

On T.R.A.C.K.S.

Teaching Resource Activities and Conservation to Kansas Students

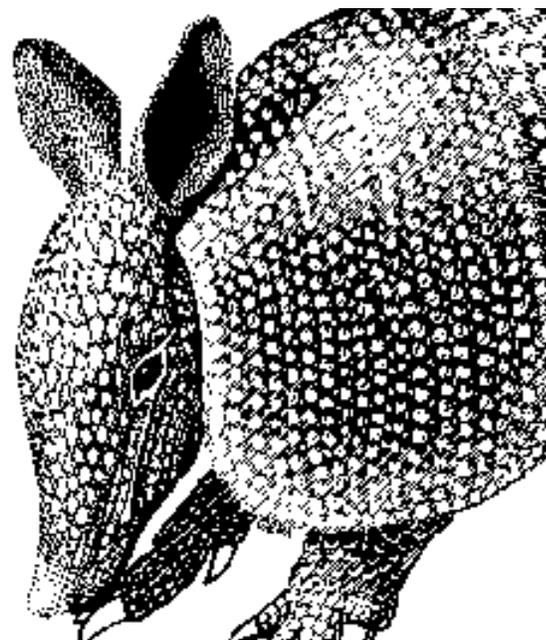


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Kansas Wildlife & Parks

Winter, 2005

changing wildlife in KANSAS



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Don't Miss
Our Next
Issue:

The
Scientific
Theory of
Evolution

IN 2005, KANSAS WILDLIFE AND PARKS IS CELEBRATING 100 YEARS OF NATURAL RESOURCE STEWARDSHIP. OUR RESOURCES HAVE CHANGED IN TREMENDOUS WAYS IN THE PAST 100 YEARS-- SOME FOR GOOD AND SOME FOR “NOT SO GOOD”. THIS ISSUE IS ABOUT SOME OF THOSE CHANGES AND ABOUT SECURING A FUTURE FOR OUR NATURAL RESOURCES, ESPECIALLY WILDLIFE.

Kansas Department of Wildlife & Parks Timeline

1905 – Fish and game laws organized under Kansas Fish and Game Department. Implementation of state law requiring license to hunt in Kansas. Land donated to the state by Pratt County Commission, for construction of a fish hatchery, was formally deeded to the state.

1906 – Ring-necked pheasants stocked in Kansas

1911 – State Fish and Game Department placed under supervision of the University of Kansas Board of Regents



1924 – Bison herd started at Garden City, with assistance of American Bison Society

1925 – Fish and Game Department reorganized as Kansas Forestry, Fish and Game Commission, comprising three members appointed by Governor

1926 – First state fishing lakes built (Neosho and Meade)

1927 – Reorganization of Commission. Agency given approval to organize a warden service, and pay wardens up to \$150 per month. Fishing licenses required of men 18 to 70.

1928 – Game farms established at Meade County State Park and Crawford County State Park

1933 – Civilian Conservation Corps begins building projects in Kansas

1934 – Federal Migratory Bird Hunting Stamp Act (duck stamp act) passed by Congress

1935 – Females from 18 to 70 first required to have a license to fish public waters

1937 – Federal Aid in Wildlife Restoration law (Pittman-Robertson Act) enacted

1938 – Publication “Outdoors with the Kansas Forestry, Fish and Game Commission” (predecessor to “Kansas Wildlife & Parks” magazine) began

1939 – Three-member board was abolished by the legislature and replaced by a six-member bipartisan commission of sportsmen from throughout the state, appointed by the governor. The commission was given the responsibility to appoint a director, salary not to exceed \$3,300 per year. References changed from state game warden to director, and deputy game wardens to game protectors.

1939 – Bureaus of Fisheries and Biological Survey are combined to create the U. S. Fish and Wildlife Service

1939 – First land acquisition (Finney Game Refuge) using Pittman-Robertson federal aid funds

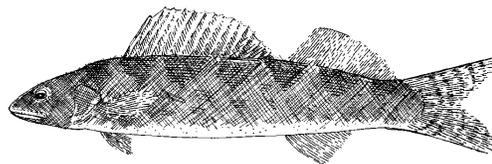
1942 – Acquisition of land for Cheyenne Bottoms Wildlife Area begins

1943 – Legislature gives full authority to Commission to set seasons and bag limits

1948 – First federal reservoir in Kansas (Kanopolis) completed

1949 – First walleye stocking in Kansas waters (Clark State Fishing Lake)

1950 – Federal Aid in Sport Fisheries Restoration law (Dingell-Johnson Act) enacted



1954 – Construction begins on Marais des Cygnes Wildlife Area

1955 – State Legislature and Gov. Fred Hall create the State Park and Resources Authority

1955 – First federal wildlife refuge created at Kirwin Reservoir

1956 – First deer crossing sign erected, U. S. 36 in Cheyenne County

1958 – Kanopolis State Park authorized by Kansas Legislature

1958 – Cheyenne Bottoms Wildlife Area dedicated

1960 – Fall River State Park, Cross Timbers State Park (originally named Toronto State Park) authorized by Kansas Legislature

1960 – First Kansas boating laws enacted

1961 – Tuttle Creek State Park authorized by Kansas Legislature

1962 – Cedar Bluff State Park, Meade State Park, Prairie Dog State Park authorized by Kansas Legislature

1963 – Pomona State Park authorized by Kansas Legislature

1964 – Cheney State Park authorized by Kansas Legislature

1965 – First archery and firearms deer season

1965 – Crawford State Park, Lovewell State Park, Milford State Park, Scott State Park, Webster State Park authorized by Kansas Legislature

1965 – U.S. Congress establishes Land and Water Conservation Fund

1966 – Wilson State Park authorized by Kansas Legislature

1967 – Elk City State Park, Perry State Park authorized by Kansas Legislature

1969 – Glen Elder State Park authorized by Kansas Legislature

1973 – Kansas Hunter Education Program started



1973 – SASNAK (Surging Ahead for Skippers, Nimrods and Anglers of Kansas) program launched, substantially enhancing department's biologist staff and establishing goals of increasing statewide sportfish catch by 50 percent, as well as doubling upland game harvest on public lands

1973 – Federal Endangered Species Act passed by Congress

1974 – First modern hunting seasons on antelope and turkey

1974 – Sandhills State Park authorized by Kansas Legislature

1975 – Clinton State Park, Eisenhower State Park (originally named Melvern State Park) authorized by Kansas Legislature

1975 – Kansas Nongame and Endangered Species Act broadens agency responsibility to all vertebrate and non-vertebrate wildlife species

1979 – El Dorado State Park authorized by Kansas Legislature

1980 – Chickadee Checkoff program begins

1984 – Milford Fish Hatchery completed

1987 – Gov. Mike Hayden signs executive order merging State Parks and Resources Authority and Kansas Fish and Game Commission to form Kansas Department of Wildlife and Parks

1987 – Kansas Waterfowl Habitat stamp created

1988 – Hillsdale State Park authorized by Kansas Legislature

1994 – Prairie Spirit Rail Trail authorized by Kansas Legislature

1994 – First Becoming an Outdoors-Woman workshop at Rock Springs 4-H Center

1995 – Trout program initiated

1995 – Walk-In Hunting Areas pilot program initiated

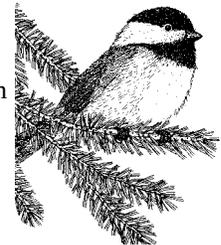
1996 – Walk-In Hunting Areas program implemented statewide.

