





by Steve Williams

Parks Funding: An Important Public Decision

ore than a year ago, a group of notable Kansans was assembled by the Kansas Wildlife and Parks Commission to answer some serious questions: How do we infuse new life into a deteriorating state park and outdoor recreation system? How much will it cost? How will we pay for it?

The Commission's Task Force on Outdoor Kansas, as it is called, studied the symptoms. Many state parks are showing their age. Shower buildings and restrooms are crumbling. Parks employees are strapped by operating budgets too small to adequately maintain deteriorated park facilities. ∂ Many communities' parks and recreation programs are too anemic to meet the growing demands of their citizens for outdoor experiences close to home. Wildlife management programs are inadequate to meet habitat losses. It was an imposing challenge for Task Force members.

After carefully examining how other states had approached similar problems, and asking Kansans their opinions, the Task Force finalized a proposal that would generate about \$12 million annually, plus provide a one-time investment of \$10 million in revenue bonds to overhaul state park buildings and facilities. The Task Force proposed generating these critically needed funds through redirection of 1/20th of one percent of state retail sales tax revenues.

No new taxes would be required for the proposal to become reality, but other state programs would have to be reduced to accommodate it. That consideration creates a formidable challenge to such an initiative. In addition to this and other budget enhancements, the department is asking the 1997 Kansas Legislature to allocate \$8.2 million to pay off a long-standing debt to the U. S. Army Corps of Engineers for development of El Dorado State Park. The need to address this debt, incurred more than a decade ago, complicates prospects for the Task Force proposal.

Still, some of the needs of department-managed resources have become too acute to ignore. State park facilities demand immediate action.

A scaled-down version of the Task Force's original proposal addresses this most acute need. While wildlife management funding and enhanced park operations and maintenance budgets are critical, fortifying the parks infrastructure is *the* most urgent need. Under the modified proposal, this improvement would be financed through a \$7 million bond issue, which would be funded by \$800,000 annually in additional State General Fund appropriations to the Department of Wildlife and Parks. This figure is equivalent to the average amount annually appropriated during the last 10 years to the department for capital improvement projects in the parks. However, the bond issue would provide a much-needed infusion of resources to complete substantive, long-delayed, major improvements immediately.

The bond revenues will be used to fortify a sustainable park system and accomplish tasks that benefit all types of outdoor enthusiasts, as well as the businesses and communities that rely on them. Some examples of the critically-needed improvements are:

* Providing a handicapped accessible office at Glen Elder State Park;

* bringing eight El Dorado State Park shower houses up to handicapped-accessibility standards;

- * replacing collapsing water lines at Clinton State Park;
- * repairing the sewage lagoon at Cheney State Park;
- * renovating the beach at Milford State Park; and
- * similar projects at every state park in Kansas.

Campers, picnickers, youth groups, hikers, anglers, and other outdoors-loving Kansans will benefit far into the future with this modest investment in our state park system. Research has proven that participation in outdoor leisure pursuits improves the mental and physical health of participants. Notably, youngsters accrue positive changes in their lives through the outdoor and interpersonal skills developed by their participation in outdoor recreation.

The Kansas businesses that annually enjoy more than \$100 million in economic activity generated by park users will benefit, as well, as parks become better equipped to handle the rapidly growing demand for safe, family-oriented outdoor fun.

State parks are important, too, for the quality-of-life benefits they provide. The greenways which characterize state parks are more than just aesthetically pleasing; they help mitigate water, air, and noise pollution and preserve natural habitats. They also contribute to community pride, and boost the appeal of area communities to new businesses and residents.

Ultimately, the people of Kansas will decide the future of our state parks. There are no easy solutions. The involvement of Kansas citizens, which contributed substantially to the efforts of the Task Force on Outdoor Kansas, will determine what happens now. The Task Force will continue to support efforts to promote funding enhancements to provide needed operating dollars. Working together, we can turn problems and challenges into opportunities to revitalize outdoor recreation in Kansas. Perhaps future generations of Kansans will look back with fond appreciation on the 1990s, when their predecessors took the initiative to ensure a rich variety of outdoor experiences in Kansas.



March/April 1997

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About the covers Front: Like giant snow flakes, snow geese land in a corn stubble field near Quivira NWR. Mike Blair shot the scene with a 600mm lens, @ f/8, 1/500

Back: The river never sleeps. As the sun sets over the Arkansas River, the water continues its journey under an orange glow. Blair shot the scene with a 55mm lens, @ f/4, 1/60 sec.









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KANSAS WILDLIFE & PARKS (ISSN 0898-6975) is published by the Kansas Department of Wildlife and Parks, 900 Jackson St., Suite 502, Topeka, KS 66612. Address editorial correspondence and subscription requests to Kansas Department of Wildlife and Parks, 512 SE 25th Ave., Pratt, KS 67124 (316) 672-5911; E-mail -MichaelM@GENMAIL.PCC.CC.KS.US Subscription rate: one year \$10; two years \$18; and three years \$27. Articles in the magazine may be reprinted with permission. Second class postage paid at Pratt, KS and additional mailing offices. POSTMASTER: Send address changes to Kansas Department of Wildlife - 512 SE 25th Ave., KS 67124.

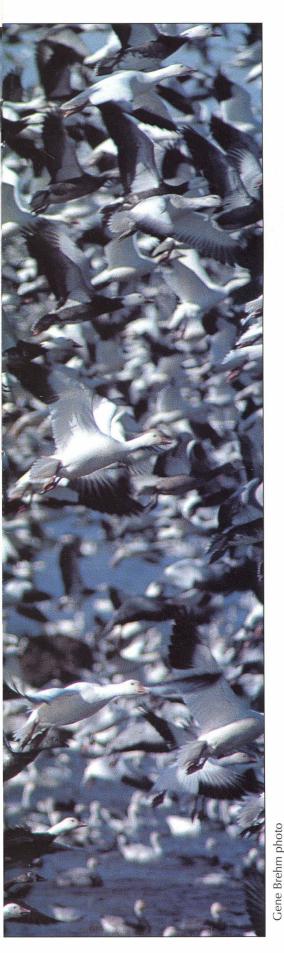
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Let It S reference

by Marc Murrell public information officer, Great Plains Nature Center, Wichita

Snow geese commonly concentrate in large numbers in northeast Kansas, and they provide great late-winter hunting opportunities. But waterfowl experts are concerned that the continental snow goose population is too large. They may be eating themselves out of house and home on their arctic nesting grounds.

Each winter, the skies over eastern Kansas turn white, but it's not your usual frozen precipitation — it's snow geese. Common visitors to the Sunflower State, snow geese arrive in late fall and early spring during migration. Snows may congregate in huge flocks and seeing several thousand birds descend on a field can be awesome, not to mention deafening.

There are two subspecies of snow geese, the lesser and the greater. The lesser exhibits two color phases: a dark phase, which is blue/gray with a white head; and the more common white version, which is all white with black wingtips. The difference is a genetic color variation, similar to the Labrador Retriever's black, chocolate or yellow color phases. Lesser snow geese generally weigh from 4-6 pounds and measure 27-29 inches from head to tail. The greater snow goose occurs only in the white plumage, weighs 6-8 pounds and is typically 29-31 inches in length. The Ross' goose, a separate species, is similar in appearance to the white phase snow goose but is much smaller, usually less than 4 pounds.

Most snow geese following the airborne interstate through Kansas are lessers and comprise the Mid-Continent Population (MCP), one of

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five populations identified for management purposes based on migration routes. The MCP birds winter in Texas, Louisiana and eastern Mexico and nest near the Hudson Bay and across the northern coast and islands of Canada.

Snow geese begin to breed at 2 years of age, nesting in large colonies that range in size from a few hundred birds to more than 100,000. Their reproductive traits are versatile, a must considering the harsh, unpredictable and short nesting season of the

far North. With a long life-span, snow geese have been documented nesting and rearing broods at 20 years of age (many outlive legbands attached for research). Females return to nest in the same area where they were raised.

Nesting begins as soon as the snow melts, when four to five eggs are laid. Nest predators include arctic and red foxes, wolves, ravens, jaegers, sandhill cranes, polar bears, gulls, and caribou, and if the first nest is lost, snows typically don't re-nest. They're good at the first attempt, however, as more than 90 percent of all nests produce at least one gosling.

Their longevity, successful nesting traits, low hunting pressure and abundant food sources from expanding agriculture have allowed snow goose numbers to increase dramatically. But this growth has snow geese heading for an ecological disaster, and if numbers are not reduced, it could take years, even centuries, for them to recover. In a nutshell, they're eating themselves out of house and home on the arctic tundra.

The problem lies in the fragile nature of their tundra nesting grounds. Snow geese graze on grasses and sedges, digging and grubbing with



The impact of extensive grubbing and grazing is evident around this exclosure. The damage threatens other arctic birds as well.

their strong bills, removing both exposed vegetation and roots. As one area becomes de-vegetated, they move on to other areas. Parent geese have been documented moving broods more than 30 miles in search of food (walking since the young couldn't yet fly).

When vegetation is removed, the topsoil erodes away, and salt leeches into the ground from standing water. With no topsoil and salt levels 10 times that of seawater, beneficial plants can't grow. In a study project, areas of tundra overgrazed by geese more than 10 years ago were fenced to prevent further damage. Today those areas show less than 5 percent regrowth.

"It's kind of like an out of control locomotive," said Marvin Kraft, waterfowl program coordinator for the Kansas Department of Wildlife and Parks. "Now they're starting to affect other species of arctic-nesting birds — some shore-



Snow geese are successful nesters with nearly 90 percent of nests rearing at least one gosling. Low hunting pressure and expanding agricultural lands providing easy meals during migration have allowed snow goose populations to grow by 8 percent each year since the 1970s.

birds as well as Canada geese and in a few instances, white-fronted geese," he added, expressing concern mirrored by waterfowl experts from the U.S. and Canada.

During this period of increase, the hunting regulations have been liberalized as much as possible. The Migratory Bird Treaty of 1916, an agreement between Great Britain, Canada, United States, and Mexico, states that the season will not go beyond 107 days and will conclude by March 10. The bag limit is a liberal 10 birds, but that can be difficult to achieve for most hunters. Snow geese are more difficult to decoy than other waterfowl.

"You're dealing with numbers," Kurt Thompson, department conservation worker and snow goose hunting fanatic said of hunting snows. "Snow geese fly in such large flocks, it's hard to get them to decoy. You need large expanses of decoys. I think 600-800 rags is what we've used in the last six or eight years. If you don't have that many, chances are you're not going to be successful.

"Sometimes they just won't decoy. You can have more than



This exclosure was erected on a denuded area in 1982. There was less than 5 percent regrowth by 1994. Regrowth may take many more years, if ever.

1,000 decoys out, and the huge flocks will just fly over you and land a mile away," Thompson added.

For those who are willing to put forth the effort and have the



Snow goose hunting regulations have been liberalized to encourage more harvest, however, snow geese are difficult to decoy. Because they travel in such large flocks, huge decoy spreads are necessary, usually including shell decoys and 500-600 rags.

resources and contacts, hunting snow geese can be an incredible rush because of the sheer numbers of birds you may see.

"I like snow goose hunting because they are reliable numberwise. You have a chance to have a good season every year," said Thompson, who hunts in Brown County. "They've never failed to be in this general area. We may see anywhere from 10,000 all the way up to 400,000 or 500,000."

Since the season has been split into two segments, some of the best hunting occurs near the end of the season in late February or early March. Thompson and his hunting buddies have their best luck in disced corn fields on bitter-cold, cloudy or foggy days. They scout the birds and get hunting permission for the field the geese are using most frequently.

Thompson doesn't rely heavily on calls, although he is adept at calling with his voice. He admits that the calls of hundreds of circling snow geese effectively drown out any calling he and his buddies are doing.

Thompson does prefer to bring the birds as close as possible, usu-



Snow geese typically accumulate in large numbers on wetlands and waterfowl management areas in the eastern half of Kansas. Kansas hunters kill 5,000 snows annually. The continental population is estimated at 6 million, twice what may be healthy.

ally under 30 yards, before taking shots. While shell manufacturers may recommend 3-inch shells loaded with BBBs, BBs or 1s, Thompson has found smaller shot to work if the geese are decoying.

The 1996-1997 Kansas light goose season opened Nov. 2 and ran through Jan. 3, then opened up again on Jan. 25 and closes March 9. But even with the long season and liberal bag limits, officials wonder if enough birds can be removed to avert disaster. The average annual harvest of snow geese within the Central Flyway is estimated at 220,000, 5,000 of those in Kansas. The combined annual harvest for Canada and the U.S. is 500,000, but officials estimate that twice or even three times that number would need to be harvested to reduce the population substantially. The continental snow goose population is estimated at 6 million, twice what is desired, or what may be healthy for their habitat.

A group of experts was assem-

bled in 1995 to study the problem and make recommendations for proposed solutions. The Arctic Goose Habitat Work Group will come up with management plans to preserve this important continental resource.

"Some of the rules concerning plugs in guns, baiting, electronic calls and other similar issues are



Snow goose hunters spend hours scouting and setting out decoys, but when a flock of 5,000 birds sets its wings over the spread, the adrenaline rush is incredible.

being looked at," said Kraft.

