

MAY/JUNE 2003 \$2.75







Wildscape At Work

Foundation has provided outdoor recreation and education opportunities to the people of Kansas, emphasizing youth activities. In fact, Wildscape, a private non-profit foundation, has completed more than 30 projects and raised more than \$5 million for outdoor programs. In recognition, Wildscape was recently presented the William Penn Mott, Jr., Award for Excellence by the National Society for Park Resources.

With only three full-time employees, the relatively small Wildscape staff not only ensures that contributions are put into actual programs, instead of substantial administrative costs, it also allows this group of dedicated individuals to remain focused on their mission: "To conserve and perpetuate the land, the wild species and the rich beauty of Kansas for the use and enjoyment of all."

Hank Booth, a well-known radio broadcaster from Lawrence, became the new Wildscape executive director last December and has hit the ground running. Booth helped complete the fund raising and coordination of the Milford Wetlands Project, which will stand as the largest wetland in the northern-half of the state. "Kathy George has played a major role as part of the Wildscape team in making this project happen," says Booth. "The Milford Wetlands is a true federal, state, and private enterprise partnership. The results have been fantastic."

Booth and the Wildscape staff are also providing opportunities for the youth of Kansas with two special weekends: Outdoor Kansas for Kids Day (OK Kids) and the 7th Annual Governor's Fishing Classic.

Simply put, OK Kids is about getting kids outdoors. Held May 3, 2003, Wildscape and its program partners planned to teach thousands of Kansas kids about hiking, canoeing, fishing, biking, hunting and birdwatching at Kansas State Parks, city and county parks, and numerous private sites throughout the

state. Held in conjunction with Free State Park Entrance Days (May 3-4), our department is proud to play a role in this successful program.

The Annual Governor's Fishing Classic invites local, state, and national anglers and celebrities to participate in an annual fishing event for both enjoyment and competition. Each year, approximately 175 youth from across Kansas receive fishing instruction, meet and talk with professional fishermen and other celebrities, and, most importantly, have an opportunity to catch fish. All money raised by the event is used to benefit Wildscape programs. Entries are still available for this year's event (June 5 and 6). If you're not a fisherman (who doesn't like to fish?), you can still participate in the golf tournament. Please contact Wildscape at the number below for more information.

Rather than resting on their success, Wildscape has already begun private fund-raising efforts on behalf of the Cheyenne Bottoms Visitor Center project near Great Bend. The visitor center will include interpretive displays and an observation tower and will truly showcase this Wetland of International Importance. With a nearly \$2 million federal grant awarded by the Kansas Department of Transportation, this project is off to a great start.

Wildscape's future success will continue to be dependent upon the number of contributing members they are able to attract (all contributions are tax-deductible to the extent allowed by law). If the tenets of Wildscape appeal to you, I encourage you to join this Kansas conservation organization. Your generous contributions will provide more wild places for all of the people of Kansas to enjoy.

For more information on Kansas Wildscape, call (785) 843-9453, or visit their website at:

www.kansaswildscape.com



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Front Cover: A male burrowing owl brings a camel cricket to its nesting mate. Mike Blair filmed the moment with a 600mm lens, set at f/8, 1/500th sec. Back Cover: A father and daughter share a moment's delight after catching a big channel catfish. Photo by Marc Murrell, 28mm lens, f/11 @ 1/250th sec.



P.O. Box 8059, Red Oak, IA 51591.

Editorial Creed: To promote the conservation and wise use of our natural resources,

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to instill an understanding of our responsibilities to the land.



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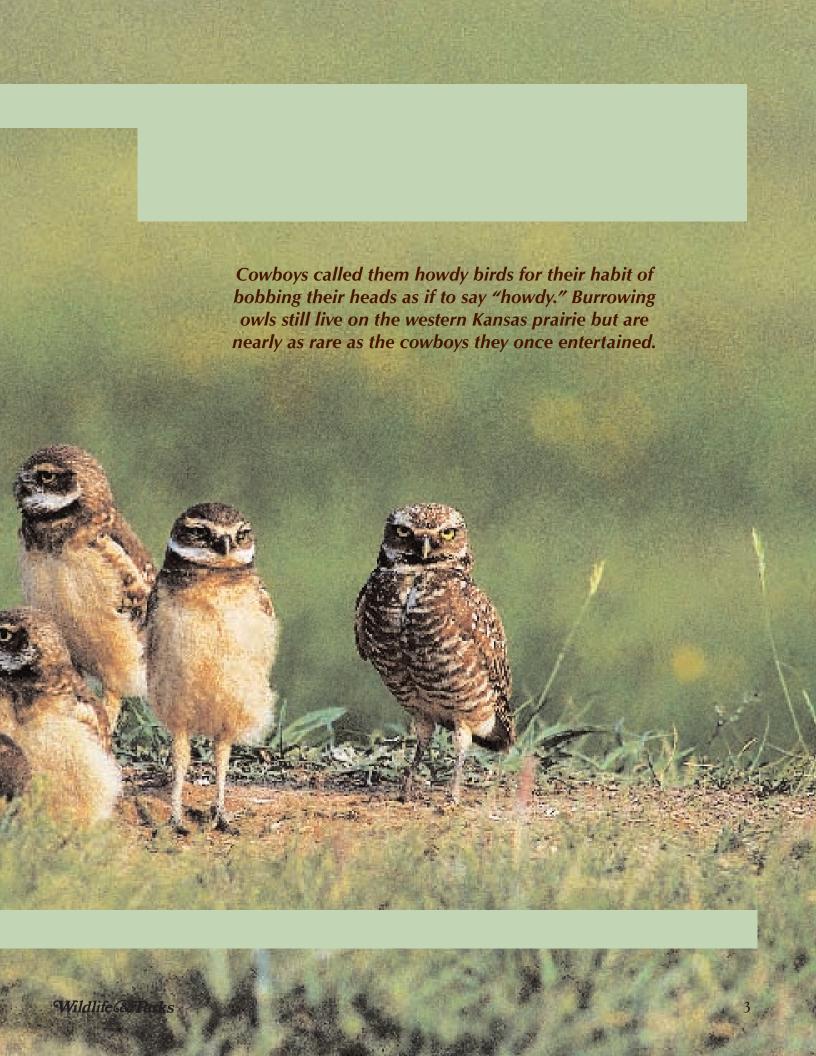
Associate Editor J. Mark Shoup
Photographer/Associate Editor Mike Blair
Illustrator Dustin Teasley
Staff Writer Marc Murrell
Editorial Assistant Bev Aldrich
Circulation Barbara Theurer

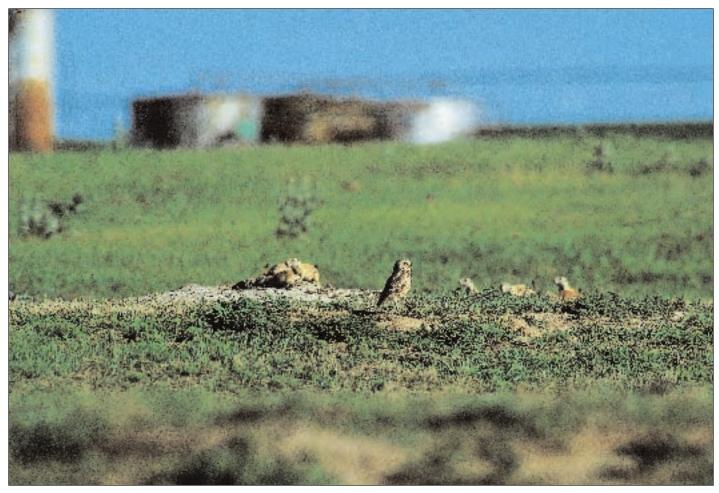
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Bird Underground

by Kevin Becker
fish hatchery assistant, Pratt Hatchery
photos by Mike Blair





wls, with their large forward-facing eyes, intense stares and nocturnal habits, have always been shrouded in mystery and misinformation. In Greek Mythology, the owl was sacred to Athena, the goddess of wisdom, so owls have been called wise. Because of their secretive nighttime activities, owls have been considered a symbol of death. However, the truth is that owls are exceptional nocturnal predators ideally equipped for preying on small rodents.

Remarkably adapted for hunting at night, owls have broad, soft-feathered wings allowing silent flight. An acute sense of hearing with a flat face that functions like a radar dish enables them to pinpoint the



Burrowing owls are most common in western Kansas where they often live in prairie dog towns, utilizing abandoned prairie dog burrows as their own.

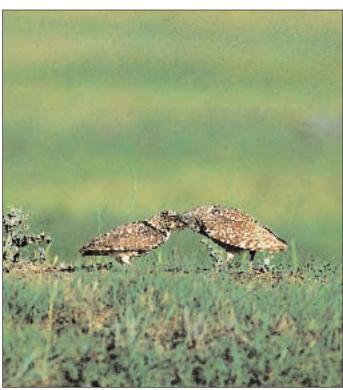
Only 9 inches from head to tail, burrowing owls are small birds. Their diet consists of insects, lizards, scorpions, small mammals, spiders and small birds. Below, a male delivers food to its mate at the burrow entrance. Young owls appear outside the burrow when they are three to four weeks old. They fledge a week later but require parental care for a while longer.

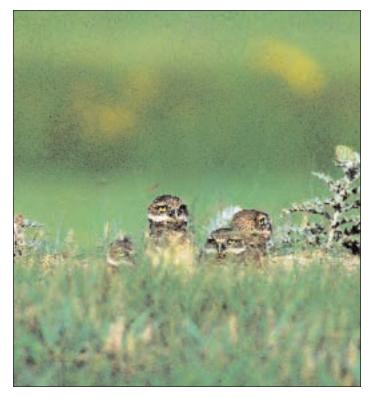


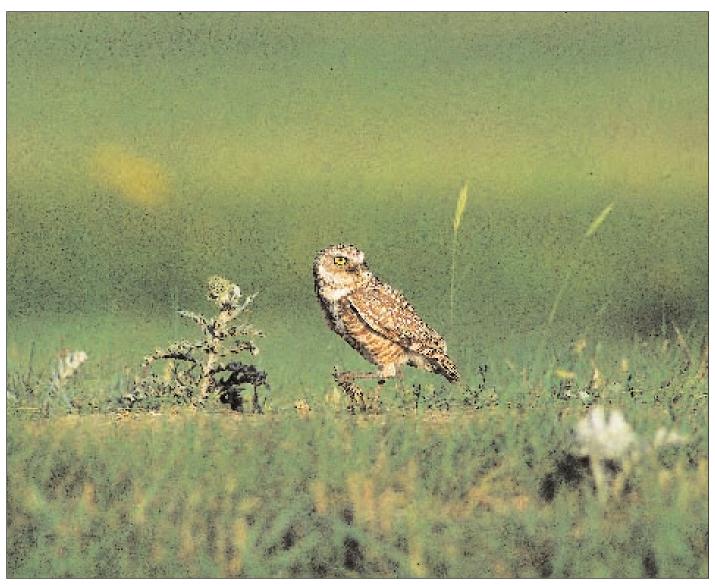
exact location of a mouse moving through the dead leaves on the forest floor. And of course, owls have large, hypersensitive eyes with extraordinary light-gathering ability. And although they are colorblind, owls can see quite well in the daylight.

But if you really want to talk about lore, look at a unique little owl common on the Great Plains. True to its name, the burrowing owl lives underground. Although it can excavate its own burrow, it usually uses an aban-

doned prairie dog burrow. Imagine what legends surround this little bird. The Hopi Indians consider the burrowing owl to be the god of the dead and guardian of fire and all underground things. The Dakota Hidatsa Indians saw the bur-







This owl clutches a sphinx moth in its talons. Burrowing owls hunt both day and night with dawn and dusk being prime times. Prey may be chased down on foot or caught in flight. The call is a rapid *quick-quick quick and* a two-noted, soft, *coo-coo.*

rowing owl as a protective spirit for brave warriors.

The burrowing owl differs from other owls because it hunts both day and night. Dawn and dusk are peak activity periods when these owls feed on insects and small mammals. Other prey include lizards, snakes, scorpions, spiders, and small birds, depending on availability.

Burrowing owls use a variety of hunting techniques. During the day, they can be observed hopping, walking and running to catch insects. They might also catch insects in flight, swooping from a perch or hovering above.

The burrowing owl is small compared to other owls and lacks ear tufts. It has distinctive long legs and a short tail. About the size of a screech owl, the burrowing owl measures 9 to 11 inches from head to tail. It has a round head, a white chin stripe and long white eyebrows. Upper feathers are sandy brown with buff-colored spots. The breast is a dull white with brown barring.

Burrowing owls inhabit flat, open terrains associated with shortgrass prairies, farmland, deserts, and even airfields. They can be found west of the Mississippi River from southern Canada to Mexico. They also occur in Florida and Central and South America. In Kansas, burrowing owls occur nearly statewide but are more common in the western half of the state. They are usually present from early March through late October before migrating back to the

southern areas of their range.

Prairie dog towns are favorite residences of burrowing owls, where they nest and live in abandoned prairie dog dens. To some extent, badger and fox burrows may also be used.

During the day, burrowing owls can be seen standing in front of the burrow entrance. Cowboys named them Howdy Birds because they bob their heads as if greeting one another. Other nicknames include billy owl, prairie owl, ground owl and prairie dog owl.

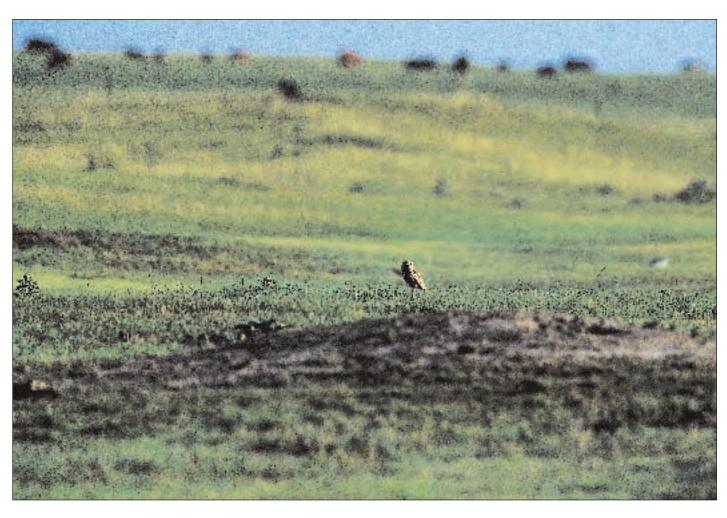
In early spring, the courtship ritual consists of pairs flying upward, hovering, then fluttering back to the ground. Pairs will preen each other and nibble at each others' beaks while standing outside their burrows. Breeding may take place from late March through August, with birds in the northern ranges breeding later. In Kansas, most of the egg laying occurs in mid-May.

