

# KANSAS FISH & GAME



TABOR COLLEGE LIBRARY  
Hillsboro, Kansas 67063

S L LOEWEN  
TABOR COLLEGE  
HILLSBORO  
KS 67063

MARCH-APRIL 1973



# KANSAS FISH & GAME



March-April, 1973

Vol. 30, No. 2

## CONTENTS

Of Flatheads, Rivers and Trotlines <i>by Vic McLeran</i> .....	1
KANSAS FISH & GAME Interview .....	6
Friendly Constrictors <i>by Vic McLeran</i> .....	8
Buckets O' Worms for Bucketmouth Bass <i>by Farrell Brewer</i> .....	12
Fish Stocking <i>by Ross Harrison</i> .....	14
Must Hedgerows Die? <i>by Bill Scott</i> .....	17
Fishing Line Lineup <i>by George Valyer</i> .....	22

## COVER PHOTOS

Front cover—Cottontail. Ektachrome transparency by Vic McLeran.  
Back cover—Fox Squirrel. Ektachrome transparency by Ken Stiebben.

### COMMISSIONERS

FRED SEARS, *Chairman* ..... Colby  
R. W. (BILL) FOWLER ..... Weir  
JACK HALEY ..... Minneapolis  
ROBERT S. LEMON ..... Shawnee Mission  
JOHN LUFT ..... Bison

### DIVISION CHIEFS

ROY SCHOONOVER ..... Fisheries  
LEROY E. LYON .. Information—Education  
ROBERT WARD ..... Fiscal  
WALTER HARRISON ..... Field Services  
FRED WARDERS ..... Law Enforcement  
LEE QUEAL ..... Game

### EXECUTIVE OFFICERS

RICHARD WETTERSTEN ..... Director  
FRED WARDERS ..... Assistant Director

### MAGAZINE STAFF

VIC MCLERAN ..... Editor  
FARRELL BREWER ..... Staff Writer  
ROSS HARRISON ..... Staff Writer  
ROSS MANES ..... Staff Writer  
BILL SCOTT ..... Staff Writer  
GEORGE VALYER ..... Staff Writer  
KEN STIEBEN ..... Photographer  
BEVERLY ALDRICH ..... Editorial Assistant

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 Pratt, Kansas, and at additional mailing offices.

PRINTED BY  
ROBERT R. (BOB) SANDERS, STATE PRINTER  
TOPEKA, KANSAS  
1973



34-7463

## A PIECE OF THE ACTION

For as long as we can remember, there's been a family squabble between sportsmen and their fish and game people. It flares and fades, on and off, year after year.

It's often due to the fact that sportsmen feel left out. They pay the bills and support game and fish programs but feel ignored during planning and when plans are put into action. Tired of feeling like fifth wheels, the sportsmen may open fire on their conservation agency.

Any conservation program that gives the sportsman a direct, effective piece of the action can keep everyone happier. And of the possibilities for real sportsman action today, none shows more promise than the new hunter safety training programs.

Using funds from Federal excise taxes on handguns and ammo, these programs will train young hunters in gun safety, hunting ethics, conservation basics, and maybe even survival skills. A new generation of hunters will go afield knowing more about safe, ethical hunting than any generation before it.

In a growing number of states, new hunters must be certified before they can be issued hunting licenses. Seventeen states now have mandatory hunter safety training, and almost all states have training programs of some kind. Such hunter safety training is usually coordinated by the conservation department, and supervised by conservation officers in conjunction with the National Rifle Association of America. In addition, the National Shooting Sports Foundation may organize special hunting clinics.

Conservation officers can't possibly handle all this alone. The bulk of the work must be done by citizen volunteers. These citizens are the key to the big new training programs, and a lot of them are needed—instructors, range workers, record-keepers, lecturers and assorted factotums of every kind.

All of this can have a great effect on the youngsters, on the future of hunting, and on the old boys who put it all together. We've heard of gun clubs that hadn't spoken to each other for years until they linked up in hunter safety training. It gives a sportsmen's group something to get its teeth into. Make-work projects don't fool anyone; if a club is to stay strong, it must have strong programs.

How do you measure a strong program?

First, of all, is it of value to the community as well as club members? Does it involve all members of the club, including wives? Is the program of long-range value? Does it have publicity value? Is it an action program with measurable results? Does it augment an official conservation department program? Will it increase public appreciation of the sportsman's abilities, skills and knowledge?

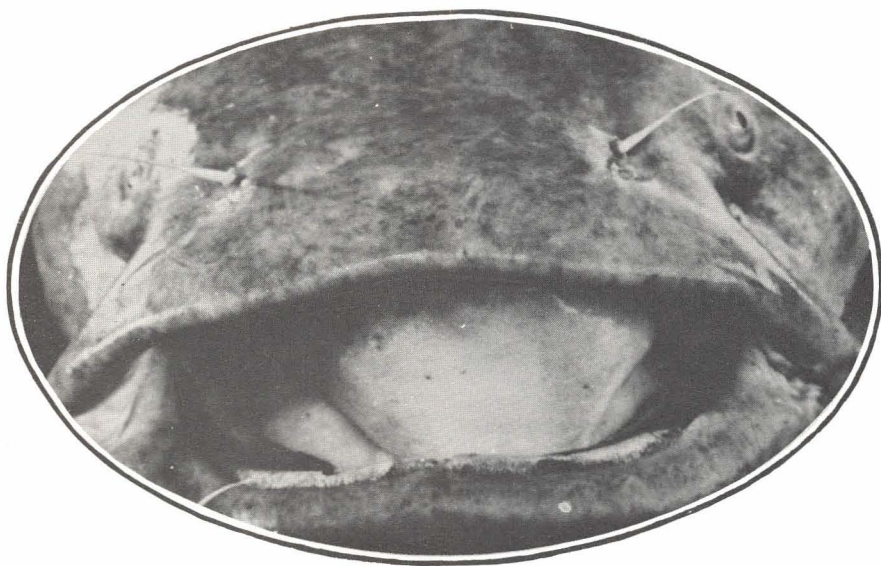
A good hunter safety training program fills the bill on all counts, and is the working sportsman's chance to get in on the real action.

JOHN MADSON  
Winchester-Western

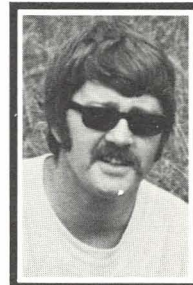


# OF FLATHEADS RIVERS AND TROT LINES TROT LINES

By Vic McLeran, Editor



**R**AGGED FINGERS of mist reached across the river and into the trees beyond. Pale sycamores appeared bleak and grotesque as our boat drifted silently past. We'd been trotlining the Neosho River for three days, Ray Wiechert and I. And although we'd taken some small flatheads, we were still looking for that big one. With us was Brian Smith, 15-year old son of Dean Smith, manager of the Neosho Waterfowl Refuge



McLeran

We were taking the trotlines out this morning and it was our last chance at a lunker flathead.

"Nice mornin'," Ray volunteered, as our boat drifted toward an overhanging willow which held one end of our trotline. And he was right, but then for some of us, there's no such thing as a bad morning on the river. There's something sensuous, almost aesthetic, about the pre-dawn period on a river. The smell hits you first, a fertile primitive combination of fish and river mud laced with the odor of woodsmoke from a lazy little cookfire upstream. And the sounds are there too, the bass bellow of a nearby bullfrog, the sad notes of a barred owl down around the bend and the loud splash off to your left as a big carp rolls at the surface. A 'coon searching the shallows for crawfish stops to look you over as the boat drifts by and a great blue heron pounding heavily pumps upward and is swallowed by the mist. "Some people appreciate these things," I mused, "and others don't."

Ray Wiechert is one of those who do. A leathery-skinned veteran of almost 50 years on the river, he speaks of the Neosho as if it were a woman. "She's been good to me, this river," he says softly. "I've been out here a lotta' mornings when I didn't catch any fish but I still took somethin' home—if you know what I mean." I knew what he meant. "'Course it's nice to catch fish too," he adds, his wrinkled blue eyes smiling.





Ray Wiechert hauls back on a 45-pound flathead and slides the monster over the boat's stern as Brian Smith holds trotline.

Pulling hard on an oar, I angled the boat in toward the willow. "Well, here goes," Ray said. "This is our last chance." The boat rocked gently in the current as he moved to the stern of the boat and began pulling up the trotline. I've always marveled at the deft and easy way some old timers have of doing things with their hands. Once in Tennessee it was an old black commercial fisherman who dressed catfish so quickly I could hardly believe my eyes. Another time it was a weathered old falconer in New Mexico who could hood a peregrine so gently and smoothly the bird was scarcely aware of it. Ray Wiechert is like that when he handles a trotline—smooth and competent.

The first hook was bare, as were the second and third. "We've got something on," Ray said. Then I saw it, a swirl immediately beneath the surface several feet ahead of the boat. Visions of a giant flathead raced

through my mind and I felt the adrenalin. But it was a short lived emotion "Danged ol' bait thief," Ray muttered and I knew we had a gar on the line. It was a big one too, over 50 inches in length. Ray took this prehistoric throwback from the hook with a pair long-nosed pliers, knocked it in the

head and tossed it back to the dark water. Pulling up to the next hook we saw an example of the gar's dirty work. The bait fish, a half-pound carp, was ripped and torn in several places. Dead, the fish was worthless as bait. A big flathead likes his meals alive and kicking. Wiechert says that on a clear moonlit night, gar will strip an entire trotline of bait.

As the sun's first rays slipped through the timber, we moved on, examining and removing each hook from the line. Beneath us, maybe 20 feet down in the dark water, we could hear an occasional big drum, grunting like a hog as he roared across the bottom. Crickets and katydids, shaking off the night's dew, began to drone monotonously from streamside ragweed.

Halfway across the river, I saw Ray stiffen. "Feel something?" I asked. Nodding affirmatively, he leaned forward and removed the next dropline. I watched the main line, or cross staging as it's called, run through his hands as he pulled us on to the next hook. The bait, a carp of about one pound, thrashed vigorously. "I thought I felt a tug but it must have been the bait," Ray said. Removing the carp from the hook and taking the dropline from the staging, Ray started to pull us forward again when suddenly the line was nearly ripped from his hands. "That's a flathead!" he exclaimed. Several feet ahead of us we saw a huge swirl in the dark water. If the size of that swirl was any indication, we'd hooked our big flathead.

#### MRS. WIECHERT'S FLATHEAD RECIPE

1 egg	$\frac{3}{4}$ cup milk
1 tbsp. cooking oil	pinch of salt
$\frac{3}{4}$ cups flour	

Beat egg and add part of the milk, cooking oil, salt and flour. Stir until smooth then add remainder of milk. Slice fish into fillets  $\frac{1}{3}$  inches thick and salt. Turn in dry flour then dip in batter. Fry in boiling, deep oil until light brown. Remove from oil and drain on absorbent paper. Do not overcook.



Keeping a firm grip on the line Ray slowly eased the boat closer, careful to feed the fish line when it pulled away. Gradually the swirls approached the surface until finally the big flathead rolled to the top. "He'll go 40 pounds, Ray asserted. "Forty at least," I thought. He was a magnificent fish, broad in the head and thick in the body. He'd spent a lot of time in the Neosho, probably 12 to 15 years.

Ray leaned over the stern and examined the flathead closely, trying to see where the hook was located. Slowly he eased his hand into the water, rubbing the monster gently. After getting a grip on the fish's lower jaw, Ray hauled back hard sliding the monster over the stern and into the bottom of the boat.

"That's the one we were lookin' for," he said, breathless from the exertion. "Let's finish runnin' this line and get back to camp." Later, when we weighed the fish, it scaled out at an even 45 pounds—a nice flathead!

Our last chance had paid off, because of Ray Wiechert's vast knowledge of trotlining and flatheads. There are several things which set Wiechert (pronounced Wickert) apart from the average trotliner. First, he's the state record holder on flathead catfish. Back in August of 1966, Ray took a flopping 86-pound 3-ounce flathead from his trotline in the Neosho River. The catch didn't really surprise people who know Ray 'cause they've been watching him catch big flatheads for a long time.

Wiechert, who owns a welding shop in Brazilton, started trotlining nearly 50 years ago with his father. "I can remember goin' down to the river in a horse and buggy," he recalls. "In those days our equipment and tackle was plain, nothin' fancy. Our lines were made of cotton and after a few days in the water they'd just rot and fall apart. We didn't have any complicated rigging or tackle—just hooks and line."

