

KANSAS

Wildlife & Parks

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On Point

by Mike Hayden



Kansas River Potential Untapped

Stretching 170 miles from Junction City to its confluence with the Missouri River, the Kansas River could — and should — be one of the Sunflower State's premier recreational and economic resources. It is truly baffling that the Kaw's potential has never been grasped by our citizens, nearly half of whom reside in the Kansas River Valley; not to mention the fact that it runs through our Capital City where our 165 legislators spend a portion of the year.

At normal flow, most of the of the Kansas River is shallow enough to walk across. And while the river bed itself is open to the public, the problem lies in finding an access point along the mostly private shoreline to actually get to the water. There are various accesses along the river, but Mike Calwell, of Friends of the Kaw, lists only three as good, accessible ramps (one in Topeka and two in Lawrence). Other ramps are in disrepair, too steep for reasonable entry, or located on tributaries that require excessive paddling for canoes and often too little water for the safe passage of any vessel.

Access should not be an obstacle to the recreation opportunities of our public river. We need safe, accessible ramps where families can launch boats and canoes, as well as convenient exit points, located a reasonable distance downstream. Today, few of these locations exist. The Friends of the Kaw and the City of St. George are currently developing a ramp in St. George, east of Manhattan. The department is studying two separate sites near Perry and Lecompton for access as well. While these sites are certainly a step in the right direction, more are needed.

The overall health of the Kansas River is also a major concern. American Rivers, a non-profit organization dedicated to protecting and restoring America's rivers, annually lists the Kaw as endan-

gered, due to pollution. Some observers may disagree with the methodology used to warrant this distinction; however, the fact that the Kansas River needs to be cleaned up is indisputable.

Agricultural runoff and poorly designed and out-of-date wastewater treatment plants are blamed for the pollution. Sand dredging operations are also listed as having a significant impact. While these actions play a part in degrading the river ecosystem, the number one threat to the Kaw is apathy from our citizens. Kansans need to get involved in programs that will benefit the river, working without alienating groups or pointing accusing fingers. State and federal programs are available to producers who establish riparian buffers along stream corridors. Urban residents can also reduce harmful fertilizer runoff by consulting with local agencies for treatment guidelines. All citizens should consider supporting bond issuances or other sources of revenue to support new and improved sewage treatment facilities.

The potential the Kansas River holds has never been realized. The water not only supports our life, it can be the source of countless recreational opportunities — canoeing, boating, fishing, hunting, wildlife watching, camping, and more. When we give people greater access and raise awareness to this treasure, the economic impacts will become apparent. We need only to look to the towns around our publicly developed reservoirs to see the importance of these parks and wildlife areas to their local economy.

As Kansas becomes more urban, demand for public recreation areas will continue to increase. Our state is not blessed with much public land — ranking 49th in the nation — but we do have a 170-mile public resource that deserves our attention and respect. Let's unlock the gate to the Kansas River.

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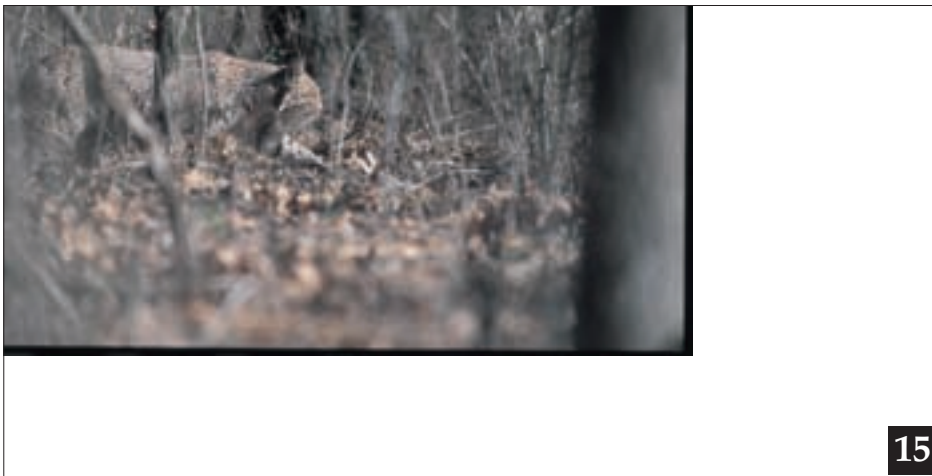
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Front Cover: Raccoons are the premier furbearer harvested in Kansas. Mike Blair photographed this animal with a 105mm lens, f/11 @ 1/125th sec. **Back Cover:** Eighth grader Kyle Walton and his uncle Keith Walton proudly show off Kyle's first deer at the Harper County Youth Deer Hunt. Photo by Mike Miller.



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

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

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Do-It-Yourself Tanning

by Mike Blair
associate editor/photographer, Pratt

Sending your prized skin away to be tanned can be expensive and take months. But for the do-it-yourselfer, home tanning can provide an interesting project.

Few things decorate a home with outdoor warmth and beauty like a luxurious tanned hide. Skins taken while hunting or trapping can be hung from a wall or used as throws or rugs. While commercial tanneries offer an easy way to permanently preserve animal skins, the process is usually expensive and may require several months before an order is completed.

An alternative is home tanning. Though somewhat strenuous, this process extends the satisfaction of a hunt and results in a beautiful decoration that can last a lifetime. It

also provides an interesting study of Kansas' beautiful furbearers. When the hair is removed, self-tanned animals can be used to create beautiful leather articles such as quivers and moccasins.

To tan a pelt properly, special care must begin in the field. Large animals should be carried instead of dragged to prevent damage to the fur. Once home, the animal should be skinned right away. While skinning, care should be taken to strip as much meat and fat from the hide as possible, since this must be removed before the hide is tanned. It is important to avoid slicing or puncturing the pelt.

Further processing can begin immediately or delayed indefinitely if a freezer is handy. To store a raw hide for later use, simply roll it in newspaper, place in a plastic bag, and freeze. When ready to begin

work, thaw the hide for a day and continue.

To prepare the hide for fleshing, tack it flat to a scrap of plywood or a table top, skin side up. A dull knife, large spoon, or fleshing tool can be used to clean all fat and tissue from the leather. With great care, a small, sharp knife can be useful in "slicing" stubborn tissue from the hide, but this risks cutting and ruining the pelt. Fleshing can be laborious, depending on care taken when the animal was skinned. It may take several hours or several days, depending on species, condition of hide, and how much time can be devoted at a sitting. When finished, the hide should be white and free of all flesh.

It's a good idea to follow this step by salting the pelt. Pour ordinary table salt onto all parts of the scraped hide and rub liberally into

the skin. Roll up the hide, skin side in, and leave for several days at room temperature. The salt will help loosen any remaining fat and tissue, making it easy to finish the fleshing job.

After a final scraping, the pelt should be washed with dish soap and water. At this point, it should be degreased, especially for fatty species like raccoons and beavers. Gasoline is a good degreaser and easy to obtain, but it leaves a strong, disagreeable odor on the pelt for several months. Naphtha thinner (benzene) is commonly used instead. Naphtha is extremely flammable and should be applied only in well-ventilated areas. Whichever degreaser is used, wear rubber gloves and work into the skin and fur of the pelt until all oils are removed. Some home tanners follow this step with a coating of



Fleshing the hide is necessary to remove all meat and fatty residues. Though blunt tools are best, some home-tanners use a small, sharp knife to scrape and cut the tissue from the skin. Fleshing takes time and elbow grease, but results in soft, white skin (inset.)



A fleshed hide is further prepared by rubbing the exposed skin liberally with salt before rolling the hide and allowing it to sit for several days. Following this, remaining tissue is easily removed and the skin is placed in tanning solution and stirred for seven days (below).



sawdust to remove the naphtha, but the same can be accomplished by washing 7-8 times in soapy water.

The skin is now ready to go into the tanning solution where it will soak for a week. Several recipes for tanning solution are available, but the safest and easiest mixture is made by dissolving 1/2 pound of salt and 1/4 pound of alum per gallon of water, until there's enough to cover the hide. Two gallons are ample to tan a coyote or smaller animal; five gallons may be necessary to soak a large buck hide. The tanning solution will react with metal, so be sure to use a plastic container when soaking the skin. Stir the solution once daily.

After seven days, remove and rinse the skin, but don't allow it to dry out. Rub warm neatsfoot oil onto the flesh side and let the skin begin to dry, out of direct sunlight. As it dries, pull and stretch the skin in every direction to break the leather fibers and create a soft, supple rug that hangs or lies naturally. This process is more easily accomplished by working the skin over a table corner or board clamped in a vice. If the skin dries too quickly or becomes stiff, dampen it with a wet sponge until limp, and then resume pulling and stretching. To finish the hide, sand any remaining tissue or unevenness on the flesh side with -60 or -80 grit sandpaper.

Chemicals for home-tanning can usually be purchased locally. Alum is available at some drug and bulk food stores, and naphtha can be purchased at hardware stores. Neatsfoot oil can be found at shoe repair shops. Remember to handle all chemicals with caution.

Tanning a hide can be a satisfying end to a hunting or trapping excursion. I've enjoyed many brisk winter days working pelts into soft, tanned products that bring the outdoors indoors and offer lasting memories of good days afield. In the process, I connect with old ways and skills that are all but gone, once a common part of the hunter's life. ♡

Kansas Department of Wildlife and Parks Outdoor Store

Shop at the Outdoor Store for t-shirts, hats, books, and videos. Make your outdoor fun more enjoyable or find the perfect gift for the outdoor person on your list. It's as easy as dialing the phone.



Deer t-shirt (adult sizes only)



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Camp t-shirt (adult sizes only)



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Hiking water bottles



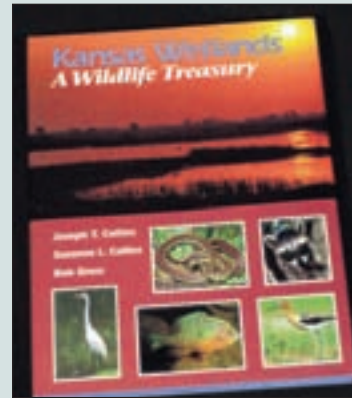
Golden guides



Bird and wildlife I.D. and track guides



Snow goose cookbook



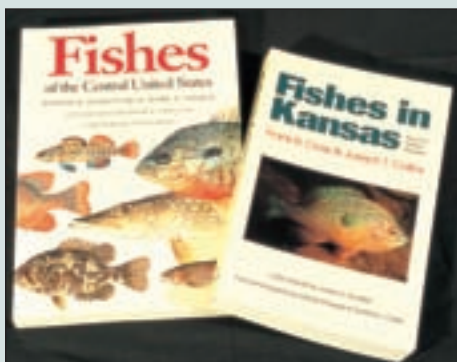
Kansas Wetlands (hardcover)



Bird guides



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Fish guides



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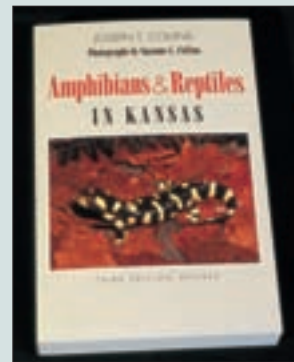
Kansas Birds poster



Kansas Wildlife (hardcover)



Kansas Waterfowl: The Puddle Ducks (38-minute video)
Wingshooting Basics (20-minute video)



Amphibians and Reptiles guide



Deer In Kansas (43-minute video)
The Wild Turkey Story (44-minute video)



The Birds In Your Backyard (19-minute video)
An Upland Bird Hunter's Guide to Kansas (28-minute video)

Orders may be mailed in with check or money order or called in Mon.-Fri., 8 a.m.-5 p.m.

- Birds In Kansas Vol. 1\$15.00
- Birds In Kansas Vol. 2\$15.00
- Kansas Wildlife\$20.00
- Hiking Guide To Kansas\$20.00
- Insects in Kansas\$20.00
- Fishes in Kansas\$20.00
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- Guide to Kansas Mushrooms\$20.00
- Watching Kansas Wildlife\$ 5.00
- Kansas Amphibians and Reptiles\$20.00
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- Birds of North America\$15.00
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- The Wild Turkey Story (video)\$21.20
- The Upland Bird Hunter's Guide To Kansas (video)\$10.60
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- The Birds In Your Backyard (video)\$21.20
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 - Kansas Bird Poster\$ 5.00
 - KDWP Hats dark green burgundy\$ 8.00
 camouflage orange\$10.00
 - Deer T-Shirts (adult)\$12.00
 - S M L XL XXL
 - Tracks T-Shirts (adult)\$12.00
 M L XL XXL
 - Tracks T-Shirts (youth)\$10.00
 XS S M L
 - The Shorebirds of Kansas (video not pictured) ..\$21.20
 - The Shorebirds of Kansas (DVD not pictured) ...\$25.00
 - Hiking Water Bottles green yellow\$ 2.00
 - Camp T-Shirt (adult sizes only)\$12.00
 M L XL XXL

Call (620) 672-5911 Mon.-Fri. 8 a.m.-5 p.m. Or send order to: Outdoor Store, KDWP, 512 SE 25th Ave., Pratt, KS 67124

Name _____

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Phone number _____

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Shipping/handling: Add \$7.00 for orders of \$30.00 and less. Add \$9.50 for orders of more than \$30.00. Make checks payable to KDWP.

2002 Kansas Department of Wildlife and Parks Annual Report

Fishing, hunting, camping, wildlife watching, and boating are an indelible part of our lives. Our state's natural resources add immeasurably to the quality of our lives, and make Kansas an ideal environment for anyone who loves the outdoors. The Kansas Department of Wildlife and Parks is proud to serve an integral role in providing quality outdoor recreational opportunities. As we review our progress during the past year, I'm reminded how important the department's mission is to the thousands of residents and non-residents who benefit from our state's rich outdoor legacy.

During the past year, our Parks Division continued to do more with less, hosting more than 7 million visits and numerous special events on an extremely tight budget. Notably, our parks hosted the majority of participants in the successful second annual Outdoor Kansas for Kids Day, sponsored by Kansas Wildscape.

Youth hunting opportunities continued to be a primary focus of the department's Pass It On program. Youth seasons for deer, turkey, upland bird, and waterfowl hunting provided unique opportunities for young hunters to develop their skills under the guidance of mentoring adults. Special hunts, coordinated by public lands managers in the department, offered additional quality hunting opportunities for youth and disabled hunters alike.

The popular Becoming an Outdoors Woman program entered its eighth year in Kansas. In addition to the annual fall workshop conducted at Rock Springs Ranch, the department conducted its first Western Kansas BOW workshop at Scott State Park in April of 2002. Several one-day mini-BOW sessions attracted participants in this unique outdoor skills development program.

The Fishing Impoundments and Stream Habitats (FISH) program — the angling counterpart to the department's popular Walk-In Hunting Program — continued its growth. The program enrolled more than 1,300 acres of ponds and 80 miles of streams on private land for public fishing access. The WIHA program continued its impressive growth, as the department made progress toward its goal of 1 million acres of WIHA by 2003. More than 800,000 acres of WIHA were enrolled in 2001, and more than 900,000 acres in 2002.

The 2002 Kansas Legislature took an important first step toward long-term enhancement of natural resources in the Sunflower State, by creating the Kansas Natural Resource Legacy Alliance. The Alliance — comprising representatives from state government and private organizations — will identify natural resource issues confronting Kansas and provide recommendations to the Governor in 2003.

The Kansas Hunter Education program continues to yield impressive results. Thanks to the efforts of more than 1,500 volunteer instructors, a record low 19 hunting accidents were reported in 2000, followed by a new record low 18 accidents in 2001. The dedicated corps of volunteer instructors conducted more than 320 hunter education classes around the state last year.

These are just a few achievements that have provided important benefits to outdoor recreation in our state. The economic impact of hunting, fishing, state parks, and boating illustrates the importance of outdoor recreation in the Sunflower State. According to a 2001 survey conducted by the U. S. Fish and Wildlife Service, more than 400,000 anglers devoted more than 5.6 million days to fishing in Kansas. They also spent a total of almost \$226.8 million on fishing-related expenditures. About 291,000 hunters spent a total of 3.65 million days in the Sunflower State's fields, marshes, and forests. In the process, they spent more than \$371.3 million on hunting-related expenditures. About 807,000 persons participated in wildlife-watching activities in Kansas in 2001, spending almost \$128.2 million in related purchases. Similarly, state park visitors generated well over \$100 million in trip-related expenditures.

