September-October, 1975 Vol. 32, No. 5

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COVER PHOTOS
Front cover—Raccoon, young screech owl and black rat snake by Vic McLeran. Frost-burnt sumac and sand plums by Ken Stiebben.


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KANSAS FISH & GAME is an official bi-monthly publication of the Kansas Forestry, Fish and Game Commission, Box 1028, Pratt, Kansas 67124. Subscription is free upon written request to adult Kansas residents. Articles in the magazine may be reprinted without permission provided proper credit is given. Second class postage paid at Topeka, Kansas, and at additional mailing offices.
AKE a chunky shorebird that's deserted the sea; give it a long prehensile bill and an upside-down brain and then for good measure—a pair of ears located ahead of its eyes.

What you'll have is Kansas' most unusual, least known gamebird—the woodcock.

Woodcock? Yeah woodcock—or timberdoodle or night partridge or mud snipe or bog sucker or any of the other colloquialisms this little woodland spirit goes by.

Once you've had a good look at the woodcock, you're not likely to forget him. This unusual little bird sports a coat of russet, laced with shades of dark brown, gray, beige and gold. The bird's short wedge-shaped tail is a medley of brick-red, black, light gray and white.

The hens average about seven ounces in weight while the males are an ounce or so lighter. Both birds have a long prehensile bill, especially adapted for probing and seizing earthworms in moist soil. The lower part of this appendage is equipped with sensitive nerve endings which enable the bird to locate earthworm movements.

On the underside of the upper bill are small projections which act as teeth. The tongue is rough-surfaced to aid in grasping the slippery worms. The bird's nostrils are set high on the bill for easy breathing while the bird is probing. The female's bill is considerably longer than the male's.

The eyes of a woodcock are large and are positioned high on the head, presumably to enable the bird to see all around while it's busy feeding. This weird-looking little gamebird's ears are set in front of its eyes—actually between the base of the bill and the eyes. Some woodcock researchers say hearing may play an important part in the timberdoodle's search for underground worms.

Unlike any other bird in the world, the woodcock's brain has been pushed down and back—evidently to make room for the high-set eyes and the ears. In this position, it's actually upside down.

The shy timberdoodle's voice is heard most often during the spring—at mating time. Frank Woolner, in his authoritative book, Timber-
doodle!, describes the voice and the courting sessions. “There is, first, the ‘peent’—a metallic buzz reminiscent of a cicada in August. The sound is insectlike, hardly something you’d expect from a game bird. It is a nasal challenge, thin, yet loud in the cold silence of an early spring twilight. It is a sound like the chain saw of an elf attacking the dry shards of a dead summer’s underbrush.

On the singing grounds, dominant male woodcock establish territory and initiate regular dawn and dusk flights to advertise their virility and command of the ground. Flush usually is accompanied by that wild twitter of air keening through primaries, and the season prompts other languages.

Spiraling down after a triumphant flight, woodcock make a new and different liquid trill, called by some the ‘kissing sound’. It is musical and aboriginally beautiful, absolutely right against a background of dusk and red west and the first glinting of stars in a blue gray zenith.

If a hen appears, drawn to this aerobat of the twilight zone, yearning for some unknown union which burns within her immaculate printed circuit of blood and brain, then one may also hear a soft gurgling note, usually uttered by the male but sometimes by the female as well. This has been described as a melodic gurgle. The sound is low pitched, so one must be close to hear it.”

Once the courting is finished, the male woodcock leaves the hen to the business of building a nest, laying the eggs and bringing off the hatch. In Game Birds of North America, author Leonard Lee Rue writes about the timberdoodle’s nesting habits: “The woodcock’s nest is a mere depression in the leaves. It may be situated in the drier portion of a swamp or in a thicket, but it is almost always in close proximity to water. The nest may be near a concealing clump of grass or right out in the open. Concealment is not really important because the female’s protective coloration is so perfect that it is almost impossible to see her on the nest.”

The female deposits four or five (usually four) cinnamon-colored eggs that are blotched with darker spots. While breeding, the hens are extremely tight-sitting and some even allow themselves to be stroked while on the eggs. Astonishing as it may seem, there’s one case on record of a hen woodcock, her nest and the surrounding dirt being dug up, put in a box and carried to a photography studio. After pictures were taken, the whole affair was returned to its original site—all this without the female ever leaving her eggs.

Incubation lasts about three weeks. Like many other gamebirds, young woodcock are precocious which means they’re agile enough to travel within a few hours of hatching. Woodcock expert Woolner, says that two days after hatching, the entire brood may be more than a hundred yards from the natal site busily foraging.

Steve Clubine, game biologist for the Commission, found two young woodcock this past spring on the Woodson County Game Management Area. Clubine was checking the area with his weimareiner when the dog got “birdy.”

Female woodcock brooding her clutch of four or five eggs. Some hens are so tight-sitting they can be touched while on the eggs.

Leonard Lee Rue
“Suddenly an adult hen flushed ahead of us, fluttering and flapping about, trying to lure us away with the old broken wing act.” Clubine told me. Presently Clubine and his dog located the young woodcock “frozen” in the bluestem. The biologist was able to reach down and pick up one of the youngsters. Though most common in the eastern quarter of the state, woodcock are occasionally found further west. Clubine shot one near Ellsworth during the pheasant season and Marvin Schwillin, waterfowl project leader, sees them at Cheyenne Bottoms near Great Bend.

About a month after hatching, the young woodcock are nearly full grown. At six to eight weeks they leave the hen to forage for worms and other invertebrates on their own. In addition to worms (about 90 percent of their diet) timberdoodles feed on insect larvae, ants, moths, tender ferns and some seeds. Snails are also taken by the longbill. Biologists say a woodcock will eat more than its weight in earthworms every 24 hours.

Inhabiting moist creekbottoms and lowland areas, the timberdoodle has its share of natural enemies. Free-ranging domestic dogs are great nest destroyers and ‘possums, skunks, black snakes and ‘coons are all fond of woodcock eggs. Crows are known nest robbers and squirrels have a taste for young woodcock flesh in the spring. Foxes, coyotes, hawks and owls probably take an occasional adult longbill. But the majority of well-informed game biologists feel that natural predation has little overall effect on woodcock populations.

The greatest killers are adverse weather conditions, habitat destruction and pesticide accumulation in earthworms—the woodcocks’ primary food source.

Though most woodcock in Kansas are taken inadvertently by quail hunters, some are sought intentionally by gunners with a taste for the sporty little bird. Bob Hartmann, assistant chief of the fisheries division, hunted woodcock when he was a district fisheries biologist at Pittsburg.

Woodcock are equipped with a long prehensile bill that enables them to probe the soil for earthworms.

“I found the birds in strip pit areas where heavy ground cover like honeysuckle kept the soil moist,” he told me. “They’d usually flush fairly close and normally didn’t fly far when flushed. In fact, we could often flush the same bird again.”

Joe Goodeyon, Chanute sportsman, told me he saw a flight of about 90 woodcock late last fall while duck hunting along the Neosho River south of the refuge. I know Joe and he’s an exceptionally keen outdoor observer, so the St. Paul area might be another good place for the woodcock hunter to keep in mind.

Though not exceptionally fast, woodcock have a twisting erratic flight pattern which makes them deceptively difficult to hit. Those who’ve hunted them say a 12-gauge bored cylinder, loaded with No. 8 or No. 9 shot is a good choice for the little longbills.