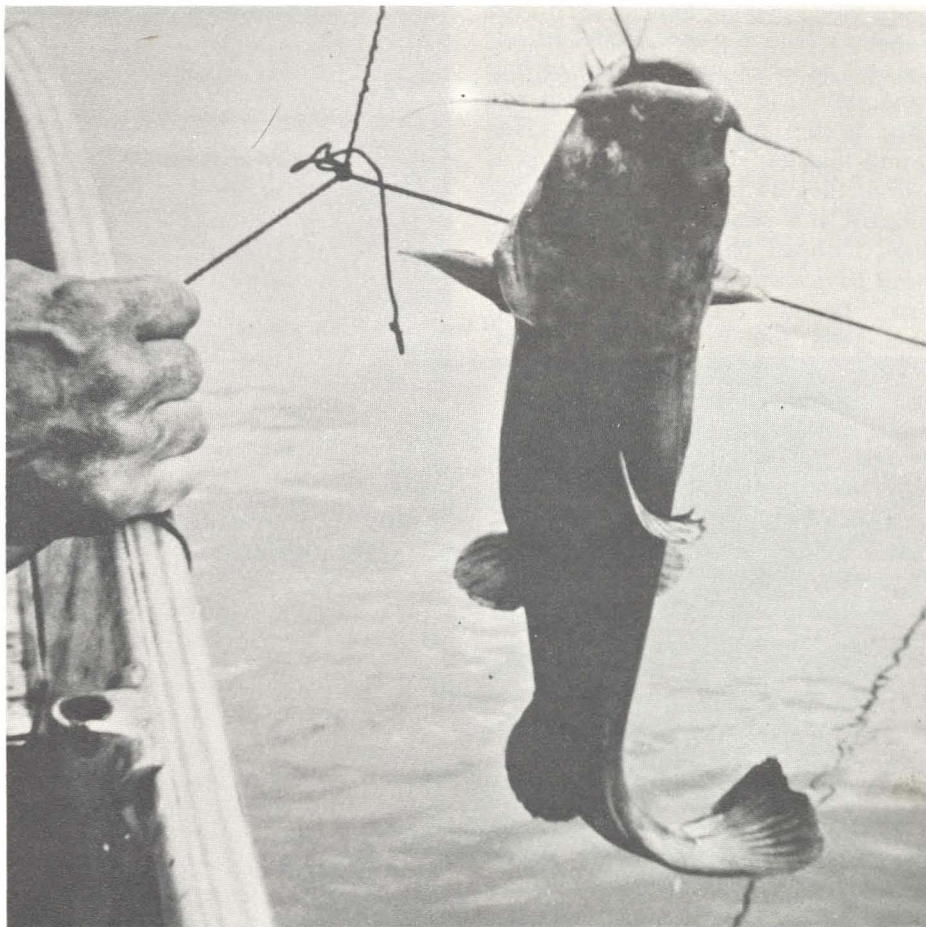
This early schooling in fundamental trotlining without the frills is probably responsible for an unusual feature of Ray's fishing—it's simplicity. "Sharp hooks and good nylon cord are all you need for a trotline," he says.

In making up a trotline, Ray starts out with 480-pound test, treated nylon line for his cross staging—the main line which stretches across the river. Attached to this cross staging are 25 drop stagings about 18 inches long. The drops are made of 120-pound test nylon cord, also treated to resist deterioration. Stainless steel 6/0 or 7/0 hooks are tied to the end of each drop line. The addition of several four pound weights completes the Wiechert trotline. "For flatheads, I've never liked snaps or swivels on a trotline," he explains. "They're just something else which can break or malfunction. Instead of a swivel, I tie the drops to the staging with a simple slip knot. One yank on the free end and the drop comes off the staging instantly. It's a lot more handy than swivels."

"I've experimented using swivels on half my hooks and leaving them off the other half. Invariably, I catch

more flatheads on the hooks without swivels. If you're trotlining for channel cats though, I'd say go ahead and use swivels 'cause channels are worse about twisting off than flatheads," he said.

Something else I wondered about was the absence of a landing net. "Too many things can go wrong when you're using a net," he maintains. "A net large enough to handle big flatheads is awkward and unwieldy. And if you bump a flathead with the metal hoop on that net, you can kiss him goodbye. For some reason, the touch of a man's hand doesn't seem to bother them as much, so I boat all my flatheads by hand." Before grabbing a fish, Ray locates the position of the hook in the flathead's mouth. "You've got to be real careful about that hook," he cautions. "If you get it caught in your hand with 30-40 pounds of flathead flopping around it's gonna' smart some!"



The Neosho River is known nationally for the flathead and channel catfish it produces annually.



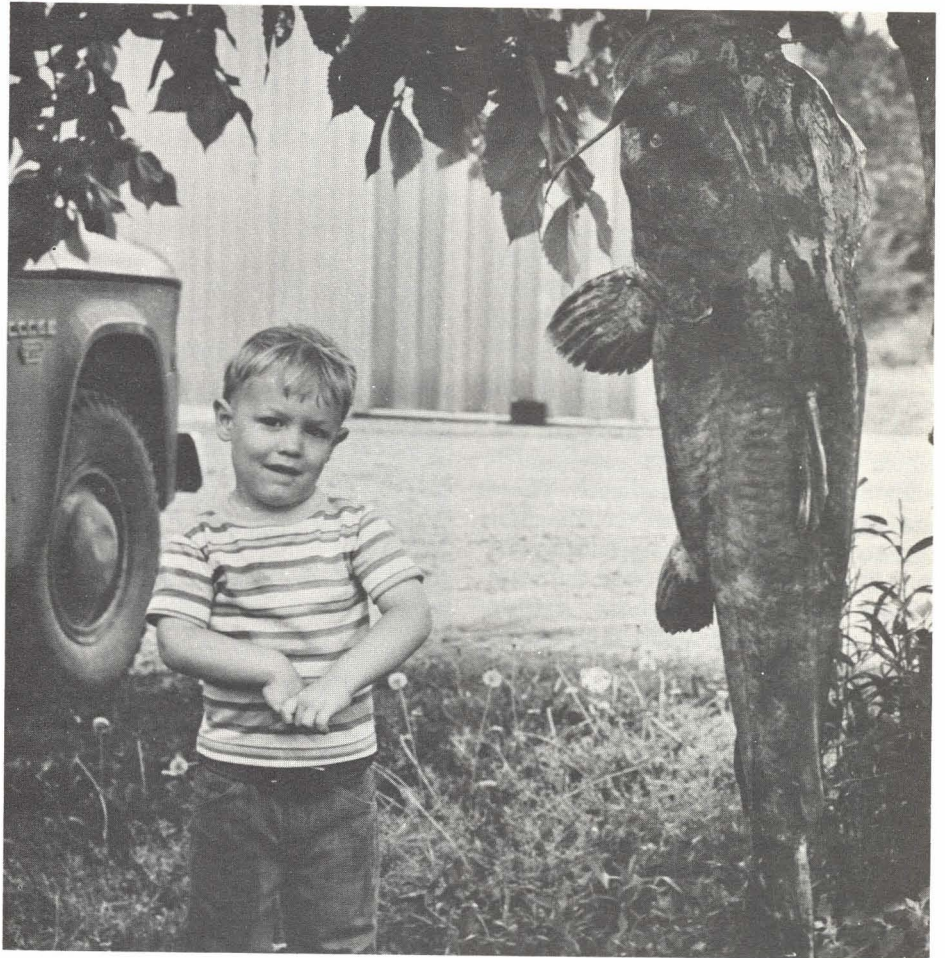
"As soon as I get up close to a hooked flathead, I just ease my hand down on the fish's stomach or side and start rubbin' him gently. From there, I work my hand into his mouth, get a good grip on that lower jaw and just haul him aboard."

I asked Ray what he looked for when setting his trotline. "I try to find a deep pool or a good wide channel which has some overhanging willows or grapevines," he answered. "You've got to have something flexible and springy to tie the ends of the line to. A fixed object like a stump or dead branch is no good because it gives the fish something solid to pull against. With this solid resistance they'll either tear out the hook or break the line. I also tie the end as high as possible from the water, then bring the line straight down and attach a weight before starting across the river. This provides a little more line for the fish to pull against and helps when playing him."

After selecting a spot, Weichert sets up and baits his line. Choice of bait runs mainly to 7-8 inch goldfish and carp in the half-pound class. He's found that gar don't tear up carp as bad as they do his second choice, big bluegill and sunfish. "Bullheads are good flathead bait too, and leopard frogs have been real good on channel cats," he says. Even channel cats have been used by Wiechert as flathead bait, although inadvertently. "One morning I checked the line and found a four-pound channel on," he recalls. "I was on my way to work so I left the channel there, figuring I'd pick him up when I ran the line that evening. When I came back a 28-pound flathead had his mouth wrapped around the channel." Salamanders too, are good flathead bait. One February, Wiechert set a trotline baited with small sunfish. Running it later that day, he found several good flatheads on the line. As he removed them from the hooks, he was surprised to find salamanders, some still on the hook and others in the fishes' mouths. "Evidently the 'water dogs' had bit on the sunfish and the flatheads had taken the salamanders," Wiechert explained.

When he's using carp, perch or other fish for bait, Ray hooks them dorsally, slightly in front of the back fin. And he pays a great deal of attention to those baits placed on hooks nearest to the weights. "I try and set some of my best baits near the weights. I think the weights help set the hook when a flathead takes the bait because of the extra resistance they offer. Also, I try and place

one part of the trotline to another if the bait hasn't been touched," he explains. "They seem to think it must be in a poor spot if nothing has been chewing on it. I think there's a different reason nothing has touched it. Over the years, I've noticed there are certain holes on the river where gar don't steal bait. And these same holes have produced some big flatheads. I'm inclined to think the pres-



Little boy, big fish—Todd Newberry, son of Mr. and Mrs. Calvin Newberry, St. Paul appears reluctant about getting too close to the fish.

my best baits toward the middle of the river.

"Most of my big flatheads have come from the center of the river, not from the edge. Some guys say you'll catch more big flatheads along the edge but I don't agree with this."

Another interesting habit of Wiechert's is the practice of leaving untouched bait alone. "A lot of trotliners will move a baited drop from

ence of a big flathead frightens gar away." Not surprisingly, the 45-pounder we took came from one of these holes where the bait had been untouched for several nights.

Wiechert also feels moonless nights are best for trotlining. "I've found gar steal bait worse on moonlit nights," he says. "Also, I think big flatheads are more willing to feed on dark nights. A bright moon, on





Ray Wiechert consistently averages 200 pounds or more of catfish from the Neosho River. Examples are the 54 and 44-pounders above.

the other hand, seems to send them down.”

Unlike many trotliners who check their lines every hour or so, Ray checks and rebaits his lines only twice—at midnight and again at dawn. “The more you fool with a line checking and baiting it,” he says, “the more apt you are to alarm fish which may be in the vicinity.”

Ideal river conditions, as far as Wiechert is concerned, include a gently rising water level and a barometer that’s going up, although he puts his lines in whenever he gets a chance.

Ray Wiechert is no braggart. In fact, he’s a humble man who doesn’t even claim his trotlining methods are best. But he knows they produce fish for him. Over the last 20 years, he has averaged 200 pounds of Neosho River catfish per year. And in each of those he’s boated four or five fish which topped the 30 pound mark, including a pair of 60-pounders on the same trotline once.

Unlike some fishermen, Ray and his wife eat most of what he catches. “Some people say big flatheads aren’t good to eat,” Ray notes. “This just

isn’t true. If they’re prepared properly, the meat is delicious. But you’ve got to be sure and trim off all the dark meat as well as the big veins. These are what give the meat a strong, oily flavor.”

A veteran of nearly 50 years on the Neosho, Wiechert knows the river intimately.



Watching Ray process the big flathead, I learned you don’t “dress” a flathead, you “butcher” it like you would a hog. With a short rope and a sapling, the fish was hoisted off the ground. Ray cut off the tail, severing the large caudal artery. After letting the fish bleed out, it was skinned. At this point the dark side and belly meat was sliced off the underlying white meat. “There’s about a half-inch of this dark meat that should come off,” he said. Mrs. Wiechert deep fries most of their flathead in Mazzola Oil. Her recipe is so good that we’ve included it above.

To me, trotlining has always been a little like the night before Christmas when you were a kid. You were pretty sure of getting something but you didn’t know just what. It’s like that with trotlining—you don’t know whether you’ll catch a flathead, a cannell cat, a snapping turtle, a gar or a drum. But you’re pretty sure there’ll be something on one of those hooks. Lately though, they tell me trotlining is a dying art, that fewer and fewer people are going down to the river with trotlines and bait cans. I don’t know about that, but I’ll bet on one thing—as long as there are flatheads, rivers and men like Ray Wiechert, there’ll be trotliners!



# Kansas Fish & Game Interview

Like many things, bird dog training is partially science, partially art. The successful combination of art and science occurs in only a very few individuals. When it does happen, and the individual uses his talent to earn a living, we call him a pro. There are several professional dog trainers in Kansas; most of them nationally known. Ross Manes, KF&G staff writer, cornered two of them for an interview. In the following paragraphs they will share with us some of the basic do's and don'ts of dog training.

Bud Daugherty, of Chapman, has put many years into the successful handling of field trial dogs. Among his numerous laurels we find a dog called the Kansas Wind, an English pointer that Bud trained to a covey of wins, including the 1971 Border International Championship, the 1971 Region 8 Amateur All-Age Championship, and runner-up spot in the 1971 Oklahoma Open Championship.

Ben Parr, of Cairo, raises bird dogs. His real occupation, though, is training shooting dogs for bird hunters from one end of the country to the other. He claims he's not into field trialing, but one of his dogs wound up in Arizona, where it consistently relegated the author's dog to second place in several field trials.

Professional bird dog trainers are a breed apart. They spend almost 365 days a year with their charges, travelling from the midwest in winter to the cooler climes of Canada in the summer. As Daugherty puts it, "If you're gonna train a dog (professionally) you gotta be about half dog, and live like one most of the time."