An average burrowing owl burrow will measure 6 to 10 feet long and the nest chamber will be approximately 2 feet below ground. The entrance and nest chamber are sometimes lined with manure, food remains and other material. Three to 10 white eggs are laid by the female and incubation lasts about 28 days. During incubation and the first two weeks after hatching, the male caters food to the female and the young. After that, the female resumes hunting. The young first appear above ground when they are three to four weeks old. The owlets fledge a week later but still require parental care for several days.

Fledging is a great time to view the owls as they are active and can be seen near the burrow or perched on nearby fenceposts, heads bobbing up and down in comical fashion. A burrowing owl's call is a rapid *quick-quick-quick* cackle and a two-noted, soft, *coo-coo*. A unique distress call sounds similar to a rattlesnake's rattle.

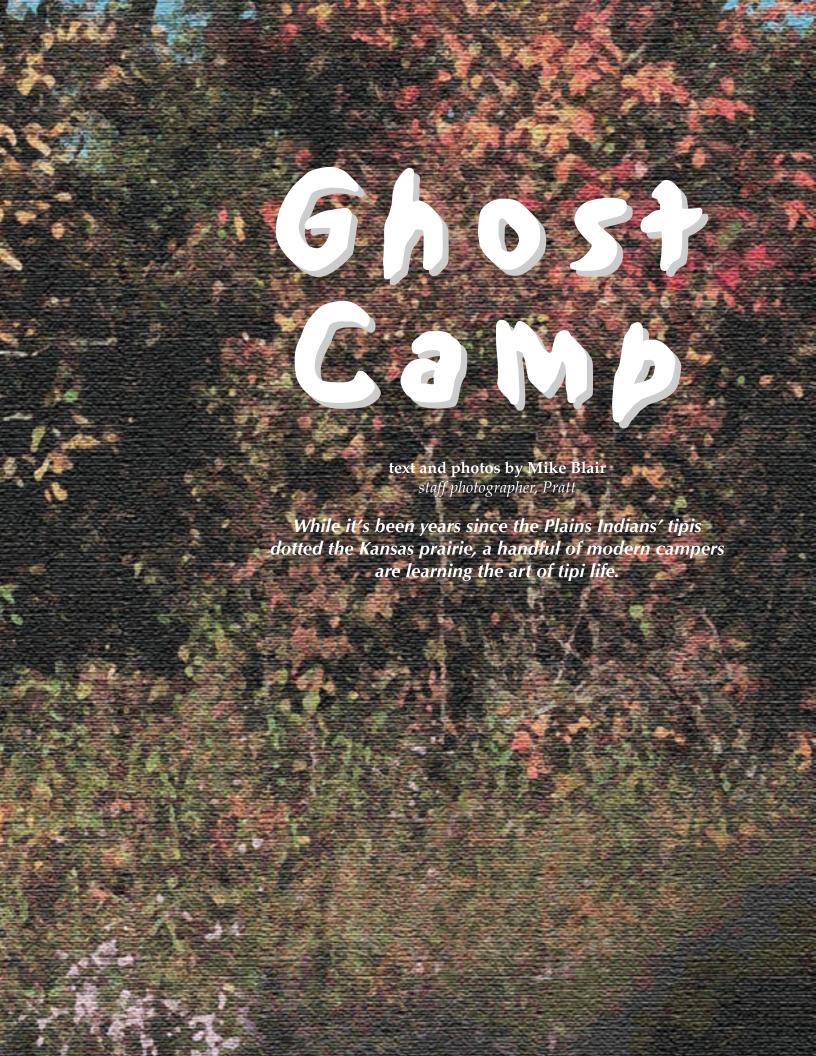
Natural predators of the burrowing owl include large raptors, coyotes and foxes. Burrowing owls are also commonly hit by vehicles.

The biggest concern for this unique little bird is loss of habitat. Its preferred habitat — native prairie and prairie dog towns — is much less common today.



Wildlife@Parks 7





morning •he sunrise reflected on still water at Woodson State Fishing Lake as I slowly drove along the perimeter road lined with autumn color. Labor Day was long-since gone, and given the expected weekday lull, the area was deserted except for birds and wildlife busy with winter preparations. I stopped here and there to photograph plants and animals, enjoying the solitude. And then I saw the ghost camp.

It was a scene from a painting – a single tipi nestled into the orange oaks, a tendril of smoke rising from its open flaps. No vehicle, no sign of life. No trash, no cooler, no noise within. I was drawn to the conical tent, primitive but natural in the wooded setting. Nothing broke a spell that might have spanned two centuries. I called out, but there was no answer. So I drove on, curious about the simple yet elegant camp in the autumn forest.

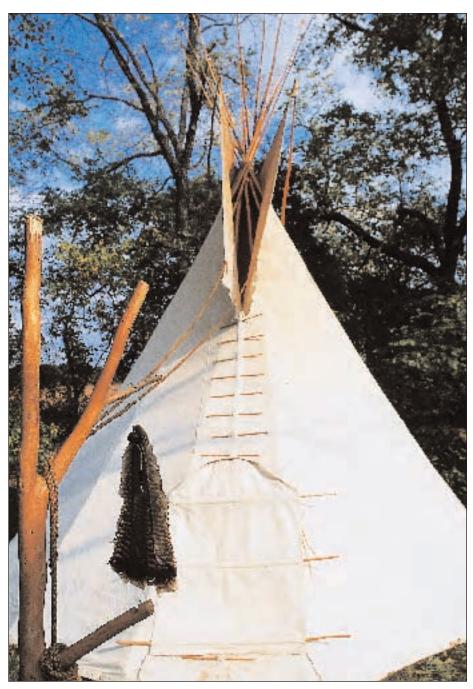
Later, an inquiry led to Jerry Ramshaw, a Toronto resident who often bowhunts and camps from a homemade tipi. What I learned about his portable home proved there was far more than novelty to a structure normally associated with Plains Indians. Ramshaw first built the tipi as an interesting outdoor project but quickly learned the value and benefits enjoyed by early native Kansans. His enthusiasm grew, and soon other tipis were built within his circle of hunting companions. Modern camping gear was set aside in deference to the historical dwellings of Indians and mountain men. Aside from A tipi evokes wonder and curiosity among modern campers. Canvas has replaced hide, but the basic design remains as it was two centuries ago.

the problem of transporting poles, tipis proved more livable for the modern hunters than today's finest camping outfits.

In fact, Ramshaw discovered that a tipi's function outshines that of modern tents in many ways. A tipi can be left up for weeks or months without fear of wind or weather. Its liner and design help keep occupants dry during prolonged rainy periods. It is well-lighted day and night.

Its ventilation system allows the use of a small interior fire for warmth and cooking, while effectively clearing smoke from the living quarters. In summer, the same system draws air upward and prevents heat buildup, cooling the tipi interior. Ramshaw found that the tipi is ideal as a hunting lodge or camp for family outings.

Building his tipi necessarily led to many discoveries about



the history, use and design of these shelters. Indians used various sizes of tipis, depending on function. For instance, hunting expeditions called for 12-footdiameter lodges that were portable. fast and Normally, though, the average Indian tipi was 18 to 20 feet in diameter, requiring poles 21 to 25 feet long. Even bigger tipis, measuring 30 feet diameter or larger, were used for council meetings and more permanent dwelling sites. These required heavy poles 35 to 50 feet long, which

were hard to come by in the open Plains, and also needed more buffalo hides for their larger covers. The added weight of large tipis was difficult to handle for women who set up the camp. Today, the problem of transporting long tipi poles on modern highways usually confines a tipi's size to something in

the 18-foot-diameter range, keeping pole length at 25 feet or shorter. Ramshaw designed a 12-foot tipi ideal for a solo hunter or family of three.

Now, as then, the best tipi poles come from evergreen trees grown under dense stand conditions. This wood is light and strong, and due to its resinous sap, resistant to decay. Some Kansas Indian tribes sent traders to Colorado's mountains for the premier poles of a species named for this purpose – lodgepole pine. Poles were dragged back to Kansas by horses and



Transporting long tipi poles can be a problem. Ramshaw lashes his 18-foot poles to the top of his pickup camper. The best poles come from evergreen trees grown in dense stands.

would be good for several years or more before needing replacement (depending on how often the camp was moved.) But the straight poles of local redcedar were used more often. Normally, these limited construction to smaller designs, since finding tall redcedar poles was difficult.

Ramshaw fashioned his tipi poles from redcedars collected at

a local lowland creekbottom choked with trees competing for sunlight. This growing condition makes the trees grow straighter and taller than those in more open situations. He cut straight trees and removed all limbs with a hand axe. cutting "up" the trunk to keep stubs from splintering. He then smoothed poles with the drawknife until thickness was uniform and there were no hard edges. He cut two extra poles to allow for occasional

replacement, ending up with 19 poles ranging from 16 to 18 feet in length. This was tedious work, requiring 40 hours to complete. However, given reasonable care throughout his camping experience, they have lasted eight years with no casualties. Since modern tipi poles are carried rather than dragged,



Poles were dragged back to There is an art to setting tipi poles. Begining with a simple tripod twisted with rope at the top, Kansas by horses and remaining poles are added and wrapped together.

they have indefinite life if not accidentally broken.

Indian tipi covers gradually switched from hides to canvas as civilization encroached and buffalo disappeared. Canvas was lighter, required no tanning, and was easier to sew, but had some drawbacks. It would not hold without tearing when stakes were driven through it, and it raveled when cut into fringes. Peg loops were introduced and have since been used to anchor the tipi.

Ramshaw made his tipi cover from canvas paint tarps purchased at a home supply store. Using plans illustrated in a book on tipis, he first calculated the size of cover needed for his 12-foot-diameter lodge. He then cut the tarps into wide strips and sewed them together on a borrowed industrial sewing machine, allowing him to cut a semicircular cover with a radius of just over 13 feet. Peg loops

were sewn to the cover base according to instructions.

A secondary liner was constructed in similar fashion. The tipi liner is an inner open cone slightly smaller than the tipi diameter. It is tied to the tipi poles and supported by a series of

short liner poles. The liner provides many of the tipi's advantages over a tent. By creating an airspace between inner and outer walls approximately half the height of the tipi, it allows active ventilation that does not disturb the living area. Depending on season, this heats or cools the tipi and draws smoke from a cooking fire up



Ramshaw sewed his tipi cover from canvas tarps in a semi-circular pattern obtained from a book.

and away from occupants. It also keeps morning dew that normally forms on outside walls from wetting the tipi interior.

It is noteworthy that a tipi is not a symmetrical cone, but rather a tilted cone that is eggshaped in cross-section. It is steeper at the back with a smoke hole extending some distance down the more gently sloping



front side. Thus configured, it acts like a chimney. Two smoke flaps flank the hole, and these are supported by tall, movable outside poles.

Draft must be regulated depending on wind and weather conditions. Ramshaw quickly learned to vent his tipi by turning the smoke flaps away from the wind. This is done as easily as stepping outside and repositioning the flap poles.

Once his tipi was completed, Ramshaw developed a system of transport. Since a tipi is bulky, it cannot be loaded into the trunk of a car, and this is its greatest disadvantage. To allow extra room for associated camping items, he built a small trailer from the bed of a pickup, which he tows with a small pickup topped with a camper. Tipi poles lashed onto the pickup/camper and top, remaining gear is divided between the pickup and trailer beds. Though most of his camping is done locally, he has taken his tipi as far as 200 miles from home.

Ramshaw enjoys camping with his wife, Kristin, and teenaged daughter, Jennifer, at least several times a year in nearby Crosstimbers State Park. Their tipi camps are a familiar sight near the water's edge, where lake breezes help reduce problems with flying insects while keeping their summer lodges cool. They are accustomed to constant visitors and questions about their "primitive" tent.

Additional trappings complete the look of an authentic Indian camp. Inside the tipi is a waterproof ground cloth or "dewcloth," covered with



Ramshaw and his companions often meet for hunting camp in homemade tipis. The lodges are weather resistant and can be left for weeks as semi-permanent quarters. Small internal fires warm a tipi and allow inside cooking (facing page.)

tanned skins and furs. Backrests or "lazybacks" made of willow rods and covered with furs make comfortable chairs. Just outside the door, a pole adorned with antlers and feathers holds a pair of "knockers," or hollowed-out moose hooves that can be rattled together to signal that a visitor has arrived.

Nearly all of the Ramshaws' tipi experiences have been good ones, but one memory from an Oklahoma Outdoor Rendezvous serves as a reminder about wisely choosing camp locations. Tipis shed water when properly constructed and erected, so rainstorms are normally of little concern. However, the Rendezvous, storm runoff ran under their tipi, soaking beds and clothing and creating a cold, miserable camp for the duration of the event. Now Ramshaw is especially careful to choose welldrained sites on high ground when erecting his tipi.

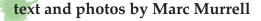
Most years, Ramshaw and his friends set up fall tipi hunting camps for a week or more, living in the wilds and enjoying camaraderie, outdoor cooking, archery with self-bows, and occasionally, even hunting. But as one of the hunters quipped as I visited their camp, "nothing can mess up the fun of a tipi camp as quickly as someone getting a deer (that must be hauled home to a cooler)."

It was only a joke, but it spoke volumes about the inherent fun of living in a ghost camp. ***

For those interested in learning more or building a tipi, Ramshaw suggests an excellent book entitled The Indian Tipi: Its History, Construction, and Use, by Reginald and Gladys Laubin, 343 pgs, University of Oklahoma Press.



GETTIN' CHUMMY WITH IT



manager, Great Plains Nature Center, Wichita

Fermented soybeans, a strong stomach, and a nasty-smelling concoction called bait are all that are needed to catch a bunch of big channel catfish.

ATFISHERMEN NEED LOVE, TOO!" read the bumper sticker on the truck in front of me.

"Do you ever fish for catfish?" asked my passenger as I laughed.

"No, not really," I replied stating I didn't have the patience for it. "But I'd like to try chumming just for the heck of it. It's getting more and more popular, so there has to be something to it."