Other ideas are being considered as well. Arctic residents, who have harvested snow geese and their eggs for thousands of years, may be encouraged to take more. Rewards or bounties for snow geese have been discussed to encourage more hunting, and allowing hunters access to closed refuges during special snow goose only seasons has also been considered. An international snow goose hunting license could be proposed, allowing hunters to hunt in any state or province under one license. Direct culling or cropping of birds through

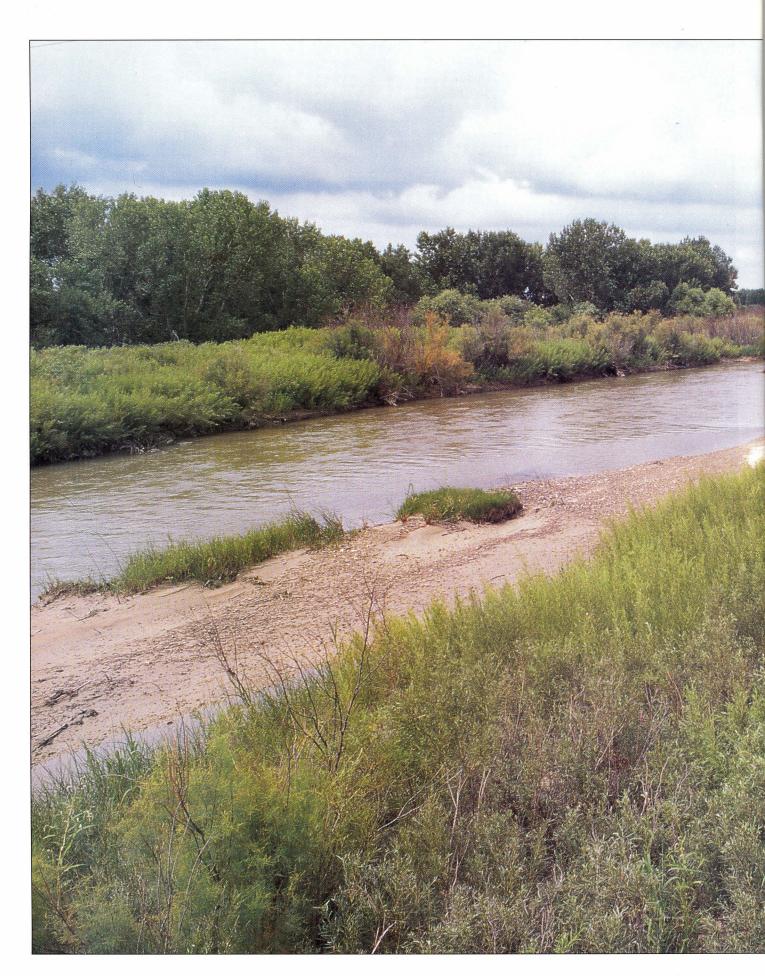
commercial harvest, trapping, military assistance, egg destruction and chemical sterilization have also been discussed.

"You always have to consider the impacts on other species of geese as well as the ethics, traditions and impressions of our waterfowl sport," concluded Kraft. "Most ideas get thrown out for one reason or another."

Whatever recommendations the group proposes, they're likely to be controversial, since most focus on significant population reductions. Everyone concerned, including hunters, birdwatchers, animal rights supporters, and the general public from Canada to Mexico need to realize that this is a serious and complex problem.

There will be no way of knowing if any of these recommendations will work. But if Mother Nature is left to take its own course, irreparable damage to the tundra, snow geese, and other species could result. A solution will not be easy, cheap or without controversy, but it's worth a try if future generations are to experience the sky white with geese.





Ark River Lowlands

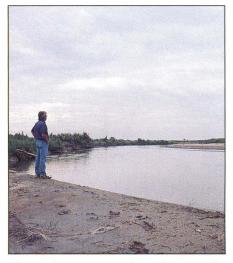
by Bob Mathews *chief, Information and Education Section, Pratt*

photos by Mike Blair

Bringing life-giving water to a semi-arid region, the Arkansas River winds through southwestern and southcentral Kansas. Depositing sand and gravel from the Rockies, the Ark also carves an interesting landscape.

Trom its source on the eastern slope of the Rocky Mountains to its meeting with the Mississippi River, the Arkansas River stretches 1,450 miles through four states. In keeping with its status as the fourth longest river in the U.S., the Ark has shaped and carved defining landscapes in each of these states. From the expansive sandsage prairies of western Hamilton County, where the Ark enters Kansas, to the fertile bottomlands of southern Cowley County, where it leaves the state, lie a rich variety of habitats and landscapes - testimony to the profound effect the river has had on our state.

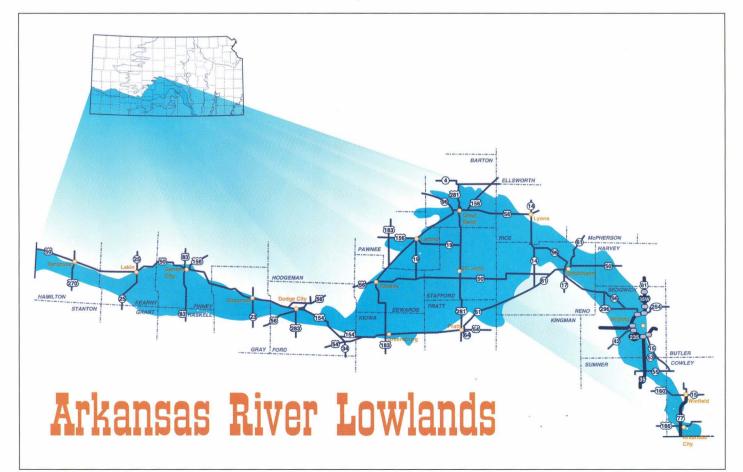
To get a feel for the Arkansas River Lowlands physiographic province, try getting off the beaten path for a closer look at some of the diverse habitats found in the Lowlands. A good place to begin is at the Kansas/Colorado border in western Hamilton County. It was here that Francisco Vasquez de Coronado — the first European explorer to see the Arkansas River



The author gazes at the Ark in southwest Kansas, near his boyhood home

— crossed the river in his futile quest for gold more than 450 years ago. A 20-mile drive along the river road paralleling the river from Coolidge east to Syracuse offers motorists an introduction to this province. Picturesque stands of stately cottonwoods lining the river provide nesting cavities for redheaded woodpeckers, northern flickers, and American kestrels, and cover for white-tailed deer, wild turkeys, covotes -, even porcupines. Flanking the river to the south are rolling dunes covered with a mix of bunch grasses, drought-resistant forbs, and sagebrush that stretch as far as the eye can see. Grasshopper sparrows, western meadowlarks, and western kingbirds enliven a seemingly endless landscape of sandsage prairie. Closer inspection reveals a rich mixture of grasses, forbs, and wildflowers. Yucca, sand bluestem, snow-on-the-mountain, snake cotton, daisy fleabane, showy partridge pea, ten-petal mentzelia, resinous gumweed, and sunflowers to name a few — offer vitality and subtle color to the surroundings. The dunes themselves are products of the river's artistry, together with wind and weather over the ages.

The channel of the Arkansas is sand and gravel washed eastward from the Rocky Mountains, a process that has been depositing an

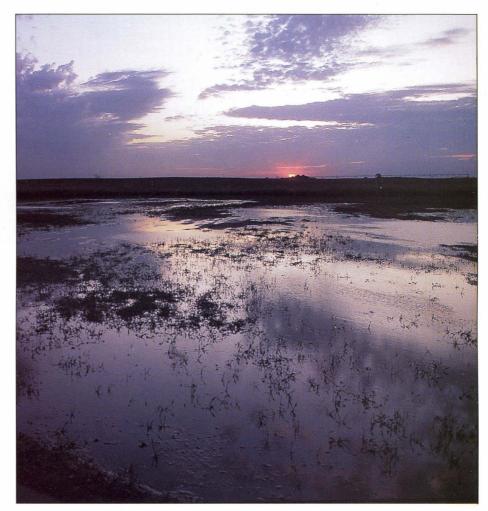


alluvial fan of land in Kansas since Tertiary times, and one that continues today. The sand prairies which characterize the Lowlands south of the river in the western half of the state were developed by fierce winds during Pleistocene times, which picked up the sediments from alluvial fans and deposited them across hundreds of square miles along the river's course.

The Ogallala aquifer, which underlies and sustains surface flows in the Ark, is also a product of the Rocky Mountains. It's estimated that 6,400 cubic miles of gravel and sand were deposited by the Ark River's meanderings across the High Plains millions of years ago to form the aquifer. Subsequent floods during the Miocene period filled this immense sand and gravel bed with a reservoir of fossil water estimated to be third the size of Lake Superior.

As the Ark bends northeastward in eastern Ford County, the Ark River Lowlands province becomes even more expansive, comprising all or parts of eight southcentral Kansas counties. This wildlife-rich region of the state is accentuated by its two most noteworthy public wildlife areas — Cheyenne Bottoms and Quivira National Wildlife Refuge.

In sharp contrast to the sand dunes bordering the Ark River's course through western Kansas,



Quivira National Wildlife Refuge lies along the Ark River Lowlands. This 22,000-acre area of salt marshes, grasslands and timber attracts countless waterfowl and shorebirds.

Cheyenne Bottoms offers a unique environment. Situated in a natural depression of about 60 square miles just north of the Ark River's apex in central Kansas, Cheyenne Bottoms



Just north of Quivira NWR is Cheyenne Bottoms Wildlife Area. This 19,000-acre, stateowned waterfowl management area is listed as a Wetland of International Importance.

is justly categorized as a Wetland of International Importance. Nearly half of the entire North American shorebird population knows Cheyenne Bottoms firsthand as their most important staging area during migration. Each April, tens of thousands of shorebirds can be seen probing the Bottoms mud for bloodworms, the larval stage of the small fly known as the midge and the primary fuel that carries shorebirds on to their nesting grounds in the far north. The area is critical habitat for some notable threatened and endangered species, including whooping cranes, bald eagles, peregrine falcons, least terns, and piping plovers. The Cheyenne Bottoms bird checklist is impressive. More than 320 species of birds have been recorded here, including 25 species of ducks and geese.

Just 20 miles southeast of

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Sandhill grasslands characterize much of the Ark River Lowlands. Native grasses stabilizing the sandy soils include sandreed, sand bluestem, little bluestem, and switchgrass. The sandy prairie hosts deer, bobwhite quail, prairie chicken and many nongame species.

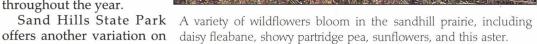
Cheyenne Bottoms lie the salt marshes of Quivira. Unlike the treeless marshes of Chevenne Bottoms, Quivira is a brackish marsh with broad salt pans, lush tallgrass prairie, and an abundance of woody cover. While Quivira's bird checklist documents more than 270 species, it's also home to a diverse

collection of mammals. White-tailed deer, badgers, bobcats, coyotes, raccoons, prairie dogs, muskrats, and beavers are just a few of the mammal species present. As with Cheyenne Bottoms, vehicle traffic is permitted along developed roads through the area to allow convenient observation of the varying collection of wildlife available species throughout the year.

the dune environments created by wind-deposited sand from the Arkansas River at the end of the last Ice Age. The 1,120-acre natural area displays a microcosm of the sand dune, grassland, wetland, and woodland environments that are native to the Arkansas River Lowlands province. Sandreed, sand

bluestem, sand dropseed, little bluestem, and switchgrass stabilize the loose soils of the hills and hummocks on the area. Purple poppy mallow, goatsbeard, and a rich array of other wildflower species take turns blooming through the spring, summer, and fall. Black locust, hackberry, box elder, osage

> orange, green ash, catalpa, and cottonwoods in the lower areas offer shade and cover for a variety of mammals and birds. Mosses, liverworts, and lichens thrive in the shaded canopy of the area's woodland. Western chorus frogs raise their voices from the marshes rimmed with sedges, rushes, and prairie cordgrass. Three hiking trails and one self-guided interpretive trail offer visitors a first-hand look at the



variety of environments comprising Sand Hills State Park.

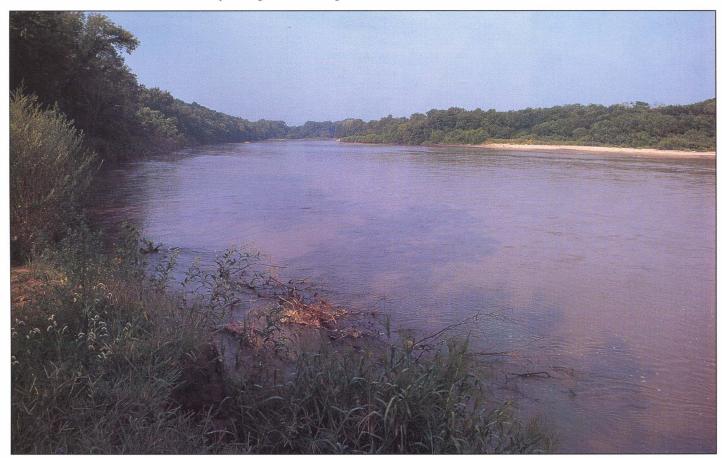
Although Kansas is not known for canoeing recreation, the Arkansas River from the Cheyenne Bottoms/Quivira vicinity to the Oklahoma border offers canoeists an opportunity for an intimate look at the Arkansas River Lowlands province. From Raymond, located 35 miles northwest of Hutchinson, to the Oklahoma border southeast of Arkansas City lies 150 miles of floatable river coursing through the middle of the Arkansas River Lowlands province. A typical prairie river — low banks, shallow sand bottom, and braided channels weaving around a series of sandbars and islands — the Ark flows through rich bottomland characterized by progressively denser terrestrial forests of trees and brush along a broad, flat river corridor. Augmenting the mainstem's flow along this reach of the river are notable tributaries, including the Little Arkansas, Ninnescah and Walnut rivers.