I applaud the work of the 410 full-time employees of the department. Their efforts, together with those of seasonal employees and volunteers, yielded an impressive array of accomplishments during the past year. While the department and the State of Kansas face difficult challenges in the coming years, I am confident that the resourcefulness of department staff and constituents ensure a bright future for outdoor recreation in Kansas.

Secretary Mike Hayden

2001 Income

The Kansas Department of Wildlife and Parks relies on fees paid by the people it serves for most of its income. The sale of hunting and fishing licenses and associated permits accounts for about 48 percent of the department's annual income. Another 27 percent is derived from excise taxes paid on hunting and fishing gear and other outdoor equipment, which is distributed back to the state by the U. S. Fish and Wildlife Service. Park permits, boat registrations, and other license and permit sources account for another 14 percent. About 11 percent of the agency's funding comes from state general fund revenues. The tables on this page summarize calendar year 2001 license and permit sales.

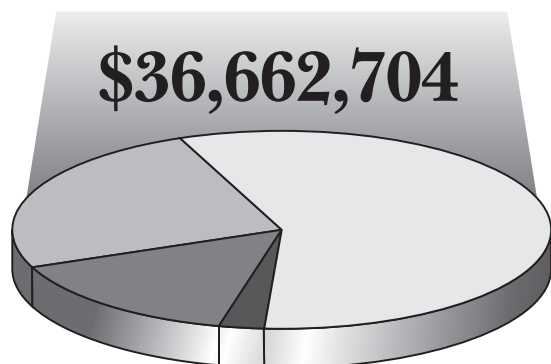
| FISHING/HUNTING/FURHARVESTING | | |
|-------------------------------------|----------------|---------------------|
| License/permit | Number sold | Revenue |
| Resident Fish (\$15.00) | 182,315 | \$2,734,725 |
| Combination Fish/Hunt (\$30.00) | 44,308 | \$1,329,240 |
| Nonresident Fish (\$35.00) | 9,364 | \$327,730 |
| Five-Day Trip Fish (\$15.00) | 5,098 | \$76,470 |
| 24-Hour Fish (\$3.00) | 87,439 | \$262,317 |
| Trout Stamp (\$7.50) | 9,852 | \$73,890 |
| Lifetime Fish (\$240.00) | 440 | \$105,600 |
| Lifetime Comb. Fish/Hunt (\$440.00) | 2,334 | \$1,026,960 |
| Lifetime Fish (payments) (\$35.00) | 114 | \$3,990 |
| Lifetime Comb. (payments) (\$35.00) | 1,378 | \$48,230 |
| Lifetime Hunt (payments) (\$35.00) | 406 | \$14,210 |
| Lifetime Hunt (\$240.00) | 2,108 | \$505,920 |
| Resident Hunt (\$15.00) | 86,684 | \$1,300,260 |
| Nonresident Hunt (\$65.00) | 47,376 | \$3,079,440 |
| Nonresident Junior Hunt (\$30.00) | 1,590 | \$47,700 |
| Controlled Shooting Area (\$13.00) | 7,846 | \$101,998 |
| 48-Hour Waterfowl (\$20.00) | 734 | \$14,680 |
| Deer Permit (variable) | 193,920 | \$4,569,945 |
| Turkey Permit (variable) | 46,203 | \$774,090 |
| Adult Furharvester (\$15.00) | 3,875 | \$58,125 |
| Junior Furharvester (\$7.50) | 91 | \$683 |
| TOTAL | 745,228 | \$16,479,719 |

| STATE PARKS | | |
|---------------------|----------------|--------------------|
| Permit Type | Number Sold | Revenue |
| Annual Vehicle | 41,065 | \$1,184,194 |
| Annual Camp | 3,267 | \$364,060 |
| Second Vehicle | 15,333 | \$207,505 |
| Duplicate Vehicle | 1,417 | \$7,085 |
| Daily Vehicle | 264,383 | \$1,174,13 |
| Daily Camp | 106,101 | \$629,850 |
| 14-Day Camp | 1,217 | \$77,770 |
| Utility (1) | 13,144 | \$65,720 |
| Utility (2) | 113,625 | \$738,880 |
| Utility (3) | 18,912 | \$151,296 |
| Youth Group Camping | 349 | \$873 |
| TOTAL | 579,051 | \$4,601,376 |

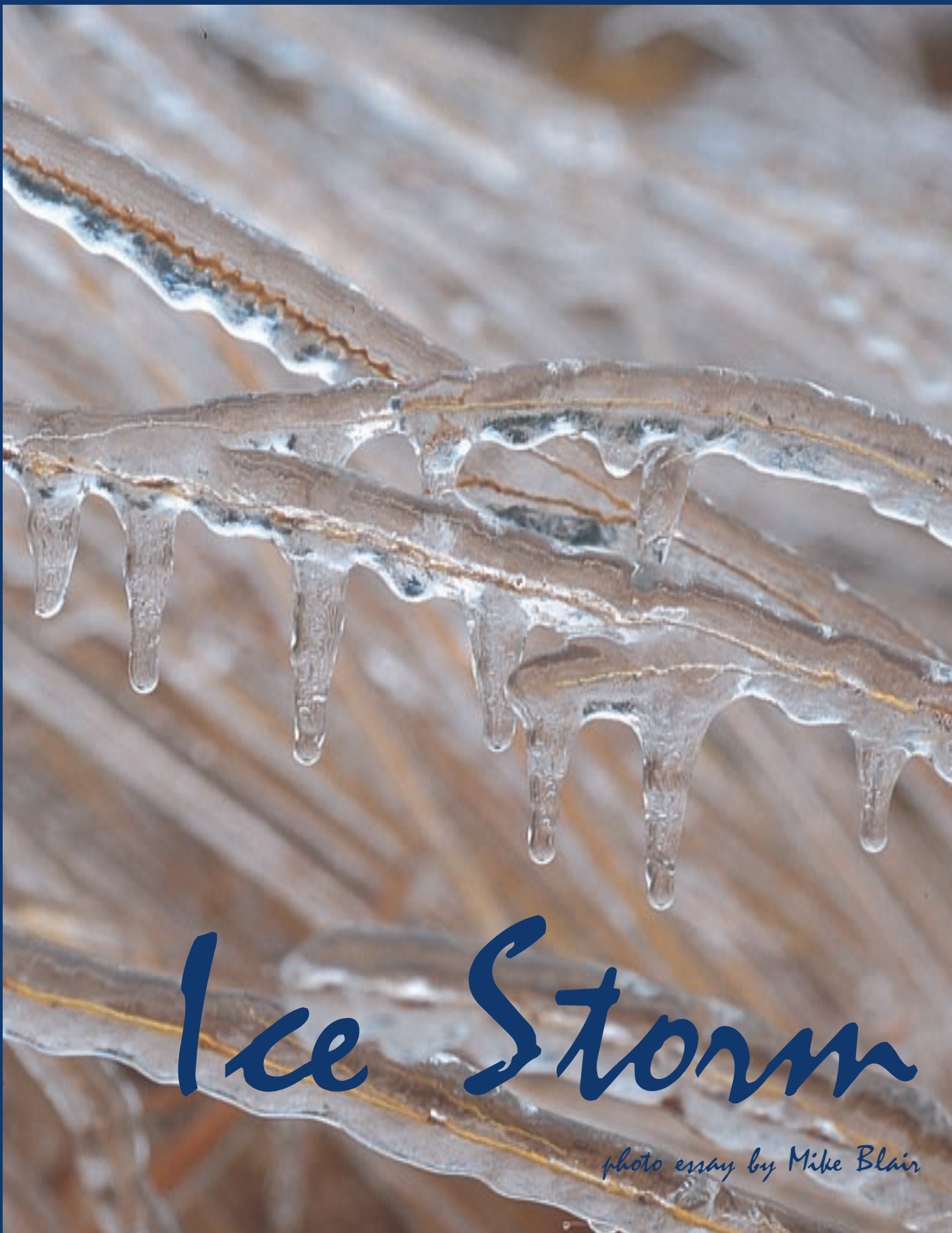
| THREE- YEAR BOAT REGISTRATIONS | | |
|--------------------------------|---------------|------------------|
| Registration Type | Number Sold | Revenue |
| Boats under 16 feet (\$15.00) | 18,303 | \$274,545 |
| Boats over 16 feet (\$18.00) | 18,865 | \$339,570 |
| TOTAL | 37,168 | \$614,115 |

| FEDERAL AID | | |
|------------------------------|-------------|--------------------|
| Reimbursement Type | Number Sold | Revenue |
| Coast Guard (boating safety) | | \$ 321,374 |
| Dingell-Johnson (fish) | | \$3,040,319 |
| Pittman-Robertson (wildlife) | | \$3,505,637 |
| Other | | \$2,405,850 |
| TOTAL | | \$9,273,180 |

Expenditures (Fiscal Year 2002)



| | | |
|----------------------------|---------------------|--------------|
| Fish & Wildlife | \$22,629,326 | 62 % |
| Parks | \$9,723,512 | 27 % |
| Administration | \$3,437,907 | 9 % |
| Boating | \$871,959 | 2 % |
| Totals | \$36,662,704 | 100 % |



Ice Storm

photo essay by Mike Blair

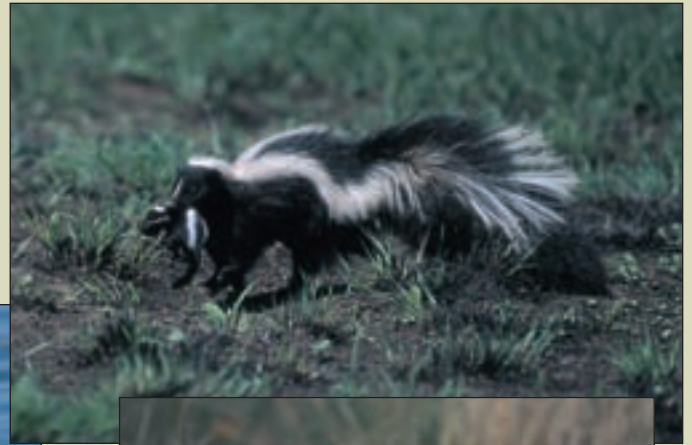






Kansas Furbearer Guide





text by Matt Peek
furbearer biologist, Emporia

photos by Mike Blair
associate editor/photographer, Pratt

Prior to 1850, the lucrative fur trade was the most important factor influencing European exploration and settlement of North America. For many of us, a great deal of mystique surrounds the mountain man trappers and untamed wilderness of this era. While most recognize the historical significance of the fur trade, few recognize that it remains important today. And for the most part, those species that were the staple of the fur trade then, still are today. In Kansas, these species are monitored and managed under the designation of “furbearers.”

As their name implies, furbearers have been predominantly recognized for the quality or value of their fur, though several also provide excellent table fare, oils, musks, and various other products. They are a diverse group of animals in Kansas, encompassing 6 families and consisting of 13 legally harvestable species including beaver, badger, bobcat, red fox, swift fox, gray fox, mink, muskrat, opossum, raccoon, striped skunk, least weasel and long-tailed weasel. Though the coyote is not classified as a

furbearer in Kansas, it is often associated with and monitored as if it were.

Despite our recognition of their historical significance, the prominence of furbearers in our environment today is often overlooked. Highly nocturnal and secretive, most are able to persist in abundance, even in close proximity to people, while going relatively unnoticed. With rare exception, it is actually the presence of people that has allowed the species to become so abundant – first through our removal of the large carnivores from Kansas and most of the United States, then through our addition of agriculture to the landscape.

All of the furbearer species feed heavily at times on either agricultural grains or the rodents associated with them, and most at least occasionally prey on poultry or livestock. Some have even adapted to urban and suburban life. But until recently, people had sufficiently filled the role of top predator. Now, with rather depressed fur prices and a society that is becoming increasingly distanced from the rural, more self-sustaining lifestyle, furbearer

harvest has decreased such that populations have gone largely unchecked. These species that have traditionally been viewed favorably for both the material and aesthetic benefits they have provided have increased past tolerable levels for people in some situations.

Almost ironically, those indiscretions that earn furbearers the greatest disfavor are often the result of our own habitat manipulations – which aren’t even beneficial to them. Destruction of wetlands, brushy field borders, and native grasslands result in reduced upland game or waterfowl populations, yet “too many predators” often take the blame. When our houses encroach upon and fragment their habitat, and they are forced to become more reliant upon the byproducts of our own existence for survival, we label them as nuisances or vermin. Despite the conflicts these species sometimes cause, they each have a niche to fill in their natural environments, and their adaptability and persistence in the face of a rapidly changing world are worthy of admiration.



Raccoon (*Procyon lotor*)

Highly intelligent and adaptable, the raccoon is one of our most abundant furbearers. Raccoons associate with all types of water sources and their surrounding habitats, and can be found throughout Kansas. They are most abundant in the east where the highest interspersion of mature woodlands, water courses, and agriculture occurs. Raccoons have also become well adapted to urban and suburban areas.

With a black mask and a long, ringed tail, the raccoon is easily identifiable, but it is the pet raccoon's habit of dipping food in water that earned it the species name "lotor," meaning "the washer" in Latin. It is thought that by wetting the toes, the raccoon's highly advanced tactile sensitivity is increased, improving the ability to identify a potential food source. Raccoons are omnivorous, primarily subsisting on plant materials including corn, milo, acorns, mulberries, and various other fruits, nuts, berries, and shoots. Seasonally, grasshoppers and insects are important, and fish,

frogs, clams, and crayfish are preyed upon when available. Opportunistic nest predators, raccoons also prey on eggs and setting birds, occasionally even up to the size of waterfowl and turkeys.

Raccoons are non-territorial and are capable of persisting at very high densities. Past estimates in prime Kansas habitat have indicated more than 40 raccoons per square mile, though densities of 20 to 25 per square mile in good habitat are probably common. Despite these high densities, raccoons are generally solitary with the exception of mothers with offspring.

Typically, three or four young are born in April or May. Though they do not hibernate, raccoons do den during freezing spells or times of snow accumulation. Fat reserves, accounting for up to 30 percent of the raccoon's weight, are built up in the fall to get the raccoon through these cold spells and winter in general. Dens most often consist of hollow trees, but old buildings, abandoned burrows of other animals, or other available cavities are also used.

Adult raccoons are excellent swimmers, climbers, voracious fighters, and have few natural enemies. However, they are extremely susceptible to a variety of diseases and parasites. By far most important in Kansas is canine distemper. Although its precise impact is unknown, distemper may account for up to half of the mortality in unharvested Kansas populations each year.

The raccoon is by far the most important furbearer in Kansas in terms of total pelt value and number harvested. Heavily pursued by both houndsmen and trappers, the raccoon has accounted for about half of the annual furbearer harvest and from 50 percent to 75 percent of the economic return from Kansas furharvesting in recent years. The raccoon is also the most economically important species of urban wildlife, and is responsible to a large degree for the rapidly growing animal damage control industry. In the South and Southeast, raccoon meat is a popular food item, and even here in Kansas, there is limited interest in eating the meat.



Bobcat (*Lynx rufus*)

Bobcats are among the most secretive of Kansas furbearers. They range throughout Kansas, but even where they reach the highest densities in the southeast, they are only rarely seen. Bobcats are usually only a leap away from cover, and closely associate with shrubby edges of riparian woodlands and field borders, timber, rocky ledges or outcroppings, ravines, and other brushy or generally broken habitat types. Their spotted fur provides excellent camouflage in these habitats, and their willingness to crouch and hide rather than to bolt across open spaces aids in their elusiveness.

A large tom bobcat will weigh about 30 pounds, and a partial description can be found in its names – the common name referring to the short, bobbed tail, and the species name *rufus* referring to the reddish coloration of many bobcats. Both male and female bobcats have a distinct white spot on the back of each ear, which may serve as a visual cue for kittens to follow the female through dense undergrowth. Though kittens are usually born in the spring, bobcats may breed and have young at any time of year. Two or three kittens per litter is average.