Chumming, widely thought to be illegal in Kansas, is the process of putting out a large amount of bait or attractant with hopes of attracting fish. Catfish are most commonly chummed, but it also works for species such

Soybeans are soaked in the hot Kansas sun until just the right odor is achieved. In reservoirs, anglers bait areas along drop-offs and creek channels to concentrate feeding catfish.

as wipers and stripers.

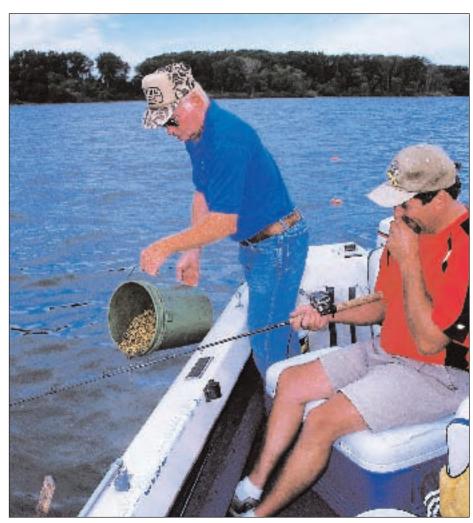
Chum "holes" have been popular at many Kansas reservoirs for years. And it doesn't take GPS or other fancy equipment to figure out where they're at. Just look for a flotilla of boats right after sunrise, and you've found the hole.

"I'd heard about it already and there were a couple guys doing it out here," said Warren Kreutziger of his near-daily trips to Marion Reservoir. "I'd rather fish for catfish than about anything else, so I started trying it and started catching fish."

Kreutziger is no stranger to fish tales as he's heard his share since he's been guiding fishermen since 1998. He also hears plenty more when people come into his Canada Bait and Tackle store near the lake for supplies.

"It used to be that walleye was the biggest part of my business," Kreutziger said.

Stink bait can take on many forms and recipes, but the one thing they all have in common is a putrid odor.



"Anymore, catfish are probably coming in right close to walleye as far as popularity and people fishing for them."

But the success of chumming is no tale, and the results speak for themselves.

"It's easier to fish that way than a lot of ways," Kreutziger said. "A lot of people catch fish that way who have never caught fish before. There are days that it doesn't work as well as other ways, but most of the time it works a lot better."

The attractant of choice for most cat-

fishermen is rotten soybeans. However, any grain will work, according to Kreutziger.

"I use soybeans just because they're a softer grain and they get sour quicker," he said. "Wheat or milo will work just as good if you soak it a day or two longer."

And if you've never smelled water-covered soybeans that have fermented in Kansas' summer microwave for several days, you're in for a treat. If you have a weak stomach, beware as the odor is distinct and truly disgusting.

A 50-pound bag of soybeans can be purchased for about \$8. Most "chummers" fill a 5-gallon bucket about one-third full of beans and add water until the



Generally, boats anchor above a commonly-baited spot, freshen up the chum, then set out stink baits. On a good day, dozens of channel cats will be caught. Marion Reservoir guide Warren Kreutziger usually starts fishing in late June or early July.

bucket is about two-thirds full. The next step is to let Mother Nature do the cooking and let the mixture sit in the sun for at least four or five days.

"It doesn't hurt if it sits there a month or two but soybeans only get so sour," Kreutziger has learned.

Kreutziger says fishermen can make their own holes and the tactic should work in a lot of different places.

"I think it will work about

any place on a lake as long as you go where there's some structure or anything where fish normally hang out anyway," said Kreutziger. "It's always easier to attract fish that are close.

"And I think the more often you go to them, the better it gets," he said. "The fish learn to feed in there and you only catch a fraction of them and, the rest of them just keep coming back in there." The bait of choice for many catfishermen who chum is some type of stink bait.

"I use Sonny's or Big Cat," Kreutziger said of his gooey dip bait preferences. "I use a number 4 or number 6 treble hook with a little plastic tube on it just to hold the bait."

Kreutziger doesn't start guiding on the chum holes until about mid-summer after the catfish have spawned, usually by the end of June or first of July.

He continues fishing until the end of October.

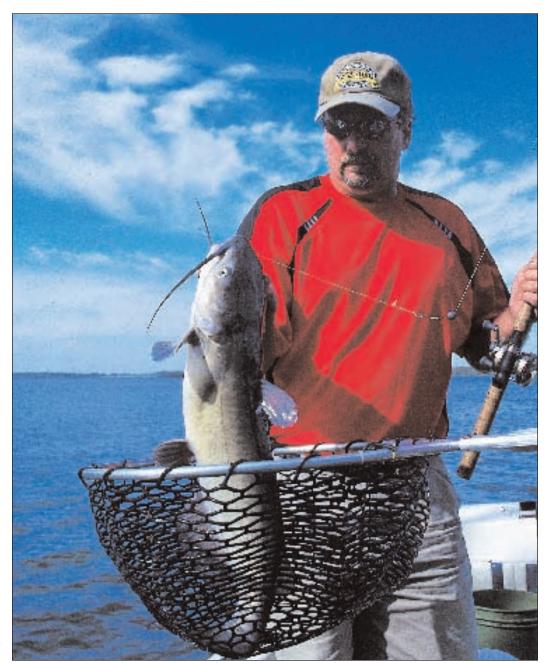
"I think later in the year you end up with bigger fish but not quite the numbers," he added.

I wanted to get a first-hand look at chumming so I hooked up with Kreutziger at 5:30 a.m. one morning last July. My 9-year-old daughter, Ashley, and fishing buddy Doug Duncan joined me on the trip.

Despite launching at 5:45 a.m., we were the fifth boat in the water. We motored out toward the dam in Kreutziger's Falcon boat as it began to get light. He eased past the four other boats already sitting on the break which went from nearly 20 feet of water up into 10 feet. He deployed one anchor from the front, and another from the back to keep us from swinging. Ashley plugged her nose as Kreutziger lifted the first of four buckets of rotten grain offered up to the catfish below. It wasn't long

Ashley's pole bent double and she boated a nice 3-pound channel catfish.

We didn't stay long as other boats arrived on the spot and we headed up the lake. Another break that went from about 10 feet of water into 5 feet was our next stop. The action here was steady and we boated several nice channels in the 4- to 6-



The chum can attract lots of fish, including some dandies like the one above. However, the author was surprised at how lightly the big cats took the bait. Many more fish were missed than caught.

pound range. The most amazing thing about the process was how lightly the fish took the stink bait offering. Even fat 5-pounders bit like crappie and the slightest "tick" was reason to set the hook. Many more fish were missed than caught. The occasional monstrous carp was caught, too.

Although the day was slow

according to Kreutziger, we still managed to catch about 20 fish by the time we decided to call it a day at 11:30 a.m. All but the first five were released.

"It's a pretty easy way for people to catch fish," Kreutziger said as we discussed chumming on our way back to the ramp. "Once they try it, they're usually hooked."



SMALL BUT MIGHTY

Ephemeral Wetlands

by Jim Minnerath

US Fish and Wildlife Service, Flint Hills NWR

photos by Mike Blair

On closer look, these tiny, temporary wetlands are really important habitats to a variety of plants, animals and insects.

ustralian Aborigines call them "gilgai." The term means "little water," and is as appropriate in Kansas as it is Down Under. Tiny pockets of standing water appear in otherwise dry places during rainy seasons, nourishing a host of animals and organisms. Then they vanish and wait for the next wet cycle.

I've worked as a biologist for the U.S. Fish & Wildlife Service for 14 years. During this time, I've become fascinated with these tiny, ephemeral wetlands. They are easily destroyed by habitat alterations, but their importance cannot be overstated. My interest has grown through involvement in a program called Partners for Fish and Wildlife, which pays special attention to wetland microdepressions. Exact definitions do not exist, but generally, gilgai

range in size from about 100 square feet to about 2,000 square feet, with depths of 2 to 12 inches. "Little waters" is a very appropriate description of these miniature wetland jewels.

The land is full of potential micro-wetland sites in many places, but manmade structures prevent them from filling as nature intended. I first observed and understood this while working with a University of

Missouri scientist studying the gilgai on Nature Conservancy's 7000-acre Cheyenne Bottoms properties in Central Kansas. Dr. Leigh Frederickson investigated the effect of sheet flow on microdepressional wetland sites. Sheet flow is the natural flow of water "sheeting" across the landscape after a rain event. Historically, water flowed uninterrupted down slope across large expanses of land, filling existing depressions and widely distributing moisture. In the Cheyenne Bottoms study, Frederickson directed the removal of key roads, berms, terraces and even fence lines (blowing vegetation catches on fences, collects soil

particles, and builds small berms over time) that restricted the area's normal sheet flow. Ultimately, this restored water to many thousands of micro-depressional wetlands greatly improved the area's wildlife potential. It also caused more water to be absorbed into the landscape, altering the plant

community on a large and favorable scale.

In the same way, present land usage nationwide interrupts



Frogs are among the first to occupy "little waters." Tadpoles must develop quickly to beat evaporation.

sheet flow on an ecosystem level. Modifications such as roads, ditches, railroad berms, flood control dikes and dams all



Gilgai are the first wetlands to warm in spring, providing food for early migrants. Found throughout the state, they can take different forms. This small pool is the result of an ancient buffalo wallow in Barber County



An amazing array of invertebrates may be found in gilgai, including (l-r) fairy, tadpole and clam shrimps. Dormant eggs of these strange creatures lie in dry depressions, waiting for wet conditions in which to hatch and thrive.

directly reduce sheet flow and effectively create drier environments.

Most modifications have taken place within the flood plains of major rivers. Historical flood plains have generally been converted to agricultural row crops like corn, milo, and soybeans. These flood plains are a mosaic of soil types, dependent on historical river meanderings. As a general rule, present river courses and their subsequent flood plains have two dominant soil features. The first is a primary river terrace. This natural feature is built as the river leaves its banks during initial flood stage. Large and heavy soil particles settle first, forming a terrace that parallels the river. This terrace is well drained and nearly always timbered. Farther out lie areas of small particle deposition. Here, backwaters are held in place long enough for finer particles to settle and form clay soils. In some locations, clay particles may be so small and

close together that water cannot penetrate. This situation is termed a "perched" water table, and is unfavorable for the growth of many plants.

But some plants can thrive there. Historically, perched water tables created vast "seas" of prairie cordgrass (Spartina pectinata) across Kansas' larger river flood plains. These habitats were ecologically important, but unfortunately, they are now virtually gone due to agriculture. Far less than one percent of original cordgrass meadows remain. Where present, cordgrass dominates most other vegetation, though such species as sneezeweed (Helenium autmnale), Western ironweed (Vernonia faciobedient culata), plant (Physostegia virginiana), rose mallow (Hibiscus militaris), tall indigo (Amorpha fruiticosa), buttonbush (Cephalanthus occidentalis), and others might co-exist.

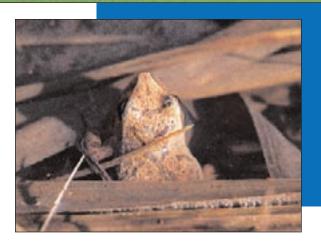
Gilgai are important within this complex. Within historic flood plains, these small and unique topographical features are common. They were created by forces such as drought, wind, natural irregularities in topography, and flood scouring. Historically, they filled through sheet flow and flood-stage hydrology, and were probably enlarged by wallowing bison and elk. Variety in soil texture and structure played a roll to create a mosaic of sizes, shapes, and depths to these flood plain depressions.

Individual gilgai, depending on their particular surface-to-volume ratios and watersheds, held water for varying lengths of time. How long surface water remained for each depression was its "hydroperiod." Hydroperiod influenced how plant communities and species evolved. In essence, gilgai allowed flourishing diversity in otherwise sterile habitat complexes.

Over time, gilgai created a much wetter community composed primarily of sedges (*Carex*



Besides migrating birds which utilize ephemeral wetlands for food, a host of vertebrate animals including snakes, frogs and salamanders rely on gilgai for homes and breeding sites. Each small pool has its own unique signature, depending on size, depth and plant complex. This creates diversity in species use, and helps explain why these tiny habitats are worthy of protection.



spp., Scirpus, and Cyperus) and rushes (Eleocharis). This resulted in higher usage by birds, mammals, insects, and mollusks. There was a biological benefit to various hydroperiods within a given wetland system. No wildlife species can find all of its life requirements within one hydroperiod.

The diversity resulting from dynamic gilgai is important for many reasons. First, mixture of size and depth creates various functional values and foraging opportunities within given windows of moisture and time. Various water birds have different depth requirements for foraging. For instance, sandpipers are attracted to shallow, mudflat-type environments, while teal and herons prefer deeper water that supports a more varied food complex.

Also, avian migration is not static. Depending on weather and other conditions, geographical and timing shifts may occur, so that widespread gilgai can accommodate migrating birds that may alter normal travel routes. Similarly, staggered migration times allow various bird species to take advantage of gilgais' functional diversity.

A great advantage of microdepressional wetlands is small thermal mass. This means gilgai are first to warm up in spring, supporting early aquatic invertebrate activity often weeks ahead of that in larger waters. Species such as snails, fingernail clams, scuds, crayfish, glass shrimp, water scavenger beetles, midges, backswimmers, damselflies, dragonflies and others offer foraging opportunity for early migrant birds such as common snipe, American woodcock, blue-winged teal, and a host of shorebird species.

Like fingerprints, no two gilgai are exactly alike. Each tiny basin has its own unique shoreline shape, which may be amoeba-like, oblong, horse-shoe shaped, or round. Each individual basin also has its own

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unique micro watershed, providing slightly different water volumes after a given rainfall. Dynamics already discussed come into play, creating tremendous diversity. Considering that historical flood plains had thousands of gilgai per square mile, one begins to comprehend their importance to outdoor Kansas.

The value of such complexity can be seen in the following typical situation. Two gilgai of roughly equal size and shape are situated on the landscape within a few feet of each other, yet they host dramatically different species. Due to different hydroperiods, one is wet long enough to produce

emergent perennial vegetation, but the other is drier and grows only short annual vegetation. The first is attractive to insects such as dragonflies and damselflies which require emergent vegetation to complete their life cycles. This pool is full of predacious dragonfly larvae which eat tadpoles, so there are no frogs. But just a few feet away, the adjacent basin with its shorter hydroperiod is loaded with amphibians such as Western chorus and cricket frogs, which thrive due to lack of insect predators. Situations like this offer understanding as to why wetland complexes are so valuable.

