

KANSAS

Wildlife & Parks

SEPTEMBER/OCTOBER 2003

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On Point

by Mike Hayden



Leave A Legacy

In 1859, John Gault Maxwell drove a small herd of buffalo into the rolling grasslands of McPherson County. Maxwell's vision was to preserve this pristine prairie as a model of pre-settlement Kansas for future generations to enjoy. His dream came to fruition in 1942 when his youngest son left the 2,800-acre Maxwell Wildlife Refuge to the State of Kansas. Today, more than 200 bison and 50 elk roam the refuge, just as they did 150 years ago.

Historically, the department has not pursued property donations to increase public access to the wild places of Kansas. With increasing pressure on the small amount of public land available, though, it is time for a change. And while the department will continue to fight for dedicated funding sources to increase public access, it is important that potential donors realize they can help preserve our outdoor heritage by donating property to the department.

Depending on the location and the type of property, the department may manage the area for public hunting, fishing, wildlife watching, or maybe even develop a new state park. If the property is not suited for public use, the department may sell it to buy more suitable land or use the proceeds to better manage current facilities. Department staff will make suggestions, but the final decision rests with the gracious donor.

Donating property to the department can result in significant tax advantages. Under most circumstances, you may take an income tax charitable deduction for the property's full fair market value and also avoid any capital gain taxes you may have paid had you sold the property. Of course, by donating the property you will no longer need to maintain it, market it, or handle the sale. And land purchased by or donated to the department always has and always will remain on local tax rolls.

Kansas State professor, and former Wildlife and Parks Commissioner, Dr. Tom Warner and his counterparts have had tremendous success acquiring

property on behalf of the university. I agree with Dr. Warner that our department has the potential for similar gains.

"There are a lot of people out there who do not have heirs, would like to receive a tax deduction, or simply want to leave a legacy," says Dr. Warner. "The public needs to know that the department is a viable option for their donation."

The Kansas Chapter of The Nature Conservancy (TNC) has also benefited from property donations and the facilitation of conservation easements (a topic I will discuss in a future forum). TNC state director Alan Pollom has pledged to support the department in acquiring future donations.

"Wildlife and Parks and The Nature Conservancy share many similar goals – primarily the protection of our state's natural resources," says Pollom. "The more active partners we have working toward this goal, the better."

This is not simply a public hunting issue. Our navigable rivers need more access points. Many parks need more area to accommodate the increasing use (12 percent annually) and protection from encroaching developments. And smaller impoundments are needed across the state to provide quality shoreline fishing opportunities for youth, senior citizens, and disabled fisherman.

The department will work with potential donors to accommodate their desires. For example, your family may want to continue using the property until the last heir is deceased. Or you might donate the property immediately but retain the right to derive farm income. Each case will be carefully considered by our staff to provide the best option for you.

Maxwell's generosity has left a great outdoor legacy for all of us to enjoy. If you would like to contribute to this legacy, please contact Jim Hays, acquisitions coordinator, at (620) 672-5911. Your gift will help perpetuate what so many of us long to experience, the wild places of Kansas.

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Front Cover: Kansas' early muzzleloader season offers hunters a chance at bucks in September. Mike Blair filmed this deer with a 600mm lens, f/4 at 1/125th sec. Back: Prairie dogs are controversial due to their effect on pasture. Photographer Mike Blair filmed this animal with a 400mm lens, f/11 @ 1/125th sec.



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

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A Bowhunter's Guide To Shot Selection

by Gene Brehm

videographer/bowhunter education coordinator, Pratt

photos by Mike Blair

Becoming a successful bowhunter requires more than just being a good shot. Making an accurate, ethical shot with a bow requires patience, knowledge of deer anatomy, and knowing which shots to take.

Archery is rich with history. The discovery of the earliest stone arrowheads in Africa indicates that the bow and arrow were invented there, maybe as early as 50,000 B.C. In a burial tomb dated 11,000 B.C., in San Teodoro Cave, Sicily, a skeleton was found with a fragment of a flint arrow head embedded in the pelvis.

The English longbow was the prime instrument of war from the end of the 13th century until the beginning of the 16th century. Prior to the immigration of European settlers and the introduction of



from this friendship that bowhunting was reborn in the United States. Pope and Young hunted many species of game and wrote about their experiences. There were few rules of ethics in those days. Pope and Young considered game at 90 yards or less "within their range."

A subsistence hunter is, in fact, a predator. As with a wolf pack or a lion pride, food must be acquired at any cost to the prey. Few humans today would enjoy watching a wolf pack at work, yet the pain and suffering of the prey is of no concern to the wolf pack. The pack must kill, by any means, to survive and perpetuate their species.

Today, most humans who hunt cannot be classified as subsistence hunters. Because of this, they follow a different set of ethics than those of the subsistence hunter. Hunters and non-hunters alike demand that hunting be conducted as humanely as possible. While the death of a prey animal is the goal of today's bowhunter, the methods and tools used have been refined by the fact that humans, unlike any other predator, are capable of empathy.

It is critical that beginning bowhunters learn the most efficient and humane methods to harvest game with a bow and arrow. This includes a thorough understanding of high percentage shot placement and shot selection.

An ethical bow shot could be defined as any shot aimed at the largest vital zone of the prey animal, from an angle that offers little chance of the arrow being stopped or deflected by large

bones or excessive non-vital tissue. While small game, fish, and turkeys are all popular quarry for archers, deer hunting is the most popular form of Kansas bowhunting. For this reason, this article will concentrate on the anatomy of deer.

One of the basic responsibilities of every archer is knowing exactly where to aim. The best way to accomplish this is to learn the internal anatomy of a deer. A razor-sharp broadhead kills by causing rapid blood loss, not by shock, as a bullet can. Because of this, an arrow must be directed at the largest zone of concentrated veins and arteries — the chest cavity. When the chest cavity is penetrated by a razor-sharp broadhead, death results within seconds. The lungs, consisting of two lobes, nearly fill the chest cavity. The heart lies slightly below the center of the chest between the lungs. While not considered an aiming zone, the liver also contains many blood vessels. It is located at the rear of the chest cavity, just behind the diaphragm.

How major bone structures surround these vital areas is important to the bowhunter. Heavy bone may block or deflect an arrow.

The shot selection goal of every deer bowhunter should be a broadside shot. When a deer is broadside to the hunter, the center of the heart-lung region of the chest presents the largest area of vital tissues and blood vessels. When shooting from the ground, this means aiming the shot so that the arrow will strike a spot slightly below the centerline of the animal. At this location, the

firearms to the New World, the bow and arrow was the tool of choice for Native Americans. However, as firearms became available, the bow was literally abandoned as a hunting tool in the United States by the late 1800s.

In the early 1900s, Saxton Pope and Arthur Young befriended Ishi, an American Indian discovered still surviving by ancient subsistence customs. From Ishi, Pope and Young learned how to use bows and arrows to hunt wild game. It was



The 3-D cutaway above shows the location of the vital zone that includes the lungs and heart. Notice that the leg bone, humerus bone and scapula do not block this area from a broadside view. This is the preferred shot angle for bowhunters.

arrow passes slightly above the heart, in the center of the lungs. On an average-sized deer, if the shot were to accidentally strike 3 inches low, it would pass through the lower part of the heart. If the shot went high by the same

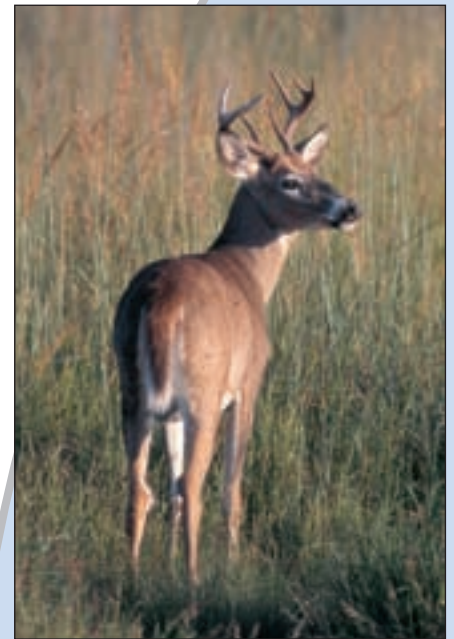
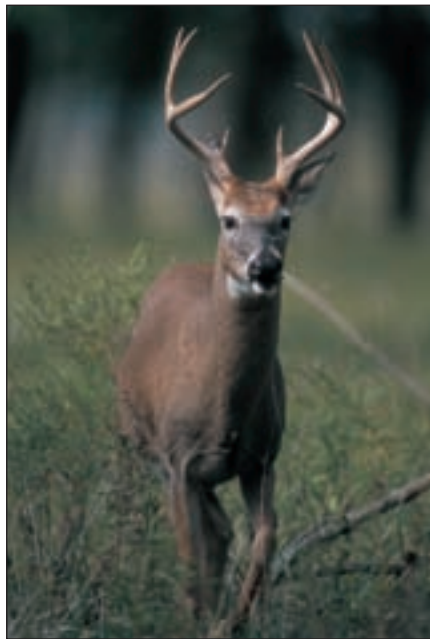
margin, it would strike the top portion of both lungs.

Notice in the photo above that the humerus bone and the scapula bone actually cover very little of the chest cavity on a broadside deer. The “triceps

bulge” can be mistaken for underlying bone, but it is only muscle. This misunderstanding can lead to poor shot placement. Because there is no bone beneath the triceps bulge, its rear edge, often called the crease, is an ideal aiming point on a broadside deer.

When hit within this vital zone by a razor-sharp broadhead, a deer will seldom remain conscious for more than 10 to 15 seconds. Occasionally, deer will fall unconscious within two or three seconds.

Because an arrow’s penetration can be stopped or deflected by heavy bone, bowhunters are more limited in their shot placement than are gun hunters. Even so, when used properly, archery equipment is just as lethal. Because of the bone structure of the front legs and shoulders, quartering-to and head-on shots offer small kill zones and can result in wounding. Likewise, the pelvic bones and hind-leg bones make rear-end shots poor choices.



Shooting a bow accurately is just one facet of becoming a good bowhunter. Shot selection is just as important as shooting ability and adhering to distance limitations. The three shot angles above, the quartering-to, head-on, and rear, should never be taken.

By using tennis balls placed on the center of the 3-D target's back and chest, you can see how the aiming point changes as the shot angle changes. The intersection of lines on the top right photo shows the aiming point at the center of the vital zone for a broadside shot. A quartering-away angle moves the aiming point back on the deer's chest, and the angle from a treestand moves the aiming point higher. Notice how much smaller the vital zone looks from a sharp downward angle and how the shoulder blade comes into the picture. Steep downward angles should be avoided.

To avoid wounding, bowhunters should not take quartering-to, head-on, and rear-end shots.

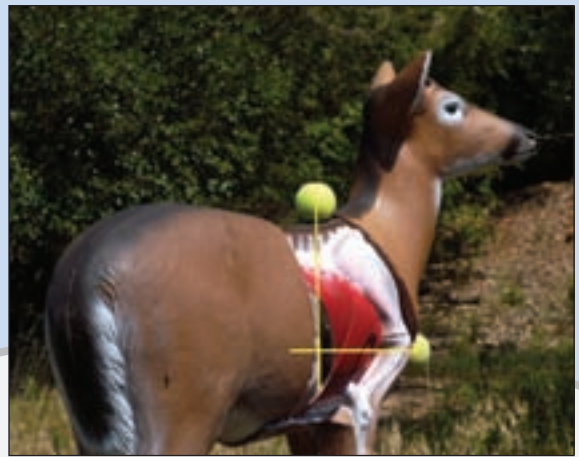
The majority of Kansas bowhunters use tree stands, so the angle of the shot must be considered. Shooting at game from above requires a different aiming point than a ground-level shot. The aim point from a tree-stand depends on the angle, which is determined by the height of the stand and the distance to the deer. The sharper the downward angle (the higher the stand or the closer the deer,) the higher the arrow must enter on a deer's side to pass through the center of the vital zone.

A deer standing directly beneath a bowhunter offers a very poor shot. The spine and the scapula bones shield much of the vital area. Similarly, when hunting from a very high stand, shot angles become difficult when a deer is close. A deer's anatomy offers the largest kill zone when viewed from ground level. The steeper the angle of the shot, the smaller the kill zone becomes. Choosing a high tree stand may reduce the number of animals that catch your scent, but shots are more difficult and demand better accuracy. Stands from 12 to 15 feet high often present easier bowshots and are best for all but the most experienced bowhunters. Heavy bone protects a deer's vitals from a high tree stand angle. The scapula bone

(shoulder blade) presents a particular problem for high, broadside shots at deer. In such situations, experienced bowhunters wait for a slightly quartering-away angle. This places the aiming point farther back, so that the arrow enters behind the scapula bone but angles forward into the vital zone.

Quartering-away shots are considered high percentage, ethical shots on deer-sized game. However, as quartering angles change, aiming points must also change. Learning to pick a spot that will center the vital zone from all acceptable shot angles is an important step toward becoming an ethical hunter. As the quartering angle increases, the arrow must be aimed to enter the deer farther back. At some point, the angle becomes great enough that rib bones can divert the arrow's path into a non-lethal, wounding shot.

When aiming at quartering animals or when shooting from a treestand, a hunter must visualize the center of the vital zone within the animal. There is an easy way for inexperienced bowhunters to practice this visu-



alization by using a 3-D deer target. Two tennis balls with nails stuck through them will be needed. Drill a hole through a tennis ball and then place a long nail through the hole. The tennis ball can then be stuck to the 3-D target. One tennis ball should be stuck at the center of the target's brisket in line with the center of the vital

zone. The other tennis ball should be stuck at the centerline along the spine of the deer target, directly above the middle of the vital zone when the deer is viewed from the broadside position.

Now, no matter what angle — broadside, quartered away, or even high in a treestand — any bowhunter can visually locate the intersection between the two visual markers. The best aiming point is always straight below the marker on the back, at a point where that perpendicular line intersects a visually imagined line drawn from the marker located at the brisket.

Effective Range

It is the responsibility of each bowhunter to practice shooting and become proficient enough to hunt. Archery skills are not



achieved overnight. Like any skill, improvement takes time and practice but can be maximized with the help of a qualified coach. Books and videos featuring top shooters can also be helpful.

Long before hunting season, each archer must determine his or her effective accuracy range. This must be done with broadheads while in full hunting clothing prior to hunting.

Remember that the clothing required for cold weather will affect both form and accuracy.

Effective shooting range is determined by the shooter's ability to consistently group arrows within a 6-inch circle. For example, during practice, if you can consistently hit a 6-inch ring at 15 yards but sometimes miss at 20 yards, your effective range is 15 yards. You should

only take shots at deer-sized game at that distance or closer. Don't be discouraged by this. A great majority of the deer harvested by bowhunters across the United States each year are shot at 20 yards or less. Ethical bowhunters never shoot at game beyond their proven accuracy range.