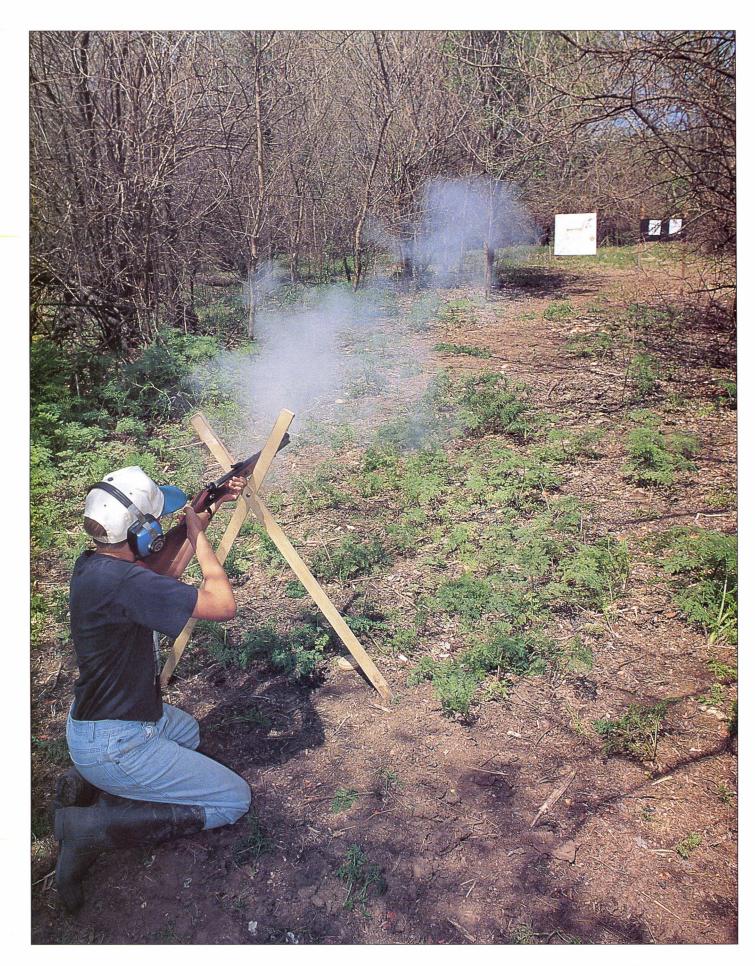
Another natural area in Cowley

County offers visitors a chance to see yet another variation on the Arkansas River Lowlands theme. Caplin Nature Center, a 200-acre showpiece of Lowlands environment, is owned and operated by the Wichita Audubon Society. Five miles of walking trails take visitors through bottomland forests and prairies to the sandy beaches of the Arkansas River. Pileated woodpeckers, rufous-sided towhees, cedar waxwings, ruby-throated hummingbirds, eastern bluebirds, and Carolina wrens are among the 225 species of birds documented here. Winter visits are highlighted by the sight of bald eagles coursing the river.

A few miles downstream lies Kaw Wildlife Area, a 4,300-acre mixture of floodplain and river that stretches from the south edge of Arkansas City to the Oklahoma border. The area is managed primarily for public fishing and hunting, and lies above the conservation pool of Kaw Reservoir downstream in Oklahoma. Bobwhite quail, fox squirrels, cottontails, turkeys, and white-tailed deer are common in the woodlands and prairies of the wildlife area. Large stands of mature timber create an environment that is similar, but different, from the terrestrial habitats bordering upstream reaches of the river.

There's a mystical quality to a prairie river. The Arkansas is a prime example. Created by the snowmelt at its source, it rises like an oasis in the semi-arid western end of Kansas, flows eastward above and below its sandy bed, nurtures the unique environments it has created from raw materials borne out of the Rocky Mountains, periodically breaches its banks on the heels of Kansas' famous thunderstorms, and leaves its signature along its course. Time, wind, weather, and the river itself have distilled the essence of Kansas in a unique natural community: the Arkansas River Lowlands. There's a lot of it to see. And it's all worth a look. 💎





Young Hunter Challenge

by Rick Campbell, conservation officer, Wamego and Alan Hulbert, conservation officer, Valley Center

photos by Mike Blair

The Youth Hunter Education Challenge is an advanced hunter education course developed by the National Rifle Association. The Kansas Wildlife Officers Association sponsors courses around the state. Conservation officers and volunteer hunter education instructors offer young hunters who've completed the state course a chance to learn more about wildlife and hunting.

The group of youngsters waited anxiously as instruc-L tors tallied scores. The kids had just finished the final stage of the Youth Hunter Education Challenge and were excited to see how they had done. But the Challenge wasn't just about competition. It took hunter education a step further than the required state course, and helped young hunters improve their hunting and outdoor skills. The Challenge may also help them to be safer and more successful in their outdoor pursuits. Hunter education has played a vital role in reducing hunting accidents, but even hunters with a wealth of outdoor experience can have accidents.

The victim was struck in the left thigh by a single round fired by his hunting partner. The shooter, in shock, declared he fired at an elk and denied every idea of wounding his partner. Both victim and shooter were experienced outdoorsmen and hunters. Meriwether Lewis survived his accidental shooting on August 11, 1806 and was able to complete the historic Lewis and Clark expedition that began two years earlier.

Hunting in the 1800s was a way of life and survival — a necessity passed on through generations. As our nation developed, industrialization transformed society to be less dependent on wildlife for subsistence. A large percentage of Americans farmed the land, however, and agriculture kept the generations close to the land. Hunting became a traditional pastime rather than a necessity.

Today, there are fewer family farms and more Americans grow up in cities with little or no ties to the land. Hunting is still a popular pastime and, to some extent, is passed on from one generation to the next. But there are many who would like to hunt but have no mentor — no one to teach them about wildlife and nature or how to handle a firearm safely.

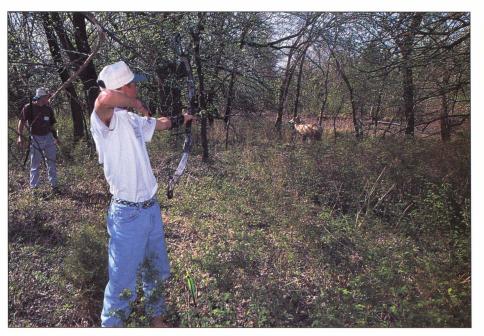
Modern hunters face some of the same perils that contributed to the

accidental shooting of Lewis in 1806, however, hunting is much different today than it was 200 years ago. More hunters are crowded into smaller hunting areas, and some of these hunters have limited experience. The need for some type of firearm training was recognized long ago, though.

In 1871, a charter was granted by the State of New York for the formation of the National Rifle Association (NRA). Originally established to encourage rifle shooting, the NRA has grown to be a premier organization promoting firearms training. In 1950, a hunter safety training program for young people was developed in New York. By 1953, the successful program was promoted nationally.

Today, most state wildlife agencies sponsor their own hunter education programs, many requiring young hunters to complete an approved course before hunting or purchasing a license. The Kansas Hunter Education Program was started in 1973, and all hunters born on or after July 1, 1957 must complete a course before hunting here. The course requires 10 hours of classroom and field instruction, provided by volunteer instructors across the state. More than 300,000 young hunters have completed the course in Kansas, and hunting accidents have been reduced dramatically. Compared to other outdoor recreation, hunting is extremely safe.

But the education doesn't have to stop there. The NRA has developed Youth Hunter Education а Challenge (YHEC), offering basic hunter education course graduates a chance to increase their knowledge and improve their skills. The program incorporates many of the situations encountered while hunting. YHEC is sponsored by a variety of hunting, shooting and outdoor organizations across the U.S. In Kansas, the Kansas Wildlife Officers Association sponsors YHEC. Certified Hunter Education instructors volunteer their time for this program just as they do for the state hunter education program. They are an important part of the



The Youth Hunter Education Program teaches youngsters hunting techniques through field exercises including an archery range with 3-D, life-size targets at varying distances.

YHEC's success.

There are eight hunting disciplines in YHEC: light rifle, muzzleloading, shotgun, archery, orienteering, wildlife identification, hunter safety trail and a hunter responsibility exam. All disciplines simulate hunting conditions common in the field.

The light rifle and muzzleloading events utilize life-size game targets at various distances, and only hits to the vital areas are scored. The archery event is a walk-through



Shooting techniques are taught in the light rifle discipline. All shooting is done under hunting conditions utilizing life-size game animal targets. Only hits to the vital areas are scored.

field course where participants shoot at lifesize, three-dimensional targets at varying distances. The shotgun event takes place on a sporting clays course with shots simulating those found while hunting. The orienteering event is a map and compass course that teaches orienteering skills useful to every hunter. The wildlife identification event requires participants to identify animals through tracks, skulls, mounts, hides, feathers and other sign. The hunter safety trail offers actual field conditions, safety and legal situations, and requires participants to make responsible, educated decisions. The hunter responsibility event is a written exam covering safety, ethics, and advanced hunting knowledge.

Special events such as clinics, demonstrations and social activities add interest and variety to the NRA Youth Challenge program. Clinics cover trapping, trap shooting, and falconry. Demonstrations can include informative programs or tours.

YHEC is an international program, and each year students from Canada and Mexico are invited to compete with participants from the U.S. The 1996 across International YHEC was held at the NRA Whittington Center near Raton, N.M. last July, where Kansas was represented for the first time. After qualifying at the state-level YHEC, a five-member team from Washington County traveled to the Whittington Center to be among the 330 participants. The Kansas team included 1996 junior and senior champions.

The Kansas YHEC, now in its third year, is patterned after the International program with a junior division for students 11-14 years old and a senior division for those 15-18 years old. A typical Kansas YHEC program may offer two or more shooting events, such as shotgun and archery, and at least one nonshooting event such as wildlife identification.

Levels of achievement have been established so students can see improvement if they attend the program for several years. The idea is for the beginner who has little or no experience to learn about different methods of hunting. Another aspect of the challenge is the youth/parent program where parents are getting involved as volunteers and coaches. Still growing, the Kansas YHEC was offered in Harvey, Marion, Pottawatomie, Saline, Shawnee, Wabaunsee and Washington counties last year. With the continued support of state and national wildlife organizations, the Kansas YHEC will expand and provide opportunities for all young Kansas hunters.

The following YHEC events have been scheduled for 1997: Sedgwick County, April 26-27; Pottawatomie County, June; Wabaunsee County, October; Washington County, April 5; and the state event in early June. Dates will be set this spring. For more information contact Rick Campbell, (913) 456-7097 or Alan Hulbert, (316) 755-3531.

Students must preregister for the challenge, and all materials are furnished. A small fee may be charged to cover expenses. Support from businesses and organizations has made this program successful, but new supporters are always needed. To find out how you can get involved in YEHC contact Campbell or Hulbert at the numbers listed above.



Members of the Kansas Wildlife Officers Association sponsor the Youth Hunter Education Challenge around the state, and they along with volunteer hunter education instructors provide instruction. Successful competitors may qualify for the International YHEC.



What's A Grebe?

by Kevin Becker *fisheries technician, Pratt Fish Hatchery*

photos by Mike Blair

The grebe can be difficult to study, since it will likely dive as you approach. But closer inspection will uncover a unique bird that really isn't at all like a duck -- that is if you can ever get it to surface long enough for a good look.

Wildlife & Parks

ast spring I visited a nearby marsh to do some birdwatching. Wetlands support a diverse array of wildlife and are great places to watch and learn. Finding a gap in the dense cattails along the shoreline, I saw a small duck-like bird swimming in the open pool. By the time I focused my binoculars, the bird was gone. After scanning the pool for several minutes, I assumed my eyes were playing their usual tricks. Then I noticed just the top of a head and eyes visible at the water's surface in the nearby shoreline vegetation. It was a pied-billed grebe.

The grebe, alarmed by my approach, had dived and swam the length of the pool under water before peeking out to locate me. This habit of diving to avoid danger is responsible for a variety of nicknames such as hell-diver and water witch. By expelling air from internal air sacs and feathers, grebes can increase their specific gravity, enabling them to maneuver efficiently underwater. They can stay submerged for more than 30 seconds, often swimming long distances. Pied-billed grebes also have the ability to partially submerge and swim with only their heads above water. This is rarely displayed by other grebe species.

In general, grebes seem duck-like



Pied-bills are adept underwater swimmers and can easily catch small fish. By expelling air from internal air sacs and feathers, the grebe can submerge much easier.

in appearance, yet they're quite different. Grebes have small, downy stumps for tails, usually unnoticed at a distance. They have lobed, partially-webbed toes and legs positioned near the rear of their body, making swimming and diving

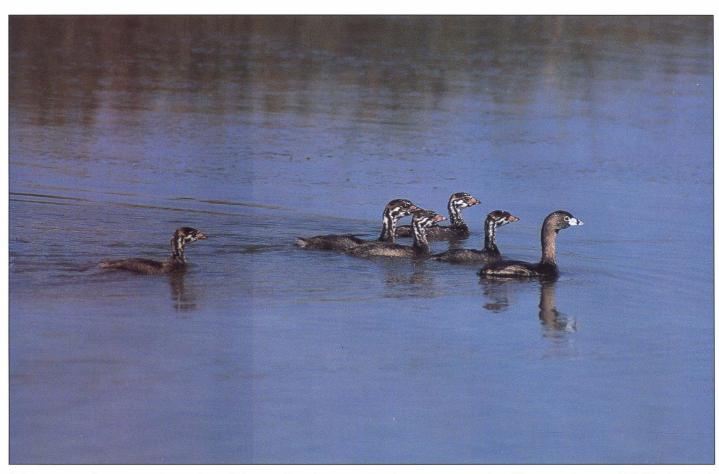


With short wings, all grebes are weak flyers and must run some distance atop the water to get airborne. This eared grebe is another species that can be seen during migration.

easier but walking on land awkward. The pied-billed grebe's Latin name *Podilymbus podiceps*, referring to these adaptations, means rumpfoot diver.

Even though they may migrate long distances, pied-bills, along with other grebes, are weak flyers because of their short wings. Grebes prefer diving instead of flying when disturbed. In flight, though rarely witnessed because most migration is at night, they resemble small ducks but can be distinguished by the slight dip in their slender necks and their extended feet. A lengthy run across open water is necessary to gain the speed needed for takeoff. There have been instances of grebes starving on frozen impoundments by getting trapped in open pools too small for takeoff.

The pied-billed grebe, sometimes called dabchick, is small and stocky, measuring 12-15 inches in length. Its brown plumage has a soft lustrous appearance. It can be identified by its short neck, blunt chicken-like bill, white eye ring, and lack of



While most grebes nest in the northern U.S. and Canada, nesting has been documented at Cheyenne Bottoms Wildlife Area and Quivira National Wildlife Refuge. An average clutch is 5-7 eggs, and the young can swim soon after hatching.

white wing patches. Other North American grebes have slender, pointed bills and distinct white wing patches. During the breeding season the pied-bill has a black throat patch and a black band encircling its whitish bill. In winter, the black band and throat patch are absent, leaving its chin and throat tawny white. The sexes are similar in color.