In spite of significant biological values, gilgai are readily removed by conventional farming practices. Activities such as plowing, harrowing, and



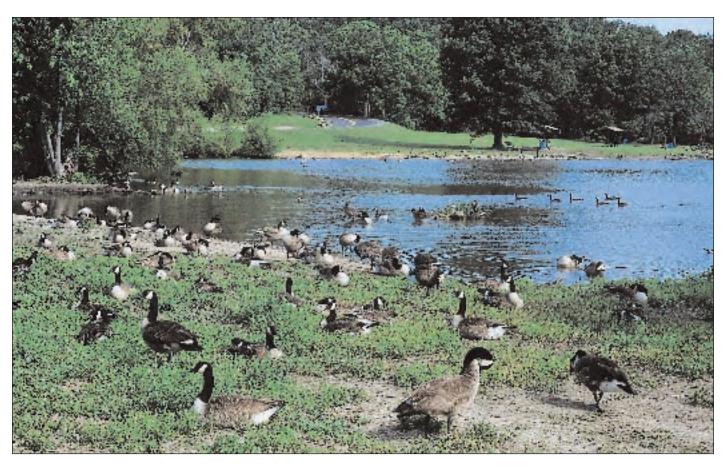
Shorebirds, waterfowl and wading birds eagerly take advantage of temporary pools. Here, high-energy food is easily accessible on migration stopovers.

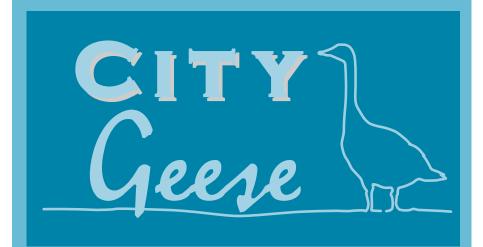
discing quickly smooth out the depressions, leaving a field with micro-topography. Percentage of loss on a continental level is probably higher than that of any other wetland types. Even so, the future is getting brighter for these tiny wetland treasures, as opportunity abounds for restoration work. Programs under the USDA Farm Bill such as Continuous Conservation Reserve Program(CRP), Wildlife Habitat Incentive Program (WHIP), and Wetland Reserve Program (WRP) all offer unprecedented opportunity for a private landowner to gain both technical and financial assistance to restore this important missing component to the wetland ecology of Kansas.

In the end, understanding

these subtle treasures is the key to protecting them. Where gilgai prosper, the land and its wildlife are uniquely blessed. **

Currently, micro-wetland development sites exist at Cheyenne Bottoms, the Marais Des Cygnes National Wildlife Refuge, and on various parcels of private ownership through the WRP and Partners for Fish and Wildlife Programs. If you are interested in developing or maintaining this important habitat element in your area, contact the author at Flint Hills National Wildlife Refuge, 530 W. Maple, Hartford, KS 66854; or phone (620) 392-5553 ext 104; or email james minnerath@fws.gov.





by James Leedistrict wildlife biologist, Kansas City

photos by Mike Blair

Giant Canada geese were once thought to be extinct but have made a remarkable comeback. In fact, in some urban areas, the big birds have become a nuisance.

hen I was a student, one of my professors hated it when he heard someone say "Canadian goose." There was even a penalty on a test for using it in an answer, unless you were specifically referring to a goose from Canada. The correct common name of Branta canadensis is "Canada goose." That's because while these geese are associated with (and named after) the country that lies to our north, not all of them are actually from Canada. Many of them live year-round right here in Kansas, especially in and around cities.

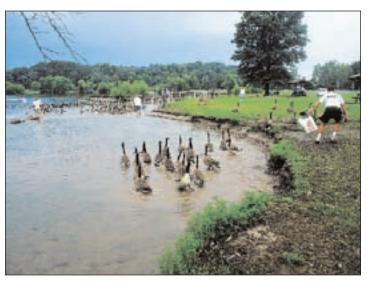
Canada geese co-exist well with humans because they have learned to take advantage of habitats that we create. Geese love to eat well-fertilized, watered, lush grass — which is

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easy to find around cities. They like to have a large pond or two to relax in, and people love ponds. They like to be in open areas that make it easy to spot approaching danger, which are how many city places are landscaped. If friendly people willing to share their lunch are part of the picture, so much the better (though feeding waterfowl causes problems in the long run.) During winter, when temperatures cold

freeze most lakes and ponds and force geese to find open water, man-made fountains and aerators provide this necessity. In other words, if a goose could design its own home, it probably wouldn't look all that different from a city park or golf course!

Only a few decades ago, no one would have predicted the success of Canada geese in our own backyards. Canada geese were, for many years, considered the epitome of wilderness. They bred in the north and spent their winters in secluded sanctuaries. During migration, they kept their distance from humans. The few geese that did not migrate (members of a subspecies called "giant Canada geese," the ancestors of resident geese that live in Kansas cities and towns today) were even thought to be extinct from the 1920s until they were rediscovered in the 1960s. A description of a few "personality characteristics" of Canada geese would help explain their success today and their residence in places exactly opposite to wilderness.



Goose "roundups" are commonly held in urban areas where populations have grown beyond human tolerance. Equipment and manpower requirements make this an expensive control measure.

First, Canada geese have an exceptional ability to habituate, or behaviorally adapt, to new things in their environment. Habituation basically means overcoming the initial wariness that most wild things have when they encounter something (or someone) new. Most wild ani-

mals naturally fear humans, but after enough safe human encounters, they gain tolerance for contact with man. Humans often reinforce this tendency with wild geese by feeding them, which further encourages trust.

Habituation works both ways, of course. In times past, Canada geese were quick to learn to avoid humans when they were hunted for sale in markets, and modern geese are quick to learn when and where

they are safe in cities. Ask any Canada goose hunter who's hunted the special urban Canada goose seasons in September (before migrating geese pass through Kansas,) about the ability of Canada geese to learn. They seem to know exactly what fields or ponds are hunted and



Roundups are conducted in early summer after adults have molted and can't fly and before young have learned to fly. Managers attempt to relocate the birds to rural areas.



A strong grip and a good laundry detergent are roundup necessities.

which ones are not. If geese are caught in an area where hunting is allowed, it doesn't take long for them to shift their activity to a safer place.

Another important characteristic of Canada geese is long life. They can become old-timers relative to most wild animals, attaining ages of up to 20 years. In fact, many geese still live in the Kansas City area that were leg banded as adults in the early 1990s. Long lives provide the time to learn things about the environment — where to find food, where safe places are, where to nest, and how to avoid hunters. Because geese are social, old and experienced geese share their knowledge with younger birds. And urban geese, with dependable food and water sources close by and with few predators to bother them, live even longer than their rural cousins. Researchers have found that about 80 percent of urban goslings survive to their first birthday. To put this in perspective, until modern medicine reduced the human infant mortality rate to very low levels, even humans would have a hard time surviving this well.

Another trick up the sleeves of Canada geese is a remarkable homing ability. Like many birds, Canada geese can migrate hundreds or thousands of miles between breeding and wintering grounds. They can find precise locations not visited for months. One of the main reasons why resident Canada goose populations were so easy to restore is that when goslings are provided safe surroundings and plenty of food, they will return to that location in the future as long as all their needs can be met there. Geese relocated to Cedar Bluff Reservoir (where they're held for several months in pens) often return to the Kansas City lake or pond where they were caught. This homing ability helps the long-lived, quick-learning goose remember the best places to nest, eat, find mates, or hide from danger.

Because of its nature, the gregarious Canada goose does very well in cities. Unfortunately, as is usually the case whenever humans and wildlife interact, this success has caused a few problems. Many people object to the droppings that Canada geese leave behind. Though conclusive research is scarce, droppings on the ground or in water supplies may be a human health problem. Grazing geese can destroy turf grass. And while defending their mates' nests, ganders can be aggressive and often scare their human neighbors.

Since geese are large, attractively-colored, interesting birds, many people enjoy and like them. On the other hand, geese can become a nuisance. When a lot of these birds and a lot of people get together, there are bound to be problems. Some people will demand that all geese be destroyed, others will demand that all geese be completely protected, and in the meantime the geese will go about their daily business until they decide that the grass is greener on the other side of the park. The fact that these birds are protected by numerous state and federal laws, and even an



Primary flight feathers may be clipped so that once relocated, birds cannot immediately return to where they were caught. Even so, many eventually do return.

international treaty, further complicates matters. Fortunately, there are ways for people and geese to get along.

When geese cause problems, it is often easy enough to relocate them to an area where they are desired. Adult geese cannot fly during a few weeks each summer while replacing their primary wing feathers, and at the same time, goslings are too immature to fly. It is usually a fairly straightforward matter to herd geese into large pens, load them into trailers, and ship them out to new homes. This is done nearly every year in Kansas City, Wichita, and Topeka, and often in a few of the smaller towns as well. The relocated geese are usually kept for a few months in special pens located at Cedar Bluff Reservoir before being released in their new homes. Of course, geese often take advantage of their homing ability to return to where they were captured, so relocation isn't the only way of managing nuisance geese.

Altering the landscape may become an important way to discourage problems. Since geese like short, fertilized, watered turf-grasses, replacing with tall, unfertilized, unwatered native grasses can make an area unattractive to geese. Landscaping with natives is also better for the environment and more economical in the long run. Since open views are important to geese (the better to avoid predators,) planting shrubs to break lines-ofsight is also helpful. "Safety" can be interrupted by harassing the geese with pyrotechnic devices such as shell-crackers or bird bangers. If artificial food draws

geese to an area, people should be discouraged from feeding them. Feeding doesn't do geese any favors, anyway. Usually, the food that people provide is nutritionally deficient, and as geese become more and more reliant on it, they can find themselves in deeper trouble. Eventually, geese that have no fear of humans must be relocated or even euthanized.

One tactic to move resident geese from high traffic human areas is the use of specially-trained dogs. Especially around larger cities nationwide, some businesses specialize in "goose guard" dogs that will herd geese away from protected areas until the birds learn their new boundaries. At least one such business now operates in the Kansas City area.

Canada geese are well-estab-

lished residents in many of our cities. That they have gone from near extinction to near-record levels in the past 80 years is a testament to their resilience and adaptability. The fact that they have managed to exploit some of the most artificial, severely-altered habitats on the continent (such as urban and agricultural areas) is even greater proof of their ability to survive in the of adversity. Hopefully, this interesting animal will continue to entertain us and brighten our surroundings forever. 🐬



Birds are turned out on a rural lake in hopes that they will take up residence. Urban areas are often more attractive because of the manicured lawns, open water and free handouts humans provide.

Canada Goose FACTS:

- There are 10 subspecies of Canada geese, ranging in size from the 2- to 3-pound cackling goose to the giant Canada goose which may weigh up to 24 pounds diversity rarely seen among a single species.
- Giant Canada geese were rediscovered in 1962 after scientists presumed them extinct in the 1920s. These geese formerly lived along big rivers in the Midwest and remained in the same general area yearround. When reestablished throughout their former range, they quickly moved into cities.
- •Giant Canada geese can be recognized by a white feather patch on the forehead or the throat patch that extends high up on the neck, in addition to large size.
- Geese of other subspecies have hybridized with urban giant Canada geese in Kansas, so most populations have individuals with varying sizes and color patterns.
- Canada geese do not begin breeding until they are 2-3 years old. Adults maintain pair bonds permanently but will mate again if they lose a mate.
- •Geese normally lay 4-5 eggs per clutch. Incubation takes about 4 weeks.
- •Geese will defend their nests aggressively and have been known to pursue and strike bald eagles that fly too close. They will attack humans as well, but rarely cause injury.
- •Much of what geese eat pasture or lawn grass, wheat, alfalfa, and waste grain and soybeans is produced by humans.



oo" is part of a special force of dogs that helps solve wild goose problems within metropolitan areas. Giant Canada geese, handsome birds that symbolize wilderness marshlands and migration, have in recent years acquired a taste for urban living. Though friendly and appreciated for their beauty, they cause a variety of problems for urban dwellers.

Most control measures are costly. This border collie provides another alternative for keeping geese at bay in high traffic human areas. The dog, owned by Marianne Lumpe of Kansas City, Mo., is specially trained for urban goose control. Without actually harming the geese, Boo harasses the birds to keep them out of selected areas. Geese are chased into permitted zones or forced to leave altogether. Though they quickly return, periodic dog patrols can help the birds reset their territories to a neighborly distance from human habitation.

Presently, Boo is the only dog trained for this special work in Kansas City. She is available for use through "Peaceful Kingdom," Lumpe's business based out of the Grandview area. Lumpe, along with trainer and co-worker Betty Seale, believe that Boo is a humane and effective way to help keep the peace between man and animals. "Where Boo works, the sidewalks are clean," Lumpe says. "Geese learn quickly to stay clear of places they're not wanted."

To inquire further about urban goose management, contact Marianne Lumpe at Peaceful Kingdom, POB 480012, Kansas City, MO; (816) 941-3940; or email marelaw@aol.com

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Feed The Fish

text and photos by Leonard Jirak district fisheries biologist, Hartford

Fish feeding programs allow smaller lakes to support more and bigger fish, making anglers happy in the process.

ost fishermen evaluate their fishing trips on the number and size of fish they catch — many would prefer to catch more and bigger fish. Since the 20th century pond and lake building era in Kansas, anglers have been demanding more production from their fishing waters.

However, a body of water has only so much natural production capability. That potential is set by the amount of nutrients and sunlight available. The total biomass (pounds of aquatic life) is a function of the utilization of those nutrients and sunlight. Fish managers can change the output of fish production by using different management schemes.

Changing fish species can have a dramatic impact on production. To increase production, biologists can use fish that rank lower on the food chain, such as sunfish, catfish, carp and buf-

falo. However, this combination of species is not desirable to most anglers. Anglers want fish that are predators — fish that eat other fish. Every time a predator fish consumes another fish, it increases its weight by only about 10 percent. So using combinations of predators such as basses, crappie, and walleye reduces the total output of pounds which could be achieved using fish lower on the food chain. Placing brush piles and improving habitat can shift the fish population to more desirable sport fish, but it does not have a large impact on the total pounds of fish production.