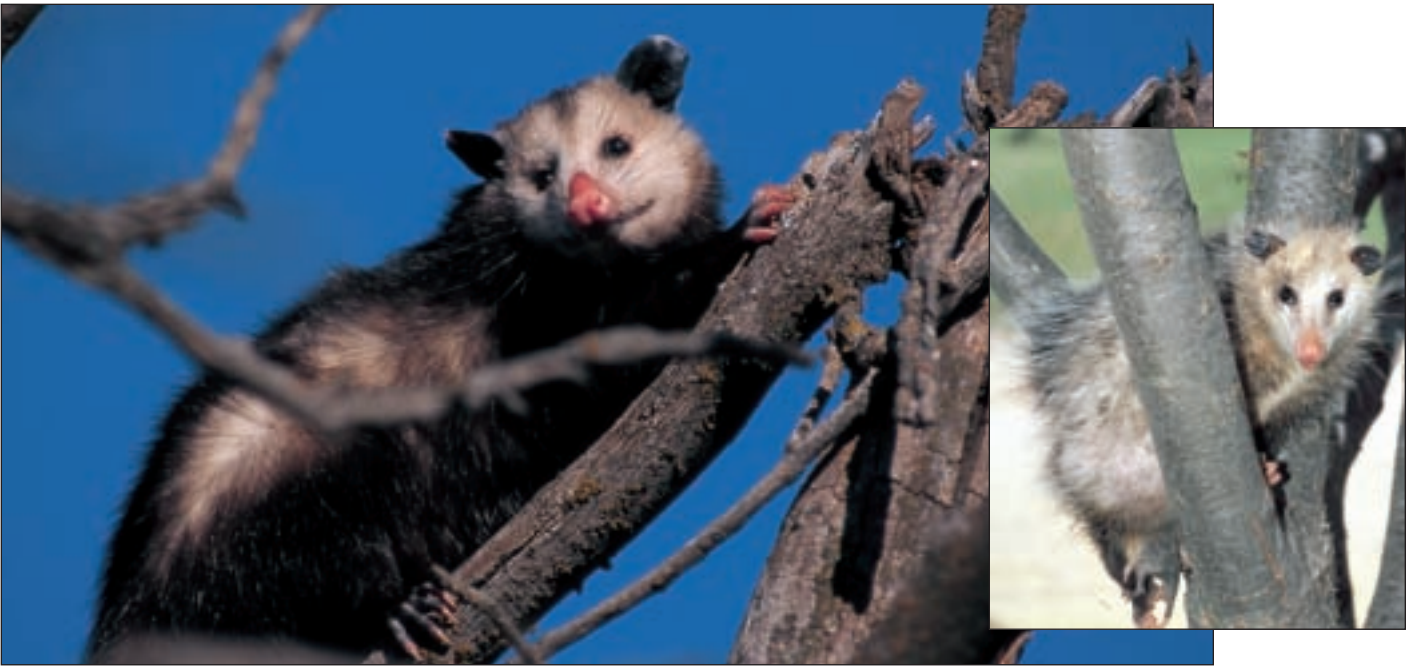
Like other members of the cat family, bobcats are highly adapted for predation. Strictly carnivorous, they hunt with keen senses of sight and hearing. Cottontail rabbits are

usually their primary food source, but cotton rats, wood rats, and jack rabbits are also preyed upon when cottontails are scarce. Bobcats opportunistically take smaller rodents, squirrels, and birds, and to a lesser extent, beavers, muskrats, and porcupines. Masters of ambush, bobcats occasionally kill adult white-tailed deer, though they do so frequently only in Northern climates when snow conditions favor bobcat mobility and hunting techniques. Unlike canids and some of the other furbearers, bobcats rarely scavenge and do so only when carrion is fresh. However, they will cache and return to larger kills of their own.

Coyotes, great horned owls, and foxes may occasionally prey on young bobcats, but there is no significant predator of bobcats in Kansas, except perhaps for bobcats themselves. Much like domestic cats, male bobcats sometimes kill and eat kittens or juveniles. Probably the most important natural mortality factor is starvation. Kittens may starve during times of low prey availability, and inexperienced juveniles often have difficulty securing enough food to survive their first winter. Starvation rates are highest in unexploited populations where juveniles are forced into marginal habitat on the fringes of

established adult home ranges. Home range sizes are highly variable, but probably average 2 to 4 square miles for females and twice that for males.

The bobcat has the highest individual pelt value of any Kansas furbearer, and Kansas ranks among the top states in annual bobcat harvest. During the 2001-2002 furbearer season, nearly 3,600 were harvested. Trappers account for about two-thirds of the annual harvest, and hunters account for most of the remaining third. Because bobcats could be confused with some endangered species of cats from other countries, federal regulations state that all bobcats must be pelt-tagged in order to leave Kansas. KDWP gathers other information on bobcats during the tagging process, and some of the best furbearer harvest information we have pertains to bobcats. Annual pelt tagging reports are posted on the KDWP web site.



Virginia opossum (*Didelphis virginiana*)

The Virginia opossum is the only marsupial native to North America. Opossums are highly adaptable and range throughout Kansas, but are most common in the eastern part of the state where deciduous forest, wooded riparian zones, and water sources are most common. Like some of the other furbearers, the opossum thrives in and around towns and cities, taking advantage of abundant food and shelter inadvertently provided by people.

The opossum is identified by its long snout, typically grayish fur, and long, scaly, prehensile tail. They also have 50 teeth, more than any other Kansas mammal. About cat-sized, they typically weigh six to 13 pounds, with males being somewhat larger than females. As a marsupial, the reproductive process of the opossum is unique among Kansas furbearers. Females have a fur-lined abdominal pouch called a marsupium in which young develop. After a gestation period of less than two weeks, up to 17 tiny, naked, and blind young are born. Developed just enough to survive outside the uterus, only those able to crawl into the marsupium and attach to one of 13 or so nipples

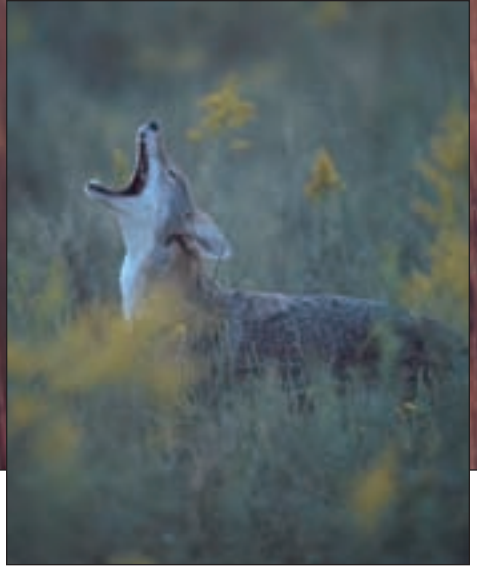
may survive. They remain attached to a nipple in the pouch for the next two months, undergoing most of their basic development. An average of seven young make it out of the pouch, and they are fully weaned and on their own by about 100 days of age. Within a short time after the first litter has become independent, another litter is born.

The opossum finds daytime shelter and refuge for extended periods of cold in rock, wood, or junk piles, hollow trees or logs, burrows of other animals, or various other crevices. Densities of eight to 10 opossums per square mile are probably common in Kansas, but phenomenally high densities of 259 per square mile have been recorded in prime waterfowl nesting habitat. The diet of the opossum is extremely diverse, but primarily consists of plant matter including fruits, berries, and grains, and invertebrates including beetles, grasshoppers, crayfish, and snails. Small mammals, birds and their eggs, and all types of carrion are also consumed opportunistically.

Though highly prolific, opossums experience extremely high mortality and rapid turnover rates within the population. In fact, few

survive past one year, and virtually none past two. Populations are drastically reduced by periods of drought or extreme cold, and are very susceptible to human-induced mortality, especially roadkill. The opossum is a good swimmer and climber, but lacks in speed and intelligence. A common predator evasion technique is "playing dead," which is effective only on those predators that choose not to kill. The great horned owl is the opossum's primary predator, though coyotes, bobcats, and other carnivores will sometimes kill them. Opossums are resistant to rabies, but may be severely impacted by a variety of parasites.

The opossum is a significant furbearer in Kansas in terms of the number harvested, usually ranking third behind raccoons and coyotes. However, individual pelt value is very low, so that most are caught either in damage control situations or incidental to the pursuit of other species. Most opossums are trapped, but some are also taken by houndsmen. Over the past five seasons, annual harvest has averaged almost 27,000.



Coyote (*Canis latrans*)

Coyotes are not legally classified as furbearers in Kansas, but in many ways, they are monitored and managed as if they were. Coyotes are actually considered nongame, as a result of historic attitudes and the potential for conflict with the livestock industry. Coyotes are not afforded the protection of a harvest season like our furbearers. But their cunning and adaptability are legendary, and it is difficult to conceive a more resilient animal. After surviving decades of cyanide guns, strychnine-laced carcasses, widespread trapping and shooting, bounties, and the all-out ire of mankind, the coyote has responded by expanding its range eastward into parts of the United States where it had not previously existed. In recent times, coyotes have become increasingly adapted to urban life, and have been implicated for attacking pets and even people in a few states where trapping bans have outlawed the most effective harvest technique.

The coyote ranges throughout Kansas from woodlots in the east, through the grasslands of the Flint Hills, to the intensively-managed agricultural landscape in the west. It is easily distinguishable

from other wild members of the canid family in Kansas by its larger size (usually 25-35 pounds) and coloration. In captivity, the coyote's lifespan is not unlike that of a domestic dog, but it rarely lives past six or eight years in the wild. Mortality is probably mainly due to hunting, trapping, and roadkill, but coyotes are also susceptible to various diseases and parasites including sarcoptic mange, canine distemper, and heartworm.

Most coyotes occupy and defend a distinct territory, often with a mate, but some are wide-ranging transients that persist on the fringe of the home ranges of more territorial coyotes. Home range sizes vary by food availability, pack size, and coyote density, but probably average 8-15 square miles in Kansas. Coyotes communicate by scent marking and various vocalizations. Their widely-recognized howl has long been a symbol of the lonesome prairie and adds greatly to the mystique that surrounds the species in Western and Southwestern folklore.

Coyotes usually mate in February or March, and pups are usually born in a den or hollow in April or May. Four to seven pups

are common, but as many as 17 may be born when food is especially abundant. The coyote has a very diverse and seasonal diet. Though diet consists primarily of mice, voles, and rabbits, coyotes feed heavily on plums, sunflower seeds, pears, watermelons, and other fruits, berries, nuts, seeds, and invertebrates when they are available in the summer and fall. In the winter, carrion including livestock and deer often becomes an important dietary component. Coyotes also sometimes prey on domestic poultry and livestock in Kansas, though often they are blamed for the depredations of free-ranging domestic dogs.

Coyotes have usually ranked second or third annually in total value of pelts harvested in Kansas. In recent times, about 15,000 have been harvested each year by licensed furharvesters, with perhaps another 60,000 to 70,000 taken by hunting license holders. Even though the cunning nature of the coyote makes it one of the most difficult species to trap, foothold trapping is usually the most effective harvest technique. Coyotes are also the most common quarry of predator callers.

Red fox (*Vulpes velox*)



The red fox is the most widely distributed carnivore in the world. Although native red foxes existed in the boreal regions of northern North America at the time of European settlement, the red foxes in the United States today are probably descendants of European foxes released along the U.S. coasts for sport hunting in the 1700s and 1800s. Woodlots interspersed with cropland are typically thought of as prime red fox habitat, but the majority of red foxes in Kansas inhabit the suburban fringes of towns and cities, which offer refuge from coyotes. Red foxes occur statewide, but are most common in eastern Kansas, where urban areas and woodlots are most abundant.

The red fox is identified by its long, bushy tail and characteristic color – orange to red upper parts, black ears and legs, and white underparts and tip of tail. Weighing 10-15 pounds, red foxes are seldom twice the size of a house cat, but their long fur makes them appear larger.

Red fox reproductive rates are highly variable, increasing with the level of exploitation or mortality of the population. In Kansas, the vixen, or female fox, gives birth to an average of five pups around April. The male initially provides

food for the vixen and the pups, and the family group stays together until the pups disperse in the fall. There is typically little overlap between the home ranges of these family units, but one male will sometimes tend to several females.

The diverse diet of the red fox is similar to that of the coyote, consisting primarily of mice, voles, and cottontail rabbits. Red foxes will also prey on other small to medium-sized mammals and ground-nesting birds, or scavenge deer and livestock. Seasonal food items primarily include fruits, vegetables, insects, and eggs. Most notorious for their depredations of domestic poultry, non-native red foxes, also pose a significant threat to native wildlife populations, which evolved without the presence of a similar predator. Red fox depredations have also been implicated for significantly reducing waterfowl survival and nesting success in the prairie pot-hole region of the Dakotas.

Given the red fox's dietary overlap with larger coyotes, it is no surprise that coyotes may competitively displace or even kill their



smaller cousins. Roadkill may also be an important mortality factor for red foxes prevalent in urban areas, as is disease. Sarcoptic mange probably has the most significant impact on Kansas populations, but it is the red fox's susceptibility to the furious form of rabies that has led to their status as a pest in many parts of the world. However, red foxes have not been an important rabies vector in Kansas.

Because of the red fox's limited abundance in Kansas compared to other furbearers, foxes have little importance to our fur trade. About 500 red foxes have been harvested annually over the past few seasons, though double this were harvested several years in the mid-1990s. Like coyotes, red foxes are too wary to enter cage traps, and are most often captured in foothold traps – though they are considered one of the more difficult species to trap. Hunters account for less than one-third of the annual harvest.



Swift fox (*Vulpes velox*)

The cat-sized swift fox is a representative of the short- and mid-grass prairie ecosystems of the United States and Canada. Considered the least wary of the Kansas canids, swift foxes were extremely susceptible to extermination efforts aimed at larger predators, and were either very scarce or extinct from much of their historic range by the 1950s. However, as predator control activities tapered off, swift fox populations gradually increased. Today, swift foxes have reoccupied much of the western portion of their original range. Kansas, Colorado, and Wyoming now support what is considered the core of the U.S. swift fox population.

In Kansas, the swift fox's current range includes the western three to four tiers of counties. Although once thought to rely on areas dominated by rangeland, swift foxes can survive in highly agricultural landscapes as well. Habitat requirements include flat or rolling landscapes with short vegetation allowing for visual predator avoidance, and soil types suitable for digging dens.

The buff and grayish coloration and small size (about 5 pounds) of the swift fox make it easily distinguishable from other Kansas foxes. Quick and agile, the swift fox's name refers to its fleetness of foot, which it uses to capture prey and escape from predators. Primary prey items include jack rabbits and cottontails. Mice, prairie dogs, shrews, birds, carrion, grasshoppers and other insects, and some plant materials including sunflower seeds are also consumed.

Swift foxes are the most dependent of North American canids, and rely on the protection of dens year-round. Though capable of digging their own, they will also excavate the dens of smaller animals. Dens provide shelter from extreme weather conditions, help to conserve water in an arid environment, and offer protection from predators for both adults and pups. Pups are born around April, usually three to five per litter, and develop quickly. They are full grown by four to five months of age, and disperse a short distance from their parents' home range in their first fall. Home range sizes are commonly 4-5

square miles.

Golden eagles, great-horned owls, bobcats, badgers, and red foxes all occasionally prey on swift foxes, but it is the coyote that is responsible for the majority of the annual mortality in most swift fox populations. Swift foxes are also susceptible to roadkill. Annual mortality rates of swift foxes are usually high, sometimes more than 50 percent, and it is rare for a swift fox to live past three or four years in the wild.

The swift fox has been an unimportant species to the fur trade in Kansas. Since a pelt tagging program was initiated by KDWP in 1994, fewer than 50 per year have been tagged. Despite this, monitoring techniques indicate that swift fox populations are stable in Kansas, and are not unlike what they were in the 1980s when harvest estimates were in the hundreds – the difference now being fewer coyote trappers in the field. Swift foxes are easily trapped, with almost 60 percent of the harvest taken in foothold traps since the tagging program began.



Gray fox (*Urocyon cinereoargenteus*)

This more distant relative of red and swift foxes is primarily found in the eastern third of Kansas but has extended its range westward into the central part of the state where fire suppression has allowed woody cover to become established. Sometimes considered a representative of the deciduous forest, the gray fox, like the red, prefers brushy “edge” habitat created by a mixture of woods and fields. Typically, as woods become more prevalent than fields, the gray fox outcompetes the red for habitat, whereas reds typically outcompete grays where fields are more prevalent. In Kansas, gray foxes are more sparsely populated than reds and may average two to four per square mile within their range.