**KF&G:** At what age should field training begin for the average dog?

**DAUGHERTY:** Well, it depends on the dog. Every dog is different, but a young dog should be hunted for a year or so before formal training begins. The best thing in the world for a pup is to let him hunt birds. That way, if he's any kind of a bird-dog, he'll learn to run to birdy cover, he'll learn to be independent, and he'll learn how to get back to you. I'd say he oughta be about fifteen months old, on the average.

**PARR:** Well, personally I don't like to work a dog until they're ten or twelve months old. Really, I've been on the paying end of it and a feller doesn't get much for his money when he starts in on a dog less than ten or twelve months old. Oh, I've had dogs that were pointin' birds just as steady as you'd want at five months, and we were killin' birds for him. But, the next year that dog was runnin' all over the country and wasn't pointin' anything. Here's the thing I think a dog has gotta be a puppy sometime,

and you just as well have him be a pup at his puppy age as when he's a year and a half old. These pups that are pushed too hard when they're five or six months old are just liable to run all over the country and do nothin' the next year. But, the best thing a person can do with a young pup is to take him out and hunt him and let him do anything he wants to, and make all the mistakes he wants to make, and then when he's a year or older, train'im. Now, that's my idea.

**KF&G:** What's the first thing the average person should try to teach his dog?

**DAUGHERTY:** Teach him c'mere and let him learn to hunt. I don't break a derby dog. (The term "derby dog" refers to age, generally from fifteen months to two years. Breaking refers to training the dog to point staunchly, stand when birds fly and are shot, and honor another dog's point.)

**PARR:** Come here! That's right. You gotta have a dog come to you. I

don't like to use come, I always say here, but that's the first thing. Then I make 'em heel, and I make 'em whoa. Of course, the first thing that an owner will do is make that dog sit, and that's the last thing that I want a dog doin'.

**KF&G:** One of the most frequently heard complaints is that this dog or that dog points, but won't hold. What's the best way to steady a dog on birds?

**DAUGHERTY:** Use a check cord. Now, this doesn't mean rough him up around game. Let him find birds, then when he moves a little, jerk him back and whoa him. A dog has got to make mistakes in order to learn. Let a man get real rough with a dog that's just learnin' to point birds and that dog may quit findin' birds. But, let a dog make a mistake, then bring him back and show him what you want.

**PARR:** Most of the amateurs won't get as rough with a dog, sometimes, as they need to. It's their dog, and they don't want to hurt it. If you catch that dog at the right time you can do a hell of a lot with just one session. I use a check cord and when he jumps in on the birds, I haul him back and make him stand there.

**KF&G:** Among the "average" bird dogs, what is the most commonly encountered problem?

**DAUGHERTY:** People not makin' 'em mind! For instance, makin' 'em hunt dead. People come to me and say their dog hunts all right, and finds birds, but when they knock a bird down and lose it the dog won't stay around and hunt for it. Now, that's not the dog's fault. You have to break a dog to command—to mind you. Most people just won't get rough with their dog when they need to. My policy is yard work until the dog learns who's boss.

**PARR:** People! Just like I said before, most of 'em just won't get as rough as they need to. But really,



most of the problem dogs that are brought to me are gun shy. It happens during dove season, and they've got the dog with them to retrieve. They don't watch where the dog is when they shoot and the dog is under the end of the barrel. Then they wonder why the dog is gun shy.

**KF&G:** Have you had any luck breaking dogs of gun shyness, or do you try?

**PARR:** If it's a real bird dog, really birdy, I can do real well. I let him go back to chasin' birds. Now, if he won't chase birds I can't break him. If he'll chase birds, I let him chase 'em for a while and then pretty soon I start shootin' a pistol, and then I work on up to a shotgun. Then when he's chasin', I try to drop a bird right in front of him about as far out as a gun can reach. Usually, he'll pick that bird up before he flinches from the report of the gun. You do that three or four times and about 50 percent of the time that son-of-a-gun will get over it.

**DAUGHERTY:** I don't believe it's good policy to fool with a gun shy dog. Oh sure, some of 'em can be broke. I've done it. But, when you get a gun shy dog, chances are that dog just really isn't enough bird dog to fool with. Even if you manage to get one broke, sooner or later you'll get into a situation the dog doesn't like and he'll be gun shy again. I'd recommend just gettin' another dog and startin' all over. I have broke dogs of blinkin' birds, which is sort of similar to gun shyness. (A dog that blinks birds is one that intentionally fails to locate and point birds after he is aware that they are near.) The way I break a dog of blinkin' is to check cord him into some birds I know are there, and shoot some for him. Then, let him have some fun with 'em. Let him chase or whatever until he really starts to enjoy birds again.

**KF&G:** What's the best way to avoid gun shyness?

**DAUGHERTY:** You should never shoot around a puppy unless he's chasin' birds or doing something he really likes.

**PARR:** Well, with all my pups, I take 'em out and get 'em chasin' a bird, and I start shootin' a pistol. I haven't had any problems with gun shyness.

**KF&G:** What's the best way to make a reluctant dog retrieve?

**DAUGHERTY:** First, I don't think the average man could force-break a dog to retrieve. Force-breaking requires a lot of patience, and it requires a lot of discipline for the dog at just the right time. For the amateur, the best thing is to hunt his dog with a dog that does retrieve. Most young dogs have a natural tendency to run to a downed bird. If they are hunted with a retrieving dog, eventually they should pick up a bird just to keep the other dog from getting it. At that point, if the handler can get the dog to come to him, the dog has started retrieving. Give the dog a lot of petting and attention. His natural jealousy of the other dog, and your reward will bring him around if anything will.

**PARR:** Force-breaking a dog to retrieve is another proposition. I do that all at one time, and I don't try to do anything else with the dog while I'm working on it. The worst thing most people do is start walking toward their dog when he goes to a bird, or picks one up. If they would start walking away from the dog, and call the dog to them, a lot of times the dog would retrieve. Another thing is hunt that dog with a dog that will retrieve, and the competition will get the job done.

**KF&G:** What can an amateur do about the rare dog that actually does run too big?

**DAUGHERTY:** You get into a lot of problems with the real big running dog. Of course, in my business that's what we're lookin' for. There are some things a man who just wants a a foot huntin' dog can do. Probably the best thing is to shoot lots of birds for him. A real shootin' dog learns real quick that to get many birds he's got to be close to you. The more birds you shoot for him, the quicker he learns. Most bird dogs will occasionally run a deer,

especially when they're young. But, if it's a good dog, he'll soon start thinkin' more about you, the birds, and shootin', than anything else.

**PARR:** The majority of the people don't know when a dog's runnin' too big. You can hang log chains on 'em. (A fairly short piece of heavy chain hung from a dog's collar inhibits running by striking or entangling the front legs.) That's one way of slowin' 'em up, and it sure will. It makes me feel kind of bad though, seein' a dog that's got all that desire, with all that chain on. The best way to keep a dog in, really, one of the best ways, is to kill a lot of birds over him when he's real young.

**KF&G:** What's your opinion of running a young dog with an older, experienced dog as a method of training?

**DAUGHERTY:** Well, that works out about 50 percent of the time. It's probably a pretty fair way to teach a young dog to run to birdy cover, and how to get around the country. You can run into some problems though. The young dog may learn just to back, and he may trail. (A trailing dog is one that follows another dog, refusing to hunt independently. Occasionally, the trailing dog may run in front of the other dog, constantly looking back to mark the other dog's path. This phenomenon is called head, or lead training and is much more difficult to recognize.) If the young dog is enough bird dog to start with, he'll get over these faults.

**PARR:** Some it works with, and some it doesn't. It helps the dog find birds, but, if he's a natural backing dog, he'll do all the honorin' and never find any birds. It depends on the kind of a dog you've got. Personally, I don't. I like to see a young dog work birds on his own. There is another danger though. If you've got a dog that's steady to wing and shot and you use him to let a young dog back, he may forget to stand when that young dog gets to bustin' in on him. It won't take too long to straighten him out again, but it can mess him up.



# FRIENDLY CONSTRUCTORS

By Vic McLeran, Editor

**I**T WAS ONE OF those lazy Sunday afternoons in late August. I was stretched out on the couch, nursing Saturday night's bad head with a couple of cold ones. On the tube, Joe Namath and Company were layin' it on the Cardinals in an exhibition game. Suddenly, my five-year old daughter, Kristen, bounced noisily through the door.

"Daddy, daddy," she yelled excitedly. Raw nerves brought me upright, wincing at the noise. "Come look, there's a snake outside and he's eating a mole!"

"Man, what an imagination," I thought. "The kid'll make a terrific liar someday."

Telling her I'd be out in a little while, I eased back onto the couch. About two minutes later she was back again with the same story, only louder. Knowing there'd be no peace and quiet until I took a look, I decided to humor her fantasy and stumbled outside.

"What color is this snake Kris—purple?" I asked with a straight face. "No," she replied primly. "It's black with yellow dots."

"Any pink on it?," I inquired. She just looked at me. "It's over there by the bushes," she said, pointing to the base of some lilac bushes where several neighborhood kids were huddled.

Sure enough, there it was—a speckled king snake, three or four feet in length. And like Kris said, the reptile had killed a mole and was starting to swallow it headfirst.

But something was wrong. The king snake wasn't making any progress. One of the mole's large digging forepaws was lodged in the reptile's throat at an odd angle and the snake couldn't get the small mammal up or down. Several of the snake's coils were still wrapped around the mole and I explained to the kids that this was the way constrictor snakes killed their prey by squeezing them with the strength in their coils.

Upon locating a rodent, the constrictor quickly wraps its body in several coils around the mammal. With deadly accuracy he gives the unlucky animal a series of rapid squeezes in rhythm with the victim's heartbeat. The animal dies not because of broken bones but because of suffocation and halted circulation.

Before long the king snake tired of its audience, managed to disgorge the mole and flowed smoothly into the undergrowth. Later I did some checking on our native constrictors and turned up several interesting facts about these inoffensive beneficial snakes.

Kansas is host to six constrictor reptiles, the bull snake being the most common. Found statewide, the bull snake is garbed in a ground

color of brownish-yellow with dark brown blotches on its back and sides. It's our next-to-largest constrictor, second in length only to the black rat snake. Hobart M. Smith, in his *Handbook of Amphibians and Reptiles of Kansas* lists the record bull snake at 83 inches. This species is diurnal (active by day) and can be found in open meadows, field borders, hedgerows and grasslands.

The black rat snake is our largest constrictor with a specimen of 101 inches in the record book. Preferring moist, wooded regions, this species restricts itself to the eastern half of the state. This preference for wooded areas reflects itself in the reptile's climbing ability—it's probably a better climber than any other snake in the state and is frequently seen sunning in bushes or small trees. Adult black rat snakes have a nearly uniform black back but the juveniles have a blotched color pattern which makes it difficult to distinguish them from great plains rat snakes or prairie king snakes—two other native constrictors.

The black rat snake was formerly known as the pilot black snake because of a myth which maintained this species traveled ahead of rattle snakes and copperheads, acting as a "pilot" in leading the poisonous snakes to their den.

Our three king snakes—the prairie, speckled and milk snake—are found statewide. But nocturnal habits plus a fondness for spending much of their time underground result in these reptiles being seen less frequently than either the bull snake or black rat snake.

**Our native constrictors are docile, mild-mannered creatures that play an important role in controlling destructive rodent populations.**



According to Roger Conant's *Field Guide to Reptiles and Amphibians*, the speckled king attains the greatest length of the three, with one specimen going 66 inches. The record for a prairie king snake is 53 inches while its smaller cousin, the milk snake, tops out at 41 inches.

The prairie king has a ground color of gray or grayish-brown covered with a series of darker gray, black-edged blotches down the middle of the body. The speckled king is black, covered with a series of small yellow dots giving it a salt and pepper effect. The milk snake, garbed in a number of red blotches which are edged in black, is our most colorful constrictor. These blotches are separated by cream-colored rings.

The milk snake incidentally, is on the rare and endangered species list here in Kansas according to Joseph T. Collins, herpetologist with the Museum of Natural History at Lawrence. "This is due in part to commercial exploitation of the species by snake trappers who catch and sell the colorful reptiles to pet shops," Collins explained.

The great plains rat snake, a sixth constrictor, is found throughout the

eastern three-fourths of the state. Dressed in olive-brown, the rat snake also sports 25 or 30 quadrangular dark brown spots on its back. This species is a moderately-sized reptile reaching a total length of 45 inches. Like king snakes, the rat snake is nocturnal. During the day, it can be found under rocks, logs, in caves and other dark places. Herpetologist Smith says this snake is usually associated with rocky hillsides or canyons and is seldom found on the open prairie.