In a recent catfish food and growth study by the department, it was determined that a fertile lake can produce about 50 pounds of bottom-dwelling insects per acre, per year for fish forage. The growth of fish is directly related to food availability. The more fish competing for a food source, the less each individual fish eats and grows. This is why fisheries managers

cannot simply add more fish to a lake and create better fishing.

Fish growers have been feeding fish for centuries. Carp, koi and goldfish have been bred and kept for pleasure as well as food since ancient times. During recent history, fish farmers have been growing fry and fingerling fish in hatcheries for stocking purposes. Fish feeding for human consumption has also increased dramatically during the past 50 years. Many species of trout, salmon, catfish and carp are now being grown on fish farms around the world.

For centuries, anglers have fished to provide food for the table. Today, the recreational value of fish is more important than food value. Fisheries biologists are adjusting their management to include both food and recreational values of fishing. This is called Optimum Sustained Yield, which relies heavily on catch-and-release fishing with certain species, and more harvest on others. One species that fits the latter category and can be produced in plenitude is channel catfish.

Channel catfish have been among the most sought-after fish in Kansas because of their abundance, table quality, and aggressive behavior. Kansas has served as the classroom for several breakthroughs in warm water catfish culture. During the 1950s and 1960s, Seth Way and Bus Hartley developed methods to spawn and artificially hatch channel catfish in large numbers.



Feeders allow small lakes to support large numbers of fish, increasing angler catch rates. However, length and creel limits may be required so that fish reach trophy size.

This new situation created a need to feed the fry.

Enter Dr. Otto Tiemier and his students at Kansas State University. During the 1960s and 1970s, Tiemier was able to experiment and determine a proper diet for channel catfish.



KDWP public lands employees assist fisheries managers, keeping feeders full and running during the feeding season.

He formulated a diet that could produce up to a pound of channel catfish from two pounds of dry feed at a costeffective rate. From this information, a new world of fish culture grew: the feeding of channel catfish for human consumption.

> Many pond owners, as well as hatchery managers, began growing channel catfish in large numbers and bigger sizes. Armed with the new research, fisheries biologists began to experiment with feeding wild fish in public fishing lakes. The first research in Kansas was done by fisheries biologist Tommie Berger in 1977 at Pottawatomie State Fishing Lake Number 2. Results showed an increase in

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the average size of bluegills and channel cats, along with a large increase in harvest. Using this information, I inferred that feeding fish in a public lake could produce dramatic results.

Fish growth can be highly variable depending on food and environmental conditions. They can gorge themselves when conditions are good or go with out food for long periods and live off body tissue. For example in the early 1970s extremely low water levels at a western Kansas reservoir left sportfish food supplies almost nonexistent. Growth rates determined from a large sample of channel catfish spine showed it took seven years for them to reach 12 inches. Channel catfish under good conditions

can grow up to 4 pounds a year after their second year. Gridley city lake was rebuilt in 1995 and restocked with one-year-old channel cats in 1996. The city feeds from 500 to 1,000 pounds of feed per acre per year. In 2002 channel cats over 20 pounds were caught. Two weighing more than 25 pounds were reported that fall. These examples show the extremes, with normal growth being in between. Bass, crappie and other fish can have the same dramatic growth fluctuations when conditions warrant.

Traditionally, annual stocking of 10 to 20 intermediate-sized (8-to 12-inch fish) channel catfish per acre of water and trying to maintain acceptable growth rates did not give anglers what they desired from many lakes. In order to increase catch rates,



This photo shows the growth potential of both blue catfish (on left and right) and channel catfish when a feeding program is maintained.

most biologists increased their stocking rates, but this in turn slowed fish growth and decreased quality. By the early 1980s, the average size channel cat harvested from public lakes in Kansas weighed about one pound. Fishermen wanting larger channel catfish went to the rivers and reservoirs.

When the state hatcheries



Larger pellets are designed to increase the feeding efficiency of big fish.

began producing large numbers of intermediate-sized channels, stocking rates on all public lakes increased. Natural production channel catfish in clear lakes and ponds is rare because of bass and sunfish predation, so all but the larger reservoirs need supplemental channel catfish stockings. Knowing that many pond owners who fed channel catfish were growing more and larger fish, I surmised that I could do it on public waters.

One of the first problems was how to come up with the money to buy feed, since the department had no budget for it. I began feeding several city lakes using private donations and city fishing permit money. Results were very good. Growth rates picked

up, as well as angler interest. But with increased fishing pressure, the catfish populations were soon depleted. The average size of the channels increased, but few big fish were caught.

To keep catfish numbers stable and to help fish better reach their growth potential, I persuaded the cities to set length limits and creel limits. I felt the anglers would accept these if we could improve the quality of fish harvested. With a 15-inch length limit and a two-fish creel, the average size of channel cat harvested went to three pounds (nearly four pounds at one lake), satisfying fishermen.

In 1996, the department's fisheries budget included a new program to purchase feeders and feed for all state-owned fishing waters. The budget also included

a program to cost-share feeders on city and community lakes under the Community Lake Assistance Program. During the same time, the department included the option of reducing channel catfish daily creel limits and length limits on state-managed waters. Now, fish feeders are common at lakes across the state. They vary in size from small feeders that hold 100 pounds of feed, to larger ones that hold up to 500 pounds.

Fish feeders are usually placed on floats and have solar panels to power the computer and motor. The feeders are set to feed several times each day and night in various amounts. Fisheries biologists have the option of implementing several creel limits and a 15-inch length limit, depending on their management strategies.

Biologists now feed a mix of floating and sinking high-protein commercial pelleted feed.

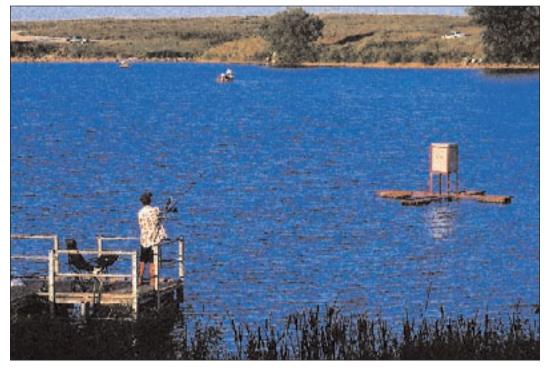
Feeding rates vary from about 25 pounds of feed per acre annually to more than 500 pounds, depending on the desired results. Fish are usually fed when the water temperature rises above 60 degrees. The normal Kansas feeding season is April through October. Many of the feeding stations include circular floating retainer rings to keep the feed from drifting away on windy days before the fish can utilize it. If the management program calls for heavy feeding, lake managers may install an aeration system to avoid water quality problems in the aquatic system.

The current feeding program includes several side benefits. Many of the small lakes now produce lunker- to trophy-sized channel catfish. The largest channel catfish in the state now reside in smaller lakes rather than reservoirs. In some lakes, channel catfish bigger than 20 pounds are not rare. There have been undocumented reports of channel cats as large as 30 pounds caught in a couple of lakes. The department's fishing forecast, available on the department's website (www.kdwp.state.ks.us.) will indicate where some of the largest channel catfish may be found. I have noticed more than one avid bass fishermen switching to trophy catfish. With the feeding program, more catfish can be stocked which will increase catch rates and the fish will be larger, thus filling the

demand for MORE and BIGGER.

Other fish species benefit from the feeding program, as well. Bluegill will readily eat artificial commercial feed. In the past, many of our lakes produced bluegill only 5 to 6 inches long too small for anglers to harvest. With a feeding program, bluegill can grow to the 7- to 8-inch range, which is much more desirable to fishermen. An extra 2 inches can double the weight of a bluegill. Better-fed bluegills tend to produce larger spawns, which in turn benefit bass and other predators. Also. feeding increases fish waste which increases the nutrient load in a body of water, stimulating plankton growth and the amount of food available at the lower end of the food chain.

Feeders are most evident on smaller lakes, but they are used on large reservoirs. Here they are not intended to grow fish but



At reservoirs, feeders are designed to concentrate fish, making them more accessible to anglers. Channel catfish are underharvested in most of our larger reservoirs.

Mike Blair photo



With the proper length and creel limits, a feeding program can dramatically improve fishing opportunities at small lakes. The average weight of channel catfish caught improved from 1 pound to 4 pounds at one lake.

rather to concentrate fish for harvest. In most large reservoirs, catfish are underharvested

In recent years, fisheries professionals have discovered that predatory fish can be trained on feed and that they will retain this feeding behavior. Wipers are easily trained on feed. They can live in small or large bodies of water and will travel long distances to feed on an artificial diet. This makes them a great management tool on many lakes. Raising wipers on dry feed reduces the cost and allows biologists to stock them at sizes large enough to ensure survival. Wipers help control gizzard shad and small sunfish numbers, grow to large sizes, and provide one of the best fights of any warmwater fish. They can grow up to 15 pounds in small impoundments. Recently, even largemouth and smallmouth bass and yellow perch have been trained on artificial feed.

Historically, predator fish such as bass were reared and grown to large sizes on live fish diets. However, it takes about 10 pounds of minnows to increase a bass's weight by a pound. At \$4 per pound, it would require \$40 worth of fatheads for a bass to gain 1 pound. By contrast, it takes about 2 pounds of dry feed to increase the weight of the bass by a pound. Dry feed costs about 30 cents per pound — only 60 cents to produce the same weight gain. Why the difference in efficiencies? Minnows are 90 percent water and the feed is only 10 percent water. Thus, the feed is far more energy efficient (and much less expensive).

Catfish feed is about 20 cents a pound with the same conversion

of weight gains. Fish convert food to flesh much more efficiently than other livestock because unlike warm-blooded mammals, they don't have to spend energy maintaining body temperature. To grow fish even faster, some managers are now feeding larger-sized feed. It is not very efficient for a ten-pound catfish to chase down pea-sized pellets. Instead, pellets up to the size of ping pong balls may be used.

That's the story of fish feeders in Kansas. Now, when you see a fish feeder on a lake, you can be sure that biologists are at work to provide Kansas anglers with better fishing opportunities — more and bigger fish. Be sure to take advantage of them.



Send letters to the editor by e-mail to MarkJS@wp.state.ks.us

letters

Edited by Mark Shoup

WHERE ARE RIOS?

Editor:

I have a couple of questions. I plan on turkey hunting in Kansas this spring at an outfitter. After that hunt, I would like to go to hunt on public ground. I know this is a tough question, but if I wanted to kill a Rio, what specific places would you suggest.

Also, can you give me the general geography of where the different turkeys (Rio, eastern, Merriam) meet. The reason I ask is that the outfitter says he has all three in his area near Stockton. He said they have Merriams that have moved down through Nebraska and that the Rios and easterns are also both there. He said the birds generally commingle in the area and we could kill any of the three.

Kevin Tepen Jerseyville, IL

Dear Mr. Tepen:

Last winter, numerous turkey flocks throughout the state were sampled for DNA testing. We have yet to see the results from these samples.

The Stockton area does not have any pure eastern or Merriams turkeys. I seriously doubt there is any Merriam blood in any turkeys around this part of the state. We did sample birds north of Stockton on the Nebraska border where we would most likely expect to find some trace Merriam blood. The outfitter is misinformed if he believes all three subspecies are located around the Stockton area.

Turkeys in this part of the state look and act like Rios. The original stockings were often mixed Rios and easterns because the intent was to have a Rio/eastern hybrid. I suspect the DNA testing will yield a trace of eastern blood in some of the turkeys tested in this part of the state. I am unsure at this time how prevalent pure strain Rios are in this area. Hopefully, we will be getting some information in the

near future so that we can answer this question.

I do know this: our turkeys roost in trees, gobble, strut, and come to a hen yelp just like any other turkey.

Seriously, if you come to Stockton you will be limited to one tom unless you are then willing to travel to either central or eastern Kansas.

-Marc Gray, wildlife biologist, Plainville

WHAT'S A SLAB SPOON?

Editor:

I have a question on fishing lures. What is a slab spoon? Last winter, it was mentioned several times at Cedar Bluff that crappie were biting on them, but Cabela's and Brass Pro books don't show anything along the line of slab spoons. Would appreciate your help.

Gary Peters Dodge City

Dear Mr. Peters:

"Slab spoon" is kind of a generic term referring to lead jigging spoons. There are lots of them out there most of what vou'll find in catalogues are geared for bass fishing and will be called peanut spoons or Hopkins spoons. If you'll look in the icefishing sections of fishing gear catalogues, you'll find smaller jigging spoons that will work better for crappie. Local bait shops in Kansas usually carry a variety of locally-produced lead jigging spoons, such as Joe's Slabs, or Spencer Spoons. And I've caught plenty of white bass and crappie jigging Kastmasters. Hope this helps.

-Miller

FLINT HILLS ANTELOPE

Editor:

I was wondering if there are any plans to try a restocking of antelope in many of the suitable grassland and pasture areas with this wonderful animal. It would be magical to see them bounding over the prairie here. With the success of the deer and turkey such a thing must be tried.

> Randy Johnson Salina

Dear Mr. Johnson.

In response to your question, KDWP has stocked pronghorn in Kansas in a number of locations over about the past four decades. In 1964, pronghorn were stocked in Wallace and Sherman counties. Pronghorn were released in Chase County in the Flint Hills in 1978 and 1979 and again in 1991 and 1992. Reintroductions also took place from 1978 through 1983 in Barber amd Comanche counties, Ellsworth and Saline counties, Clark County, Gove County, and Morton County.

These efforts have had varying success. The western Kansas reintroductions have generally been successful, with about 1,500 to 2,000 pronghorn ranging in the westernmost two tiers of counties. The largest population is in the Wallace/Logan county area. There are a few pronghorn left down in the Barber County area, and maybe 30 or so in the Flint Hills, which was traditionally the eastern edge of the pronghorn range in the U.S. None remain in the Ellsworth/Saline county

As the landscape becomes more intensely developed and modified, it becomes more and more difficult to find room for larger animals like pronghorn, and landscape changes such as loss of the native prairie (to agriculture, urbanization, and tree growth resulting from fire suppression) have not been favorable for pronghorn. As a result, the amount of good pronghorn habitat is limited in Kansas, and even areas like the Flint Hills and parts of central Kansas that might appear suitable for pronghorn are generally not, as evidenced by the disappearance of the reintroduced animals.

We do have healthy pronghorn populations in Kansas and will make every effort to conserve them in the future, but they are and will likely continue to be generally restricted to the west.