Pied-billed grebes can move quickly underwater pursuing small fish, crustaceans, and aquatic insects. While crayfish are a favorite food, pied-bills will also eat frogs, tadpoles, spiders, and vegetation. They also inexplicably eat their own body feathers. Even chicks have been known to have clumps of their parents' feathers in their stomachs.

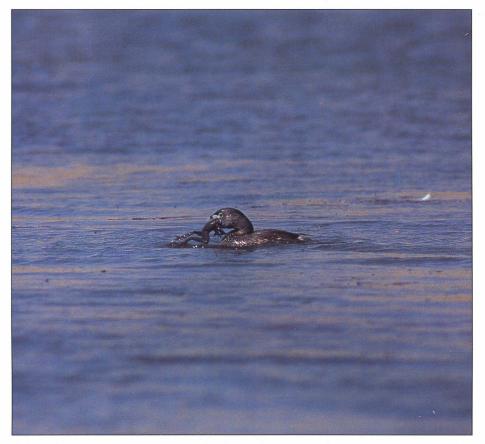
The pied-bill is a common transient in Kansas and is the most widespread of American grebes. It ranges from southern Canada throughout the U.S. to Argentina. Pied-bills inhabit freshwater ponds, lakes, marshes and are less frequent on rivers and saltwater. They prefer areas with extensive emergent vegetation adjacent to open water.

During migration, pied-bills occur in Kansas from March

through May and August through November. While some may nest in Kansas, most breed and nest in the northern U.S. and Canada. Most of the documented nestings in the state occur in Barton and Stafford counties near Cheyenne Bottoms



Grebe nests are floating structures usually anchored to vegetation such as cattails. The nest is usually situated so that adults can approach from underwater.



Fish and crustaceans are common diet items, however, grebes are opportunistic. This bird struggles to swallow a large bullfrog it caught in a pond.

Wildlife Area and Quivira National Wildlife Refuge.

Floating nests are constructed from vegetation and anchored to cattails or other emergent vegetation. Two or more nests, sometimes as large as bushel baskets, may be built by the pair in different locations. The nests are normally positioned so the parents can approach them from underwater. Well concealed and away from land, floating nests help protect the grebes from terrestrial predators. Pied-billed grebes are not colonial nesters. They're generally seen alone or in pairs and seldom flock, except during migration.

During the breeding season, pairs are very territorial. Pied-billed grebes are vocal, and their courtship antics are more acoustic than postural compared to other grebe species. The pied-bill's loud barking "cuck-cuck-cuck-cow-cow" signals that mating season has arrived.

In Kansas, egg laying occurs

from May 1-June 30. An average clutch contains 5-7 bluish-white to greenish-white eggs that later turn to a stained brown. The 23-day incubation is mostly, but not entirely, performed by the female. A pair commonly rears two broods through the summer.

The precocious young are covered with striped and spotted down, and even though they can swim soon after hatching, they often hitch a ride on a parent's back. When alarmed the parents may dive with the young aboard. Both sexes share in the rearing duties. At three weeks old, the young are fending for themselves, giving the adults the opportunity to start another brood.

Pied-billed grebes aren't the only grebes that can be seen in Kansas. Every North American grebe has been documented here except the least grebe. This list includes the Western, Clark's, horned, eared and red-necked grebes. The Clark's and red-necked grebes are rare visitors.

I've been fortunate to have a job working at a department fish hatchery where ponds attract many waterbirds during migration. Of the grebes, the pied-billed is the most common visitor. Eared grebes sometimes visit, stopping for brief stays, and last year a western grebe, the largest of North American grebes, showed for a rare one-day visit. Although grebes aren't the most welcome visitors at a fish hatchery, they rarely stay long, and they are a joy to watch.



Crayfish are one their favorite foods. Grebes also have a peculiar habit of eating their own feathers. Even young chicks have been found with feathers in their stomachs.

Catch and Release Catches On

ast year Kansas Wildlife & Parks magazine sponsored the department's first catch and release award program. Anglers who caught trophy-sized fish and released them were eligible to receive embroidered patches. And anglers catching the largest fish in each category also received a oneyear subscription to the magazine. Interest is growing in catch and release, and it's encouraging to see anglers who are concerned with the quality of their fishing.

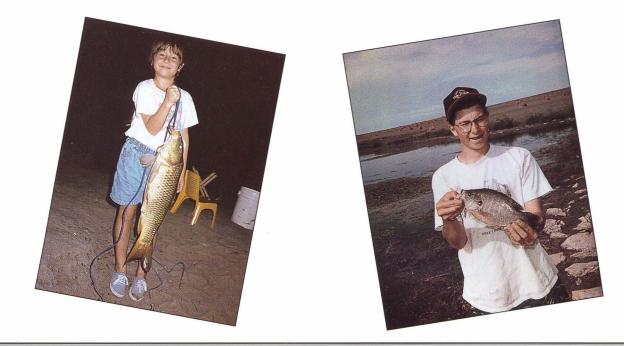
We're not saying it's wrong to keep fish to eat. But releasing some of the larger fish, especially in small lakes and ponds, ensures that quality fish are there for the future and helps maintain balance within fish populations.

Consult the application on the following page, and if you catch a big fish this year, measure it, take a quick snapshot and put it back. Send us the photo and application, and we'll send you a Catch and Release patch. Who knows, you might be the lucky winner of a year's subscription to *Kansas Wildlife & Parks* magazine.

Have fun fishing this year, and remember to invest in fishing's future, practice catch and release!



Catch and release fishing can be critically important on small lakes and farm ponds. Removing too many large predators can upset the fishery's balance and ruin fishing.



Catch and Release Award Minimum Length Requirements

Largemouth bass	24 inches	Channel catfish	35 inches	
Smallmouth bass	18 inches	Flathead catfish	50 inches	
Spotted bass	18 inches	Blue catfish	50 inches	
White bass	17 inches	Crappie, black	15 inches	A BANK LAN
Striped bass	36 inches	Crappie, white	15 inches	NRA HAPAN
Wiper	25 inches	Trout	20 inches	
Warmouth bass	10 inches	Walleye	24 inches	
Bluegill	10 inches	Sauger	20 inches	
Green sunfish	10 inches	Saugeye	24 inches	
Redear sunfish	10 inches	Longnose gar	50 inches	
Drum	30 inches	Common carp	30 inches	
Bullhead catfish	16 inches			

Send a color photo of your fish.

Name of angler		
Address		
pecies of fish:		Length of fish:
/lethod of take:		
Date	Time	
ait or lure used		
hone No		
ignature		

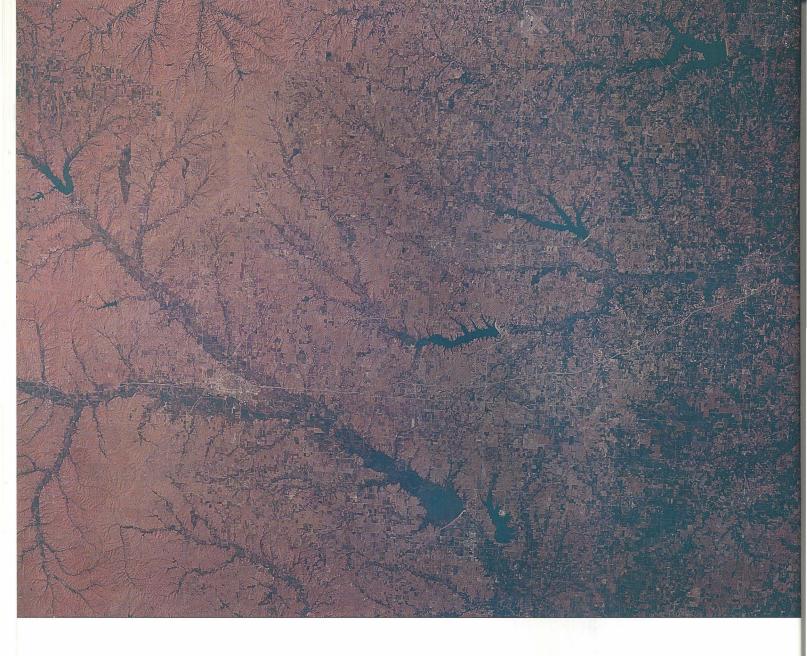
Catch and Release Award Form

Send this form and a color photograph of your fish to: Kansas Department of Wildlife and Parks, Public Information, 512 SE 25th Ave., Pratt, KS 67124



Receive this embroidered patch

Wildlife & Parks



From Above . . .

by Bradley Rundquist and Raymond Bivens

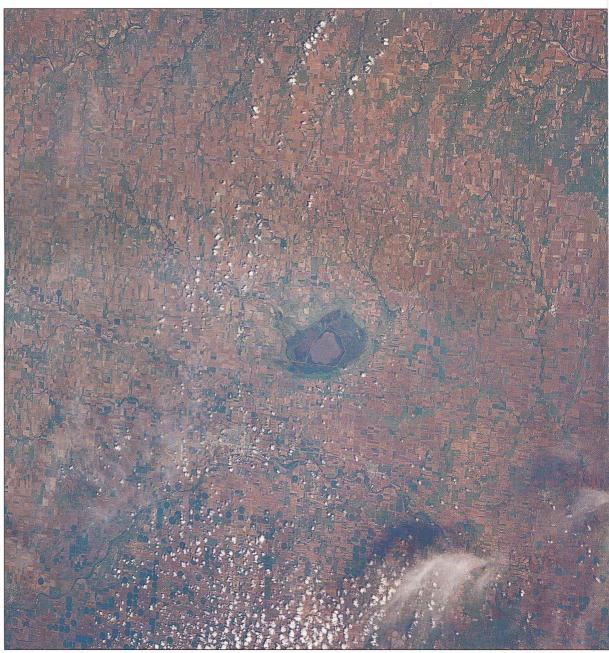
Lockheed Martin Engineering and Science Services Houston, Texas

Astronauts have always been awed by the spectacular view of earth from space. Now with cameras in hand, they bring us snapshots from space, so we can all appreciate what our planet looks like from above.

Wildlife & Parks

ercury astronauts were the first Americans to look on our planet from space. They were astounded by what they saw, and did their best to describe the view. John Glenn, during the historic flight of Friendship 7, asked that he be allowed to take a hand-held camera on board. Permission was granted, and he captured, for the first time on film, the human view from low-Earth orbit. During Gemini and Apollo, astronauts returned outstanding photos, many of which provided impetus for the study of the Earth as a system of interrelated phenomena. Apollo capsules and the Skylab spacecraft carried instruments that were test beds for today's commonly used satellitebased Earth science such scanners. as Landsat. But the fascination with humans looking at Earth and capturing the view using hand-held cameras continues today. Space shuttle astronauts have taken thousands of remarkable photographs of Earth, many of which have been used to document regional environmental and ecological change.

Most astronaut photography is taken between 28 N and 28 S latitude, as that is the extent of the orbital track for most space shuttle missions. However, about onefourth of all missions extend further, up to 57 N and 57 S. Cameras used include 70mm Hasselblad, 127mm Linhof, 35mm Nikon, and a relatively recent addition to flight hardware, a digital 35mm electronic still camera. Photographs are most

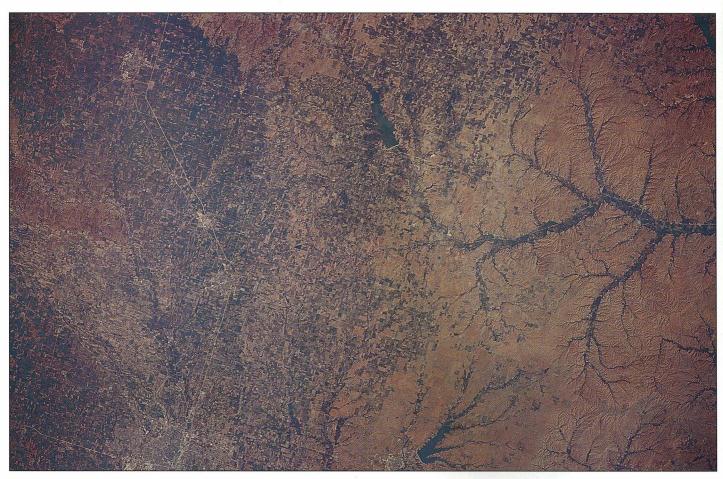


This photo of Great Bend and Cheyenne Bottoms Wildlife Area was taken June 11, 1991, from an altitude of 152 nautical miles. The photo on the facing page shows Emporia at the lower left, John Redmond Reservoir and Wolf Creek Lake just to the south and east and Council Grove Reservoir to the northwest. Northeast of Emporia, Melvern, Pomona and Clinton reservoirs are visible.

> often recorded using natural color film, although some color infrared film is used.

> Astronauts have taken about 200 photographs of Kansas, some of the best of which are presented here. These photos can be used to monitor urban sprawl onto productive agricultural land or into sensitive ecological habitats, changes in the extent of large wetland areas such as Cheyenne Bottoms, and sediment

distribution in regional flood control reservoirs like Tuttle Creek and Milford. And they provide a unique perspective of the setting of the state from the panoramic view encompassing thousands of square miles to the near-vertical, highly detailed photo of a small geographic feature. The photos cover most of the area of the state, and have been collected during all seasons. There is good coverage of



Wichita is visible at the lower left of this photo taken March 10, 1994. The transition between the grasslands of the Flint Hills and farm land is dramatic. Just to the right of Wichita is El Dorado and El Dorado Reservoir. Near the center is Marion Reservoir.

most of the state's larger cities and many other landscape features, such as the Flint Hills and Arkansas River Valley agriculture. Some of the photos were taken by astronauts native to the state: Joe H. Engle, born in Dickinson County; Ronald E. Evans, from St. Francis; and Steven A. Hawley, born in Ottawa.

These "snapshots" of the earth from space have accumulated into a valuable historical resource for terrestrial study, as each frame of film exposed during a mission is catalogued and placed in a data base accessible through the World Wide Web (http://ersaf.jsc.nasa.gov). Catalog information includes region, geographic feature, estimated photograph center point, spacecraft nadir point, spacecraft altitude, look direction, sun elevation, sun azimuth, percent cloud cover and lens used.