A person who is serious about practice and gets proper instruction can rapidly improve this effective accuracy range. It should be noted that even the greatest archers in the world limit their hunting shots to 40 yards in open country and 30 yards in heavy cover. These are people who can consistently hit a 6-inch bullseye at 80 or even 100 yards. People who insist on taking shots at game outside their proven effective accuracy range — or beyond 40 yards under any circumstances — are bowhunting for the wrong reasons.



From ground level, broadside or slightly quartering-away shot angles (left) are ideal. However, most bowhunters hunt from elevated stands, and the height of the stand and degree of downward angle must be considered. For example, the photo above shows a slightly quartering-to position from a treestand. This would be a low-percentage shot.

Shot Selection

Understanding game anatomy, shot placement, and effective accuracy range are just part of ethical bowhunting. Shot selection is another critical element. It must be understood and accepted that even when an animal is within your effective bow range, there is no certainty that the animal will turn to offer a high percentage shot opportunity. Never force a shot because you fear an animal might get away. Only a selfish person, hoping to boost his or her ego, will take a low percentage shot at the expense of the animal.

Always turn down marginal shot opportunities.

Shots should never be taken at running deer, and archers must be highly skilled before taking shots at walking deer. Bowhunters should also be cautioned about shooting at alerted game because the animal may bolt at the sound of the bow shot. This can result in a miss, or worse, a wounded animal.

Also, arrows can be deflected by brush or other seemingly minor obstructions. Because of this, bowhunters must only take shots at animals that offer a clear, unobstructed path to their vital zone.

The future of bowhunting ultimately depends upon the actions of bowhunters. The welfare of prey animals must be foremost in the mind of every hunter. Ethical hunters always define acceptable shot selections before they hunt and abide by those decisions, not allowing the adrenaline of a hunting situation to alter their behavior. On deer-sized game, this means taking only broadside shots or those quartering-away that are unobstructed and within your effective range.

Be patient, be ethical, and you will enjoy your Kansas bowhunting experience. 🏹





Meet The Sunfish of Kansas

by D. Scott Waters

research assistant, North Carolina State University

illustrations by Joe Tomelleri

Mostly, we just call them perch. And while they aren't big in size, bluegill, green sunfish, and several other sunfish species play a large role in our aquatic environments and our angling enjoyment.

“That’s a perch son. There are lots of little perch in this pond.”

This scenario occurs all the time throughout the state — kids and adults catching fish but not really knowing what species they are. Anglers often do not bother to learn the correct names of different species of fish, but rather group them all under one generic name. Sunfish, in particular, cause more identification problems than other sport fish

because of their small size, relative obscurity, and the striking similarities between different species.

Sunfish, often referred to as “perch” or “panfish”, belong to the family Centrarchidae along with the largemouth, spotted, and smallmouth bass, and the black and white crappie. While the name sunfish includes all members of this family, the small panfish are generally implied when people mention sunfish.

Kansas is home to seven species of sunfish, all but the rock bass belonging to the genus *Lepomis*. At first glance these fish seem fairly similar in appearance and behavior, but they are all unique in their own way. They may appear to be useless little fish, but each fills an important niche in the biological and sociological world.

Sunfish are the primary food source for largemouth bass in small lakes and farm ponds.



Bluegill sunfish

While some sunfish reach sizes large enough to catch, many are consumed each year by hungry bass, allowing these predators to grow to catchable size. In fact, stocking plans for farm ponds consist of a balanced population of bass and sunfish. Sunfish are also important components of fish diets in reservoirs, rivers, and streams. While the type of sunfish and predator involved may vary between ponds and other habitats, the symbiotic relationships remain the same.

Sunfish remain one of the most commonly harvested fish by anglers. They are typically extremely abundant, easy to catch, and good to eat. Most people will probably claim the first fish they caught was a sunfish. These fish can be caught anywhere, but the majority of

sunfish are caught in farm ponds and community and state fishing lakes.

The most popular sunfish species in Kansas and across the country is the bluegill (*Lepomis macrochirus*). Bluegill are found in just about every pond and lake in the state

and thrive in many small streams and creeks. Bluegill can be distinguished from other sunfishes by the dark blue or black coloration extending to the posterior edge of the gill cover. Bluegill have the smallest mouth of the sunfish and rely heavily on insects in their diet, but will also consume small fish. Small bluegill are easy to catch wherever they are found, requiring only a cane pole, small hook, bobber, and a can of worms. As with all sunfish, catching big bluegill — the size of your hand — requires greater attention to detail and technique. Bluegill average 6-7 inches in most ponds, but a good population will contain some bruisers in the 10- to 11-inch range. The state record bluegill was caught in a Scott County farm pond on May 26, 1962, and weighed 2.31 pounds.

The second most common species of sunfish is the green sunfish (*Lepomis cyanellus*), a more aggressive and resilient species than the bluegill. Greenies,

as they are often called, can be found anywhere with permanent standing water. They are extremely adaptable to all habitat types and can survive in the most inhospitable places where most other species would perish. Green sunfish are longer and more slender than bluegill, have a dull green coloration, blue streaks on the head and gill plate, and a yellow or orange fringe around the fins. They have the largest mouth of the sunfish species and feed on anything they can swallow. Because of this nature, they are also the



Warmouth

easiest sunfish to catch and can provide a day of fun for anglers of any skill level. The state record greenie was caught in a farm pond on September 26, 1982 and weighed 2.36 pounds.

Another common sunfish species is the redear sunfish (*Lepomis microlophus*). Redear sunfish are similar to bluegill; however, they typically have a larger mouth, more silver coloration on the sides, and a distinctive red or orange outline along the gill cover. Redears have been introduced into farm ponds and community and state lakes and occasionally escape



Green sunfish

into streams and rivers. They are much more finicky than their cousins, and catching them requires greater finesse. Redears get the nickname of shellcrackers from their preferred diet of mollusks. They are able to inhale snails and small clams, and with the help of special grinding teeth in their throat, smash the shell and eat the meat. Redears generally prefer deeper water than other sunfish; however, they can also be caught on surface flies and poppers. The state record



Redear sunfish

edge around the earflap distinguish them from longears. Longears prefer small streams and creeks with fairly clean, moving water and are not often found in ponds and lakes. Their

range in Kansas covers the eastern third of the state. Orangespots are more widespread because of their tolerance of muddy water and varying habitat types. These two species do not grow as big as other sunfish,

but longears can offer a fair challenge to flyfishermen seeking a different fishing experience. Their diets consist mainly of insects,

but longears will occasionally eat smaller fish. Longears can reach 9 inches in length with orangespots attaining lengths only to 5 inches. These species make excellent additions to a home aquarium because of their beautiful colors and quick adaptability to confinement. No state records exist for either of these species.

The two least abundant Kansas sunfish species are the warmouth (*Lepomis gulosus*) and the rock bass (*Ambloplites rupestris*). Warmouth, also known as goggleeyes, are found in several small impoundments and



Longear sunfish

redear weighed 1.69 pounds and was caught at the Finney Wildlife Area on July 4, 1995.

The two smallest and most colorful sunfish in Kansas are the longear sunfish (*Lepomis megalotis*) and the orangespotted sunfish (*Lepomis humilis*). Longear sunfish have an unusually long and wide blue or black earflap, and males will be bright orange, blue, and green. Breeding male orangespots are also blue and orange, but the small, scattered orange spots on their sides and the white



Orangespotted sunfish

a few streams in the southeastern and northeastern counties of Kansas. Some good warmouth streams include Shoal Creek, Spring River, and Lightning Creek. Warmouth do not reach the size of bluegill and redears, but fish up to 1 pound are sometimes caught. Warmouth have the second largest mouth of the sunfishes and are extremely predatory. They are usually mottled brown or yellow on the sides with a red eye and dark stripes along the gill cover, similar to war paint.



Rock bass

The state record warmouth came from the Mined Land Wildlife Area on April 30, 1988, and weighed 1.11 pounds.

Rock bass are found in even fewer numbers in southeastern Kansas although they have been stocked elsewhere. Perhaps the best chance to catch these fish is in Shoal Creek in Cherokee County. Rock bass are aggressive feeders and offer a respectable fight when hooked. Their diet consists of small fish, insects, and crayfish. They have a large mouth and brownish-black coloration with a spot on each scale. Rock bass are similar in appearance to warmouth, but they have five or six anal spines, while warmouth have only three. Rock bass

attain weights of 2 pounds, but Kansas has no established record.

One final unique sunfish Kansas anglers sometimes catch is the hybrid sunfish. This usually results from the cross of a bluegill and a green sunfish, but other combinations are known to exist. Like many other hybrids, hybrid bluegill possess the best qualities of both parents. They are voracious feeders, great fighters, grow to exceptionally large sizes, and are very hearty fish. The state record hybrid is 2.65 pounds. Hybrids are not as deep-bodied as bluegill, but are less slender than the green sunfish. The mouth is larger than the bluegill but smaller than the green sunfish. The color markings have no

distinct patterns, and hybrid coloration can best be described as splotched or mottled. Hybrid sunfish have become popular with pond owners recently because of their excellent characteristics as well as their limited reproduction. Ninety percent of all hybrid sunfish are males, so stunting and overpopulation are not a problem with these fish.

Do not be fooled by the small size and relative availability of the sunfishes. These fish are each unique and offer different challenges to anglers across the state. A Master Angler sunfish is hard to come by but not impossible. Minimum length to qualify for a Master Angler bluegill or warmouth is 10 inches. Minimum length for green sunfish and redear sunfish is 11

inches. And the minimum length for a hybrid sunfish Master Angler award is 12 inches. Attempting to catch each species in one season is a challenge, but it can be done. And don't forget that these fish offer some of the best-tasting fillets.

Make it a point to learn more about the Kansas sunfish. Catch a big bluegill or search for the rare warmouth. Of course, it's always fun to go back to basics. Tie on a small hook, a bobber, and bait up with a worm. Then sit back and remember the excitement fishing held when you were five years old. ♡



Bluegill and green sunfish are perfect for young anglers. The sunfish are found in just about all Kansas waters, they bite bait readily, and though small in size, they put up a respectable battle.



CLARK STATE FISHING LAKE GREAT PLAINS GEM

by Jon Zuercher
area manager, Kingsdown

photos by Mike Blair

Take a day-trip to this beautiful lake tucked away in the canyons of the Clark County grasslands, and you'll be glad you did. Clark offers fishing, hiking, birding, hunting, and primitive camping in an idyllic prairie setting.



If you've never visited Clark State Fishing Lake, you've missed a true Kansas treasure. What awaits is a surprise. Driving on a flat, typical western Kansas landscape, you drop abruptly into a valley with exciting vistas and recreational opportunities. Nestled beautifully into the canyon is a lake as blue as the Kansas sky. The descent from the canyon rim is a special one. Many youngsters

have squealed "whee!" with excitement while descending the lake entrance road. Less adventurous sorts have closed their eyes and cringed.

Either way, the arrival at lake level puts you into another world. Life at the canyon bottom is shady and inviting. Sunrises and sunsets are spectacular as light fills and drains from the canyon's shadows. Awe-inspiring cliffs and caliche bluffs

surround the lake, and a forested area is located at Clark's north end. The uplands are short- to mid-grass prairie full of wildflowers. Little bluestem, buffalo-grass, and sideoats grama make up the grass complex. Seasons offer a visual smorgasbord, from the soft greens of native grass and colorful wildflowers in spring, to brilliant fall colors of the trees and shrubs, to the rusty browns of winter grasses. At all times of the year, visitors appreciate the changing beauty of Clark SFL.

Clark is a valuable water and recreation resource in southwestern Kansas, where few others exist. Many groups use this unique area for gatherings and campouts, and Clark is a favorite of many local boy scout troops. Kids love to fish and explore Clark waters. Its picturesque beauty must make it a favorite landmark of pilots, judging from the number of flyovers.

So where is this special hideaway? Clark State Fishing Lake is located in northern Clark County. It is a scenic day trip from anywhere in Kansas, and is centered among the small towns of Ashland, Bucklin, and Minneola. The lake lies 17 miles north of Highway 160, 11 miles south of Highway 54, and 40 miles south of Highway 50/56. Most scenic is the entry from Ashland, which winds through ranch country and along the rugged Bluff Creek drainage.

Clark is Kansas' largest state fishing lake, covering 300 surface acres. The lake is spring fed and averages 17 feet in depth, with the deepest water being 39 feet near the water-control structure. The old Bluff Creek stream channel meanders across the

bottom of the man-made lake. Water inflow is supplied by Bluff Creek and from springs to the north. A pristine watershed flows through native prairie and also supplies water to the lake.

Originally, the lake was constructed as a Civilian Conservation Corps project in the late 1930s. The dam was covered with native stone quarried south of the lake. The "Three C" camp was known as Camp Bluff Creek and was located on the east bluff of the lake shore. Acquired soon after construction by the Kansas Forestry, Fish, and Game Commission, the lake was opened to fishing in the early 1940s. It was later drained, renovated and reopened to fishing in the early 1960s. Today it remains a favorite fishing and recreational area for nearby Kansans.

Clark visitors can enjoy a variety of outdoor pursuits. Chief among these is fishing. Good fishing opportunities exist for channel catfish, largemouth bass, white bass, carp, crappie, walleye, and bluegill. Clark water is normally clear, making it easy to fish with artificial lures. Fish attractors, feeders, and sunken brush piles are bank-accessible from the eastern shoreline. Cattails surround the upper end of the lake, and old stumps remain in the coves, providing additional fish-holding struc-



The steep drop into the Clark SFL canyon is as dramatic as the change of scenery. The blue waters are a stark contrast to the surrounding tan bluffs and green prairie.

ture. A popular method of fishing is trolling for walleye and white bass, while catching an occasional channel catfish. Live-bait anglers have recently caught flathead catfish in the 30-

to 40-inch class. And bowfishing for the abundant carp is a popular activity in the upper end of the lake. Winter ice fishing occurs only sporadically due to the wave action of the lake.



The largest state fishing lake at 300 acres, Clark is spring fed, providing outstanding water quality and fishing opportunities.

Because of the importance of fishing, Clark SFL receives ongoing management to ensure good angling opportunities. Walleye fry and catchable-sized channel catfish are stocked yearly. Fall test netting and spring electrofishing assess the fish population and discover trends over time. Past spring netting has revealed a good walleye population with some walleyes approaching 10 pounds. And recently, sampling efforts recorded largemouth bass weighing nearly 8 pounds.

Water willow, a native Kansas aquatic plant, was recently introduced at Clark to provide nursery areas and cover for sport fish and prey fish species. Water lily has been planted in the backs of some coves for additional cover, and sportsmen and fisheries biologists have dropped in brush piles to add structure to the aging lake. In addition, log jams in the backs of several coves provide great fishing. Where present, cattails and bullrush clumps are also a favorite target of anglers.

