 35 feet deep. During the spring and fall, look for them in 3 to 8 feet of water.

Adult redears are named for a distinctive red or orange margin around the "ear" flap. Except for the spawning periods, when the males are streaked with black, the fish are drab olive-silver with a yellow breast. Healthy adult redears average 7-10 inches long in Kansas. The state record redear, caught in 1992, weighed 1 pound, 8 ounces.

Unlike other sunfish, redears produce a modest spawn and are unlikely to overpopulate a lake or pond. They grow faster and may become larger than bluegills in the same body of water, increasing their value to a fishery. Also, due to their

habits, they often receive little fishing pressure. This makes them an ideal sport fish for anglers seeking new challenges.

Checking with fisheries biologists around the state, I learned that Mound City Lake contained a good population of big redears. This impoundment, located 4 miles west of Mound City in Linn County, is characterized by flooded timber and good aquatic vegetation along a substantial creek channel in its upper end. Fishing at the lake requires a special city permit, as well as a state fishing license. The permit is available through the city hall at Mound City.

I first visited the lake in early April, when the water temperature was in the high 50s. The lake has a firm bottom and with chest waders, I fished a northern cove containing ideal stumps and snags.

My weapons were simple: an inexpensive 7 1/2-foot, 5-weight flyrod with weight-forward, floating line on a manual reel; a 9-foot, 3X tapered leader, and most impor-

tantly, a No. 10, hand-tied, yellow McGinty nymph. The yellow McGinty is my standard choice for sunfish in clear water, though in stained conditions, a No. 10 black gnat is a better choice.

I fished the cove for about an hour, wading and casting long distances to avoid spooking fish. Though big bluegills and even a few small bass cooperated, there were no redears. Pondering whether to switch flies, I allowed the McGinty to sink to the bottom of the waist-deep water near my feet, while I sorted for a minute through fly boxes. When I lifted the rod, a pre-spawn redear was waiting on the hook.

I tried again with the same results. Though the action wasn't fast, I began catching my chosen quarry by doodlesocking stumps, allowing the nymph to reach bottom, and lifting it several inches to hold it steady. Eight- to 10-inch redears sometimes took 30 seconds to bite, betraying their presence by the slightest pull on the leader.

Finally there were a dozen fish in the basket, and I'd learned an important lesson about reservoir redears.

Don Gabelhouse, department fisheries research biologist who did his graduate studies on redears, explains what is happening with the choosy feeders:

"Redears are like bluegills on drugs — they're really laid back," he says. "Bluegills attack prey aggressively, but redears are studied. When you feed them in an aquarium, redears often follow a food item all the way to the bottom, slowly orient above it and pick it up. Then they chew on it."

Redears may hold a wet fly longer than a bluegill, but they are spooked about unnatural line pressure. Set the hook at the first hint of a bite, and hang on. If redears are laid back feeders, they're explosive fighters.

Big redears pull like a bluegill but tend to stay on top once brought to the surface. They don't jump but conduct a shallow fight, rather than



One of the best reardear producers was the yellow McGinty nymph size, No. 10.

zig-zagging deep in the trademark fashion of a big bull. Like a small-mouth bass, they don't give up. Even in the strong grasp of a hand, redears shudder with surprising power while trying to free themselves. I lost several large fish when they shimmied free as I readied the fish basket. Holding the fish upside down may help calm it, while unhooking the fly.

Every panfisherman dreams of hitting the spawn, when fish are col-

orful, concentrated and aggressive. I could hardly wait to return to Mound City when the fish moved into shallow water to set up house-keeping. Eyeing the full moon of mid-May, I planned my return. By then the water would warm, and redears would be courting.

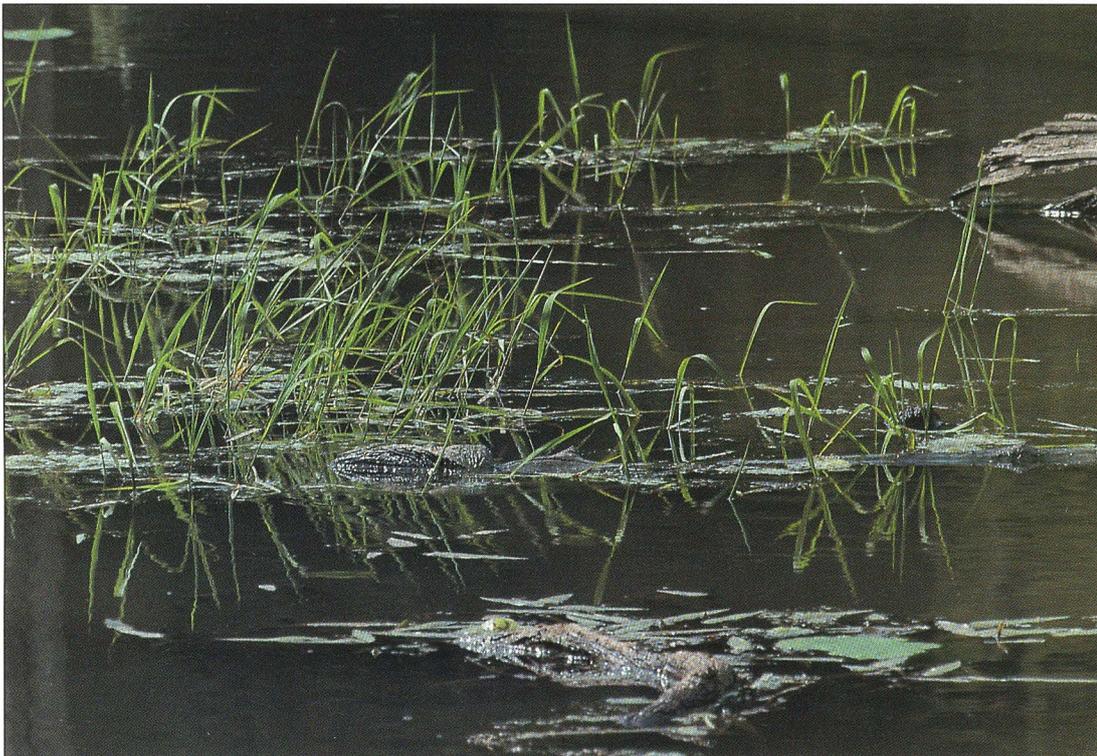
The timing was perfect. When I arrived, water temperature was ideal, so the fish had to be there. It was warm enough for comfortable float-tubing, and I had all I needed to spend a day on the water. Now it was a simple matter of finding the fish.

Except it wasn't so simple. Putting in to the lake's south end at daybreak, I fished until noon without catching a single reardear. The weather was clearing from a passing low-pressure system, and though nice, the fish weren't biting. Three bass and two bluegill made up the morning's catch. The fruitless search of ideal spawning habitat was wearing thin.

As late morning passed, I noticed that minnows were skipping across the water with increasing frequency. Out of boredom, I'd tried hair worms, wooly buggers and popping bugs for bass, but I hadn't tried a minnow imitation.

So I tied on a 2-inch white streamer and continued down the channel. Rounding a clump of submerged trees, I spotted the pocket mentioned in the story's beginning.

Casting the streamer 40 feet to the grassline, I stripped it quickly across the surface and had a sudden hit. A large bluegill was landed and on the following cast, I promptly missed another strike. Five casts later, a big reardear nailed the streamer as it landed close to its shallow nest. Hope quickly returned.



A typical reardear spawning cove with brushy shallows, nearby deep water and plenty of vegetation. Persistence is necessary since many likely areas hold no fish. Keep searching good water until a fish is caught, then stay with them. Concentrate on water 1 1/2 to 3 feet deep.

Carefully finning closer in the tube, I tied up to a snag and fished the classic pocket. Clumps of grass created mini-channels that spidered away in several directions, offering many excellent casting targets for prospective redear beds. It was soon apparent that both bluegills and redears were spawning within casting distance. The streamer was taking bluegills, but redears came more slowly.

Remembering the lesson of several weeks earlier, I tied on a McGinty nymph and concentrated on the edge of the grass. Since the grass was finely textured and the hook was small, the nymph could be cast into square-foot openings inside the grassline and retrieved without fouling. When I let the nymph sink to the bottom, the redears bit aggressively.

I also caught redears in the deeper water along the grass edge. The nymph had to be hopped along the bottom in tiny, one-inch increments, but unlike the sluggish fish I'd caught on the earlier trip, these fish hit aggressively and were more easily detected.

The biggest problem catching redears on a flyrod is line control. To reduce misses, it is necessary to stretch the flyline before each outing by passing 60 feet of line around a tree trunk and pulling both ends firmly to remove any coils and crimps. A straight, limp leader is even more critical, as it telegraphs what is happening to the fly. Keep your rod tip low and pointed straight at the fly, so that no slack line is allowed between hand and hook. That way, the lightest pick-up can be seen and felt.

The day was suddenly bright. The sun appeared, and I fished the pocket for an hour before the action slowed. I caught nearly 50 mixed sunfish, releasing all but the 15 largest redears to fill my limit. The quest paid off with a memorable spring day, a delicious meal, and better yet, further knowledge and enjoyment of fishing in Kansas.

While many smaller community lakes, state fishing lakes and farm ponds have been stocked with redears, the fishing opportunities vary greatly because of their food and habitat requirements. Check with the fisheries biologist at the department office nearest you for best redear opportunities in your area. 



A full day of hard fishing provides not only a tasty mess of hard-fighting panfish, but also the satisfaction of catching a challenging quarry. Redears provide a unique alternative to panfishermen.



Safety On the Water

by Marc A. Murrell

wildlife information representative, Valley Center

photos by Mike Blair

The number of Kansas boaters has grown five-fold in the last 30 years. Increasingly crowded waters demand that boaters know and comply with boating regulations and safety rules to make everyone's time on the water fun and safe.

The tranquility of a summer evening was interrupted by the crescendo of a roaring speed boat as my family and I sat around camp at Milford Lake nearly 20 years ago. The boat screamed around the corner showing no signs of obeying the "No Wake" buoy as it headed towards the boat ramp across the cove. The boat never missed a beat as it hit the two-lane, concrete ramp at what was later estimated to be 60 mph., launching it into the air. Fortunately for the occupants, the boat remained upright as it came to a screeching halt several hundred feet up the ramp. Two men exited the totalled boat staggering and falling, not from injury but extreme intoxication.

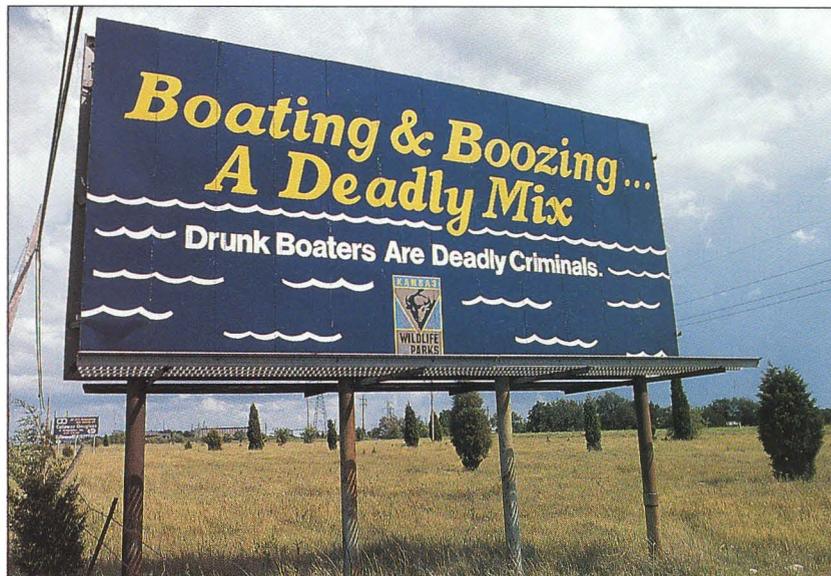
Boating accidents were scarce then, but more common now with the increase in the number of boaters. Boating registrations have increased fivefold since 1960 with over 90,000 boat owners in the state today. Outdoor enthusiasts are taking advantage of more than 150 lakes, 10,000 stream miles, and 55,000 ponds found in the Sunflower State. Races, regattas, skiing, diving, fishing, sailboarding, jet skiing, canoeing and pleasure boating are among the favorite pursuits.

Whether you're a first-time boat owner or a lifelong navigator of Kansas waters, you must meet state and federal requirements for operation and safety.

First, any boat propelled by wind or motor (including trolling motors) must be registered with the Kansas Department of Wildlife and Parks. Registration may be done by mail with an application form obtained from a marine dealer or the department, or in person at regional or

state park offices. If done in person, the boat can be used immediately with a temporary certificate. Otherwise, three to four weeks is required for processing by mail. A three-year registration is \$15.50 for any vessel under 16 feet long and \$18.50 for a vessel 16 feet long or longer. Boat owners who move to Kansas from another state may use their boat in Kansas, provided it was properly registered in the previous state, for a period of 90 days before they must register it with the department. Proof of ownership is required for this.

Registration on boats purchased from individuals requires a bill of sale signed by the seller detailing the transaction. Private individual sales are tax exempt. A boat bought



Since 1985, 35 people have died in Kansas boating accidents, many of which were alcohol related. It is illegal to operate a boat while intoxicated.

from a Kansas dealer must have form STD8 or a bill of sale showing sales tax paid. A boat purchased from an out of state dealer must have a bill of sale showing sales tax paid in that state. If sales tax in that state is not paid, Kansas sales tax must be paid at the county treasurer and a copy of form CT3A obtained.