It's easy to find Tuttle Creek Reservoir near the top of the photo, and the Kansas River winds its way through the center, just south of Manhattan. On the facing page, north is to the right. In the upper center, Kansas City is visible.



... From Below

text and photos by Dan Mosier II *fisheries biologist specialist, Farlington Fish Hatchery*

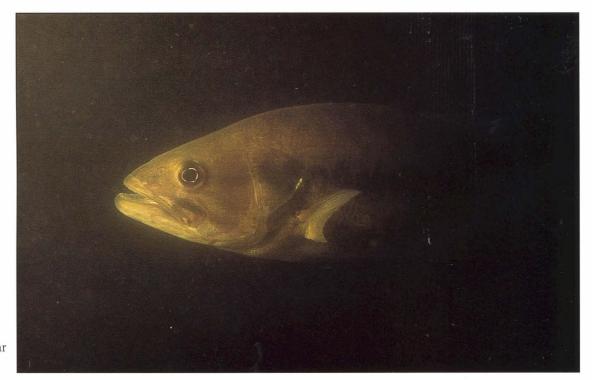
Joining the fish in their world below the surface, the author carries a camera to bring us images from the deep. While clear water can sometimes be difficult to find in Kansas, there are good places to dive.





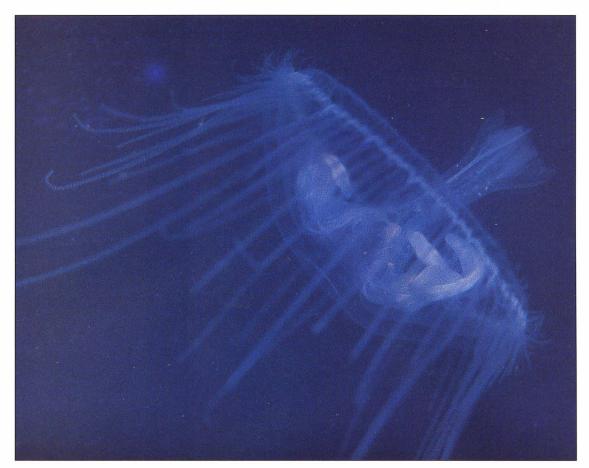
Like the plunge, entering the water and bobbing momentarily on the surface as I make a final gear check — a tangle of hoses — things that should leak — things that should not leak — things that should be turned on — and last, remembering to turn off the one switch in my brain that keeps warning me that man was not meant to breathe underwater. banded sculpin taken in Missouri lake.

The gear checks have become routine over the past 19 years, but never taken for granted. The equipment I'm wearing, and a little common sense, will keep me alive in this watery world that few ever



spotted bass at right opposite page: longear sunfish

Wildlife & Parks



see. I release a hiss of air from my inflated jacket and make a mental note that the water is very wet today (which makes for much better diving that when it's solid). My specially-designed Nikonos camera and underwater photo flash accompany nearly all dives, and this dive is no exception.

Reaching the bottom, the area seems lifeless. Fish don't care much for a 7-foot long, bubble-blowing freshwater jellyfish taken in Kansas.

alien suddenly dropping in to interrupt their daily routine. I know from experience that they'll be back. The algae growing on the rocks makes them appear soft and fuzzy, almost cuddly. They could rejuve-



head-on view of banded sculpin

Wildlife & Parks



crayfish

nate the pet rock fad if they didn't start to smell after a few days out of the water. In the distance the rocks blend in to the water — there is no horizon, only a drab green background for taking pictures. The fish start to return, smaller sunfish, then larger sunfish bluegill, bass, longear sunfish, green sunfish and others. The fishes' curiosity has overcome their urge to flee the invader — or they're looking for a handout. Rolling rocks over, I grab a sacrificial crawdad and offer it to the fish. The feeding frenzy that follows makes me glad they don't have bigger teeth. This is much different from my boyhood



black and white crappie



days of feeding worms to fish — off a hook dangling from a bobber.

I am now accepted and can get some cooperation from the fish. Moving weightlessly from one spot to another, I snap pictures, hoping that someday one of my photos might inspire someone to pick up one empty can on a shoreline or think twice about throwing trash into a lake or stream.

From the first artificially supplied breath to the last, this underwater world never ceases to amaze me. It isn't the tropics with brightly colored coral reefs, but it's home and it's wet. This is SCUBA diving mid-America style!

SCUBA Diving In The Midwest

Subscription of the MDC, founded in 1959, is composed of clubs from Kansas Missouri, Arkansas, and Illinois and is a founding member of the MDC, founded in 1959, is composed of clubs from *Mosier II*



Edited by Mark Shoup

KUDOS FROM OHIO

Editor:

I would just like to compliment the KDWP for doing an excellent job of managing the natural resources of Kansas. I hunt three other states during the season for upland birds and waterfowl, and my annual trip to Kansas is the most enjoyable.

I was able to hunt a public area for waterfowl one evening with a friend, and we had the section all to ourselves. We were able to shoot several ducks and enjoy a truly rewarding experience afield. Believe me, this, unfortunately, is not possible in my home state of Ohio on state-managed land. The people we stay with and the people we meet afield have always been cordial, very friendly, and polite, and the upland hunting has been excellent, even during "down" years.

One final paragraph of praise: almost all of the resident hunters had nothing but praise for the department. They all felt that you were doing a very good job of managing Kansas's natural resources, and I wholeheartedly agree. I almost never hear these comments in the other states that I hunt. Keep up the good work.

By the way, I enjoy *Kansas Wildlife* and *Parks* magazine very much.

Nathan Kiefer Mansfield, Ohio

(Editor's Note: This letter came to us through electronic mail. To send us comments using e-mail, write marks@genmail.pcc.cc.ks.us or michaelm@genmail.pcc.cc.ks.us)

EXCEPTION TO SNAKES

Editor:

We live in western Kansas, right in the middle of rattlesnake country. Several times, members of our family have had very close calls with them, and in the past have killed them on our front step, back step, and in the garden. We live 45 miles from our medical facility.

True, I don't know personally of anyone who has died of a rattlesnake bite. However, we have a friend who lost her leg, a man who lost his eyesight, and a man who lost his leg because of the poisonous venom of a rattlesnake bite. If we were allowed to kill those that come across our path while fixing fence, or just walking down our driveway, believe me, there would still be plenty around.

And I really don't see that this has anything to do with being struck by lightning or with those who are allergic to bee stings. [See *Kansas Wildlife and Parks*, Sept./Oct. 1996, Page 27.]

I have enjoyed your magazine and pass it on to friends. Even though once in awhile I can't agree with some things, it is still a very educational publication.

Marilyn Mollenkamp Russell Springs

Dear Ms. Mollenkamp:

I appreciate the fact that you still read our magazine even though you occasionally disagree. If everything we presented was agreeable to everyone all the time, the magazine wouldn't have much substance.

Concerning the article, "True or False? Test Your Wildlife Smarts," I think author Marc Murrell was trying to point out that although some snakes are dangerous, they don't pose near the threat that many people think.

Still, no poisonous snake bite should be taken lightly. Medical treatment should be sought immediately. Telephone ahead to let them know you are coming. According to Joe Collins of the University of Kansas Natural History Museum, the following are some important DO NOTS:

 do not attempt to kill or capture the snake;

do not use a tourniquet;

 do not make cuts through or near the bite;

• do not try to suck venom from the wound; and

• do not allow anyone - including a physician -- to administer antivenin

letters

(sometimes called anitvenom) to you unless you have first been tested to see if you are allergic to the anitvenin.

As Collins says, "Ultimately, the most effective snakebite first-aid kit is a car key and access to a telephone with which to call a hospital." It should also be noted that no one in Kansas has died from the venom of a snakebite since 1950.

By the way, you are allowed to kill prairie rattlesnakes found in your area. If they are on your property, you don't even need a hunting license. If you are killing snakes or other reptiles – as long as they are not threatened or endangered species – on property other than your own, you only need a hunting license.

I would add, however, that from my perspective, it makes no sense to kill any animal just for the heck of it. Snakes, in particular, do far more good than ill because of their prodigious appetite for rodents.

-Shoup

TAKE OUR LAND?

Editor:

I thank you for a great magazine. My question is this: Could someone in our state senate or Congress sell off any of our parks and lakes to a foreign person through a private company?

> Jack Garvey Bentley

Dear Mr. Garvey,

Thanks for your letter. Your question is a good one. It's also complicated. The short answer is "Yes, but not while the lands are public."

This is not a contradictory statement. As long as state or national parks - or most other public lands – remain in public ownership, they cannot be sold to anyone without changes in the law. However, a number of bills have been introduced to Congress in the past couple of years that would take public land out of public ownership. Under the guise of "protecting private property" or "takings" legislation, these bills would sell federal land to private individuals (often at prices well below market value) or return it to the states. Of course, most large western states lack the resources to manage huge tracts of federal land, so such legislation would, in most cases, force them to turn the land over to private ownership.

Legislation designed to turn federal land over to private ownership was considered last year in northwestern Kansas, but public opposition quickly repelled the effort. Similar legislation has been considered in state legislatures all over the country. Once in private ownership, the land could be sold to anyone.

As far as I know, no large tracts of land have been transferred to the private sector. However, the movement to liquidate public land is far from dead. There are those who are against public ownership of land. Whether they are philosophically- or economically-motivated is not for me to say, and is irrelevant. The end result of their efforts would be to rob the American people of the few places they have to enjoy the outdoors without permission from anyone.

-- Shoup

CONCERN FOR BIRDS

Editor:

To begin with, let me say that I truly enjoy your magazine articles, photos of Kansas, and all it has to offer. Now, the reason for my letter.

After reading last month's issue on the down-slide of pheasants in Kansas *(Kansas Wildlife and Parks*, Nov./Dec. 1996, Page 2) and having a very poor opening weekend in which we did not see roosters or hens, I believe it's time for Kansas to look to the north for help. For example, South Dakota has limited shooting times, which stop at 4 p.m. to let the birds rest and covey up. Nebraska, along with Iowa and South Dakota, have smaller limits than Kansas.

Also, Nebraska has an upland bird stamp.

The bottom line is that the northern states treat their bird hunting as an industry. I don't have to tell you that we're not only hurting the hunting in Kansas with our outdated limits and laws, but it also hurts the small towns that thrive on good hunting.

Let's cut our limits (2-3 pheasants, 5-6 quail), introduce a \$5 habitat stamp for all upland hunters to help build back land and birds, and pass laws to stop hunting at 4 p.m. We just can't point our fingers at the poor wheat or bad weather.

Tim Thies Olathe

Dear Mr. Thies:

Thanks for your letter. As I explained in the article, "Legacy Lost," shortening bag limits or shooting hours will not benefit pheasant numbers. Because ringnecks are a polygamous species, it is very difficult to overharvest with a roosters-only season. Just as ranchers know that only a few bulls are needed for an entire cow herd, only a small proportion of the rooster pheasants present in fall are needed to ensure normal mating the following spring.

Hunting pressure on pheasants in Kansas is relatively light compared to many states. Our winter sex ratios indicate that we routinely harvest only 30 to 40 percent of the roosters present, far short of the 80 percent that could safely be taken. For these reasons, reducing shooting hours or bag limits has no positive effect on pheasant populations.

The lower bag limits prevalent in Iowa, Nebraska, and South Dakota (three roosters compared to four in Kansas) are a result of traditions that have nothing to do with population management. The same is true of the unusually late start of shooting hours in South Dakota (noon in the early portion of the season and 10 a.m. after daylight savings time ends), and their biologists acknowledge this. You have apparently received some misinformation on closing time in South Dakota, which is sunset, just as ours.

The question of an additional fee for a habitat stamp is far more open. Many people invariably oppose any form of fee increase. However, given the habitat decline in Kansas, this may be an issue that the hunting public, the agency, and the legislature should reconsider.

--Randy Rodgers, wildlife research biologist, Hays

ARMADILLOS?

Editor:

Are armadillos common in Kansas? Last January, we came across one. It had walked in some crude oil. Having not seen one before, we caught it and tried to clean off what we could. We took a few pictures and showed it to our children and grandson. We kept it until the next day. Seeing that it was going to be okay, we released it.

My husband said it looked like it was about one year old. It was a male and weighed about 5 or 6 pounds.

How large do they get? What do they feed on? Can they contract rabies? How long do they live? Do you need a permit to keep one, or is it against the law? What is the best way to get rid of crude oil on an animal? What would be the chances of coming across one again?

Pauline Meis Catherine

Dear Ms. Meis:

Once rare in Kansas, armadillos are becoming more numerous, especially in the southern tier of counties. Each year, I see a few killed on the roads around Pratt.

Adults weigh about 7 to 10 pounds. They eat insects, snails, and worms, as well as fruit and berries. Like all wild mammals, they are capable of contracting rabies. They live about four years in the wild. Armadillos are among animals considered "huntable nongame" in Kansas. You have to have a hunting license to take them, whether they are killed or not, but the "season" is yearround. Concerning your last question, Dawn detergent is the treatment of choice by animal rehabilitators for removal of crude and other pollutants from animals.

You'd have to consult a bookie on the odds of seeing one again, but I'd say they are fair, at best, especially in the northern part of the state. Still, I hope you see another one.

--Shoup



CO TO THE RESCUE

Early one morning last fall, Kansas Department of Wildlife and Parks conservation officer Dave Adams, Reading, left his home en route to the Chanute Region 5 Office. After following another vehicle through the rural countryside for several miles, Adams saw brake lights from the vehicle. Then he passed what appeared to be a young lady standing in the oncoming lane and reaching for vehicles as they passed her in the pre-dawn darkness.

Adams immediately braked, pulled over, turned around, and drove back to the woman, who was now collapsed in the roadway. He turned on his emergency lights and parked in the road to protect her from being struck by traffic. The woman was bleeding from the nose and had head, shoulder, and back pain. At this point, she said she just wanted to go to sleep. She was going into shock, and Adams knew he had to act quickly.