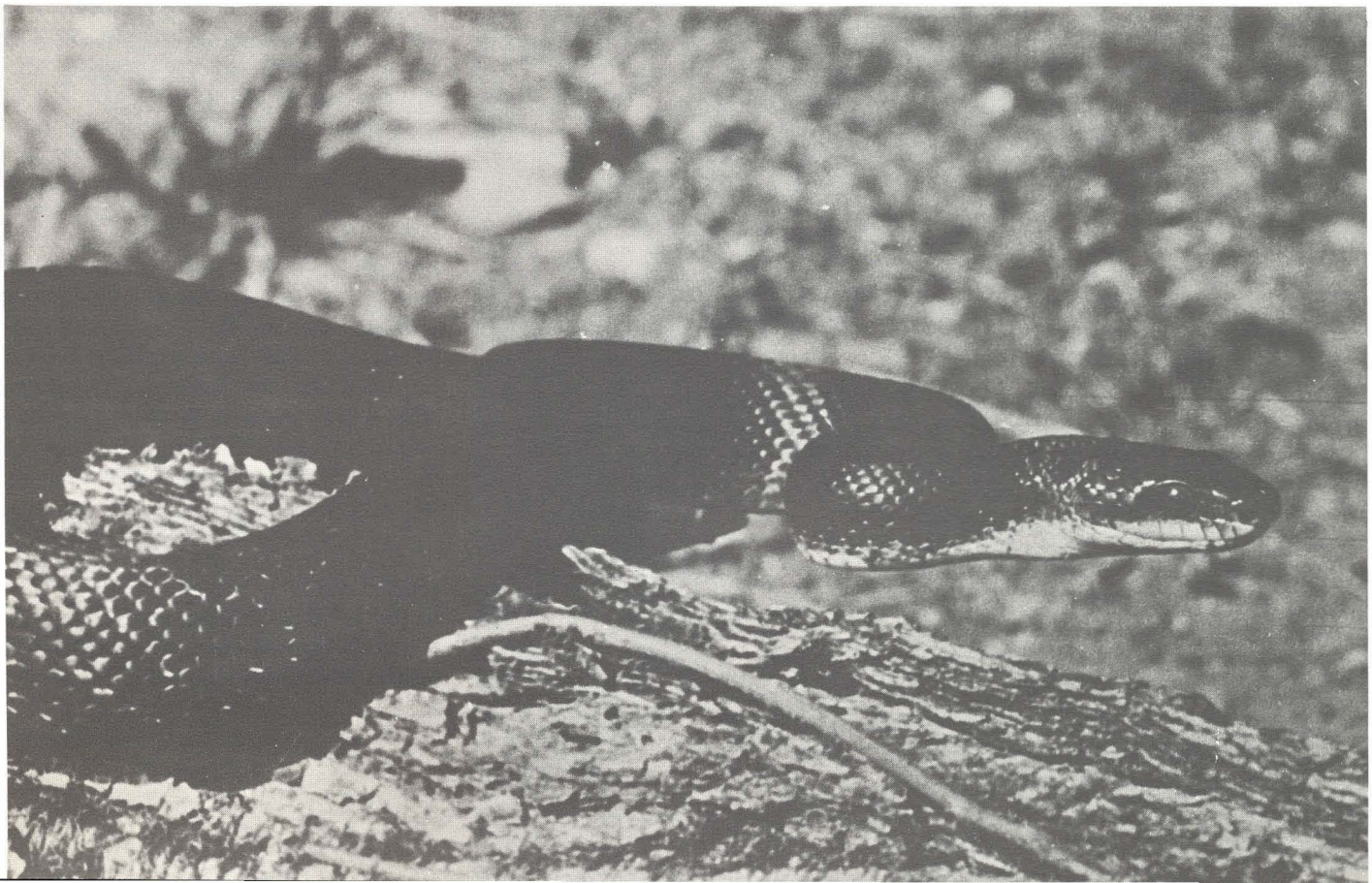
Unlike some snakes which give birth to live young, constrictors lay eggs. Anywhere from 6 to 24 are laid in late-spring or early-summer. The female selects a nest site in loose earth, beneath sawdust or manure piles or in rotten logs, trees or stumps. The eggs are not incubated but are allowed to hatch from the sun's warmth. Hatching dates range from August through September.

As autumn days grow shorter and the chilly October frost sets in, snakes seek protection in winter dens located below the frost line. Abandoned woodchuck and prairie dog burrows, caves, deep crevices and similar areas all serve as hibernation den sites for

reptiles and are used year after year. Snakes aren't particular as to "room-mates" and several different species often share a den for the winter. Even poisonous and non-poisonous snakes have been found living in the same den. Turtles, skunks and mice have also been found living in snake dens with the reptiles. In Texas, a swarm of bees was seen sharing winter quarters with a den of snakes.

As winter wanes and rising spring temperatures warm the earth, snakes begin moving out of their winter quarters. And most of these reptiles have one thing in common—hunger. Hungry snakes, constrictors especially, spell trouble for small rodent populations. In fact, our native constrictors are darned efficient mouse-traps. Biologists once figured that an adult bull snake eats the equivalent of 12 full grown pocket gophers or other grain-destroying rodents each year. On this basis, the agricultural value of a single bull snake was computed to be almost four dollars per year. So the farmer who kills snakes is actually destroying a valuable ally. Knowledgeable ranchers and farmers in western states have even imported

Black rat snakes like the one pictured here, are the state's longest constrictors. Although they might pilfer an egg or two, these snakes are excellent mousers.



Leonard Lee Rue



bull snakes in an attempt to cut mushrooming rodent populations.

Bull snakes and black rat snakes occasionally develop a taste for hens' eggs. Years ago when this happened, farmers would place a white glass egg in their poultry houses. The reptiles, unable to distinguish the phony from the real thing, were killed when they swallowed and crushed the glass egg in their stomach. There's even one case on record of a bull snake which ate a porcelain door knob by mistake. For the most part though, the reptiles' value as rodent annihilators far exceeds the loss of a few eggs.

In addition to rats, mice and pocket gophers, constrictor snakes eat frogs, insects of all types, lizards, spiders, bird eggs occasionally and even other snakes. The king snakes especially, are quick to seize another snake as a meal—even poisonous snakes like the rattler and copperhead. Contrary to common opinion though, there is no inborn animosity between king snakes and rattlers. Being immune to rattlesnake venom, the king simply views the poisonous species as another meal and moves in to capitalize.

All constrictors including the bull snake shown here, prey mainly on rodents killing them with the constrictive strength in their coils.

Joseph T. Collins, herpetologist with the Museum of Natural History at Lawrence, has compiled this list of proper common names for Kansas constrictor snakes. Collins took the names from the American Society of Ichthyologists and Herpetologists' checklist of amphibians and reptiles in Kansas. We have reprinted the list here in an attempt to clarify misunderstandings regarding the snakes' proper names. In two instances, the reptiles' names have remained the same.

OLD NAME	NEW NAME
Pilot Black Snake .....	Black Rat Snake
Blotched King Snake .....	Prairie King Snake
Red King Snake .....	Milk Snake
Rat Snake .....	Great Plains Rat Snake
Speckled King Snake .....	Speckled King Snake
Bull Snake .....	Bull Snake

Even though constrictors are extremely effective reptilian predators, they sometime find the tables turned with them as the main course! A number of larger mammals such as coyotes, coons, skunks, foxes and badgers will kill and eat constrictors.

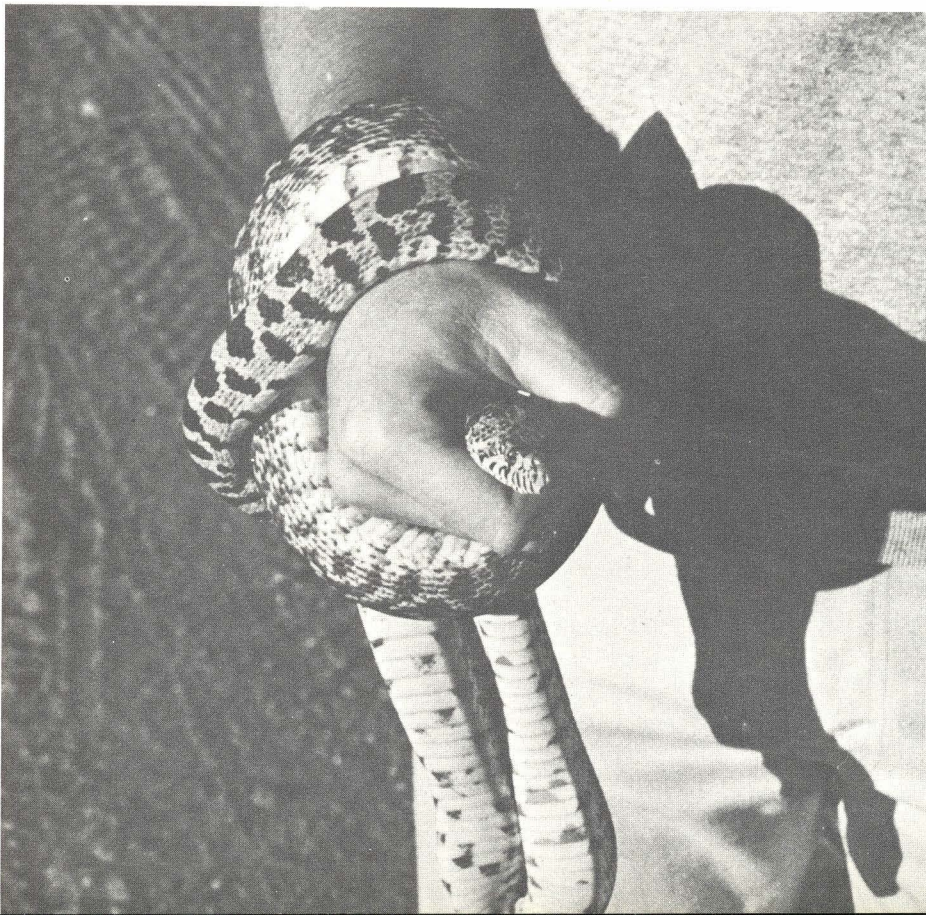
Jerry Johnson of the Southwestern Forest and Range Experiment Station in Arizona, once watched a coyote kill and eat a bull snake. Johnson recorded the incident in the *Journal of Mammalogy*. "The coyote dashed in, seized the snake by the tail and dragged it into the open," he wrote.

"The snake which was about four and one-half feet long, raised its head and part of its body a foot or so above the ground. When the coyote approached too closely, the snake struck at him. The coyote sprang out of the way and snapped the snake just back of the head, jumping away before the snake struck at him and each time the coyote snapped the snake. The last time the coyote did this the snake collapsed. The coyote seized the snake and shook it until it stopped squirming. Being satisfied that the snake was dead, the coyote sat on his haunches, looked around then started to eat the snake beginning with the head."

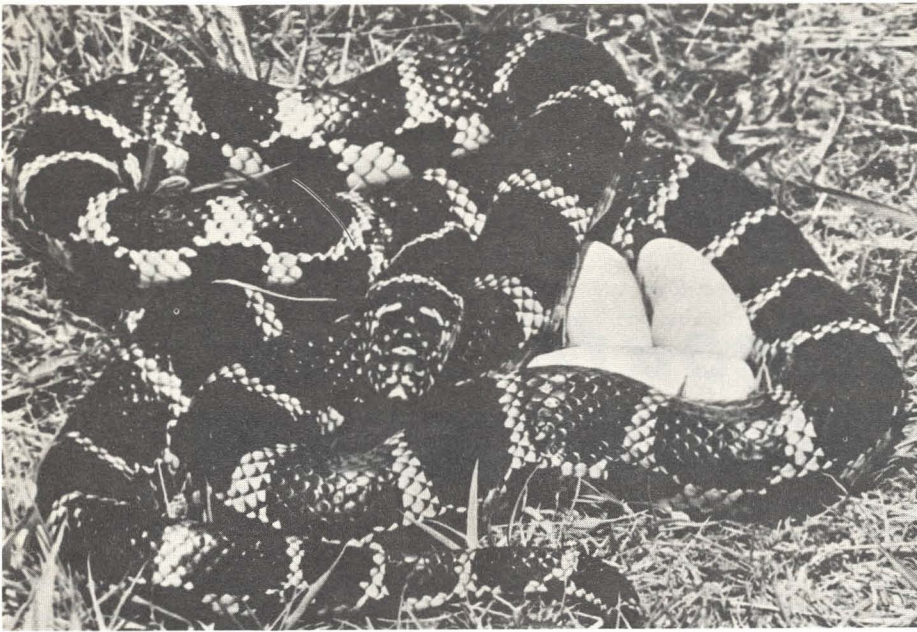
Birds of prey like hawks and owls are also enemies of snakes, killing them whenever the opportunity presents itself. Several years ago I was climbing to a red-tailed hawk's nest to band and photograph the young. Peeking over the rim of the nest, I came face to face with an enormous bull snake about four inches from my nose. Talk about adrenalin! It took a couple of seconds before I realized the reptile was dead. Evidently the adult hawks had just killed the snake as food for their youngsters. Occasionally, through constrictors, with the fantastic strength in their powerful coils, are able to handle larger birds of prey.

In Alexander Bent's *Life Histories of North American Birds of Prey*, there's mention of an encounter between a 46-inch black rat snake and a great horned owl in which the reptile had the upper hand. The owl

Ken Stiebben







The milk snake has been placed on the rare and endangered species list here in Kansas due to commercial exploitation of the snake.

swooped down and made an abortive attempt at grabbing the reptile. Immediately the agile snake threw a double coil around the bird's body. An observer found the owl lying on its side with wings outspread, nearly exhausted. Unfortunately both combatants were shot so the natural outcome was not witnessed.