Certain information is needed to register a boat. The year and make of the boat, motor, and trailer, and the length of the trailer and boat is recorded. Boats manufactured after

November 1972 have a 12 digit hull identification number and this is needed along with current registration numbers on the boat. The horsepower rating, from the capacity plate on driver's side, will also be questioned. Boats manufactured before 1972 may not have this plate.

Registration cards will assign numbers and must be carried on board. If there are numbers currently on a boat, those numbers will be transferred to the new owner provided the seller informs the department of the change in ownership.

Displayed registration consists of KA followed by three numbers and two letters separated by a space or hyphen (KA-123-AB or KA 123 AB). Numbers can be obtained from any hardware store and must be permanently attached to each side of the upper front half of the boat. They must be at least 3 inches in height and of a contrasting color. An expiration color-coded decal must also be displayed.

Registration is valid for a period ending three years from the date of issuance unless the vessel changes ownership. If lost or destroyed, a duplicate registration may be obtained at Department offices for \$5.50.

Certain safety equipment is required on any boat, depending on the length. Manually propelled (rowed or oared) boats, canoes, and kayaks are required to have one properly fitted and serviceable Coast Guard approved type I, II, III or IV personal flotation device (PFD) for each person on board. All required PFDs must be readily accessible in open view. Kids 12 years of age and younger must wear a PFD at all times in any boat. Boats in this category operated between sunset and sunrise, the time when

required on any boat, depending on the length. Manually propelled (rowed or oared) boats, canoes, and kayaks are required to have one properly fitted and serviceable Coast Guard approved type I, II, III or IV personal flotation device (PFD) for each person on board. All required PFDs must be readily accessible in open view. Kids 12 years of age and younger must wear a PFD at all times in any boat. Boats in this category operated between sunset and sunrise, the time when

all boats must have lights, must have a white light visible for two miles in all directions at anchor. When underway, a flashlight or lantern with a white light must be carried ready at hand to display in time to avert a collision.

Motorboats less than 16 feet must have a type I, II, III or IV PFD for each person on board or being towed on water skis, boards, etc. A Coast Guard approved fire extinguisher must be readily accessible if the vessel has one or more of the following: inboard engine, closed compartment where portable fuel tanks or flammable material is stored, double bottom hull construction, or fixed fuel tanks. Boats of this length must display a white light visible for two miles in all directions while anchored at night. Under power, a green light to starboard (right) and red light to port (left) must be visible on the bow (front) in addition to the white light.

Boats from 16-26 feet must have a Coast Guard approved type IV (cushion) throwable device in addition to a PFD for each person on board or being towed. A Coast Guard approved fire extinguisher and a mechanical sound producing device (horn, whistle, air horn, etc), for use in emergencies, are also required. Light requirements are the same as motorboats under 16 feet.

A sailing vessel operating under machinery alone, or under sail and machinery power, is considered a power-driven vessel and must comply with the minimum equipment requirements. Sailing vessels with no source of mechanical propulsion must meet PFD and lighting requirements.

Jet skis or personal watercraft are power boats and must follow the same rules and carry required equipment which includes PFDs and a fire extinguisher.

For boats larger than 26 feet, or others not mentioned, contact the nearest department office for minimum requirements.

Now that all the safety equipment is in order, it's time to hit the water. But even with safety equip-



Even professional boat racers can have accidents. This collision illustrates how, even on open water, caution is necessary while operating a boat at high speeds.

ment, accidents can and do happen. From 1985-1990, 35 people were killed in a total of 270 boating accidents on Kansas waters. Nearly \$250,000 of property damage occurred during that time with an average of almost \$900 per accident. The best way to avoid accidents is to use common sense. The old saying, "An ounce of prevention is worth a pound of cure," is good advice for boating safety. Many accidents can be avoided.

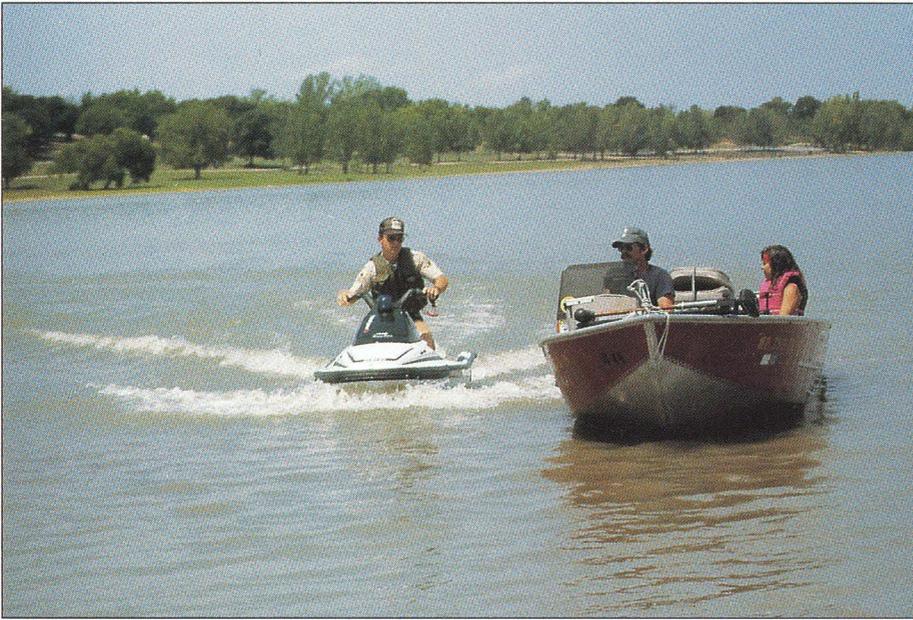
One problem boaters face is adverse weather. A beautiful sunny day can quickly turn into a fierce summer thunderstorm. These storms often bring high winds and waves that can swamp small boats. Lightning is also a deadly threat as boaters are the tallest objects on a

body of water.

Storms can be avoided. Check the weather forecast before leaving and keep an eye on the sky. As storms build, a change in wind, temperature, and the obvious thunder and lightning is usually noticeable. Don't wait until the last minute to leave the lake. Seek shelter immediately as some storms travel very fast.

If caught in a storm, don't panic. Make sure all occupants are wearing PFDs and head for shore or a protected area in a cove or marina. Stay low in the boat and always keep the boat pointed into the wind direction if possible.

If the boat ever capsizes or hits an unseen object and punctures the hull, stay calm. Outboard boats less



Conservation officers enforce boating laws on our public waters. The boating course, offered through correspondence by the department, can help boaters be safe and legal.

than 20 feet long built since 1972 are required to have built-in flotation. Boats made since 1978 have enough flotation to float the boat level even when filled with water and people. Because of this flotation, the boat becomes a self-rescue platform. Stay with the boat and don't try to swim to shore. The shoreline usually appears much closer than it actually is and the boat will be easier to spot than a lone swimmer. Many drownings occur when accident victims attempt to swim to shore.

Another accident waiting to happen occurs when a driver operates a boat under the influence of alcohol or drugs. Kansas law states that it is illegal to operate any motorboat or vessel, or manipulate any water skis, surfboard, or similar device while intoxicated or under the influence of any narcotic drug, barbiturate, or marijuana. Coast Guard studies indicate that nearly 50 percent of all boating accidents may be alcohol related. These account for the highest number of fatalities and loss of property.

Some of the effects on boaters, even after 1 or 2 beers, are:

Balance. Most people who die in boating accidents either fall out of their boat or capsize their boat and end up in the water. Balance is one of the first things lost after drinking.

Coordination. As the amount of alcohol consumed increases, ability to coordinate arm and leg movements is reduced. A drunk overboard will have great difficulty trying to swim to a life saving device, let alone put it on.

Vision. Vision provides about 90 percent of the information used in a traffic situation or driving a boat. Alcohol is a depressant and affects the control of the small muscles that focus both eyes on the same object. The result may be fuzzy or double vision, causing loss of depth perception.

Alcohol also inhibits the pupil's ability to control the amount of light entering the eye, reducing ability to see, particularly at night.

Alcohol reduces peripheral vision, the ability to see objects to the side. As a result, as speed increases, tunnel vision occurs which allows reaction only to objects directly ahead.

Alcohol reduces the ability to distinguish colors, especially red and green, such as the running lights on a boat.

Judgement and Risk Taking. One of the first things lost when drinking is good judgement. People loosen up, lose inhibitions and are more daring.

Many people don't realize how

little alcohol it takes to be legally drunk at a blood alcohol content level of .10. A 160 pound person takes less than 3 beers in a two-hour period to reach .05-.09 blood-alcohol content which greatly increases chances for an accident by impairing abilities. Less than 5 beers is grounds for arrest for boating under the influence. The best way to avoid the problem is refrain from drinking, limit intake or wait until returning to camp.

Being a boat owner and operating it safely is a big responsibility. Owners should be familiar with the way the boat handles, stopping distances, turning radius and most efficient cruise speed. Avoid taking risks that could endanger lives or property. Know and practice the rules of safe boating. Stop to render assistance to others. Never allow passengers to ride on the bow, seat backs, or side of the boat, all of which make a fall overboard more likely. Do not throw any trash in the water. And, most of all, exercise courtesy to others using the same public waters. As demand for recreational use of Kansas' waters increases, it becomes more important for boaters to be safe, knowledgeable, and responsible. Obey the law, use common sense, and make your next trip to the water safer and more enjoyable.

The Kansas Department of Wildlife and Parks offers a boating safety education correspondence course at no charge. It covers all aspects of safe boating and requirements for all vessels. Upon proof of completion, many insurance companies offer discounts on insurance rates. For your copy of "Kansas Boating Basics," write to: Kansas Department of Wildlife and Parks, Boating Safety Education Correspondence Booklet, 3300 SW 29th, Topeka, KS 66614. 

Snake Charmer's Quiz



Answer each of the following true or false questions. See the chart at the end to see where you rank in the realm of snake knowledge.

1. T F Most snakes can outrun an adult.
2. T F More people die from bee stings and being struck by lightning than from poisonous snake bites.
3. T F If you are bitten by a poisonous snake, you should make cross cuts in the bite 1/4 inch deep to let the poison bleed out.
4. T F You can count the number of buttons on a rattlesnake's rattle to determine its age.
5. T F When sleeping outdoors, a horsehair rope around your sleeping bag will keep snakes away.
6. T F Roughly 25 percent of all rattlesnake bites are dry, meaning no venom is injected.
7. T F Snakes may shed their skin as often as every month.
8. T F Milk snakes get their name from attaching themselves to a cow's udder and drinking milk.
9. T F Snakes can put their tail in their mouth and roll down a hill like a hoop.
10. T F If two snakes started swallowing each other by the tail, they would eventually both disappear.
11. T F Kansas has 38 species of snakes, five of these being poisonous.
12. T F The study of amphibians and reptiles (the group that includes snakes) is called herpetology.

Answers

1. False. Snakes can only crawl a few miles an hour, while most adults can run nearly twice as fast.
 2. True. About 8,000 people are bitten by venomous snakes each year in the U.S. with approximately a dozen deaths. By comparison, 120 people die from bee stings annually, and 1,500 people die each year when struck by lightning.
 3. False. This might have been true 100 years ago, but it is no longer recommended. Panic-stricken bite victims do more harm than good to the bite area with a knife. The best advice is to remain calm and get to a hospital.
 4. False. Rattlesnakes add a new button (rattle) each time they shed their skin, which may happen several times a year.
 5. False. Snakes have no problem crawling over obstacles and horsehair ropes are no exception.
 6. True. Rattlesnakes don't always inject venom. However, if bitten by a rattlesnake, always seek medical attention.
 7. True. Snakes may shed their skin as often as every couple weeks during the summer when they go through periods of maximum growth.
 8. False. Milk snakes eat small lizards, other snakes and mice.
 9. False. Snakes primarily move by side to side motion, alternately pushing off the each side of their body against the ground.
 10. False. Don't be silly!
 11. True. Four species of poisonous snakes occur regularly: the copperhead, massasauga, timber rattlesnake and prairie rattlesnake. The cottonmouth has been found rarely.
 12. True. The people who study them are called herpetologists.
- Snake charmer rating: If you answered 10-12 of the questions correctly, congratulations. You might consider a career in herpetology or snake charming. If you correctly answered 7-9 questions right, your knowledge of snakes is above average, but there's more to learn. If your score was 0-6, you wouldn't want to pick a category about snakes on Jeopardy. But just in case, read on.



massasauga rattlesnake

Snakes Alive!

by Marc A. Murrell

wildlife information representative, Valley Center

photos by Mike Blair

Snakes. You either love them or hate them. There's not much in between. But regardless of how you feel about them, snakes are a valuable cog in our ecosystems and, yes, they even have some beneficial attributes.

Few creatures are as universally feared and misunderstood as snakes. Their evil history began in the Bible with a serpent tempting Eve with an apple in the Garden of Eden. It's been an uphill battle for snakes ever since. But this dastardly image is undeserved. Snakes are a fascinating and integral part of the natural world.

There are 119 species of snakes found in the U.S., and 38 of these occur in Kansas. Fourteen are found statewide; nine are found primarily in the west; eight species are found only in the eastern one-third of the state. Only five Kansas species are poisonous.

Snakes are members of the Class *Reptilia*, a group that also includes turtles, alligators, crocodiles and lizards (company which doesn't do much for the snake's reputation). Snakes have unique characteristics, the most obvious being the lack of legs. A clear, immovable scale covers the eye (they can't blink), and they have no external ear openings. Most snakes have an elongated right lung and either no left lung or only a rudimentary one. They are covered by a smooth, shiny layer of scales, giving them a wet or slimy appearance, which really isn't the case. The study of snakes is called herpetology, making those who study them herpetologists.