A fish feeding program is operated at Clark from April 15 through October 15. Three automatic fish feeding stations are located along the eastern shore of the lake. Channel catfish and carp congregate near the feeders, pro-



Good opportunities for shoreline angling are provided along the east shore. Earthen piers provide anglers good access.

viding excellent opportunities for young anglers. Many kids in southwestern Kansas recall catching their first fish at Clark, while camping with their parents, grandparents, or friends.

There are good opportunities to fish from the bank or from boats. Four boat ramps, located

on the east, south, north, and Bloom cove areas, each feature a solar-powered light, handicapped-accessible courtesy boat loading dock, and restroom. The south boat ramp provides the best boat launching due to steeper ramp slope design. The north-end boat ramp was recently installed to provide launching for small motorized boats and canoes, for easier access to the north end of the lake. Boating is permitted for fishing only. There is no boating speed limit or wake limit on the lake. Parking and walkways are provided at most access points.

For anglers without boats, five earthen/rip-rap fishing piers provide access. These are important facilities because much of the lake's steep shoreline is inaccessible to anglers on foot. One handicapped-accessible fishing dock is conveniently located on an all weather road at the end of Highway 94 and is located over the old river channel in 17 feet of water.

Special fishing regulations are posted on information signs and include a limit of five channel catfish per day. Statewide length limits of 15 inches for largemouth bass and walleye are in effect. No trotlines are allowed at Clark.

Many of Clark's visitors camp while enjoying the area. Primitive camping is allowed in designated areas although there is no potable water, electrical hookups, or trailer dump stations. Campsites provide a flat area, picnic table, and fire ring and are located on the East Shore, North End, and



Boating is allowed only for fishing at Clark. Four boat ramps provide access, and each is lighted and includes a handicapped-accessible courtesy dock and restroom.



No fees are required of Clark users. Management and upkeep is paid for through the sale of fishing and hunting licenses. Camping is allowed in designated areas, all of which are primitive.


supports mule deer, white-tailed deer, bobwhites, waterfowl, squirrels, rabbits, raccoons, coyotes, and wild turkeys.

The lake and approximately 700 acres of surrounding area are open to public hunting for waterfowl, upland game, and small and big game. A 200-acre refuge is established around the equipment and east shore areas. Much of the better hunting is found in the wooded zones north of the lake.

Future management goals for the area focus on maintaining its prairie environment. Included are plans to reduce redcedar invasion, maintain a representative mixed-grass prairie, and conduct prescribed burning to improve grass and limit woody invasion. No grazing has occurred in recent history,

and fire remains the most important and practical grassland management tool.

Visitors to Clark State Fishing Lake can expect a beautiful and rewarding outdoor experience. Given its unique canyon atmosphere, an eye on the weather is always important. Storms and severe weather may appear quickly over canyon walls. Boaters should be vigilant because waves can come up quickly. Most days, though, life at the bottom of Kansas Highway 94 is peaceful.

Don't miss out on this scenic hideaway. Bring your fishing pole and experience one of Kansas' hidden public land treasures. 

Bloom Cove areas, as well as below the dam. Primitive camping pads are also located on the east shore at the end of Highway 94. Grass buffers have been established along these use areas to control sedimentation and shoreline erosion. Additionally, a rock shelter house is available for picnicking on a first-come, first-served basis. Day-to-day operation is funded by license sales, and no permits are required to camp or use the area.

Besides fishing, other popular pursuits include hunting, sightseeing, birding, and wildlife watching. The eastern shore provides good access for sightseeing on the all-weather surface of State Highway 94. The highway provides access to a lake overlook

near the northeastern entrance, with a breathtaking view of the area. The canyon drops more than 100 feet to the lake and is lined with spectacular bluffs on the east and west. During inclement weather, sightseers should avoid the area's steep dirt roads.

A variety of interesting wildlife can be seen on the area. Clark SFL supports a resident nesting Canada goose population, dating from the early 1990s. Bald eagles may be seen on the winter ice, feeding on winter-killed gizzard shad. Vultures, ospreys, ducks, and a variety of other birds are common at various times. Lesser prairie chickens may be heard booming in the spring to the west of the lake. In addition, the area



Tree Invasion

by Randy Rodgers
wildlife biologist, Hays

photos by Mike Blair

It's time to change the way we look at trees on the prairies. While trees provide habitat for some wildlife, they pose a serious threat to grassland-dependent species.

Randy Rodgers photo

“I think that I shall never see, anything so lovely as a tree.” At least, that’s the version of the first two lines of Joyce Kilmer’s poem, “Trees,” that I had in my head for years. I recently learned that the poem actually begins “I think that I shall never see/A poem lovely as a tree.” Either way, these words reflect deeply-held values for generations of Americans.

No doubt, I stand among the countless people who place great value on trees. As a boy, I climbed them, drew them, and explored kid-sized wilderness wherever I could roam through even an acre of them. My heroes were Daniel Boone and Davy

Crockett, woodsmen of the highest caliber, at least on TV. Now, I better understand the values of trees for shade, for respite from the wind, and as habitat for many species.

Perhaps those of us who live in prairie states value trees more than those who live in more timbered regions. Those roots go way back. Who hasn’t heard accounts of European settlers cursing the incessant wind, the blazing summer sun, and sheer exposure of the Great Plains? It’s not hard to understand why they and their descendants were determined to change this land.

As early as 1873, Nebraska Senator Phineas Hitchcock intro-

duced the Timber Culture Act. As federal law, this legislation offered 160 acres of prairie land to anyone who would plant 40 of those acres to trees. Years later, University of Nebraska botany professor Charles Bessey advanced the idea that the vast grasslands of the Nebraska Sandhills should rightfully be pine forest. The level of enthusiasm with which his idea was embraced then, and even now, is evidenced by the Bessey Ranger District of the Nebraska National Forest near Halsey. There, about 30 square miles of man-planted forest, in the middle of one of North America’s greatest remaining

grasslands, attest to our love for trees — and perhaps to our underdeveloped appreciation of grassland.

The weather of the Great Plains can be harsh and the beauty of our grasslands subtle. But I can't help but believe that Kilmer would also have waxed poetic had he seen a bluestem prairie's rosy glow in the refracted light of an October sunset. Unfortunately, too few of us appreciate the beauty or comprehend the true value of our Great Plains grasslands. This poor understanding of grasslands, coupled with our culture's love of trees, has laid the foundation for a change that threatens our signature landscape — the prairies — like nothing since John Deere's invention of the moldboard plow.

For more than a century, we have planted and nurtured trees across the Great Plains. The benefits were clear: windbreaks for farmsteads, crop fields, livestock, and wildlife allowed us to bring the more moderate condi-



Osage orange, commonly called hedge, can't be killed with fire. Reclaiming this pasture will require cutting and immediate treatment of the stumps with a herbicide.



Eastern redcedars pose a serious threat to this midgrass prairie in Russell County. Trees can be controlled with fire, cutting, or spraying — sooner better than later.

tions and the wildlife of the east out onto the plains, at least on small scales. Alone, these tree plantings have altered, but perhaps not seriously threatened, our remaining prairie ecosystems. But our collective failure to understand the needs of our prairies has often resulted in grassland management or, more correctly, lack of management that has permitted some species of trees to escape their original planting sites. Fire, the prairie's natural ally, was often suppressed and grazing was sometimes misapplied, leading to a weakened prairie community vulnerable to what has become an onslaught of invasive trees. Such species are now swallowing our grasslands at an alarming rate.

It seems no Kansas prairie is

immune. Eastern redcedar, hedge (Osage orange), and blackjack oak have invaded substantial parts of our largest and best known prairie region, the Flint Hills. Russian olive, cedar, black locust, and honeylocust have rapidly spread across our central Kansas sand prairies. Redcedar is devouring the prairies of the Red Hills. In the Smoky Hills, cedar and hedge are the main culprits. Even in western Kansas, where dry conditions might seemingly prevent tree invasion, a hodgepodge of trees are making inroads into midgrass and shortgrass prairies, as well as many Conservation Reserve grasslands.

So, what's so bad about a mix of grassland and trees? After all, there are many natural savannas where trees and grasslands combine to make diverse and beautiful landscapes. It's not so much that there's anything intrinsically wrong with this combination. But it's the prairies, places that Kansans often take for granted,

that actually are among Earth's most threatened landscapes. While there may be relatively fewer species present in any one place, the prairie's unique assemblage of wildlife is a rare treasure on the global scale. Many of us who live on the prairie suffer from the illusion that meadowlarks are somehow ordinary, when nothing could be further from the truth. Taken as a group, populations of grassland birds have shown sharper and more widespread declines over recent decades than any other ecological or behavioral guild of birds in North America.

Grassland birds are probably the best indicator of the decline of our prairies because many of these species are sensitive to change. Foremost among them are our two species of prairie chickens. These birds are creatures of open spaces with clear horizons, but invasive trees have forced them from otherwise suit-



Randy Rodgers photos

able prairie habitat in many parts of our state. Greater prairie chickens have rapidly lost ground in southeastern Kansas, as shown by long-term surveys. The last time prairie chickens were observed on the 20-square-mile survey area in Montgomery County was in 1987. They disappeared from the Wilson County area by 2000, the Elk County area by 2002, and are all but gone on the Chautauqua County area. Survey areas in Woodson, Allen, and Anderson counties may be next. While other factors

Even where mechanical removal of trees has occurred (note piles), failure to follow up with controlled burning has permitted small cedars to rapidly reinvade this pasture. Piling cut trees is not a good idea as this removes grassland from production for many years and creates habitat for mammalian predators.

like prairie conversion and fragmentation may be involved, it's a good bet that tree invasion has played a significant role in the greater prairie chicken's demise. Despite the fact that grasslands of adequate size are still present, lesser prairie chickens no longer occupy significant portions of their former range in Barber, Harper, Kingman, Pratt, Reno, Rice and Stafford counties. The most evident explanation is tree invasion. And trees now threaten occupied prairie chicken range farther west and north.

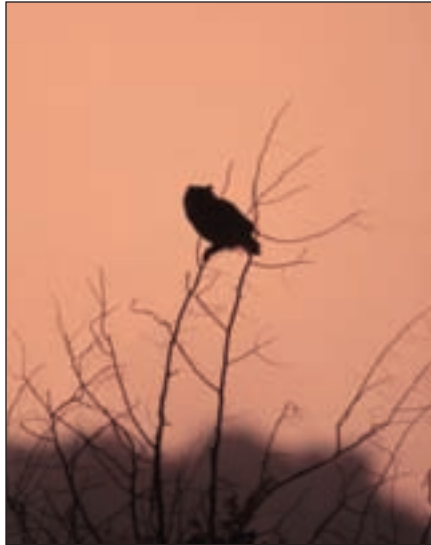
It may be confusing to hear that prairie chickens in the Flint Hills are disappearing in some areas because of too little fire. More attention has gone to the opposite situation; annual spring burning of vast sections of the central Flint Hills and the associated early-intensive grazing system have left greater prairie chickens and other ground dwelling birds with little or no residual nesting cover. Neither of these fire extremes are what's needed. Most prairie wildlife are adapted to a shifting mosaic of burned and unburned areas like that provided in the "patch burning – patch grazing" system that mimics the dynamic land-



The manager of one Barber County pasture (left of fence) has done a good job of controlling cedar invasion, but his neighbor has not. This creates a situation of continuous reinvansion of the well managed pasture with seed from the neighbor's trees.

scape once created by fire and bison. That innovative system, developed at Oklahoma State University, is worthy of its own story. Suffice it to say that burning once every three years or even three years out of five would go far to improve the future of greater prairie chickens in the Flint Hills by maintaining prairie health, leaving nesting cover, and suppressing tree invasion.

Recent research has begun to offer an explanation of prairie chickens' intolerance of invading trees. By radio marking lesser prairie chickens, students of Kansas State University professor Robert Robel have revealed some important clues. While tree invasion was not an issue on the sandsage prairie study area, lesser prairie chickens showed a strong avoidance of man-made structures. These birds were virtually never located within a quarter-mile of power lines despite quality habitat near these structures. We can only guess why prairie chickens avoid vertical structures. A reasonable explanation is that eons of predation have favored survival of individuals that perceived vertical structures, trees included, as hunting perches for hawks and owls and, consequently, dangerous places for plump, meal-sized birds. If that's the case, then the prospect of even minor tree invasion of open prairie is more threatening to prairie chickens than we might have originally believed.



As trees encroach, the variety and number of predators increases.

This behavioral avoidance means it won't take a sweeping front of woodland but only widely-scattered trees to eliminate prairie chickens from what would otherwise be suitable habitat. This may be doubly true if trees establish on the higher ground preferred by prairie chickens.

Unfortunately, tree invasion is



Tree encroachment in many Kansas counties is partly responsible for the disappearance of prairie chickens.

not an issue just for prairie chickens. Accumulating scientific evidence suggests that relatively few trees can have major negative impacts on those species of birds that are highly dependent on open prairie — the so-called grassland obligate species. A recent study in Arizona indicated that communities of grassland songbirds begin to decline in habitats with as few as four junipers per acre. Research in Oklahoma and other states have shown that grassland birds directly decline as trees encroach. Part of this decline may be tied to behavioral avoidance of vertical structure, as has been seen with prairie chickens. Research in southwestern Missouri found that even diminutive Henslow's sparrows avoided woody cover, albeit to a lesser degree. But decreases in ground-nesting birds as trees encroach are not just a consequence of some behavioral quirk. As trees increase in prairie habitats, so does the variety and numbers of predators, both feathered and furred.

Before I go further, understand this: Predators are important and beautiful, and we must not make them scapegoats. Direct predator control aimed at benefiting grassland birds is neither desirable nor practical. If the decline in grassland birds is to be halted, it must happen through grassland reclamation (tree removal) and better grassland management systems that favor

healthy prairie environments and minimize predator opportunity. Having said that, who of us has not noticed that red-tailed hawks and great horned owls use trees and power line poles as hunting perches. Crows and magpies, both notorious nest predators, also increase in abundance as trees encroach on the prairie. The same goes for mammalian nest predators such as skunks, raccoons, and red foxes. The increased numbers of these predators inevitably decreases the survival and reproductive success of prairie birds.

Even popular game species that we normally don't associate with open prairie can suffer as trees improve predator habitat. Research in northeastern Colorado showed that pheasant hens nesting within 600 meters of tree plantings suffered much higher predation rates, mainly by great horned owls, than hens that nested further away. I hate to think of the number of trees that have been planted with the good, if misplaced, intentions of benefiting pheasants. In the short term, trees with low-

growing branches like eastern redcedar and Russian olive can offer pheasants winter cover. But as the trees grow, they become better predator habitat. What's more, both of these species are highly invasive. In northern states from Montana to Minnesota, wide plantings of evergreens may have limited value as severe winter habitat for pheasants. But in Kansas, trees' relatively small contribution for winter cover does not offset the greater risk of increasing predators. As for taller deciduous trees, there's not one lick of evidence that they significantly benefit ring-necks, either here or up north.