Back East, no respectable woodcock hunter goes afield without a good bird dog. Timberdoodle author Frank Woolner says, “Fortunately, our great American timberdoodle is a real patsy for any halfway decent pointer or retriever. Strong scented and usually close lying, the woodcock is the easiest of all upland birds for any breed to work successfully.”

Breeds such as Brittanies, pointers, setters, Labradors, goldens, and German shorthairs have all been used effectively in hunting woodcock.

How’s the woodcock eat? I guess that depends on who’s doing the tasting. I’ve never eaten woodcock but those who have say the flavor is similar to that of doves although slightly more “livery.” In Europe and parts of the eastern U. S., the birds’ intestines, called “trail” are considered a gourmet dish. Woolner’s book provides a number of recipes for the hunter who wants to try his luck with a mess of woodcock.

Although woodcock hunting in Kansas is still in its infancy, there appears to be a growing interest in this strange little gamebird. And as quail habitat shrinks and it becomes more difficult to find land where you can take a limit of ringneck pheasant, there’s a good chance more and more hunters will turn to the timberdoodle for an added wingshooting bonus.
Taxidermy and Taxidermists

By George Anderson, Staff Writer

TAXIDERMY, according to the World Book, is a technique for preserving animals as they looked when alive. Taxidermy comes from two Greek words meaning arrangement and skin.

Remember the above description when you ask a taxidermist, “Do you stuff birds?” Asking a taxidermist if he stuffs anything is similar to asking a surgeon if he uses a fire axe for a delicate incision.

Pioneers of the art are responsible for the popular term of “stuffing.” Early day practitioners would fill the various skins sawdust or a like material. An attempt was then made to pose it in a natural posture. Results were as you might expect, rather poor.

Modern day taxidermists have at their disposal a variety of material and forms that make mounting less complicated. These various forms have been molded from actual animals and while expensive they generally produce a mount that you can be proud of for many years.

Taxidermists are like mechanics. There are good ones and there's the “shade tree” types. The really good taxidermist is a combination artist, sculptor and student of wildlife. They're spent untold hours in study and practice before taking on a job for a friend or customer. They approach a job with knowledge that if they foul up your trophy deer head, eight pound bass or 12 pound goose they can't go down to the discount store and replace it. A display of their work is ready for your inspection at all times.

One thing is certain. If you expect your trophy to look natural and life-like, proper field care is very important to you and the taxidermist. In order to do his best work he must receive your specimen in the best condition possible. If the bird or fish has been properly cared for, his job will be much easier.

Most sportmen don't give much thought to having a specimen mounted until the moment is at hand. Assuming the bird has been shot there is going to be some blood on the plumage. Carefully remove as much blood as possible with a rag or piece of cotton and plug the shot holes to prevent further bleeding. Arrange and protect the plumage from damage. After you've gone to this much trouble don't jam the bird in your game bag. Return to your vehicle and store the bird in a protected area of the car. Pheasants have long tail feathers which should be protected.

If the bird can't be taken to a taxidermist the same day it was collected it must be frozen. Before placing the bird in your freezer it's a good idea to secure a leg tag with your name, address, the date, and your hunting license number. If the bird is to be frozen for any length of time it should be sealed in a plastic bag. This will protect against freezer burn.

Birds, such as ducks with web feet, should have the feet wrapped in wet cotton before freezing. This protects the webs from drying out and becoming freezer burnt.

Birds properly cared for can be frozen for long periods of time and still be in good condition for mounting. However, it's best to deliver the specimen to the taxidermist as soon as possible. Be prepared to give mounting instructions, a picture of how you would like the bird is also a good idea. In some cases the injury and damage caused when the bird was collected will not allow a certain mount, so discuss it with the taxidermist.

Another popular phase of taxidermy is preparing and mounting fish. In fact, this is almost a specialty within the trade. During the mechanics of mounting a fish it loses almost all of its natural colors. These colors can only be replaced by paints and tints. The first method is by hand painting with the use of oil paints. The second, and best methods, employs the use of an air brush.

Fish, like this trophy bass, must be properly cared for in the field if the taxidermist is to do his best work.

Ken Stiebben
The air brush allows a taxidermist to apply thin layers of paint to the fish and blend the colors into a beautiful specimen. Unfortunately, a quality air brush costs several hundred dollars and many taxidermists feel this investment cannot be justified.

Field care of fish is also very important. First of all a dead fish will spoil rapidly. If you can't keep the fish alive, wrap it in a damp cloth and pack in ice. Don't allow the fish to lay in the sun and NEVER gut a fish that is to be mounted.

There are some important guidelines to be followed when freezing a fish for future mounting. First, protect the fins and tail. The tail becomes very brittle when frozen so fold a piece of cardboard over it. Wrap the fish in a wet cloth towel and seal it in a plastic freezer bag to prevent freezer burn. Again, know what pose you want when the fish is delivered for mounting.

Small to medium mammals such as squirrels, opossums and raccoons can be frozen much the same as birds. Certain skinning procedures must be followed and are best left to the taxidermist.

Trophy big game heads such as deer, elk, moose and wild sheep are some of the most popular mounts demanded by sportsmen nationwide. Kansas is no exception. Some very fine Kansas deer heads and more recently antelope have been prepared by our resident taxidermists.

Hunters of big game species generally know beforehand if they are trophy hunting and have the foresight to contact a taxidermist for field care instructions. However, let's assume you're the average hunter on your first hunt for big game. The only thought at the moment is to have a successful hunt. The day wears on and suddenly you come face to face with what has to be the biggest buck in the woods. The shot flys true and that magnificent animal is yours.

Unlike that pheasant you had mounted last fall, you're not going to freeze the head intact until a taxidermist can be located. If you think the little lady was upset with a bird in the freezer, just wait until you try and store a ten-point deer head there. Anyway home freezers just aren't big enough.

It looks like you're gonna' have to skin that deer head yourself. The following excerpt was taken from Trophy Care: Field to Taxidermist a publication of the Kansas State University Student Chapter of the Wildlife Society.

If the animal was hit in areas other than the neck or head you should not have to bleed it. Under no circumstances should the throat be slit. Stick the animal in the heart behind the front leg if it needs to be bled.

In case it isn't possible to make immediate delivery of the unskinned head, or if it must be shipped, the head should be skinned and preserved as follows:

Skin the trophy head for shipment to a taxidermist. Peel the skin free on both sides of the neck and along the throat being careful not to cut through the skin. Measure the circumference of the skinned neck.

With a heavy screwdriver pry skin loose around the antlers. Cut ear cartilage from skull close to bone. Skin down the skull. Stick the index finger of the free hand into an eyelid of the eye. Praying with a screwdriver helps loosen the skin out of the tear duct. A finger is again used while skinning over the mouth.

The lips should be cut as close to the skull as possible. Cut through the nose cartilage leaving only a small amount of cartilage attached to the skin. Measure the skull.

After skinning and measuring is completed, saw off the top of the skull. This piece of skull with antlers attached will be used by the taxidermist later on the head form.

The ears must be skinned or hair slip will occur. (Some taxidermists prefer to do this themselves.) Start at the base of the ear and carefully separate the cartilage from the hair side of the ear. A blunt edge of a knife or spoon handle can be used. Working carefully, separate the skin to the very tip of the ear leaving it attached to the cartilage on the front side.

In skinning the lips make a slit on the inside of the lips from one end of the mouth to the other end. It's best to leave the ears and lips for the taxidermist if time is not against you, however such is not the case.
case if you are far from home.

Salt the hide after spreading it flat in the shade, hair down. Plenty of salt should be worked into all areas including the ears which have been turned inside out and the lips and nostrils. Leave no unsalted wrinkles.

