<sup>6</sup>Let's go down to the river." It was a common suggestion heard among the young west Kansas can kickers I spent my time with as a kid. On any given fall Saturday, the lure of that shallow sandy bottom stream was just too much competition for a game of touch football or other normal activities of pre-teen youngsters. Many adult Kansans share the same childhood memory of the combination of Indian summer days, the burnt powder smell of a just-fired .22 long rifle cartridge, and water moving sand. The adventures seem pretty small now, but that early association with the South Fork Solomon was enough to mold the destiny of this writer.

I can thank my Dad for my early personal bias toward streams. In springtime at the first word of high water, we'd grab our heavy poles rigged with age-proven bait cast reels and the normal regalia of smelly tackle sported by catfishermen and head for the Solomon River at Cawker City for an all-night wait for the chance to wrestle a huge flathead.

Satisfaction in these adventures was not measured by the number of fish caught in the shortest amount of time, although we rarely got skunked. The main attraction was that we just liked river fishin'—the feeling of being alone beside churning water, raccoons, hoot owls, and indifferent croaking frogs on starlit nights. And all of this when only eight miles from home was perhaps the best walleye fishing in this part of the nation at Webster Reservoir.

Rivers used to be arteries of life in early settlement of the plains, and through 150 years of growth, water has continued to be the single most important resource on the prairie for the farmer, the small town resident, and wildlife.

A look at the state from the air reveals the nakedness of the plains except for the irregular rows of shelterbelts and winding tree lines that drape the sides of creeks and rivers. In certain areas of Kansas, particularly the western half, this riparian ecosystem is so important and scarce that to lose just a stream segment may mean the irretrievable loss of entire local populations of Rio Grande turkey and whitetail deer. As a matter of fact, the loss of

A look at seven of Kansas' best streams—their beauty, value, and threats to their future. Prairie Rivers Ken Brunson, Stream Biologist this type of habitat anywhere in the state reduces overall wildlife populations, especially for certain species.

In spite of the overall disruption of natural free flowing streams and their associated native wildlife, some high quality riverine resources persist. It is the intent of this article to highlight ones that still offer a highly diversified wildlife experience and reflect Kansas' best. Unfortunately, we are not able to include many well-known streams that persist, watercourses with remarkably different features like the Cimarron River in the southwest with its associated National Grasslands Area, and quality streams like Grouse Creek (Cowley County), Cedar Creek (Chase County), the lower portion of the Marais des Cygnes, Elm Creek (Barber County), Willow Creek (Wallace County), a small spring fed gravel bottom brook with a diverse native fish fauna, parts of the Verdigris, the lower Walnut River-and the list goes on. What you will find here is our portrayal of the overall best seven larger streams, selected in different geographic regions, reflecting the pinnacle of Kansas rivers. A Missouri Current you won't find, nor a Colorado Taylor River. You will find an enormously different and appealing mix of spotted bass, wild turkey, ol' whiskers catfish, tall grass prairie and enough canoe twister excitement to whet your "flatlander" appetite.





## Shoal Creek

**Ozark traveler** 

he prettiest little stream in Kansas by just about anyone's judgment, Shoal Creek crosses the Missouri-Kansas state line and travels about five miles before disappearing into Lake Empire and Spring River in extreme southeast Kansas. This stream traverses part of the Ozark Plateau physiographic province, an extension of the Missouri Ozarks that offer a contrasting environment to the rest of Kansas. We have only fifty square miles of the plateau in the extreme southeast corner of our state. Those first few miles of Shoal Creek are not unlike the highly regarded Missouri Ozark streams so well known for their excellent fishing and aesthetic appeal. From its emergence in Kansas, this stream meanders for almost two miles until it is crossed by state highway 26 just south of Galena in Cherokee County. Here, Schimmerhorn Park, maintained by the city of Galena, embraces the north bank and offers fishermen access and camping areas with toilets and drinking water. The stream then winds westward past high moss- and fern-covered cliffs until it feeds into the lake at Lowell. Operated by Empire District Electric Company, the lake offers a boat launching site for easy access to the reservoir and to Shoal Creek and Spring River. From Lowell Dam, Shoal Creek continues another mile to its confluence with Spring River about a mile southwest of Riverton.