After radioing the Osage County Sheriff's Office and requesting an ambulance. Adams wrapped the young woman in his jacket and talked to her to keep her conscious until "first responders" (law enforcement or emergency services personnel who are first to arrive at the scene of an accident) from Reading arrived. In this case, all firstresponders - Don Patton, Jim Dhority, and Gene Jackson were also employees of Wildlife and Parks.

The young woman, a mother of two, was taken by ambulance to an Emporia hospital for treatment of accident injuries. After a two-day stay, she was released.

Apparently, the woman had been on her way to work when her vehicle had slipped off the right shoulder, slid down the road sideways, and rolled twice before coming to rest partially hidden in the opposite ditch.

-Shoup

"SPORTING" ATTITUDES

In early October of 1995, four men were apprehended in northwestern Kansas when conservation officer Dick Kelly, Norton, heard a rumor from a sportsman of a big whitetail buck harvested by a muzzleloader "hunter" in Decatur County. Kelly went to the man's home to check it out, but when he arrived, nobody was home. He noticed a fresh-looking mule deer skull and antlers on top of a table in the driveway.

Later that evening, Kelly returned to the suspect's home. While meeting with him, Kelly was told that the mule deer skull and antlers had been given to him by a landowner. The man also told Kelly that his brother had taken a fair whitetail buck. Unfortunately, the man also had the meat, antlers, and skull of the whitetail.

In the course of their conversation, Kelly got the man to admit that he shot both deer, with the case involving a hunting partner, the hunter's brother, and his father.

In all, the shooter was charged with six wildlife violations, found guilty on all counts, and paid \$1,545 in fines and court costs. In addition, he was ordered by the court to have both trophy heads mounted at his own expense and turned over to Wildlife and Parks for educational use. He also had his hunting license suspended for three years, and his pickup was confiscated and turned over to the department.

The hunter who assisted in the transportation of the illegal deer was charged with two counts of illegal possession and was assessed \$545 in fines and court costs.

The hunter's brother was charged with five counts, including giving his brother his muzzleloader deer permit. He was assessed \$795 in fines and court costs and had his hunting privileges suspended for one year.

The hunter's father was found guilty of illegal possession of a deer and assessed \$292 in fines and court costs.

The four individuals paid a combined total of \$3,177 in fines and court costs and the loss of a four-wheel drive pickup, and two of the men lost hunting privileges. They were convicted on 12 of 14 charges.

-Jerry Bump, Region 1 law enforcement supervisor, Hays

GOLF CART SNEAK

As a conservation officer, I enjoy working in the great outdoors and am often found enjoying nature on my days off. On the afternoon of Aug. 19, 1996, I was spending some quality outdoor time hoping to count a few "birdies" on the Safari Golf Course in Chanute.

As I followed the course through to the number three tee, another sportsman caught my attention. At this particular tee, golfers are required to shoot over Santa Fe Lake, and as I approached the tee, I could see a water scamp off the shore with a single occupant. The man had two poles set and was working a third.

By the time I was able to successfully hit over the water (three balls paid the price), the subject had four poles set. In golf terms, he was two over "par" and had crossed the legal line of good sportsmanship.

Curiosity about my own score compelled me through the remaining six holes, and curiosity about the fisherman's determination compelled me to return to the third tee after my game. There, I confirmed that he was still at work but now had five poles set and had already caught a basket of fish. I figured that this made his score almost as high as my golf tally, so I contacted my supervisor for permission to investigate. I went home, got my gear, returned to the golf course, and commandeered a golf cart.

In plain clothes, I drove right alongside the unsuspecting suspect and beckoned him to shore. He was friendly, even offered to meet me at the boat ramp, but I insisted that he come to me and flashed my badge. At this point, he felt it necessary to lighten the scamp and attempted to dump his catch back into the lake.

Although my golf score wasn't all it could have been, I did catch the violator in excess of a two poles, possessing illegal length channel catfish, and having no boat registration. With fines and court costs, his afternoon cost \$145.

-Keith Rather, conservation officer, Chanute

ssues

LEGISLATIVE AGENDA

This year, the Kansas Department of Wildlife and Parks (KDWP) has sought the following action in the 1997 Kansas Legislature:

Authorization for KDWP to Exceed Established Expenditure Limitations --The proposed legislation would create a permanent statute to allow KDWP to exceed expenditure limitations established by an annual appropriation bill for the Wildlife Fee Fund, Park Fee Fund, or the Boating Fee Fund. This authority is necessary for KDWP to comply with requirements established by the U.S. Fish and Wildlife Service (USFWS) for the use of federal aid. The proposed legislation would allow KDWP to adjust expenditures between the three funds in order to balance program expenditures with the appropriate funding source.

Creation of Nonrestricted Fund – This proposal would establish a special revenue fund entitled "Wildlife and Parks Nonrestricted Fund." The fund would be used to deposit monies which are not subject to USFWS restrictions. Creation of the fund was recommended by the Legislative Post Auditor as a method of allowing the KDWP to comply with federal aid requirements.

Prairie Spirit Rail Trail State Park -- The Prairie Spirit Rail Trail is a 52-mile linear corridor that has been established through the rail banking and conversion process. Eighteen miles of the trail were fully developed and opened to the public in 1996. The second phase of an additional 18 miles is currently under construction and expected to open to public use in 1997. The trail is currently operated and maintained by the Parks Division of KDWP. The designation of the trail into the state park system would allow the Prairie Spirit Rail Trail to be funded through the Park Fee Fund rather than through State General Fund.

Boating Under the Influence – KDWP proposes to amend existing BUI statutes to mirror current Kansas DUI laws.

Boating Safety Education Certification – This proposal would allow legislative authority for creating a more complete boating safety program. The proposed legislation would require that all boat operators born on or after Jan. 1, 1968, possess a card certifying that they have successfully completed a boating safety course and have passed a proficiency test. Such certification cards would be required in order to operate a boat on all public waters of Kansas, and would be subject to suspension or revocation.

Permitting Use of Crossbows to Take Wild Turkey -- This proposal would amend an existing statute to include wild turkey among game for which physically-disabled persons may use crossbows.

Elimination of Art Component of Migratory Waterfowl Habitat Stamp Program – The department and Ducks Unlimited recog-

COLORADO BANS TRAPPING

Hunting, fishing, and wildlife management issues were on the general election ballots in 11 states Nov. 5. Some of the news was good; some was bad. Most of the bad came in states where initiative and referendum politics has allowed wildlife management, and other governing decisions, to be made by the general electorate based a few months of campaign rhetoric rather than on scientific study. But closest to

Kansas, and perhaps the most devastating blow to sportsmen and wildlife management, was a constitutional ban on all trapping in the State of Colorado. The issue passed on a 52 percent to 48 percent vote.

On a more positive note, Arkansas became only the second state to earmark a fractional sales tax for the use of its wildlife agency. With the passage of Amendment 2, 45 percent of a one-eight of one percent sales tax will go the Arkansas Game and Fish Commission. Another 45 percent will go to Arkansas state parks, 9 percent to the Arkansas Heritage Department, and one percent to Keep Arkansas Beautiful.

Other action includes the following:

• Alabama – constitutional amendment to guarantee the right to hunt and fish passed 84 to 16 percent;



• Alaska – prohibition of hunting by persons travelling by plane the same day passed 57-43;

• Idaho – elimination of spring bear hunting and the use of dogs and bait for bear hunting failed 39-61;

• Iowa -- constitutional amendment to guarantee hunting and fishing license fees to be used for fish and wildlife management passed 58-42;

• Massachusetts – ban on trapping and the use of dogs in bear hunting passed 64-36;

• Michigan – ban on use of bait and dogs in bear hunting failed 36-64, and delegation of exclusive authority for wildlife and fish management to the state's natural resources agency passed 72-28;

• Oregon – return management of bears and cougars to the Oregon Fish and Wildlife Commission failed 58-42;

• Washington – ban on use of bait in bear hunting and use of dogs for bear, bobcat, cougar, and lynx hunting passed 64-36; and

• West Virginia – exclusive use of hunting and fishing license fees for wildlife and conservation management work passed 72-28.

-from Arkansas Outdoors

nize that the art production and collector sale component of the waterfowl stamp program is no longer financially beneficial although the sale of stamps to waterfowl hunters remains an important source of state funds that are used to match DU contributions for waterfowl conservation. The department is proposing, with Ducks Unlimited's support, the elimination of the art production and collector sale component of this program. All other statutes associated with the migratory waterfowl stamp would remain intact. Non-artistic stamps would continue to be required of waterfowl hunters, and the sale proceeds would continue to accrue to the Migratory Waterfowl Propagation and Protection Fund.

Deer Permits for Nonresident Students and Military Personnel -- The department proposes to amend an existing statute to allow issuance of resident big game permits and other department issues to nonresident, active duty military stationed in Kansas and to nonresident, full-time students attending college in Kansas.

Nonresident Deer Hunting Permits ---Legislation enacted in the 1993 legislative session allowed Kansas to implement its first nonresident deer hunt in 1994. One component of that legislation prohibits nonresidents who are successful in drawing a deer permit from obtaining one the following year. It is proposed that this restriction be removed. In addition, this year's proposed legislation would establish a set percentage of deer permits,

statewide, for allocation to nonresident deer hunters.

Clarification of Law Enforcement Authority for Conservation Officers – The department proposes to amend existing statutes so that conservation officers would have enforcement authority anywhere in the state, rather than on department lands only.

--Mathews

OCEAN CONTROVERSY

For the first time, some scientists are saying that some species of ocean fish and invertebrates are reaching the perilously low levels where extinction becomes a real possibility. Their contention is prompting a fierce scientific debate, which could intensify with the addition [last October] of more than 100 species of oceanic fish to the World Conservation Union's influential "red list" of creatures whose existence is in some degree endangered.

Until now, only a handful of marine organisms have been scrutinized and placed on the red list, along with thousands of terrestrial and freshwater creatures around the world. While it has no legal force, the list is used as a guideline by policy makers. The organization that maintains it, also called the International Union for the Conservation of Nature, is based in Gland, Switzerland, and has many governments among its members.

The oceans have had their share of environmental trouble, of course. Loud alarms have been raised about the rapid depletion of many commercial stocks of ocean fish. But depletion is not endangerment, and it has long been assumed that the sea is so vast and fecund that marine fish and invertebrates are generally in no danger of extinction at the hands of humans.

Not necessarily so, say the marine biologists who cite growing evidence that many oceanic species may be just as imperiled as their terrestrial counterparts, and largely for the same two reasons – the over-exploitation of long-lived species that cannot reproduce fast



enough and the disruption or destruction of narrow habitats to which many species are confined.

Many of the creatures being added to the list are said to be vulnerable because they bear few young (California white abalone) or are found in only a few restricted habitats (seahorses), or both. But even some species and populations that reproduce in prodigious numbers or roam widely or both, such as the bluefin tuna, the North Atlantic swordfish, the Atlantic cod, and the haddock, are also being added to the red list, and this is the big source of controversy.

Conservationists who believe that the listing of these prolific fish is warranted point to the extinct passenger pigeon and the American bison, once nearly extinct, as examples of terrestrial species formerly thought to be so abundant as to be invulnerable. They assert that marine species as numerous as those pigeons and bison were are no less vulnerable to today's ever more efficient harvesting methods. Fish are indeed the last wild creatures to be hunted by people on a large scale, and some conservationists say the world may be in the early stages of a marine "last buffalo hunt."

Many fisheries experts [disagree]. John Musick, a vertebrate ecologist at the Virginia Institute of Marine Science, says of efforts to declare a number of tuna species and populations "They're endangered. severely over-fished, and they should be protected, but an animal that lays millions and millions of eggs is not as likely to go extinct" as species with low reproductive rates and restricted habitats.

Because of objections like Musick's, the red-list entries for tunas, swordfish, cod, and haddock carry a notation that the listing criteria may not be appropriate for these kinds of fish. They are being included, nevertheless, to head off the assumption that all is well and that the populations are necessarily being properly managed. They are to be removed from the list if their numbers recover.

> --New York Time News Service



hunting

THINKING



There is something special about turkey hunting. You've learned to find your way in that first, faint light of morning when it's not light yet, but there are images where, just minutes ago, there was only black. You walk quietly toward the old cottonwoods where last evening the sound of gobbles rattled the evening calm.

You know right where to set up. There is a clearing in the timber about 150 yards from the roost. An ancient hackberry stands at the clearing's east edge, a perfect tree to sit against. You're not too close but close enough that a tom can easily hear your soft tree yelps because today there is no wind.

You sit and wait for dawn. The sound of poorwills gives way to a chorus of robins. Suddenly, that strange rattling call snaps you to attention. Not just one, but many gobbles are stacked to make a five-second thunder. At least five toms have gobbled. What a morning this is going to be.

The robins are really singing now and

several cardinals, too. You wonder whether the turkeys will hear you call. The peg in your right hand and the slate in your left, you scratch out three soft tree yelps. Instantly, gobbles erupt from the roost area. It's going to be a good morning.

March is turkey time, time to begin thinking about spring turkey hunting. The 1997 spring season will open on April 9 and run through May 11, and only birds with a visible beard are legal. Early reports from KDWP biologists suggest that turkeys had a good nesting season in 1996. Numbers are high, so start planning your hunt now.

The first item on your list should be to make the proper landowner contacts. Certainly everyone knows by now that it is illegal to trespass on private land without permission, yet every year a few criminals shame the hunting community and make it difficult for the rest of us by trespassing.

Winter turkey flocks often do not disperse until late March, so it's still too early to do much serious scouting. Use this time to get your gear together. Practice your calling skills. You may want to listen to experts on tape to get some new ideas and techniques. Also, don't forget to pattern your shotgun.

If you have never patterned your gun with a variety of different loads, you may be in for some surprises. Do not shoot at a patterning board from an offhand position. You are not testing your shooting skills, you are testing your gun. Shoot from a sitting position that simulates hunting conditions. Lean your back against a tree and support your elbows on the inside of your knees. For a spring tom called in close, inside 30 yards, most turkey hunters shoot for the head. Lead 6s or steel 6s or 4s are most popular; use whichever patterns best in your gun.