1996 – Department website created

1999 – Department debuts online license sales system

2000 – Outdoor Kansas Kids program begins

2004 – State Park No. 24 authorized by Kansas Legislature



In our 1996 winter issue, we explored Kansas wildlife of the past--the abundant early years (1725-1850), the beginning of the decline (1850-1900), the years of great change (1900-1930), and the Dust Bowl days of the 1930's. At the beginning of the 20th century, many wildlife species were in big trouble. Loss of habitat to an expanding population and the unrestricted harvest of most wildlife species had resulted in the near extinction of many. So what changed? Believe it or not, it was the sportsman who supported laws to prohibit commercial uses of wildlife and supported special license fees and taxes on their equipment to provide the funds to restore wildlife and its habitat (Pittman-Robertson Act and the Dingell-Johnson Act). These funds are still collected today and provide between 15% and 25% of most state wildlife department's budgets. Private conservation organizations, such as Ducks Unlimited and National Audubon Society to name a few, also provide important financial support for wildlife management

Our state once again enjoys many abundant wildlife populations, but, Kansas is still undergoing changes to its wildlife landscape. New species have moved in - some naturally and some "unnaturally", some have hybridized, some species are on the decline (for reasons largely related to man's activities), and some species are on the increase. These aren't surprising statements given the world we live in today. Nature is always changing and always dynamic. Let's explore some of these changes.

Which Finch Is That, Anyway?

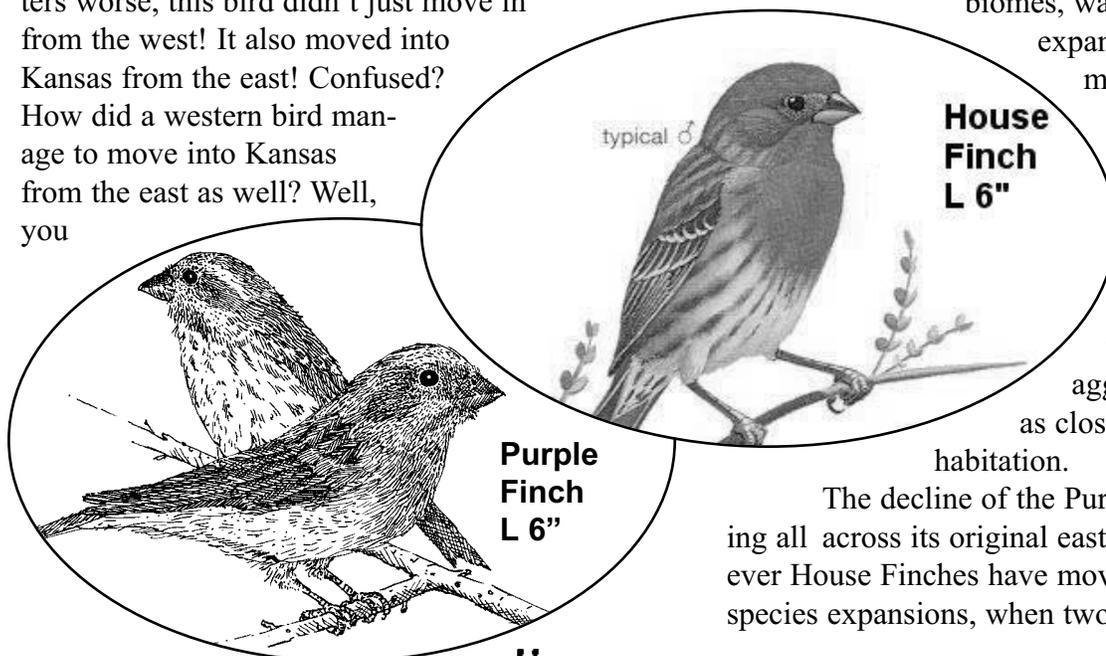
Kansas is fortunate to have hundreds of different bird species that either migrate through the central flyway or call Kansas home year around. Several new species have arrived in the last hundred years. One such species, the House Finch (*Carpodacus mexicanus*), has moved in thanks to human habitation.

Looking similar to our native Purple Finch (*Carpodacus purpureus*), the House Finch originally hails from the west. But, to make matters worse, this bird didn't just move in from the west! It also moved into Kansas from the east! Confused? How did a western bird manage to move into Kansas from the east as well? Well, you

guessed it--humans! According to Cornell University, "Eastern populations descend from the 1940 release of illegally caged birds (which were probably trapped in the Los Angeles area) by pet shop owners on Long Island, New York."

The House Finch thrives among human development, preferring the edge type of habitat that our land use creates. It is a highly adaptable bird and has used urban development to cross the deserts of the west. The east, with its more lush biomes, was not as difficult to expand through. The two migrating populations have met smack dab in Kansas. Its arrival here, however, is putting pressure on the native Purple Finch which is not as aggressive by nature nor as closely linked to human habitation.

The decline of the Purple Finch is happening all across its original eastern territory, wherever House Finches have moved in. As with many species expansions, when two species compete for



the same habitat, it is the more adaptable and aggressive species that wins out in the end. The winning species is not always the native species.

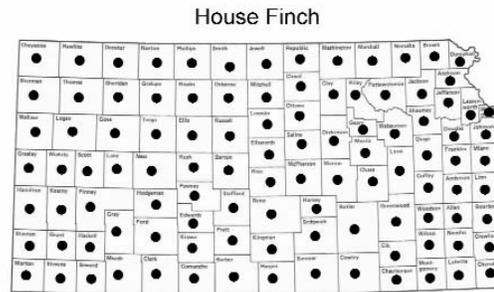
For some, House Finches are considered a pest, destroying blossoms, buds, and fruits of trees and causing economic damage to orchards. It can also carry a contagious bacterial infection, called conjunctivitis, that causes blindness and eventually death. Since House Finches love to visit our bird feeders, the Kansas

Department of Wildlife & Parks is asking for your help in identifying diseased birds by including an area for notation on our Winter Bird Feeder Survey form. Cornell



Conjunctivitis in a House Finch

University is also conducting nationwide research. To become involved in the House Finch Disease Survey from Cornell, you may call 1-800-843-BIRD or email housefinch@cornell.edu.



The House Finch can now be found in all 105 counties of Kansas.