In Texas, George Williams of the Rice Institute found a red-shouldered hawk which was nearly dead from the constrictive strength of a rat snake's coils. Reporting in the ornithological publication *Auk*, Williams wrote, "The hawk was on its back, feathers ruffled, wings half extended and legs limp. The mouth and eyes were open but the bird was not struggling. A large rat snake was wrapped tightly about the hawk's neck. Holding the hawk's legs, I removed the snake. The thick of its body formed one loop about the bird's neck, and its tail region formed another. The hawk revived later and flew off. The rat snake was unharmed and still full of fight," Williams wrote.

Even with all this natural predation, harmless snakes like constrictors probably suffer more mortality at the hands of man than any other cause.

Fish and Game

Autos kill countless thousands of reptiles on our highways annually and others are killed simply because they're snakes. It's a shame too because these reptiles are harmless as far as people are concerned. In fact, our native constrictors, because of their friendly, docile nature, are often taken as pets by youngsters. And they serve the useful function of helping control millions of insect and rodent pests. James Clarke, in his publication, *Man is the Prey*, put it nicely when he wrote, "It's a shame that we're so afraid of snakes, for not only are nine out of ten species harmless, but all snakes are vital in controlling the world's rodent populations, which has caused far more death and misery than snakes."

Think about it next time you see one of our native constrictors. Let him pass in peace—he's a friend!

Hawks are natural predators on snakes, catching them whenever they can. The author interrupted these two young red-tailed hawks in the middle of their bull snake dinner.

Vic McLeran



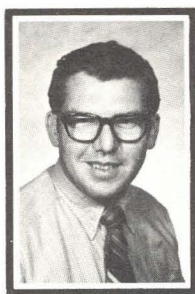


# Buckets of Worms for Bucketmouth Bass

DETAILS FOR THE 'DO-IT-YOURSELF'

By Farrell Brewer, Staff Writer

THE LURE closest to being perfect in recent years appears to be the plastic worm according to some top bass fishermen. Anglers have also found that plastic worms work well



Brewer

just off bottom, but are always snagging on brush, logs, stumps and the bottom itself. It's almost unbelievable how fast a lunker can get down, around and under some of the doggonedest brushpiles and what-have-you. Play too much seesaw with the bass and sure as shootin' something's got to give and it's usually bye bye bucketmouth, worm and all. It's activities such as this that account for the annual loss of plastic worms; the total dollar value is astronomical. Of course the expert who knows how to rig his lure weedless style, with the hook buried in the plastic, can fish through some pretty rough brush piles and still manage to retrieve his worm. But the novice often mistakes the minute taps and bumps of the worm moving over brush for the very similar taps of the ole' bass and sets the hook into a snag. When this happens there's not much to do but break off and attach a new lure.

The loss of a worm or two is not

going to send anyone to the local loan company, but when there are a couple of youngsters in the boat or a beginner or two, it can add up.

These losses could be the reason a new fad is sweeping through anglerland, which is equivalent to gunners reloading shot shells or fly fishermen tying their own flies.

While do-it-yourself worms are fairly new, the advantages are as old as the hills. One main advantage is economy; others are the self satisfaction of pouring your own and the tailor made effect that can be achieved.

Another big advantage to home-cooked worms is that if you're using one of them and break it or something bites the tail off, it can be put back into the pot and melted down to make a new one. By melting the broken worm down and pouring a new one the cost per worm can be cut to a fraction of a penny.

I became interested in the do-it-yourself worm making when some friends of mine at the David's sporting goods department told me about the worm making kit manufactured by M.F. manufacturing of Fort Worth, Texas. The kit enables even a beginner to create all sorts of color schemes, two-tone or whatever happens to strike one's liking and will attract bass in the area. These kits are available throughout Kansas at variety stores, sporting goods departments and various other locations.

Many anglers prefer the floating type worm, and that is what the kit will produce. Some anglers feel that a floating worm at any price is worth more than one that won't. Don't be confused when I talk of a lure that is best worked on the bottom and then tell you it is better if they float. I don't mean float on top of the water, although these worms will if not weighted.

The floating worm, used with a slip sinker ahead of it, rests head down on the bottom with the tail up, flickering and wriggling like a snake in the water, exactly as if it is trying to tunnel into the bottom. Since this is what a worm would do if he could, the bass seem to be attracted to the theatrics.

Worms may also be rigged to work six inches or so off the bottom which keeps the hook clear of bottom snags while the lead weight bumps along the bottom sending spurts of muck which apparently signal dinner to the black bass. This is done by attaching a split shot six inches up the line from the floating worm in such a way that the slip sinker stops when it slides down the line into the split shot. This allows the floating plastic worm to work free on approximately six inches of line with no weight other than a light wire hook—can outwriggle an exotic belly dancer.

This is not meant to be a commercial for roll your worms as floaters, because most of the major manu-



facturers have been making floating worms for years. As a matter of fact, most of the commercially made worms can be melted down and repoured about the same as those made from the kit. But there's nothing like your own custom-built worms.

Since fishermen are notorious for experimenting with things, the lure of two-toned, whitetailed, mod-patterned worms is quite the thing. This type of lure has been responsible for the demise of many a bucket-mouthed bass.

The two-toned effect is created by using two melting pots for the plastic and pouring 'em together to give various weird effects. The main idea is to create something today's well educated bass have not seen before.

All you need to get started in this endeavor is the mold, a small pan with a pouring spout (if you can't find one with a spout simply take a pair of pliers and bend the pan to make a spout) a heat source, (the kitchen stove will do well if you have an understanding wife if not, a hot plate or camping stove will do the trick some liquid plastic and the colors you wish to work with.

Don't be afraid to tackle the worm making process; remember if you goof your first attempt you can remelt the material and make a new start.

When you have secured the necessary equipment you are ready for your first try at making worms. First pour the liquid plastic into the pan (one ounce will make approximately six, six-inch worms). It is better to start with a small amount as excessive filling of the pan will make pouring difficult. Heat the material slowly until the liquid thickens and turns clear (approximately 350°F.) stirring frequently. Avoid overheating as this will scorch the plastic.

After the material has thickened and is clear you may add the color to obtain the desired shade. Remember one ounce of color is sufficient to color one gallon of plastic, so use care when adding color. A little dab will do it. Stir the color into the mixture to obtain a uniform shade. Pour the plastic into the mold filling

the cavity until it crowns. If you are right handed pour from right to left, this will allow you to see the mold in front of the pan. If you are left handed the reverse is true. Wipe the plastic from the lip of the pan before reheating to prevent contact with burners which causes excessive smoking.

Allow the worms to cool in the mold for three minutes. Remove and place in a shallow pan of water or lay them out straight on a flat surface to finish cooling. If you placed them in water to cool allow them to dry before bagging.

The worms may feel tacky when they are dry; this can easily be rectified by the application of a worm-oil to the worms, available where the kits are sold. The oil is scented with a proven fish attractor and will prevent worms from clinging to each other. An easy way to apply the oil is to place a dozen worms in a plastic bag and using the cap from the oil bottle add one cap-full to the worms, tie the bag shut and work the oil around the worms with your hand. The bag will also double as a handy container to store the worms in your tackle box. You might want to carry an extra bottle of worm oil in your tackle box as the oil will come off after repeated use.

Well, now that the steps have been completed to pour one-color worms let's move on to the multi-colored process. This procedure is much the same; you will need a pan for each color you desire to pour at the same time. Heat the plastic in the same manner you would for a one-color worm, add the desired colors and pour into the mold. The second color should be poured as quickly as possible to assure a good bond to the first. Don't worry if you overfill the mold the excess can easily be trimmed with a pair of scissors when the worm cools.

If you are not satisfied with the worms, if for example, they are too soft and break easily, a hardener may be added to obtain the desired consistency. Remember, you have not lost anything if you do not like the

first batch, just remelt them and add the hardener.

The cost comparison of roll-your-own worms as opposed to the ones commercially available is this: one pint of plastic will make approximately 96 six-inch worms. The plastic costs two dollars per pint which makes each worm cost around two cents each. A commercial worm will cost from 9 to 16 cents when purchased from the bulk bin and from 57 to 75 cents when purchased in prepackaged groups of three. You really start to save money when you take damaged worms and remanufacture them.

Unlimited styles and colors of worms may be designed and made with the products available. You may make a worm as hard or soft as you prefer, and also one that may be colored to your exact requirements. The only limitation is your own imagination.

Worm molds are available in three styles; round tail, spade tail and split tail. The lengths available are six, seven, eight or nine inches in all three styles. If these sizes don't suit you try making your own mold. Be certain the material the mold is fashioned of will stand temperatures to 400°F.

Also available are beetle and shrimp tail molds. This should be good news to the beetle spin anglers. Many times white bass and crappie will tear up the body of the spinner. Now you can pour a new body and refurbish the spinner.

Colors available run the spectrum of the rainbow; with others added; black, blue, grape, green, orange, purple, red, yellow, white, strawberry, fluorescent orange and pink. It should be noted when using the fluorescent orange and pink the color should be added to the unheated liquid plastic to obtain the best results.

I won't guarantee that you will catch a bass of the astronaut variety (out of this world) but you should have success with your home made worms, and think of the satisfaction of catching a lunker on a lure you have made yourself.



# Fish Stocking

## Just part of the answer

By Ross Harrison, Staff Writer

**H**AS YOUR favorite fishing hole had the blahs lately? Have you been missing the wham-bam action of hard-hitting bass and the heavy tugging of monster catfish? Well,



Harrison

chances are good there's a remedy for yours and most other waters that might have lost their angling pizzazz, be it pond, lake, or reservoir. But there's also the possibility that help may be beyond reach if the impoundment was designed poorly from the start, or if some major ingredient of good fishing is lacking and can't be economically added. In just about every body of water in Kansas there is a definite need for some kind of management to produce the angling desired by most sportsmen. Except for streams, more than 99 percent of Kansas waters were put there by man. They are not natural phenomena.

Likewise, the demands of fishermen are unnatural. They seek largemouth bass, walleye, northern pike, crappie, catfish and other game fish, all of which except the catfish, would not be available unless the waters were scientifically managed to produce them.

Of all the fisheries management techniques that can help a "sick" fishing hole, the general public has always viewed one practice in particular as the general cure-all—stocking.

To better understand the management and future of their sport, the half million Kansas anglers should have a better idea where the importance of stocking lays and what effects it can have.

Since Kansas got into the fish hatchery business in the late 1800's, for many Kansas fishermen the only hope of making good angling waters out of bad lay in artificial production and stocking of hatchery fish.

Then there came a short period when a new awareness struck fish managers. Forty years of intensive stocking hadn't produced the fishing paradise they thought it would. Some fish managers were beginning to believe they could get better use from their hatcheries by plowing them up and planting them to wheat.

But just about then research science was joining hands with practical experience in the fish business and stocking was put into proper perspective. Formerly considered an end in itself, then no good at all, stocking became and remains today as just ONE tool of fisheries management. It has changed from being the only answer to all fishing problems to being an important part of the answer to many fishing problems.

A room full of tools have been provided to fisheries managers to improve angling. Stocking may crowd a good size corner of that room. But the total success, or failure, of stocking depends on the use of other fish management tools used in conjunction with it.

Other fish management tools in-

clude: Proper construction of the impoundment with the incorporation of good habitat; water level manipulation; removal of undesirable fish; control of the quantity and quality of water inflow to the impoundment; fertilization; and development of forage fish populations to name a few.

Any one of these practices can't do much of anything alone, and that includes stocking.

For example, stocking largemouth bass fingerlings in a state lake that contains a heavy population of bluegill is nearly like dumping those bass on the main street of Topeka. An established bluegill population would make short work of the young bass. If any bass survived the heavy predation, they would have to compete for every morsel of food. In such a case bass generally lose due mostly to the sheer numbers of bluegill.

In a year or less the pond would return to the same condition it was before the stocking, stunted bluegills and no bass. The stocking was a waste. To make it work, other fish management tools need to be used as well.

First, a drastic reduction or removal of the bluegills is in order. This allows the bass to become established and grow to a size where they could utilize the bluegill for food instead of the other way around. The larger bass would in turn be a check on the bluegill population, resulting in fewer, but much more suitable fish for the angler.

This is an oversimplified example. No mention was made of other tools



at work. There must be spawning grounds, escape cover, a dependable and high quality supply of water before even the best stocking could work. This example does make a point, however. Just plain dumping fish in a lake will not improve angling.

In some other body of water, stocking may have no place at all in a good management plan. If a desirable fish exists in the waters, but the supply is never high enough to show up on the stringer, there are other fish management approaches to building up their numbers.

**One thing should be made** clear at this point. No one can produce fish like nature if the right conditions exist—so why not help provide the right conditions.

A good size female bass in a one-acre pond could produce enough progeny so that if all the eggs hatched and all survived for three generations, there would be enough one-pound bass to replace all the water. Furthermore, if the progeny were stacked in a one-acre heap, they would form a pile 700 feet above the ground.

Natural spawning should be facilitated whenever feasible. Manipulating water levels, proper habitat and dependable food supplies are the keys here.