For bobwhites, the story is similar. Any quail hunter recognizes the value of woody cover. But if they're paying attention, they also understand that it's low-growing woody cover, as offered by shrubs, that provides the greatest benefit. I recently



Trees may allow nest parasites such as the brown-headed cowbird to better locate grassland birds' nests.

had an opportunity to hear results of an excellent study in which bobwhites and raccoons were simultaneously monitored in the same area using radio transmitters. Not surprisingly, the very areas where quail had the poorest nest success were the same places where raccoons spent most of their time. And where were the raccoons hanging out? They were in old fields and pastures infested with eastern redcedar.

Besides increased predation, grassland songbirds have yet another threat that increases with tree encroachment: nest parasitism. No, I'm not talking about lice or ticks. I am talking about cowbirds. Cowbirds don't build their own nests but instead lay eggs in the clutches of other songbirds. The adults of the parasitized host species may not recognize the cowbird eggs as different and often raise the young cowbirds as their own. By diverting food resources, the cowbird nestlings have the effect of lowering the survival of the host species' own young. Several studies have documented



Prairie birds, such as the grasshopper sparrow, avoid otherwise suitable grassland habitat as trees invade. Trees provide perches and nesting sites for avian predators.

greater cowbird activity with poorer grassland bird reproduction near woodland edges. Researchers suggest that elevated perches provided by trees allow cowbirds to better locate nests of grassland birds and to synchronize their egg laying with the potential host.

Ironically, the greatest avian threat to grassland birds may be neither predator or nest parasite. Among our most seriously invasive tree species, eastern redcedar is the worst. The primary vectors that spread redcedar are certain woodland birds that were originally attracted to

the plains by urban and rural tree plantings. These birds eat the cedar's berries, digest the fleshy parts, and expel the intact seeds while perching or in flight. The net effect is that redcedar has become a metastasizing cancer of the prairie.

So, what can be done? For starters, we need to get our terminology right. For as long as I can remember, Kansas wildlife managers, foresters, and soil conservationists have casually referred to any woody planting as a "tree" planting, even if all or most of what was planted were shrubs. Organizations like Pheasants Forever and Quail Unlimited routinely have done the same thing in counting among their accomplishments some huge number of "trees" planted. While professional conservationists may understand what this means, we've given too little thought to how this "tree" vernacular may have



Fire is an excellent tool to control trees on the prairie, but it's far more efficient when trees are small.

misled the general public. Shrubs were a natural component of many prairie systems and have a legitimate, if limited, place in grasslands. Trees have an altogether different effect.

It's critical for all of us, professional conservationists and laymen alike, to acknowledge that we've made mistakes. Inevitably, as our ecological knowledge grows, hindsight shows that some practices were not as clearly beneficial as once believed. Tree plantings at the hand of man, even some for perfectly legitimate purposes, were the initial sources of invasive trees in the western two-thirds of Kansas. But far more troubling is the fact that inappropriate tree plantings are still common.

I get a knot in my stomach each time I see invasive trees planted on Conservation Reserve grasslands. Inadequate management is already a problem for many CRP stands,

and this can be exacerbated by tree plantings. Because they're vulnerable to fire, planting and maintaining cedars in CRP almost assures that future controlled burns in these grasslands will be more difficult. Increased difficulty often translates to less frequent burns or no burns at all. What's more, the quality of habitat provided by these ungrazed grasses diminishes without fire, becoming too thick and matted for most wildlife to use. Where woody plantings are desired in grasslands, native shrubs are the best choice. They resprout after fire, often producing better wildlife

habitat than the previous older growth, and they can even become effective firebreaks.

Of course, conservation is an ongoing journey with frequent course corrections to cope with ever-changing conditions. The first steps in making a correction are to recognize a problem and to understand its causes. A recent agreement between Kansas State University's Kansas Forest Service and the Kansas Department of Wildlife and Parks illustrates their concern and has provided a good beginning. These agencies plan to cooperate in educating their own staffs, landowners, and the public as to where and what types of tree plantings pose a threat to prairies and prairie wildlife. At its heart, the agreement aims to discourage tree plantings on or near significant blocks of grassland, particularly if potentially invasive species are being considered.

Redirecting future plantings away from grasslands is a small step in the right direction, but rescuing Kansas prairies will take much more than some written agreement. More landowners and land managers, private and public, must recognize the magnitude of this threat. It's too easy to ignore little tree seedlings scattered around a pasture. But give them five years, and they start limiting livestock forage production and grassland wildlife habitat. Give them another five years, and it may be too late. It's when they're small that invasive trees are easiest to control with either fire, cutting, spot spraying, or some combination of efforts. Once invasive trees get out of hand, costs of removing them can become prohibitive. The old axiom, "an ounce of prevention is worth a pound of cure," may be an understatement when it

comes to tree invasion.

Excessive grazing pressure has left some livestock producers with few options. Controlled fire is the least expensive and best means of preventing tree invasion, but it takes adequate fuel — residual grass — to carry a fire hot enough to do the job. If grazing pressure has been too heavy, too little fuel remains, and the pasture may suffer not only from poor grazing management, but invading trees as well. As more trees invade and grow, less livestock forage is produced. If stocking rate is kept steady, grass condition further deteriorates, and pastures can become trapped in a cycle of decline that can be broken only by near heroic, expensive efforts. Some of Kansas' grasslands are already at this stage. With no intervention, more are just a few years away.

Many ranchers already do a good job of managing their pastures and preventing tree invasion, but some land managers do not. Many cases of tree invasion are rooted in an inadvertent failure to recognize the problem. Where that's the case, recognition of the value of our prairies and the threat posed by tree invasion may go far toward correcting the problem before it's too late.

Unquestionably, ranchers are the most important stewards of the prairies. Most recognize their own interest in preventing invasive trees from taking over grasslands. But many will need help from public and private sources, if prairies are to be maintained. Conservationists, public and private, must join with ranchers as allies in turning back this invasion. It will take money, time, and effort. The soldiers will range from ranchers to boy scouts, from government officials to private entrepreneurs. They must wield weapons like tree shears and pruning shears, chain saws and bow saws, drip torches and Tordon. In the process, they will



Results of a study that monitored the activity of both bobwhites and raccoons with radio transmitters showed quail nesting success was poorest in areas where raccoons were most active. And raccoons spent much of their time in areas infested with redcedar.

better understand the value of the prairie and the value of a helpful friend.

Grassland reclamation will not be a one-pass deal. The seeds have already been sown for a second wave of trees. If reclamation isn't done right and better grassland management doesn't follow, the second wave will be more aggressive than the first. Cutting hedge, locusts, or Russian olives without treating the stumps with the right herbicides is pointless. Burning and clipping cedars without follow-up fires and better grazing management could prove the same.

Of paramount importance is the need to assure that invasive trees advance no farther. Complacency toward our remaining uninvaded prairies would prove a huge mistake. Focusing just on the worst-invaded grasslands could leave our resources and resolve exhausted, only to discover new



Certain woodland birds spread redcedar by eating the berries and expelling the seeds in flight or while perched, which explains the cedars under this fence wire.

areas invaded.

Of course, there are good uses and appropriate places for trees on the plains. But we have planted trees on the prairie with a near-religious fervor only to discover that some spread like hell. Those of us living on the

Great Plains must come to realize that it is as much an act of redemption for us to kill trees that invade our prairies as it is for others to plant trees in a forest clear cut. We must realize that on the prairie, occasional fire is an act of renewal, not destruction. We should applaud, not deride, those who properly and carefully apply it.

It is not for us on the plains to grow second-rate versions of the great deciduous forests of the east or the conifer forests of the west. Our responsibility is to guard our precious remaining prairies for ourselves and our children, for spectacular prairie chickens and tiny grasshopper sparrows, and for the other people and creatures of the Earth.

Maybe you remember the chorus of an old Joni Mitchell song. "Don't it always seem to go that you don't know what you've got 'till it's gone?" When it comes to our prairies, I hope the answer to that question is



Randy Rodgers photo

Even in far western Kansas, tree invasion is a problem. These scattered Siberian elms, with more growth, will provide perches and nest sites for avian predators and reduce the value of this Greeley County Conservation Reserve stand for grassland wildlife.

Prairie Dogs, Cattle, And Controversy

by Charles Lee

K-State Research and Extension, Manhattan

photos by Mike Blair

A management plan, changes in attitudes, and new laws will ultimately determine whether the black-tailed prairie dog ends up on the Threatened and Endangered Species list.

Some wildlife can change the environment to meet their needs, but these changes may cause conflicts with man. The black-tailed prairie dog is one such species, and it has qualities that lead some to appreciate it and others to hate it.

The prairie dog can and will modify rangeland to favor its survival. Prairie dogs feed on many of the same grasses and forbs important to livestock. Annual dietary overlap has been estimated at 64 percent to 90 per-

cent, meaning that most plants eaten by livestock may also be eaten by prairie dogs. Prairie dog clipping selectively influences the abundance of various plants in an area.

This unique range rodent creates an earthen mound, thrown up around the mouth of a deep burrow system, that serves as a watchtower. These burrows represent a possible hazard to livestock, and mound construction increases the amount of bare soil in a grassland forage setting, both of which are undesirable to livestock producers. The competition between prairie dogs and domestic livestock, mainly cattle, has led to large scale attempts to erad-

icate prairie dogs for more than 100 years. Current estimates of the acreage occupied by prairie dogs indicate a reduction of about 95-99 percent from historic times.

This widespread reduction occurred in all 10 of the Great Plains states where prairie dogs are found. Because of this and other threats, the U.S. Fish and Wildlife Service (USFWS) determined that prairie dogs warranted listing under the Endangered Species Act, but precluded that listing because other species have a higher pri-

ority. This action caused uncertainty and fear among landowners. The USFWS now conducts an annual review of the status of the prairie dog to determine if states are doing enough to reduce threats that may lead the prairie dog toward extinction.

There has been a long-held assumption that prairie dogs damage rangeland. The first published estimates of prairie dog damage were those of C. Hart Merriam of the U.S. Biological Survey. In 1901, Merriam estimated that 32 prairie dogs would eat as much as one sheep, 256 prairie dogs would eat as much as one cow, and that prairie dogs could reduce the productive capacity of the land by 50 to 75 percent. This loss figure was repeated by numerous later writers, but not all attributed the estimate directly to Merriam. Most of the estimates were pro-



Each prairie dog has several burrows, which may have more than one entrance. Mounds pushed up at entrances may prevent flooding and provide an elevated perch from which to watch for danger. On a typical town, there are 25-40 burrows per acre.

vided by prairie dog stomach content analysis. Stomach analysis is a valuable method for determining the importance of different foods to an animal, but the percentages may not be a reliable measure of the effects on forage or competition with live-

stock. There are probably vast differences in diets of prairie dogs, depending upon the location being examined, time of year, and the vegetation found at that location.

In the mid-1970s, researchers in eastern Colorado presented studies that disputed earlier claims of extensive damage caused by prairie dogs. They concluded that because “both perennial grasses and forbs have increased as a result of prairie dog activities and are useful as livestock forage, it cannot be said that prairie dogs are always destructive to rangelands.” The researchers came to the conclusion that eradication of prairie dogs would not significantly improve shortgrass prairie for cattle during the first few years following abandonment of the towns. However, it is important to note that these studies did not attempt to measure actual productivity of the rangeland, and that percent cover is not strictly



Great Plains ranchers have always strived to control prairie dogs, and they are winning. Acres occupied by prairie dogs have been reduced 95 percent since settlement.

analogous to production.

Another study done in Oklahoma looked at forage availability, use, and steer weight gains where prairie dogs existed. There, researchers found that prairie dogs reduced availability of forage, which led to reduced utilization by steers during the two years of the trial. Livestock weight gains were slightly lower where steers competed with prairie dogs, but the difference was not statistically significant. Researchers concluded that the presence of prairie dogs, while reducing forage availability, actually improved the quality of remaining forage to partially compensate for losses.

From the study, prairie dogs were thought to improve the forage in several ways. First, plants that were more often clipped by the prairie dogs stayed in a “younger” stage of maturity which was more palatable and digestible to cattle. Secondly, younger plants often have a higher crude protein level and thus provide increased nutrient content. This study has not been replicated and should be revisited. K-State Research and Extension is planning such a project for 2004-2007, and is currently looking for funding and suitable locations.

In times of drought when there is less forage, the competition from prairie dogs is more noticeable. The summer and fall of 2003 illustrated the devastation that can occur when too many grazers (either prairie dogs or cattle) are present and no rain-fall occurs. Higher quality vegetation doesn't provide increased



Prairie dogs live in colonies called towns. In 1900, more than 1 million acres in western Kansas were occupied by prairie dogs. Today, there are approximately 130,000 acres.

benefits to a cattle producer if there's not enough vegetation for cattle to eat. During drought, bare ground is more evident and existing forage is shorter and more widely spaced. In this case, where prairie dogs are present, they impact more acres. The number of prairie dogs may not increase, but they must spread out to find forage and may appear more numerous.

Prairie dogs live socially in colonies called “dog towns.” Burrows serve as homes and refuges from predators and adverse weather conditions. Each prairie dog has multiple burrows. These burrows may have more than one opening and are seldom more than 6 feet deep. The average prairie dog mound on colonies I have examined contains about 3 cubic feet of soil, with a burrow density of about 25-40 per acre.

Prairie dogs pack soil with their feet and noses to help build

the mounds around a burrow. Digging and mound building increases the percentage of bare soil in a grassland situation. Exposing soil to wind and water tends to increase the risk from erosion and eliminates perennial vegetation. But prairie dogs go to work quickly after a rain. They work to compact moist soils tightly together to stabilize the mounds. At times, plant fiber is added to the moist soil, which makes the mound more like adobe and helps it resist cracking and erosion.

A widespread opinion among prairie dog critics is that prairie dog burrows pose a risk to livestock because of the potential for an animal to break a leg when stepping into a burrow. Despite spending much of my life around prairie dogs and cattle and horses, and having numerous discussions about such a risk, I have not been able to confirm that this has ever occurred.

However, other potential risks to livestock are real. An example is rattlesnakes, which are attracted to the burrow systems of prairie dogs. Rattlesnakes do sometimes bite foraging livestock within a prairie dog town.

The presence of cattle on rangeland influences the number and distribution of prairie dogs. Cattle not only increase the visibility for prairie dogs by reducing the vegetation height, but also facilitate new colonies by creating trails. Many new prairie dog colonies seem to show up near livestock water sources or corrals.

Native grazers such as bison and pronghorn grazed together with prairie dogs long before cattle arrived. In those areas where both native herbivores and prairie dogs have been studied, 80 to 90 percent of the bison fed on the grass-dominated edges of prairie dog towns. Sixty to 90 percent of the pronghorns fed in town centers where most of the forbs grew. Cattle do not seem to preferentially graze on prairie dog colonies. This makes me wonder why because the forage is reported to be of higher quality.