-Matt Peek, pronghorn research biologist, Emporia

HAWKS & QUAIL

Editor:

I very much appreciate the article by Applegate and Williams in the most recent Kansas Wildlife and Parks magazine (Sept./Oct. 2002, Page 14). As a Kansas landowner with an intense interest in game birds, I find the information helpful and appreciate the scientific approach. I did question one statement on Page 16 where they noted "day hunting raptors, mostly red-tail hawks...etc." My reading indicates that buteos are much less likely than accipiters to take game birds. Thinking back over my own experience, I have never seen a redtail hawk make a quail or pheasant kill. I have observed northern harriers making kills on several occasions. I would be very interested in knowing how many confirmed kills the author recorded for redtail hawks.

> Gary E. Vaughn, MD Beaumont, Texas

Dear Dr. Vaughn:

Thanks for your query on the bobwhite article. The reference on page 16 to red-tailed hawks, American kestrels, and northern harriers is in reference to daytime mortality of bobwhites by predominately diurnal raptors. We had no specific confirmation of the species of raptor killing a bobwhite; the reference is to the fact that these three species were the most abundant of those seen in raptor counts conducted on the study areas during the research.

Of the diurnal raptors species on the areas, the redtail was definitely the most abundant. However, I would agree that the harrier is a more likely candidate for taking quail than the redtail. My personal experience is that I have never seen a quail taken by a raptor but have seen raptors take pheasants and prairie chickens. Accipiter hawks such as the Cooper's are far more likely predators on quail but were uncommon to rare on our study areas during our project. We also have good circumstantial evidence that great horned owls were taking quail during the night. For lack of specific identity on diurnal avian kills, we list the big three hawks as far as numbers go. Let me know if you have further questions. I can supply the original scientific material if you would like to receive it.

-Roger D. Applegate, small game biologist, Emporia

WRONG RIVER

Editor:

In the March/April issue of *Kansas Wildlife and Parks* magazine (Page 34), there is an interesting letter from a reader regarding eels in Kansas. I, too, have occasionally caught them out of Kansas streams over the years, including small tributaries of the Ninnescah River in Sedgwick County. How they got there, I don't know.

However, I must take exception with some of the geography described by the writer. I was raised in Cherokee County and have spent much time around Grand Lake. The article in question mentioned that the eels might have come out of Grand Lake, up the Neosho, into the Verdigris River. If so, they would have had to go at least 25 miles over land (the distance between Coffeyville and Chetopa).

The Neosho and Spring rivers meet and form the Grand River (hence Grand Lake) near the Twin Bridges State Park in northern Oklahoma. The Verdigris runs on down into Oklahoma and I assume, eventually, into the Arkansas River, not the Neosho.

Perhaps a small point, but I thought I'd give you a holler. Great magazine!

Garry Porter Wichita

Dear Mr. Porter:

Thanks for the correction. Not being too familiar with Oklahoma geography, I had to consult my atlas. I see that the Verdigris River flows into the Arkansas, or rather both rivers join at Ft. Gibson Lake, in Oklahoma. As you mention, the Neosho flows into Grand Lake, which, if I read the map correctly, outflows through a chain of other lakes into Ft. Gibson, as well, and Robert S. Kerr lakes. All these waters release again into the larger Arkansas River.

Indeed, the Verdigris River does not flow into the Neosho River or Grand Lake. Thanks for the correction; it gave me a chance to bone up on Oklahoma geography.

Shoup





LAWS? WHAT LAWS?

Jeff Goeckler, Wakefield, and I were traveling down the back roads of Dickinson County when we noticed a vehicle parked partially in the roadway. As we slowed, we noticed two people, one of them carrying a firearm, coming out of a pasture that contained a large pond. When the man carrying the firearm saw us, he threw the firearm into the tall weeds, and just stood there, hoping that we would continue to drive on by. At this point we knew something wasn't right.

As we stopped our vehicles, the man who had thrown the firearm into the weeds, picked it up and began to run for the trees. He did not make it very far before CO Goeckler caught him and escorted him back to the road where I was waiting with his buddy.

We then asked the two men what they were doing, and the one carrying the firearm confessed that he had been shooting at ducks on the pond. The other man said he had not shot at anything yet. We then asked the two men if they had permission to be on this property, and they said "no." We then asked if they knew that duck season was currently closed and that it was illegal to us a .22 rifle to shoot waterfowl, and once again they said "no." We asked the man who did the actual shooting if we could see his hunting license, and he confessed that he had not purchased one.

We seized the .22 rifle and issued eight citations to the man that had done the shooting. The citations were for attempting to take migratory birds by illegal means, criminal hunting, having no hunt license, having no federal duck stamp, having no state waterfowl stamp, having no harvest information program (HIP) stamp, having no hunter education card, and attempting to take waterfowl during a closed season. The other man was not issued any citations, but he did have a warrant for his arrest and was transported to Dickinson County jail.

In December of 2001, the man was found guilty on all eight counts in Dickinson County District Court. He paid \$1,300 in fines, \$54 in court costs. He also served 30 days in the Dickinson County jail and forfeited his 22 rifle.

-Lance Hockett, conservation officer, Abilene

Trapped In Own Snare

Three days before the start of the 2001 firearms deer season, the Operation Game Thief hotline received a call from a landowner in western Lyon County claiming that a man had been poaching deer near the area of Fruitland Cemetery. The landowner said that he was working in his yard, had heard shots, and immediately went down the road towards the sound of the shots.

There, he saw a local man standing next to a pickup parked on the edge of the roadway. The landowner also saw a buck deer just standing out in a field less than 100 yards from the man. The deer acted strangely because it just stood there and didn't attempt to run away. The landowner confronted the man about shooting the deer, but he claimed that he was an employee with the Kansas Department of Wildlife and Parks and that he did not shoot at the deer but shot at a coyote that ran off. He then got in his truck and left the area without searching for the coyote or the deer.

The landowner went towards the deer, and it ran a short distance, stopped and lay down. Not wanting to disturb the deer further, the landowner went to a phone and called the Operation Game Thief.

The deer was found dead near the area and a small caliber bullet was recovered. The suspect was interviewed later that evening and initially claimed that he was a trapper and not a hunter. He was identified as 43-year old David K. Trent of Strong City. He was not an employee of Wildlife and Parks but did hold a KDWP nuisance animal damage control permit, which allowed him to trap out of season. He also held a furharvester license, a hunting license, migratory bird stamps, and an archery deer permit.

He initially denied shooting the deer and gave several conflicting stories of shooting at a coyote. When pressed for the truth and confronted with the evidence, Trent confessed that he did shoot the deer and gave a written statement admitting it. He was charged with hunting during a closed season, hunting without a valid permit, failing to tag big game, and wanton waste of big game.

The next day, Trent recanted his story and claimed yet another version of shooting at a coyote. He hired an attorney and began to contest the charges, but when he failed to pay his attorney, the attorney withdrew from the case. Trent then hired another local attorney, and a hearing was held in an attempt by the defense to throw out Trent's written confession. Judge Lee Fowler ruled that the Mirandized confession was admissible and the case went before a one woman, five-man jury.

Trent claimed again on the witness stand that he was shooting at a coyote. Under cross examination by the prosecuting attorney, assistant Lyon County Attorney Mike Halleran, Trent's story fell apart, and Trent became emotional on the stand.

Judge Fowler called a recess to give Trent time to compose himself. The trial resumed, and the case was sent to the jury for deliberation. The jury took about an hour to find Trent guilty as charged. The deer poaching "trapper" was sentenced to 30 days in jail for each charge, \$59 court costs, a \$150 KBI forensics lab fee, a \$45 processing fee, a \$510 prosecution fee, \$200 restitution for the deer, and \$700 in fines. His hunting privileges were suspended for one year, and all other licenses were suspended until his total bill of \$1,664 was paid.

-Dave Adams, conservation officer, Reading

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Questions, Questions

The Department of Wildlife and Parks often receives questions about what the agency is doing or how to take advantage of our many programs. Here's just a few commonly asked questions. If you have questions, visit our website at www.kdwp.state.ks.us or email feedback@wp.state.ks.us. (All license and permit issuance fees will go up 50 cents beginning July 1, 2003.)

Why are nonresident deer permits so cheap (or expensive)?

A nonresident pays \$276 to hunt deer in Kansas -\$205.50 for the permit and \$70.50 for the nonresident hunting license. That price is similar to what other Midwest states charge for nonresident deer hunting.

I lost my hunting (fishing) license. What do I do?

Depending on where you bought it, either the vendor or your county clerk will have a copy of the license. Once a copy of your license is located, the vendor (or county clerk) will fill out a duplicate application form. It is a two-part form that is valid as your license for 10 days. Return one copy to the Pratt office with \$10.50 and a duplicate will be issued. For more information, phone (620) 672-5911 and ask for Licensing.

Can I keep native fish in my aquarium?

You can collect and keep native fish with either a fishing license or a scientific collector's permit. You may not have in possession any threatened or endangered species or any illegal-size fish (those protected by length limits). Any fish kept must have been taken by legal means.

How do I become a hunter education instructor?

The basic requirements are to be a graduate of the Kansas hunter education course, submit an application to become an instructor, pass a background check, attend an orientation class and assist in teaching a hunter education class. Send your address and your Kansas hunter education certificate number (if you have one) to KDWP, Hunter Education, 512 SE 25th Ave., Pratt, KS 67124, or phone (620) 672-5911, and we will send you an application.

Where can I hunt prairie dogs?

All prairie dog hunting in Kansas is on private land. Contact the chambers of commerce or the Farm Service Agency offices in Rawlins, Cheyenne, Decatur, Norton, Meade, or Gray counties. Prairie dog hunting is year-round, no bag limit. You need a Kansas hunting license — \$70.50 for nonresident, \$18.50 for resident.

I live a long way from a state park. Where can I buy permits?

In addition to state parks and other offices of the Department of Wildlife and Parks, we have worked to develop a number of alternative vendors where you can purchase your permits. County clerks and Dillons stores carry state park vehicle permits. Other vendors may be authorized through the county clerk. If you are unable to get your permit from either of these vendors, you might call the county clerk to see what other vendors are available. You may also call (620) 672-5911 and ask for Licensing.

How do I go about hunting wild hogs in Kansas?

It is difficult to monitor feral pig populations. To the best of our knowledge, we have wild pig populations in Comanche, Barber, Kiowa, Riley, and Crawford counties. All are on private land except Ft. Riley. They are not considered wildlife and may therefore be taken any time with landowner permission. The Department of Wildlife and Parks does not regulate them, so a hunting license is not required.

Hawks are killing my chickens. What can I do?

All birds of prey are protected by federal law. Contact the U.S. Department of Agriculture's Wildlife Services in Manhattan, (785) 532-1549. Tell them what the problem is, and they may come out and assess the situation. They may suggest non-lethal alternatives and offer shell crackers and other methods first. If this does not work, they may refer your case to the U.S. Fish and Wildlife Service agent in your area.

What does purple paint mean on posts or trees?

Land marked with purple paint is considered legally posted in the same way as land posted with signs that state "Hunting, Fishing, and Trespassing by Written Permission Only." The advantage of such posting is that conservation officers may check hunters on private land and immediately know whether or not they have permission to be there.

From the statute, K.S.A. 32-1013 (b): "Each paint mark shall be a vertical line of at least 8 inches in length, and the bottom of the mark shall be no less than 3 feet nor more than 5 feet high. Such paint marks shall be readily visible to any person approaching the land. Land posted as provided in this subsection shall be considered to be posted by written permission only as provided in subsection (a)."

How can I stock upland birds to help the populations on my property?

History and decades of research have proven that stocking pen raised birds is actually counter productive. Hand-reared birds do not get the opportunity to learn how to survive in the wild (gained from the adults) that wild birds get at a very early age. As a result, when hand reared birds are released, most are typically killed by predators in a very short period (a few weeks) although a few may survive longer. As a result, predators learn to key on whatever species is released, further endangering wild populations.

If there are too few birds in a given area, it is probably a deficiency in the habitat available, possibly combined with poor weather patterns (as is the case the past couple of years). It is far more effective to begin developing habitat. If you are interested in this, email feedback@wp.state.ks.us, and we will put you in contact with your local wildlife biologist, who can help you with a plan.

-Shoup

DONKEYS OVER PEOPLE

Last winter, a letter was dispatched from People for the Ethical Treatment of Animals (PETA) Palestinian Liberation Organization leader Yasser Arafat. The PETA folks were upset because of a Jan. 26 bombing that took place in Jerusalem. Were they disturbed by the death and destruction that terrorism of this type causes? Well, sort of. Apparently, a donkey died.

PETA president Ingrid Newkirk wrote the letter that was faxed to Arafat's headquarters in Ramallah, according to the Washington Post.

"Your Excellency, we have received many calls and letters from people shocked at the bombing. All nations behave abominably in many ways when they are fighting their enemies, and animals are always caught in the crossfire. The U.S. Army abandoned thousands of loyal service dogs in Vietnam. Al-Qaeda and the

British government have both used animals in hideously cruel biological weaponry tests. We watched on television as stray cats in your own compound fled as best they could from the Israeli bulldozers. If you have the opportunity, will you please add to your burdens my request that you appeal to all those who listen to you to leave the animals out of this conflict?"

When Newkirk was asked why she didn't try to get Arafat to quit blowing up innocent civilians, women, and kids, she responded, "It's not my business to inject myself into human wars."

-Newsmax.com

Purple Plains Eater

There would be plenty of outraged citizens if someone trespassed and degraded several hundred thousand acres of native rangeland in the Flint Hills. But during the last several years, sericea lespedeza (*Lespedeza cuneata*), a perennial legume native to Asia, has done just that by invading our prairies and out-competing and displacing native prairie plants. Sericea lespedeza, a statewide noxious weed, may well be the number one threat to the biological integrity of the tallgrass prairie region of Kansas.

Sericea lespedeza was originally introduced into the United States in 1896 for use as forage for livestock and as an erosion-control plant. While sericea lespedeza remains an important forage crop in several southeastern states, it is an invasive weed in the tallgrass prairie. Sericea lespedeza aggressively competes with native prairie plants and can result in a substantial reduction of native grasses and broadleaf plants. Controlling this invasive weed will take education, research, and the creation of partnerships that bring together private and public entities to help land managers keep this noxious plant under control.

-Plains Keeper



WHA HABITAT

During the fall of 2002, the Kansas Department of Wildlife and Parks received a number of questions about the quality of habitat in the department's Walk-In Hunter Area program (WIHA).