Disease is usually nature's way of getting a population back under control and getting balance back into a system. That would certainly benefit the Purple Finch that appears to be somewhat resistant to contracting conjunctivitis.



Eurasian Collared-Doves



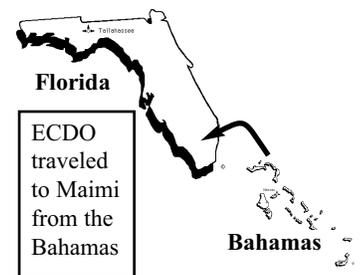
A new bird has landed on the continent of North America and it might be coming to your neighborhood soon. North America is going to the doves! One of our most recent arrivals is the Eurasian Collared-Dove (*Streptopelia decaocto*). You may have noticed this bird as a “super-

sized” version of our native Mourning Dove (*Zenaida macroura*), only with a square tail and a dark “collar” on the nape of the neck.

Native to India, this dove has been undergoing an expansion of its range, first into Asia Minor and the Balkans, since the 16th century. In

the early 1900's, the Eurasian Collared-Dove (ECDO) spread throughout most of Europe and into Russia. By 1950, it had reached the British Isles and today collared-doves are living above the Arctic Circle in Scandinavia. In Europe, it is commonly found in small towns, suburbs, and agricultural centers, where it feeds upon seeds and grains.

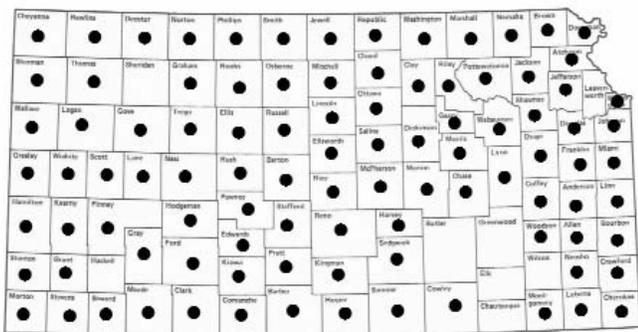
The Eurasian Collared-Dove apparently arrived in North America via the Bahamas during the 1970's. The story goes something like this... Unable to fill an order for Ringed Turtle-Doves, a pet trade supplier substituted Eurasian Collared-Doves for the request. Then, as a result of a break-in into a Bahama aviary in 1974, about 50 of the birds were released into the “wild”. By the mid-1980's, Eurasian Collared-Doves had migrated, without assistance, to the mainland of Florida, near Miami. Presently, there



are reports of this bird as far north as Minnesota.

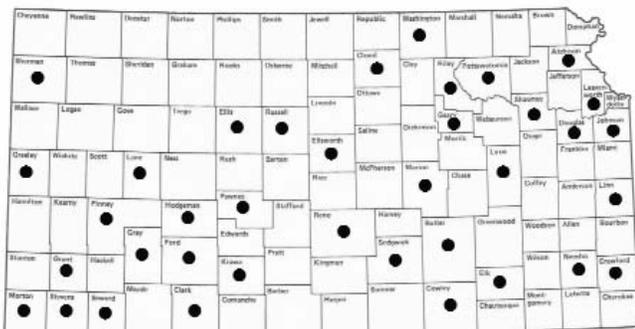
Why has the Eurasian Collared-Dove expanded its range so rapidly? It is the result of several factors coming together. One is the dove's preference for co-existing with humans in urban and suburban areas. The rapid increase in urban areas has definitely benefitted the Eurasian Collared-Dove. Another is the increased popularity of backyard bird feeding in the last 30 years. And, finally, doves have benefitted by the warmer winters we have experienced across North America in recent years. This has allowed for additional brood production and the northern acceleration of their home range.

Eurasian Collared-Dove



Not too such a dramatic degree, Kansas has also seen the recent expansion of several other doves worth mentioning here. White-winged Doves (*Zenaida asiatica*), primarily a southwestern species, have been recorded 69 times in Kansas with 55 of the records occurring between 1999-2004! The first documented young produced by White-winged Doves in Kansas came in May, 2004 in Garden City.

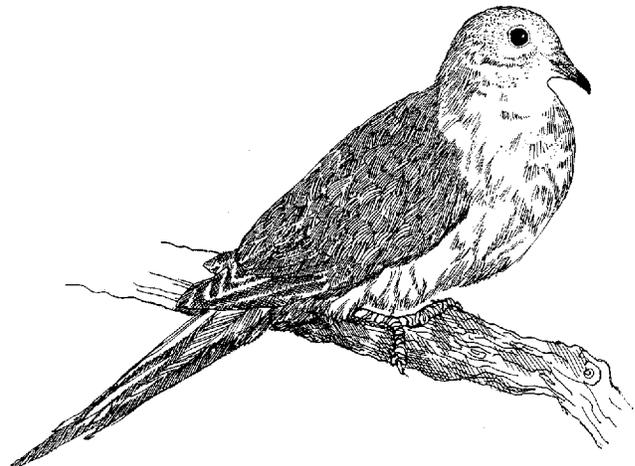
White-winged Dove



The Inca Dove (*Columbina inca*) is another primarily southwestern dove species that has had recent sightings in Kansas. Of the 76 records for the birds in the state, 68 have occurred since 1990 and, at present, there seems to be a group of 5-6 (young included) residing in Garden City.

The Eurasian Collared-Doves and these two additional dove species (along with the Common Ground-Dove) are considered uncommon doves in the state by the Kansas Ornithological Society. It is appreciated when members and non-members alike notify them (www.ksbirds.org) of sightings, breeding records, or other observations of any of these species.

Will the rapid expansion of the Eurasian Collared-Dove have adverse effects on other native birds, especially our native Mourning Dove? The truth is we don't have an answer. More data is needed. Continent wide monitoring programs are needed and Citizen Science projects such as Project FeederWatch or the Great Backyard Bird Count (www.birds.cornell.edu), as well as Christmas Bird Counts and the Breeding Bird Surveys contribute to our understanding of changing bird populations. The success of these programs depends on the participation of interested individuals and groups willing to contribute to the data which can only be obtained through direct observations. We encourage everyone to become involved and help researchers learn more about the Eurasian Collared-Dove and other birds which just recently have become a part of our landscape.



Is Kansas Maintaining Its Status as a Pheasant Hunter's Paradise?

The hunting of the ring-necked pheasant is a strong tradition in Kansas. In recent memory, we have always been one of the top three states in the U.S. for pheasants harvested by hunters (South Dakota and Iowa are the other two).

As expected, there are exceptional years and below average years in each of these top states. The benchmark for Kansas was 1983, when 1,565,000 birds were harvested! While this may be difficult to duplicate under current conditions, that is not to say Kansas hasn't had some excellent years since 1983. In nine of the last 23 years, over 800,000 birds have been harvested annually, placing the average harvest for this 23 year period at 845,000 birds per year. The lowest harvest for this period was 512,000 birds. Taking all harvests into account, we still end up with an average of 5.1 birds per hunter per year, and that hasn't really changed even throughout the down years.