Kansas is actively addressing prairie dog concerns. The Kansas Department of Wildlife and Parks has convened a working group to develop a Black-tailed Prairie Dog Conservation and Management Plan. This working group consists of agricultural, landowner, and conservation interests. Some positive steps have been taken with the plan. It recognizes that some threats to the prairie dog

must be reduced in order to keep the USFWS from listing the species as threatened. However, it also recognizes that management and control of prairie dogs is necessary in many instances.

One of the group's objectives was to propose legislative and regulatory changes that reflect the value of prairie dogs and their associated ecosystem. Support for the proposed legislation fractured over the wording and potential impacts of new legislation, and the bill remained in conference committee. However, other objectives, such as determining the current status and population trend of prairie dogs, implementing outreach and education programs, promoting suitable habitat and identifying and implementing research needs in Kansas are well underway.

Before man attempts to eliminate any animal from an area, he should have an understanding of that animal's negative impact and positive values and evaluate these attributes in view of an ever-shrinking and more complex ecosystem. We don't know

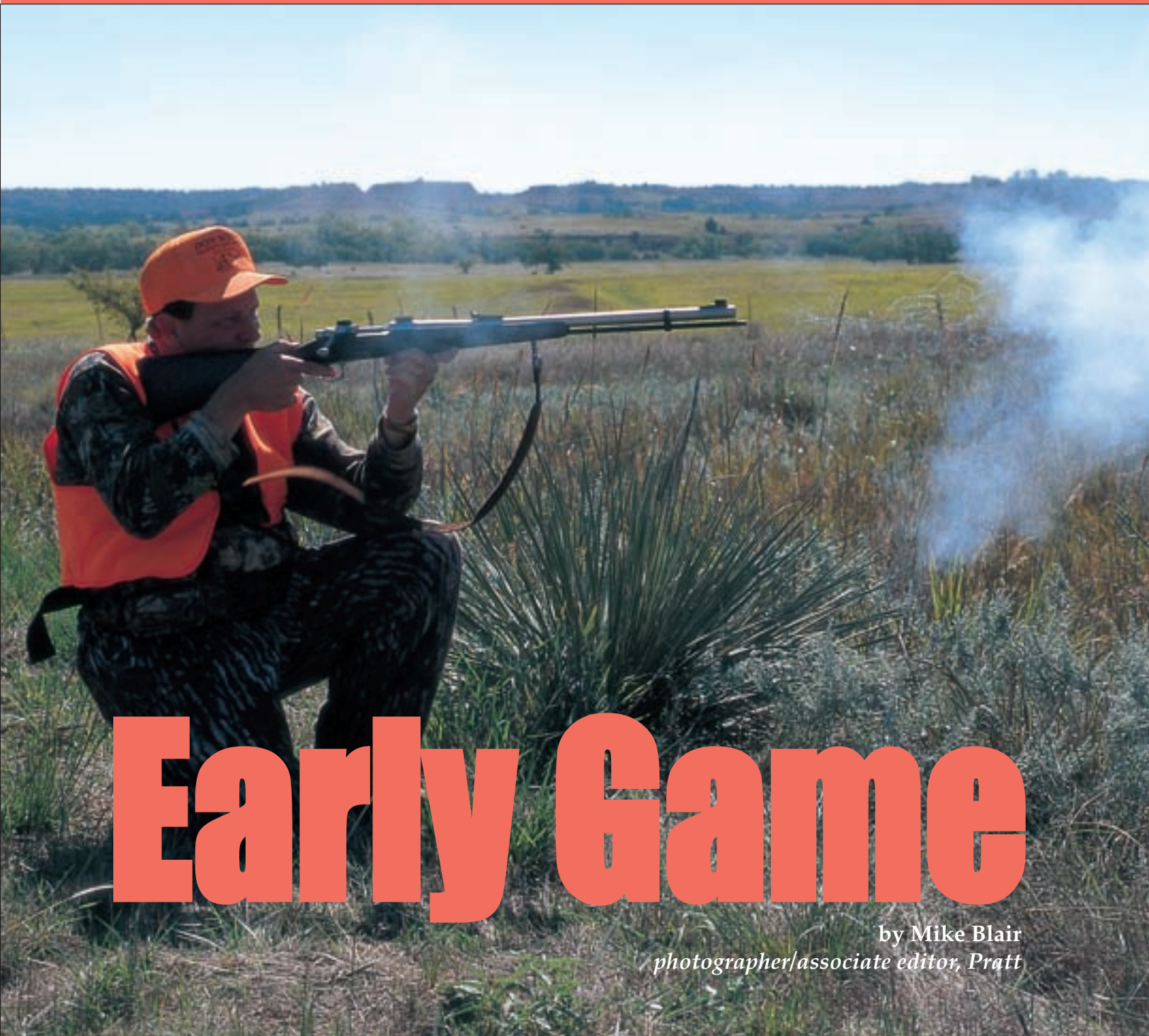
all their impacts and benefits, but prairie dogs play an important role in the prairie ecosystem by creating unique islands of habitat in the wide expanses of the prairies. Such habitat increases plant and animal diversity. Without such habitat, recreational opportunities for the sporting public, nature observers, and photographers will also be diminished. Most folks, ranchers and wildlife enthusiasts alike, want healthy rangelands now and for the future.

Cattle production and prairie dogs are inexplicably linked. Do the rodents eat, cut, bury, and trample all the plants on the range, or do they increase the value of the remaining forage so that cattle performance is not affected? I suspect the answer to this question is yet to be found. Our challenge as wildlife managers is to figure out how cattle production and prairie dogs can co-exist. The controversy will continue until we do, and attitudes will probably be difficult to change. ♡



Active prairie dogs towns are an important facet of the grassland ecosystem. Hunting can help control prairie dog numbers without exterminating them.

It's just not right, on first thought, to hear a meadowlark's summer song on a deer hunt. It's odd when dressing warmly means wearing a t-shirt, and it's strange when dusk falls with the night half gone. Sweat shouldn't sting the eyes while walking to a stand, and shadows should stretch longer than those of an equinox sun. But these are the ways of September hunting.



Early Game

by Mike Blair
photographer/associate editor, Pratt

It's muzzleloader time in Kansas. While riflemen are watching football openers and vaguely anticipating the rut's last days, a special breed of short-range hunters is already afield. They're looking for deer on summer terms - heat, dust, mosquitoes and all. These are soloists in the big game choir, wearing blaze orange robes in a concert where wind and coyotes sing the only harmony. Their lonely refrain is the hope for a deer at 80 yards.






No simple matter, this muzzleloading. No crosshairs, no 8X scope, no diopters to correct the target view. This club is iron sights only. Just a long gun, a buckhorn groove, and a front blade that must be centered, unmagnified, on a distant target. That means practice, and practice some more. There are no second chances. A deer can cross half a section in the time it takes to load another single round.

But that's part of the deal. You trade an honest-to-gosh, sit-in-the-habitat deer hunt for the chance to catch a big buck moving. Antlers stay together this time of year, trailing between beds and groceries. Bucks aren't prone to hurry in heat, and lying in shade is the favorite pasttime. So it works like this: you sit on trails early and late, and if sun-hardy enough, sneak the thickets during midday hours. Either way, the shot must be close, and the shot must be sure. You will put in your time.





Scouting is a must. Tracks and trails and browse and crossings are the clues that get you close. After that, it's partly luck, partly patience, partly choice. One day, you might pass an 8-pointer, and a week later, shoot a doe. Or you may wait for years without a shot, holding out for a trophy. All are accomplishments with the weapon nicknamed "smoke pole."

When all is right, magic happens. The sighting, the adrenaline rush, the aim, the boom, and then the trademark white cloud's momentary screen prolongs the suspense for an instant. Finally, relief at the sight of a deer in the grass, and the sudden realization of work at hand and the need for a cooler. 

It's all just right in the afterglow of summer. Different, yes, but there's warm satisfaction in the early game.



Edited by Mark Shoup

PASSING IT ON

Editor:

Along with your approach to getting young people started in the shooting sports through your "Pass It On" program, I thought I'd relay my experiences.

In the spring of 2002, my son Randy, my grandson Matthew, and I each took a tom turkey while hunting together on the same evening. That deer season, we all three shot nice 8 point bucks. Matthew was 14, and this was his first deer hunt. He shot the buck at 7:15 a.m. on his first day of hunting. He has been shooting since he was 11, and has harvested lots of doves and ducks, several prairie chickens, a couple of pheasants, a few quail, and, in more recent years, four tom turkeys.

His brother Michael is 11 now and started shooting doves last fall.

I'm 74, Randy is 46, and we have been hunting together since he was 11 — three generations of good hunting times, and I hope I can keep hunting with them for many more years.

*E. Dean Williams
Concordia*

A CANE WILL DO

Editor:

I've been meaning to send a fish story to you for the past year, so I've put it with my renewal of *Kansas Wildlife and Parks* magazine. I look forward to each issue and have been a subscriber for a number of years. The photographs are great. Keep up the good work.

Because I'm a female named Lonnie and a dedicated bass fisherman (fisherwoman), I have to tell this lucky story. I've enjoyed this sport for many years and have taught my grandchildren to be avid fishermen also. I call it a legitimate vice.

I've walked miles fishing spring-fed ponds, but with progressing arthritis, I

go at a slower pace using my cane (but I still go). I almost refuse to sit down because that isn't real bass fishing.

On one of my trips, I hooked a real good bass on my favorite Powerworm, casting parallel with the shore and off a 4-foot bank. He gave me a real tussle, but even though I got him to the shoreline, I couldn't get myself down the 4-foot incline to land him. Because he was worn out, he lay in the weeds while I pondered the situation.

I was sitting on the edge of the bank, keeping tension on my rod with my left hand, and in looking over my shoulder for a stick to help me, I noticed my cane within reaching distance. Yes, it's true; I turned the cane upside-down, put the handle in his mouth, and with all the strength I had, I threw him up over my shoulder and into the grass!

He was a 5 1/2-pound beauty. Not bad at age 75. I'm still fishing every day I can get away.

*Lonnie Buckley
Burr Oak*

THANKS FOR THE FISHING

Editor:

I would just like to take this opportunity to thank all of Kansas Department of Wildlife and Parks employees who work so hard to make fishing better in Kansas. I live in Johnson County but travel all over east and central Kansas to fish. I enjoy the web page and visit it often.

Fishing is my pastime of choice, and I really appreciate all that is done to improve our lakes and streams. I think Kansas has a good program going, and I really look forward to the future of fishing in this state.

Thanks to all who work so hard. I think it is nice to be reminded that our efforts are not going unnoticed. Thanks again to all and keep up the excellent job.

*Matt Brooks
Shawnee*

NO GOOD SAUGEYE?

Editor:

I live in Norton and fish the reservoir often. I've been catching very few fish over 19 inches, and the ones I do catch look to be in sad shape. I've always been a proponent of catch and release, but now with the draining of the lake and the evidence that the mortality rate of saugeye is high, I'm not returning any fish over 18 inches.

I've been fishing this lake since the fall in 1990s, and I wonder why it's taking you guys so long to figure out that saugeye aren't living long enough to reach 18 inches. Because the license holders pay to have these fish stocked, I don't see why a two-fish limit below 18 inches couldn't go into effect. Now it's probably too late with the good fishable water being extracted from the lake.

I'm no biologist, but I think that over 10 years, something could have been done to the limit on saugeye, whether it would be a slot or otherwise. The fact that a guy can go out and catch a 100 fish in a day and only have one keeper seems to indicate that most fish don't live long enough to reach the length limit.

I guess I need to know why you can keep two wipers that are any size but not saugeye. Don't tell me that shorter walleye would be the victims and wouldn't reach breeding size. Even out of a 100 fish day, maybe four or five are walleye. Most are 12-14 inches anyway, and most people would keep the healthy 16- to 17-inch fish.

It's time to give back something to the people who pay your way.

*Brett Hildebrand
Norton*

Dear Mr. Hildebrand:

Thanks for your interest in the saugeye program at Sebelius Reservoir. Mark Shaw out of the Webster Office is the district fisheries biologist for this reservoir; however, since I managed the reservoir from 1979-2002, prior to Mark's appointment, I will respond to

your questions and concerns.

We initiated the saugeye program at Sebelius with two primary objectives in mind: to increase predator pressure on crappie and adult gizzard shad and to enhance angling opportunities for percids. Saugeye have done a fine job of fulfilling both of these objectives.

While the lake was low throughout the 1980s and early 1990s, crappie and adult shad were overabundant. As a result, these fish experienced slow growth and poor physical condition. At that time, we were looking for additional predators to aid in correcting these problems. We initiated the wiper program in 1978, and our food habitats analysis work in 1980 indicated wipers were feeding almost exclusively on shad.

Early work with saugeye in Oklahoma and Ohio indicated saugeye will readily eat crappie. Also, our efforts to maintain a desired density of percids by managing for walleye at Sebelius had been largely unsuccessful despite efforts with several different stocking regimes and the construction of artificial walleye spawning beds. Our review of literature on saugeye showed them to be better suited than walleye for high turbidity (muddy water conditions) and more apt to stay in a lake when water is being released. These were ideal traits for the conditions at Sebelius. Consequently, we initiated the saugeye program in 1990, have stocked every year since, and have not missed a year class.

The difference in stocking success between saugeye and walleye at Sebelius is like night and day. This high degree of stocking success is the reason for the high density of saugeye and your ability to catch 50 to 100 per day. Consistent recruitment and the 18-inch length limit have done the job in maintaining a high density of predators that will eat crappie and shad. However, as you noted, we may need to make some adjustments with this length limit if water levels continue to fall.

We monitor growth, recruitment, and physical condition in assessing the 18-inch length limit for saugeye. We also run creel surveys to monitor angler catch rates and harvest and use a state-of-the-art model to predict the impacts of various length limits on yield and

harvest. I have sent you the 2000 Sebelius Progress Report and Management Plan that provides some information on our ongoing assessment of the 18-inch limit on saugeye. Please review Special Project #2 titled "Review of the Saugeye Length Limit". This review indicates angler harvest was the primary factor limiting the supply of fish over 18 inches during the time of study.

We have observed a general decline in physical condition of larger wipers, saugeye, and other predators over the past few years. This is related to predator-prey dynamics. The current energy budget is best suited for smaller sportfish. During the low water periods of the 1980s and early 1990s, the opposite was true. Prey was abundant for larger predators but severely lacking for small or young sportfish. We anticipate a return to this low supply of prey for small predators if water levels continue to decline and remain low for an extended period of time. This is a serious problem because it limits survival of stocked and naturally-produced sportfish. The best way to avoid this problem is to maintain a strong supply of larger predators.

Currently, the supply of large saugeye is higher than you might suspect. Sebelius holds the state record for saugeye at 9.81 pounds, and the supply of

larger fish remains very respectable. According to the statewide 2002 fall test-netting data for saugeye, only one impoundment in Kansas recorded a higher density of saugeye over 18 inches and only one impoundment recorded a higher density of saugeye over 22 inches than that recorded for Sebelius Reservoir.