A general rule is not to stock a body of water where natural spawning of the desired fish already takes place. But that doesn't mean where

there is natural production, then the offspring will make it to a catchable size. Other problems, such as too many predacious and competing fish may stop or limit growth. This in turn may require removal or reduction of such inhibiting fish, or many other practices.

Fish generally come in three sizes for stocking in Kansas waters. Fry (a few days to a few weeks), fingerlings (a few weeks to a year) and shorts or intermediates (six to eight inches). Deciding which size or age class to use depends on the time of year, for what reason they are being stocked and what is available from the hatchery.

Basically there are three primary reasons why fish may be stocked:

1. To start fish populations in new impoundments (stocking new reservoirs and farm ponds)
2. To change fish populations by strengthening numbers of existing desired fish when natural spawning is lacking (stocking northern pike in reservoirs)
3. To introduce a new fish (wall-eye, northern pike and striped bass).

**There's another form of** stocking termed put-and-take which calls for the planting of catchable size fish, producing "instant angling." Put-and-take plantings are severely limited

because it is extremely difficult and costly to rear most popular game fish to the large size required and in any meaningful numbers. The cannibalistic nature of fish such as largemouth bass, walleye and northern pike in the confines of hatchery life, plus the enormous volume of live forage fish required to feed them are the biggest hangups.

**Only channel catfish** are somewhat adapted to this type of culture, but even then the cost and space limits the practicality.

A delayed put-and-take operation, where intermediate size fish are stocked, to be harvested in one or more years, has some application in state lakes and other relatively small public waters, where heavy fishing pressure is the rule. Again, this practice is limited for the most part to channel cats. When special management dictates it, largemouth bass intermediates can be sparingly supplied for stocking.

To start populations in new impoundments is perhaps the easiest stocking maneuver to pull off successfully. There is virtually no competition with other fish because they haven't had time to become established yet.

**Timing the stocking of new** reservoirs has much to do with whether the effort is successful. Ideally a reservoir should start to fill in late winter. As the water level rises and inundates new vegetation it provides





suitable nursery grounds for walleye and northern pike fry which can only be stocked in mid to late April.

Given a few months to grow past their critical survival stage, they will be strong enough to live through another necessary tool of fish management. If the Corps of Engineers cooperates this tool calls for lowering the impoundment's level in late spring and early summer to deter the massive hatching of rough fish.

Later in the summer the U. S. Bureau of Sports Fisheries and Wildlife provides bluegill and largemouth bass for new impoundments, generally in the size class of large fry or small fingerlings.

Channel catfish usually are not stocked in reservoirs with the watersheds supplying enough to get populations started.

The second year of a reservoir's life, walleye and northern are usually stocked again. Because it would be three to four years before biologists could tell whether the first stocking was a success, this second stocking provides a safeguard. If the second stocking was delayed until after it was discovered the first attempt didn't work, the other fish in the reservoir would have become too much established for a second fry stocking to have any effect.

With about 1,200 farm ponds being built each year and because they provide untold thousands of hours of good angling, farm pond stocking is a high priority with the Forestry, Fish & Game Commission.

Probably the most important requirement for a farm pond to be eligible for FF&G fish is that it contain no existing fish populations. For reasons discussed earlier, it is obvious that existing fish populations generally lead to a wasted stocking effort. While it is not possible for biologists to advise pond owners on the number of fish and type which they can stock in their ponds, this is limited through the size of the pond and through how many fish are available.

Every fall more than 200,000 channel cat, 120,000 bluegill and 150,000 largemouth bass fingerlings are transported to all reaches of Kansas to support the farm pond fishery. Again, due to limitations, a pond can receive

only one stocking from the Commission.

The second major reason for stocking—to change fish populations—is a complicated one to discuss. Due to the high number of variables in any given impoundment, biologists must study whether supplemental stocking is the answer and what it might entail.

Remember. Supplemental stocking is seldom used, if at all, in waters where the desirable fish is naturally producing. Mostly, supplemental stocking is a delayed put-and-take and involves the use of smaller fish.

An example of supplemental stocking is in the state lakes. Being one of the most popular, and often the easiest fish in the lake to catch, the largemouth bass usually needs his numbers boosted on a periodic schedule, that is

if spawning habitat is not suitable.

And in reservoirs where northern generally won't reproduce, additional plantings may help boost the population to a more catchable size.

Of all the main reasons why fish are stocked, introducing a new species is probably the most exciting to the biologist and to the angler. It can also be the most costly and disastrous if not carefully examined from the onset.

Nothing points this out better than the introduction of the carp in the late 1800s to the United States from Europe. Its angling popularity dashed by the highly sought bass, walleye, bluegill, catfish and others, the prolific carp still remains in most waters of Kansas, especially the reservoirs.

Wallowing in the bottom muds of impoundments, the carp can generate enough turbidity to seriously hinder fish such as northern and walleye which feed by sight. As well as degrading spawning habitat, the carp competes for food and space with most of the more desirable game fish.

Similarly, many persons now are hot on introducing the white amur, or grass carp. Biologists of many states, including Kansas, are against its introduction, however, until more

is known about it. Because the white amur supposedly eats a vast number of weeds, some persons figure it could be an answer to weed problems in many lakes and reservoirs. Although, Missouri is finding the white amur takes more readily to small crustacea, valuable links in the food chain of game fish.

Kansas has had its share of successful introductions of non-native fish, called exotics. The walleye and northern pike, fish from areas far above the Mason-Dixon Line have adapted to many reservoirs through stocking efforts.

While the walleyes have been able to reproduce in a number of reservoirs, Norton, Milford, Tuttle Creek and others, the northern has had a tougher time. The special, flooded

**The idea that stocking is a cure-all for poor fishing is nonsense. Stocking is just one phase of the complex field of fisheries management.**

marsh-type spawning areas required by the northern may be able to be constructed by biologists in the future, however.

Striped bass are probably the most exotic of the non-native fish that have adapted to Kansas waters. They too have yet to indicate successful spawns.

Before coming to Kansas and many other inland states, the striper was a fish of the Atlantic Coast which swam up coastal rivers to spawn.

When South Carolina shut the gates of a reservoir on one of these rivers, it trapped many hundreds of the stripers who were spawning. A surprise to fish biologists, the striper adapted to the fresh water and since, they have been cultured by that state and distributed all over the country.

The future of stocking is unquestionably sound in Kansas. When used in conjunction with the other fisheries management tools, stocking fish will remain as one of the most important functions of the Forestry, Fish & Game Commission. As the Commission expands and modernizes its hatchery production facilities in coming years, anglers of Kansas will be the benefactors of more stocked fish, and more fish in the creel.



# Must Hedgerows Die?

By Bill Scott, Staff Writer

Photos by Ken Stiebben

WHEN I WAS 14, I watched a hedgerow die. It was late fall and I was happily slopping across a muddy green wheat field toward my favorite rabbit-hunting hedgerow



Scott

Marlin .22, I plunged ahead to see what this strange creature was doing to the place where the rabbits lived. The man at the controls looked as powerful as the machine he ruled.



Stiebben

A nice guy. But his bulldozer was impatient, eager to launch another assault.

He made the stubby little creature reach up its powerful arms. It lunged forward and a mature Osage Orange

gave way under the assault, its roots ripping from the earth as dirt sprayed high in the air. The tree yielded grudgingly and lay down slowly as an old man lies down for a long sleep.

I hunted there again, but the rabbits were gone.

All that remained of that once-proud hedgerow was huge piles of dirt and ash. The trees had been burned to clear the land for farming.

"The urge to destroy is a creative urge," wrote the Russian anarchist Michael Bakunin. If so, Kansans are indeed a creative people. "Since World War II, we have destroyed half of the eight to ten thousand miles of roadside hedge we once had," Assistant State Forester Gary Naughton

said. "Also, an awful lot of field hedge is going out in Kansas, but we can't make a good estimate of how much." Replanting of the lost hedge is practically nil. "We sell less than 10,000 hedge seedlings a year, which is only a small drop in the bucket," Naughton observed.

Hedge apparently had its beginnings, for our purposes at least, in Arkansas. According to *The New Teachers' and Pupils' Cyclopedia*, published in 1910, Osage Orange was named from the Osage Mountains of Arkansas where it was native.

Romantic folklore surrounds the Osage Orange. Claude Britt, Jr., author of more than 60 Indian essays and holder of an M. A. in geology,

More than half of Kansas' eight to ten thousand miles of roadside hedge has been ripped out since the early forties.







Wildlife, like this cottontail, depends on hedgerows for shelter and protection from natural enemies.

told me historical Indians of Ohio, including Shawnees and Wyandottes were using Osage Orange for bows when French fur traders first penetrated the area. At that time, there was no Osage Orange growing in Ohio and Britt feels that the wood must have been traded over a distance of some 800 miles.

Hedge is not native to our state, explains Naughton. "It came to Kansas from the Red River country of southeastern Oklahoma and northeastern Texas where it was used for stake and wicker fence. It was introduced during the mid-1860's by Texas drovers along the Sedalia Trail that ran along the Missouri border into Baxter Springs and Joplin." I asked Naughton if horses' hooves could have picked up hedge seeds and inadvertently planted them that way. "Probably not; they were planted in deliberate rows right from the start. Perhaps a drover settled in that area and planted hedge or he gave hedge cuttings to a local resident—we just don't know."

In the mid-1870's, after the Chisholm Trail cattle drives to Abilene ceased, Mennonite settlers planted miles of hedge in Rice, Reno, McPherson, Harvey and Marion counties. To the north in Dickinson, Morris and Clay counties German Baptists and Lutherans were also industriously

taming the raw land with plantings of miles of Osage Orange hedgerows.

Hedge was planted, not for wind control or wildlife, but for fence. Hedge trees kept cattle confined and marked off the boundaries of fields before and after barbed wire made its advent into Kansas.

But Osage Orange does far more than merely fence in fields. Perhaps without the planters anticipating it, magnificent side benefits have developed for farmers, nature lovers and sportsmen. Wind erosion, for example, is lessened considerably as hedge tames the howling winds of Kansas. Former Game Division Chief of the Fish and Game Commission Ollie Gasswint remembers, "In the '50's many farmers wished they had the hedge back on the south and west sides of their fields they had pulled out earlier. Crops withered and died then that survived scorching winds in the '30's. State foresters say the lateral wind stopping qualities of the hedge are ten times its height." So, if a hedge is 20 feet tall, its power to stop or slow winds extends for 200 feet out on either side.

And Osage Orange is truly superb wildlife cover. Quail, pheasants, rabbits, squirrels and doves as well as dozens of non-game species make the sturdy little hedge their home.

Being a tree of the nettle family,

it has thorns. Its leaves are dark, glossy green and waxy to the touch. The fruit of the female tree is about grapefruit-size, called "hedge balls" or "hedge apples." Height varies from 15 to 60 feet, depending on the climate. The hedge's yellowish wood can take a high polish, or drive a Baptist deacon to forget his religion when he's trying to hammer a staple into it. Its extreme resistance to drouth, insects and disease make it capable of living for more than 200 years on many sites, according to Naughton. Hancock adds that, based on an experiment his vocational agriculture class performed, hedge sprouts have an amazing growth rate. It will grow four to six inches on a summer day if moisture is adequate.

Old-timers fondly remember what they learned from watching Osage Orange and what this tree did for them. R. A. Buenning of Hope, 84-year-old former Dickinson County farmer, said "I think there used to be a saying among the farmers of past years that when hedge leaves are as large as squirrel's ears, it's the right time to plant corn."

Ernest Kohman, a 76-year-old lifetime Dickinson Countian who still farms the fertile Turkey Creek bottom land, says hedge has good cattle-holding qualities. "Each winter we would cut 40 rods (a rod is 16½ feet) of hedge and leave the brush in piles and you'd have a livestock-proof fence," he recalls.

"When my father came the land was almost as bare of trees as the road," Kohman continued. To get hedge, we dried the hedge balls and crushed them to let the seeds fall out. From these seeds we'd get the sprouts started. Father planted hedge by plowing a furrow. We'd lay the little sprouts one foot apart and plow it shut."

Kohman is a strong defender of hedge for its advantages to farming and deplures its widespread destruction. "If you have a hedge on the south side of a field the strong March winds are checked. One of our fields has hedge on its south side and we never have any problem with it blowing. But in another field without



hedge, we have to go out and cultivate every 15 rods or so to help slow down the dust."

Another use for hedge was constructing a yoke for unruly cattle. "If we had a cow that was going through a fence, we'd take a Y-shaped limb and fit that on her neck. She'd never crawl through a fence with that on!" Softer wood often broke under the strain of a critter trying to force its way through the fence, but not hedge!

Now, mid-20th century Kansas farmers are briskly destroying this tree. I went to the heart of hedgerow country—including Dickinson, Cloud, Franklin and Osage counties—to find out why.

Dickinson County's Ridge Township pays for hedge removal on a cost-share basis. The landowner, if he tells the board he wants a hedge out, he and the township both pay half. "Hedge-pulling started back in the '30's when a law came out that trees and brush had to be cleaned 300 feet at an intersection," says Les Hill, Dickinson county farmer. "We have the right, today, to take brush back whether the landowner wants it or not." When asked about how much hedge has been removed recently in Ridge Township, Hill complained—"In the last five years not near enough hedge has been taken out. We've had maybe three or four miles taken out in this township."