All snakes are cold-blooded, meaning their body temperature varies with, and is dependent upon, the outside temperature. They are active during warm weather from late March to October in Kansas. Snakes, like other reptiles, like to lie on warm rocks during periods of sunlight to warm their bodies on cool days. To keep from freezing in the winter, snakes seek underground dens, which might include old cellars, foundations or rock piles to keep from freezing. These dens are used each year and some may contain several hundred snakes of various kinds.

Snakes are agile with a backbone made up of 200 to 400 vertebrae, depending on the species.

Some snakes can climb up nearly vertical tree trunks; all are adept swimmers, and most possess lightning-fast reactions.

The food habits of Kansas snakes are as varied and unique as the species themselves. Several small species of snakes feed on ant eggs, termites, centipedes, crickets, spiders, insects, snails, earthworms, slugs and crayfish. Intermediate sized snakes feed on frogs, toads, lizards, small minnows and fish.



Bullsnakes are common across Kansas. While harmless, the bullsnake aggressively bluffs when threatened, hissing and rattling its tail against dry litter.

Larger species eat rats, mice, squirrels, rabbits, bats, gophers, prairie dogs, small birds and bird eggs. Bullsnakes and rat snakes benefit farmers by controlling rodent populations that, if left unchecked, would cost farmers millions of dollars in grain losses. King snakes will feed on other snakes, even poisonous species since they are immune to venom.

Nonpoisonous snakes use their long, forked tongue to smell and locate food. As the tongue flicks out, odors are picked up from the air, then transferred to the Jacobson's organ, a special sensory area on the roof of the mouth.

The venomous snakes of Kansas are called pit vipers. The pit is a special sensory organ located between the eye and nose that

reacts to temperature and enables the snake to detect a warm-blooded animal.

Snakes kill their prey in a variety of ways. Poisonous snakes, of course, strike prey, injecting venom through hypodermic needle-like fangs. The venom kills or immobilizes prey quickly. Other species such as bullsnakes, rat snakes, kingsnakes and milk snakes kill their prey by constriction. The constrictor strikes and holds the prey,

then immediately coils its body around the victim until it suffocates. The hognose and garter snake, among others, swallow prey alive.

Snakes don't chew their food but swallow it whole. A unique adaptation allows snakes to eat prey much larger than would seem possible. A snake's jaws are hinged, allowing them to disengage and engulf an animal up to three times wider than the snake's head. Rows of small, rear-facing teeth hold the meal as it is swallowed, ad-

vancing one side of the jaw then the other.

As snakes grow, they must shed their skins. Young snakes may shed every few weeks during warm months while adults may shed every six to eight weeks. Prior to shedding, a snake's skin becomes lackluster, and the outer covering of the eye, shed with the skin, becomes milky white and opaque. Before the skin is shed, the snake cannot see and becomes extremely irritable. Shedding is accomplished by rubbing against a rough object, peeling the skin back from the nose. The entire skin simply turns inside out, revealing a colorful, shiny new skin.

While a few snakes breed in the fall, most species found in Kansas breed in the spring, shortly after they emerge from their winter dens. Bullsnakes, rat snakes, hognoses, kingsnakes, prairie ringnecks, milk snakes and a few others lay eggs. Females choose areas in leaf litter, wood piles, rotten logs or stumps and lay from 1 to 80 eggs, depending on the species and size of the female. Smaller species generally lay fewer eggs, while larger females lay more. The eggs are elongated with a tough, rubbery shell.

As the young snake develops within the egg, a small egg tooth grows on the tip of the nose. When ready to hatch, usually one to three months after laying depending on the temperature, the young snake uses the tooth to pierce the shell and emerge. The tooth is later shed.



Many snake species hatch from eggs, such as this recently hatched racer. However, some snakes such as rattlesnakes and garter snakes give birth to their young.



The nonvenomous hognosed snake rears its head and spreads its neck like a cobra when threatened. If that fails, it will play dead in convincing fashion, shown above.

Copperheads, rattlesnakes, garter snakes and water snakes bear their young alive, a more advanced form of reproduction. Each young snake is protected inside a thin, sac-like membrane containing a yolk for nourishment. After birth, the young snake pops through the membrane and wriggles free. Young poisonous snakes are venomous at birth.

Snakes have many natural enemies. Birds, turtles, bullfrogs, fish, hawks, owls and lizards take their toll on snake populations. Humans also kill snakes on roads and highways, and many snakes are intentionally killed out of fear and ignorance.

Nearly all snakes' first response to threat is escape. Many people swear a snake chased them but in reality, they were probably between the snake and its escape route. Snakes generally avoid confrontation. If flight is not possible, some snakes have a few other tricks up their sleeves, so to speak.

The hognose snake is a master bluffer, hissing loudly and flattening its neck like a cobra when threatened. If this doesn't work, the hognose will convulse and thrash

around, then open its mouth and roll over in feigned, but convincing, death. For added effect, it can regurgitate anything it has recently eaten.

The bullsnake employs a bluff of its own, imitating a rattlesnake when threatened. When cornered, the bullsnake coils and inflates its body. It will alternately hiss loudly, then swell, all while vibrating its tail against whatever dry litter is present. In dry leaves, it can sound sur-



prisingly like a rattlesnake.

Certain water snakes defend themselves with a vicious bite and by secreting a foul-smelling substance from glands at the base of their tails. Several species of water snakes are common along Kansas lakes, rivers and streams, and they are often mistakenly identified as cottonmouths. Mature water snakes often are dark in color and have a triangular-shaped head, which to some casual observers means a snake is poisonous. Actually, the triangular-shaped head isn't a reliable distinguishing characteristic to identify poisonous snakes as several nonvenomous species, including the water snakes, exhibit it. The poisonous cottonmouth has only been observed in extreme southeast Kansas on rare occasions, usually during periods of flooding.

There are four poisonous snakes that do occur regularly in Kansas. The copperhead is found on rocky hillsides of eastern Kansas deciduous forests. Its coloration blends well with the leaf litter, and it often lies motionless to catch unsuspecting prey or to avoid danger. Copperheads may grow to a length of 36 inches.

The massasauga is the smallest rattlesnake found in Kansas and is common in the eastern two-thirds of the state. It is found in a variety of habitats including open prairie, but it prefers wetlands, and this is prob-



Venomous snakes in Kansas are pit vipers, having a small heat-sensing pit between the eye and nostril. The fangs, shown on a timber rattler above left; inject the venom much like a hypodermic needle. The copperhead, right, shows the elliptical pupils common in all Kansas venomous snakes.

ably where it got its name, which means "great river mouth." Because of its small size, 18-26 inches, the massasauga may not rattle loud enough to be heard; however, never count on any rattlesnake to rattle a warning.

The timber rattlesnake is the largest venomous snake in Kansas, reaching a length of nearly 6 feet. Average size is 36-54 inches. The timber rattler is a shy snake found along heavily vegetated, rocky outcrops on partially forested hillsides in the eastern quarter of Kansas. Their markings allow them to blend in with ground litter remarkably well, and they will often lie motionless to avoid detection.

The prairie rattlesnake is found in the western half of Kansas in rocky breaks of the open prairie. Its average length is 35-45 inches and unlike the timber rattlesnake, the prairie is quite aggressive. Because of this nasty disposition, it's considered by many to be the most dangerous snake in Kansas.



This young bullsnake demonstrates an amazing ability to separate its jaws and swallow prey much larger than would seem possible. Rodents, such as this deer mouse are common diet items.

There are several characteristics that can positively identify a poisonous snake. However, they all require somewhat close inspection, so caution is perhaps the best method of identification. Only poisonous snakes in Kansas have the pit between the eye and nose. The fangs, located in the front of the upper jaw are another indicator. In

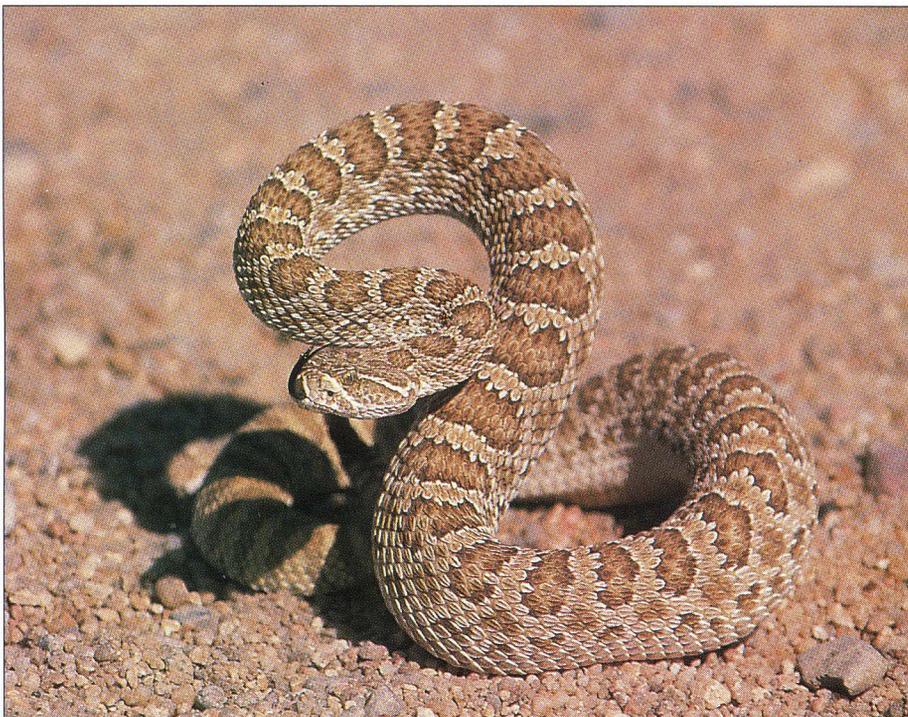
daylight, poisonous snakes have elliptical pupils, like a cat, while all but one nonvenomous snake have round pupils. The Texas night snake is the only nonvenomous snake in Kansas that has elliptical pupils. Even the underside of the tail can aid in identification. Venomous snakes have a single row of scales behind the anal opening, while nonpoisonous snakes have two rows.

Contrary to some fears, few snake bites occur by mere happenstance. Most venomous bites occur when people kill and/or handle a snake. The following suggestions can help you avoid unwanted snake confrontations:

- 1) Stay away from areas which may hold concentrations of venomous snakes such as marshes; rocky, leaf-littered hillsides; rough, broken canyons in shortgrass prairie; and rocky outcrops.
- 2) Wear protective footwear when hiking, such as thick, leather or rubber boots, or high-top hiking shoes.
- 3) Never reach under rocks or logs without looking first. Don't step over rocks or logs. Step on them first, look down, then step over.
- 4) Look the ground over carefully before sitting, especially around large rocks and logs.
- 5) Avoid any snake you cannot identify.

In the unlikely event of a venomous snakebite, don't panic. Few bites are fatal and are generally not serious if medical attention is applied quickly. Remain calm and get to a hospital as quickly as possible.

Snakes may never gain complete acceptance in our culture, but these unfounded fears stem from ignorance and misunderstanding. If we educate children about the fascinating study snakes provide and the important niche they fill, we might begin to see the real value of these creatures. 



prairie rattlesnake

Keeping Cheyenne Bottoms Young



by Karl Grover

area manager, Cheyenne Bottoms Wildlife Area

photos by Mike Blair

Managing a marsh the size of Cheyenne Bottoms has always been a challenge but, in addition to the usual obstacles of water and water control, today's managers are fighting the natural aging process of a wetland. The siltation at Cheyenne Bottoms could quickly deplete the area's habitat if left unchecked.

If you visited Cheyenne Bottoms Wildlife Area recently, you might have had a question or two about what you saw. What are those piles of dirt in Pool 4? The piles are actually a sign of an effort to delay the aging process of the marsh. Work is being done to

reclaim marsh habitat that has been lost to a natural aging process and an expanding cattail problem.

There are many signs that indicate a marsh is aging. As runoff from surrounding areas drains into a basin, it brings with it a load of silt. Over time this silt deposition

leads to shallower water levels. This in turn changes the area's condition to such a degree that different plants begin to replace familiar ones. As the process continues, a variety of plant communities may come and go. This process is called succession and represents the natur-

al aging of a marsh.

Cheyenne Bottoms is not immune from this process. In fact, Cheyenne Bottoms is aging faster than most wetlands. One reason for this stems from the fact that most of the supplemental water available through the wildlife area's inlet system is flood water. The relatively clean, year-round base flows are no longer available. When water is needed now, managers must take flood waters whenever they are available. These waters carry large amounts of sediment and are accelerating the silt deposition in the basin. This, coupled with the overall lack of water available for vegetation management, has resulted in favorable conditions for cattail expansion. This expansion can lead to solid cattail stands of several hundred acres. The declining water availability is being addressed by other portions of the renovation effort (see "Renovating Cheyenne Bottoms," March/April 1992, *Kansas Wildlife & Parks*).

To deal with the cattail problem superficially, mowing and burning efforts are used. These have limited value and yield results that open up areas temporarily. During the summer of 1991, for example, when the pools were dry, extensive areas of Pools 2 and 5 were mowed, burned and disced in an effort to open up the cattail stands. In the fall of 1991, these pools held promise to attract and hold migrating waterfowl. Unfortunately, that fall remained dry and that potential was never realized.