Preseason scouting can be very simple and will greatly improve your chances for success. Choose a day with little wind and drive to your hunting spot, arriving just prior to sunset. Stand outside your vehicle and listen for toms to gobble after they fly up to roost. Use a crow call, owl call, or coyote howl to get a gobble from the roost. By the first week of April, the breeding season is well in progress. This means that toms have an almost uncontrollable urge to broadcast their presence to any hen in the area. If you hear no gobbling, you may want check another area.

Once you have found a roost site, you can better plan your strategy for opening morning. Of course, turkeys don't always roost in the same spot; however, if not bothered at the roost site, they usually return to the same general area. Avoid hunting too near a roost site, especially on an evening hunt. Disturbing a roost in the evening may disrupt the flock's social and territorial habits. Some biologists feel such disturbances may effect nesting success.

The majority of toms are harvested at or shortly after sunrise. However, if you are not successful at calling the bird of your choice at this time, do not despair. As the morning progresses, hens that have started a nest will leave the flock to lay an egg. Unless a clutch is completed, these hens will attempt to rejoin the flock after laying. Such hens often call for company around mid-morning. Dominant gobblers anticipate this and may actually be more vulnerable to a hunter's calling during these late-morning hours than at sunrise.

Safety should be foremost on the mind of every Kansas turkey hunter. Nationally, the majority of turkey hunting accidents are caused when one hunter tries to sneak toward the sound of calling turkeys. The unknown presence of another hunter can make this tactic extremely dangerous. Because of this, always call turkeys to you; never stalk toward the sound of a calling bird. Always be totally sure of your target before you shoot. Remember that another hunter may hear your calling and unwisely approach you.

Turkeys are considered to be America's premier game bird. Seldom is a novice hunter not totally hooked by his or her first turkey-hunting experience. And for the true outdoors person, turkey season is the perfect way to welcome the delights of springtime and forget the chill of winter.

- Gene Brehm, videographer, Pratt

STAMPS FOR KIDS

Hunters from across the globe can help bring hope and healing to America's troubled children by donating used or unused hunting, habitat, or duck stamps to Father Flanagan's Boys Town. Stamps donated to the Boys Town Stamp Center Will be sold to help raise money for Boys Town's many programs nationwide.

Mark Shou

Boys Town, founded in 1917, is a national, nonprofit, nonsectarian charity that provides care and treatment for troubled, abused, abandoned, and neglected girls and boys. Headquartered near Omaha, Neb., Boys Town has 16 sites across the United States, including New York, Philadelphia, Atlanta, Los Angeles, New Orleans, San Antonio, Orlando, and the District of Columbia. The Boys Town Stamp Center features a display on the history of postage, an audiovisual display on commemorative stamps, a collector's corner, and the famous 600-pound ball of stamps built by Boys Town residents in the 1950s.

Donations, which are tax deductible, can be sent to Boys Town Stamp Center, P.O. Box 1, Boys Town, NE 68010. For more information, phone (402) 498-1143. *-Boys Town release*

UNDER CURRENTS

Tribute to Dutch

hen I was kid in the 1950s, Larned, Kansas, was as perfect as any Norman Rockwell painting. Snuggled onto one of the few large hills in the Pawnee Valley, Larned was ideally situated. Its founding fathers must have figured that this hill, at the confluence of two of the most viable rivers in the region – the Arkansas and the Pawnee – would attract settlers of any stripe. And with the Santa Fe Trail and Ft. Larned nearby, Larned would surely become a bustling metropolis.

By the 1950s, however, Larned was no metropolis. It was something better, a small town of 5,000 people, most of whom knew each other. It had a vibrant downtown lined with profitable, home-owned businesses. It was a place of hope and promise for adult and child alike, and like the early years, it still had two good rivers. If you enjoyed the outdoors, it was the rivers that really defined this classic little piece of Americana.

For the Tom Sawyers and Huckleberry Finns in this small town, one man nurtured this idyllic image. Although he was older than my father, Luther "Dutch" Wells understood the importance of the rivers as if he were himself still a kid. Dutch kept 40 acres or so along the north side of the Arkansas just a few miles east of town. This was Dutch's little getaway, a stretch of buffalo grass and old cottonwoods that clung to the river's edge as if God had meant it to be so, forever.

The things that made Dutch so special were his gentle, easy-going nature and his love of kids. Each summer, he would open his "getaway" to 10 or 15 boys from town for weekends of camping and adventure. We were a mixed and motley crew, ranging in age from 10 to 14 and coming from all parts of town. It didn't matter whether Dutch knew you or not, just that you had a passion for the outdoors, were somewhat independent, and could get along with other kids.

And get along we did. Despite the age differences (and that there was usually at least one pair of brothers in the group), the older boys never picked on the younger, and the young ones never complained of heat, bugs, or boredom. We all realized how special this privilege was, and boredom – well, that was never an issue.

Except for the rifle range we always set up for .22 practice, we were pretty much left to our own devices. Dutch would sit in the shade and chat with kids or the occasional adult visitor near an old trailer in the cottonwoods, away from the river, where he had driven a well for a pitcher pump. When we would arrive, steps would have already been dug out of the false bank where the river had flowed in previous years, making access to the sandbars and flowing stream easier. These steps would be hard-packed and well-worn by day's end.

Most of our time was spent by or in the river – skinny dipping, catching frogs, smoking driftwood (did Dutch ever know?), and wriggling our bodies chest deep in black pools of detritus-laden "quicksand," the miasmatic odor drenching our bodies so badly that we were given another excuse to jump back in the river. Once, we even found a baby beaver adrift in the current and searched the river's edge until we found what looked like a den, where, optimistically, we left the little creature on a root underneath the bank.

In late afternoon, Dutch would fry up catfish from setlines he'd managed to keep secret, and we'd all stuff ourselves before heading back to the river to light a campfire and scatter our bedrolls on the sand. As the fire cracked and popped, we'd tell ghost stories, then slowly drift off in groups of two or three to our spots on the sandbar and lie down, gazing up at the Milky Way and marvelling at the concept of infinity.

To say this was special is understatement.

Dutch died in 1989. Norman Rockwell, too, is no longer with us. Today, businesses in Larned, as in many other small western Kansas towns, have been swallowed by the Wal-Marts of the world. Even the rivers are intermittent, at best.

But Dutch's dream, as I see it - to instill in us a sense of joy and respect for the outdoors - lives on in the hearts of one small tribe of "boys," wherever they all may be. Thanks, Dutch. I hope there's still a few like you out there.

fishing

FISHY COUSINS

As the weather warms and fishing fever hits, anglers are dusting off their gear and heading to their favorite honey holes. Some will catch fish, and most will be able to identify their creel. However, there will likely be a few that either don't know what they've got, or will misidentify a fish because it resembles another.

Positive fish identification is important for several reasons. First, many species of fish have length and creel limits, and some species in the same family may look similar. Second, some fish have razorsharp teeth that will shred any thumb stuck in its mouth to lift it from the water. And third, some species of fish taste better than others, so identification might mean the difference between a white bass dinner or one of goldeye.

Two families of fish are often misidentified. One of these is the perch family. Many anglers refer to green sunfish, bluegill, or warmouth as perch when, in fact, they are all in the sunfish family. The Kansas perch family actually consists of walleye, sauger, saugeye (a walleye and sauger cross), and yellow perch. The latter is found only in one or two lakes in the state while the other three are found in many impoundments.

The walleye has a smooth cheek with few scales, spiny dorsal fin with indistinct streaks or blotches, and a dark blotch at the rear base of the fin. The faint blotches on the side of the walleye do not extend much below the lateral line. The sauger has a rough cheek, a spiny dorsal fin with distinct spots all over, and no blotch at the rear base of the fin. The sauger also has prominent dark blotches on the side extending well below the lateral line.

The saugeye has a rough cheek, a spiny dorsal fin often with one or two rows of distinct spots at the base, and a faint blotch at the rear base of the fin. The saugeye also has dark blotches on the side extending well below the lateral line.

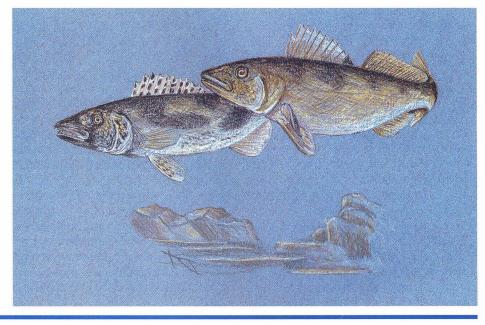
Another group of fish easy to confuse are the temperate basses that in Kansas consist of striped bass, white bass, and wipers (striped bass/white bass cross). The white bass seldom exceeds 3 pounds, has a tongue with one tooth patch, faint stripes on the side, and a deep body.

The striped bass can grow to 20 pounds or more, has a tongue with two tooth patches, occasionally broken but distinct stripes on the side, and a long body.

The wiper rarely exceeds 10 pounds, has two tooth patches on the tongue, distinct and definite broken stripes on the side, and a deep body.

If you're not sure of your identification abilities, consult the 1997 Kansas Fishing Regulations Summary, the Fishing Guide to Kansas, or the Fish Identification Booklet, each available through department offices.

-Marc Murrell



WALLEYE ON THE ROCKS

Walleye are the first Kansas fish to spawn in spring, having a preference for water about 50 degrees. This usually happens toward the end of March and lasts into mid-April, depending on the weather. Successful spawning is not completely tied to weather, however. The length of daylight, or photoperiod, also plays a role in the timing of the spawn.

Walleye spawn in shallow areas in Kansas reservoirs. In some reservoirs, that is primarily – but not exclusively – along the face of dams. Walleye in Wilson Reservoir, for instance, can spawn on any rocky area, from the dam clear west to Duval. Some fish may even spawn in the river.

The females scatter their eggs over the surface of the rocks while several males follow along and fertilize those eggs as they slowly settle to the bottom. There is no nest and no parental protection of the eggs. The eggs secrete a sticky substance as soon as they are fertilized. This helps them adhere to rocks or anything laying on the bottom rather than to the silty bottom where they would smother.

With a water temperature in the 50-degree range, the eggs will hatch in seven to 10 days. The fry then stay down in the rocks for another few days until they use up their yolk sac. Then they scurry around, feeding on zooplankton - microscopic little animals in the water. In years when they do well, walleye will be 9-10 inches long by fall.

In springtime, a few intrepid anglers brave the unpredictable Kansas weather and fish the rocks for walleye. On overcast days or at night, they cast jigs, spinners, and floating minnow crankbaits to tempt the otherwise-preoccupied fish into biting, usually in less than 3 feet of water. Larger females caught at this time can weigh 8 pounds or more.

-Tommie Berger, fisheries biologist, Sylvan Grove

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nature

NEOTROPICAL MIGRANTS

here are more than 200species of Neotropical birds that make the round trip from North America to winter stays near and south of the equator. Each spring, they respond to a genetic urge to return to northern hemisphere breeding grounds. Many of the warblers such as cerulean and yellow are losing ground -- literally. And it's not just the loss of the tropical rainforests in South America. As more and more woodlands in the Midwest become fragmented due to development, some forestdependent species are suffering.

One of the problems is competition from a nonmigratory species, the brown headed cowbird, which parasitizes nests by laying its own egg in the nests of other birds. Then the more aggressive young cowbird kicks out the rightful occupants after hatching and gets raised as a foster child with the unknowing parents never the wiser. The effects of cowbirds have been dramatic as critical nesting habitat becomes smaller and closer to that desired by cowbirds.

Another major factor in Neotropical bird decline is that American-made DDT is still being sold to Latin and South American countries, even though it is illegal to use in the U.S. This, along with weather, feral cats, and competition from house sparrows and European starlings are all contributors to the decline of these beautiful birds.

So what is being done? The Chickadee Checkoff is



Kansas sponsoring a Working Group for Partners in Flight to look into the most threatened Neotropical birds and habitats in Kansas. Dr. Bill Busby with the Kansas Biological Survey is under contract by the Chickadee Checkoff to lead this effort. Preliminary work indicates much concern for not only the Neotropicals but also some of our resident grassland species.

If you want to help Neotropical birds, our resident grassland bird species, and other wildlife, here are some things you can do:

1. Contribute to the Chickadee Checkoff.

2. Become more knowledgeable about birds through easy-to-use identification guides.

3. Contact the Department of Wildlife and Parks to gain more information about the Neotropical migrants and our resident grassland species and how you can help.

4. Participate in habitat improvement in your own backyard or on your own land.

5. Be active in protecting natural areas.

6. Read *Where Have All the Birds Gone?*, by John Terborgh, and *Our Stolen Future*, by Dr. Theo Colborn, Dianne Dumanoski and John Peterson Myers. Please remember when you see that beautiful northern oriole whistling its melodic song next spring that it just made a journey of several thousand miles to bless your yard or woods.

--Ken Brunson, nongame coordinator, Pratt

THOSE DAZZLING DARTERS

There are some fish in Kansas rivers and streams that are as brilliant as any gem. They are called darters. Like other members of the family Percidae, or perch, darters spawn in early spring. Anglers are well aware of the larger members of this family - walleye and sauger.

However, most darters are only 2 to 4 inches long. There are seventeen species of darters that inhabit Kansas waters. Like birds, some of the males are brilliantly colored to reveal their fitness to choosy females. Their dazzling colors make most people think that they are exotic aquarium fish.

Darter names like orangethroat, greenside, redfin, speckled, and banded are feeble attempts to describe these little beauties, whose bright hues of blue, green, orange, and red can make a streambed sparkle.

Of all Kansas darters, the orange-throated is found in most streams and rivers. The male not only has an orange throat but brilliant blue and orange markings on the fins and body, as well. The redfin male is spotted with reddish dots, but it also has blue and red fins. The banded darter has vertical emerald green markings on its body, and bright green fins. Darters are part of the aquatic food web, eating aquatic insects and often becoming meals for larger fish, reptiles, birds, or mammals. Because darters don't have well-developed air bladders, they can't regulate their buoyancy like other fish; therefore, they spend their time on the streambed. Here, they perch with outspread pectoral fins and dart away to avoid predators or capture aquatic insects.