Some areas were not as productive as in the past, partly due to low bird numbers and partly due to poor weather. A large percentage of WIHA land is also in the federal Conservation Reserve Program (CRP). However, severe drought last year prompted release of CRP grasslands for emergency haying or grazing. Haying or grazing occurred on some WIHA tracts throughout the state. By early fall, cover on other WIHA property in drought-stricken regions were already reduced.

"Many of our cooperators simply had to graze or hay their CRP this year just to keep their heads above water," says WIHA program coordinator Mike Mitchener. "Most of these folks want to

stay in the program or actually have multi-year contracts, and we're not going kick them out of the program for doing what they had to do make a living."

Another concern that hunters have expressed is that some WIHA land is planted to green wheat.

"We had many tracts that included green wheat - but were not exclusively green wheat - because it is easier to square up a tract," Mitchener explains. "Like every year, we also had some tracts that were leased for goose and crane hunting opportunities. We put the species most likely to be found on a tract in the atlas index. Hunters who didn't see what looked to be good habitat for what they were hunting needed to check the index if they wondered why a particular piece of property was enrolled."

Other comments from hunters involved apparent destruction of habitat, such as discing milo stubble before the contract is up or other unapproved practices. Such violations can result in loss of payment to the landowner. "In some cases, the agency does cut payments to cooperators who violate the contract," Mitchener continues. "For the most part, however, we try to work with the landowners and keep hunters happy, as well."

Department biologists will continue to work with willing cooperators to improve habitat on land they enroll in the WIHA program. The 2003 deadline for enrollment is in July although the exact date has yet to be set. Phone (620) 672-5911 for details.

-Shoup

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huntin

KDWP PUBLICATIONS ONLINE

While most hunters these days are computer savvy, some may not know that many of the hunting-related publications offered by the Kansas Department of Wildlife and Parks can be downloaded free from the agency's website, www.kdwp.state.ks.us. Just click "Hunting" on the home page and "Brochures" on the hunting page, and the following publications are available by the click of a mouse:

Hunt by Written Permission Only signs, Hunter Referral Program, Kansas Harvest Information Program, Public Hunting Areas of Kansas, Trophy Deer Application, Trophy Turkey Application, and WIHA Habitat Improvement. Seasonal publications are also available. at times of the year they are valid, including the 2003 Kansas Hunting Regulations Summary (available in September), the Public Hunting Guide, the 2003 Special Hunts Information (available June), and the Fall Walk-In Hunting Areas Atlas (available in September).

Many wildlife area brochures may also be downloaded by clicking "Brochures" on the KDWP home page.

Most files are in portable document format (PDF). To view and print the document, you must first download the free Adobe Acrobat Reader by clicking the link to the Adobe download site. Be sure to download the proper version for your computer's operating system. Once you have downloaded and installed Acrobat Reader, click on the pertinent document to view and print it.

Brochures in PDF will download automatically when clicked. Some large or color publications are available only by mail. Additional PDF publications are being added when they are completed. If a title is not underlined, it must be ordered by phoning (620) 672-5911 or emailing feedback@wp.state.ks. There is a five-brochure limit for mail requests.

-Shoup

30TH HUNTER ED **ANNIVERSARY**

On May 17, the Kansas Department of Wildlife and Parks (KDWP) will celebrate the 30th anniversary of its Education Hunter Program. The event will be

held at La Sada Sporting Clays, 3 1/2 miles south, 2 miles west, and 1 mile south of Russell from I-70 on U.S. Highway 281.

All Kansas certified hunter education instructors are invited to participate in a number of activities. The KDWP hunter education program will provide one round of sporting clays (50 targets), one round of 5-stand (25 targets), and three boxes of shotgun shells. Participants should bring their own shotguns. Guns and ammo also will be provided for a muzzleloading rifle turkey shoot.

Side games will also be available. Possible games include an old-fashioned turkey shoot, make-a-break, long-bird, and others. Shooters will pay for targets and provide their own ammo for side games.

The range will open for shooting from 9 a.m. until dark. Lunch will be served at noon followed by awards.

Phone (620) 672-5911 and ask for Hunter Education to enroll. A \$15 deposit will be required at enrollment and refunded when the participant checks in. No-show deposits will be used to help fund the event.

After 30 years, the Hunter Education Program has good reason to celebrate. Before the program began in 1973, hunters averaged 38 accidents per year, with an average of five fatalities. In

> 2000. 19 accidents and no fatalities were reported. Similar numbers have been reported for several

years.

The success of the Hunter Education Program makes one thing very clear: hunting is one of the safest pastimes in the state. There are approximately 170,000 licensed hunters in Kansas. This does not count hunters who are younger than 16 or older than 64 because they don't need licenses in Kansas. Multiply an estimated number of hunters from these figures by any conservative estimate of the number of hours each hunter spends in the field in a year, and a picture of just how safe hunting is quickly emerges.

Hunter education volunteer instructors across Kansas spend thousands of hours of their own time training young people in the safe handling of firearms, conservation ethics, wildlife management basics, and other topics. Their efforts have paid off over the years, nurturing not only safer hunters but hunters who are more aware of the needs of all wildlife.

-Shoup

Women, Hunting, **Demographics**

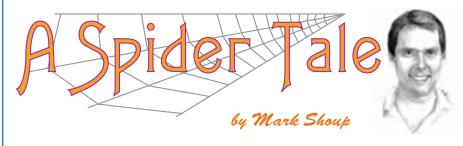
A good source of information on fishing, hunting, and wildlife watching recreation in the U.S. can be found in the 2001 Survey of Fishing, Hunting and Wildlife-Associated Recreation, produced by the U. S. Fish and Wildlife Service (USFWS). Every five years since 1955, the USFWS and U.S. Census Bureau have conducted comprehensive surveys of Americans to determine a variety of information about their outdoor recreation activities.

Anyone can view, download, and print any or all of that survey information online at http://federalaid.fws.gov. Among other demographic information, participation by women in these activities is listed. According to this study, female participation in hunting in the U. S. comprises about 10 percent of total hunting participation (1.19 million female hunters, 11.85 million male hunters).

Visit the website listed above for more details. It contains a variety of information, both nationwide and stateby-state, on outdoor recreation participation.

-Mathews

UNDER CURRENTS



am just six years old when my big sister takes me to a movie about a tarantula that grows bigger than a house. When we get home, my uncle is visiting. As I head downstairs to bed he tells me to be careful of the spiders in the basement tonight; they might just grow. Even though I know Unc is teasing, sweat beads off my forehead.

Just to be safe, I get dad's flashlight out of the furnace room and hide it under my pillow. When Mom comes downstairs to tuck me in, I ask her to leave the light on. I want to say it's because spiders are afraid of light, but she says that there's nothing to be afraid of. "I shouldn't have let your sister take you to that stupid movie," she says.

I try to tell her that it has nothing to do with the movie, but she just gives me a kiss and turns out the light.

Now I feel trapped in the darkness and lie there, afraid to move. Heart thumping, I slide under the covers and snatch the flashlight from under the pillow and switch it on, searching the room.

What's that on the wall? Nothing. I scan the room but see only shadows. Covers up to my neck, I hold the flashlight against my chin.

I remember a big wolf spider I chased down a hole on the playground earlier this spring. That spider looked just like the tarantula in the movie, green eyes staring out of the hole. And its hairy body! I stuffed a tree limb down its hole as deep as I could get it.

Now all my spider memories are racing through my mind. A friend's mother once told us to stay out of their crawl space because of black widows. Their neighbor had been bitten by one once and almost died. She said his whole neck had swelled up as big as his head.

Black widows give me the creeps, too

- all smooth and black and fat, little cottony white egg sacks with hundreds, even thousands of baby black widows in them. Don't black widow females eat their mates? Oh, man! My thoughts are worse than the movie.

Suddenly, I feel something crawling on my leg. If I move, it will bite for sure. I can't stand the tickling anymore and throw the covers back, beat my leg, and shine the light all over the bed. Nothing there.

I get up and turn the light on. Nothing. I pull the sheet and covers down and shake them. Maybe it was nothing, but if that tickle was a spider, it might still be between the sheets. I can't sleep on the floor; that would be even more dangerous. I can't leave the light on long, either, or Mom will be down here. I tiptoe back into the furnace room and snatch a can of bug spray from Dad's workbench.

Back in my room, I put the spray on the nightstand then pull the sheet up, turn out the light, and lie on top of the bed, pulling the blankets up tight. I hold the flashlight again, trying to think of baseball, but I keep seeing a tarantula crawling out of a hole in the pitcher's mound. But then the baseball rolls back to mind, it's summer, and I'm swimming and riding my bike.

It's morning! All clear. I jump out of bed, dress, and go upstairs for breakfast. Facing the east window, I tear toast in pieces and mash it with a boiled egg to kill the taste.

I have just taken my first bite when I notice a fat, hairy jumping spider on the outside of the screen. The egg and toast clogs in my throat, and I look away quickly, then back. The spider just stays on the screen, moving a little, then

crawling back.

I grab a broom from the closet, walk out the back door to a position right beneath the window, and squash the spider with the end of the broomstick. Now my stomach's really queasy.

I wipe the end of the broomstick in the grass and return to the kitchen. My egg is cold, but I take a bite, then gaze back through the window and almost choke. An awful mass of fuzz and legs and yellow mush is blotched across the screen.

Paralyzed, I just stare at the Thing on the screen. It's worse dead than alive; I'll never stop thinking about it! I grab my books and rush out the back door to school.

**

A few weeks later, summer rains have pecked most of the crusted, flaky Thing away from the screen, but I keep a mental record of its progress.

The green beans have sprouted, as have many tasty things Dad grows in the garden. Along with baseball and swimming, the garden is a special summer thing, except when I have to weed. One morning, hoe in hand, I'm hacking crabgrass between rows of beans when I notice a spider web stretched between a corn stalk and a row of horsemint. It's a bright, perfectly-shaped net gleaming in the sunlight. A gentle dew reflects color off its strands, like oil on water.

In the web, packages of potato beetles, moths, flying ants, flies, and mosquitoes are neatly wrapped, and a red and yellow garden spider rests in the middle of the orb. I take a closer look. Its abdomen is too big for its skinny legs, I think. As if they are one, both web and spider vibrate slightly in the morning breeze. "Cool," I whisper.

Soon, I'm back weeding and finished before I know it. I'm hungry and run to the house with cinnamon toast and milk on my mind. Sitting at the table, the milk goes down cool and sweet. I set down the glass and stare out the window, never noticing that the screen is finally washed clean.

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Free Fishing Days June 7-8

Whether you're a novice fisherman or a seasoned angler who just hasn't had time to fish this year, the Kansas Department of Wildlife and Parks will have just what you're looking for on the weekend of June 7-8. Those are the dates set aside as the 2003 Free Fishing Days, one of the greatest outdoor entertainment bargains in the state.

For two days, Kansans will be able to fish without having to buy a license. This traditional weekend coincides with National Fishing and Boating Week, June 1-8, sponsored by the Recreational Boating and Fishing Foundation and state conservation agencies across the country.

The weekend – and the entire week – is geared toward youth, but anyone can participate simply by going fishing or by participating in one of more than 2,000 fishing clinics, tournaments, and other special events scheduled nationwide.

"This gives us thousands of opportunities to cultivate a love of fishing in young and old alike and to inspire in them a renewed respect and appreciation for our aquatic resources," says Kansas Department of Wildlife and Parks Secretary Mike Hayden.

Kansas has one of the most diverse systems of reservoirs and waterways in the country. The variety of Kansas sportfish is wide, too. Black bass, bluegill, channel catfish, crappie, flathead catfish, striped bass, walleye, white bass, and wipers can be found throughout the state.

For those who have been wondering about these resources in Kansas, Free Fishing Days is the perfect opportunity to explore them. It's also a great time just to get the kids out and enjoy family time.

For information on Free Fishing Days or Free Fishing Week events in your area, contact the Kansas Department of Wildlife and Parks office nearest you or visit www.waterworkswonders.org.

- Shoup

Crank It!

How can you make a deep-running crankbait reach its maximum depth? The factors that govern depth include length of cast, speed of retrieve, position of rod tip, and size of line.

First, choose 10- or no more than 12-

pound test monofilament. Cast as far as possible. Hold the rod tip down to the water's edge. Use a moderate retrieve. A fast retrieve will not allow the lure to reach its deepest potential.

Six and one-half foot, one-piece rods are popular for these deep-running lures.

- Humminbird Fishin' Tips

YOU SAY CRAWDAD, I SAY CRAYFISH

It's neither a daddy nor a fish, but no matter what you call it, the crayfish is an interesting and useful critter. Often called the freshwater lobster, this crustacean makes great fish bait and great human food, as well.

Bass are particularly partial to crayfish, as are white bass, walleye, catfish, and drum. Crankbaits made to look like crayfish are very effective lures for these species. Drifting live crayfish across the bottom of a lake or pond also works well.

Crayfish are cold-blooded, so they don't really emerge from their winter burrows and crevices until the water warms to 50 degrees or more. They are often among the first prey that fish eat in the spring and are commonly found in the stomachs of bass and catfish.

The life cycle of the crayfish begins in the late summer. In the mating process, males place a sperm packet (resembling a cotton ball) on the underside of the female's belly. She curls her tail and lays the eggs, passing them through the sperm down on to her tail,

where they attach.

Eggs stay on the tail for at least four weeks or more, depending on water temperature and other variables, such as food and water quality. As water temperatures rise, the small juvenile crayfish hatch and swim away to eat (or be eaten).

Crayfish feed on aquatic vegetation, dead fish, aquatic insects, and just about anything they can catch. As they feed and grow larger, they shed their "skins," called exoskeletons, repeatedly every few weeks during the warmer months of the year. After shedding, the exoskeleton is quite soft, rendering the crayfish more vulnerable to predation and forcing it under rocks or other hiding places until its shell hardens again.

Common throughout Kansas, crayfish may be found in most waters. Fishermen hook the entire crayfish on or sometimes just use the tail.

Crayfish are excellent table fare. Wire mess baskets filled with chicken parts or other bait can yield large numbers. Boiled with cajun spices, these little crustaceans taste much like their marine cousin, the lobster.

- Shoup





nature

Hooded Merganser

The hooded merganser is one of the more beautiful birds found at Cheyenne Bottoms Wildlife Area, near Great Bend. It is a wary and reclusive duck usually found in singles, pairs, or small flocks of five to 10 birds. They tend to fly low and exceedingly fast.