The spring of 1992 brought numerous rains to Kansas. This not only prevented further cattail control efforts, but it also provided optimum growing conditions for the plants. The areas that were disced the previous year now had stands nearly as dense as those present before the control efforts. Mowing and burning will still be done on the area to open up areas for short-term wildlife use. To deal with the problem for the long term requires more expensive measures. One of these is silt removal to increase water depths and set back



The department's amphibious backhoe is used to dig the level ditches, which will hold deep water for storage and create additional wildlife habitat.

succession.

In late summer 1992, a modification to the Army Corps of Engineers 404 permits issued to the department was granted. This modification allowed the use of the amphibious backhoe to dig level ditches in Pool 4 and use the removed soil to build numerous small islands along the ditch. Ideally, the soil and silt would be hauled out of the wetland to minimize the filling in of the marsh, but since Pool 4 had 20 inches of water in it, hauling the material out was impossible. In the future,

when conditions allow, these piles of dirt will be removed or incorporated into larger nesting, hunting and observation islands in accordance with our permit. Level ditches will eventually be dug in the dense cattail stands located in all the pools. As the name implies, these ditches are level, and they are dug in a zig-zag pattern, 3 feet deep and 20-30 feet wide.

The benefits of these ditches are wide reaching. The most obvious, as discussed above, is the removal of silt and deepening portions of the



Good numbers of ducks nest in the area's grassland habitat, and while nesting success is good, brood survival is not. The level ditches may provide a safe route for ducklings as the female leads them from the nest to brood-rearing sites.



During dry years, the volume of water held in level ditches will allow managers to provide at least some habitat for migrating water birds.

pools to create long-lasting openings in the cattail stands. Research has shown that the optimum marsh habitat for most wildlife is an interspersed of half open water and half emergent vegetation. This requires that succession continually be set back, either by human or natural forces.

Another important value of these ditches is that the increased water depths will increase the overwintering survival of muskrats. The deeper the water, the less chance of it freezing clear to the bottom. This then provides the muskrats the opportunity to make it through the winter. Muskrats can aid in cattail control since cattails are a major food source and are used for winter

lodge construction. Muskrat activities can create many openings in cattail stands and improve the marsh habitat for other wildlife.

When incoming water is minimal, these ditches will provide the manager with an option to conserve what water is available. If the available water is turned into the ditch system of a given pool, at least some wetland habitat will be provided. In addition, the surface area of the water is reduced and thus evaporative loss will be much less than if the water was shallower and spread over a greater area. If water is available, even in small quantities, from year to year, the muskrat population will be more stable.

A more subtle value of these

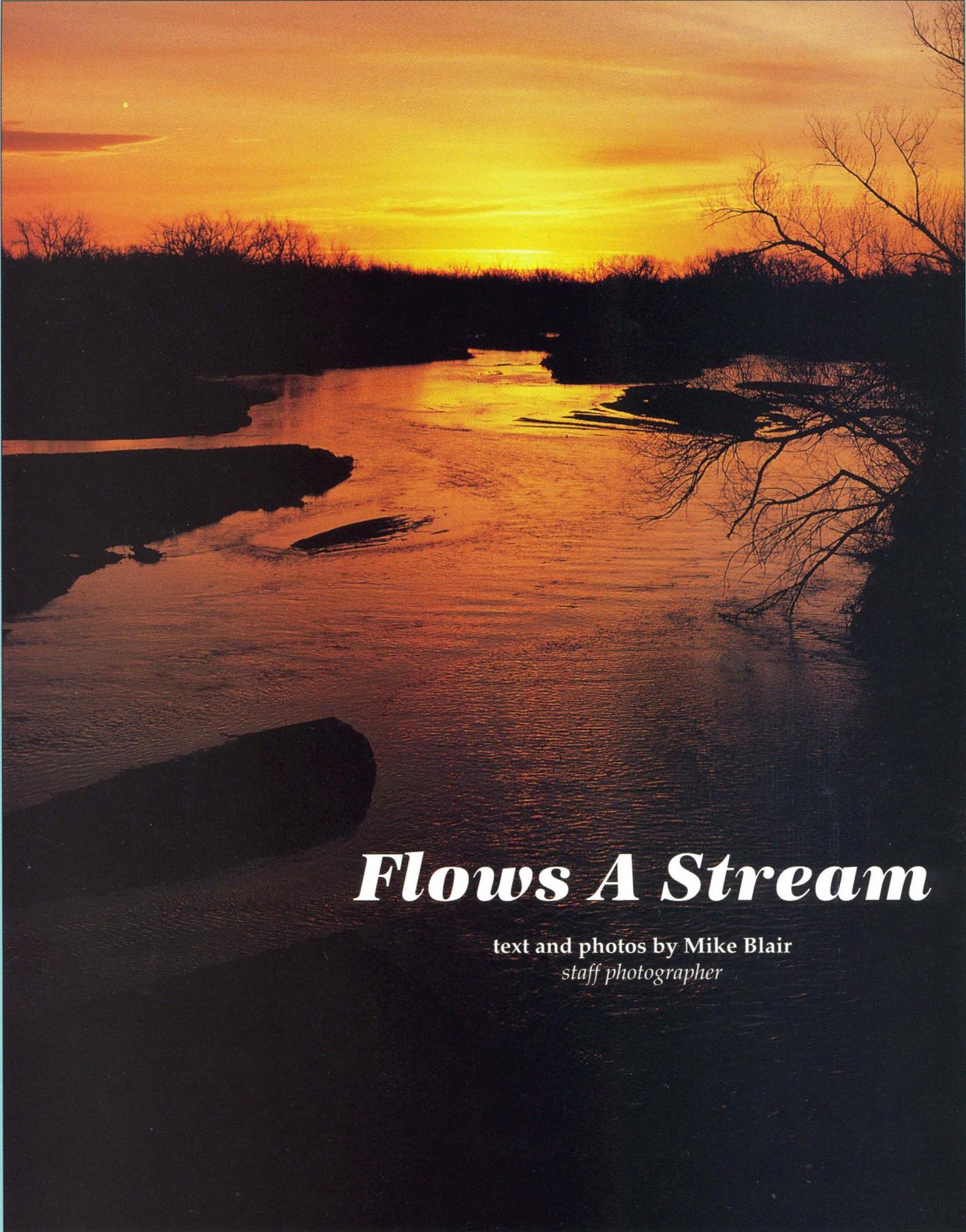
level ditches will benefit nesting waterfowl. The primary duck nesting areas on Cheyenne Bottoms are the grasslands surrounding the pools. Our research has indicated that while nesting success of ducks is high, survival of the young is low. Once the eggs hatch, the hen must lead the ducklings to suitable brood-rearing areas, usually in the interior of the marsh. Currently, the hen and brood must travel through extensive stands of cattails and expose the ducklings to predators. The level ditches will provide safer travel lanes and should contribute to higher brood survival.

Ducks are not the only species that will benefit from these ditches. Boat travel from perimeter parking areas will be easier and more areas will be available to hunters. Summer canoeists can take advantage of the ditches for wildlife viewing or just paddling through the marsh. Some time and use restrictions are in place during the nesting and brood-rearing seasons, so contact the area office before traveling into the marsh.

Keeping a marsh the size of Cheyenne Bottoms young is not easy, and some efforts are expensive. The level ditching portion of our management efforts, however, will provide ample benefits to the area's wildlife as well as the human visitors.



The perfect mix of vegetation and water for ideal waterfowl habitat requires a reliable and generous water supply. Low water levels not only reduce the immediate habitat available, they also allow cattails to spread, reducing the habitat further.



Flows A Stream

text and photos by Mike Blair
staff photographer

Arkansas River



Wolfpen Creek

Where earth sinks low across the sweep of Kansas, streams are found.

Wondrous things, they decorate the land with silver ribbons, watering thirsty soil. They harbor trees in the open plain and host a wealth of wildlife.

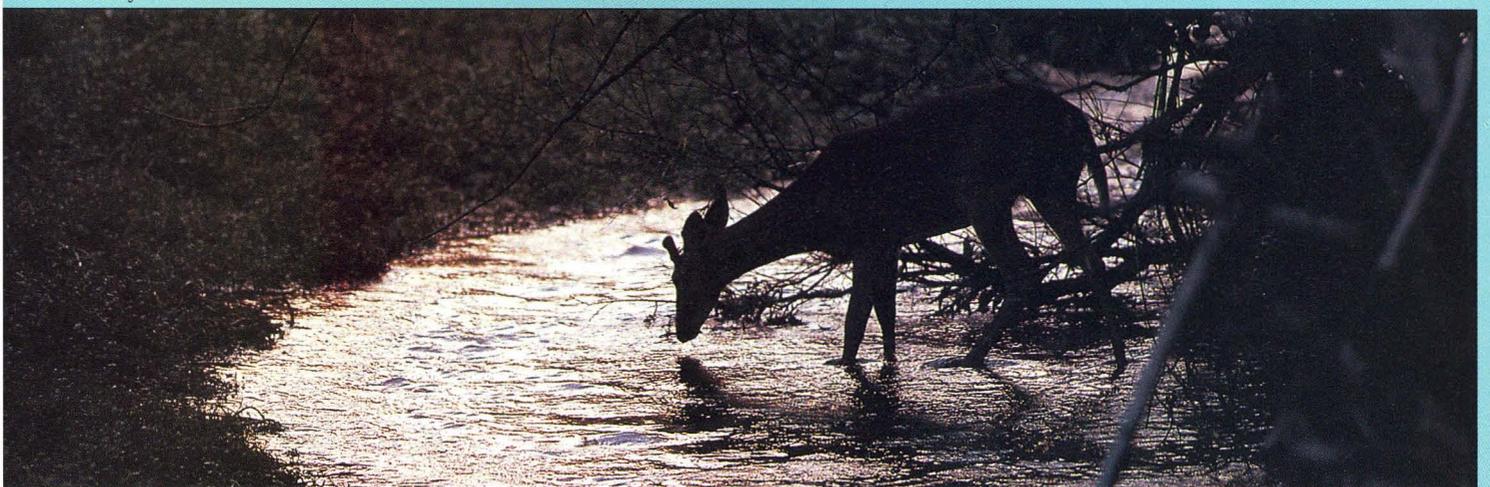


Turkey Creek



Ninnescah River

The earth demands them; life applauds them; Kansas is blessed by them.



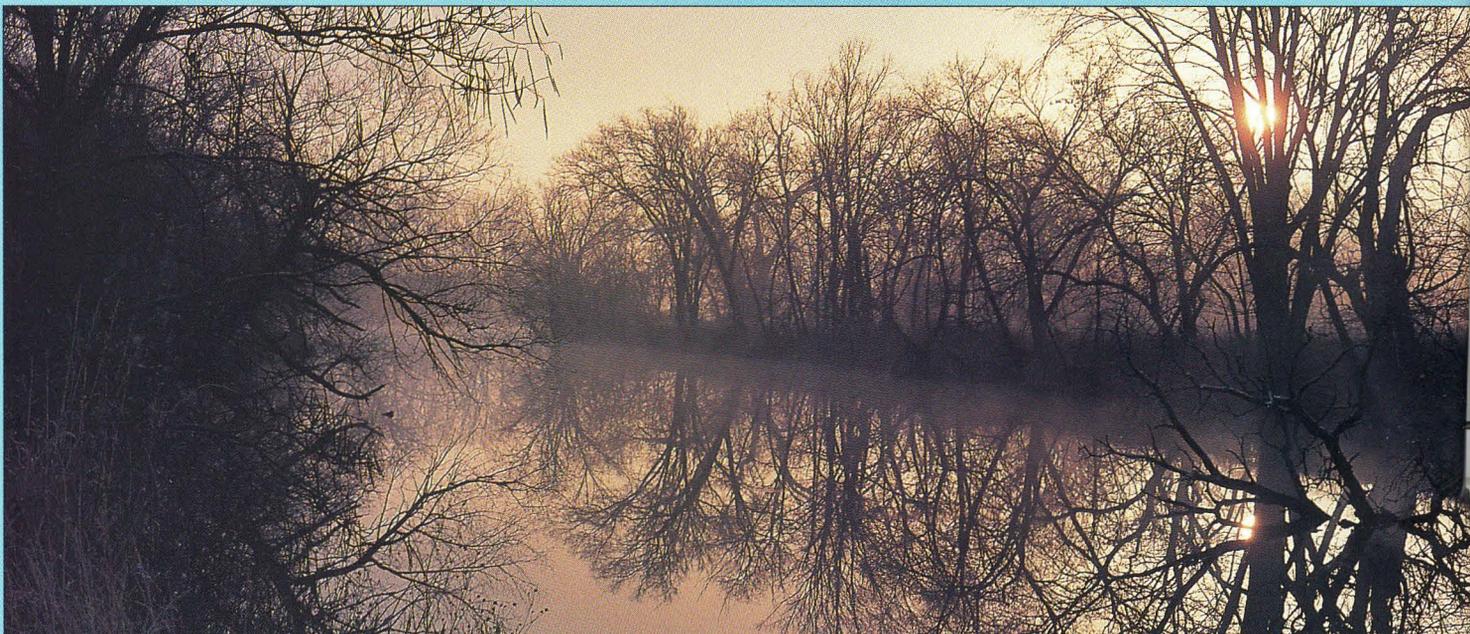


Chase County Spring

Streams.

They form a network across the state, a great vascular system sustaining the land. Seen from high above, perennial drainages are veins and capillaries among sinews of earth. Charged with water, each vessel pulses through a needy landscape. Clot it shut, and the land may die.