After a period of time the salt will be wet and should be shaken off. Spread more salt over the skin and roll it up, hair side out. It may take several applications and from five to ten pounds of salt to properly cure the hide. The skin is cured when it appears stiff. While pliable enough to fold, roll up the hide, hair side in. It is now ready for prompt shipment to a taxidermist along with the skull cap and measurements you have taken.

Confused—don’t be. It has taken many attempts for the taxidermist to become expert and you can’t expect to do it perfectly the first time out.

Maybe you’d like to tackle the art of taxidermy yourself. No problem. You don’t have to go to college or spend a fortune on training. To the contrary, a number of good correspondence courses are available at a cost of $20 or less. Most of these courses cover every phase of taxidermy.

Cost of having a trophy mounted is about as varied as the Kansas weather. The majority of local taxidermists do not rely on this income for a living and they charge accordingly. Bird mounts for example can cost from $15 to $40 depending on the taxidermist or the type of mount desired. Birds mounted flying normally cost several dollars more than a standing mount. This price would apply to birds the size of a duck or pheasant which take approximately five hours to prepare.

The price for having a fish mounted covers a wide range also. Cost of fish taxidermy is usually determined by the length of the fish with a minimum charge of $25. Some may charge as little as $1 per running inch while others as high as $3.25 an inch.

Big game trophy heads such as deer can cost as little as $50 or as high as $125. The price grows as the head gets larger.

Full body mounts of mammals will run in price from $125 for a bobcat to $2500 for a polar bear. Not many people have full mounted bears in their dens but some are prepared each year by the larger taxidermy firms.

Dolezal puts the finishing touches on a fine buck and a doe.

Taxidermists, like all of us, are governed by certain laws and regulations in regard to wildlife. Kansas law does not address itself to taxidermy by name however all laws concerning fish and game must be complied with by taxidermist in Kansas. Only wildlife that is permitted by law to be hunted or have in possession can be prepared by the taxidermist.

An example that often comes to the attention of the fish and game commission concerns hawks and owls. Most people now realize that both species are protected. However some think that if they find a hawk or owl laying dead on the roadway or in a field that they can have the bird mounted. Not so. Since these birds are protected, it is also illegal to have them in possession.

Taxidermists should be aware that a federal taxidermy permit is required before any person may perform taxidermy services on migratory birds or their parts, nests or eggs for any person other than himself—This permit must be conspicuously posted at the location where taxidermy services are performed. The U. S. Fish and Wildlife Service issues these permits upon receipt of the proper application to their offices.

Taxidermy and its various art forms has been with us for many years. Fortunately, through the efforts of early taxidermists and students of wildlife, specimens which were common but now extinct still remain as mute reminders of our past mistakes.

An excerpt from the Northwestern School of Taxidermy booklet entitled The fascinating Art of Taxidermy, sums up taxidermy in this way “ . . . true sportsmen have learned that they can double their interest in hunting and fishing by saving the fine trophies they take. They have learned the measure of a day afield is not in the size of the bag but in the pleasure of working with a good dog, sharing the experiences with friends, perhaps introducing a son or a neighbor’s boy to these great outdoor sports. A knowledge of taxidermy makes it possible to preserve a bird or a fine fish taken . . . as a permanent memory of great days afield.”
State Lake Fisheries Management

By Farrell Brewer, Staff Writer

Many state fishing lakes have been constructed in the past and several of these provide excellent fishing. However, just because there's water doesn't necessarily mean there's good fishing.

There must be proper planning and management techniques implemented to insure good fishing. One requirement would be a good sight selection, one with a good drainage from pasture land or treated cropland. During construction, care should be taken to insure the shoreline depth is adequate to prevent excess aquatic vegetation growth.

This should be simple for a fisheries manager to accomplish shouldn't it? Well, if the manager could be consulted from the very starting of a new lake his job would be much easier. However the Kansas Fish and Game Commission doesn't have any new state fishing lakes on the drawing boards or for that matter in the planning stages. The fishery manager is faced with existing lakes and existing problems.

Management and construction techniques have changed over the years. There was a time when the Fish and Game Commission favored the stocking of crappie in a small lake or pond. Today's experts shudder at the thought but are faced with previous management practices.

Not all lakes were constructed with fishing in mind. Miami State Fishing Lake is a good example. It was once a waterfowl marsh owned by a private shooting group. Since it is now under the state lake system, it is taking a new face.

Miami was deemed too shallow to adequately support sport fish during adverse summer conditions. It was drained by cutting the dam in November of 1972. Plans are to enlarge the lake and attain an average depth of 6 feet. The raise will be accomplished by raising the dam and reshaping the basin.

Miami will also receive a new outlet structure, approximately 14 fishing piers, new dike roads and a new bridge. Work is nearing the 60% completion stage. Plans were to have the work completed by this time but heavy rainfalls in the area have hampered construction.

Butler State Fishing Lake underwent a partial rehabilitation in 1970. This 124 acre lake near Latham had provided some excellent angling opportunities up to 1969 when the fishing tapered off tremendously. In 1968 the lake produced 148 pounds of fish per surface acre of which 50% were crappie. In 1969 the lake production dropped to 50 pounds per acre also producing a high percentage of crappie. What had gone wrong? A test netting of the lake pointed out to the fishery manager that the lake was overpopulated with stunted crappie and rough fish.

It was determined that something must be done to rectify the situation and the sooner the better. In 1970 the lake was drawn down and all of the scaled fish were removed with a fish toxicant. Overpopulation wasn't the only problem with which the managers were faced. Since its construction in the mid-fifties the lake had been very turbid. Turbidity causes problems for sight feeding fish. In muddy or turbid water they are unable to see their prey and therefore unable to catch and eat it, which in turn causes stunted fish.

During the drawdown of Butler three fishing piers were constructed. Their main purpose was to deepen shallow shoreline areas and to cut down on wave-created turbidity. They also give the anglers more shoreline to fish.
Ross Harrison

Streams which feed watershed lakes are carefully surveyed before the impoundment is built.

The construction of the piers helped to solve the turbidity problem but other methods were necessary to get a better hold on the problem. A fertilization project was implemented in 1971. It was designed to increase fertility and stimulate plankton growth. The fertilizer also increased organic matter which helped settle out clay particles.

The results of the fertilization project were desirable. The water cleared and managers felt they had a grip on the problem and could handle it in future years. Well, "it seems someone doesn't like us" a fishery biologist stated, "now that we find a solution to a problem we also find there is a fertilizer shortage."

With Butler drawn down all of the scale fish removed, piers constructed it was time to allow the lake to refill and then be restocked. Since only the scaled fish were removed and the skin fish such as channel cats were untouched, the lake remained open for fishing except for a short period of time while the fish toxicant was being applied.

Fisheries managers were so concerned about rehabilitating Butler SFL to eliminate the undesirable crappie and rough fish population they even went up the entire watershed that feeds Butler and killed out the ponds and streams to ensure no rough or undesirable panfish could be reintroduced into the lake.

With the kill-out accomplished, the lake was restocked with largemouth bass and bluegill and some channel catfish to bolster the existing population.

Everyone thought this should be a lake to watch for success. The fisheries managers kept a close eye on the populations and it was during this close watching that discouragement again entered the scene. The crappie, which so much care had been taken to eliminate, again entered the scene. The crappie is undesirable in small impoundments. They over-populate quickly and compete with other species for food. It is feared that soon all of the work that went into the rehabilitation will be negated.