Not only does Kansas have pheasants to be harvested, we also have one of the longest seasons and the most generous bag limits of any state. We may not have the public land that other states have, but the ongoing Walk-In Hunting program is providing over 900,000 acres of accessible land to hunters. As a result, over 40,000 non-residents hunters consider Kansas an excellent place to pursue the "King of Upland Game Birds."

While this should come as no surprise, upland game hunting tends to be self regulated in regards to the number of hunters vs. the number of harvestable birds. The correlation between hunters and birds harvested is striking. When the pheasant harvest is up, so are the number of licenses sold.



Will Kansans continue to enjoy this hunter's paradise? The key, as always, is habitat, or more directly, how is the land is being utilized? The real question boils down to how does one blend land usage with habitat enhancements? The significant issues to be dealt with are weed control (herbicides), wheat stubble height and removal, the utilization of the Federal Farm Bill,

improving CRP stands for wildlife production, cost sharing habitat enhancement programs on private land, and wetland restoration. Solving these issues will require give and take communication, cooperative work agreements, and funding from very diverse groups.

A more detailed discussion of the above can be obtained from the resource, "Kansas Upland Bird Initiative", a booklet available from the Kansas Department of Wildlife & Parks, 512 SE 25th Ave., Pratt, KS, 67124 or by calling (620) 672-5911 for a free copy.





Not All the News Is Bad News

So often we hear disturbing news about our nation's wildlife. In the early 1900's, there was very little good news about our country's wildlife--only half a million deer remained in the nation, elk populations were below 41,000, and wild turkey populations were less than 100,000. At this time, the deer population in Kansas was on its last leg and elk were gone. Just 50 years ago, pronghorn antelope numbered less than 12,000 nationwide.

Ready for the good news? Today's conservation efforts have increased the nation's deer population to about 36 million. Kansas now has one of the top deer herds in the nation. The elk population, in ten western states, now totals over 1.2 million animals and even Kansas has a limited elk season within its borders. The nation's turkey population is over 5 million birds with hunting opportunities available in just about every state. Kansans alone harvested over 31,000 birds in 2004. The pronghorn population has increased 12 fold since 1950 to about 1 million animals.

How did this happen? It was mainly through sportmen and conservation groups (such as the Rocky Mountain Elk Foundation) composed of individuals concerned about the future of our wildlife. A survey in 2001 showed sportmen contributed about \$1.7 billion every year for conservation efforts! That's an average of \$4.7 million every day! Sportsmen activities have generated more than one million jobs in the United States and excise taxes on hunting supplies have generated over \$3.9 billion since 1939. For more than 60 years, local sportsmen have contributed over \$7.6 billion to state projects throughout the nation.



Americans Concerned About Environment

A recent survey conducted by the Harris Interaction Poll indicated

On Protecting The Environment

- ◆ 75% of American adults agree that protecting the environment is important and the standards cannot be too high to achieve this goal.
- ◆ Half of the respondents believed the federal government should become more involved in protecting the environment.
- ◆ Only 1 in 5 believes there is currently too much environmental regulation.

Who's Responsible For Environmental Problems?

- ◆ The poll indicated that more than two-thirds of American's view large corporations as the primary culprits in environmental problems.
- ◆ Many respondents thought the general public could do more to help.

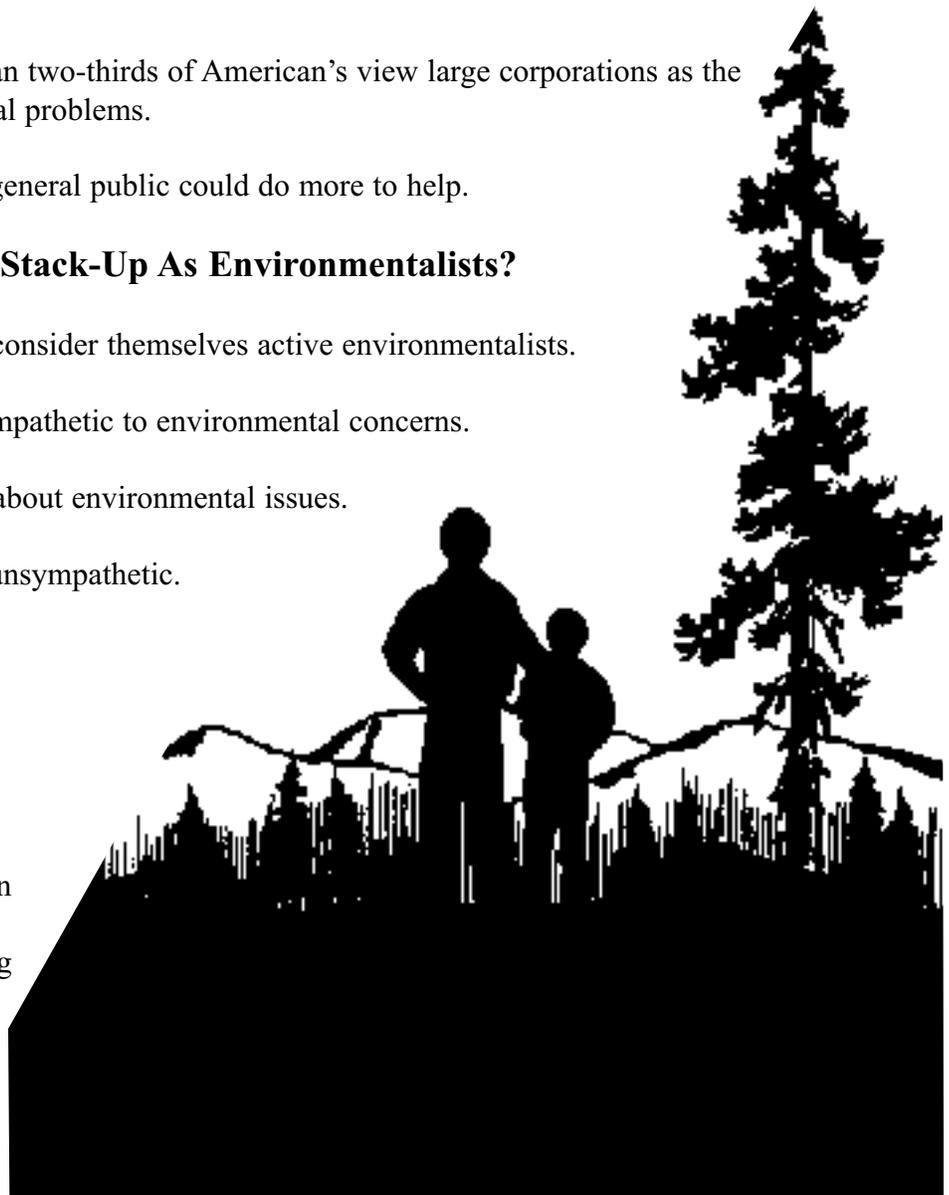
How Do Americans Stack-Up As Environmentalists?