Ninnescah River





Arkansas River

No heart drives this system. It is the product of rainfall and gravity, the natural pull of tilted terrain. Runoff flows eastward to lowlands, merging rivulets with ditches, and creeks with rivers, on the way to the Mississippi River and, at last, the Gulf. Working as it goes, the water relentlessly cuts soil, polishes bedrock, rolls gravels, carries silt. But in spite of it all, it is a welcome force – and a force that commands the moods of streams.

Grouse Creek

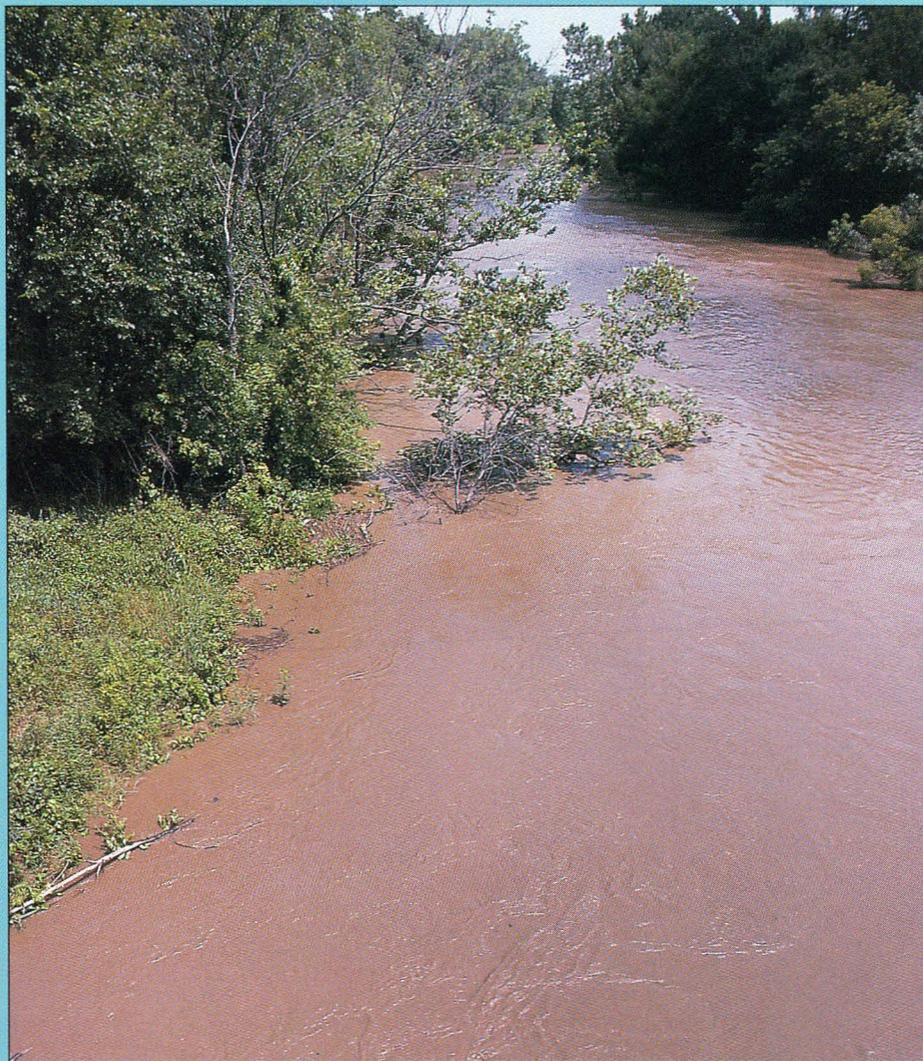


Sometimes tranquil, sometimes raging, streams deserve both admiration and care. In quiet moments they feed the soul, reminding us not to hurry. Showers of birdsong from river trees accent the whispers of a riffle, or accompany a purring waterfall. Seasons later on frozen winter pools, there are wondrous moments of true silence, when even the wind is mute. The smell of mud, heavy air, the prospect of fish on a stringer, floating leaves, mink tracks along an icy flow – all are facets of docile Kansas streams.

Republican River



*But woe to the river dweller
in storm's aftermath!
Water swells, boils, roars.
The stream grows angry
with power, churning
debris in chocolate water,
scouring banks, dislodging
trees. Currents slide fast
and slick, ingesting crops,
upsetting towns. For short
and potent spans, friendly
streams become foes.*



Marais des Cygnes River

Big Blue River





Soon though, all returns to quiet balance. Changed by every flood, a stream somehow remains the same, a timeless force that graces its environs. Clean or muddy, no matter; a watercourse is the heart of life in its broad surroundings.

Streams are precious, visually and physically. Everything equal, lifetimes march past on the changeless security of rivers. But all is not equal. The hand of Man has strangled certain arteries where rain is scarce and human needs are great. Streams can disappear.

Shall we embrace them while we can? Shall we walk the sandy banks, the wooded corridors, absorbing their offerings? We must protect them. We must treasure them. For streams are Kansas' ribbons of life. ♡

Elm Creek

WILD CURRENTS

letters

Edited by Mark Shoup

URBAN ENCROACHMENT

Editor:

Is the Department of Wildlife and Parks concerned about the growing urbanization of eastern Kansas? The Leavenworth County landscape is fast losing an identity with farming as more and more ground is purchased for housing development. This is causing a terrible problem for our wildlife, and our lost identity with family farming.

I would hope the state is concerned to save some percentage of habitat for these animals as well as working to restore trees in our area. Many people are surprised at the beauty of the landscape. They usually picture everything as flat and treeless.

We have a rich history in the eastern part of our state. My grandfather settled here because of the similarity to Germany. I believe that in 15 years there will only be very small islands of trees, and many animals will leave because of a lack of habitat.

Sylvia I. Sass
Easton

Dear Ms. Sass:

I appreciate your concerns about the effects of urbanization on the natural environment. Officially, the department has no policy concerning urbanization, except in cases where the habitat of threatened and endangered species is concerned. However, most of us in the wildlife conservation workforce share your concern and would like to see more efforts to enhance "greenspaces" in urban areas.

Ultimately, this a problem of population growth, pure and simple. The solutions are both complex and controversial, but the problem must be dealt with.

As far as timber habitat restora-

tion is concerned, there are some efforts being made in both urban and rural areas. One such project is the Kansas State University Cooperative Extension Service Conservation Tree Planting Program, which offers low-cost tree and shrub seedlings for use in conservation practices. Another is the Department of Wildlife and Parks' Wildlife Habitat Improvement Program, called WHIP. WHIP offers technical assistance and cost sharing for anyone interested in planting wildlife habitat.

For more information on these programs, contact the K-State Extension Service in Manhattan, (913) 637-7050 or the Kansas Department of Wildlife and Parks, Division of Fisheries and Wildlife, (316) 672-5911. —Shoup

NONRESIDENT DEER

Editor:

This letter is written in response to your article, "The Nonresidents Are Coming." (KANSAS WILDLIFE AND PARKS, Jan./Feb. 93, Page 1). As an avid hunter and a third generation Kansan, I have strong feelings regarding "our" deer season. Residents waited for over half a century to hunt Kansas deer, and nonresidents should be given the same privilege — waiting. When every resident applying receives a permit, then and only then should nonresidents be allowed permits.

Regarding Kansas being the only state that doesn't allow nonresident deer hunting, what's wrong with being unique? As far as the feds making the decision to require nonresident deer hunting, not without due process, which most likely would take years.

It appears the Department of Wildlife and Parks has decided for us (residents and taxpayers). I say, only when the majority agree.

I enjoy your magazine very much.

Keep up the good work.

D.F. McHone
Wichita

Dear Mr. McHone:

I understand and respect your opinion on nonresident deer hunting, but because I've heard your argument that "until every Kansan gets the permit of their choice," so many times, I'd like to offer this:

Under our present management system and current natural habitat conditions in Kansas, every resident will never receive the firearm permit of their choice every year. We've already proven that we can easily reduce, even eliminate, deer in Kansas. We simply don't have the vast areas of thick, impenetrable cover that some states have. In many western units, if we sold everyone the "any-deer" permit they desire, we could wipe out the mule deer and probably the whitetails in just a few years. We would destroy the healthy herd we've worked so hard to develop.

In other words, if we don't allow nonresidents in, it still won't make it easier for all residents to get the permits they want. However, under our proposal, allowing a very limited number of nonresidents to hunt won't change a resident's chances of getting a permit.

Kansas deer hunters won't even notice the small number of nonresidents that the proposal would allow. And in units where permits can be hard to come by (mainly in the western half of the state), nonresidents won't be eligible.

Our deer herd has been managed for years with permit fees, license fees and federal excise taxes on sporting equipment. Millions of dollars for wildlife management in Kansas have come from federal excise taxes paid

by nonresident hunters. I think they deserve at least a chance in a drawing to hunt in Kansas. —Miller

CAPTAIN PLANET PANNED

Editor:

I read your article, "Captain Planet to the Rescue," in the January/February issue of KANSAS WILDLIFE AND PARKS (Page 37). When I came across this show during the holidays, my son wanted to watch. So we started to watch it, and instead of giving it a "hats off" rating like you, I was shocked.

In this particular episode, the Planeteers were battling a villain in Africa who was raising cattle as a food source. Even though he was developing super-sized cattle, the point was that all cattle are hazardous to the environment because they eat all the grass and the land erodes away. As it turns out, the Planeteers defeated the villain and stopped the production of cattle.

The show concluded with a young man eating a gazelle burger and saying that this tastes pretty good.

I felt this episode of the show was in left field and was grossly negligent in its message that all cattle are an environmental hazard. But then again, what would you expect from Ted Turner, who has ranches and only stocks them with buffalo as he feels that cattle harm the land. Are hooves of buffalo different than cattle? Don't both buffalo and cattle eat grass? Is there some logic here that I am missing?

Unfortunately, not all parents watch these shows with their children, and incidentally, these type of "off-the-wall" messages are planted in their minds without knowing what the real truth is. That truth is that most cattle producers are environmentally-minded and stewards of the land.

I would like to alert all parents that CAPTAIN PLANET can have a radical point of view, and if their children are going to watch this show, it should only be with parental supervision. Maybe the Planeteers should come to Kansas and learn first hand from cattlemen about the fact that cattle can improve range condition under proper management.

But then again, that wouldn't add any hype to their show.

Bud Malmberg
Phillipsburg

CAPTAIN PLANET RESPONDS

The episode of Captain Planet that Mr. Malmberg objects to, "Losing Game," was based on cattle ranching projects in Botswana. The negative impact of cattle in southern Africa is well documented in "The Gardeners of Eden" — a film screened during a 1986 Congressional hearing in order to assess the environmental impact of such livestock projects and make recommendations on World Bank lending policy.

"Losing Game" deals uniquely with cattle ranching in Africa, and the reality is that many of the large-scale projects in Africa are detrimental to the fragile savannah grasslands, which are better suited to raising indigenous species. Drought-prone regions are usually not viable locations for raising cattle. Cattle need appreciably more water than animals that have evolved to cope with arid conditions, and providing them with enough water means stressing an already limited resource, which in turn stresses the land and intensifies the desertification process. In addition, cattle in southern Africa are generally susceptible to indigenous diseases and parasites and receive large amounts of antibiotics and frequent pesticide dips.

Mr. Malmberg contends that our episode says "all cattle are hazardous to the environment because they eat all the grass and the land erodes away." No where in this episode do the characters express that all cattle are hazardous to the environment. In fact, one character, Mr. Mbutu, specifically comments that the desertification the Planeteers are seeing "is the result of raising cattle where they were not meant to be." (In this story, southern Africa.)

We agree with Mr. Malmberg that many cattle ranchers are environmentally-minded and see themselves as stewards of the land. Raising cattle and caring for our natural environment are not mutually exclusive. In fact, we are

developing an episode for our '93-'94 season that deals with sustainable cattle ranching. However, it is important to note that even in our country cattle ranching practices can be detrimental. For example, overgrazing can be linked to increased desertification in the Southwest and to runoff problems that damage streams and rivers.

With regard to Mr. Malmberg's statement that cattle grazing can improve range condition under proper management, we do not disagree. However, the key phrase is "under proper management." One of the leading obstacles to sustainable cattle ranching in this country is the continued practice of raising cattle in high-density herds where sufficient rotation of pastures is not provided, leading to overgrazing and trampling of new growth.

Mr. Malmberg also asks, "Is there some logic here that I am missing?" With regard to our episode, perhaps there is. To extrapolate from his statement about grass-eaters, both cattle and savannah grazers eat grass, but there is a vast difference between them. In southern Africa, cattle herds eat grass down to the roots, killing it and damaging fragile soils. Indigenous range animals are more selective. Some eat the tips of grasses, while other eat only the middle portion before moving on. This selective grazing stimulates regrowth and causes less wear and tear on the savannah ecosystem. As this plainly illustrates, the fact that two species have hooves and eat grass does not mean they will have the same impact on an ecosystem.

We want to make clear, however, that we are not advocating the elimination of cattle ranching in the United States, though we do believe that ranching needs to be an environmentally-sustainable industry.

In conclusion, we wholeheartedly agree with Mr. Malmberg that not enough parents watch television with their children, and we encourage them to watch Captain Planet with their kids.

Nick Boxer
Executive Producer, Captain Planet

GRASS ROOTS SUPPORT

Topeka Bowhunter's, Inc., a nonprofit organization, has donated \$300 to the department's Wildtrust fund. The money has been earmarked to purchase a new decoy deer for the division's Region 2 enforcement efforts.