It has not been determined how the crappie again appeared on the scene at Butler. There are those anglers who think they are doing someone a favor by placing fish taken from one body of water into another. It is also possible someone seined minnows to use at the lake and dumped the leftovers into the water and started the crappie. There's not much sense worrying how crappie were re-introduced to Butler, the fact is they are there and will cause problems in the future. The main point is to stop such a re-occurrence at any lake that is to be rehabilitated in the future.

Surveys were conducted prior to the Butler rehabilitation project and have been conducted since. In 1969 just prior to the project, 50 pounds of fish per surface acre were taken, this includes the stunted crappie. In 1973 a survey was taken and showed 87 pounds of per surface acre were taken with very few crappie in the take.

Some of the problems for the fishery manager at Butler State Fishing Lake have been solved with the rehabilitation project, others have been stop-gapped for a while. Butler should be a good lake for anglers, but time will come when the crappie again take the lake over, then will be the time to implement other measures. When the time comes, maybe someone will have a better solution.

The experimental project being utilized at McPherson State Fishing Lake may yield some new answers. Although a much smaller lake than Butler the two share some common problems. McPherson has an over-population of small slow growing crappie and has excessive shoreline vegetation that interferes with fishing.

In 1964, a fertilization program was initiated at this lake in an attempt to reduce rooted aquatic plant growth by creating a plankton bloom to shade out the vegetation. While this program helped, it became very expensive and other methods of control were sought.

Fishery managers recommended that a lake drawdown of 5 to 7 feet be implemented in 1974 following the bass spawn and to hold the level down until fall. This program was started and allowed for the natural revegetation of marsh-associated
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<td>Deer (Archery)</td>
<td>October 1</td>
<td>November 30</td>
<td>1*</td>
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<td>Deer (Firearms)</td>
<td>December 6</td>
<td>December 14</td>
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* - Special Permit Required
Governor Robert F. Bennett has appointed Dr. Jerome Sayler, 54, Great Bend, to a four-year term on the Kansas Forestry, Fish and Game Commission. Sayler succeeds John N. Luft of Bison whose term expired.

Sayler has been Chief of Pathology and Director of Laboratories at the Central Kansas Medical Center at Great Bend since 1954.

An avid sportsman, Sayler has been active in Ducks Unlimited and in a number of civic and social organizations including the Masonic Lodge, American Legion and Veterans of Foreign Wars.

In addition, Dr. Sayler is a member of a host of medical societies. He currently serves on the boards of the Barton County Community College Endowment Association and the Community Hospital Association.

Dr. Sayler will represent the 28-county third district which includes all counties in the agency's southwest region and Greeley, Wichita, Scott and Lane counties in the northwest region.

-GA-
CHANGE OF ADDRESS ???

KANSAS FISH & GAME has a new mailing contractor, one that uses a method of addressing labels which is slightly different than the former contractor's method. Therefore, if you move or have a change of address, but would like to continue receiving KANSAS FISH & GAME, it is imperative that we have your old address label with its computer code number. Simply cut the address label off the current issue of KANSAS FISH & GAME and send it to the Pratt office with your new address.

It's not every day you go fishing and come up with a petrified snake. But that's exactly what happened to Floyd Atherton, pictured here with the prehistoric reptile. Atherton, owner of an awning service in Independence, found the stone while fishing at Marion Reservoir.

"Boat fishing was a little slow," Atherton said, "so I decided to fish from the bank for awhile. I just happened to lean back and place my hand on this rock." Even the snake's eyes are visible and judging from the triangular, wedge-shaped head, the reptile may have been a viper of some sort. (Photo by Emmet Wilson.)
A concerned Attorney General Curt Schneider recently toured the strip pits of southeastern Kansas with members of the Forestry, Fish & Game Commission, for a first hand look at environmental problems in that area.

Schneider and his party were concerned mainly with two problems: the unsightly mounds of earth called "dumps" which remain after coal companies strip the top soil back, and the water pollution problems caused by highly acidic mining wastes.

Speaking of the unreclaimed land, Schneider said, "It's important that this land be returned to some productive purpose, either agricultural or recreational. We feel it's up to the mining companies to bear the cost."

Pittsburg and Midway Coal Company, a wholly-owned subsidiary of Gulf, is the largest surface coal mining operator in the state. Ninety per cent of Kansas' strip mining has been done in the Weir-Pittsburg coal bed located in Crawford and Cherokee counties. Of the estimated 50,000 disrupted acres, only around 4,000 have been reclaimed for productive use.

"We've seen what can be done with proper reclamation," Schneider observed after viewing reclaimed land. "It can be transformed into enjoyable recreation areas for visitors to southeastern Kansas. But to date, only a small percentage has been reclaimed."

Water pollution in the strip pit areas occurs when the earth lying directly above a coal bed is exposed to the elements. This earth is high in sulfur bearing compounds which form sulfuric acid when exposed to air and water. During a rain, acidic water flows from these wastes polluting subterranean water, streams, lakes and ponds.

"When these acidic wastes enter a pit or stream, they reduce the pH level of the water and inhibit the growth of organisms necessary for the survival of sport fishes," said Johnny Ray, Chanute, the commission's regional fisheries supervisor. "As the water becomes more acidic, it will retard the fishes' reproduction and can eventually kill the fish directly."

"We simply can't continue to destroy the land, then walk away from it leaving these wastes topollute for years to come," the attorney general said.

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Know how to tell a spotted bass from a smallmouth? Or a bluecat from a channel cat? If not, a new book on our native fish will tell you.

**Fishes in Kansas**, co-authored by Frank B. Cross and Joseph T. Collins, is the second in a series of illustrated, readable guides to the vertebrates of Kansas. This Public Education Series provides popular publications on natural history for the people of Kansas. The volumes are the result of studies sponsored by the Museum of Natural History and the State Biological Survey.

Dr. Cross is curator of fishes at Kansas University's Museum of Natural History and Collins is the institution's vertebrate zoologist.

**Fishes in Kansas** proves an account of 123 kinds of fish in the state with descriptions of habitats, food and reproduction. There are illustrations of each species and maps showing the counties in which each type of fish has been found.

The book includes discussions of those factors limiting the occurrence of various species and man's impact on fish populations in the century since settlement began. There are complete records of maximum weights and lengths for all game fish in Kansas.

A comprehensive bibliography provides a list of other publications on Kansas fish. The book sells for $6 per copy and can be purchased from the Publications Secretary, Museum of Natural History, University of Kansas, Lawrence, Kansas 66045.
ASHLAND--An eight-month investigation into the killing of a golden eagle was recently closed with the arrest and conviction of a Clark county resident, according to the Kansas Forestry, Fish Game Commission.

David S. Bouziden, Ashland, was charged with knowingly taking a golden eagle without being permitted to do so. Bouziden appeared before U.S. District Judge Frank Theis, Wichita, on June 30 and entered a plea of nolo contendere. Found guilty he was assessed a fine of $1,500 and paroled from a six month jail sentence.

"Our main concern is indiscriminate shooting of eagles in Kansas during winter months when they are here," said Harold Lusk, chief of law enforcement for the commission. "I was very pleased with the recent investigation and judgement by the federal court. This type of fine should help to discourage random shooting of eagles.

The investigation was conducted by state game protector Mike Shanley, Minneola, and Martin Phillips, U.S. game agent from Chanute.

---GA---

WICHITA--A cooperative venture between the Kansas Forestry, Fish and Game Commission and the City of Wichita has resulted in the installation of a new wind-alarm system at Cheney Reservoir.

Installed on the outlet tower at Cheney dam to warn boaters of dangerous winds, the system is automated when winds reach 15 mph. From 15 to 25 mph an amber beacon begins flashing. A red beacon is activated when wind speeds reach 25 mph or greater.