To view this information, go to www.kdwp.state.ks.us, click on "Fishing Forecast," then click "saugeye and sauger." It is apparent from this data that not all of the saugeye at Sebelius are dying of natural causes or being harvested before they reach 18 inches.

We appreciate your interest in the Sebelius fishery, and we will continue to monitor this valuable fish resource. Please understand we must manage for the entire fish community and a diversity of angling interests. So far, we have not observed a need to make a change in the saugeye length limit; however, declines in water levels could impact the situation, and we will adjust the saugeye length limit and other harvest restrictions if necessary. Bear in mind any changes we make will be for the benefit of the entire fish community, not just one particular species.

—Steve Price, Region 1 Fisheries and Wildlife Division supervisor, Hays



New for 2003

A few changes in the hunting regulations will be in effect this fall and winter, as follow:

Deer:

- As in the past, each hunter (resident or nonresident) may purchase as many as four Whitetail Antlerless Only Game Tags. However, a maximum of one game tag per hunter may be used in Deer Management Units 1, 2, 4, 5, 6, 9, 10, 11, 14, 17, and 18.

- Resident Whitetail Either Sex permits are available over the counter at vendors as well as department offices;

- Unit 19 is a newly-created

deer management unit that encompasses the urban/suburban corridor extending from Kansas City to Topeka.

- An additional firearms season will run Oct. 18-26 in Unit 19, as well as an extended antlerless-only whitetail archery season of Jan. 5-31, 2004, in Unit 19. Hunters with permits valid in units 9, 10, 11, and 14 may hunt in Unit 19.

- An extended firearms white-tailed antlerless-only season will run Jan. 1-4, 2004, in units 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, and 19 only. All other units will be closed.

- The southwest boundary of Unit 8 has been moved so that all of Fort Riley is now included in Unit 8.

Doves:

- Species that can be taken legally during dove season now include mourning dove, white-winged dove, Eurasian collared dove, and ringed turtle dove. Any dove taken must be included in the daily bag of 15.

Cranes:

- The area open to sandhill crane hunting has been modified to include the western half of Kansas. The daily bag and possession limits have been increased to three and six, respectively.

Important note on nonresident transferable permits

- Before purchasing an antlered deer permit (Hunt-Own-Land, White-tailed Either Sex, Statewide Archery, or Any Deer permit obtained through the draw), landowners who have drawn a nonresident transferable permit must transfer that permit prior to its first opportunity for use. For example, a nonresident Whitetail Either Sex permit must be transferred prior to opening of the muzzleloader season (Sept. 13).

—Shoup

ABOVE (AND BELOW) THE CALL

In July 2002, the Cedar Bluff State Park office received a cellular phone call from a lady reporting a problem at south shore Pronghorn Showerhouse. Two park rangers left for the area not knowing what to expect. What they found was the "Dump Station Demon," returned to life.

It was a familiar opponent that had attacked far too often. It was obvious that they needed backup, so they called the park manager. He arrived shortly with hip boots, gloves, and a sewer line snake and said, "Here you go. I have to go change some light bulbs." He chuckled and left.

The rangers looked at the boots and then each other. The boots would only fit one unfortunate ranger's feet, so he geared up and waded knee deep into the "bunker" where the demon had fortified its position. The ranger — armed with his sewer snake — worked, wrestled, poked, prodded, splashed, fought, and even cursed the demon under the blazing heat.

After a short while, the ranger's snake had slithered into the demon's stronghold and returned from the depths with four ice bags in its jaws. The demon retreated, but the ranger continued the fierce battle to no avail; the snake had been defeated, and he was going to have to go in after the demon himself.

He pulled his gloves high above his elbows, reached in, and pulled out a crumpled arm of beer cans and more ice bags. Finally, the demon retreated. The other ranger extended his hand and helped pull the battle weary ranger from the pit, who then went into the showerhouse to clean his wounds.

Thanks to a Bureau of Reclamation Title 28 grant, this sea-

son there was a new dump station in the south shore park area, and the dump station demon remained at bay.

—Chris Smith, park ranger, Cedar Bluff State Park

A WARNING IGNORED

While on routine patrol March 3, I watched a fisherman at Lakewood Park in Salina and found that he did not have a fishing license, so I wrote the 24-year-old Salina man a ticket for fishing without a license. I also checked his records by radio with the Salina Police Department and found that he did not have a valid driver's license.

I was up front and honest with the man and advised him to walk one mile to the Casey's General Store and call someone to pick him up. I had not seen him driving to Lakewood, but I informed him that if I did see him drive, I would arrest him for driving on a revoked license. I thanked him for his cooperation and explained how to take care of his ticket.

Then I drove away and turned around in the south end of the park. When I returned to the lake area, I saw the man driving off in his Red Dodge Neon, so I pulled him over, handcuffed him, secured his vehicle, and transported him to the Saline County Jail. His driving records indicated that he had two prior convictions for driving on a suspended license and was not eligible to receive a Kansas driver's license until 2005.

Kansas conservation officers focus on enforcing fish and wildlife laws, but we have full law enforcement and arrest powers. We will handle cases like these when local police and deputies are not readily available.

—Greg Salisbury, conservation officer, Salina

NO Prairie Dog Trade

The Kansas Department of Health and Environment (KDHE) is recommending that all Kansans avoid contact with prairie dogs and avoid keeping them as pets. Last spring, a nationwide investigation showed that some cases of monkeypox were caused by contact with prairie dogs sold as pets. These animals had come in contact with an imported Gambian giant rat, an African rodent that apparently had carried the disease.

As a result, on June 11, the Centers for Disease Control and Prevention, along with other federal agencies, prohibited the transportation, sale, or offering for any distribution, including release into the environment, of prairie dogs and certain other rodents. In addition, Kansas also ordered the prohibition of the sale of prairie dogs within the state. Therefore, with the new federal guidelines and a state order issued June 12, trade of prairie dogs is now prohibited in Kansas and the entire U.S.

Based on preliminary information, it appears that some of the prairie dogs involved in the current outbreak of monkeypox may have originated in Kansas.

"KDHE is assisting the CDC in an investigation to determine if any of the infected prairie dogs were purchased from Kansas," said Dr. Gianfranco Pezzino, KDHE state epidemiologist. "It is not believed that the prairie dogs were infected in Kansas but that they became ill after contact with an infected Gambian rat in Wisconsin."

As of June 11, four confirmed cases (33 suspected cases) of monkeypox, a rare viral disease usually found in the rainforest countries of south and west Africa, have been reported to the Centers for Disease Control and Prevention (CDC). The cases were located in Illinois, Indiana, Wisconsin, and New Jersey. No cases of monkeypox in animals or humans are currently under investigation in Kansas.

Monkeypox is caused by monkeypox virus, which belongs to the orthopoxvirus group of viruses. Other members of this group of viruses that cause infections in humans include variola (smallpox), vaccinia



CAUTION

(used for smallpox vaccine), and cowpox viruses. Monkeypox and smallpox are two distinct and different diseases although they may resemble each other.

"People can get monkeypox from an infected animal through a bite or direct contact with the infected animal's blood, body fluids, or lesions," said Dr. Gail Hansen, state public health veterinarian. "The disease also can be spread from person to person, but it is much less infectious than smallpox."

When the virus is transmitted from person to person, it does so by large respiratory droplets during direct and prolonged face-to-face contact. In addition, monkeypox can be spread by direct contact with body fluids of an infected person or with virus-contaminated objects, such as bedding or clothing.

KDHE officials are urging Kansans to avoid contact with prairie dogs. "These are cute little creatures, but they belong to their own environment, not in people's homes," said Dr. Hansen.

Anyone who is experiencing any signs of illness after contact with prairie dogs, Gambian giant rats, or other recently acquired exotic animals should seek medical attention if they develop symptoms such as fever, cough, rash, and/or swollen lymph nodes. Physicians should promptly report any cases of illnesses consistent with these symptoms, and contact with the above animals, to their local health department.

For more information, contact Sharon Watson, KDHE, at (785) 296-5795, or visit the Centers for Disease Control website at www.cdc.gov.

—Luce

SHOOTING RANGE GUIDE

Four outstanding operating procedures for shooting range management have been compiled in a new resource for ranges called *Examples of Shooting Range Policies & Procedures Manual*. This new resource provides range owners with sample procedures for a cross section of ranges.

The new publication is available for \$15 (\$5 for National Shooting Sports Foundation [NSSF] members) from the NSSF literature department. To order your own copy, email literature@nssf.org or phone (203) 426-1320.

—Bullet Points

LAWSUITS HARM ENDANGERED SPECIES

Lawsuits brought by environmental groups that claim to support conservation are draining the U.S. Fish and Wildlife Service's (USFWS) funding. As a result, the Service will soon be depleted of funds earmarked to designate critical habitat for threatened and endangered species.

In July, the USFWS was expected to exhaust monies required to designate critical habitat as directed by court orders and settlements for fiscal year 2003. To cover the shortfall, the administration requested authority from Congress to shift money from other endangered species programs. The move to redirect the money will undermine endangered species conservation by compromising the USFWS's ability to protect new species and its work to restore species already listed under the Endangered Species Act.

According to Assistant Secretary of the Interior for Fish and Wildlife and Parks Craig Manson, two-thirds of the endangered species listing budget is being consumed by court orders and settlement agreements requiring designation of critical



habitat for species already on the endangered species list. In most cases, designation of critical habitat provides little additional protection for endangered species.

"This flood of litigation over critical habitat designation is preventing the Fish and Wildlife Service from protecting new species and reducing its ability to recover plants and animals already listed as threatened or endangered," said Manson.

Ironically, organizations that are in business to protect the environment often interfere with conservation when they bring such suits against the USFWS, especially when they use litigation as a marketing tool.

—U.S. Sportsmen's Alliance

KFC FRIED PETA

According to the *National Review*, Kentucky Fried Chicken (KFC) is grovelling to, of all groups, People for the Ethical Treatment of Animals (PETA). In a June issue, the daily online magazine notes that Cheryl Bachelder, president of Kentucky Fried Chicken, "crawled to the offices of People for the Ethical Treatment of Animals (PETA) to petition its leader, Ingrid

Newkirk, for an end to the animal-liberationist organization's 'Kentucky Fried Cruelty' advocacy campaign."

Apparently, PETA was trying to block appearances of KFC spokesman Jason Alexander (George, from *Seinfeld*). The animal-rights group also threatened to picket Bachelder's home. The company's approach to the situation was to send Bachelder to PETA headquarters with a peace offering, acquiescing to five PETA demands.

KFC agreed to install camera's in 29 slaughterhouses by the end of next year, with a plan to audit the tapes monthly. KFC also agreed to buy from suppliers that add stimulation devices to the perches in chicken sheds, kill chickens in electric stun baths rather than merely immobilize them, implement "humane" mechanized chicken catchers, and provide spacious chicken housing. The chicken-lickin' franchise also agreed to verify its compliance to PETA on a regular basis.

In return, PETA agreed to suspend protests for 60 days.

According to *National Review*, "the promised reforms may all be fine, appropriate, and humane

changes in the raising and slaughter of chickens. Indeed, it is an important human obligation to treat food animals properly and to kill them as humanely as is practicable. But it shouldn't take pressure from fanatics for corporate executives to do the right thing. Indeed, acting under such pressure merely adds to the power of animal-rights liberationists, making them an ever-greater threat to the legitimate use of animals."

Perhaps KFC should contemplate the difference between compromise and appeasement, and the dangers of the latter. While we owe humane treatment to animals we use for food — just as a hunter seeks a clean kill — PETA's goal is a total ban on animal use. Appeasement to today will only make them stronger tomorrow.

—Shoup

WISCONSIN GETS DOVES

An appeals court has ruled in favor of sportsmen in a decision that will make Wisconsin the 39th state with a season to hunt the nation's most popular game bird, the mourning dove.


On March 27, Wisconsin's District Four Court of Appeals reversed a decision

by Dane County Circuit Court Judge Daniel Moeser. It ruled that the Wisconsin Department of Natural Resources (DNR) has the authority to establish the mourning dove hunt that was approved by the Natural Resources Board and the legislature in 2000. The U.S. Sportsmen's Alliance Foundation's Sportsmen's Legal Defense Fund (SLDF) joined the DNR in appealing Judge Moeser's decision, which asserted that the DNR did not have such authority.

"The SLDF was confident from the beginning that the Department of Natural Resources had the authority, according to Wisconsin law, to establish a dove hunting season," said U.S. Sportsmen's Alliance Foundation field director Tony Celebrezze. "The appeals court decision clears the way for a dove hunting season this fall."

The SLDF joined forces with Wisconsin sportsmen's groups to initially win and later to protect the state's dove season. The Wisconsin Chapter of the National Wild Turkey Federation, the Wisconsin Chapter of Safari Club International (SCI), the Badgerland Chapter of SCI, the Lake Superior Chapter of SCI, and others led the way in defense of the dove hunt.

—U. S. Sportsmen's Alliance



An English hunter walking through the jungle found a huge dead elephant with a Pygmy tribesman standing beside it. Amazed, he asked, "Did you kill that?" "Yes," replied the Pygmy. The hunter asked "How could a little bloke like you kill a huge beast like that?" "I killed it with my club," the native said matter-of-factly. Astonished, the Englishman asked, "How big is your club?" "Oh, there are about 60 of us," the Pygmy explained.

—Unknown author

ARCHERY SEASON PREP

With archery deer season less than a month away, archery deer hunters need to check equipment now. Strings and cables should be periodically replaced. Look for any worn spots that may signal trouble. Remember that breaks beneath string serving areas may go undetected. Change any fiber string or cable every year. A trip to the local archery shop now may prevent problems from developing during the hunt.

Start target practice slowly. Muscles that have not been used since last season are not ready for long sessions. Shoot a few arrows on a regular basis. If necessary, reduce bow poundage until it is comfortable to draw and hold. As muscles respond to regular practice, poundage can be gradually increased to normal hunting weight.

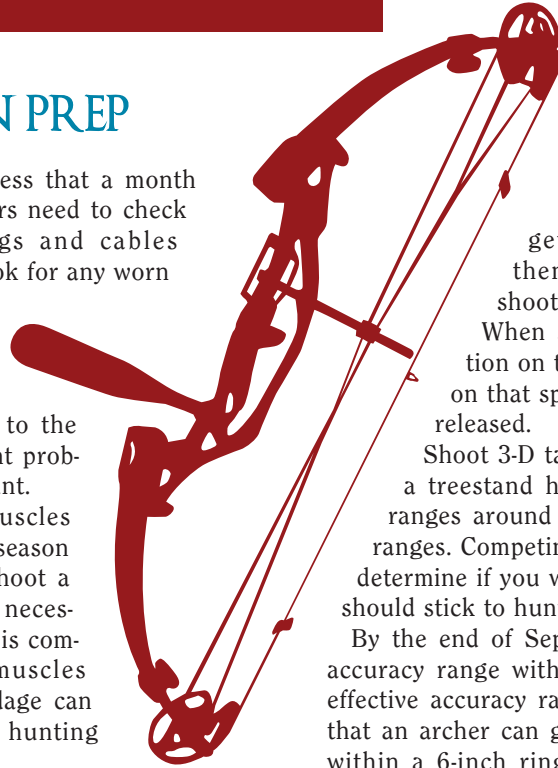
Confidence plays a critical role in correct archery form, so start shooting at an 8- or 10-inch target at 10 yards. Squeeze a trigger release very slowly while focusing on the aim. Never punch the trigger quickly just because the sight picture is good. Punching the trigger will eventually lead to flinching.