Such support from outdoorsmen and women is much appreciated and goes a long way toward supporting the fact those who use the resources most are most likely to want to protect them. —Shoup

FORENSIC ENFORCEMENT

Late last January, a Johnson County sheriff's deputy stopped a young driver and discovered an untagged deer in the back of his pickup. The rancid carcass had no limbs or head, and the 18-year-old said he had bagged it legally with a bow in late December but let it spoil. He was taking it to friend's to use as dog food. The tag, he said, was at home.

After citing the man for driving violations, the deputy ordered him to retain the deer until conservation officer Bruce Bertwell, Olathe, could check out his story.

When Bertwell contacted the man at his parents' home, he produced the deer's head but no tag. Bertwell cited him for possession of an untagged deer and confiscated carcass and head. That's when the more "difficult" part of this investigation began.

Bertwell took the deer with him and performed a necropsy, discovering a wound hole that looked like it came from a .22 cal. rifle. He then cut open the head and discovered a .22 cal. slug in the animal's brain.

The man later confessed that he had shot the deer with a .22 while hunting squirrels. Apparently, this was woe added on woe. The boy's rifle had been stolen earlier, and he had

received seven citations from various law enforcement agencies that week. —Shoup

KNUTH WINS SHIKAR-SAFARI

Each year, Kansas wildlife law enforcement officers recognize one of their own for outstanding service to the Department of Wildlife and Parks, the agency's constituents and the natural resources of the state. This year, the Shikar-Safari International Award went to Dennis Knuth, an Independence conservation officer.

In the award ceremony last February, division director Omar Stavlo said Knuth has "developed an exceptionally high-level public education program in his district through television and radio programs, newspaper articles, hunter education programs, elementary school presentations, and public displays and exhibits."

Knuth successfully investigated illegal trappers and served as a facilitator between irate landowners and besieged trappers. He convinced the landowners to drop introduction of legislation banning trapping in Kansas.

In the field of deer poaching, Knuth's contributions have been invaluable. He was instrumental in planning and execution of a Chautauqua Hills deer sting that convicted 19 people. He was also the creator of the first decoy deer in Kansas.

"Never in the 14 years that I have known Dennis have I ever seen him project anything but a positive, professional attitude and image for the agency, even in the face of adversity," says Parks and Public Lands Division supervisor Doug Blex.

Aggressive law enforcement and dedication to public education makes Dennis Knuth among the cream of the crop of law enforcement officers. —Shoup

HOME VIDEO POACHERS

It seems like everybody has a video camera. People use them for taping events like childbirth, the family vacation and Christmas at Grandma's. Unfortunately for two Wichita men, home videos can also be used to document poaching.

Last fall, a Kingman County landowner contacted the Kansas Department of Wildlife and Parks concerning two tree stands located on his property. His land was posted "Hunting by Written Permission," and he had not granted access to anyone.

On Oct. 4, the landowner's grandson volunteered his video camera and taped two men in camouflage sneaking onto the property with bows. At 11 a.m., they dragged a deer to the road while the tape was rolling. While one man field dressed the deer, the other took a stick and tried to eliminate the drag marks coming from the landowner's pasture.

Later, when the poachers were confronted about the incident, they both denied any wrongdoing. But when CO Rod Albright informed the men of the video tape, they finally admitted shooting the deer. The poacher who shot the deer forfeited his brand new bow, a quiver full of arrows, two tree stands and the untagged deer. Both men were fined — a total of \$1,737 — and placed on six month's probation. —Murrell



STAFF HONORS

Last February, the Department held an all-agency conference at Rock Springs 4-H Camp, near Junction City. One of the highlights of the event was an evening presentation of awards for outstanding employees.

Education

In the Education and Public Affairs Division, six people were given the Order of the Buffalo award for "exemplary performance and dedication in the Kansas Hunter Education Program." The recipients were Bruce Bertwell, conservation officer, Olathe; Joe Lienemann, conservation officer, Atchison; and B.J. Thurman, conservation officer, Elkhart. Hunter education coordinator Steve Stackhouse also presented the Order of the Buffalo to three Leavenworth men from outside the agency — Wayne Doyle, Ray Palmer and Roger Ruggles.

Quail Research

Six awards were presented by Fisheries and Wildlife Division director Joe Kramer. The Director's Award for wildlife went to Kevin Church, Emporia, for research with bobwhite quail. Church designed and implemented several projects to fill the gaps in quail knowledge, bringing international acclaim to himself and the agency. This research led to the Quail III Symposium, an internationally-attended conference in Kansas City that brought together the latest scientific research in quail biology. Church's involvement with England's Game Conservancy helped establish international cooperation on the subject.

Wetland Protection

The Director's Award for fisheries went to Environmental Services section chief Eric Schenck. Schenck was honored for his "broad and practical wetland planning and restoration efforts." Schenck called on his national wetland expertise to create the Wetland and Riparian Area Program (WRAP) program, an ambitious project to inventory Kansas wetlands and develop comprehensive management plans for them.

The program will also produce an educational book on Kansas wetlands to provide landowners, conservationists and the general public with information on wetland management.

Private Land Habitat

In the Regional Supervisor category, Ron Ruthstrom, Downs, received wildlife honors for development of wildlife habitat on private land. Ruthstrom initiated a switchgrass-in-waterways program in cooperation with the Soil Conservation Service and provided seed to 400 individuals in 1992. In addition, he helped develop Conservation Reserve Program (CRP) plantings, food plots and wetlands in his area. Ruthstrom also initiated a muskrat monitoring survey, and goose and turkey acquisition.

Fisheries Projects

The Regional Supervisor's Award for fisheries went to Chuck Bever, Manhattan. Bever was given the award for numerous accomplishments and project involvements, including service as secretary-treasurer of the Kansas Chapter of the American Fisheries Society (AFS), the Best Paper Award at

employees from the agency's Parks and Public Lands and Law Enforcement divisions, Marteney was able to obtain surplus bass from area ponds to supplement natural recruitment in the lake. This was followed by methodical sampling of the lake's largemouth fishery.

Mussel Research

The Special Project Award for wildlife was given to biologist Ed Miller, Independence, for ground-breaking work in the field of mussel research. Miller's work resulted in the first reliable techniques for estimating mussel populations in Kansas. His findings also provided the necessary information for the Wildlife and Parks Commission to establish progressive new mussel harvest regulations in 1992.

Park Enhancements

Parks and Public Lands Division director Todd Graeff presented two awards at Rock Springs. The first of these was the Outstanding Service Award, given to a non-management employee who has "performed above and beyond the call of duty." Mike O'Hare, a general repair and maintenance technician at Toronto and Fall River state parks, was this year's recipient. The following is a portion of O'Hare's recommendation from his supervisor, Doyle Niemeyer:

"Mike takes great satisfaction in providing new, high-quality facilities for the visitor. He has extraordinary skills and talents that enable him to compliment and enhance our public lands. The pedestrian bridge over the wide draw at the head of Toronto Point Trail and his work on the soon to be completed handicapped-accessible fishing pier and access trail are just two examples of Mike's outstanding work."

Cheyenne Bottoms Progress

Graeff also presented a Leadership Award, for an outstanding supervisor in Parks and Public Lands, to Cheyenne Bottoms Wildlife Area manager Karl Grover. The following tribute is from Grover's supervisor, Mark Sexson:

"Karl's credits include the completion of the first management plan, the

ENVIRONMENTALITY

If we are not careful, we shall leave our children a legacy of billion-dollar roads leading nowhere except to other congested places like those we left behind. —General Omar Bradley

the 1992 Kansas-Oklahoma joint AFS meeting, statewide channel catfish projects, channel catfish stocking committee membership, a paddlefish study at Tuttle Creek Reservoir, fisheries development at Jeffery Energy Center, Centralia Lake planning and development, Shawnee State Fishing Lake Rearing Pond work, and enhancement of Rocky Ford Fishing Area.

Largemouth Bass Stocking

The Special Projects Award for fisheries went to Ron Marteney, El Dorado, for his innovative approach to largemouth bass management at El Dorado Reservoir. Recruiting bass clubs, private landowners, temporary labor, and

formulation of the Cheyenne Bottoms Master Plan, work on the complex Intensive Groundwater Use Control Areas (IGUCA) process, coordination of the interpretive sign systems, coordination of local arrangements for hundreds of tours and programs (including several dedications), completion of an Environmental Impact Statement (EIS), writing several articles for everything from internal communications to national magazines, uncountable public appearances on behalf of Cheyenne Bottoms, writing a significant portion of the successful \$2.5-million and \$1.8-million grants, and work with private organizations.”

Ironically, with each award presentation came the same lament — the quality of field staff in the Department of Wildlife and Parks is so high that choices for individual recognition were difficult. This, perhaps, is the proudest aspect of working for the agency. (See “Law,” Page 35, for the Law Enforcement Division award.) —*Shoup*

FRAMPTON FOR HAYDEN

George Frampton, president of the Wilderness Society, has been selected as assistant secretary for fish, wildlife and parks, replacing former Kansas Governor Mike Hayden. Frampton will oversee both the National Park Service and the U.S. Fish and Wildlife Service.

As president of The Wilderness Society, Frampton has been a high-profile opponent of commodity uses on public lands and a supporter of land acquisition from the Land and Water Conservation Fund. —*Federal Parks and Recreation*

CORPS GREENING

The U.S. Army Corps of Engineers is buying 1,500 acres of land along the Missouri River in northeast Kansas as part of a four-state project to restore wildlife habitat it destroyed on navigation projects dating back to 1912.

Project manager Dave Day, a civil engineer with the Corps in Kansas City, Mo., said that land four miles northeast of Atchison is being purchased as part

SAVE A RIVER

Rivers throughout the U. S. are in danger from causes that range from dewatering to pollution. In Kansas, many western rivers have been particularly hard hit by dewatering.

The threats, issues, interest groups and regulations affecting rivers are numerous and complex. Consequently, the river conservation movement needs informed, energized local river advocates supported by experienced river specialists.

That’s why River Network created the “Directory of River Information Specialists” (DORIS). DORIS is a free service that can be used to gain access to volunteer specialists with expertise on the issues of river protection.

DORIS is a computer data base with access to more than 500 river specialists within conservation organizations, professional societies, state and federal agencies, and a national network of river guardians. DORIS specialists have expertise in everything from hydropower to streamside development and pollution. They also have a desire to share their expertise with local river advocates.

To learn more about DORIS, contact River Network, P.O. Box 8787, Portland, OR 97207, (800) 423-6747. —*River Crossings*



Eastes

of the \$67-million habitat project over the next six years.

The federally-funded wildlife project is designed to restore lost habitat in Kansas, Missouri, Nebraska and Iowa that was destroyed when the corps built its Bank Stabilization and Navigation Project on the Missouri River in an effort to make the river more navigable. Stretching from Sioux City to St. Louis, this “stabilization” resulted in the loss of nearly one-half million acres of fish and wildlife habitat.

The Corps is now trying to mitigate that loss on 48,000 acres. The site near Atchison will be the first land acquired. Day said the Corps plans to restore wetlands, native grasses and woodlands on the property, benefitting native fish, waterfowl and other wildlife.

Across the four states, about 30,000 acres will be bought from private landowners. About 18,000 acres will come from land already owned by the government. A Corps policy for the project is to acquire land from willing

sellers only, Day said.

Congress is appropriating the money annually. Slightly more than \$7 million has been appropriated for this year, mostly for land acquisition. Day said the Corps will be designing the site near Atchison this year.

There will be approximately 25 mitigation sites in the four-state region. Completion of the project has been scheduled for September 1999. —*Murray McGee, Topeka Capital-Journal*

CORRAL YOUR DOG

In Wyoming, game wardens and peace officers are authorized by law to shoot domestic dogs chasing big game animals. In many eastern states, it is estimated that domestic dogs kill more deer than hunters do.

Free-roaming domestic dogs often run in packs, and not only do they cause a great deal of damage, they are dangerous. Do wildlife and pets a favor. Keep your dogs confined. —*Shoup*

BEND FOR KIDS

The Kansas Department of Wildlife and Parks conducts urban fishing clinics at various times of the year, and although the program is small, it is growing. Recently, these clinics have received a boost from the business world through equipment donations from South Bend Fishing Tackle.

In 1992, South Bend donated hundreds of the company's rod/reel combinations to support 15 urban fishing programs in the U.S. In many cases, these donations helped keep under-funded programs viable, allowing inner-city youngsters to experience the thrill of a bouncing rod tip. Promoters of such programs believe they are refreshing alternatives to mean-street activities that can ruin young people's lives.

This year, South Bend will continue the program by donating 2,000 rod/reel combinations. Much of this equipment will be used in conjunction with National Fishing Week events (June 7-13) and during Free Fishing and Park Entrance days held in most states, including Kansas on June 5-6.

Last year in the department's Kansas City district, 26 fishing clinics were conducted, instructing about 1,600 students. Each youngster was taught the basics of safety, rules and regulations, ethics, fish identification and ecology, and angling fundamentals. These budding anglers were then given a bag of essential angling equipment and the opportunity to catch some fish.