"When operating, each beacon will flash at two second intervals with an intensity of one million candlepower," said Oliver Gasswint, Pratt, boating act administrator for the commission. "Although visibility of these beacons is limited on a bright day, they can be seen from all portions of the lake at night."

In addition to the red and amber beacons, a white beacon has been added as an aid to navigation at night. This beacon will operate during all hours of darkness regardless of wind conditions.

"This is the first warning system to be placed in operation on any Kansas lake," Gasswint said. "It is an experimental project and if it works as well as we think it will the commission will install similar systems at other major water areas in Kansas."
INDEPENDENCE--A softshell turtle, apparently the largest ever recorded in Kansas, was caught recently at the Montgomery State Fishing Lake south of here.

The turtle weighed 19 pounds $5\frac{1}{2}$ ounces on scales legal for trade and its top shell measured $16\frac{1}{4}$ inches in length by $14\frac{1}{4}$ inches across.

Harry Porter, Independence, was fishing for channel catfish early the morning of August 27, when the big turtle took his hook. Porter was baited up with "Polecracker," commercial catfish bait and he was using six-pound test line.

"He played the turtle for 15 or 20 minutes before landing it," said Mrs. Betty Meeker, lake concessionaire.

Joseph T. Collins, vertebrate zoologist at Kansas University Museum of Natural History and author of "Amphibians and Reptiles in Kansas," said this was the largest softshell turtle ever recorded in the state. Collins said the turtle's aggressive hostile manner and its willingness to bite characterize the reptile as a western spiny softshell. Previously, the largest recorded specimen from Kansas was a female taken in Hamilton County with a shell length of 10 and $3/4$ inches.

"The extremely large size of the Montgomery County specimen automatically makes it a female," Collins explained, "since male softshells don't get nearly as large.

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HUNTER TRAINING PROGRAMS SLATED
(released Aug. 6, 1975)

PRATT--Upland game bird and waterfowl seasons are only a few weeks away but many Kansas youth are not yet qualified to join the hunts.

Royal Elder, hunter safety administrator for the Kansas Fish and Game Commission, reminds young hunters of a law which has been in force for three years. "Anyone born after July 1, 1957 must successfully complete the Kansas hunter safety course before purchasing a hunting license or hunting on lands other than his own," he points out.

"This applies to out-of-state young hunters, too," Elder noted. "Any youth coming into Kansas to hunt must have passed a hunter safety program and have a hunter safety certificate in possession before he can get a Kansas license."

There are now more than 3,800 volunteer instructors throughout the state. They have been meeting in recent weeks to organize training classes in each county. Kansas now has more than 58,000 former students who are certified hunters.

KANSAS HUNTER SAFETY PROGRAM RANKS NO. 1
(released Sept. 18, 1975)

PRATT--The Kansas hunter safety program was rated No. 1 in the North American continent at the annual convention of the International Assoc. of Game & Fish Commissioners, according to an announcement from Richard D. Wettersten, director of the Kansas Fish & Game Commission.

A plaque designating the Kansas program for top honors was presented last week to Director Wettersten by the National Rifle Assoc. of America "for outstanding contribution in the field of Hunter Safety."

Competing against 33 other states and Canadian provinces, Kansas' hunter safety training has demonstrated its overwhelming success. During its first two years of existence, it rated in the top five in competition with many older established programs.

Royal Elder, hunter safety administrator, expressed gratitude to the 3,874 Kansas volunteer instructors who helped make this award possible. "The dedication and interest of our Kansas instructors is unequalled. These people were directly responsible," he said.

Elder noted that hunting accidents were down 27 per cent during 1973 and '74 and reported that the Kansas program recently passed the 60,000 mark in number of students completing the hunter safety course.
Submerged brush and timber provide cover for both game and forage fish.

Submerged brush and timber provide cover for both game and forage fish.

The drawdown project can be accomplished with little manpower and little cash outlay. The revegetation of land plants provided a potential spawning bed for northern pike.

The drawdown also crowded the existing fish population and placed stress on them. It was hoped that while the fish were in the crowded condition some of the undesirable fish would be preyed upon and thus eliminated. The effects of the experiment will not become evident in the first years of the project. The lake will be drawn down again this year and six fishing piers will be constructed. The purpose of the piers is to provide anglers access to deeper water and also to deepen the shoreline to prevent some of the undesirable rooted aquatic vegetation.

Another technique fishery managers employ is to place brush piles or fish attractors in the lakes. This will concentrate the fish and give anglers an opportunity to harvest them.

When reproduction of the panfish population exceeds the harvest, it is sometimes necessary to resort to artificial harvest. To accomplish this, a fish stimulant is applied in small quantities which causes the panfish to roam the shoreline. Traps are set and the excess panfish are removed and buried. This appears to be a waste of fish to those who do not understand. The fact is that if these fish were not removed the remaining population would be overcrowded and there would not be enough food supply for all.

Managing a state lake is much like raising a large family. There's no one solution to the problems. Each problem must be handled individually just like a member of a family.

New techniques are always being explored. The fisheries biologists are constantly endeavoring to produce the best fishing possible at each lake.

If you observe a management technique being implemented that you do not understand, feel free to consult members of the Fish and Game Commission for an explanation.
This Is Your Commission

By Paul Bocquin, Staff Writer

The Kansas Forestry, Fish and Game Commission will observe its centennial year in 1977. As it approaches the end of its first 100 years, much of the credit for this agency’s accomplishments goes to the group of men from whom it derives its name—the five-man commission which serves as its board of directors.

Serving without pay except for certain traveling expenses incurred in the performance of their official duties, these men from varied professions share a common interest and concern for the outdoors and the state’s wildlife resources.

The commissioners meet monthly, with about 50 percent of these meetings conducted at the Pratt headquarters and the remainder in other selected locations, usually depending on where there is major business to be transacted.

All such meetings are open to the public. In addition to the regular meetings, public meetings are conducted as needed as a preliminary to any permanent changes in regulations. Sportsmen’s groups and other interested citizens are encouraged to attend and participate in these hearings.

As specified under present law, commissioners are appointed to four-year terms by the governor, subject to confirmation by the Kansas Senate.

Four commissioners are selected to represent four districts—one from each district. The remaining member serves from the state at large. Terms are staggered to insure proper balance between new and experienced members.

These men are charged with many important decisions and responsibilities in formulating policies for the agency. While many of the routine decisions go unnoticed by the average citizen, those directly affecting the activities of the outdoor sportsman frequently draw both favorable and adverse responses from their constituents.

In addition to setting policies, Kansas statues also give the commissioners the responsibility of hiring a director and staff to carry out. Currently, there are some 300 employees on the Commission’s payroll.

The Kansas Fish and Game Commission operates on an annual budget of approximately $6 million but is not supported by general taxes. Commissioners approve the annual budget and submit it to the executive and legislative branches of state government for review and authorization.

Among state agencies the Kansas Forestry, Fish and Game Commission is unusual in that it is entirely self-supporting. Its operations are supported entirely by money received from the sale of hunting, fishing, trapping and boating licenses and federal funds derived from the imposition of a federal excise tax on sale of firearms and sport fishing gear. No general tax funds or appropriations from the state are received by the Commission; sportsmen fund the entire operation.

Know Your Commissioners

The following men are presently serving as commissioners: Art Hanson, Bonner Springs, first district; Fred Sears, Colby, second district; Dr. Jerome Sayler, Great Bend, third district; R. W. “Bill” Fowler, Weir, fourth district; and Lewis B. Moon, Independence, commissioner at large.