The gray fox species name, *cinereoargenteus*, is Latin for “grayish silver,” describing its predominant, salt-and-pepper coloration. With a black dorsal stripe and white underparts turning to orange laterally and up to the ears, the gray fox is the most colorful Kansas furbearer. It is slightly

shorter and stockier than the red fox, but the 10- to 15-pound average weights of the two are the same.

The gray fox is extremely quick and agile like the red, and is recognized by many furharvesters as the more aggressive and less wary of the two. Gray foxes are unique among Kansas canids in that they are excellent tree climbers, a trait that allows them to escape coyotes or other potential predators, survey an area for food, rest in safety, or sometimes even to secure a den in a hollow tree. Gray foxes also use ground dens abandoned by other animals, or various other holes or crevices in or under rocky outcroppings, wood or brush piles, logs, or stumps. Dens are used year-round, but are most important for whelping. An average of three to five young are born in April or May, and these remain in the den until about six weeks of age. After that they begin to leave the den and forage with their parents. Although small mammals including rabbits and various species of rodents constitute major food items, gray foxes

feed more heavily on plant matter than coyotes or red foxes and are considered more omnivorous than the other canids. Where available, corn, apples, wild fruits, and nuts make up major dietary components.

Although predation by other animals is not usually an important mortality factor for gray fox populations, disease can be. Canine distemper is common in our Kansas raccoon population, and it is probably a major mortality factor for gray foxes. Unlike coyotes and red foxes, gray foxes have a high level of resistance to sarcoptic mange.

Due to limited range and sparse distribution in Kansas, gray foxes have been of little importance in terms of annual fur harvest. Up to several hundred may be harvested during some years. Most of these are trapped, but a few are also taken by hunters. Gray fox fur is shorter and more coarse than that of the red fox, and the pelts are not as valuable. However, there is some demand for gray fox pelts by taxidermists or those wishing for a display fur.



Badger (*Taxidea taxus*)

This popular subject of Western and Southwestern folklore is most often associated with open range or agricultural lands. It exists throughout Kansas. Badgers are scarce in heavily wooded areas of the state, especially in the southeast, and are probably most abundant in central Kansas where the combination of prey and open land are most suitable.

The badger is the largest terrestrial member of the weasel family in Kansas, often weighing 15 to 20 pounds. It has a broad and flattened body and short, powerful legs. Its large forefeet are webbed and equipped with long, curved claws. Pelage coloration includes distinct black and white facial markings and a grizzled gray body with black legs and feet. The badger's size, strength, and aggressive retaliatory behavior make it a formidable opponent for most potential predators, and have earned it the reputation as one of our fiercest mammals.

The badger is physically well equipped for a lifestyle that revolves around digging and is the most fossorial of Kansas furbearers. Badger dens or burrows are conspicuous, consisting of a large

mound of dirt piled around a 10- to 12-inch-diameter hole. Most excavations are in pursuit of prey, but natal dens are specifically constructed. The young are usually born in April or May after a winter arrest in embryonic development known as delayed implantation. From one to five young are born, with three or four being average.

Solitary except during July and August when mating occurs, even badgers with overlapping home ranges tend to avoid each other through scent marking and aggression. Badgers may range over several square miles, but significantly limit their movements during the winter months. Though not true hibernators, they will remain denned for several weeks or more during periods of extreme cold, when excavating prey from frozen ground would burn more calories than could be gained.

The badger's diet consists mainly of underground-dwelling rodents or other small mammals that can be dug out of their nests or burrow systems. The badger uses its keen sense of smell to locate prey, then digs a series of holes until the prey is restricted enough to be captured.

Badgers are often associated with colonial rodents such as prairie dogs or ground squirrels, but also prey heavily upon pocket gophers, mice, and voles. Rabbits, birds, eggs, insects, reptiles, and amphibians are also taken opportunistically. The badger's foraging activity proves valuable for many species of wildlife that lay claim to unoccupied badger dens, and the rodent control provided by badgers is often beneficial to man. However, the large holes left behind provide a minor threat to livestock and farm equipment, and badgers can be very destructive in alfalfa fields where dense rodent populations often exist. As a result, they are viewed unfavorably by many agricultural producers in Kansas.

The badger is of minor importance to the Kansas fur trade in recent times, though pelt prices have more than doubled over the past two seasons. Annual harvests of 800 to 1,000 have been typical. Although badgers can be hunted, this is not usually an effective means of harvest or management. Nearly all harvested badgers are trapped, either at den entrances or incidental to coyote trapping.



Striped skunk (*Mephitis mephitis*)

The striped skunk is an adaptable member of the weasel family that exists throughout Kansas. Striped skunks are most often found in agricultural fields, pastures, woodlots, and associated fencerows, brushy edges, and rocky outcroppings. They also take advantage of food and denning sites provided by people, and are commonly found in urban and suburban areas where they are usually considered a nuisance. They are least common in the arid southwestern quarter of the state.

Striped skunks are easily recognized by their contrasting white stripe on otherwise black pelage, but there is considerable variation in the width of the stripe. Skunks may range in color from almost

completely black to almost completely white. They are approximately cat-sized and usually weigh from 5-10 pounds, with females being slightly smaller than males. They have a large, bushy tail, a small head with beady eyes, and long, curved claws on their front feet for digging. As a means of self-defense, the striped skunk emits a pungent musk from two anal glands. This bright yellow fluid causes severe discomfort when striking the face of a would-be predator turned victim.

Among the most den-dependent furbearers, striped skunks are capable of digging their own burrow, but usually remodel abandoned badger or woodchuck dens if available. They also take up resi-

dence in or under man-made structures including dumps, junkyards, rock fences, woodpiles, and buildings. They are especially reliant upon underground dens in the winter when they become inactive. Communal denning is common at this time, with a single dominant male taking up residence with as many as a dozen or more females. It is to the male's advantage to be in close proximity to many females during this time, since the short breeding season occurs at the first sign of warm-up in late February or March. Reproductive rates are high, with an average of six kittens being born in late April or May.

Grasshoppers, beetles, and other insects make up the bulk of the striped skunk's diet, but mice, rats, carrion, ground nesting birds and eggs, corn, and various types of plant matter are also consumed. Prey is often acquired by digging, and is usually located by the skunk's keen sense of smell.

The annual turnover rate is high for striped skunk populations. Few skunks live past the age of three. The great horned owl is a primary predator, although coyotes, badgers, and other carnivores also occasionally prey on adults. Predation of kittens by badgers and adult male skunks has been documented, and starvation during winter denning may sometimes be an important source of mortality. Skunks are susceptible to several diseases including canine distemper and most notably, rabies. In Kansas, the striped skunk is recognized as a leading rabies vector, often accounting for 80 percent or more of the animals that test positive for the disease each year.

Striped skunks were a staple of the fur trade into the 1950s, but low pelt values limit their importance today. They are easily trapped, but like opossums, most are caught in damage control situations or incidental to the trapping of other species. Recent annual harvests of 5,000 to 6,000 have been common, though harvests averaged more than 16,000 during a 5-year stretch in the late 1970s and early 1980s.



Mink (*Mustela vison*)

The mink is a semi-aquatic member of the weasel family that occurs throughout Kansas. Minks are excellent swimmers and primarily occupy habitat surrounding rivers, streams, wetlands, ponds, and lakes. They are most scarce in western Kansas where water courses are lacking. Even so, they are not entirely dependent upon a water source, and spend a good deal of time foraging or traveling in wooded or brushy upland sites. Home ranges vary considerably, but may include up to several miles of linear habitat along a water course.

Long and slender with short legs and bushy tail, the mink's build is not unlike that of its closest relatives and two of our most obscure furbearers in Kansas, the least and long-tailed weasels. Minks have

silky, chestnut-colored pelage and weigh two to three pounds, with males being slightly larger than females. Like other members of the weasel family, minks have highly developed anal glands. They are less proficient than skunks at emitting musk, though some consider minks' scent even more unpleasant.

Like the other mustelids, minks are usually solitary, except during breeding season in February and March. Usually three or four but occasionally as many as eight kits are born around April. Den sites are usually abandoned beaver or muskrat bank burrows, or crevices in rock or brush piles, hollow logs, or abandoned beaver lodges.

Minks are highly carnivorous and prey upon a wide variety of both aquatic and terrestrial animals. They are tenacious predators and

sometimes kill animals as large or larger than themselves. The bulk of their diet usually consists of mammals, with muskrats and mice topping the list. Other prey items include terrestrial rodents, rabbits, crayfish, water beetles, and other insects, fish, and frogs. Minks are also notorious nest predators, especially of waterfowl and domestic chickens. Because they readily cache food, they are prone to killing more than they can eat, especially when their quarry is confined – like in a hen house.

Few minks live longer than three years in the wild. They are sometimes eaten by great horned owls, coyotes, bobcats, or foxes, but the full impact of predation is unknown. Intraspecific aggression (one mink killing another) may be an important source of mortality. Unlike most furbearer species, minks are not significantly affected by diseases, but they may be susceptible to environmental contaminants such as mercury or pesticides.

Minks were among the most economically important Kansas furbearers until about 1970. At that time, long-haired furbearers became more popular garment items, and surpassed the traditional mink and muskrat markets. Currently, harvest levels and pelt prices are low in Kansas, and the mink is of minor importance to our fur trade. About 400 minks per year are harvested in Kansas, almost exclusively by trapping.



Muskrat (*Ondatra zibethicus*)

The muskrat is a widely distributed semi-aquatic rodent that occurs throughout most of the United States and Canada, including all of Kansas. Muskrats live in marshes, swamps, bogs, streams, rivers, ponds, lakes, and other areas where sufficient water exists to offer them protection from predators. In Kansas, muskrats are most abundant in the southcentral and northeastern parts of the state, where the combination of wetland and riparian habitats are most abundant.

Muskrats weigh 2-3 pounds and have long, laterally-flattened tails and large, webbed hind feet. Their thick, waterproof fur is usually light to dark brown, and is soft and velvety. Muskrats prefer still or slow-moving water with an abundance of aquatic vegetation, which constitutes their primary food source. Cattail, bulrush, and arrowhead make up a large portion of their diet in Kansas, but they are not exclusively herbivorous, and will occasionally eat fish, crayfish, snails, and mussels.

Like beavers, muskrats primarily use bank dens where sufficiently steep banks are available. But muskrats are better-known for constructing conspicuous houses from aquatic vegetation. Houses are

occupied in the absence of banks suitable for denning, or by subordinate muskrats unable to secure a bank den. Muskrat houses are usually up to four feet in height and about six feet in diameter, with one or more underwater entrances that lead to nesting chambers. They are usually occupied by one territorial family during the breeding season but may be occupied by several families in the winter.

Muskrats are density-dependent, making them the Kansas furbearer most prone to boom-and-bust population cycles. Very prolific, muskrats average two or three litters of young per year. Normally, there are about six kits per litter, with reproductive rates being highest when sparse populations have access to abundant food supplies. Most muskrats don't survive past their first year, and mortality factors become more pronounced as populations increase.

Muskrats are preyed upon by raccoons, raptors, snakes, red foxes, coyotes, and especially minks, and experience high rates of cannibalism or mortality inflicted over territorial disputes when densities are high. Despite typically high mortality rates, populations can continue to increase until limited by a more catastrophic event such as drought,

tularemia, Tyzzer's disease, or an "eat-out." All of these can quickly decimate a muskrat population.

At moderate densities, muskrats provide a valuable service for many species of fish and waterfowl by keeping cattails and emergent vegetation from choking out surface water in shallow, marsh-type wetlands. But eat-outs occur when muskrat densities increase beyond their habitat's carrying capacity, and wetland areas are completely denuded of vegetation by feeding muskrats. Most common in the southern U.S., eat-outs can significantly degrade wetlands for years and negatively impact many species that rely on the wetland ecosystem, including muskrats.

The muskrat was historically one of the most important North American furbearers in terms of total pelt value and number harvested, but has diminished in importance to the Kansas fur trade in recent years. During the 1980s, the Kansas annual harvest averaged more than 30,000 muskrats; in the past five seasons, the annual average has been about 7,000. Muskrats are considered one of the best-eating furbearers and are prized for their meat by some furharvesters.



Beaver (*Castor canadensis*)

The most highly sought-after natural resource in North America during the 1700s and 1800s, the beaver's dense fur was used to make the felt hats considered so fashionable in Europe. Beaver populations were dangerously low by the late 1800s, but through conservation efforts, have rebounded even to the point of overabundance in some areas. In Kansas today, beavers inhabit various waters throughout the state.

Noted as the largest rodent in North America, beavers commonly weigh 40-60 pounds and have been known to reach weights of nearly 100 pounds. The beaver is the most specialized of all rodents for life in the water. Its flat, leathery tail and large, webbed hind feet are perfectly suited for swimming, and membranes in the ears and nose close while underwater. The beaver's dense, tan to chocolate brown fur traps air to keep water off its skin, providing insulation from near-freezing water temperatures during cold winter months.

Beavers usually live in family groups consisting of an adult pair and one or two generations of young, totaling four to eight beavers. The young, or kits, are usually born in April or May, and average three or four per litter. The

home range or territory of the group usually consists of a pond or a stretch of river or stream, and is scent-marked with castoreum (emitted from the castor sacs) and defended against intruding beavers.

In northern climates, beavers often live in "lodges," but in Kansas where steep banks are common, beavers usually burrow dens into the side of pond dams or river banks. The beaver's "food cache" can usually be found nearby. The food cache consists of a pile of sticks and branches collected in the fall and stashed underwater for winter use. The cache is the beaver's only source of food when the water's surface has iced over. The cache is always located close to the den, which is the beaver's air source during these times.

The beaver's instinctive dam-building behavior makes it one of the most ecologically important wildlife species. The dams, which are constructed with sticks and mud, back up water to flood woodlands or surrounding habitat. While these beaver ponds help maintain water supplies during drought periods and create excellent habitat for a variety of fish and wildlife, they often conflict with the interests of man – especially when the flooded area consists of roadways,

parks, or valuable agricultural land.

Exclusively herbivorous, beavers feed on a variety of plants, grasses, forbs, and even agricultural crops. But it is their taste for tree bark that

has drawn them the most attention, and in some cases, ire, over the years. Beavers utilize many species of trees, but young willows and cottonwoods are among the most preferred in Kansas. Felling trees allows beavers access to the smaller, more nutritious branches in the canopy, and provides materials for dam, food cache, and lodge construction.

Beavers seldom venture far from the protection of water, and warn others of danger by slapping their tails on the surface of the water. In Kansas, only bobcats and coyotes prey on adult beavers, though other species may prey on the kits. Tularemia is a disease that can negatively impact beaver populations, and beavers are common carriers of the *Giardia* parasite that causes a human water-borne illness known as "beaver fever."

The beaver is an economically important furbearer because of the value of its pelt and the damage it inflicts through flooding and tree-cutting activities. About 10,000 Kansas beavers have been harvested annually since the mid 1990s, many of which are taken in damage control situations. Beavers may be taken only by trapping, and their harvest season is longer than that of other furbearers. They are widely regarded as one of the most palatable of Kansas furbearing animals.