- ◆ Only 12% of American adults consider themselves active environmentalists.
- ◆ About half of the adults are sympathetic to environmental concerns.
- ◆ A quarter of adults are neutral about environmental issues.
- ◆ Only 4% consider themselves unsympathetic.

Top Concerns

- ◆ water pollution
- ◆ air pollution
- ◆ global warming
- ◆ ozone depletion
- ◆ over-zealous resource extraction

- ◆ Boosting recycling and insisting other countries adhere to our environmental standards are low priorities.



Whooping Cranes on the Come Back

Whooping Cranes were virtually extinct on American soil by the 1940's as a result of hunting pressure and the draining of their wetland habitat. Due to the efforts of many committed individuals, groups, and government agencies, this graceful bird is making a come-back.

Today, according to federal wildlife biologists, the population of wild whooping cranes is 217 birds. There are close to 500 individuals if all captive birds are counted. Lucky for the birds, the land recognized as the cradle for the whooper, is now under the administration of the U.S. Fish & Wildlife Service.

While the whooping crane's recovery is a testament to our conservation efforts, it is still federally listed as an endangered species without a stable population. Thanks to the hard work and constant vigilance of biologists, recent years have seen a net gain of birds returning to their Texas wintering grounds.



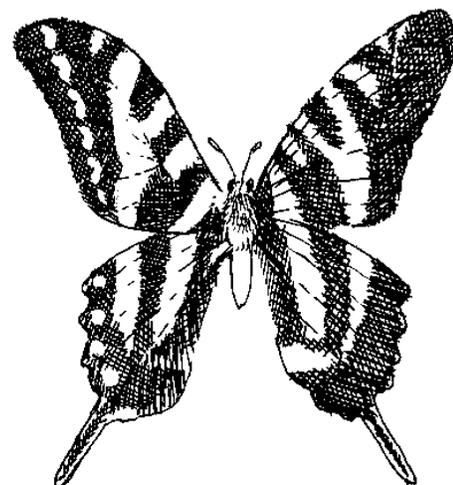
Co-Endangerment

Recently, a team of international biologists released a warning; when endangered species go extinct, other dependent species may also follow suit. If true, up to 50% more species may be endangered than originally believed. The Journal of Science estimates 6,300 additional species may be endangered because of their co-existence with host species currently listed as endangered!

Researchers suggest insects, mites, fungi, and other organisms uniquely adapted to any of the present 12,000 threatened and endangered species need to be recalibrated to take co-extinction into account. For example, when an endangered vine in Singapore became extinct, so did a rare and beautiful butterfly which co-evolved with the vine.

Co-extinction may not be the most important cause of species extinction. but it is certainly a treacherous one with deadly results.

Up to 50% more species
may be endangered than
originally believed



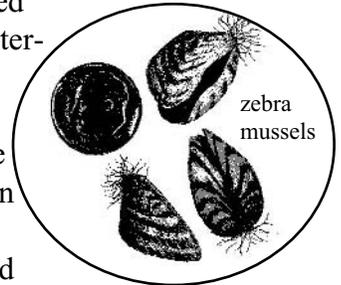
Zebra Mussels on the Loose

In August 2003, zebra mussels were discovered in El Dorado Reservoir in southcentral Kansas. A draw-down of the reservoir in January 2004 revealed literally millions of zebra mussels. In the lower part of the lake, especially in the southeast corner, an average of 135 mussels per square meter were detected. This is an increase from the numbers found in the August sampling primarily due to late summer and fall reproduction. In addition, the mussels found in January were bigger (some twice as large) than those found previously. It is believed that some of the larger ones may have been in the reservoir at least three years or longer.

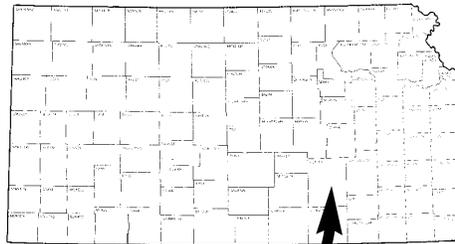
Although the draw-down killed most of those above the water line, many more could be seen on rocks just below the water line. At this point, zebra mussels have been found throughout the lake. The only positive thing to say is that those found in the very upper end of the

lake were smaller and less numerous (less than one per meter) than those in the lower lake. Zebra mussels have also been confirmed in the Walnut River below the reservoir.

Zebra mussels look like small clams with yellowish-brown, D-shaped shells that usually have alternating dark and light stripes. In most cases,



they are less than 1 inch long and grow in clusters. First found in the U.S. in 1988, zebra mussels entered this country through the ballast waters of large ships that



El Dorado Reservoir

visit the Great Lakes. They have populated the entire length of the Mississippi River in a few short years. Because these mussels attach themselves to hard surfaces, they can cause extensive damage to water works and power plants by clogging inlet pipes and boat motors by clogging cooling systems.

IT IS AGAINST BOTH STATE AND FEDERAL LAW TO RELEASE ANY EXOTIC SPECIES OF FISH OR PLANT IN KANSAS WATERS.



STOP AQUATIC HITCHHIKERS!

Prevent the transport of nuisance species.
Clean all recreational equipment
www.ProtectYourWaters.net

KEEP THE WATER SAFE AND CLEAN FOR FUTURE FISHING
Report dumping, pollution to the EPA
at 1-800-223-0425

Kansas boaters who visit any water where zebra mussels exist can help prevent their spread by taking the following protective measures before moving their boats from one body of water to another:

- 1) drain bilge water, live wells, and bait buckets;
- 2) remove any attached vegetation;
- 3) inspect the boat and trailer for attached zebra mussels;
- 4) scrape off any zebra mussels;
- 5) dry boat and trailer for 5 days before entering another waterway, OR wash boat parts and trailer with 140°F water, a 10% chlorine and water solution, or hot saltwater solution. Do not wash at boat ramps.

Red Fox vs. Coyote

There was a line in an old song that went something like this, “The old fox went to the town-o, to the town-o, to live his life away.” Believe it or not, that is just what is happening in Kansas. It is not uncommon to see red foxes inside most of the city limits of the towns of Kansas. They have moved to “town” for a good reason- to escape the coyotes.