Olympic archery coaches tell their students to focus on follow-through on every shot. Follow-through is not where the bow arm or sight pin is kept at the moment after the shot, but where the eyes are focused after the shot. Top coaches tell their students to focus on the target with their eyes and continue that focus a full three seconds after the shot is released.

Begin practice by shooting three arrows at a time. Rest periodically between shooting each arrow. Consider each shot an important event.

Once you consistently hit the 8-inch target at 10 yards, change to a 6-inch target at 10 yards. The National Bowhunting Education Foundation considers a 6-inch ring to be comparable to the effective kill zone on deer. Your goal before season should be to keep all your arrows inside this 6-inch ring.

As September practice sessions improve shooting skills, distance may be increased. Increase practice yardage no more than 5 yards at a time. If progress is slow, make a mental note to begin practice earlier next year or participate in organized winter and spring archery shoots. If no local shooting range opportunities are available, consider shoot-



ing once or twice a week at close range in your basement or garage. Many competitive shooters use this type of 5-yard shooting in training.

When possible, shoot at 3-D targets that have no visible kill zone on them. This forces you to pick a spot to shoot, simulating actual hunting conditions. When shooting 3-D targets, focus your attention on the center of the vital zone. Concentrate on that spot for three seconds after each arrow is released.

Shoot 3-D targets placed at unknown ranges. While a treestand hunter should always predetermine the ranges around his stands, a stillhunter must estimate ranges. Competing in a 3-D tournament is a good way to determine if you would make a good still hunter or if you should stick to hunting from treestands.

By the end of September, you must know your effective accuracy range with broadhead-tipped arrows. An archer's effective accuracy range is defined as the greatest distance that an archer can group 100 percent of his or her arrows within a 6-inch ring. No matter the distance, the archer should never attempt to shoot at game beyond that range.

When placing tree stands, pace off the yardage in all your shooting lanes. Mark the limit of your effective accuracy range with a stick or log. You have now made a conscious decision to never shoot beyond that range no matter what the situation or the size of the buck.

An archer who has properly prepared for a hunting season with regular practice and predetermined effective accuracy range can hunt with confidence. This ethical approach to archery deer hunting can greatly reduce the chances of wounding and losing game and enhance the overall enjoyment of this great outdoor experience.

The Department of Wildlife and Parks has produced an instructional video entitled *Shot Placement and Shot Selection* to teach bowhunters the anatomy of deer, proper aiming zones from level or elevated shooting positions, and shot angles that may result in wounding. This video is free when you attend a bowhunter education class, or it may be purchased from the department's Pratt Office (620) 672-5911 or online at www.kdwp.state.ks.us. The cost is \$10.60, which includes shipping and handling. And don't miss the article on shot placement on Page 2 of this issue.

—Gene Brehm,
statewide bowhunter education coordinator, Pratt

TOLLER ABUSE!



by Mark Shoup

Editor's Note: Most good hunters think we understand, if not always control, our hunting companions. However, in this high-tech world, even our computers sometimes go to the dogs. Such was the case when Wayne Doyle, our statewide Hunter Education Section supervisor, discovered the following note on a listserv as he browsed the web for info on his favorite breed – the Nova Scotia Duck Tolling Retriever, commonly referred to as a “Toller.”

Thor is Wayne's 8-month-old toller. Let this be a warning to us all: Do you know what your dog is doing past midnight?

–Shoup

Hey, Listthingy, Inna last thing I wrote youse, I say DBM (Da Beloved Master) tell me we be gonna meet up wid udder folks, an Thor (me) was gonna wanner around da Prairie School. Well, we done that yerdee.

Holy cow pie! Ifn dis be what he specs me ta do, I wanna change inta a poodle or sumpin. Now let me tells youse about it an' see ifn you don't tink dat dis be Toller Abuse.

First, he done gets me up inna middle of da night. Den he makes me eat toller chow way before da usual time. I notice dat he be fillin his belly wit good stuff, not toller chow. Dat don't seem right, do it? Den we drives inna truck for hours an' hours. It still be dark, so I can'ts help DBM navigate. Den we gets ta dis place inna middle of nowheres. I meets anudder human name of Ray. (I tink I met him at da house once.) Dem two kinda stannin round waitin for sumpin.

It still dark anna bit nippy. Den anudder truck show up wit Dennis an' Chet. We gets inta Ray's truck, an' dat's when I discover dat dare be a mess of dog peoples in boxes inna back. Now what?

We drives for awhile an' comes ta dis field just as da sun be coming out. I

gets outta da truck, an' all uvva sudden dare be dog peoples everywhere. Dare be six of dem – four Britthingys an' two Wymervingys. Day all come round ta say Howdy. After polite beehind sniffin', we be off.

Now I thought all dese dogpeoples were dare ta play – but Noooo! Dey start running around, sniffing da air an' stuff. All uvva sudden, one of dem Britthingys goes all stiff.

My Gosh! I wunner. He dead? Den anudder one comes easin' up, an' he get all stiff, too. Now what's dis poop? All uvva sudden, a bunch of little brown jobbers (LBJs) flys up makin' all kinda noise. Den all heck break loose – da thundersticks be goin off; dog peoples running all over, pickin up LBJs; humans yellin' "Dead Bird!" – real excitin' stuff!

A little later, I be wannerin round with Ray an' Chet when more of dem LBJs come up. Dis time I tink I supposed ta be doing sumpin, so I get right inna middle of tings. More excitement. Awesome odors. Dis be pretty good.

Den we really gets ta walkin. I bet we walk a hundret miles before lunch. I started gettin mighty pooped, so I just kinda walk behind DBM and plopp down. Dat grass be so high, I can't see nuttin anyway. Den I starts gettin a wiff

of sumpin. Don't smell like dem LBJs. I just start follering me nose, an' it get stronger. All uvva sudden, a great big brown jobber leaps up right in front of me nose. Humans be yelling “Hen!” – whatever dat be. ‘Cept ole DBM, who be yellin, “Way ta go, Thor!” He be rubbin me neck an' sayin “Good boy!” An’ “Da Grin” be real big! Da udder humans be tellin me how great I be, too. Heck uvva deal!

Just a bit later, I hears all kinda thunderstick noise. I looks up in time ta see a big pretty bird comin down. Ole DBM starts running, an' da udder dog peoples go thunderin after him. Dey be lookin all over. Da herd takes off in dis direction, an' I follow. Dey all go right past dis onespot, but it smell too good here for me to follow. All uvva sudden, da smell be right dare, an' I looks down, an' here be dis critter RIGHT DARE!

So I stan dare real still, lookin at it, but I ain't got no idea what I supposed ta do next. I hear da humans hollering, “Thor got it!” Well, I ain't actually got it, but I sure knows where it be. Den DBM be dare, an' “Da Grin” is about ta split his face open. He grabs dat critter an' rubs me down an' lets me sniff an' stuff, an' oh, it be a good thing!

We walk a whole mess more, but no more bird thingys.

I tell you, I was one tuckered Toller after all dat walkin. I gots dem nasty sticky thingys between me feets an' under me arms an' on a real private place. Ole DBM gets dem off. (Except da last one – says I can just get dat one me own sef.)

When we see MBM (My Beloved Mistress), ole DBM can't stop yappin bout how good I done, an' she be tellin me what a good boy I was an' all dat. Life be good.

But do you tink dat dis be Toller Abuse? Dog, I can hardly move today. But ya know, it feel kinda good. I tink dat maybe dese LBJs an' big pretty birds an' duck critters DBM always be talkin bout, somehow des be what I's about. But I sure wish we didn't have ta walk no hundret miles ta find dem tings.

See ya, Thor

Trout Stocking Schedule

STOCK DATES	STOCK AREAS																						
	Webster Res. Stilling Basin	Glen Elder Res. Stilling Basin	Glen Elder SP Pond	Goodland - Smoky Gardens	Kanopolis Res. Seep Stream	Kanopolis SP Pond	Cedar Bluff Stilling Basin	Salina - Lakewood Lake	Tuttle Creek Res. Seep Stream	Clinton SP - Lake Henry	Scott State Lake	Cimarron Grasslands Pits	Gt. Bend - Vet's Memorial Park	Dodge City - Lake Charles	Garden City - Finney Refuge Pits	El Dorado SP - River Area	Sedgwick Co. - Vic's Lake	Sedgwick Co. - Slough Creek	Wichita - KDOT East Lake	Hutchinson - Dillon Nature Cntr	Ft. Scott - Gunn Park East Lake	Mined Land WA - Unit #30	
July 1, 2003 thru June 30, 2004																							
Jul 1 - Jul 14																							
Jul 15 - Jul 31																							
Aug 1 - Aug 14								600															
Aug 15 - Aug 31																							
Sept 1 - Sept 14								600															
Sept 15 - Sept 30																							
Oct 1 - Oct 14								600			542	520	400	500									935
Oct 15 - Oct 31	2,400			700	970	500	1,970	970	600	500	2,800	542	520	400	500	500	1,038	320	596	835	325	935	
Nov 1 - Nov 14								600	500		542	520	400	500	500	1,038	320	596	335	325	935		
Nov 15 - Nov 30	2,400		950		970			970	600	500	1,500	542	520	400	500	500	1,038	320	596	335	325	935	
Dec 1 - Dec 14				700				600			542	520	400	500	700	1,038	320	596	335	325	935		
Dec 15 - Dec 31	2,400		950		970		1,470	970	600		1,420	542	520	400	500		1,038	320	596		325	935	
Jan 1 - Jan 14								600			542	520	400	500	600	1,038	320	596	335	325	935		
Jan 15 - Jan 31	2,400				970			970	600		1,420	542	465	340	445		1,038	320	596		325	935	
Feb 1 - Feb 14			950	700				600	500		542	465	340	445	750	1,038	320	596	335	325	935		
Feb 15 - Feb 28					970		1,470	970	600		1,500	542	520	400	500	600	1,038	320	596	335	325	935	
Mar 1 - Mar 14						500		600	500		542	520	400	500	600	1,038	320	596	335	325	935		
Mar 15 - Mar 31	2,400				970			970	600	500	1,500	542	520	400	500	600	1,038	320	596	335	325	935	
Apr 1 - Apr 14								600			542	520	400	500	400	1,038	320	596	335	325	935		
Apr 15 - Apr 30																						935	
May 1 - May 14								600														935	
May 15 - May 31																						935	
Jun 1 - Jun 14																						935	
Jun 15 - Jun 30																						935	

Fishin' Tips

Plastic Worms: No single lure has proven more effective for catching bass than the plastic worm. Worms come in various shapes and range from 4 to 12 inches long. The most popular worm length for largemouth bass is the 6-inch variety. For spotted bass and smallmouth, a 4- to 5-inch worm works

best. When bass seem reluctant to hit a conventional worm, try an exposed-hook worm rigged Carolina style with a one-ounce sinker.

Spool Capacity: To achieve maximum performance from your bait-casting or spinning reels, the line spools should be filled to capacity. When spooling on new line, keep adequate tension on the line and fill to approximately 1/8 inch

from the top of the spool. Keep extra spools for spinning reels in your tackle box and keep them loaded with different line weights. This allows you to adjust to any number of water and fishing conditions. To prevent line twist, always take the line off the bulk spool the same direction – clockwise or counter-clockwise – that it went on.

–Humminbird Fishin' Tips

Marais des Cygnes Mussels

Established in 1992 to protect and restore bottomland hardwood forests, the Marais des Cygnes National Wildlife Refuge offers a particularly rich cross-section of plant and animal diversity. Today, the 7,500-acre refuge offers exciting news about the success of one of its most vulnerable inhabitants – freshwater mussels.

The world's greatest diversity of freshwater mussels is concentrated in North America, with approximately 300 species and subspecies. By comparison, Europe supports only 12 mussel species. Unfortunately, the rich mussel fauna of North America is in jeopardy in many streams and rivers due to habitat modification, destruction, and pollution.

Freshwater mussels are now considered among the most imperiled animals on the continent. Consider this: 61 species of mussels are federally listed as

endangered and eight as threatened. Another 36 species are believed extinct in North America, and that number is expected to increase.

Freshwater mussels in Kansas have undergone a similar decline. Of the 46 known varieties, 10 mussel species are state-listed as endangered or threatened, and another dozen are listed as species in need of conservation. Additionally, at least five species are thought to have vanished from the state.

However, one location is bucking both the local and national trend. In the Marais des Cygnes River, which runs through the wildlife refuge, mussels are flourishing. According to Bruce Freske, refuge manager, a recent study found that the roughly 10 miles of river habitat within the refuge supports "one of the most diverse and abundant fresh-

water mussel assemblages in the state."

The mussel study was conducted by Brian Obermeyer, director of The Nature Conservancy's Flint Hills Initiative. Before coming to the Conservancy, Obermeyer conducted freshwater mussel research in a four-



Spectacle Case



Purple Warty-back



Black Sand-shell

state area and is considered by his peers to be one of the leading experts on these species.

Perhaps the biggest news has been the discovery of two mussel species previously unreported from the state – purple wartyback and spectaclecase –

and the rediscovery of a species thought to have disappeared from Kansas – the black sandshell.

"Threatened and endangered mussel species are not out of the woods in Kansas," says Freske, "but we know, as seen at the Marais des Cygnes National Wildlife Refuge, that we can help preserve and restore their fragile populations by protecting their habitats."

According to Obermeyer and Freske, there are numerous reasons to protect the state's rich diversity of freshwater mussels. One reason is that mussels are filter feeders and contribute to water quality by removing suspended particles of sediment.

"An average-sized freshwater mussel can filter more than eight gallons of water during a 24-hour period, making the filtering effect of tens of thousands of mussels in high-density mussel beds ecologically significant," said Obermeyer.

Mussel growth rings provide a record of the history of each individual, showing that some species live over a century. This record also documents changes in stream health through time because of the mussels' sensitivity to pollution.

—*The Plains Keeper*

HEAVENS ABOVE

If you're interested in satellites or astronomy, www.heavens-above.com is the place for you. This website provides information needed to observe satellites such as the International Space Station and the Space Shuttle, spectacular events such as the dazzlingly bright flares from Iridium satellites, and a wealth of other spaceflight and astronomical phenomenon.

Heavens-Above provides times of vis-

ibility for these events, as well as detailed star charts showing the satellite routes through the heavens. All information and pages are customized for your location and time zone.