Furharvesting in Kansas

With abundant furbearer populations throughout most of Kansas, furharvesting opportunities abound. In fact, furbearers are probably one of our most underutilized natural resources, and the benefits of their harvest are numerous. Most furbearer species are responsible for various depredations or property damage, and furharvesting during the legal seasons acts as the primary means of furbearer population and damage control. Regulated harvest also provides

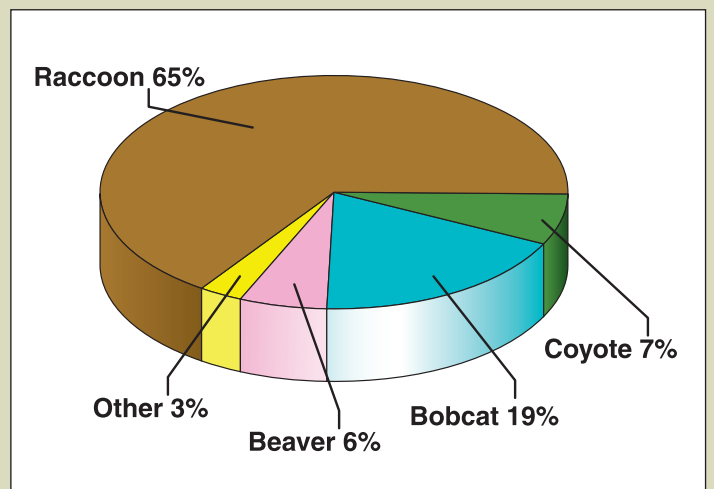
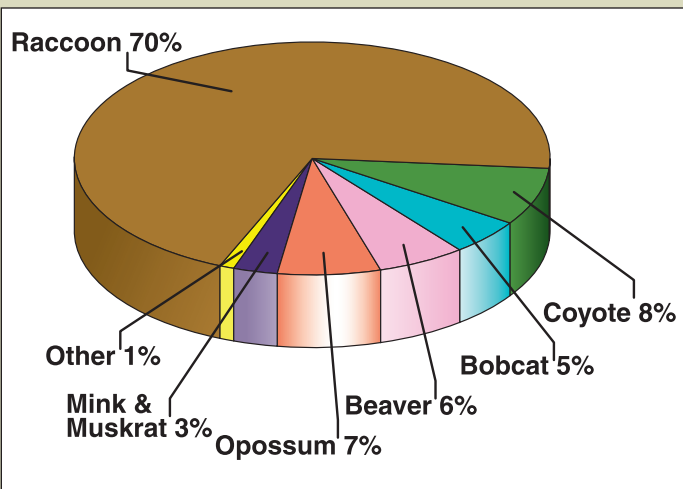
generally rural participants with fur, meat, and income in an environmentally friendly manner. Furharvesting is often considered a recreational pursuit, but as with hunting, “recreation” does not adequately describe the cultural and social importance of furharvesting in the lifestyles of many participants. Perhaps most importantly, furharvesting helps to propagate the positive values associated with furbearer species.

There are about 4000 licensed furharvesters in Kansas,

including hunters, trappers, and houndsmen. Of these, trappers account for the vast majority of the harvest of all species except for raccoon and coyote. Most of the furbearers harvested in Kansas are eventually shipped to Russia, China, or South Korea, often through Canada, but there are three primary outlets through which most of the Kansas furbearer harvest is marketed. Pelts are usually shipped to one of several major fur auctions in the northern U.S. and Canada, sold at one of the two or

three fur auctions held annually in Abilene by the Kansas Fur Harvesters Association (KFHA), or sold directly to one of the 30 licensed furdealers in Kansas. For most furharvesters in Kansas, these fur dealers provide the most critical link to the extensive foreign markets for which the current fur trade exists.

Furbearer pelt values are not what they were during the fur boom years of the 1970s and 1980s, but fur market analysts are currently more optimistic than they've been in over a decade. Pelt values of some species have nearly doubled over the past few years, and are expected to continue to rise. About \$300,000 worth of pelts were sold to Kansas fur dealers alone during the 2001-02 season, not to mention the value of pelts that were kept and tanned or shipped to out-of-state auctions. This is a far cry from the multi-million dollar sales to Kansas fur dealers through the mid 1980s, but all things considered, now is a great time to be a Kansas furharvester.



The pie chart on the left shows the species composition of approximately 41,000 furs purchased by Kansas fur dealers during the 2001-2002 furharvesting season. The chart on the right shows species contributions by percent to the total of approximately \$300,000 worth of furs purchased by Kansas fur dealers during the 2001-2002 season.

Harper County Youth Deer Hunt

text and photos by Mike Miller
editor, Pratt

Mix in some excited youngsters, some experienced deer hunters, a few accommodating landowners, along with a supportive community, a sportsmen's organization and some generous local businesses and you've got the recipe for a successful youth hunting event.



As the doe fed along the edge of the swathed feed field, I watched through binoculars and realized my heart rate had picked up noticeably. It's normal for my heart rate to double when I see a deer -- when I'm hunting. But I was only watching as a young hunter trained his rifle scope just behind the deer's front shoulder. The boy's uncle coached him to wait for a good shot and to remember the lessons he'd learned on the rifle range. I think I was as excited as the youngster who was about to take his first deer.

Kyle, who is 13, was cool as the early morning breeze and made a perfect 160-yard shot on the big doe. Twenty or more deer in the field scattered at the shot, and Kyle's uncle and I congratulated the young hunter. Kyle wasn't interested in the formalities. He was anxious to see his first deer. So were we.

It was the second day of the two-day deer season for youth and persons with disabilities. We were participating in a special youth deer hunt that was the result of district wildlife biologist Brad Odle's vision and hard work. This year marked the third year for both the special

youth deer season and the Harper County Youth Deer Hunt. This youth hunt is a model for all to copy.

Odle came up with the idea for a youth hunt as he helped Harper County farmers deal with deer problems in 1999. Hunting is the most effective and economical way of controlling deer numbers, so Odle asked landowners whether they would allow access to youth during a special hunt. Many were receptive.

That's when the work began. Odle constructed 18 wooden box blinds for the youth and guides to hunt from. He worked with the Anthony Gun Club and the City of Anthony, and he talked to the Harper County Chapter of Quail Unlimited for help. Odle secured permission from area landowners and scouted for places to set the blinds. He then advertised the program and selected the first participants — 18 youngsters, 16 years old or younger who had never hunted deer before.

The first year, Odle took all who applied. The past two years, Odle has drawn names when applications outnumbered openings. Because doe harvest is necessary to

reduce deer numbers, Odle has encouraged youth to take does. The hunters' success rates were phenomenal the first two years -- 9 of the 18 youth took deer the first year and 14 of the 23 took deer the second. Harvest success dropped off a little in 2002 with 7 of 23 youth connecting, although most hunters saw deer and had opportunities. Nearly all of the harvest has been does.

The success rates are even more impressive when you look at the time actually spent hunting. When the young hunters arrive before noon on Saturday, they check in so that Odle knows they have Hunter Education cards and proper permits, as well as if there are any with special needs. After lunch, youth listen to programs on deer management and hunting techniques and sight in their rifles. At 5 p.m., youth, mentors and guides depart for their hunting areas. All check back in after dark, then return early the next morning to hunt until 10:30 a.m.

Others considering a youth hunt need look no further for a blueprint. True, Odle did a ton of the leg work initially, but he also relied on other department personnel and Harper County residents. And that commu-

nity support has grown each year. The City of Anthony provides hunters with free camping spots and the Anthony Gun Club provides the shooting facilities. The Quail Unlimited chapter helps with lunch and dinner and even provided youth and adults with t-shirts this year. Local businesses help with drinks and sack dinners for the evening hunt. More than 30 landowners provide access, some also serving as guides. The program has grown to one of exceptional cooperation with nothing but positive results.

The special hunt is a spinoff of the department's hunter recruitment program, "Pass It On," which is designed to ensure that youth with an interest have an opportunity to hunt. The percentage of Kansans who hunt has declined in recent years, and the program promotes hunting as a valued heritage and a great way for parents to spend quality time with their children. As our population has become more urban and more activities compete for our time, fewer youth are experiencing hunting each fall.

To encourage parents to include their children in hunting, the department and its Commission established special youth hunting seasons. The seasons generally open for a few days before the regular season and provide young hunters opportunities to hunt in



District wildlife biologist and hunt organizer Brad Odle checks in the hunters on the first afternoon. Anxious young hunters have several hours before their first hunt.

uncrowded, noncompetitive conditions. The youth seasons are open to all who are 16 or younger, have adult supervision, and possess the required stamps, licenses and permits.

Organized special hunts are sometimes conducted in conjunction with the youth seasons. Department wildlife biologists, area managers, park managers, and law enforcement officers, often take on the role of organizer or help with these special hunts. And all do it in addition to their regular work duties. Although many department staff are dedicated to the purpose and spend many extra hours on youth programs, they can't do it

alone. That's why the Harper County event is so important. It shows how the local community can get involved. It also shows what a win-win situation this effort is. Not only did 23 young hunters find out how exciting hunting can be, but each also received lots of one-to-one attention from adults who cared enough to spend their weekend at the event. On a small scale, local businesses benefitted as more than 60 people spent the weekend in Anthony. And the local gun club may have recruited some future members.

Everyone, from the young hunters and their parents and adult partners, to the guides, department personnel and landowners left with a smile on Sunday. Everyone felt fortunate to have been a part of such a positive event, and they are already planning for next year.

You can be a part of Pass It On by simply taking a youngster hunting this fall. Take advantage of the youth upland bird season, Nov. 2-3 or hunt during the regular season. If you're interested in working with a special youth hunting event, contact your nearest Wildlife and Parks office or Mike Christensen at Big Brothers Big Sisters, (316) 290-8883. A potential young hunter somewhere will be glad you did. 🦋



The first evening of the inaugural hunt was a success for several of the young hunters. During the three-year history, all but three of the deer taken have been does.

Edited by Mark Shoup

MEMORY MERCHANT

Editor:

Man, Mark Shoup hit the nail on the head with "The Memory Merchants" [*Kansas Wildlife and Parks* magazine, March/April 2002, Page 39]. Great job, indeed. I have emailed it to my relatives in New Mexico who used to live in Larned and will share it with my Dad.

Apparently, there was a "Robinson Hardware" in all the small Kansas towns at one time. When I shared the story with my law partner, now in his 60s, he said the gathering place in Russell, where he grew up, was a local service station, now long closed.

The memories are universal; only the locations are different. Sadly, as my partner commented, all these places are gone with the wind.

Keep up the good work.

*John Horner
Great Bend*

PHEASANT CONCERN

I recently saw an article on the front page of the Salina Journal that spoke of the need for more funding, which I fully understand. However, KDWP Secretary Hayden was quoted as saying the decline in populations of prairie chickens and quail is the most pressing or disturbing issue now facing your department. I also remember seeing a similar quote from former Governor Hayden in the KDWP Magazine a couple of months ago.

How about pheasants? I just read that the 2001 pheasant season was the worst on record. Northwest Kansas pheasant populations are down 80 percent according to a study done a few years ago by your own Randy Rogers. Since that study regarding height of wheat stubble and spraying and its affects on the reproduction of pheasants, what has Wildlife and Parks done to address this issue?

Is there any way to team up with Pheasants Forever and other wildlife

organizations to provide incentives for farmers to leave their wheat stubble at least 16-18 inches tall without spraying and leaving fallow for a year? I'm just concerned about the lack of public statements and acknowledgment from your department on the issue of the horrible pheasant populations that have existed for the past 5 years or so. Also, it seems as if the official stance from your department is that the decline in pheasants is just a cyclical thing that will work itself out. Is that a true interpretation? If so, what about Mr. Rogers' study?

Thanks in advance for your reading of and responses to my questions.

*Justin Law
Kansas City*

Dear Mr. Law:

I will not propose to speak for Secretary Hayden, but I do believe that he considers the pheasant situation highly important. About five years ago, we initiated the Western Kansas Pheasant Initiative, which has been funded at about \$100,000 per year. While I realize that is not a huge sum when it comes to the daunting task of reversing the declines in pheasants (similar amounts are being specifically dedicated to bobwhites and prairie chickens), we are trying to use this money to leverage positive changes on the agricultural landscape of western Kansas. Specifically, we are funding agricultural research that has potential for positive pheasant spinoffs and are using some of this money to promote the benefits of CRP grass buffers (strips).

All this work takes a lot of time. (It will take years to reverse the pheasant decline, even under the best of scenarios.) As an example, we have recently completed a study with KSU Agronomy revealing that post-harvest weed control on wheat stubble in the wheat-fallow rotation actually costs the farmer a lot of money that is not regained. (It's much better to let the weeds grow.) We are in the process of getting that infor-

mation out to the farmer in every way we can. Again, it takes a lot of time to not only get the info to the farming community but to convince them of its validity.

CRP grass buffers, when integrated into the cropping system, can create a tremendous amount of habitat edge where little was previously present. Again, the education effort will take years. We are in the process of establishing those examples now (slowed, unfortunately, by severe drought).

I have not seen any "official interpretation" that the long-term decline in pheasants is just "cyclical." While weather plays a huge role in pheasant populations, and that is the primary factor addressed each year in the fall forecast, the long-term decline is most assuredly due to changes in agriculture.

We are doing as much as our resources permit, and we are working with Pheasants Forever. Unfortunately, these problems are not unique to Kansas. Upland game birds are under great pressure everywhere from the forces of nature and human activity.

Thanks for your concern and support. I hope this helps.

*-Randy Rodgers, research
biologist, Hays*

LANDFILL WORRY

Editor:

There is a group in Harper County that you folks know of that is trying to get a permit for a landfill on about 1,000 acres of land. This has never been brought before the people of Harper County. We really need your office not to issue this permit. I have been to the meetings, and I'm also the chairman of the Republican Party here in Harper County.

I have gotten somewhat involved because this is an issue of right and wrong. The majority of the people don't want this landfill. We already know what long-term effects it will have on wildlife.

Your department is the only one that can prevent this.

I don't hold a grudge toward the people of Sedgwick County on the landfill issue, but there are proper sites where the garbage can go. It can be worked out with a team effort. If this does pass, it will be sending a message to Topeka that we all have turned our backs on environmental issues, and our children will be holding the bag years down the road. We need your help.

*Dennis Murphy
Harper*

Dear Mr. Murphy:

As a quick overview, KDWP has been to the proposed landfill site on three field surveys. Our primary concern was for the state-threatened Arkansas darter. We now have a good handle on where this species occurs on this site. The landfill company, Waste Connections, has moved the footprint of the landfill to exclude the darter areas from any direct impact from landfill activities. We have also met with the landfill company on two occasions, representatives of the Tri-County Concerned Citizens on several occasions, the Kansas Department of Health and Environment (KDHE), and the Kansas Geological Survey (KGS).

At this time, KDWP is concerned about potential changes to groundwater quantity or quality from landfill activities. Both could possibly impact the darter. We have contacted KGS to request an independent review of the hydrogeologic report being developed by Waste Connections' consulting firm. To date, Waste Connections has not finalized their report, so KDWP is currently waiting for completion and review from KGS.

If the independent review indicates that there will not be an impact to groundwater quantity or quality, there will not be an impact to the darter, and KDWP will no longer be involved in the permitting process. If the review indicates there will be impacts to the darter, KDWP will work with KDHE, KGS, and Waste Connections to address protection of the darter.

It is important to keep in mind that the laws in Kansas are designed to pro-

tect endangered species and their critical habitats. If a project can be constructed without impact to a sensitive species, then KDWP has no statutory or regulatory authority to prevent a project from going forward.

- Chris Mammoliti, Environmental Services Section chief, Pratt

ONE FOR THE LADIES

Editor:

I am writing to you about the article from the Nov./Dec. 2001 issue of *Kansas Wildlife and Parks* magazine called "Designed For a Woman" [Page 8]. This article interested me when I first read it because I recently helped my girlfriend find some duck hunting gear. She had complained just like Dana Eastes, the author of the article, about the comfort and fit.

We recently ordered boot-fit waders out of Cabela's, along with a waterproof parka. I never knew how much equipment there was designed for women until we started shopping around.

After all of the hunting for the equipment was done, it was then time to field-test the waders and parka. She said that the boots in the waders are slimmer and fit much better. The straps of the waders are no longer too wide for her shoulders. Also, the parka is a tighter fit, so she can move more comfortably. This allows her to bring the gun to her shoulder without hooking the butt of the gun on her coat.

The article was very well written and researched. Men as well as women need

the same things out of their hunting or fishing gear. We both need them to be dependable, durable, and comfortable and to keep us dry and warm in the harshest weather. The two most important things are that our equipment is comfortable and functional.

*Lane Peterson
Galva*

LOVE THE PHOTOS

Editor:

As always, your Jan./Feb. photo issue was the highlight of the six issues I receive from KDWP each year. It reveals the love that Mike Blair has for the total Kansas environment and is a tribute to his skill with a camera. What patience he must have in waiting until the most opportune moment to capture wildlife on film. I also enjoyed Mr. Blair's text on the change of seasons.

I have found the Flint Hills along the I-70 corridor between Topeka and Junction City to be the most scenic area of Kansas. In spring, they are graced with exotic wildflowers while in the autumn and winter, they appear dark and brooding. During my years at Kansas State University (class of '59), my wife and I were thrilled every time we drove this route. The Smoky Hills west of Salina are almost as pleasing to the eye.

Thanks for another treasure of Kansas gems.