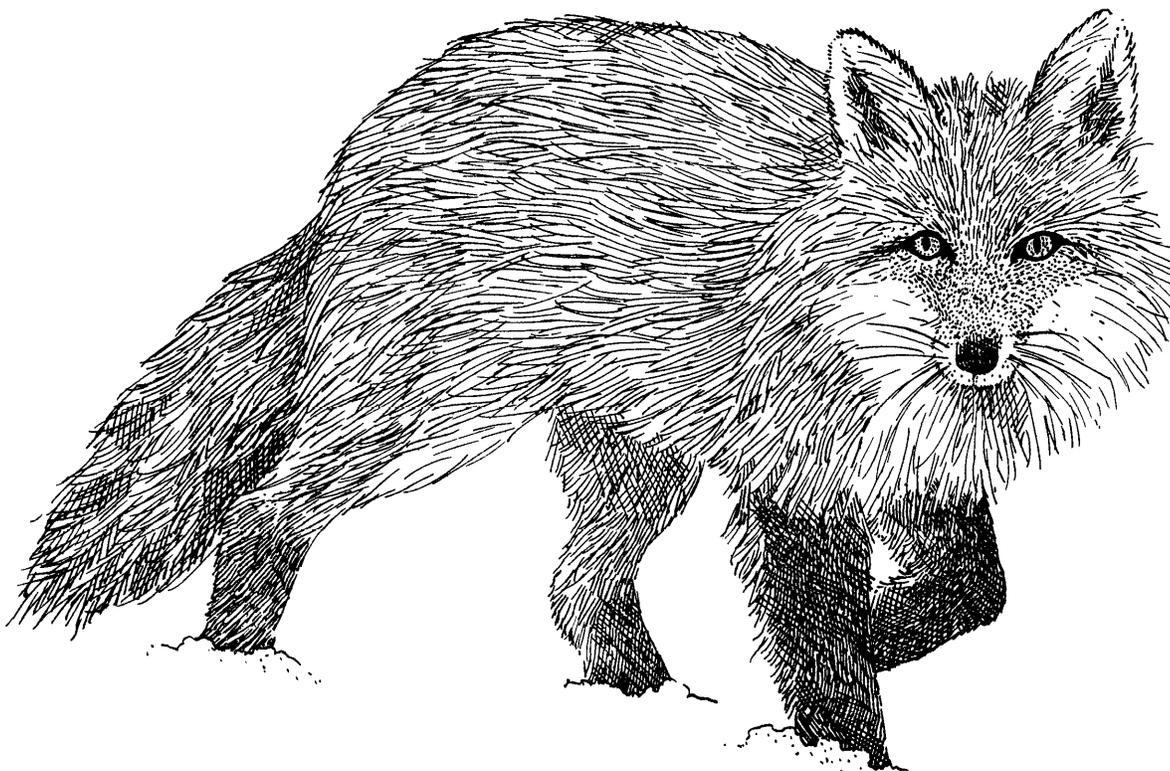
Since time began for the canine family (wild dogs) in North America, a pecking order has existed. The “Big Dogs” (wolves) are on top, followed by the coyotes, and on the bottom are the foxes. Members of this family compete with each other for the same food sources (squirrels, rabbits, small rodents, and even carrion.) Because of this, the wolf will eliminate any coyote which crosses its path and the coyote will do likewise to any fox it encounters. By eliminating some of the competition, these family members increase the amount of food available for them.

Over time, the wolf was eliminated altogether from the competition in Kansas, leaving only the coyote and fox to “fight it out.” It

shouldn’t have been much of a battle, but a number of pressures occurred on the coyote population which helped to even things out. The coyote, just like the fox, was being pursued by hunters for its valuable fur. The coyote, however, endured increased hunting pressure due to a “bad” image developed among cattlemen and sheep herders. As long as humans intervened in this balancing act, the red fox was able to “see daylight” at the end of this struggle, so to speak.

Then, fur prices took a nose dive in the late 1980’s and some of the pressure was reduced on the coyote. This was not a good situation for the red fox. Pressure was soon intensifying on the fox from larger coyote numbers. Some foxes found an escape from this pressure by moving into the city-- a place coyotes seemed loathe to go.

Red foxes have been encountered in downtown Wichita and just about every other community in Kansas. For the time being, as the song goes, the fox has come to “town-o to live his life away.”



Mule Deer vs. White-tailed Deer

Considerable concern has arisen in recent years regarding the relative proportions of mule deer to white-tailed deer in Kansas. The white-tailed deer population is increasing while the mule deer population is declining. Why?

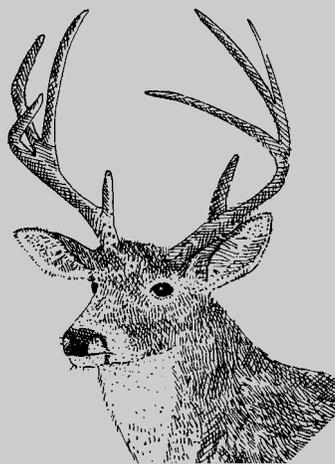
There are several factors at play in this trend. The white-tailed deer is expanding its range into areas where it previously never existed. This is due primarily to the increase in CRP (Conservation Reserve Program) acreage in western Kansas and changes in the landscape--a general change in vegetation that favors white-tailed deer. The CRP lands are providing corridors for the white-tail deer to venture into areas once only inhabited by mule deer. Furthermore, the drought in western Kansas has been very hard on mule deer and wildlife in general.

Now that the two species are co-existing in the same habitat, could there be hybridization occurring? Hybrids have been reported from cap-

tive facilities as early as 1898 when a whitetail-mule deer cross was produced at the Cincinnati Zoo. Based on DNA analysis, there is increasing evidence to suggest that hybridization is occurring between the two species on ranches in Texas. (Proteins are the key factors looked at in this DNA analysis.) Several studies in Texas show that about 8% of the deer tested are the result of hybridization and testing on individual ranches in the state showed anywhere from 0% to 24% hybridization in these herds.

Biologists have documented the presence of hybrids in the wild on only a few occasions. The relative scarcity of confirmed hybrids among the hundreds of thousands of deer that have been seen throughout the area of range overlap illustrates how rare they are. Couple this with the low survival rate of the hybrid offspring that are produced and one must conclude that your chance of seeing one of these hybrids is extremely rare.

Do You Know The Difference?



In general, the points (or tines) on a white-tailed deer all arise from one main beam.



In mule deer, the antlers show forked primary tines. Mule deer also have larger ears and black-tipped tails.

Because there is considerable variation in antlers for each species, antlers cannot be used to judge whether an animal is a hybrid or not!



Pumas on the Prairie?

Portions of this article are from the DES, Conservation Division, Ft. Riley, KS newsletter Oct. 2004

The debate continues. Are there wild mountain lions in Kansas? If not, then what are all the reported sightings? These questions have gone on for many years, not only in Kansas but all over in the Midwest. There seems to be no shortage of myths and legends surrounding these big cats. If you have lived in Kansas for very long, you probably know someone who has claimed to see one. On one hand, if all of the stories were true, why is there no solid proof? On the other hand, there are a fair number of witnesses, which by all accounts, should know what they have seen.

Mountain lions (also known as cougars or pumas) are large, slender cats with a small head and a long, heavy tail. They may weigh up to 150 lbs. and are normally tan to orange in color. Mountain lions prefer dense vegetation and will rely on wooded riparian areas for travel. Young males have been known to move up to 400 miles in search of an area not already inhabited by another mountain lion. An established territory may be 100 square miles or more.