Art Hanson, current chairman, a retired building contractor and real estate operator, is a life member of the National Rifle Association. For many years, he was active in the Kansas Wildlife Federation, serving as director of the northeast district. In 1960, he was instrumental in forming the Tri-County Sportsman Club.

Fred Sears, who was employed 33 years by the U.S. Postal Service, continues to manage farming and ranching operations. An avid sportsman and outdoor enthusiast, he raised English setters for 21 years and has combined his love of hunting dogs with his love for hunting, particularly bobwhite quail.

Dr. Jerome Sayler, the most recently appointed Commission member, has been chief of pathology and director of laboratories at Central Kansas Medical Center, Great Bend, since 1974. He has been active in Ducks Unlimited. A past president of the Barton County Cancer Society, Dr. Sayler serves on boards of the Barton County Community College Endowment Association and the Community Hospital Association.

W. R. “Bill” Fowler, a southeast Kansas banker, also is secretary-treasurer of the Jarboe-Lackey Feedlot near Parsons. A quail hunter and bass fisherman, he is an active member of the Cherokee County Sportsmen’s Club. Fowler also served on the state mine-land reclamation board.

Lewis B. Moon, the most recently appointed Commission member, has served as vice president and director of the Sinclair Pipe Line Company. He has served as president of the Past Shooter’s Club of the One-Shot Antelope Hunt and is a past director of that club. He has earned the much sought after Silver Bullet award connected with the special antelope hunt.

Moon helped organize the One-Box Pheasant Hunt at Broken Bow, Neb.
R. W. "Bill" Fowler
Fourth District Commissioner

Dr. Jerome Sayler
Third District Commissioner

Art Hanson, Chairman
First District Commissioner

Fred Sears
Second District Commissioner

Lewis B. Moon
Commissioner at Large

Fish and Game
A charter member and past shooter of the One-Box Sharp Tail Hunt at Ashern, Manitoba, he served as captain and shot of the Kansas team in 1998.

**Major Policy Decisions Faced by Commissioners**

The Commission was reorganized by the legislature in 1961. Kansas sportsmen had been served by a six-man bi-partisan Commission since 1939. This action by the legislature replaced it with the current five-man board.

**Both the six-man and five-man Commissions have faced monumental decisions that have had a profound impact on outdoor sport activities throughout the state. Space limitations make it impossible to list all the accomplishments but some of the major decisions give proof of the commissioners’ contributions.**

For example, the Cheyenne Bottoms Waterfowl Management Area in Barton County is one of the most noteworthy of its kind in the United States. It serves to attract thousands of ducks, geese and other migratory waterfowl to Kansas, offering outstanding opportunities to hunters, birdwatchers, and other outdoor enthusiasts.

**More than $3 million has been spent to insure a constant water supply and to provide water control, access, hunting blinds and other improvements.**

Action by commissioners in the 1950’s provided another attraction for migrating waterfowl. Construction improvement on the Marais des Cygnes Waterfowl Management Area began in early 1955 and waterfowl hunting was first permitted in 1958. The area is 6,646 acres in size with 1,800 acres of water contained in manmade lakes.

**Similar steps were taken by commissioners to form the Neosho Waterfowl Management area. Construction began in the fall of 1960 and by early 1961, three of four pools were completed. Waterfowl hunting was first permitted in 1962.**

Innumerable decisions have been made by commissioners over the past 20 years to build, maintain and improve the more than 40 state fishing lakes scattered throughout the state.

**Other major courses of action taken by the commissioners included establishment of controlled hunting seasons for deer in 1965, pronghorn antelope and wild turkey hunting in 1974. Seasons were opened several years after these game species were re-introduced in Kansas and their numbers well established.**

Through recent years, commissioners have adopted and consistently expressed a concern for sportsmen who pay entirely for the operation of the agency. They have followed staff recommendations for liberal seasons to give maximum harvest opportunities for sportsmen who hunt in Kansas.

**One of the major contributions of the 1970’s was the decision by the Commission to launch Project SASNAK to improve hunting, fishing and boating opportunities in Kansas.**

SASNAK has five major objectives which relate to game species, fish and wildlife. However, its value to non-game animals such as song birds is of value to more persons than merely hunters and anglers. Now in its third year, results of SASNAK are beginning to be realized and are well documented.

**Through the years, commissioners have supported legislation favorable to the agency and stiffly opposed any legislation which would be harmful to the wildlife resource, objectives of the Commission, or sportsmen in general.**

A prime example of beneficial legislation was realized in the spring of 1975 when two big game hunting bills, endorsed by the commissioners, were enacted by the legislature and signed into law by Governor Bennett. This legislation, now in effect, provides more equitable distribution of big game permits for the 1975 deer and antelope seasons and future seasons as well.

**Commissioners Face Challenging Future**

With more intensive agricultural land use practices, in recent years, along with the gradual encroachment from urbanization and industrial expansion, and with various federal projects consuming large acres, a heavier toll of wildlife loss has resulted.

**Along with these changes, thousands of miles of hedgerows and other wildlife habitats are being destroyed. This means a permanent loss of cover and nesting grounds for bobwhite quail, pheasant and other wildlife, including songbirds.**

There are additional problems and challenges in fisheries management. With more demands for water and more intense angler use of lakes and reservoirs, the commissioners recognize the need for current and reliable information on what these public impoundments have to offer. Long range plans are being formulated by the five-man Commission to cope with these problems and other anticipated changes in the decades ahead.

**That the commission has been progressive is proved in many ways. For the first time in Kansas history, the Kansas Department of Economic Development is publicizing fishing in Kansas, a direct result of Commission actions which have provided good fishing opportunities within short driving distances for most Kansas residents.**

**During the past four years, commissioners have adopted position statements for the first time regarding hunting and private ownership for firearms, utilization and management of the Kansas furbearer resource, termination of the national Rural Environmental Assistance Program (REAP), and others.**

Such accomplishments are particularly noteworthy in that not one commissioner is a trained or professional "wildlifer". Singly each is a business man who has a sincere interest in Kansas wildlife resources. Collectively the commissioners are a group of avid sportsmen and outdoor enthusiasts who rank hunting, fishing, boating and camping activities high on their list of recreational pursuits.

**The task of being a commissioner isn’t a popular one, for it is nearly impossible to please everyone. Even so, sportsmen owe a big thanks to the five men who are constantly working behind the scenes, attempting to keep pace with the increasingly complex problems of fish and game management and to make the operation of the entire agency more efficient for the benefit of all Kansans.**

Fish and Game
SLOWLY APPROACH the heavy doors of the ivy-covered stately old building.

Climb its steps and tug at the heavy Romanesque door.

Step inside. The huge door slams behind you, jarring the pastoral silence.

Now inhale deeply and look around. You are not now in a man-made contrivance of limestone and floor beams and plaster. You are in Dyche Hall, the House of Mystery.

What lies ahead, draws like an invisible magnet. An amazing panorama of mammals, birds, trees and plants bask in soft skylight bathing nine different habitats. Its pull is irresistible, but don't rush toward the vista.

The frenetic, keyed-up 20th century visitor must re-learn a secret from the centuries past represented here: Slow one's feet, close one's mouth and open one's mind. Look. Listen to the exhibits tell their stories. Remember they will remain stuffed mammals and birds if one yields to the temptation to hurry. To dash through the House of Mystery and rush back into the world of snow cones and pizzas is to profane it.