*Richard E. Cooper
El Dorado*



TURKEY POACHING POLICE CAPTAIN

In the fall of 2001, information was received from several sources that an Emporia State University police captain had been boasting of poaching turkeys throughout the year. The information provided locations in Lyon and Greenwood counties that Captain Chris Hoover, Olpe, might be likely to poach.

Surveillance of Hoover's hunting areas and residence paid off when he was contacted and found to be in possession of five breasted wild turkeys. The captain admitted that he and a 16-year-old neighbor had illegally killed the birds and transported them without tagging them.

Hoover was charged in Greenwood County District Court with five counts of failing to tag a turkey, four counts of exceeding the bag limit for fall turkey, and four counts of taking a turkey without a valid permit. His

Benelli shotgun, fall turkey tag, and the five breasted turkeys were seized as evidence. The 16-year-old was charged with the same violations and with one count of being under 27 and not having a hunter education card in possession. The youth had an identical Benelli shotgun, which also was seized.

Both entered into diversion agreements with the court. Their hunting privileges were suspended for a 12 months. They were assessed fines and cost to the court of \$739 each, were allowed to have their shotguns returned for \$700 each, and paid \$250 each to the Department of Wildlife and Parks for restitution for the turkeys. The cost to each offender was \$1,684.

The 2002 fall turkey season allows four turkeys to be harvested per hunter. In addition to the primary turkey permit, a hunter may purchase as many as three fall turkey game tags valid in Unit 2, for \$10 each, after

having purchased the regular fall permit. All big game must be tagged immediately.

—*Dave Adams, conservation officer, Reading*

NEW FOR 2002

Several new regulations affect hunters this season, as follow. Check the *2002 Kansas Hunting and Furharvesting Regulations Summary* for maps and other details.

Deer – As in the past, each hunter (resident or nonresident) may purchase as many as four Whitetail Antlerless Only Game Tags. However, a maximum of two game tags per hunter may be used in deer management units 1, 2, 5, 10, 11, 14, 17, and 18.

The January white-tailed antlerless only deer season will not be open in deer management units 1, 2, 17, and 18.

Persons with a handicapped permit may use a draw-locking device on a conventional bow during the archery deer season.

Hunt-own-land permits in units 17 and 18 are designated “any deer” permits, as they are in all other units.

Turkey – Dogs may be used to hunt turkeys during the fall season.

Minimum age restrictions for turkey hunting have been removed.

Unit boundaries for fall turkey hunting now coincide with unit boundaries for spring turkey hunting.

An unlimited number of archery permits is available in Unit 1.

Hunters may obtain as many as three turkey game tags in Unit 2, in addition to the original permit.

Lifetime license – A person must maintain residency in Kansas for at least one year to be eligible to apply for a lifetime license.

Disability certification – A nonresident physician may certify a person's disability in order to apply for certain permits.

—*Shoup*

Chase To The End

During the 2001 firearms deer season, Conservation Officer Jim Bussone, Arma, and I (CO Terry Mills) had set the decoy deer in a wheat field in Linn County where a large whitetail buck had been killed two days before. We had only been set up for about 30 minutes when a pickup came creeping down the road.

When the truck got in sight of the decoy, the man driving took a shot and then drove off at a high rate of speed. Bussone was in position to stop him, but the man tried to force Bussone off the road and take the bar ditch. Then a 32-mile pursuit took place.

By the time I got the decoy loaded and was out on the road, the suspect was several miles away, and the chase had been in two other counties. Bussone had lost the suspect, so the chase was terminated.

About 15 minutes later a Linn County Sheriff's officer located the vehicle and tried to stop the suspect, and again he fled. But the transmission in his truck began to give him

problems, and the suspect pulled over and stopped.

By the time Bussone and I got to the scene, officers from Anderson County Sheriff's Office and Allen County Sheriff's Office were also at the scene. The suspect, Alfred Griggs of Savannah, Missouri, was taken to the Linn County jail. I attempted to interview Griggs, but he didn't want to talk. A bond was set at \$2,850, and his truck was impounded. Griggs couldn't make bond for several days and appeared in court two months later for a plea agreement of \$1,500 in fines and \$250 in restitution. He also lost hunting rights for four years, lost his rifle, and paid a \$50 prosecutor's fee. In addition, he had to return the antlers from the deer he had shot.

Griggs brought me a small set of fork-horn antlers, not the nine-point that he really killed. What he didn't know was that the landowner had seen the deer and knew what the antlers looked like. I told Griggs what I knew and that if he didn't bring me the right ones that he would be going back to jail and back to court. Within the hour, I had the nine point rack in my possession.

—*Terry Mills, Conservation officer, Pleasanton*

Urban Deer Management

Deer are becoming an increasing problem in many Kansas urban areas, particularly Johnson County. Deer-related vehicle accidents and damage to ornamental plants are the main problems. In newly-annexed areas of cities where much of the land is in agricultural production, crop depredation is also a problem.

White-tailed deer are extremely adaptable animals. They will use a wide variety of habitats and food sources and quickly learn that humans are no threat to them if they are not hunted. They also can proliferate very rapidly in urban areas because does typically have two fawns per year, and the survival rate is generally high. These attributes, combined with the loss of significant natural predators and local restrictions on hunting in most urban areas, has lead to increasing deer populations and conflicts with humans.

Because the combination of predator loss and the prohibition of hunting in most urban areas leads to unnatural densities and behavior of deer, a common and biologically correct aspect of urban deer management is to allow and promote hunting. There are also non-lethal methods that, particularly when used in conjunction with hunting, can reduce deer-human conflicts. A few cities in Kansas have taken the time to address their urban deer situation, and Lenexa (a city in the Kansas City Metro Area of Johnson County) is the most recent.

Lenexa's urban deer management program is a two-pronged approach. The city of Lenexa has previously not allowed hunting within the city limits. Beginning this year, hunting with archery equipment from elevated tree stands is legal on tracts of rural, private land greater than 20 acres. Within these constraints, all KDWP regulations apply.

Additionally, Lenexa is establishing a system to disseminate information to homeowners who have deer problems. Such information includes the use of fencing, repellents, and browse resistant plants. Plans for a deer information web site are underway, and Lenexa intends to maintain communication among the city,

residents, and the Kansas Department of Wildlife and Parks regarding deer management. This is definitely a good start to handling urban deer problems and provides a starting point from which to implement more aggressive measures in the future, should they be needed.

Bowhunting as a management tool is generally a more appealing form of deer hunting in urban areas than firearms due to public concerns over safety and noise. Other cities in the K.C. Metro Area have recently changed their ordinances to accommodate deer hunting. Shawnee and Edwardsville allow archery hunting in some form, and archery hunting is allowed in most of Wyandotte County. It is likely that other cities will follow.

—James Lee, district wildlife biologist, Lenexa



Terror Targets Forests

As the nation prepared to honor the one-year anniversary of the 9-11 terrorist attacks, an environmental terror group bragged about its involvement in the destruction of a U.S. Forest Service research station and called other Forest Service facilities "likely targets" for future terror acts.

The Earth Liberation Front (ELF), one of the nation's most active domestic terrorist organizations, according to the FBI, claimed responsibility for an August 11 arson that caused \$700,000 damage to a U.S. Forest Service research office in Irvine, Pennsylvania. It targeted the facility in response to timber sales, oil drilling, and "greed driven manipulation of nature" in the Allegheny National Forest.

"This facility was strategically targeted and, if rebuilt, will be targeted again for complete destruction," the group said in an anonymous communique. "Furthermore, all other U.S. Forest Service administration and research facilities should now be considered likely targets."

To help combat environmental terrorism, the U.S. Sportsmen's Alliance has drafted model legislation to help the states prosecute eco-terror and animal rights terror organizations, as well as other groups that support terror tactics. For more information about the model legislation, contact the U.S. Sportsmen's Alliance at (614) 888-4868 or info@ussportsmen.org.

—Outdoor Sportsmen's News

NUGENT TRACKS A BASS

'N Sync-er Lance Bass got a firm "Nyet" on his quest to get to the International Space Station. Apparently, his backers couldn't raise the required \$20 million.

But now rocker Ted Nugent has a wide-open-space offer that will save the boy band member a lot of dough. For only \$1 million, Nugent will let Bass visit his Michigan ranch and teach him how to hunt, kill, clean, and cook for himself. He'll even throw in a few guitar lessons to boot.

If he accepts the offer, Bass will be in expert hands. The author of "God, Guns & Rock 'n' Roll" and NRA board member, Nugent has another book out that's put PETA members into a tizzy and whetted the appetite of meat enthusiasts. It's called "Kill It and Grill It: A Guide to Preparing and Cooking Wild Game and Fish."

—newsmax.com's "Left Coast Report"

Chronic Wasting Disease Update

Chronic wasting disease (CWD) is a member of a general group of diseases called transmissible spongiform encephalopathies, or TSE. Scrapie, the TSE that affects sheep and goats, has been known for two centuries. There is no proof that CWD originated from scrapie.

CWD was first discovered in Colorado. It has since been found in wild deer and elk in portions of Nebraska, South Dakota, Wisconsin, Wyoming, and Saskatchewan, Canada. An elk in a captive herd near Anthony, Kan., tested positive for CWD last year. The entire herd was destroyed.

The Kansas Department of Wildlife and Parks (KDWP), with the aid of the Kansas Animal Health Department and the U.S. Department of Agriculture Veterinary Services, has been testing wild deer in Kansas for the past several years. Samples are sent to the National Veterinary Services Laboratory to test for the presence of the disease in the brains of these wild deer. All of the samples to date have been negative and the brain samples normal.

Many infected animals have been found in captive deer and elk herds in other states, and movement of animals between captive facilities is a way the disease can move to a new location.

"These captive herds are privately-owned," explains Lloyd Fox, big game coordinator for KDWP. "They are part of a new farm industry that is developing in many states. Wildlife managers are con-

cerned that these animals may spread this disease to areas where it currently does not exist. Because CWD is so resilient to environmental factors, any artificial spreading of the disease, such as might occur when animals are moved from one farm to another, could have consequences to the wild animals in that area. Captive animals sometimes escape, and wild animals can get into and out of some pens."

Fox adds that pens are generally built in a manner that allows nose-to-nose contact between captive and wild animals. If the pens are allowed to deteriorate, access to the pens becomes easy. As a result of all these factors, Fox says, the disease will not remain within the pens. CWD prions (proteins that are the infectious agent of the disease) from wild or captive animals are equally resilient.

Symptoms of CWD include abnormally-thin animals with shaggy or dull coats. The deer often spend long periods of time with their heads held low to the ground and with their ears drooped to the side or downward. The sick animals drink water frequently and urinate often. Wild deer with the disease may be unafraid of humans.

"These symptoms are not proof that a deer has CWD," Fox explains. "There are numerous diseases of deer that may cause some of these or similar symptoms. One of the diseases of deer that we frequently see at this time of year is a disease called epizootic hemorrhagic disease,

or EHD. That disease is caused by a virus that is transmitted to the deer by a biting fly. EHD is not related to or associated with CWD in any way. Sick deer that have EHD are often seen near a pond or stream, and the deer are frequently so ill that they have no ability to run from humans. They often hold their head low, and in the chronic stage, the deer will become extremely thin. Any sick or dead animals may have that disease."

Health professionals believe that CWD cannot be naturally transmitted to domestic livestock. A similar disease in cattle is bovine spongiform encephalopathy (BSE), which received mass media attention during an outbreak in Great Britain. The disease was named "mad cow disease" and captured the attention of people around the world, in part because it was believed to have been initiated in cattle by the practice of feeding them rendered products from livestock sent to slaughter plants. BSE was first diagnosed in 1986. Britain banned the use of rendered proteins fed to cattle in 1990, and the prevalence of the disease has dropped.

There is also a series of spongiform diseases in humans. They include fatal familial insomnia, Gerstmann-Sträussler-Scheinker disease, Creutzfeldt-Jakob disease, and Kuru. These diseases are extremely rare, occurring in less than one in a million people.

There is currently no scientific evidence that CWD has or can spread to humans, either through contact with infected animals or by eating meat of infected animals.

Each winter, the Kansas

Department of Wildlife and Parks collects samples from wild deer that hunters have taken. Hunters who provide their name and address will be notified if their deer has any of the diseases that will be checked, including CWD.

Common safety precautions should be followed by people who hunt or eat deer or elk. People should avoid contact with any wild animal that appears to be sick. Rubber gloves should be worn while field dressing the carcass. Bone-out meat and do not include the brain, spinal cord, spleen, and lymph nodes in items that people will consume.

To be effective in controlling the spread of the disease, the health of Kansas deer and elk herds must be monitored. Hunters are encouraged to cooperate with wildlife agencies during voluntary collections of samples. Everyone is encouraged to call (620) 672-5911 and report the presence of sick deer and elk.

A flyer compiled by the Wildlife Management Institute entitled "Questions and Answers on Chronic Wasting Disease for Hunters," has the best available information as of July 2002. The flyer also encourages hunters to check for periodic updates on the Chronic Wasting Disease Alliance's website at www.cwd-info.org. For copies of the flyer, contact the National Shooting Sports Foundation, 11 Mile Hill Road, Newtown, Connecticut 06470.

Another good source of information is the Colorado Division of Wildlife's CWD website, <http://wildlife.state.co.us/cwd>.

—Shoup

FEEDING THE HUNGRY

Kansas deer hunters should remember the hungry this year when they have more deer than they can eat. Farmers and Hunters Feeding the Hungry (FHFH) provides venison to needy families. Hunters can donate deer to participating processors at no cost to the hunter. Donations from churches, clubs, businesses, and individuals cover the costs of processing, packaging, and freezing the meat. Donations may be sent to Farmers and Hunters Feeding the Hungry, PO Box 260, Strong City, KS 66869.

FHFH is co-sponsored by the Flint Hills Resource Conservation and Development Council, Strong City; the Glacial Hills Resource Conservation and Development Council, Valley Falls; and the Kansas Department of Wildlife and Parks. Interested persons may call toll-free at 1-866-452-2425 for more information or a brochure listing participating meat processors, or may email (tonyderosett@home.com) or telephone DeRossett at (913) 768-6479. Information on the Kansas program is available at the organization's Internet website, www.ksfhfh.org.

—Shoup

DEVELOPING SHOOTING RANGES

The National Association of Shooting Ranges (NASR) has released a new manual, "Construction of Shooting Ranges With Wildlife Restoration Funds," to help guide those seeking to

develop ranges through the complex maze of regulations associated with funding through the Federal Aid in Wildlife Restoration Act or Pittman-Robertson Act.

Federal funds for range development became available in the early 1970s when amendments to the Pittman Robertson Act were passed. Those amendments included an added tax on handguns and handgun ammunition

and archery equipment and included a provision that 50 percent of the additional revenues be used for hunter education and shooting range development.

In the past, state fish and wildlife agencies have identified compliance laws and procedures, especially those associated with the National Environmental Policy Act (NEPA), as one of the barriers to range construction.

This manual will help those agencies successfully navigate the process of building shooting ranges.

Copies of "Construction of Shooting Ranges With Wildlife Restoration Funds" are available from NASR at a cost of \$25.00. Contact Mary Maki at NSSF at (203) 426-1320 or email mmaki@nssf.org to obtain a copy.

—NSSF's Bullet Points

Ark Valley QU Honored

Once again, Kansas' Ark Valley Chapter of Quail Unlimited (QU) has made an outstanding effort to improve quail hunting in Kansas. At the Quail Unlimited National Convention in Atlanta, Ga., July 25, the Ark Valley Chapter was recognized as the number-two chapter in the nation for habitat work performed in 2001, and the number-three chapter in the nation for work with youth.

In presenting the award to Ark Valley Chapter Chairman Mike Malone, QU's national executive vice president, Rocky Evans, noted that "the Ark Valley Chapter has been one of the most successful chapters in the nation over the last 10 years."

The Ark Valley Chapter has won the Regional Habitat Award five out of the last six years, won the National Habitat Award two years ago, and received the second place award in the Top Gun category that year as well. The group is putting habitat projects on the ground and working with the local young people, as well as working to benefit upland game across Kansas.

The group provided more than 72,000 pounds of milo and sunflower seed for food plots, continued support of habitat projects on the McPherson Valley Wetlands, and contributed to projects developing habitat on the Department of Wildlife and Parks' Walk-In Hunting Area lands.