Little is known about the habits of mountain lions in the Great Plains. Records indicate that they were found throughout Kansas, and were even common in some parts of the state. They seemed to be most abundant in the rugged Red Hills and Chautauqua Hills area of south central Kansas. The last confirmed mountain lion in Kansas was taken in 1904 in Ellis County. Deer make up about 80% of their diet and mountain lions may kill up to one per day. They have also been found to consume rats, rabbits, coyotes and bobcats. One strange item on their menu is a fondness for porcupines.

Wild individuals have been documented recently in states that border Kansas. There have been 20 confirmed mountain lion sightings in Nebraska as of August of 2005, mostly in the panhandle of the state. The state of Missouri has had 7 confirmed sightings of free ranging mountain lions in the last nine years, including one road kill in Kansas City. And finally, in late September 2002, a mountain lion attacked an Oklahoma woman near Newkirk, just 14 miles south of Arkansas City, KS. (The mountain lion has been listed by the Oklahoma Department of Conservation as a game species (with a closed season) since 1957).

So, what about Kansas? The Cougar Network has recently documented a confirmation from Kansas on the campus of Kansas University in Lawrence. Mark Jakubauskas, Assistant

Research Professor for the Kansas Biological Survey, placed a motion detection wildlife camera on October 1, 2003 and snapped an image of an animal some wildlife biologists identified as a cougar. About a week later, he and a colleague found some animal droppings in the vicinity of where the photo was taken. A DNA analysis of the droppings showed it was from a cougar. On January 27, 2004 Dr. Jakubauskas provided testimony to the Kansas Legislature's House Environment Committee. This was the first cougar confirmation in Kansas since 1904.

According to Charlie Lee, Extension Specialist in Wildlife at Kansas State University, "In my opinion, (there is) still no evidence that they exist in Kansas. (They) probably are here but in much lower numbers than people report them."



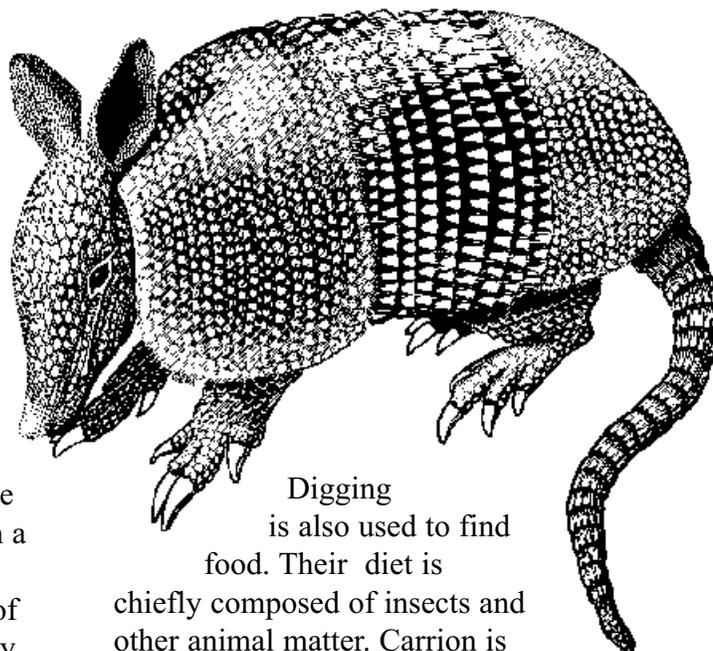
Have You Seen An Armadillo Lately?

One mammal that is relatively new to the Kansas scene is the armadillo. Technically, it is the nine-banded armadillo and it is a member of an order (Xenarthra: armadillos, sloths, and allies) that seems to have developed in South America. In fact, the only member of the order that is not restricted to Central and South America is the nine-banded armadillo. About the size of a terrier dog, the armadillo is an unusual animal that has a protective armor of “horny” material on its head, body, and tail. This bony armor has nine movable rings between the shoulder and hip shield. The head is small with a long, narrow, piglike snout.

Because of their almost complete lack of hairy covering, armadillos are easily affected by climatic conditions. Long periods of freezing weather effectively eliminate armadillos from an area. This is believed to be the main reason armadillos haven’t expanded much beyond the southern border of Kansas. But, that is all changing. Armadillos are now seen as far north in Kansas as the Kansas River and some have even been reported as far north as the Missouri River Valley.

Milder winters in the past ten years have probably contributed to the northward expansion of the armadillo. They have certainly become more common in southern Kansas. But, will cold weather do them in? Some believe they will never thrive where winter temperatures drop below freezing for long periods. Others, though, think some of the armadillos are getting tougher and might be a little better at adapting to harsher conditions than previously thought.

Armadillos have an affinity for sandy soils and are fond of water which makes the river habitats of the Kansas and Missouri River ideal. In such sandy areas as river corridors, the armadillo is an active digger and produces many burrows. In fact, few animals of comparable size have so many dens per individual.



Digging is also used to find food. Their diet is chiefly composed of insects and other animal matter. Carrion is readily eaten when available and dead carcasses of animals are frequently visited not only for the carrion, but also for the maggots and pupae of flies found on or near them.

When discussing armadillos, we can’t leave out two of their more unusual traits. One is the fact that armadillos give birth to identical quintuplets every time! Young are born in March or April after a gestation period of approximately 150 days. They are fully formed miniatures of their parents at birth, complete with their eyes open! They are able to walk, in a more or less uncertain fashion, within a few hours of birth. The young stay with their mother until the onset of the breeding season and then disperse.

Another interesting trait is the behavior of this animal in water. Apparently, armadillos tire easily when forced to swim for any distance. If the stream is not wide, the armadillo may enter on one side, walk across the bottom, and emerge on the other. If the expanse is too great, the animals ingest air and inflate themselves to increase their buoyancy. The mechanism by which they can ingest air and hold it in their digestive tract is not known!



Securing a Future for Natural Resources in the 21st Century

What is the outlook for our natural resources, especially our wildlife, in the 21st century? In the past 15 years, a number of surveys directed towards the attitudes of the general population, hunters, anglers, boaters, and wildlife viewers towards our wildlife resources have been conducted (see page 9 for more information).

Despite the concerns about terrorists, the economy, and natural disasters, people are still concerned about our environment. A poll by the Yale School of Forestry and Environmental Studies in 2004 indicated 13% of Americans thought the welfare of the environment was the most important issue while 60% said it was a very important issue. The top environmental issues facing our nation identified in this survey are: water resources, endangered species, and conservation education. The overwhelming concern, regarding water resources, was water quality and quantity.

Among Americans, ecology values are more important than recreational values. In general, the public is satisfied with the work agencies, such as Kansas Wildlife & Parks, do with recreation related to fishing and hunting. The public would like to see the agencies do more in resource-related programs, such as water and land management, or usage of these resources.