By registering at the site, users will open the door to a host of features to appear over the coming months. Whether you are a seasoned astronomer or a budding star-gazer, Heavens Above has something for everyone.

—*Shoup*

NEW COMMISSIONERS

Gov. Kathleen Sebelius has announced appointment of Kelly Johnston, Doug Sebelius, and Shari L. Wilson to the Kansas Wildlife and Parks Commission. Each will serve a four-year term ending June 30, 2007.

Johnston, Wichita, is president and managing partner of the Johnston Law Offices, PA. He is a member of the Kansas Trial Lawyers Association and served since 1999 on the executive committee of the Kansas Trial Lawyers Association. He is currently a member of the NAACP, the Sierra Club, and the Brady Center to Prevent Gun Violence. Since 1998, Johnston has continuously served as treasurer of the Sedgwick County Democratic Central Committee. He is the holder of a Kansas lifetime hunting license and a Kansas lifetime fishing license.

Sebelius, Norton, is an attorney with Sebelius and Griffiths, LLP. He has been a county attorney for Norton County for 22 years. In this capacity, he has gained experience assisting conservation officers and park rangers with enforcement programs and management issues. Prior to 1973, he worked as a seasonal ranger and park interpreter for the National Park Service. Sebelius is the director of the Norton County Community Foundation and trustee of the Keith G. Sebelius Foundation.

Wilson, Kansas City, is a special project coordinator for the Kansas Association for Conservation and Environmental Education.

She has coordinated the annual Kansas Environmental Education Conference and a four-state environment education leadership clinic. She is currently a member of the Kansas Association for Conservation and Environmental Education and The Nature Conservancy and is chair of the Wyandotte County Lewis and Clark Task Force. She was selected for the Leadership 2000 program and the Kansas Environmental Leadership Program.

—Luce

DUPLICATE CERTIFICATES ONLINE

In Kansas, all hunters born on or after July 1, 1957, must complete an approved hunter education course before hunting. Hunters younger than 27 must carry their certification card with them while they hunt. Occasionally, cards get lost, and a duplicates are needed.

In the past, this has meant sending name, address, date of birth, and card number (if available) with a check for \$11 to the department's office in Pratt; visiting a state park office or regional KDWP office; or phoning (620) 672-5911 and purchasing a duplicate with Mastercard or Visa.

While these methods are still available, KDWP has announced that hunters may now purchase duplicate Hunter Education cards over the internet at www.accesskansas.org/app/kdwp/hunt_ed/index.php. It's easier to visit the department's website:

www.kdwp.state.ks.us. Click "Education" on the left menu, then "Hunter Ed" from the top menu, then "DUPLICATE HUNTER ED CARDS."

—Luce

CWD UPDATE

Both the Center for Disease Control and the World Health Organization have investigated Chronic Wasting Disease (CWD) in deer and elk and have not found a link between CWD and any illness in people or livestock. However, there are common-sense safety procedures that hunters should follow. Hunters should avoid eating any deer or elk that appear to be ill. Certain portions of a deer or elk, such as the brain, spinal cord, lymph nodes, eyes, and tonsils, should not be eaten.

Hunters may submit the head from their deer to help

KDWP check for CWD. The deer must be at least 17 months old to qualify; the brain stem must be fresh and intact; and the hunter must provide the exact location where the deer was killed. Deer heads submitted by hunters are taken on a first-come, first-served basis until approximately 100 samples are obtained from each deer management unit. Contact the nearest KDWP office for more information about submitting a deer head. There is no charge to the hunter for this test; however, it may take months before lab results are returned. Hunters who want personal, rapid testing to check their deer for CWD may take their deer to a veterinarian and have the appropriate tissues collected and shipped.

For more information, contact a KDWP office or visit WWW.CWD-INFO.ORG.

—Shoup



Outgoing Commissioners: From left to right, Dr. Tom Warner, Manhattan; Will Carpenter, Towanda; and John Mickey, Atwood, show the cake presented to them at the June Wildlife and Parks Commission meeting in Atwood. The three served eight years (two terms) on the seven-member Commission and worked with a wide variety of wildlife and park issues. The Commissioners were commended for their dedication and service and will be missed. Governor Sebelius has announced three appointments to replace them, see article above.

by Mark Shoup

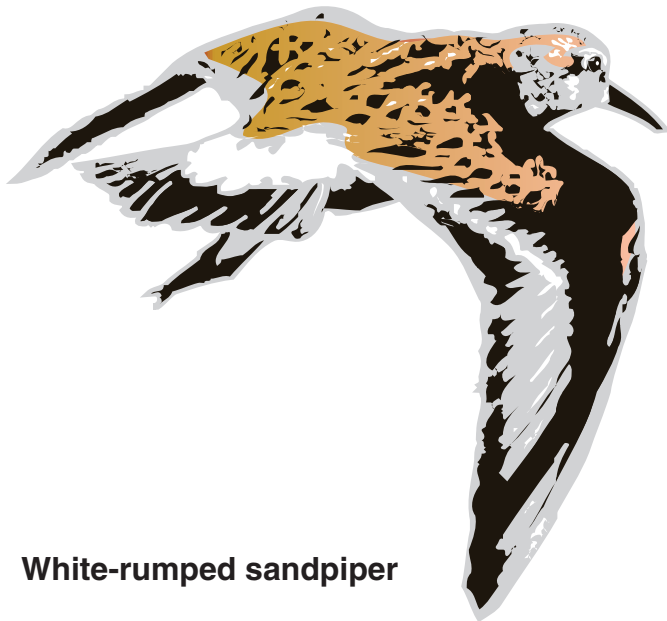
Have you ever sat next to a quiet, bare shoreline just to watch the birds? If so, chances are you've seen one of a group of birds commonly called "peeps." These curious little birds move about rapidly on wet mudflats, poking and prodding for bloodworms and other insect larvae on or below the surface.

Name That



The five most common species of peeps (small shorebirds) in Kansas are the least, semipalmated, western, Baird's, and white-rumped sandpipers. While different species, they look so much alike, they often drive bird-watchers crazy trying to identify them. They are all very small, with the largest, the white-rumped sandpiper, measuring 7 1/2 inches from the tip of its tail to the tip of its bill. To complicate identification further, they are all primarily white and brown, with occasional splashes of black. They all have short legs, too.

The five most common Kansas peeps belong to the genus *Calidris* (in the sandpiper family, *Scolopacidae*). They can be seen in early March and start returning



White-rumped sandpiper

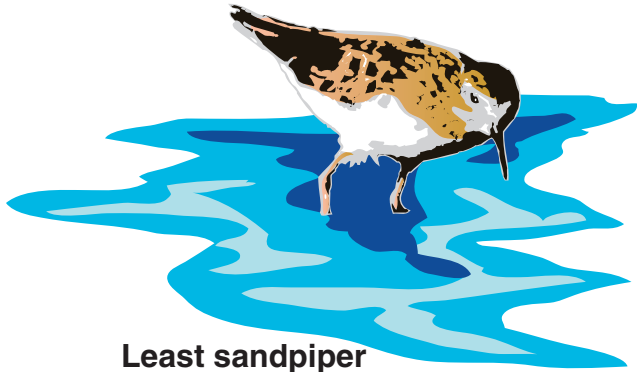
to Kansas in early July when they migrate to and from summer nesting grounds to the north and stop at wetlands to rest and refuel. Several species travel and feed together in mixed flocks, making their identification even harder.

As with most birds, a good identification guide is an important tool — an essential one in this case — for identification of peeps. A spotting scope is almost always necessary, too, and binoculars will help.

The least sandpiper is the most common peep at Cheyenne Bottoms Wildlife Area, near Great Bend. It has a short, thin bill that droops slightly at the end. True to its name, the least sandpiper has a small head, but the single most important identifying feature is its yellow legs. No other small peep has yellow legs. Its breast is also more streaked than other peeps.

Another common peep is the semipalmated sandpiper. Found near both fresh and salt water, the semipalmated sandpiper looks very much like the least in size and color although it has black legs and a grayer body, a less streaked breast, and a shorter bill. (Only close examination reveals this bill difference.) It is named for its partially-webbed toes.

The western sandpiper likes sandbars and mudflats equally and may be found in deeper water than the semipalmated. The western may even submerge its head when feeding. Its bill is longer than that of the least or semipalmated sandpiper, and the hook on the end of the bill is more clearly-defined. The western and semipalmated look grayer than the browner white-rumped and Baird's (see below) and least. The semipalmated and westerns seem to have a thicker bill than the Baird's, white-rumped, and leasts.



Least sandpiper

The Baird's sandpiper is a little larger but not as common as the first three peeps mentioned here. It may be identified by the scaly appearance of feathers on its back, a slimmer appearance than other peeps, wing tips extending beyond the tail, and black to dark-green legs. The Baird's sandpiper picks at its food rather than probing the mud, which may also help in identification.

Also not as common as the other peeps, the white-rumped sandpiper has a ready identifier in its name; its rump is white. White rumped sandpipers are also probing feeders and are long-winged like

Baird's sandpiper



the Baird's. White-rumps migrate late, while Baird's are early migrants. Few white-rumps come through Kansas during southward migration.

The spring migration is by far the easiest time to identify these birds because they are in full breeding plumage. They may also be tamer at this time and display distinctive

courtship displays described in most good bird identification guides.

Peeps begin migrating through Kansas in early to mid-March, sticking around until early June, at the latest, before continuing their trip north. However, they soon return, making their southbound appearance in early July. Some may remain in Kansas until

late October, depending on the weather.

Some peeps winter as far south as Argentina (white-rumped) and central and northern South America (semipalmated and western sandpipers). Others are found along the coasts of southern North America (least sandpipers).

In summer, they breed as far north as northern Canada and Alaska. Most females lay a clutch of four eggs, which may weigh as much as the mother herself. Large eggs are necessary because young peeps will walk only hours after hatching and move with their parents to feeding areas, where

they eat on their own. They must

also develop quickly to avoid predators, such as raccoons, foxes, weasels, raptors, and gulls.

One of the most interesting behaviors of peeps, as well as other shorebirds, is called the "distraction display." When a predator approaches the nest of young, the parent will distract the predator by pretending to have a broken wing. It may also imitate a rodent and run, drawing the predator away from its young.

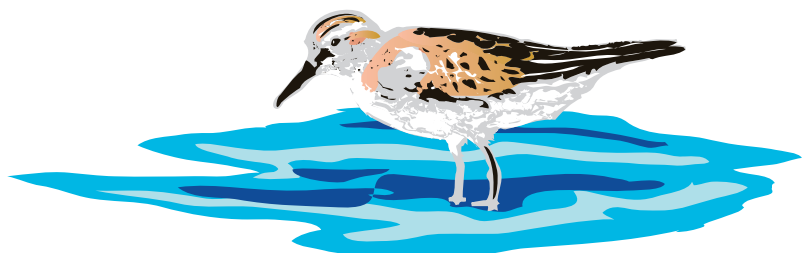
Cheyenne Bottoms Wildlife Area and Quivira National Wildlife Refuge, near Stafford, are two great places



Semi-palmated sandpiper

to watch peeps. However, these interesting little birds can be found at almost any body of water with a bare mudflat. Potholes, playas, marshes — any wetland will do if it has a bare shoreline.

This September, take a peek at some peeps. They should be around until the weather turns cool. And enrich the spring of 2004 by asking Santa Claus for a good bird identification guide.



Western sandpiper



Backlash

by Mike Miller

Learn To Shoot

Like many of my generation and those before, I learned to shoot mostly through trial and error. I started with a BB gun when I was 9. Through sheer determination (about 10,000 BBs), I became proficient. My friends and I would have contests with increasingly smaller targets, improving our technique. But we never received any formal instruction.

That background served me well when I graduated to a .22 rifle. Tin cans or sitting rabbits were a cinch, especially with a low-power scope. Still I didn't truly learn to shoot a rifle accurately. I think there was a notion that shooting ability was something you were born with. Either you had it or you didn't, and every young hunter had fears about whether they did or didn't.

When I was 11, opening day of my first pheasant season was the most exciting day of my young life. I had shot Dad's 12 gauge at stationery targets, but I'd never fired a shot through my 20 gauge before that Saturday. While I had the time of my life that first season, I never downed a bird. I was instructed on safety, and I attended a hunter education course, so I could handle the gun safely. I just couldn't hit a flying target with it.

Before my second season, Dad threw clay targets for me, and I gained some confidence. That fall, I finally knocked down my first pheasant, but I still didn't know how to shoot a shotgun.

It was the same with archery. I shot a bow for years before I learned proper technique from an expert shooter. In both wingshooting and archery, I developed some bad habits on my own.

In the last two years, I've learned more about wingshooting and archery than I had in the previous 20 combined. I've been fortunate to shoot sporting clays along side some Master Class shooters, and I've learned from them. Shooting in a winter indoor archery league with accomplished archers, I've learned just how accurate a bow and arrow can be with the correct technique. And I've learned that good shooters aren't born. Some are born with better eyesight and some have better hand-eye coordination, but good shooters are a product of good instruction and lots of practice.

Practice should be done on targets at the trap and skeet range, sporting clays course, or archery range. There you can shoot a variety of targets and you're guaranteed lots of shooting. On some days pheasant

hunting, you might shoot only once or twice. You can't learn to shoot that way. And when shooting targets, a poor shot never results in a wounded game animal.

Most local gun and bow clubs bend over backwards to accommodate new shooters. After all, they are future customers and members. And I've found veteran shooters more than willing to help anyone who wants to learn. Shotgun and bowhunting magazines are filled with ads for shooting instruction videos. Buy them, but try to find an accomplished shooter or professional instructor to help you. You'll learn much faster. As hunters, we have a responsibility to become proficient with our equipment to ensure our harvest is humane and ethical, as well as safe. But just as important, hunters must pass along our knowledge of outdoor skills to the next generation.

One facet of the "Pass It On" program deals with outdoor skills training, and we've only begun to scratch the surface. By teaching young and new hunters these skills, we hope to make them more successful and their time in the field safer and more enjoyable. We'd also like to think that improving hunters' skills makes hunting more acceptable to non-hunting observers.

Recently, through the "Pass It On" program, the department established a part-time position dedicated to teaching beginning wingshooting skills. Jim Kellenberger, of Jetmore, has been selected to fill this position. Kellenberger spent 37 years in wildlife law enforcement, recently retiring from his regional supervisor position. He's an avid hunter and shooter, is NRA certified in shotgun instruction, and has already conducted many shooting workshops. Kellenberger is available to conduct day or half-day wingshooting clinics for groups of youngsters and beginning shooters. For more information, give me a call at the Pratt office, (620) 672-5911.

Whatever your hunting passion, make it a point to improve your shooting skills before you hunt this fall. Whether that means evenings at the local archery shop, trap or clays club, or rifle range, learn to shoot better. It's the responsible thing to do, and you'll be more successful this fall. If you really want a positive experience, take the whole family along. With proper equipment and good instruction, everyone will enjoy shooting.