The hooded merganser's breeding range extends from southern Nova Scotia west and northwest across Canada to Alaska. However, nests have been reported in Idaho, North Dakota, Kansas, and as far south as Louisiana and Mississippi.

Sixty-one percent of the wintering hooded mergansers occur in the Mississippi Flyway, 22 percent in the Atlantic, 11 percent in the Pacific, and only 6 percent in the Central Flyway, which includes Kansas.

The youngest nesting birds found have been two years old. They return to the same area to nest each year. Males promptly disappear from nest areas when their mates start to incubate.

In range and habitat, their requirements are similar to those of the wood duck, as is demonstrated by their frequent use of wood duck nest boxes. Like wood ducks, hooded mergansers also nest in tree cavities in southern swamps, river bottomlands, beaver ponds, and along wooded streams and lakes.

Hooded mergansers lay clutches of four to 21 eggs, with an average of 10 eggs per clutch. One egg is deposited every two or three days. The incubation period, from the time the last egg is laid to hatching, ranges from 29 to 37 days. Nest success in natural cavities is largely unknown, but one study reported a 74-percent success rate. Another study revealed that failed attempts at nesting can be attributed to several factors, including deser-

tion of the nest and predation from snakes, raccoons, and starlings.

The food habits of the hooded merganser appear to be more diverse than the common merganser. One study, examining the stomach contents of hooded mergansers from across the United States, found that fish

comprised 44 percent of the bird's diet. Crustaceans and aquatic insects comprised 56 percent. Two gizzards from ducklings six to seven weeks old contained mostly remains of crayfish, frogs, and dragonfly larvae.

Hooded mergansers usually arrive at Cheyenne Bottoms in the fall, after puddle ducks but before cold winter weather.

-from the Cheyenne Bottoms Newsletter



State Flower, and Cousins

id-summer to fall, one cannot help but notice the abundance of sunflowers along roadsides in prairies, so it is no surprise that Kansas is called the Sunflower State. The official state flower is the annual sunflower (*Helianthus annuus*), a ubiquitous plant that grows abundantly all over the state along roadsides and disturbed sites. The annual sunflower has given rise to numerous cultivated varieties grown for seed, oil, dyes, and ornamental flowers and foliage.

One of the most interesting sunflowers is the willow-leaved sunflower (*Helianthus salicifolius*). The willow-leaved sunflower is a perennial, rhizomatous (spreads from the roots) plant that grows 5 to 7 feet tall and produces abundant small flowers from August through October. While the flowers are pleasant, the foliage is spectacular all season. Established plants produce mounds of fine-textured foliage in the form of abundant, small leaves.

Ashy sunflower (*Helianthus mollis*) produces abundant flowers on 2- to 4-foot plants from July through October. Also rhizomatous and slowly spreading, several plants in one spot can grow into large colonies when cultivated and produce a broad mass of attractive gray-green leaves. Ashy sunflower prefers drier soils and full sun.

The most invasive sunflower is the Maximilian sunflower (*Helianthus maximiliannii*), but it produces the most beautiful leaves and provides excellent food for wildlife. The 3- to 6 foot tall Maximilian sunflower spreads vigorously from rhizomes or seed and will thrive in dry or wet soils, sand or clay. While not a garden plant, it is excellent in wild areas.

While sunflowers provide food for wildlife and are quite beautiful in wild areas, with discretion, they can also be desirable in a flower garden.

-Prairie Window

notes





Mussel seasons have been closed for a 10-year moratorium (2003-2012) so that populations can rebuild. However, there may be instances where KDWP issues a salvage permit for shells that are stranded due to low water. Salvage permits will be issued by recommendation of the local fisheries biologist and conservation officer, and a salvage condition will be advertised locally. People wishing to harvest shells during a salvage condition will need to obtain a free salvage permit that will detail the area and time frame open to salvage.

-Tom Mosher, aquatic research biologist, Emporia



On May 17.19. Hesston College's Dyck Arboretum Of the Plains will conduct its fifth annual celebration of native Kansas flora. The theme for this year's event, held at the Arboretum's Visitor and Education Center, is "A Garden For All Seasons." Presentations will encourage participants to enjoy natural Kansas year-round.

The event will offer the only plant sale in Kansas featuring hard-to-find native perennials, shrubs, and trees, plus entertaining "gardenabilia." Classes, demonstrations, and tours conducted by professional botanists will be held on May 17. Donations are requested for admission.

Located at 177 West Hickory Street in Hesston (about 30 miles north of Wichita), the Dyck Arboretum is the only public garden in Kansas with the mission of educating people about the benefits of preserving and using native and adaptable plants. Established in 1981, the facility has more than 600 types of wildflowers, shrubs, and trees, each labeled with their common and botanical names.

The Dyck Arboretum is open to the public from dawn to dusk, 7 days a week, for a suggested donation of \$2. Special collections include the following:

- trees, shrubs, grasses, and flowering perennials and annuals, native to Kansas are emphasized; also included are horticultural plants that are adaptable to the southcentral Kansas environment. Open areas depicting the plains are also maintained;
- Great Plains Wildflower Garden boasts five planting beds dedicated to different regions of the Great Plains. Only taxa native to the different regions are grown in each bed;
- 45 taxa of tallgrass prairie wildflowers;
- 20 taxa of northern mixed-grass prairie wildflowers;
- 39 taxa of southern mixedgrass prairie wildflowers;
- 20 taxa of shortgrass prairie wildflowers;
- 32 taxa of woodland edge wildflowers; and
- much, much more. These beds are only a portion of the Great Plains wildflower taxa located at the Arboretum).

In addition, 66 taxa of trees and shrubs thrive at the Dyck Arboretum.

For more information about the arboretum and the "Garden For All Seasons" event, phone (620) 327-8127 or email arboretum@ hesston.edu.



Beginning this spring, the Kansas Department of Wildlife and Parks (KDWP) initiated a crappie exploitation study to determine the population and movement of crappie in five Kansas reservoirs. Approximately 500 crappies per reservoir were marked with blue tags and released in Cedar Bluff, Clinton, Hillsdale, Melvern, and Perry reservoirs.

As an incentive for anglers to return the tags, they will be given a hat with a crappie logo and "KDWP Crappie Research Team" embroidered on the front or a tee shirt with the same logo.

Tagging began in early April for the spring fishery, and will continue in late October and early November for the fall-winter fishery. To receive a reward, anglers will be asked to complete a report card showing the approximate location they caught the tagged fish and how many other crappie they harvested. Data collected will be used to determine the movement of tagged fish and help to determine their populations.

Report cards and rewards will be available at park offices at the five reservoirs, the Hays and Topeka regional offices, the Kansas City Office, and the Emporia Office. Cards can also be mailed to the KDWP, Emporia Research and Survey Office, P. O. Box 1525, Emporia, KS 66801. For additional information, phone Tom Mosher at the Emporia Office (620) 342 0658, email tomm@wp.state.ks.us), or write Mosher at the Emporia Office.

-Tom Mosher, aquatic research biologist, Emporia



David Jenkins has been selected the new Mined Land Wildlife Area assistant manager. Jenkins started March 30.

Jenkins earned a degree in biology from Pittsburg State University and has worked as a seasonal employee for the Farlington Fish Hatchery for two summers. He had also worked for the city of Weir as public works superintendent and as a seasonal employee for wildlife biologist Tom Glick at Mined Land, and assisted public lands staff on various duties. Jenkins grew up in the area and will bring a wealth of knowledge to the assistant manager position.

-Doug Blex, Region 5 Public Lands supervisor, Independence



nature's notebook

Individua

zooids

by Mark Shoup



f you like to play in the wild waters of Kansas streams and ponds, keep your eye out for some strange-looking "moss animals." Called bryozoa by biologists, moss animals are colonies comprised of thousands of tiny critters (called zooids) joined together to look like one creature — much like ocean coral. Unlike coral, however, moss animals look and feel like balls of jelly rather than rock. They are sometimes mistaken for masses of fish or frog eggs.

While moss animals may look like aliens from a bad horror movie, these peculiar invertebrates are common to Kansas lakes and ponds, and they are harmless.

There are more than 4,000 species of bryozoans. Most of them live in the ocean, but about 50 species are freshwater. The largest is called gelatinous bryozoa (Pectinatella magnifica). It can grow to the size of a softball or even a soccer ball. Gelatinous bryozoa are found in quiet ponds, lakes, and slow-moving streams, usually

attached to twigs, logs, rocks, or boat docks.

They also can become unattached and found floating.

Moss animals are most abundant in summer. Sometimes, they can become so numerous that floating masses of them clog water intakes of power plants.

Moss animals prefer ponds and lake bottoms with high densities of



bryozoan colony

organic matter rather than clearer water with sandy bottoms, which they avoid because they are sensitive

to direct sunlight. This may account for the fact that they are not often seen.

Amazingly, each member of the moss animal colony feeds independently. The thousands of zooids in a moss animal have tiny protrusions with a mouth and tentacles that filter food particles from the water. And each individual zooid, as well as the whole colony itself, is held together inside a slimy covering called a zooecium.

Adult moss animal colonies usually die when the water cools in the fall, but this doesn't mean they won't be back next year. Many species form extremely hardy eggs that can last through the winter and hatch in the spring. These eggs are called statoblasts.

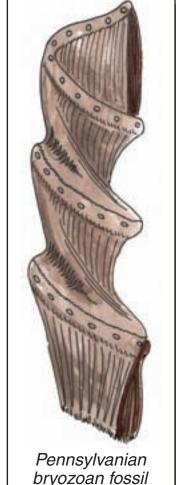
So how do moss animals get into ponds or lakes that aren't

fed by a stream? The primary mode is when statoblasts — the eggs — hitch a ride on another animal. The feet and feathers of waterfowl and the fur of mammals provide the perfect means of transportation. Some eggs can even survive passage through the digestive system of waterfowl, turtles, and frogs.

Because moss animals prefer fertile, uncontaminated water, some

> scientists see them as indicators of water quality. And because they are ancient creatures. moss animals are very important to paleontologists when they study the fossil record.

This summer, if you find one of these strange-looking creatures in your favorite don't pond, alarmed. Examine it closely. You've just discovered one of the most fascinating animals in creation.



bryozoan fossil

Archimedes

44 Wildlife & Parks



Backlash

by Mike Miller

Educating Ole Worthless

Recently, Lennie and I were sitting on his deck discussing the finer points of doodlesocking. I was making a point about the ideal water depth while Lennie wrestled the lid off a jar of salsa when a voice came from the bushes. Lennie's neighbor, Roger Wirthlow, or Ole Worthless as Lennie likes to call him, had been eavesdropping.

"After listening to you two ninkampoops babble, I think I know what 'droolhocking,' or whatever you call it, is. But what I want to know is, why you call it that. Is that just a stupid name you guys made up, or is it a term used by *real* anglers?"

It was obvious Worthless didn't know the first thing about crappie fishing. He was, after all, a city boy.

"Oh boy, Worthless," Lennie sighed. "I'm not surprised you're confused, you bein' a city boy, and all. It's doodlesocking, as real anglers like to call it. You'd hate it because it requires wading through flooded brush and weeds, dodging snags and big water snakes — not your cup of tea."

"On the contrary, Lennie boy," Worthless snorted. "For years, I've been catching crappie at Toronto Lake just the way you're describing. I just never called it dooblestocking. In fact, I caught my biggest stringer ever last weekend — 14 fish that weighed just an ounce over 26 pounds. How's that for dribblesmacking?"

"Ha!" Lennie fired back. That's all, just "Ha!" then he looked at me dumfounded. Neither of us knew Ole Worthless was a fisherman, and we'd never caught a stringer that heavy — of *any* kind of fish.

"For the last time, it's *doodlesocking*, and we never weigh our fish," I chipped in trying to save face. "With experience, we've learned to guess the weight of crappie. Now I'd hate to say what the stringer actually weighed, but once Lennie had to release four or five fish before he left the water. His stringer was just too heavy to lug up the bank to the truck."

I left out the part about Lennie's stringer snagging on that log and Lennie nearly falling down. They were big fish, though. I remember Lennie's eyes tearing up as he looked at the empty stringer clips that had popped open.

Lennie came back in a last-ditch effort to save our reputations.

"It's called doodlesocking because that's exactly what it is," he said poker faced. "We started out dabblesnatching, a similar technique. 'Dabble' because you dabble your jig in and around likely looking spots, then

"snatch" the fish up when it bites. But we knew there had to be a better way.

"Then we saw this old guy at Kanopolis back in '94. He was working the same flooded treeline behind us. Now, we'd caught several respectable crappie that morning, but this guy was stringing slab crappie one after another.

"So we figured this guy was using minnows or something magic. We couldn't accept that his technique was that much better. But this guy was using a 1/16-ounce white marabou jig -- nothing special at all. We knew right then we were in the presence of a Master — one who graciously offered to teach us the art of doodle-socking."

By now I was trying to remember this guy.

"What'd this guy look like, Lennie? Was he the one with the scraggly beard . . ."

"Shuttup, Miller. I'm trying to help Worthless," Lennie cut me off.

But Worthless had had about all of Lennie's smoke he could handle, so he called his bluff.

"All these years, I've been catching crappie with an inferior technique. I'll go get my flyrod, and you can show me how to diddlesnook, Lennie."

"Hold your horses, Worthless. I couldn't begin to teach you to doodlesock here on the deck. But I did promise the old Master I'd share the discipline with fellow anglers I met along my travels," Lennie added doing his best imitation of the blind Shaolin priest from "Kung Fu." I expected him to call Worthless "Grasshopper" any minute.

"What say we meet you at your favorite crappie spot at — Toronto, was that it?" Lennie queried as if he hadn't been paying attention earlier. "I'd take you to my favorite spots, but the water's up pretty high right now."

"Fat chance," Worthless grunted. "You'd have everyone in town there before next weekend. My technique works just fine."

Lennie leaned forward to scratch his shin and suddenly, the sprinkler next to Lennie's hedge came on.

"Ahhhhhhhhh..." Worthless' voice trailed off as he thrashed out of the bushes in the dark.

"Sorry, Worthless. That sprinkler's on timer," Lennie yelled back chuckling.

"You don't have any sprinkle timers," I said. "You don't even water your lawn.

"Shuttup Miller. Have some salsa."