I asked about his attitude toward Osage Orange as a farmer. "Between my neighbor, Vern Stroda and myself, we have taken out  $\frac{3}{4}$  mile, but I haven't had near as much hedge taken out as I want. Wheat is the only crop you can grow along a hedge. In a dry year you won't raise any row crop within about two rods of a hedge. I have two acres along a hedge I can count on raising nothing in row crop." This is attributed to the hedge's thirst. Wheat ripens while cool, rainy weather predominates. Corn and milo, ripening in summer's heat, feel the effects of the hedge's moisture sapping.

"So, it's been a big help to me in my farming operation to be rid of hedge. You can utilize ground you couldn't before." He added, "I have not noticed any more wind erosion since I took the hedge out, either."

Some say another problem with hedge is its tendency to spread into adjacent land. But assistant State Forester Naughton, however, doesn't see Osage Orange as the crux of the "spreading" problem. "The spreading of hedge that we face today stemmed from two different factors, both resulting in overgrazing. During the drouth of the '30's, overgrazing occurred from farmers taxing pastures beyond their limits. World War II, because of high cattle prices, resulted in the same thing." Faulty range

management must shoulder part of the blame for present conditions.

Lowell Davidson, a Ridge Township Board member and farmer, says "We have very little hedge along our roads anymore. They've been pretty well all taken out. Along a (dirt or graveled) road where people have to get in and out, they don't want too much hedge; however, if the road isn't used extensively, I say leave the hedge alone."

He prizes one of his hedgerows and to try to shove it would be asking for trouble. "There is one hedge on the edge of my land that could come out, but it isn't coming out!" he declared as steel crept into his voice.

Lawrence Riedy, 51, is a member of the Hope Township Board and also a farmer. He informed me that his township also pays half for hedge removal. "I guess hedge does sometimes cause snow to drift, especially if it's on the north side of an east-west road." I asked Riedy if his township requires a farmer to take out a hedgerow. "No!" he said. "Sometimes a farmer has dead hedge that is dropping limbs and breaking the fence, letting the cattle out. Then we take it out if he asks us. But we don't demand, ever, that a man remove his hedge."

As a farmer, Riedy has "no problem agin' 'em; on the south side of a hedge the snow drifts onto my land and the added water lets me raise better crops there than anyplace." When asked in more detail about Osage Orange being especially bad on sapping moisture, he replied "There is nothing that takes more moisture than an old Chinese elm. An old hedge doesn't take much; it just sits there." Fish and Game Supervisor of Development and Management Don Dick expands. "Farmers often overlook the crop raised thirty to forty yards out from the hedge. As wind action fans out, snow is deflected into the field. The crop raised there largely offsets what is burned next to the trees."

Forty-year-old Jim Anderson is the maintenance operator for Ridge Township who finds himself torn in the hedge controversy. A farmer and sportsman, Anderson is tall and lanky

In many cases, grotesque "dozer piles" are all that remain of once fertile hedgerows.





with a hint of a mustache teasing his upper lip. He frowned as he said, "—from the standpoint of a patrol operator, hedges are a detriment to the roads. In winter the roads won't dry out as fast; this takes more rock and increases road taxes."

But, he pointed out, hedge does help roads from one standpoint. The grade of a north-south road protected by hedge will last years longer than an unprotected thoroughfare. The nibbling of the hungry wind is halted by the staunch Osage Orange.

As a sportsman, Anderson hates hedge destruction which he sees as a threat to continued hunting.

He also likes hedge as a farmer. "I have a north-south hedge. I can run cattle in there for the winter and they'll never feel it."

Ed Neuschafer, county road patrolman and former Ellsworth and Dickinson County farmer, recalls that in the grasshopper invasion of 1936 hedge was nearly wiped out in Ellsworth County. Dickinson County, however, kept its hedge. He wonders if a shallower water table farther east had anything to do with it.

Neuschafer also said hedge is not desirable along especially east-west roads. Snow drifts badly, then must melt before the road dries. "However, he added, "a half mile hedge through a section is wonderful for a windbreak and bird shelter."

Cecil Kuhn, farmer and president of the Hope Co-op, agrees with Naughton that hedge has been made the scapegoat for the spreading nuisance. "Hedge has ruined a lot of pasture, but it is not the hedge's fault. It is poor pasture management." Continuing, "I don't mind it along a pasture. It doesn't seem to hurt the growth of native grass or even brome grass. I think a lot of it is that it captures snow and the grass has early moisture. But along a field it creates too much interference with farming. It saps moisture from crops too badly and requires many hours to control it."

Kuhn also felt that since Kansas had many more miles of hedge in the Dirty Thirties than we do now and the disaster of the '30's has not recurred, farmers have compensated for



Quail depend on "edge" areas for food and nesting cover, both of which are often provided by hedge.

the loss of hedgerows. Perhaps if we saw a return of the climatic conditions of that decade, our compensatory measures would shrivel.

The word of caution was sounded by Dickinson County Commissioner Elmer Anderson. "The hedge has served their useful purpose; and I am not so sure that if the 'Dirty Thirties' returned we won't need 'em again."

And Don Dick flatly declares, "The argument that the '30's will never return because of reservoirs and ponds is incorrect. Their overall acreage is very small compared to the total acres in Kansas. We may never see any conditions like we did in the '30's, due to practices like stubble mulching, but we have never had a drouth like we had then." It's possible the '30's could return!

The Soil Conservation Service has no official position on hedgerow removal. However, hedgerow planting is one of the wildlife practice alternatives available through SCS planning.

President of the Kansas Rural Electric Cooperatives, 50-year-old Lowell Abeltdt, feels that "—to have Osage Orange along a road is like a weed; it is a plant out of place."

Abeltdt explained that in 1935 the Rural Electrification Administration (REA) tried to put their power lines where there was no hedge but could

not always succeed. Inability to get the easement caused this, and Abeltdt observed that "a hedge under an electric line often results in a 10% power loss for a line. We also get wires breaking from limbs falling on them and the trees do attract lightning."

State Game Protector Willard "Hap" Jones of Herington reports that Carl Schmidt, Woodbine farmer, was so upset by poachers slaughtering quail in his hedgerows and by other factors that he finally pulled them. This, Schmidt hopes, will get the quail back from the road.

But this seems like dropping a firecracker in your car's gas tank to get rid of a rattle in the trunk. Game Division Chief Lee Queal comments, "Hedgerow destruction assumes that quail will relocate themselves. But we know that most wildlife habitats are filled with game close to or at carrying capacity. In most cases, there will be no place for these birds to go to reproduce in following years. So while the social problem has been solved, the wildlife habitat has been destroyed."

Interviewing Duane Coup, operator of the Hope Standard station and hunter, shows how thorny the hedge problem is. I asked Coup how many tires needing repair show up with hedge thorns in them. "I've fixed six



to eight of these tires a week for the past 11 years. And most farmers have 50 tires on their place." This was from one service station in one small town, which gives you some idea of the money we're talking about here. Good news, however, comes from Bill Flynn. Development of a thornless hedge is presently underway and may be soon available.

Howard Fry, well-known Dickinson County farmer, favors shelterbelts over hedgerows "because it has more trees," thus creating more solidarity. Fry has both on his farm, with the shelterbelt covering six acres. He explained that a 'belt is constructed like a sloping shed roof, with taller trees on the north, shorter on the south.

As good as 'belts are, there is a possibility they may be too solid. Buenning reports that Canadians, who might understand the building of windbreaks better than we, construct them by erecting three boards, leaving a gap, three boards, leave a gap and so on. This prevents wind dipping down just past the windbreak as it does when all the boards are slapped together. Hedgerows leave openings which may help stop this dipping phenomenon.

Vice-President and Farm Representative of the People National Bank of Ottawa, W. G. Ransom is pessimistic about the future of hedgerows. "I think people will get rid of hedge to control their pesky features. The hedge's shagginess encroaches on fields and it's cheaper to get a bulldozer and clean it all at one swipe." Again, throwing a match into the gas tank to stop the rattle in your trunk.

The shaggy hedge can be controlled by harvestation. Naughton, assistant State Forester, explains that by cutting it every 15-20 years, spreading limbs are gone and root growth is stopped, resulting in less moisture loss. A farmer now has a fine supply of hedge posts, currently selling for \$.65 and the wildlife cover after two years is better than ever. Also, hedge posts outlast steel posts by at least five years while steel posts cost \$1.00 to \$1.20! About four million posts a year are sold in Kansas, making the

fencepost industry big business. "The bulldozer has been the answer farmers understand. It's easily accessible and gets the job done. We want to point out to farmers there is an alternative solution!"

Ransom continued, "Dairy cows like hedge balls and they're toxic enough to cause the cows distress." Tom Orwig, Dickinson County Agent, counters: "Choking sometimes occurs from

### **Bane or blessing? The hedgerow controversy continues to boil while the steady loser is Kansas' native wildlife.**

the sheer bulk of the hedge ball. But poisoning, no."

"Anyplace hedge is removed in large amounts the game populations decrease proportionately." The speaker was 39-year-old sportsman L. E. Polston. "Cedars would be a good substitute but will never replace hedge. Hedge will house bird and squirrel nests unlimited. When was the last time you saw squirrel nest in a cedar tree? And hedge grown over makes a veritable game tunnel. Cedar won't do that." Squirrels also gorge themselves on hedge apple seeds, staying fat and sleek when other food is hard to find.

Earlier, I was told by a farmer that pheasants don't use hedge. The interview concluded, I drove less than 1/2 of a mile north of his home. There, lying low, was a beautiful cock pheasant. Pheasants, too, use hedge; some of the finest pheasant hunts I've had have been near hedgerows.

Charlie Forshee, 81-year-old Cloud County farmer, flatly declares "I don't want hedge in any way, shape or form on my place. I want a good four-wire fence."

Countering is Henry Jameson, former AP war correspondent and editor

of the Abilene *Reflector-Chronicle*, for 15 years, who bluntly says: "I was raised here and I've always been against the pulling of the hedgerows. It's ridiculous. I've seen farmers pull their hedge and later regret it and plant shelterbelts. So they destroy something they had all the time and spend their money for something that uses more land and doesn't work that much better. How stupid can he get?"

Many questions emerge from this survey. When drouth returns will farmers wish, as they did in the 1950's, that they had their hedge back? In these days of higher taxes, is a township unjustified in subsidizing hedgerow removal? Will the ground now farmed where there was a hedge result in greater losses from wind erosion? Isn't the hedge one of the most effective controls of wind erosion ever devised? Isn't the crop loss next to a hedge largely offset by better yields other places and other years? Is the practice of overgrazing, not hedge itself, to blame for its spreading into pastures? Isn't hedge pulling to stop poaching far more injurious to bird populations than violators? Don't hedge posts save money by underpricing and outlasting steel posts? Is our wildlife left with no place to go?

We feel that the answer to these questions is "yes."

Meanwhile, the destruction continues. The English poet William Wordsworth describes it well:

"Sweet is the lore which Nature brings  
Our meddling intellect  
Mis-shapes the beauteous forms of  
things:—  
We murder to dissect."



Regardless of the cost of your outfit, the only connection between you and a fish is your line!

# Fishing Line Lineup

By George Valyer, Staff Writer

**ALL** FISHERMEN, REGARDLESS of their experience or the sophistication of their tackle, at one time or another, have lost a battle with a big fish. If you don't believe



Valyer

me, just ask 'em. I have never talked with an angler who has been fishing more than once or twice who didn't have a story to tell about the big one that got away and, in most cases, the stories are true. They did have an

exceptionally large fish on the end of their line which made a monkey out of them in one fashion or another.

If you were to quiz these fishermen at greater length, you would soon discover that line failure played an important part in a significant number of these losses. Regardless of whether your fishing outfit cost \$3.98 or \$100, the only connection between you and a fish that has just struck or bitten is your fishing line. Naturally, the quality of your rod and reel makes a difference in your ability to present a bait or lure properly and it does make some difference in your ability to play a fish once you have hooked him, but all other factors aside, it is still the line which connects you to the fish and it is often the line which determines whether or not you are successful in bringing home a good catch.

Too often, fishermen neglect to give proper attention to this most important part of their tackle and wish later that they had been more careful to make sure that the line was in good condition. They clean and oil their reels, check their rods for loose guides, inspect the contents of their tackle boxes but seem to forget about that all-important line.

The three most commonly used lines in sport fishing today are the fly line, the casting line and the monofilament line. Each is used with a different rod and reel. In order to cover each type of line adequately, they must be separated as to their various types and uses.

## FLY LINES—

Adequate care of fly lines is not the problem it once was. Today's braided nylon lines with a core of either floating or sinking material are quite durable and strength of the line itself is seldom a problem. The tip end of a fly line occasionally does receive fraying due to contact with rocks and other rough surfaces and a knicked or rough tip guide can cause excessive wear on the smooth surface of the line. It is wise to check the guides for roughness each season before going fishing.

A rough guide can also cause excessive wear on any of the three types of lines so the guides of any rod should be checked periodically and

new ones installed when needed. More about that later.