Chapter Chairman Malone is hopeful that the group will be able to repeat their performance in 2002. "While funds from our banquet were down somewhat," he explains, "we are aggressively pursuing matching funds to put good solid habitat projects on the ground."

Key among these is the chapter's work to establish more buffer acreage in Sedgwick and the surrounding counties. (Buffers are strips of native grass planted in farmland that reduce erosion, provide wildlife habitat, and provide payments to farmers through the federal Conservation Reserve Program.) In 2002, the Ark Valley Chapter assisted with the establishment of more than 160 buffer acres in Sedgwick, Reno, Butler, and Harvey counties, a significant increase over the 13 acres they assisted with in 2001.

In addition to habitat work in 2001, the Ark Valley Chapter hosted two upland game hunts for Big Brothers/Big Sisters, donated funds to the Flint Hills High School Trap Team, and contributed to the Kansas Wildlife Habitat Evaluation Contest, which has teams from high schools and junior highs across Kansas evaluate specific habitat to determine the best ways to improve it.

For a complete summary of projects the chapter completed in 2001, visit the Ark Valley Chapter link on the QU website, www.qu.org or email mchristensen@ksbbbs.org.

—Mike Christensen,

Pass It On Coordinator, Kansas Big Brothers Big Sisters, Wichita



A FISHER OF MEN

(or ROAD CHATTER)

by Mark Shoup



In late September, my fifth-grade son, Will, and I leave Mole's Elbow in route to the 8th Annual Tuttle Creek Lake Association Youth Fishing Clinic in Manhattan. Although Will is not a fishing fanatic like my older son, Logan, I figure we'll have fun just taking a road trip together.

A few short miles up Highway 281, however, we run into road work, and the flagman is showing "STOP," with one car waiting.

"Oh, man," I lament. I hate roadblocks. Fortunately, the roadblock is next to a county road I know will take us east and north to Stafford. "Okay, Will. How would you like to take some back roads?"

"Sure," he replies gamely, relishing the adventure.

"Great," I answer, turning east. "This blacktop is kind of bumpy, but at least we won't have to wait or drive the dirt roads." Three miles east, the former pavement turns into a dirt road, another victim of dwindling rural tax bases bleeding the once-vital system of blacktop veins that, in better days, made smooth, quiet connections between the villages of west-central Kansas.

I look at Will, ever the optimist, who just shrugs and smiles. "At least we didn't have to wait," he says.

About 10 miles later, we pull onto Highway 50 and settle in for our cruise, and Will has launched into a discussion of Jack London's *White Fang*, which he has just read, and *The Call of the Wild*, which he has just started.

"White Fang had a lot of names," he explains. "The Indians named him White Fang because even though he was a quarter dog, he had the white fangs of a wolf. Then he became The Fighting Wolf and finally The Blessed Wolf in the end." Then, as if it's a natural continuation of the same thought, he adds, "My favorite mix of dogs would be a husky/golden. I'd call it a Siberian retriever. What's yours?"

A speculative conversation lasting

some 20 miles ensues, with some amusing mixes conjured. I describe the time when I was his age, fishing on the Pawnee, and my husky-German shepherd mix killed a sheep that my dad had to pay for. An odd-looking poodlepointer on the cover of the latest Missouri Conservationist also comes to mind. Will notes that, because of the poodle, this would be a really smart dog. I grudgingly agree.

"The more you use bigger words, the more fat you lose," Will declares.

Has the conversation shifted - through the influence of Jack London's literary style or the subject of cross-breeding - or is there some paranormal connection I'm missing?

"Whaa . . . what? What are you talking about, Will?"

"The more bigger words you use, the more energy you burn, so the more fat you lose," he explains, "so you could just sit around all day talking in big words and lose fat." He stares forward seriously, then slowly cocks his head toward me and grins. "It also works with tall tales."

"Well," I laugh, "I'm sure you could make a fortune with that diet."

This, in turn, leads to a discussion about the diet of dogs, and now it's my turn to make a stream-of-consciousness leap, explaining how a Marine friend of mine once had to eat a half-rotten, half-cooked Komodo dragon to avoid insulting Vietnamese villagers. This delicacy's affect was a case of worms, I explain, which bends Will over in fits of laughter. My friend had not thought it so funny.

Once he catches his breath, Will must add more facts to the topic: "Dad, scientists are studying Komodo dragon blood because it has antibodies that keep it from being infected by bacteria in their mouth that makes their bite poisonous."

I open my mouth, speechless. *Time for a little quiet road time*, I think.

As we approach Manhattan, Will's mind finally turns to the purpose of our trip. "I bet I'm going to be the best fisher out there," he says, without a hint of bravado.

The clinic features an evening seminar on a variety of fishing topics, and the next day everyone - 185 kids and their parents - gather at the Anneberg Sports Complex Lake for two hours of hook-and-bobber scrambling for catfish stocked earlier in the week. In the end, Will's stringer is empty, but the boy is philosophical: "I still had fun," he says. And he means it. It's noon when the event is over, and all he wants to do is buy a new rod and reel.

After combing through every rod and reel on the shelves of Manhattan, he finally chooses a shiny gold and silver Shimano spinning reel and Quantum rod. A satisfied boy, he only wants a quick cruise through Aggieville before we hit the road back home.

"I'm going to be a better fisher now," he exclaims.

"It's angler, Will," I explain. "Fisher is an archaic term."

"Whatever," he replies. Knowing that I might write about this trip, he adds, "You could call this article, 'A Fisher of Men.'"

Looking down at his thoughtful face, so full of faith and promise, I don't question this. "Maybe," I answer softly, returning my gaze to the highway. "Maybe."

For the moment out of words, Will sets his magnetic chess set on the console and practices moves, occasionally imploring me play. "Not while I'm driving, Son."

"Okay," he sighs. About an hour from home, road boredom finally sets in. Will pulls out his new reel, which, after a few minutes of hauling in *Moby Dick*, becomes a microphone, and I am treated to a medley of songs from "Rock Around the Clock" to a nonstop litany of original creations. The original, however, soon becomes monotonous, and about 10 minutes from town, I point to a large roadkill in the ditch.

"Look!" I shout. Will glances out the window in time for a quick glimpse.

"What was *that*!" he asks, wide-eyed.

"A Komodo dragon," I answer straight-faced.

"Daaaad," he replies, "you're losing fat."

REELIN' IN THE YEARS

The worst enemies of fishing reels are dirt, grime, and pollutants from the water you are fishing in. Fishing reels should be cleaned and lubed no less than once a year or more often if you are a tournament angler. If you prefer, take your rod and reels to a tackle repair service. The fall of the year is best for this type of service. If you missed cleaning your reels last fall, then now is the time, but be prepared for a delay of a week or two to get your reels serviced.

If you clean and lube your reels yourself, be careful and deliberate when you disassemble a reel. Lay the parts out in order and reassemble in reverse order. Mineral spirits, or denatured alcohol, is good for cleaning gears and mechanisms. Use the alcohol to clean painted parts such as frames, side cover, and plastic parts. Gears are the priority parts for grease; use oil for most everything else, and don't overdo grease or oil. A little dab will do it.

Use your manual for oil points. I highly recommend using only grease and oil made by reel manufacturers. Vaseline and WD-40 are very poor substitutes. If you fish weekly, you should oil bearings and line guide worm shafts. Check your manual.

A word of warning: some of the newer

reels of the last two or three years are very complicated, high tech machines. Some use special lubricants and will not work without them. I strongly suggest you let a tackle service company do the work on these.

One tip I give my customers is to back off the drag after every fishing trip. Leaving the drag on constantly will rapidly decrease the life of a drag system.

Now is also a good time to clean and repair your rods. If the guides are loose or need to be replaced, take them to a tackle repair service. If the rod only needs cleaning, use denatured alcohol, and use a toothbrush to clean around the guides. Soap and water works well on cork handles, or use alcohol for stubborn stains. Wipe the rod down with Armor All to help protect the finish. Remember, good regular maintenance of rods and reels will prolong their life and keep down repair costs.

Another important tip is that when spooling on braided line, do not tie directly to the spool. Wrap a few yards of monofilament line on first, then tie the braided line to the mono. The reason for this that if braided line is tied directly to the spool, it will slip. Numerous complaints of drags not working turn out to be braided line slipping on the spool. Also on the subject of braided line, you should check your line

guides on reels and the tips and line guides on rods for grooving. If they are grooved, have them replaced. The grooves will fray or cut your line.

—Bob Niece, *Kansas Angler Online*

Editor's Note: Bob Niece, former pressman for the *Wichita Eagle* and owner of *Midwest Tackle Service*, died Feb. 3. He was well known in Wichita angling circles and helped many people with their tackle needs. Deb Zeiner of *Zeiner's Bait Shop* says, "A lot of us felt like we really knew Bob. He was just the kind of guy who could make you feel comfortable and connected." We hope that through this article, he continues to connect with his good work.

—Shoup

BREAKFAST WITH CHAMPS

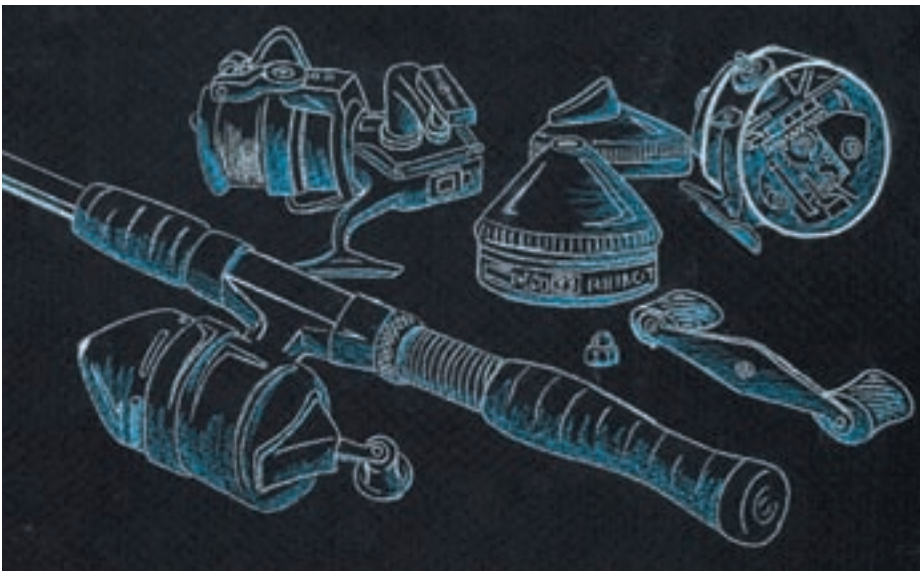
In September, Jay Yelas was on the Kellogg's Corn Flakes box for being the FLW Angler of the Year. The box is be sold only in Wal-Mart stores starting in mid-September, and will also have Team Kellogg's pros Clark Wendlandt, Steve Daniel, Marty Fourkiller, Jim Tutt, and Alvin Shaw on the side panel.

"Featuring pro anglers like Jay Yelas, Clark Wendlandt, and Jim Tutt on the Corn Flakes box exemplifies how FLW Outdoors, Kellogg's, and Wal-Mart are working together with the country's top anglers to take professional fishing to the masses," said Irwin Jacobs, FLW outdoors chairman.

"It is exactly the type of cross-merchandising the sport needs to continue its phenomenal growth. Thanks to this box, millions of people are going to start their day reading about some of the brightest stars in professional fishing. When that happens, everyone wins."

This is the fifth year in a row that angling champions have been featured on cereal boxes, beginning in 1998 when Denny Brauer became the first angler to be featured on any cereal box, in this case a Wheaties box.

—Bassfan.com



TASTY BUG

Perhaps the most familiar beetle in Kansas is the June bug. Common throughout late spring and summer months, the June bug is a nocturnal insect. The beetle is active at night, feeding mainly on buds and flowers of shrubs and fleshy garden vegetables. Many a Kansas kid has been fascinated by the sight of these insects when attracted to a light on a summer night, where they have fallen prey to marauding toads.

This insect is found everywhere in North America and many other parts of the world. The larvae is a white to yellow grub. It has rows of stiff short hair to aid in movement. The grubs overwinter deep in the soil and move to the surface in the spring to feed. Adults of the brown June bug emerge in the spring. They are nocturnal and have a three-year life cycle. Females lay eggs in late summer.

As larvae, the June bug lives in rich humus and leaf litter after hatching from deeply buried eggs. The grub worm feeds on roots and other plant matter until it molts into the adult stage and emerges from the ground.

Fishermen like the grub worm because it is easy to catch and fits easily on a hook. Birds and other wild animals – from bears to raccoons – feed on the fat worm.

The adult June bug may grow 2 inches long. A member of the true beetle order – Coleoptera – it has a set of powerful wings protected by a wing case. Exterior color can vary from pale tan to dark brown or almost black.

According to T.R. Zimmerman, writing in *Wilderness Way* (Volume 2, Issue 4), the June bug is a fine source of protein

and has surprising medicinal value, as well:

“A chemical analysis of the June Bug revealed its hidden secrets as a beneficial healing remedy. Full of edible fats and proteins, the bug is a rich source of food and appetite stimulating medicine when prepared correctly.

“When toasted in hot ashes, the internal body parts and juices of the bug congeal into a nugget of pure golden nutrition. After peeling off shriveled legs, wings, and wing case, the remaining orb of nourishment can be eaten one at a time or by the handful. Toasted June bugs have a surprisingly sweet, delightful taste. The flavor closely resembles thick raw molasses or crudely made ribbon cane syrup. It is difficult to eat just one.

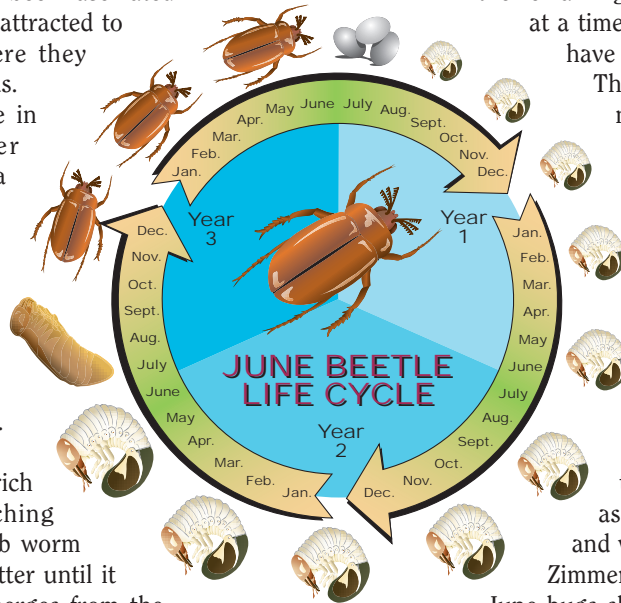
“Crushed into fine powder, bug-flour added to hot water forms a rich, nourishing drink perfectly suited to victims suffering from anemia, dehydration, and other maladies. When relieving anemia, the remedy stimulates poor appetite, stirring the patient’s interest in eating again. If mixed with warm milk, it has a malted milk taste. Grubs should be toasted in hot ashes before serving or adding to soups and wilderness stew.”

Zimmerman cautions that those tasty toasted June bugs shouldn’t be gobbled in large amounts.

Heavy concentrations of protein and fat, if consumed to excess, can result in stomach ache or mild diarrhea. But as a life-saving supplement to other foods or a novelty snack, it works just fine.

Although I haven’t tried them yet, the June bug, in both larval and the adult June stage, is considered one of the best-eating insects around. Toasted adult June bugs are easy to preserve when crushed into a meal and sun-dried. The meal should be stored in a waterproofed container.

–Shoup



KANSAS GLACIER?

The Glaciated Region of northeast Kansas was, indeed, glaciated. According to geologists, it was covered by at least two of the eight or nine glaciers that encroached upon much of the northern United States during the Pleistocene Epoch, between 1.6 million and 10 thousand years ago.

The first of these covered just the northeastern corner

of Kansas. The second, which encroached on Kansas about 600,000 years ago, extended almost to Manhattan and beyond Lawrence in a line roughly parallel to the present-day Kansas River. In some places, this ice sheet was 500 feet thick.