An aura of mystery surrounds every museum, I suppose, with its whispered stories and ghostly legends and imponderable facts. But when 100,000 visitors view annually but a fraction of the five million specimens housed in the five Kansas University Museums of Natural History, it takes on the character of a vast, unutterable kingdom of knowledge.

The kingdom has had 111 years in the building. A legislative enactment of March, 1864, established the University of Kansas whose "object . . . shall be to provide the inhabitants of this State with a means of acquiring a thorough knowledge of the various branches of literature, science and the art." Section XIII states that "the Regents are authorized to expend . . . income . . . for the . . . purchase of . . . a . . . cabinet of natural history."

It took an exciting personality to stir the sleeping "cabinet of natural history" to vigorous life. That personality was Lewis Lindsay Dyche. Dyche came to the University as a student and camped for the first few months on the site now occupied by Dyche Hall, named for him. Dyche, a thoroughgoing naturalist totally at ease with the frontiersman's lifestyle, supported himself by hunting and fishing in the Wakarusa Valley after school hours.

Dyche was a member of the class of 1884 and remained as a member of the University of Kansas staff. Professor Dyche rose to national prominence when a panorama of North American mammals he prepared received rave notices at the 1893 Chicago World's Fair.

With improvements and modifications, the same exhibit that set the Chicago Exposition on its ear can still be viewed on Dyche Hall's fourth,
or main, floor. Ten stations, most with taped narrations, whisk the visitor from Arctic coasts to the tropics, from the northern forest to the short-grass prairie.

Seals, walruses and polar bears cavort comfortably in their frigid environment at stations two and three.

Reindeer, or caribou, and musk ox lumber confidently across the spongy tundra on their broad hooves in station three. These hooves do for the reindeer what snowshoes do for an Eskimo—keep them from sinking.

A woodland caribou surveys his northern woodland domain, also captured in station three, and a Canada lynx is poised to spring from a cliff on two hapless snowshoe rabbits.

Typical of the boreal forest's burned-over areas is the mouse. His oversized muzzle seems to be twitching in station five as he realizes that a shallow pond rich in lily pads and sago pondweed lies just ahead.

The attention-getter in station seven's short-grass prairie habitat is a tireless black-tailed prairie dog. He peeps from his hole, then beats a hasty retreat with monotonous regularity. If there are awards for vigilance, the little fellow deserves a KU magna cum laude.

A region where trees may grow higher than 125 feet gives the visitor some idea of the difficulty in studying life forms of the tropical and subtropical areas, represented in stations nine and 10. It is believed there are life forms we know nothing about living in those dissaying heights.

Before leaving the main floor, stop by the Museum Shop. Staffed by part-time KU students, the Shop was designed by Museum Artist Tom Swearingen to resemble the old general store of early 20th century Americana. You'll find a friendly welcome, and your purchase is in effect a contribution to the Museums' growing school services and exhibits programs.

Deception of the Rancho La Brea Tar Pit, now buried beneath the City of Los Angeles, is a popular third floor exhibit. Tar pits were formed when natural asphalt seeped through a crack in the earth's surface. These low spots often filled with water and animals coming to drink were trapped in the gooey stuff. This attracted carnivores like the saber-toothed cat and dire wolf, who were themselves trapped. Today, skeletons of predator and prey lie side by side in the enemy that vanquished them both.

Bison, antelope, elk, coyotes and prairie dogs are exhibited at station seven in the Museum.
Enter the mezzanine floor and round a corner. In a rectangular, carefully humidified box is a rather scruffy-looking bay horse. What you are looking at is the Horse of Mystery in the House of Mystery.

That “scruffy-looking bay horse” is Comanche. Comanche was the only living thing left June 25, 1876, when Indian forces consisting of Sioux and Northern Cheyenne combined to wipe out a command of 213 men under Lieutenant-Colonel George Armstrong Custer at Montana’s Little Big Horn River.

Nursed back to health at Fort Lincoln, Comanche was the mascot of the Seventh Calvary for 15 years at Fort Riley, Kansas. Allowed to graze on lawns and flowerbeds and filled with soldier’s beer on Saturday nights, Comanche died November 7, 1891 at Fort Riley at 31 years of age.

Professor Dyche was called to perform the taxidermy. His only stipulation, besides the $400 fee, was that he be allowed to show the horse at the 1893 Chicago Exposition.

Comanche was a sensation there and is to this day the Museum’s most popular exhibit. Marion Mengel, adjunct curator of the Museum, explained that although Amerindian students were offended at the exhibit in the past, dialogue between students and staff have given the facts a better airing concerning the Indian Wars and Custer’s glory-hungry personality that drove him into the badly planned battle.

But to assume that is all of Dyche Hall is to miss a great deal of its impact. The Museum’s collection of reptiles and amphibians is considered sixth largest in the world. Ms. Mary Dawson designed and built the attractive exhibits of live snakes in the Museum. Many Kansas reptiles are shown in these exhibits on the sixth floor, and risers permit children to view the animals easily. When you go to see this exhibit, parents, please restrain your kids and yourself from tapping on the glass. This disturbs the snakes and they often strike, hitting the glass. Their noses may be injured and a fatal infection may be the result.

Don’t miss the live bees on the sixth floor, either. They enter, perform their sweet chores, and leave—all under glass.

Directed by Dr. Philip Humphrey, Dyche Hall is only one of five museums of natural history located on campus.

Director Ronald McGregor heads the Botany Herbarium, located on the West Campus. Two hundred thousand plant specimens, primarily representing the flora of the central United States, are found here.

Snow Entomological Museum, headed by Charles Michener, features educational exhibits in the third floor hallway of Snow Hall. Its insect collection is the largest west of the Mississippi River. Members of its staff are available to present programs about insects at the schools.

Located in Lindley Hall, the Museum of Invertebrate Paleontology is directed by Albert J. Rowell. Basically a research facility, it houses fossils of animals lacking backbones. It is considered second only to the U. S. National Museum in Washington, D. C. in the extent of its collection from the Kansas Pennsylvanian and Permian and United States Cambrian and Ordovician periods.

The Museum’s impressive display of mounted birds is one of the finest in the country.

A newcomer to the Systematics Museums is the Museum of Anthropology, housed in Blake Hall and administered by Alfred Johnson.

The five museums work closely together in planning and presenting public education and exhibits programs, most of which are given in Dyche Hall.

Computerization of data banks is the Systematics Museum’s truly big news. Dr. Humphrey said, “We are accessioning and cataloging using the SELGEM technique. SELGEM is a package of programs for managing a specimen data. The division of vertebrate paleontology, birds and fish are now computerizing all new specimen records.” With this technique, scientists will have virtually instant access to records of species occurring within this state since recordkeeping began.

This vast House of Mystery is doing a prodigious job of unclquing mysteries for science today.

But as these professionals know only too well, for every answer there arises at least one question.

And the KU Museum of Natural History will continue to supply answers for generations.
Q. Are there any sturgeon in Kansas?
A. In their new book, *Fishes in Kansas*, co-authors Frank B. Cross and Joseph T. Collins recognize two species of sturgeon—the shovelnose and the pallid. "The pallid sturgeon and the shovelnose *sturgeon* are among the most bizarre, and certainly among the most ancient, of all the world's fishes," they write. "They probably have existed for 80 million years or more, a span of time long enough to cover the disappearance of dinosaurs and the development of modern mammals and flowering plants.

Of the shovelnose, they note, "This species has been taken in the Missouri, Kansas and Republican rivers, and in the lower parts of the Blue and Smoky Hill rivers. It occurs only in rivers having broad, sandy channels. We have found shovelnose sturgeons most often on clean sand bottoms in strong currents, but they may move into calmer parts of the river to feed.