Darters are also crucial to one of the state's freshwater mussels, the Ouachita kidneyshell. The larval kidneyshells must attach to the gill filaments of darters for a few weeks to complete their life cycle. The female kidneyshell dupes the darter into close contact with its larval mussels by releasing packets that resemble prey food. The fake prey looks authentic, with pseudo eyespots and body segment lines. When the darter grabs it, as many as 200 larval mussels burst from their "Trojan horse," and some clamp down on the darter's gills as they pass over them.

Spotting springtime darters in a clear, shallow stream is every bit as impressive as seeing an oriole or a painted bunting land at a feeder. Nature lovers can learn more about darters through two books, Fishes in Kansas, by F.C. Cross and J.T. Collins, and Fishes of the Central United States, by J.R. Tomelleri and M.E. Eberle. These books offer a glimpse of the life history and color of darters and how they add another dimension to the surprising wildlife heritage of Kansas.

--Ed Miller, nongame wildlife biologist, Independence

notes



Want to get in on a unique fishing experience? The First Annual Governors' Hooked On Fishing Classic is coming. Sponsored by the Kansas Wildscape Foundation, the event is scheduled for June 4 at Wolf Creek Lake, home to some of the hottest fishing anywhere. Proceeds from the Classic will benefit the Kansas Hooked On Fishing program.

Participants will draw for the chance to fish with television celebrity Jimmy Houston, professional fisherman Cecil Kingsley, and athletes from the Kansas City Chiefs, Kansas City Royals, and Kansas colleges and universities. A celebrity amateur fishing tournament will be conducted in the morning. In the afternoon, celebrity participants will fish with young people who have taken part in the Hooked On Fishing program.

A minimum donation of \$500 reserves a boat, and prizes will be awarded. The City of Burlington is also sponsoring a fishing seminar and social the evening of June 3.

For more information, and to obtain a registration form, contact Kathy Brown George, P.O. Box 3033, Junction City, KS 66441, (913) 238-6866.

--Mathews



For 16 years, the Kansas Department of Wildlife and Parks' Chickadee Checkoff Program has been at the forefront of endangered species protection, species reintroductions, and special projects. This year, as in the past, taxpayers have the chance make a contribution to Kansas wildlife and gain a tax benefit at the same time.

Some of the special projects the Checkoff has sponsored have been extremely popular, including the Nursing Home Bird Feeder and Outdoor Wildlife Learning Site (OWLS) programs. The former was the first major Chickadee Checkoff project and has provided bird feeders at nearly 300 nursing homes in Kansas. The more recent OWLS program has developed outdoor laboratories at more than 120 schools across the state.

Hundreds of investigations and habitat projects have also been made possible with more than \$2 million raised by Chickadee Checkoff since 1981. In recent years, the Checkoff has been concentrating efforts on protection of endangered species, particularly in southeastern Kansas where streams have been highly impacted by development.

A golden eagle re-introduction program in northcentral Kansas has been a long-term Checkoff effort to expand nesting of these large raptors, and the Checkoff has helped document bald eagle nesting success and over-wintering roosts in Kansas.

With the help of the Kansas Society of Certified Public Accountants (KSCPA), the Chickadee Checkoff has been able to see increases in donations. (Although last year's \$167,000 was a slight increase over the previous year, it was still below the department's goal of \$250,000.)

In addition to being tax-deductible, a \$25 donation to the Chickadee Checkoff Program entitles the donor to a one-year subscription to *Kansas Wildlife and Parks* magazine. If you haven't yet filed your income tax, look for the box with the chickadee on your individual income tax form and do your part for Kansas wildlife.

--Ken Brunson, nongame program coordinator, Pratt



If you've just subscribed to **Kansas Wildlife & Parks** magazine, it's not too late to discover the real Kansas in the January/February 1997 issue. This special photo issue shows that there's more to the Sunflower State than the flat, featureless plains so often referred to by outsiders. Every page features stunning color images of the Kansas landscape and the wildlife that live here.

The special issue is a treat for anyone who appreciates wild Kansas or wants to learn more about our state's hidden treasures. You'll be awed by rich sunsets, white-tailed deer, waterfowl frozen in flight, and unique landscapes. Contact Barb Theurer at (316) 672-5911, or send \$2.75 with your name and address to receive a copy of this special photo issue.

If you're not already a subscriber, a year's subscription is only \$10. Also look for *Kansas Wildlife & Parks* magazine at your local newsstand.

--Miller



The 1997 spring turkey season is April 9-May 11, and permits are still available. For most of the state, resident and nonresident permits are available over the counter at Department of Wildlife and Parks offices and select license vendors. An area in the southwest part of the state, Unit 1, had a limited number of permits, but the drawing for them is over.

Turkey permits are unlimited in Units 2 and 3, and hunters will be able to purchase a second turkey game tag, in addition to their regular permit, for Unit 2 (roughly the eastern half of Kansas). Resident turkey permits are \$20.50; resident landowner and hunt-own-land permits are \$10.50; nonresident permits are \$30.50, and second turkey game tags are \$10. In addition to the permits, hunters must also have a small game hunting license, unless they are exempt by law.

Wild turkey populations have expanded throughout much of the state, offering excellent hunting opportunities in nearly every county. The only exception is the southwest quarter of the state, where numbers have fallen in recent years.

Scouting, visiting with landowners, and practicing with calls are important elements in preparing for the spring turkey hunt. There's nothing quite like the sound of a turkey gobble thundering in the pre-dawn woods to send a tingle down a hunter's spine. Once you've experienced the thrill of spring gobbler hunting, you'll be hooked for life – and you'll understand why it's never too early to begin preparing for the coming season.

--Miller

nature's notebook

by Mark Shoup

NATURAL MUSSEL

o, this is NOT a story about Arnold Schwarzenegger. We're talking mussels, not muscles, although these critters are plenty strong. In fact, inside its hard shell, muscle is about all there is to a mussel, or so it would appear.

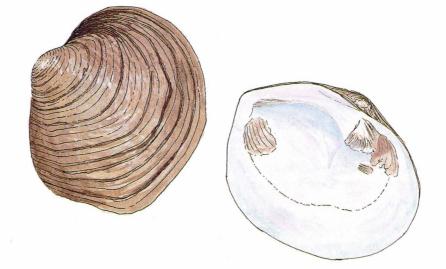
Anyone who has ever opened a mussel shell has noticed a large muscle called the "foot." The foot is used for movement and for holding the animal to the bottom of a stream or lake. If conditions

are just right, the mussel's foot may hold it in the same place its entire life. However, the foot can be used to pull the animal along if, say, it is stuck in a pool that is drying up. Mussel trails have been seen on sandbars where the animals have dragged themselves in search of deeper water.

Although the foot may be the most obvious mussel organ, the animal actually has most organs of other animals -- heart, stomach, kid-



ney, reproductive organ, liver, mouth, and gills. The mussel's gills are used for breathing, just like fish. The gills collect microscopic food the animal eats and also provide a growth chamber for larval mussels.



Although mussels come in many shapes, many species look alike. It takes a practiced eye to tell one from another. However, they all have layers of non-living material in the shell made mostly of calcium carbonate. The outer shell is usually dark grey, green, or brown and has ridges, growth lines, and bumps called "pustules." The two parts of the shell are joined on one side by the "hinge."

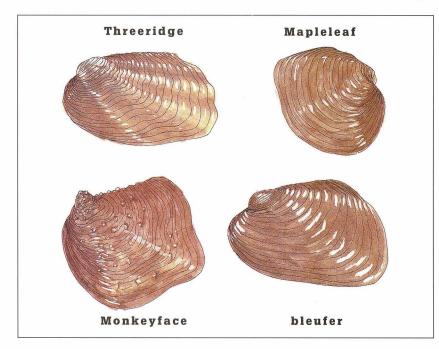
It is the inside of the mussel shell, however, that has created so much interest in this small creature. Called the "nacre" [pronounced NACKer], this smooth and colorful shell surface is also known as mother-of-pearl. The nacre of bluefer mussels is especially beautiful, having a deep purple cast.

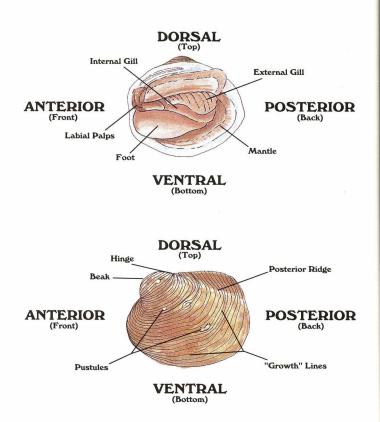
The beauty of the nacre has led commercial harvesters to collect mussels for use in making rings, necklaces, and earrings. But before the invention of modern plastics, the most common use for mussel shells was in the making of buttons. This was once a multi-million dollar industry in many states. Today, most harvested mussel shells are sold to Japan, where they are cut and shaped into round pellets that are inserted into pearl oysters. The oysters are then placed in cages in seawater until they produce a pearl around the shell pellet -- anywhere from six months to three years, depending on the size of pearl desired.

Such pearls are called "cultured" pearls. Natural pearls occur when a mussel (or an oyster) gets something like a grain of sand stuck in its tissue next to the mantle, which covers the inside organs. In response, the mussel secretes mother-of-pearl to surround the grain. Eventually, this creates a pearl.

Only about five in every 100 wild mussels produce a pearl, and most of these are oddly shaped and of little value. Round natural pearls are extremely rare and may sell for several hundred dollars apiece.

Before pioneers settled in Kansas, about 42 native mussel species inhabited Kansas waters statewide. Native Americans found them a ready food source and used their shells for decoration. Today, only about 38 remain, and most are in low numbers. Of these, one is endangered and ten are listed as Species In Need of Conservation.





Commercial value may be one reason for their decline. Some harvesters disobey the law and take species that are protected, take mussels from off-limits waters, or violate size limits.

Only four native Kansas mussels -- the threeridge, monkeyface, mapleleaf, and bleufer -- can be legally harvested.

> Of course, harvesting is not the only reason for mussel decline. Erosion, construction, river dredging, and pollution from chemicals and city wastes can kill mussels. Because of this, mussels are an important indicator of environmental health. If mussels are dying, something might be wrong with the waters they live in.

> Mussels are fascinating creatures, and their names reflect this. Next time you're floating in your favorite stream or pond, think about critters with names like elktoe, giant floater, purple wartyback, pigtoe, snuffbox, bankclimber, monkeyface, and pistolgrip. Who knows? You might find a pearl.



Backlash

by Mike Miller

Set The Hook!

ne of the most important skills a new angler can learn is how to set the hook. If you were taught by an old grizzled bass fisherman (the more grizzled the better), you probably heard the same set of instructions over and over:

"Now, when you get a bite, you hafta set the hook. Don't furget — set the hook. Here, any second now , I'll show you my never-miss method. Hey, *you* got a bite! Set the hook. Set the hook — SET THE HOOK! Durn, you lost him. Didn't you hear me tell you to set the hook? Just keep an eye on me. Any second now, I'll get a bite and show you how to really — Hey, you got *another* bite. SET THE HOOK! ... Shoot, you got lucky on that ole fish. By all rights, you should lost him 'cause you didn't set the hook proper. I'll show you how any minute. Maybe you should quit casting and just watch. You want to learn right, don't you? Matter of fact, gimme your rod. That way you can see just how good my hook-set works, even with your little outfit."

Grasping the concept of setting the hook is difficult, and teaching it can be unbearably frustrating. In fact, the process can often suck the fishing skill right out of the teacher, and the student will end up catching most of the fish. That's how old grizzled bass fishermen get so grizzled. So, to help new anglers and prevent further grizzling, I've compiled a list of my favorite hook setting methods.

My friend Rocky has a theory that setting the hook harder means setting the hook quicker. When the fish are hitting lightly, Rocky's hook set will get progressively more violent. On an icefishing trip when the white bass were barely tapping our Kastmasters, Rocky perfected his "Kick-the-bucket" hook set. In this method, Rocky whips his arms over his head in one fluid motion, while at the same time, he stands straight up off his 5gallon bucket seat. As an inaudible expletive hisses from his mouth, the torque from this motion swings one of Rocky's feet backward, kicking the plastic bucket, and the wind sails the bucket across the ice to the other end of the lake. This method requires brute strength and physical endurance (or a couple of spare buckets).

Lennie uses an original method I call "Set the hook

now, ask questions (and make apologies) later." Lennie will set the hook with cat-like quickness if he feels even the slightest resistance. He often sets the hook even when he doesn't feel any resistance — calling on his fisherman's intuition. I call it dangerous if I'm in the boat. The drawback is that when Lennie's intuition is wrong (which it often is), the lure flies back through the air with deadly speed. This method works, but anglers with any pain threshold will give it up after getting smacked by their lure once or twice. Lennie doesn't feel pain, not so you could notice anyway, so he continues to use this method.

Stub has a method I call "Bird Dog On Point." Stub uses this when plastic worm fishing for bass, and it's fun to watch. When he feels a tap, Stub immediately comes to attention and points his rod toward the water. A welltrained English Setter would be envious of Stub's rocksteady point. Then Stub slowly raises his rod, waiting for confirmation that what he felt was a fish — "There's a fish . . . No. Yes . . . No. I think . . . Yeeessss!" He nearly turns the boat over setting the hook if a fish actually hangs on to the worm through all of this and tugs back.

Of course, the best hook setting method is mine. It works in all conditions and with all lures, and it is especially good when the fish are just barely hitting the bait. Unfortunately, I can't explain it properly in print, and it takes years of practice. The general idea is that you miss too many fish if you wait to feel the strike. You have to be so in tune with your rod and lure that you set the hook just before the fish clamps down on the lure before you actually feel the bite. I call it "Being The Lure," (others call it Being Full of It). You have to transcend your terrestrial being and become one with the water, your rod, lure, and fish. I know you're probably saying to yourself, "This guy is nuts," but since you're already talking yourself, you might as well take the next step.

Shed your inhibitions and learn to become the lure. It will change your life, and since most anglers avoid nuts, you'll probably have favorite fishing holes to yourself. Work on this method and in 20 years when you get the hang of it, I guarantee you'll catch more fish.