With few exceptions, the public feels the nation's wildlife resources are healthy but there is still great concern about our nation's wildlife. A recent survey of the nation's Northeast residents showed 77% *disagreed* that providing land for new homes should take precedence over preserving wildlife habitat.

On the flip side of this, only 16% of the residents of the Northeast could correctly identify their state agency responsible for managing the state's fish and wildlife resources. A survey in Florida showed the public's knowledge about fish and wildlife was very low; only 14% could name an endangered species other than the Florida panther or manatee.

Only 14% of Florida respondents could name an endangered Florida species other than the Florida panther or manatee

While the public may have limited knowledge of wildlife, they seem to know a lot more about nuisance animals. Several resource management surveys show that every year, about a quarter of the public experiences nuisance animal problems.

There are several important points resource management agencies, like Wildlife & Parks, should consider when dealing with the general public. Management research clearly shows different groups process and respond to information in different ways. Resource agencies, therefore, must target their desired markets with appropriate messages. This targeting must be based on sound research, not on assumptions. And, it must be *relevant* to the individuals of the group. More time should be spent on educating the public *why* the agency is employing a specific management program rather than just *what* the program is.

The message must be understood and palpable to the *average* citizen. To achieve this requires an understanding of the public's attitude, opinions, and preceptions. A survey in Maine was conducted to determine what was the *most statistically significant characteristic associated with support for hunting in Maine*. Two questions asked by researchers were: "Do you approve of legal recreational fishing?" and "Can you correctly identify the agency responsible for managing the state's wildlife?" Researchers reasoned that a correct response to the question "who manages wildlife" would prove to be the most critical in an individual's willingness to support hunting. It turned out to be the least critical of the fifteen questions. The



second least critical question was that which asked the length of time the person had lived in Maine. The highest support indicator was the question regarding “approves of legal recreational fishing.”

Let’s use a common “ice breaker” from Project WILD workshops to illustrate how relevant a question is. For this activity, individuals try to identify a picture of an animal which is placed on their back. A poor question to ask someone in helping you identify the animal would be, “Am I brown?” Insects are brown, birds can be brown, and reptiles and fish can be brown. It is not a good question. It provides you with little information in identifying the animal on the card attached to your

back. A better question would be, “Do I have fur?” A “yes” answer would determine you are a mammal: a “no” would eliminate the mammals as a possibility.

The question, therefore, is “How relevant is the information you are given?” Only through relevant, targeted messages to specific groups will the future of our natural resources in the 21st century be secured.

Roland Stein
Wildlife Education Coordinator

CELEBRATE THE ORNATE BOX TURTLE IN 2006

The 20th anniversary of the Ornate Box Turtle as the Kansas state reptile will occur in 2006. A t-shirt to denote this anniversary has been designed by professional wildlife artist Martin B. Capron of Oxford, Kansas. The first printing of this somewhat limited edition T-shirt will be printed in January, however, one more printing is planned for early spring 2006 if there is enough interest. All shirts will be high quality shirts with the artwork colored in the Kansas colors of brown and yellow.



The cost of each shirt is \$12.00. Adult sizes are available in S-M-L-XL and a medium child shirt (10-12) is also available. Shipping charge is only \$3.00 per order (any number of shirts)

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One Million Educators Gone WILD

Sometime in December or January, Project WILD will train its **ONE MILLIONTH** educator. Project WILD, an interdisciplinary environmental education program emphasizing wildlife, was first introduced in 1983 (1990 in Kansas). It is based on the premise that young people and their educators have a vital interest in assuring Earth will always provide the necessary habitat and its component for the well-being and survival of people and wildlife.

There are five areas of study in the guide: (1) attitudes and awareness, including human perspective and values; (2) human impact, both positive and negative; (3) issues and trends in land use, consumption of natural resources, and life styles; (4) wildlife management; and (5) responsible action and service. The activities within the Project WILD guide focus on creating a greater awareness and understanding of the environment and help students develop responsible choices throughout their lives regarding our natural resources.

Perhaps it is time for you, if you have not done so, to enroll in a Project WILD workshop. Become a part of the process that recognizes Earth is home for both people and wildlife and it is up to all of us to protect and preserve it. We all have a responsibility for equipping learners with the skills and knowledge necessary to access and evaluate information upon which sound environmental decisions can be based.

Outdoor Classroom Grant Program

The Outdoor Classroom Grant Program is a partnership of the Lowe's Charitable and Education Foundation, International Paper Foundation, and National Geographic Explorer classroom magazine. As part of Lowe's continue commitment to public education, Lowe's will provide more than \$200,000 in outdoor classroom grants to benefit public schools nationwide.

Teachers may apply for grants up to \$2,000 by visiting www.Lowes.com/outdoorclassroom. For school districts with major classroom projects, grants may be awarded for up to \$20,000. All K-12 public schools in the United States (except Puerto Rico) are eligible to apply for a grant.

Order your free Life of the Forest education materials from International Paper at www.iplifeoftheforest.com

Coming Attractions

Spring 2006

DATE	LOCATION	SUBJECT
March 4	Trailside Center, KC, MO	Teaching Rivers in an Urban Environment www.spioneers.org
March 11	Ft. Hays State University	Project Aquatic Workshop Roland Stein at (620) 672-0751
April 5-7	Rock Springs Ranch	IYE (Investigating Your Environment) www.kacee.org
April 7 April 16-20	Rock Springs Ranch Statewide	Spring KACEE Meeting National EE Week
April 22-23	Rock Springs Ranch	KATS Kamp www.kats.org

Fall 2006

DATE	LOCATION	SUBJECT
Sept. 28-30	TBA, Arkansas	4-State Conference for Facilitators
Nov. 3-4	Pittsburg, KS	KACEE Environmental Educators Conference



On TRACKS is published by the Kansas Department of Wildlife & Parks several times during the school year.

The purpose of On TRACKS is to disseminate information and educational resources pertaining to the natural, historic, and cultural resources of the prairie, emphasizing Kansas ecology. Information is presented from the perspective of current scientific theory.

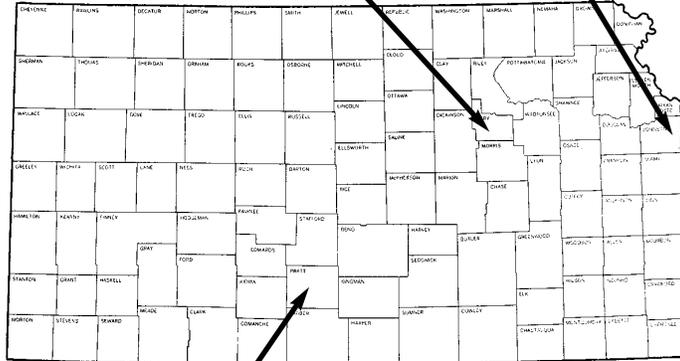
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