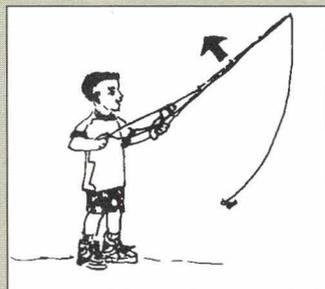
In the Kansas City and

Wichita districts this year, the department will conduct a nine-month basic angling program with weekly clinics for 3,000-5,000 youngsters in a nine-city area. For more information on fishing clinics for kids, contact Marc Murrell at the Region 4 Office, (316) 755-2711. —*Shoup*

FLIP, PITCH, OR CAST?

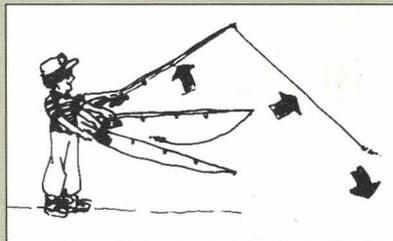
When it comes to throwing a fishing line, there are three basic techniques — flipping, pitching and casting. Experienced anglers use each, depending on the fishing situation, and fishing clinics often teach these techniques to youngsters. In fact, sporting goods companies and sport fishing organizations often promote fishing with casting contests for kids.

Of the three techniques, flipping may be the easiest, but shortest method. To flip, the angler must first let out enough line from the reel to reach the desired target. Hold excess line in the opposite hand from the rod — between the reel and the first eye of the rod — and raise the tip of the rod to swing the bait toward your body. When the bait has almost reached the body, lower the rod, swinging the bait toward the tar-



get, and release the line in your hand. As the bait moves toward the target, raise the rod tip, and the weight of the bait will pull the line toward the target. Lowering the rod will keep the bait on course.

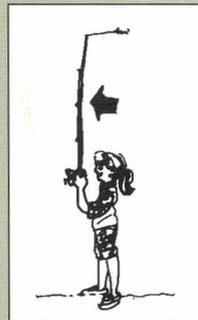
When pitching, the angler releases an amount of line equal to the rod length and holds the bait in the hand opposite the rod. Lower the rod tip and then raise it up, releasing the bait and disengaging the line. The weight



of the bait will pull it toward the target.

Casting is different from flipping and pitching in that the line is not held with a free hand. With 12-16 inches of line out, hold the rod tip straight up and down at the 12 o'clock position, with the casting elbow bent. Snap the rod forward while straightening the arm. This movement will pull the bait toward the target. Release the line from the reel once the rod is at the one or two o'clock position.

Of course, each of these techniques will be modified to fit the angler's equipment, and techniques will evolve with experience. Get a plastic



casting plug from your local sporting goods dealer and practice casting to various targets in your backyard. Invite friends over for competition. Better yet, get out to your favorite river or lake and practice on the real thing. —*Shoup*

FEE PHASE-OUT

The U. S. Coast Guard has announced new recreational vessel fees that will affect pleasure boaters across the country for the next two years. The new fees reflect legislation signed by former President Bush phasing out the federal recreational vessel fee (RVF).

Under the new legislation, the number of vessels affected will be reduced in fiscal years 1993 and 1994. The fee will be eliminated in FY 1995. The new law is currently in effect and requires the following fees:

Oct. 1, 1992-Oct. 1 1993

- *Vessels 21 feet or less — no fee;
- *Vessels more than 21 feet but less than 27 feet — \$35;
- *Vessels 27 feet but less than 40 feet — \$50;
- *Vessels 40 feet and longer — \$100.

Oct. 1, 1993-Oct. 1, 1994

- *Vessels at least 37 feet but less than 40 feet — \$50;
- *Vessels at least 40 feet and longer — \$100.

On and after Oct. 1, 1994, a recreational vessel fee will no longer be required by the federal government. For more information, call 1-800-368-5647. —*Shoup*

GRAPHITE CAUTION

In May 1992, Shawn Reglin, son of Lovewell

Reservoir marina operator Jim Reglin, was involved in a freak accident that almost became life-threatening.

A graphite fishing rod was inadvertently broken, and a small sliver entered the boy's leg. Later, he became ill, disoriented and developed flu-like symptoms. He entered the hospital for extensive tests, and his condition worsened as doctors frantically searched for clues.

Finally, Shawn developed a staph infection in a small area over the tiny graphite entry wound, revealing the source of the problem. A condition similar to lead poisoning had developed, and without treatment, it could have led to a deterioration of Shawn's immune system.

Take care when handling broken graphite rods. They can be very dangerous. —*Merle Hesket, conservation officer, Mankato*

ANGLING INCREASE

Angling is alive and well in the Sunflower State and the nation, as well. Information from the U.S. Fish and Wildlife Service shows that nationwide fishing license sales inched up slightly in 1991, while revenues generated from these sales increased by 3.3 percent.

According to the Sport Fishing Institute, one in four Americans fish. This figure has remained fairly constant since at least 1980, even though license fees have increased by 91 percent.

In Kansas, the number of fishing license holders rose 15,521 from 1990 to 1991, an increase of 5.3 percent, for a total of 307,274 license holders. —*Shoup*

HOOKS AND WORMS

Matching the proper hook size to the proper worm size is very important.

A smaller hook, sharply honed, will penetrate a bass' jaw much better than a large hook. Smaller hooks also allow more natural action from the tail of the lure. For 5- and 6-inch worms, a 1 or 1/0 hook is best. For 7- to 9-inch worms, a 2/0 or 3/0 hook works well. For the large plastic worms or snakes, a 4/0 hook is suggested. —*Larry Colombo*



NOT A SPORT by Mark Shoup

Hunters spend a lot of time these days defending what they do. Much of this discussion involves trying to explain to those who don't hunt what the hunting experience is like and what attracts hunters to the hunt. Catchwords like "heritage" and "tradition" abound, but for many non-hunters, such words may seem meaningless. After all, they reason, tradition itself does not make an activity worthwhile. History is full of traditions that served little function other than to maintain one group's power over another.

Yet hunting is rich with profound, often subtle experiences. Yes, camaraderie, communing with nature, and getting exercise are among them, but it has often been noted that many activities yield these pleasures. Hunting goes beyond the word "pleasure." Even "satisfying" lends itself to misunderstanding, although it certainly applies.

All too often hunters defend their activity by saying that they hunt to hunt, not to kill. While this is fundamentally true, it is also misleading. Beyond the aesthetic pleasures of hunting, all hunters hunt to kill. We should not apologize for this. We have evolved to it as surely as we have stereoscopic vision, an opposable thumb, and a large brain.

Every study of prehistoric and aboriginal people reveals beings who hunt. In some cases, the natural environment has made this necessary, but it occurs universally even in places where wild fruit and vegetables are abundant year-round.

To hunt and kill requires a tremendous adrenaline surge, a "high" that anti-hunters often deride. Even many former hunters have been confused by the apparent contradiction between this feeling of exhilaration and the taking of an animal's life. Such derision and confusion could only develop in a "civilized" world where nature has become a remote abstraction. Imagine for a moment how a mountain lion feels as it stalks a deer, is spotted, and charges to the kill. The same rush of adrenaline can be seen in the body language of a house cat prowling for mice. In cold, scientific terms, it's an evolutionary response that ensures survival. To the cat, it's the defining element of its being. No one would consider suppressing this instinct in animals, so why do they think it can, or should, be erased from the human psyche?

Still, hunters should learn to call a spade a spade and not apologize. Killing is a part of hunting.

As I mentioned, modern hunters have difficulty finding the words to describe their activity. I'm sure I'm in the minority, but I believe we must stop using the term "sport" to refer to hunting. Admittedly, sports often evolved from activities designed to sharpen the skills of hunting. But the activities — track and field and a variety of other modern sports — do not involve killing, just competition of individuals and teams against their peers. Thus, when we call hunting a sport, we invite criticism such as that of Buffalo Bills head coach Marv Levy, who said in a 1989 interview with *Animals' Agenda* that he didn't "see the sport in taking the life of any living thing."

This is not just a matter of semantics. It involves not only how other people view what hunters do, but how hunters view themselves. Language and thought are inseparable. To develop the proper respect toward the animals we hunt, toward our fellow hunters, and toward ourselves as hunters, we must find language that properly reflects our activity. Hunting is not sport. It is not an exercise or an imitation or a preparation for anything. It is not a game. It is the real thing.

If football were banned tomorrow, the world would lose a sport, and many armchair quarterbacks would lose a rich source of vicarious pleasure. But the world would go on. Some individuals would suffer briefly and then find a substitute. If all hunting were banned tomorrow, we'd lose more than any sport. Granted, only some individuals would suffer, but humankind would lose something deeply imbedded in the soul. Something for which there is no substitute.

BIG GAME DATES

DEER (Archery)

Purchase Permits: **July 1- Dec. 31** (sold over the counter)

Season: **Oct. 1-Nov. 30 and Dec. 13-31**

\$15.50

Landowner/Tenant
\$30.50 - General

Resident

DEER (Unit Archery, antlerless only)



same as above), Units 6, 10, 11, 12, 13, 14, 15

DEER (Firearms)

Application period: **July 1-16**

Season: **Dec. 1-12**

\$15.50 - Landowner/Tenant (unit permit)

\$30.50 - General Resident

\$50.50 - Nonresident Landowner (hunt on own land)

DEER (Muzzleloader)

Application period: **July 1-16**

Season: **Sept. 18-26 & Dec. 1-12**

\$15.50 - Landowner/Tenant (unit permit)

\$30.50 - General Resident

ANTELOPE

Application period: **June 1-11 (firearms); June 1-Sept. 17 (archery)**

Season (Archery): **Sept. 18-Sept. 26 (Firearms): Oct. 1-4**

Fees: \$20.50 - Landowner/Tenant

\$40.50 - General Resident

TURKEY-fall (Archery)

Purchase Permits: **July 1 - Dec. 31** (permits sold over the counter)

Season: **Oct. 1-Nov. 30 & Dec. 13-31**

Fees: \$10.50 - Landowner/Tenant (permits sold over the counter)

\$20.50 - General Resident

\$30.50 - Nonresident (unlimited units only)

TURKEY-fall (Firearms)

Applications accepted **until 5 p.m., Aug. 20**

Season: **Oct. 13-Oct. 24**

Fees: \$10.50 - Landowner/Tenant or hunt own land

\$20.50 - General Resident

ELK

Application period: **Aug. 1-13 (Cimarron Unit)**

Season: **Sept. 25-Oct. 3 (Cimarron Unit)**

Ft. Riley Unit (firearms)*: **Oct. 30-Dec. 31** (may close for military activities)

Ft. Riley (muzzleloader & archery)*: **Sept. 11-Oct. 11** (9 days to be decided)

Fees: \$38.00 - Landowner/Tenant

\$75.50 - General Resident

*Must have Ft. Riley access permit. Apply from July 1 to July 31, Ft. Riley.

ACCIDENTS DECLINE

There were 19 hunting-related accidents reported in Kansas in 1992. [This, with approximately 200,000 licensed hunters logging countless days in the field.] This is the lowest number of accidents reported in one year since the department began keeping records in 1962. There were no fatalities. Only three times since record-keeping began were there no fatalities.

—shotguns were involved in 68 percent of all accidents;

—four accidents were self-inflicted;

—38 percent of accidents occurred opening weekend of pheasant season;

—11 accidents involved hunter education graduates as shooters;

—in accidents where visibility was a factor, twice as many victims were not wearing hunter orange as were wearing it;

—"victim out of shooter's sight" and "victim covered by shooter swinging on game" accounted for 11 accidents (58 percent);

—most accidents were at ranges less than 50 yards. —

Steve Stackhouse, hunter education coordinator

TURKEYS TO CALIFORNIA

Unlike its domestic cousin, the wild turkey is smart, strong and tough. Ben Franklin thought it should be the national symbol. Once numbering in the millions throughout the United States, by the early 1900s, the wild turkey had been completely removed from or was rare in most of its range. Habitat destruction and market hunting had taken its toll.

In the 1930s, market hunting was ended, and game protection and enhancement efforts put turkeys on the road to recovery. In the 1960s, turkeys were reintroduced in Kansas, and today, through trapping, transplanting and careful management, turkeys are plentiful in most of the state.

The National Wild Turkey Federation's Project 2000 aims to have all nationwide trapping and transplanting done by the year 2000, thus restoring wild turkeys to all of their original range. To accomplish this goal Wild Turkey Federation chapters in states with few turkeys provide funds for trapped wild turkeys from states where turkeys are abundant. These funds are used in the donating state for ongoing turkey management and research.

Last winter, the Kansas Department of Wildlife and Parks participated in Project 2000 through a cooperative arrangement with the State of California. Under the agreement, Kansas trapped about 160 turkeys for California in return for future research or management funding in Kansas.

"Our trap and transfer projects usually involve trade with other states," says Wildlife and Parks big game coordinator Keith Sexson. "We've traded turkeys for antelope with Colorado, for example. But Project 2000 works well when one state has nothing to trade with. ." —Shoup

LONG FLYER

Birds migrate every year, but some birds travel much farther than others. From the following list, pick the one species that flies farthest during spring migration.

- Canada goose
- teal
- mallard
- Arctic tern
- peregrine falcon

The Arctic tern flies at least 22,000 miles each year during its extended migration, so the answer is "d." These amazing birds leave their nests in Greenland and the northern part of North America, cross the Atlantic Ocean to Europe and wind up in the Antarctic several months later. —*Joe Lienemann, conservation officer, Atchison*

WINGS OF SPRING

It's early May, and migrating birds have been coming and going for nearly two months. Thousands of sandhill cranes have filled the air with their rattling *kar-r-r-oo*. Bald eagles have engaged in ritual nesting. Bluebirds patrol rural highways, and cedar waxwings and robins forage in urban front yards. Resident cardinals sing in the crisp but warming dawn, and redwing blackbirds chatter in the day's waning hours.