The glacier that extended into Kansas approximately 600,000 years ago is known as one of the Pre-Illinoian glaciations. The underlying bedrock in the Glaciated

Region is Pennsylvanian and Permian limestones and shales that dip gently to the west and northwest. These rocks, however, have been covered by thick glacial deposits – silt, pebbles, and boulders – that were left behind when the ice melted. In some places, the thick deposits, which geologists call glacial drift, have formed deep soils.

Except for the glacial drift, most of the evidence of

glaciation has been erased from the Kansas landscape by erosion.

During the Pre-Illinoian glaciation in Kansas, the force of the advancing ice was strong enough to break large boulders off outcrops in South Dakota, Iowa, and Minnesota and carry them into Kansas. Thus, reddish quartzite boulders, known as Sioux quartzite, are common throughout the region.

–Kansas Geological Survey



Users of Toronto State Park should be aware that it has a new name. On Sept. 28, the facility officially became Cross Timbers State Park, reflecting the mix of post oak and blackjack oak woodlands that form the striking Kansas landscape surrounding Toronto Reservoir. To celebrate this event, a grand opening ceremony was held at the North Shower

Building parking lot.

Volunteer projects were held throughout the park all day, and the celebration was highlighted by the following guided activities:

- native tree planting in the campground area;
- stone step building at the Ancient Oaks of the Cross Timbers Trailhead;
- flight pen construction for the Raptor Rehabilitation Center;
- development of a butterfly garden area;

• hiking the Ancient Oaks of the Cross Timbers Trail with an interpretive guide, including 14 new interpretive signs along the trail; and

• celebration of the 9th Annual National Public Lands Day.

Cross Timbers State Park is 12 miles west of Yates Center in the gently rolling terrain of the Verdigris River Valley. For more information, phone (620) 637-2213.

-Shoup

| 2002 Waterfowl Seasons | | | |
|---|--|---|--|
| DUCKS | High Plains Zone | Early Zone | Late Zone |
| Regular Season Dates | Oct. 12 - Jan. 7 and Jan. 18 - Jan. 26. | Oct. 12 - Dec. 15 and Dec. 24 - Jan. 1. | Oct. 26 - Nov. 3 and Nov. 9 - Jan. 12. |
| Bag Limit | Six ducks, which may include no more than 1 mottled duck, 1 pintail, 2 scaup, 2 redhead, 2 wood ducks, 5 mallards (no more than one hen mallard). Season closed on canvasback. | | |
| Possession Limit | Twice the daily bag limit. | | |
| Shooting Hours | One-half hour before sunrise to sunset. | | |
| Pintail Season Dates | Oct. 12 - Nov. 19. | Oct. 12 - Nov. 19. | Oct. 26 - Nov. 3 and Nov. 9 - Dec. 8. |
| Bag Limit | One. | | |
| Possession Limit | Limit 2 | | |
| Youth Waterfowl Season Dates | Oct. 5 - 6. | Oct. 5 - 6. | Oct. 12 - 13. |
| Bag Limit | Same as regular season. No canvasback or light geese. | | |
| GEESE | | | |
| | Statewide | | |
| Canada Geese Season Dates | Oct. 19 - 20 and Nov. 2 - Feb. 2. | | |
| Bag Limit | Three. | | |
| Possession Limit | Twice the daily bag limit. | | |
| White-fronted Geese Season Dates | Oct. 19 - 20 and Nov. 2 - Jan. 24. | | |
| Bag Limit | Two. | | |
| Possession Limit | Twice the daily bag limit. | | |
| Light Geese Season Dates | Oct. 19 through Feb. 2 | | |
| Bag Limit | Twenty. | | |
| Possession Limit | None. | | |
| Light Geese Conservation Order Season Dates | Feb. 3 through April 30. | | |
| Bag Limit | None. | | |
| Possession Limit | None. | | |
| DARK GOOSE UNITS (Marais des Cygnes Valley and Southeast units) | | | |
| Season Dates | Dec. 14 through Feb. 2. | | |
| Bag Limit | Same as regular season. | | |
| Possession Limit | Twice the daily bag limit. | | |
| Permit | Special permit no longer required. | | |

by Mark Shoup

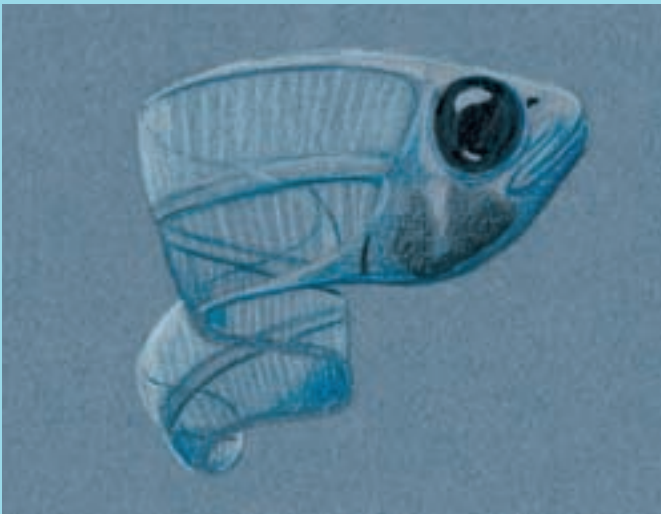
Eelaborate LIFE CYCLE

Is it a fish or a snake? That's a question you might ask if you were one of the few people in Kansas lucky enough to find an American eel on the end of your fishing line. But you'd be right if you answered "fish."

Unlike most fish – which hatch as smaller versions of the adults they will become – eels change form several times before becoming adults. This process is called metamorphosis. The **metamorphosis** of the American eel (*Anguilla rostrata*) is one of the great mysteries in the natural world.

It all begins in a region of the North Atlantic known as the Sargasso Sea. Two million square miles of ocean, the Sargasso Sea is the birthplace of all American and European eels. It is here that the eels found in Kansas waters are born and die.

American eels and their relatives are **catadromous**, meaning that they spend most of their lives in brackish water or freshwater but return to the ocean to spawn. The



American eel is the only North American fish that does this. (This is opposite of the **anadromous** salmon, which lives most of its life in the ocean, but returns to freshwater streams to spawn.)

Once hatched, the eels begin a remarkable journey that will take them thousands of miles, change them from one form to another several times, and last as long as 20 years or more.

The newly-hatched eels would be nearly invisible if not for their eyes. At this stage, they resemble transparent willow leaves more than fish. These larvae gradually drift to the edges of the Sargasso Sea, where currents eventually catch and carry them close to where they'll spend most of their lives.

One part of the great mystery of the eel is that the newly-hatched American eels and European eels never get confused.



They always go to the continent of their ancestors. It takes about 15 months after they're born, but the young eels eventually reach the streams and estuaries along the continental coastlines from the northeast United States to the Gulf Coast. They have now changed to a form called "glass eels," so named because they are still transparent, but they now have fins and have taken the shape of adult eels.

Upon approaching fresh water, glass eels split into two groups. Some will spend their lives as males in tidal areas along the coast, and the rest will swim upstream into creeks, rivers, and lakes and become females. The eels we see in Kansas are all females.

Before this movement begins, they change again, this time into "elvers." The elver is about 3.5 inches long and has developed color and begins moving upstream. Once they begin moving up streams, they change yet again – from

elvers into "yellow eels."

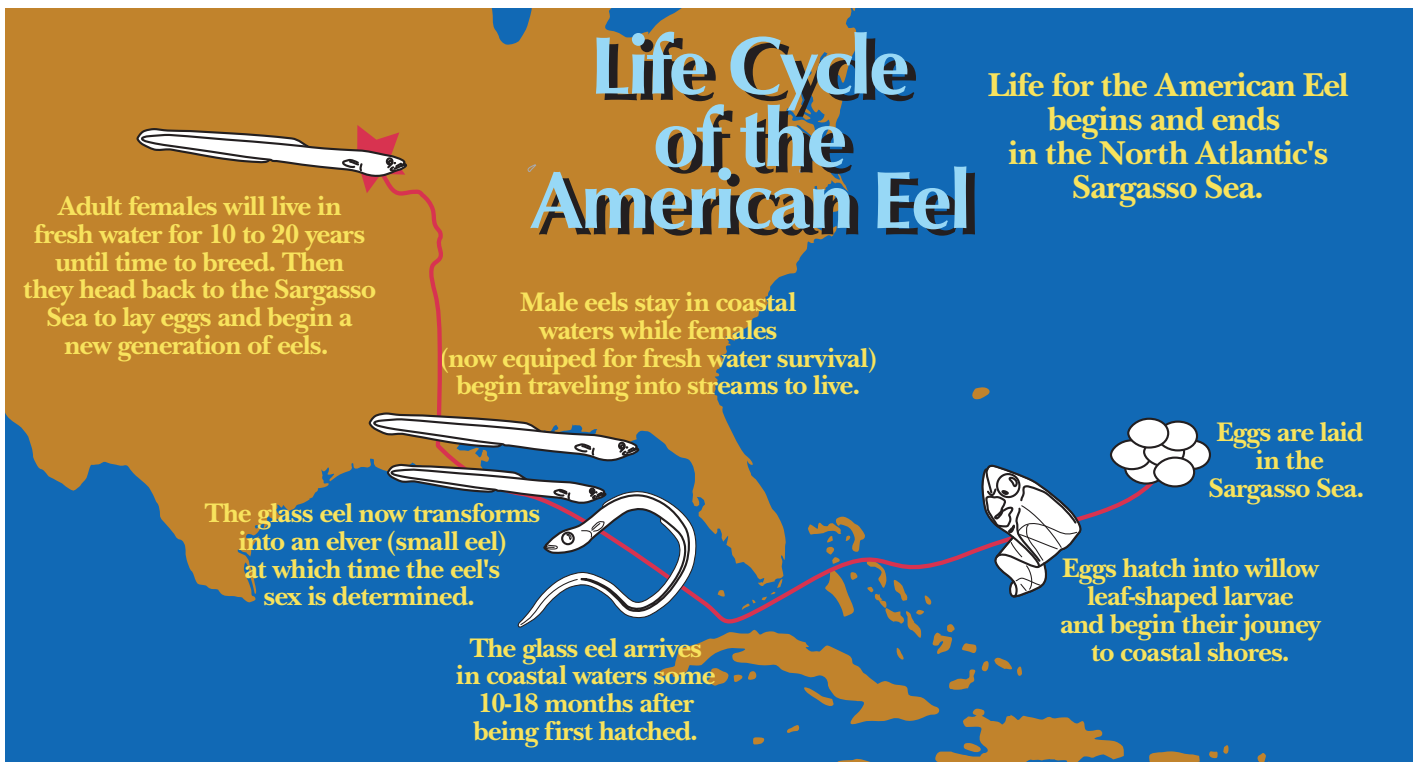
In a few years, yellow eels undergo another remarkable change in which they develop special cells for ridding their bodies of sea salts and developing large eyes. They now have a greenish hue.

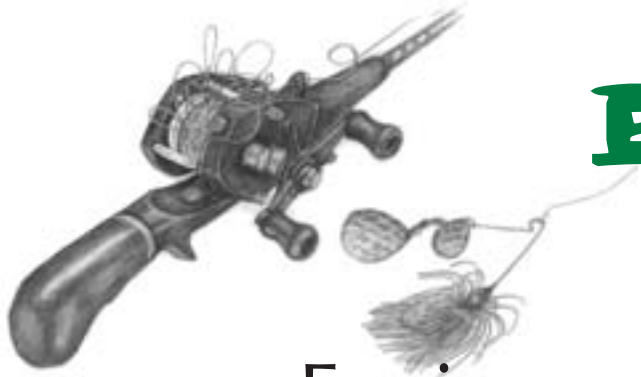
The final stage in this fascinating process is called the "silver eel." This happens 10 to 20 years after the eel was first hatched. The yellow-green eel changes to a dull pewter color in preparation for the trek back to the Sargasso Sea. This new camouflage will protect it from sea predators. No longer a freshwater animal, it has now become a marine fish and will begin its 2,000-mile journey back to the ocean.

Most silver eels leave Kansas streams from late summer to November. Once back in the Sargasso Sea, they find mates, breed, and die, starting the process over.

In Kansas today, eels are found only in the Kansas River system. Dams along the Arkansas River system prevent the eels from migrating to waters in the southern portions of the state. At one time, however, they were found throughout Kansas. When I was a boy, my father caught two of them in the Pawnee Creek at Larned. He says they taste about like catfish.

The Kansas state record American eel weighed 4.44 pounds and was almost 3 feet long. It was caught by Ralph Westerman of Manhattan in the Kansas River. You may be lucky enough to catch one some day if you live in northeast Kansas. If you do, remember that this fascinating animal has lived a long life, travelled thousands of miles, and taken many forms before becoming what you would see on that day.





Backlash

by Mike Miller

Equipment Problems

A folk song written by Steve Earle has a line about the cap and ball Colt pistol, “. . . shoot as fast as lightning but it loads a mite slow. Soon found out, it can get you into trouble, but it can’t get you out . . .” That very sentiment can apply to modern hunting technology designed to get hunters places they normally wouldn’t go. Waterfowl hunting provides a perfect example.

One of my hunting buddies got into waterfowl hunting last year. Red, as I’ll call him in tribute to the color of his face that miserable October evening, started with goose hunting, which is relatively tame, equipment-wise. He bought a call, two dozen shell decoys, some snazzy cornstalk camo attire, as well as a three-inch-chambered, 12-gauge semi-automatic shotgun.

Red liked the idea of birds to coming to him. Upland hunting meant miles of trudging through thick CRP grass. After watching flocks of mallards, pintails and wigeon come into the decoys on his first duck hunt, Red was hooked.

Following the natural progression of any budding waterfowler, Red began looking for a retriever pup. He bought a duck call, some decoys and neoprene waders. Red was swallowing the bait. But he didn’t go clear under until he hunted the big marsh from an authentic duck boat, complete with pop-up blind, a swamp motor that’ll run in 6 inches of water, custom camo paint, and cup holders. Red had found his calling.

From that day on, Red was shopping for his own duck boat. And he did it right. His new rig will turn waterfowl hunters’ heads from here to Cheyenne Bottoms. It’s truly a joy to hunt out of, and the big marsh motor can take Red, his dog, and a couple of buddies farther into the mud and cattails than any sane hunter would walk. And unfortunately, sanity is the first thing you lose when you get in a fancy duck boat and fire up the swamp motor.

Red called one balmy October afternoon anxious to get his duck machine on the marsh. He invited me and his buddy Hoss. The three of us and Red’s lab sat tall as we sputtered through the muck and mud. Not until we were as far from the ramp as we could get did we set our decoys. After all, that’s why Red bought the boat.

Everything was normal for an October evening duck

hunt — mosquitoes were bad and the ducks didn’t fly until after shooting hours. So, we just enjoyed the show in the fading light. There was no hurry, we’d be at the boat ramp in minutes.

“You know,” I said staring at the first stars of the night. “I walked in almost this far during teal season. Course I was able to walk on land to the backside of this pool, but it was a bear carrying those decoys. These boats will ruin you.”

As I babbled in ignorant bliss, Red was pushing furiously on the electric start button. Other than the steam beginning to hiss from Red’s ears, there was no sound. No whine of the starter and no rumble of the little four-stroke motor that gave us the confidence to come this far.

I was scratching the lab’s ears when I noticed Hoss looking over my shoulder. He was squinting at Red with a “you’ve got to be kidding me look,” when I snapped to.

“Smatter?” I mumbled, starting to worry.

Hoss’ eyes got even narrower. I spun around in my marsh-grass camo padded swivel seat to see Red wiggling battery cables and getting red in the face.

As reality hit me square in the teeth, I spun around again to look for the headlights of other duck hunters leaving the boat ramp parking lot. They were tiny twinkles across miles of marsh and cattails. I had to confirm how unbelievably far away the ramp was.

After pushing every button and wiggling every wire twice, and since we lacked a hammer to beat the motor with, we accepted the fact that it wasn’t going to start. It was a long walk back, pushing the boat through the weeds and cattails. Fortunately, there was a full moon, and we found our way to the canal that led to the boat ramp in just less than 2 hours. On a darker night, we might have wondered around in circles, lost in a cattail maze.

The moral of this story? Some might say we must simplify our lives, rid ourselves of technology clutter and thus reduce the potential for disaster. For gear junkies like us, though, the moral is carry a spare battery, and a push-pole, a set of paddles, a 40,000-candle spot light and a hand-held GPS unit for those really dark nights. ♡