Double taper fly lines are commonly used by serious fly fishermen for a very good reason. If one end becomes frayed, it is quite simple to swap ends on the reel. When this is accomplished, you have the same as a new line since both ends are tapered identically. Fly lines are normally quite heavy since the weight of the line itself is used to propel it when cast. Therefore, it is not the line itself which breaks—it's the leader.

Any competent fishermen who uses fly tackle knows that the leader should be checked frequently. Fly leaders are a wispy thing anyway and any nick or abrasion can result in a lost fish. Test the leader with a sharp jerk of the hands. If it doesn't pass the test, replace it.

## CASTING LINES—

Modern braided nylon casting lines are durable, quite flexible and strong. Still, they can break after extended use or abuse. Sometimes a visual check is not enough to reveal a weakness and it takes a good tug to reveal a defect.

As in most other lines, the greatest wear usually occurs at the terminal end of the casting line. It is a simple matter to cut off a few feet and thus eliminate the worn or frazzled end. Unless you have a bad guide (usually the top guide), a line will last for



years by merely whacking off a few feet each year.

Casting lines usually range in strength from 12-pound test to over 100-pound test. The larger lines are usually used on reels designed for surf or deep-sea fishing. These large reels and heavy rods are used by Kansas fishermen for flatheads and big carp. Where lines above 30-pounds test are used, a visual examination will usually reveal any significant wear which would materially reduce the strength. On lighter lines, two or three wraps around the fingers of each hand and a firm tug will reveal any imperfections in the line.

When replacing line on a casting reel, the factory spool on which the line is purchased is placed on a pencil or other small stick gripped between the knees. It is then a simple matter to reel the new line onto the spool of your reel as though you were landing a fish.

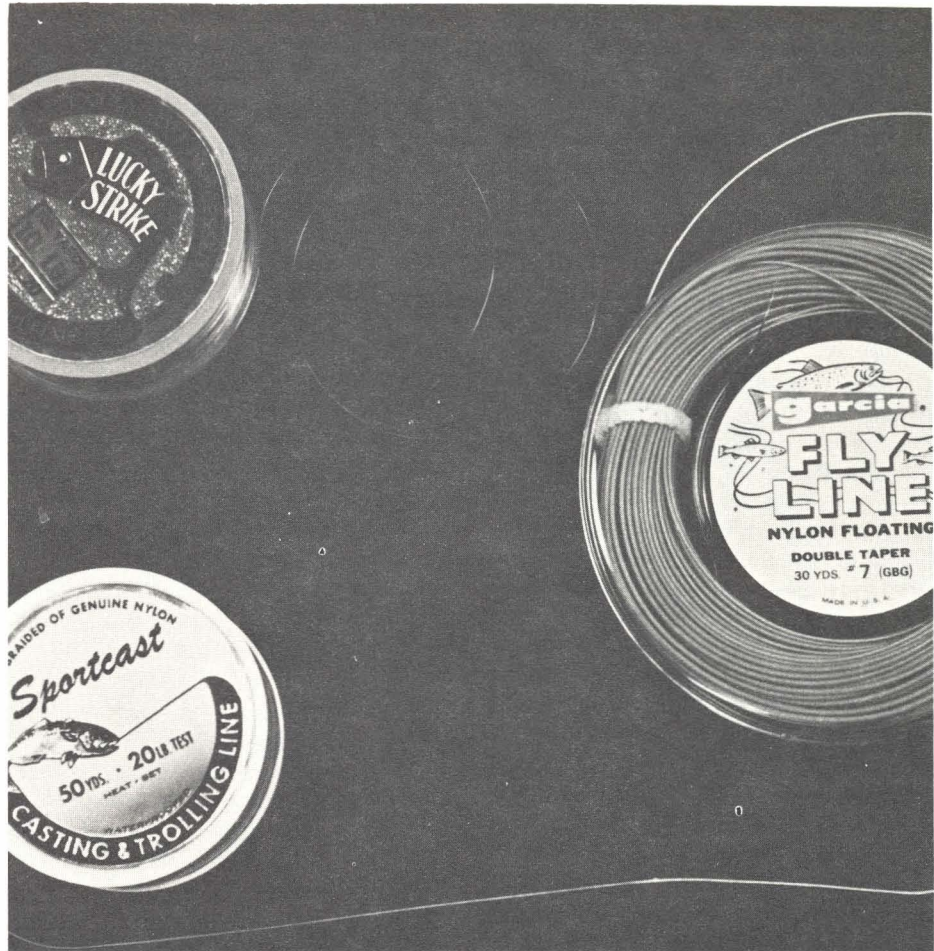
Some of today's fine free-spool casting reels are designed to use monofilament line. When changing monofilament on a casting reel, you can use the same technique as used with braided line as long as you remember to wind it on the reel spool in the same direction it comes from the factory spool. (See diagram.)

Putting new line on a spincasting or a spinning reel requires a different technique so let's cover that now.

#### MONOFILAMENT LINE—

Almost without exception, all of today's spincasting and spinning reels use monofilament line of various sizes and test weights. Generally speaking, the lighter the line used on such reels, the better they cast. Some spinning reels are especially designed to cast the heavier monofilament lines and these reels have a larger spool than those used for lighter lines.

The spinning and spincasting reels have grown in popularity with leaps and bounds during the past 15 or 20 years and more fishermen now use this type of tackle than any other. Monofilament line has many advantages over other types but also has some disadvantages. First, let's consider some of the advantages.



Sport fishermen too often neglect that most important piece of equipment—their line.

Monofilament line is a single, relatively heavy strand of nylon which can be produced cheaply. In fact, monofilament is the least costly of any fishing line since it does not have to be braided or woven. Its small diameter allows a lot of line to be stored on a small spool and a reel using this line can be made lighter and smaller than any other holding a comparable length of line. Monofilament is also relatively invisible in the water due to its translucent nature and fish can not detect its presence so readily as they can other lines. It is relatively strong considering its small size and it is impervious to rotting or normal weathering.

But monofilament does have some drawbacks when it comes to wear or nicks and it must be spooled properly

on a reel or it will result in the biggest mess of tangles you can imagine. Wear or weak spots do not show up readily to visual inspection so the angler must resort to the "yank" test to determine if his line has become weakened. A couple of coils of line around each hand plus a quick tug should reveal any weakness in the business end of the line but be sure to check it this way at several spots of the first 10 or 15 feet. A small nick and resulting loss of strength about 10 feet from the terminal end once lost a good fish for me. I had tested the first four or five feet which normally takes care of the most worn section but hadn't continued my testing far enough up the line.

It is well known that maximum casts are made when a spinning or spin-



casting reel contains a full or nearly full spool of line. The loss of line from a spool through natural wear and clipping off sections of worn line will eventually require you to replace the monofilament in order for you to maintain adequate casting distance. This replacement of line on stationary-spool reels can be a ticklish matter and, if not done properly, you have the mass of tangles we mentioned previously.

**Nylon monofilament line**, when wound on the spool at the factory, tends to retain the same coils it assumes on the factory spool. Therefore, when winding it on the reel spool, this same pattern of coiling should be followed. If wound on the reel spool opposite to the natural set of the line, the moment tension is released, the line tends to spring out and away from the spool and the result is an impossible tangle.

The solution is to make sure that you wind on new line so that its natural set of coiling conforms with the reel spool and will cling rather than unwinding like a clock spring wound backward. You can do this yourself if you are careful to get the line started on correctly but, if you are looking for the easy way out, you can let your favorite tackle store do the job for you. Most sporting goods stores have

a machine which will do the job quickly and with little fuss. All that is involved is the removal of the spool from the reel, placing it on the machine, selection of the proper weight of line and the winding with either a crank or a small electric motor.

**The investment in a hand-cranked machine** might pay off for the avid angler who frequently has a number of spools to rewind. Monofilament can be bought in spools of 1,000 and 1,200 yards and a considerable saving is apparent when you have several reels which need line.

With the exceptions of rocks, snags and other under water obstructions, the most frequent cause of wear in fishing lines is rod guides. The most frequent offender is the tip-top guide which has been worn to a sharp edge through constant years of usage. Nicks or burrs can also play havoc with lines causing fraying in braided line and nicks or scraped areas on monofilament line. If an inspection of your rod reveals excessive wear or burrs in the guides, the only thing to do is replace the offending guide. Your favorite tackle store probably has guides for sale in the proper size and may be able to install them for you. However, you can buy the guides and tackle the job yourself.

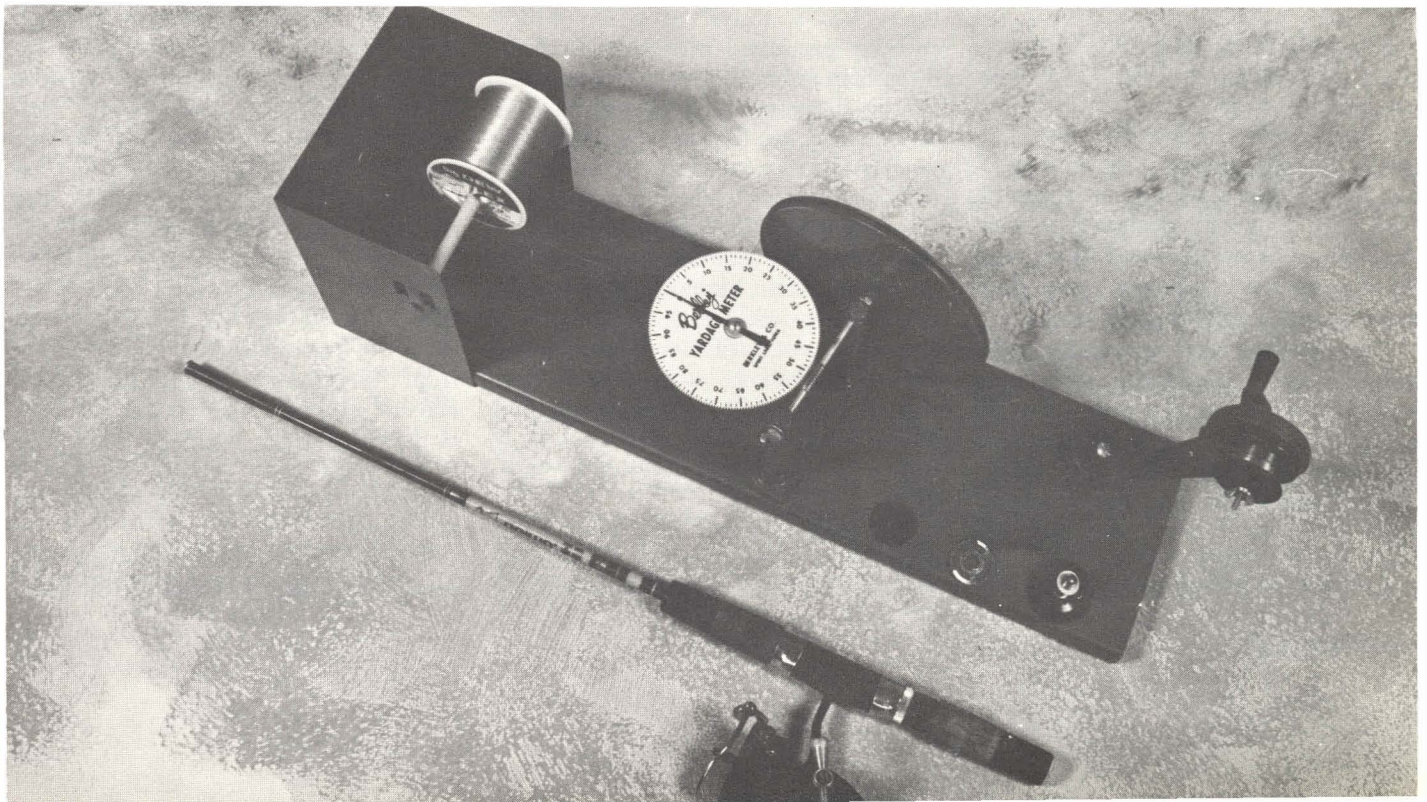
Howard Swisher, a friend of mine

who has replaced many guides on all types of rods, has a few suggestions for the do-it-yourself fisherman. To replace a tip-top guide, he suggests that you equip yourself with a new guide of the proper size, a stick of ferrule cement and a candle or small alcohol torch. Ferrule cement becomes soft when heated and sets up hard when cool.

**To remove the worn top guide**, hold it over the flame and, using a pair of pliers, remove the guide as soon as the cement becomes soft. Too much heating can damage a fiberglass rod so be careful not to get the old ferrule too hot before slipping it off. The next step is to heat the end of the stick of ferrule cement and apply a thin coating to the end of the rod. Heat the new guide in the flame for a few moments and then slide it into place making sure the alignment is correct. As soon as cool, the new tip-top should be firmly attached to the rod; if it is not, apply a little more cement and try again.

We hope that these tips will be helpful to you in your fishing efforts this Spring and Summer. Most of all, we hope that you will hook that big one and be able to land him. If your line breaks, don't say we didn't warn you.

Purchase of a hand-cranked yardage meter and monofilament in bulk quantities can pay off for the avid angler who has a number of reels to fill.







Immature great horned owls by Vic McLeran