"Adult shovelnose sturgeons are usually 20-25 inches long. The largest one reported from Kansas was 30% inches long and weighed 4 pounds. It was caught in the Kansas River by J. W. Keeton of Topeka on October 17, 1962."

The authors say the pallid sturgeon inhabits the mainstream of the Missouri River and the lower Mississippi River, entering lower parts of the Kansas River during floods. The pallid sturgeon is larger than its shovelnose counterpart, attaining a length of more than 60 inches and weighing nearly 70 pounds in some areas.

Q. Why did the Fish and Game Commission set the application period for 1975 archery deer permits earlier than they did a year ago?
A. Primarily it was an administrative change designed to facilitate the processing of thousands of permits by Commission clerks at the Pratt headquarters. This year's archery permit application period ran from June 1 until June 21, with the period for firearm applications running from July 1 through July 15. Last year's application period for both archery and firearms ran from July 8 to July 30. "This lapse gives the clerks time to process the archery permit applications before the deluge of firearm permit applications start coming in during the first two weeks of July," explained Bill Peabody, big game biologist at Emporia. As in the years past, the Commission publicized these dates far in advance through press releases issued to news media throughout the state.

Q. What is meant by the term, "toe fishing?"
A. Toe fishing refers to the illegal practice used by some violators of wading a river or creek barefooted and feeling for submerged holes or cavities in the bank with their toes. Once a hole is located which might harbor a big flathead or channel catfish, the poacher reaches into the hole with his hand or a large hook to pull the fish out. This is called "noodling" or "grabbing." The catfish found in these cavities or holes during June or July are usually male flatheads or channel 'cats that are protecting eggs or young catfish. Since the fish are so vulnerable to this type of activity at this time of year, the method has been outlawed.

Q. I've seen a surprisingly large number of young cottontails this summer. Does this mean rabbits are going to be plentiful this fall?
A. Not necessarily. Although this year's crop of young rabbits appears to be a good one, many of these rabbits won't be around come fall. Serving as food for a host of enemies, the cottontail is preyed upon by hawks, owls, bobcats, coyotes, foxes, weasels, free-ranging dogs, feral cats, constrictor snakes, rattlesnakes, minks, skunks, and 'coons. Game Commission studies made in Pennsylvania, where the rabbit season doesn't open until November 1, show that an estimated five million cottontails are lost to predation, highway kill, accidents and some poaching between September 1 and November 1. It's not surprising the hunter wonders what happened to all the rabbits he saw during the summer. By late fall, 60 per cent of the year's cottontail population is gone. In spite of this, hunters still do well. Missouri, which has the largest rabbit population of any state, tallied 6,018,914 cottontails killed by hunters in 1958. The state figured that over 10 million rabbits were still left for breeding stock. The total rabbit hunting harvest was more than 25 million nationwide that year.
GOD'S Dog by Hope Ryden; Coward, McCann & Geoghegan, Inc., New York, 1975; 288 pages, $12.50.

Hope Ryden is a naturalist-photographer-writer as well as a skilled and patient observer of wildlife. God's Dog is a fascinating first-hand account of her adventures in studying and photographing the elusive coyote. She began searching for her subjects on public lands in the West. Spotting fewer coyotes there than the complaints of wool growers had led her to expect, she moved to Yellowstone National Park, where for two consecutive winters she snowshoed through deep drifts and mountain storms to follow them. In the spring, she found a denning pair and made the startling discovery that parent coyotes are assisted in the raising of their young by other members of the pack. Her remarkable round-the-clock observations gave her unique data on coyote behavior as she came to know each animal as a separate personality with a special role in the pack hierarchy. The following spring she returned and miraculously relocated the same denning pair for her follow-up study. What she saw and what she went through to see it make a moving and dramatic story, scientifically accurate in its observations, yet written in an easy colorful narrative.

As the author points out, many Indian tribes value the coyote, in fact the Navajos saw it as God's Dog. But the white man traditionally has viewed the animal as a pest. This book shows how wrong that view is. With its astonishing photos, it reveals the truth about the coyote's needs, its ways, and its role in the natural order of things and thus shows why it should not be destroyed as some interests heedlessly recommend.

As Dr. Michael Fox points out in the introduction, the book raises some interesting questions. "Has man's war against the coyote made it a more solitary and wary creature, as Hope Ryden suggests? Perhaps man has inadvertently helped the coyote become more elusive and intelligent by selecting out the slower ones with trap, poison and gun."

Dr. Fox also notes: "Like the dingo of Australia, the coyote can be an ally to the sheep rancher and cattlemen, in keeping the rabbit population down, since rabbits compete with domestic livestock for grass. It is strange that a man who wants 100 percent profit will poison coyotes that might eat $1,000 worth of livestock but that save him $10,000 by controlling the rabbit population!"


This book is more than an illustrated guide to the birds of North America since it captures the joy of the author's personal adventures with these fascinating and elusive creatures. The reader will find complete data on the appearance, habitat, and range of various orders and families of birds in addition to their migration and nesting habits. He will also find share Rue's first-hand observations and experiences from the Florida habitat of the great white heron to the wastes of Alaska where he found the willow ptarmigan. He'll learn why the blue jay is known as a common scold, why the great horned owl is the tiger of the air, and why the Canada goose was selected as our national wildlife refuge symbol.

The author writes affectionately of the chickadees, swallows, and wrens that brighten the landscape. He explains the role in nature of the raptors--hawks, owls and vultures--and, as both hunter and conservationist, he presents the spectacular game birds and waterfowl. Out of his intimate knowledge of natural history, Rue places all of these North American birds in their proper environmental setting and captures their varying roles in the balance of nature.

Laced throughout the informative text are anecdotes based on bird myths and legends, and dramatic accounts of the efforts of bird lovers and conservationists to save from extinction such species as the snowy egret. The author provides 140 striking photos, 80 drawings and 80 maps to illustrate this volume.

Leonard Lee Rue III was raised in the farmlands of New Jersey and has been studying nature since he was eight years old. His articles and photographs have appeared in over three hundred publications in America and abroad. He has been a camp ranger, gamekeeper and trail director for youth in the Canadian wilderness. He is also a noted lecturer on outdoor subjects and has written many books on North American wildlife. For an autographed copy of Pictorial Guide to the Birds of North America, you can order direct from the author by sending a check to him at Blairstown, N. J. 07825.


Zack Taylor is Boating Editor for Sports Afield and contributes monthly columns on boating and waterfowling for that magazine as well as articles for Reader's Digest, Motor Boating and other popular magazines. A waterfowler for more than 20 years, Taylor has gunned for ducks and geese over most of the North American continent, and he's watched the sport change. This book is a thorough guide to waterfowling and contains all the information duck hunters need to know—from what to buy for the best recipes when birds have been bagged. There are chapters on the identification of all kinds of ducks and geese, the flyways they follow, the best guns to own and retrievers to have with you. The author not only discusses the fascinating subject of decoys and decoy-making, but offers tested patterns of arranging them to best bring in the birds. Uniquely—since he is especially expert at all matters pertaining to boats—the author offers excellent and complete plans for building a variety of different kinds of duck-hunting boats and blinds. The book is fully illustrated with black and white photos and many diagrams and line drawings.

Gene Hill, executive editor of Sports Afield, probably sums it up best saying, "If thinking about duck hunting is the next best thing to doing it, you'll find yourself reading and rereading Successful Waterfowling with nearly the same excitement and pleasure as settling down in the pre­
dawn of opening day. This book is a must for the ganner's library!"