Spring. Migration. Concurrent events eagerly anticipated by prisoners of winter's grip.

Bald eagles are one of the favorite objects of this anticipation. Of course, most eagles are gone from Kansas now, headed for the plains and forests of Canada as ice breaks northward. Nesting

pairs, however, stay into late summer, fishing streams and reservoirs to feed their young.

According to U.S. Fish and Wildlife Service biologist Dan Mulhern, bald eagles at Clinton Reservoir, near Lawrence, have hatched at least one egg, and signs of possible nesting have been displayed at El Dorado, John Redmond, Perry and Tuttle Creek reservoirs. To protect the birds from over-zealous birdwatchers, the U.S. Corps of Engineers often cordons off a nesting area with buoys, but the birds can still be viewed from a distance.

"The Corps has already roped and buoyed the area around the nesting eagles at Clinton," says Mulhern.

Mulhern was also witness to a most interesting and unusual spring ritual this year. In mid March, he walked out of a restaurant in Topeka — just a block from Wildlife and Parks' Office of the Secretary — and looked up. On the top corner of the KP&L Building sat a female peregrine falcon. This is extraordinary in itself, but what happened next was pure serendipity for a wildlife biologist.

"As I was watching the female, a male dropped out of the sky and mated with her," says Mulhern. "It was really something. I'm not an expert on peregrines, but most raptors mate in the area where they nest. If that's the case, Topeka may have young peregrines this year."

Not everyone has the opportunity to witness peregrine falcons mating, or even to see them, but spring is a

great time to experience equally magnificent events. Trumpeter swans, least terns, whooping cranes and a myriad of shorebirds visit Kansas. As the weather warms and life explodes across the state, nature lovers can expect an exciting spring, given the long, hard months past and the abundant moisture left by old man winter. —*Shoup*

ON TRACK WITH WILDLIFE

For Kansas wildlife followers, the winter of 1992-93 was a good one. Plenty of snow and muddy earth provided the perfect element for tracking animals and reading sign. The snow is long gone now, but May showers still leave plenty of moist, pliable ground.

But those tracks in the mud — are they a bobcat's or a coyote's? Most people studying such tracks don't realize that, like all cats, bobcats usually walk and run with claws retracted. As a result, bobcat tracks will show no claw while distinct coyote tracks will have claw

prints. In addition, the bobcat track will show a larger heel pad in relationship to the toe pads, and the back of the heel pad track will often appear lobed.

Patience, careful steps and a good imagination are all that are needed to begin the rewarding hobby of wildlife tracking. For those willing to invest a little time — and very little money — distinctions much more complicated than those between the bobcat and the coyote will become second nature. Deer trails, turkey scratchings, junco hops, squirrel escape routes, fox dens, a covey of quail — these and other wildlife happenings can be "seen" by studying tracks.

Of course, field guides help. One such book is A Field Guide to Animal Tracks, by Olaus J. Murie. Other good books include A Guide to Animal Tracking and Behavior, by Donald and Lillian Stokes and Tom Brown's Field Guide to Wilderness Survival. —*Shoup*



FREE FISHING AND PARK DAYS

One of the greatest bargains in the state is coming June 5-6. It's the Kansas Free Fishing and Park Entrance Days. For two days, campers, boaters and fishermen will have free access to the 24 state parks in Kansas (overnight camping not included). To ice the cake, both the casual fisherman and the late license buyer will have a weekend of grace during which they will be able to fish without a license.



A great way to kick off the summer, these two days offer Kansans the opportunity to enjoy one of the most diverse systems of reservoirs and waterways in the country.

This is a big event for individual parks, as well. Each park has planned contests and activities designed to entertain "kids" of all ages. For more information, contact local parks or other offices of the Department of Wildlife and Parks. —Shoup

WILDLIFE RECREATION SURVEY RELEASED

Since 1955, the U.S. Fish and Wildlife Service has conducted eight surveys designed to monitor trends in wildlife-related recreation throughout the U.S. In December, preliminary results of the latest survey were released in a report entitled the *1991 National Survey of Fishing, Hunting and Wildlife-Associated Recreation*.

Sportsman's groups, conservation organizations and others interested in receiving a preliminary copy of the *1991 National Survey of Fishing, Hunting and Wildlife-Associated Recreation* should write the U.S. Fish and Wildlife Service, Arlington Square, Room 322, 4401 N. Fairfax Dr., Arlington, VA 22203. A comprehensive document should also be available. --Shoup

TRAILS DAY JUNE 5

On June 5, America will celebrate National Trails Day with thousands of trail events. From Maine to California, hikers, bikers and other outdoor lovers will celebrate with events planned months earlier at the grass-roots level. In Kansas, plans are already underway for family bicycle rides, opening of newly-completed walking paths, morning bird walks, equestrian events, backpacking and trail maintenance.

Uniting behind the idea of National Trails Day is the vision of Trails For All Americans. This plan envisions a nationwide

network of trails and greenways.

Hundreds of outdoor retailers are joining the National Trails Day festivities by forming partnerships with trails clubs. Retailers will help groups with promotions and planning, laying the groundwork for future collaboration on a number of trails issues. Municipal and state park authorities and federal land management agencies are joining in the effort.

In Kansas, at least two events -- both sponsored by the Department of Wildlife and Parks -- were scheduled as of April 1. At Toronto State Park, the department will host a morning bird hike followed by an afternoon volunteer maintenance session in the park. Contact Toronto State Park, (316) 637-2213, for more information.

At Kanopolis State Park, a 23-mile trail for hikers and bicycle and horseback riders will be dedicated. For details, contact Rick Martin or Wendy Van Matre at (913) 546-2565.

For information on National trails Day in Kansas, contact Richard Douthit or Kitty Douthit, Kansas Trails Council, 1737 Rural Street, Emporia, KS 66801, (316) 342-5508. For information on events in your area, contact a local office of the Kansas Department of Wildlife and Parks. --Shoup

BOATING COURSES

Each year, boating accidents take the lives of boaters across the country. In most cases, these accidents could be avoided. To attack the problem, states are passing laws making boat operation equivalent to driving a car, and insurance companies offer discounts to boaters who complete boating education courses.

While Kansas does not require a license of boat operators, many insurance companies in the state are offering such discounts. Accordingly, the Department of Wildlife and Parks is increasing the number and variety of boating courses.

Students participating in the department's correspondence course are sent a study book and a test form, so they can complete the course at home. In addition to basic safety, the course covers such subjects as boat types, boating law, rules of navigation, accidents, weather, pulling boats and white water.

Wildlife and Parks also offers on-the-water instruction. Two new boating officers have recently been added to the Law Enforcement Division's staff, and from April through September, these officers will conduct boating safety courses and give free boat inspections at state parks across Kansas. (Tom Swayne is the boating officer for eastern Kansas, and he can be reached at (913) 273-6740. Dan Heskett is the boating officer for the west. Contact him at (316) 755-2711.)

All Wildlife and Parks boater education courses are Coast Guard approved. For correspondence materials and information on dates, times and places of courses at state parks, contact the department's boating education coordinator, Cheri Miller, at (913) 273-6740, or write the Kansas Department of Wildlife and Parks, Region 2 Office, 3300 SW 29th, Topeka, KS 66614. --Shoup

by Dana Eastes

Leave it to BEAVERS

Beaver
(Family Castoridae)

Castor canadensis
missouriensis Bailey

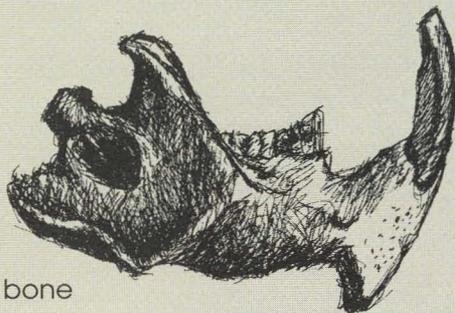
Is there a busy beaver building in your backyard? If you consider the state of Kansas as your big backyard, then the answer is yes.

Beavers are silent creatures, content to go about their business of storing food, and building lodges and dams. They are also very playful in and out of the water. You know the ol' saying, "All work and no play makes for a boring beaver."



Typical lodges are rounded mounds made from branches and sealed with mud. Most lodges in Kansas are built into the side of a river or stream bank. Small trees can be cut by beavers in a minute. Large trees may take several days to cut.

You can spot a beaver by its heavy, hump-backed body, bright orange incisor teeth, small ears and eyes, and a large paddle-like tail. The tail is used for swimming and for balance when cutting down trees.



jaw bone

Viewing a beaver might be difficult. Working hours for beaver are early evening to early morning. Occasionally you might catch one out during the day if their territory is rarely visited by humans.

People in the 1800s wore hats made of beaver fur. The demand was so great that it damaged beaver populations across the country. Because of the demands of fashion and lack of game management practices, no more than 500 beaver remained in Kansas by the turn of the century. The first law to protect the beaver was passed in 1911. Today, the beaver population is secure.

Beavers can remain underwater as long as fifteen minutes.



The beaver is the largest living rodent in Kansas.

Beavers prefer small cottonwood and willows for food.



hind foot



front foot

Sounds from the beaver are few, except for the loud slap of the tail hitting the water before diving (to signal danger) or the churring of young kits (beaver babies) in lodges.

Enterprising" and "adaptable" are two good words to describe beavers. I recently witnessed a beaver eating young wheat grass in a field and using a cement culvert as a lodge.

Front feet are small and used for grasping limbs. Hind feet are large and webbed, great for swimming.

Remember: beavers have brown fur and a large paddle-like tail, the one on T.V. has freckles.



The Joys Of Family Camping . . .

Somewhere among the crevices of gray matter in the region of you-cranium, an impish troubadour sings the praises of family camping. His music is pure, his words compelling. He makes you believe there's a wonderland . . .

See, it seemed like a good idea back at Christmas. You know, the cold weather, cabin fever and all. Reunited with college friends from 15 years ago, auld lang syne overcame us. A plan was born: we'd meet for a summer camping trip!

The time came -- a holiday, a glorious three-day weekend when the weather is supposed to be fine and birds are supposed to sing. After a half-day drive, my family arrived to set up camp on our preselected spot in an eastern Kansas park. Our Missouri friends were to meet us at suppertime.

Smiling like Chevy Chase, I surveyed camp while my wife fried potatoes and onions over the open fire. We expected our friends at any moment. Meanwhile, they were feverishly making up lost time for a horrendous detour that took them through every small town in the southern Ozarks.

Finally, by lantern light, we cooked the hamburgers and ate without them. "Mom, these potatoes are burnt black. They're too hard to eat," said a youngster. Mom was starting to respond, when a car full of eager-beavers drove into our zone of human space and set up a tent no more than 45 feet away. There was nothing to do but be cozy.

"Maybe I'd better pull our car between the tents to make sure someone doesn't crowd even closer," I joked, not for a minute believing it would happen. I should have. Minutes later, a pup tent split the distance and people scurried around us like squirrels.

Clouds obscured the moon by the time our friends arrived. A van drove slowly the wrong direction down a one-way road. "That's got to be them!" my wife piped cheerfully.

We helped unload by flashlight. They, of course, weren't speaking to each other following the five-hour driving ordeal that sprang from a normal three-hour trip.

Theoretically, a six-man tent and six-man camper should easily hold four adults and four kids. But that's only if you don't bring queen-sized air mattresses, which sleep only two but take space for three. So we spent our first hours in the sleeping quarters wedged like sardines.

That's when food poisoning struck.

A flashlight waved erratically, and a tent zipper zipped. "One of our wives is throwing up outside -- I think it's mine," Ron said. In a moment he was back. "No, it's yours."

I stumbled outside to provide aid and comfort, while a barred owl in the distant timber intoned, "who-cooks-for-you, who-cooks-for-you-all?"

Dawn found us at the bath house, where my wife propped herself against a tree for a final commentary on Salmonella. Forget breakfast.

The cold front hit with a vengeance, dropping temperatures into the low 50s. It rained as we shivered under the



Dana Eastes illustration

porch canopy and wished we'd brought jackets.

I took my flyrod to the lake, determined to catch fish for supper. Five minutes later I was on my way back, rod broken in half during a fracas with a hickory tree.

Only two more days to go.

At camp, everyone was sleeping. Soon, Ron came out and we discussed how to keep air mattresses from flattening out like highway opossums, which both did during the night.

The second night, we slept better thanks to exhaustion. We slept two or three hours, and might have gotten even more, had it not been for a barking dog. The dog yapped incessantly outside a roaring, heat-pumping motor home, whose occupants were apparently hibernating like bears. I wondered if the dog played frisbee, and about the aerodynamics of a circular saw blade.

Morning pushed the mercury to a frigid 40 degrees -- unheard of for summer holiday camping. But sometime after noon, the sun broke out, and the kids began begging to swim at the park pool. Their stay in the water lasted only 10 minutes. But that was long enough for my oldest daughter to chip a permanent tooth on the pool's edge.

The highlight of the trip occurred that evening at the park pond, when the kids caught 6- and 8-pound channel catfish. But the sight of cleaning them gave one child nightmares. So that took care of that night's sleep, as frequent outbursts of "Where's the fish?" boomed from a sleeping bag. Next morning, bleary-eyed and thankful the weekend was over, we loaded up and headed separate ways. Nothing was said about repeating the trip. Even now, there's no way. But the troubadour never stops singing.

Maybe by next Christmas, he'll have us convinced to try again . . .