The usually clear water of the creek teems with various forms of animal and plant life. The diverse mixture of gravel, rubble, and watermelon-sized boulders in the streambed harbors many forms of insect larvae, algae and fish. The succession of pools and riffles add even more variety along the route. Some stretches widen to about 200 feet, but generally the creek averages from sixty-five to 100 feet from shore to shore. A testimonial to the quality of the fast moving water is that it supports over eighty fish species which ranks it at the top of all Kansas streams in that category, according to Dr. Frank B. Cross, of the Museum of Natural History at K.U.



The Ozark Hills are among America's oldest—the limestone bedrock is honeycombed with springs. The bluffs and ground-filtered water make an unbeatable scenic combination.

Aside from the excellent sport fishery, such oddities as the hogsucker, banded sculpin, and the green-sided darter occur there. Darters are minnowsize bottom dwellers that are very secretive and were named for their peculiar habit of "darting" out from cover to attack prey, usually insect larvae. Shoal Creek contains twelve species of darters—most rivers and streams in our state would be considered special if they supported even half that species number of these colorful small fish. Included in the list of darters inhabitating Shoal Creek is the Arkansas darter, a state-recognized threatened species.

The broad range of fish species in this small area is at least matched by the diversity of reptiles, amphibians, and plants. Two caves in Schimmerhorn Park are inhabited by three species of salamanders that have been recognized as endangered species in Kansas—the grey-bellied, cave, and grotto salamanders.

Shoal Creek is noted for its excellent black bass fishery. The occurrence of smallmouth is in itself a tribute to the quality Shoal Creek-Spring River systems. In his Handbook of Fishes of Kansas Dr. Cross notes "that populations there may be the only native stocks that persist in Kansas." Although quite a number of largemouth and a few smallmouth bass are taken, spotted bass are predominate in the angler's creel. Spotted bass up to two pounds may be caught in the first few miles of the creek. These bass are usually found in deep pools around rock banks or other cover in the stream. In early spring and summer, spinners like the Mepps number one and number two, Roostertails, Shysters, Thin Fins and Rapalas are all effective lures for catching spotted bass. Later on, light colored jigs no larger than <sup>1</sup>/<sub>8</sub>-ounce with worms are effective as are purple artificial worms and salamanders. Local fishermen also do well in mornings and evenings using poppers and Jitterbugs in the quiet pools. Rock bass are caught with similar lures in deep, protected quiet areas. Since this species is unique to Shoal Creek and is not encountered anywhere else in Kansas, many local fishermen consider it a bonus fish. Most of the channel catfish are caught immediately below Lowell Dam by wading or shore fishing using sponge baits and worms.

Shoal Creek is not immediately threatened by any major developments with the exception of two dam sites in Missouri which are not considered economically feasible at this writing. The stream does pick up some pollution in the form of industrial and domestic effluents from the vicinity of Joplin, Missouri. In addition, runoff from abandoned lead and zinc tailings in the drainage reduce water quality. Aside from these nuisances, there are few threats to the stream's purity.

Barring any catastrophic events, Shoal Creek will maintain its absolute reign as "the prettiest little stream in Kansas" for many years and many people to come.

Note: Nearly all of the stream reaches described here are privately owned. While many landowners welcome use of their land. people interested in using it should ask permission before trespassing. As in most other outdoor recreation, a little consideration of the landowner's rights will go a long way toward opening wild corners of the state to the public. Contact the stream owner before you use the stream.



Ken Stiebber

# Spring River

Edge of the Ozarks

Shoal Creek runs into Spring River about a mile below Lowell Dam. Originating in Missouri, Spring River cuts across the southeastern corner of Cherokee County before it joins Pensacola Lake in Oklahoma. Its east bank in Kansas rises into rolling hills covered with the oak-hickory woods of the Ozark Plateau physiographic province while the west bank opens onto the relatively flat land typical of the Cherokee Lowlands. Spring River enters Kansas about two miles southeast of Lawton and makes two large loops covering about ten miles before flowing just east of Gulf Chemical Plant. There is a pulloff area at the bridge on highway 69 east of Columbus where the river finishes its first loop. From the chemical plant, Spring River flows southwest for about four miles until it mingles with the backwaters of Empire Lake. Riverside cabins on private land line the west bank for almost two miles upstream from the dam, resembling the riverfront development characteristic of many of the southern United State's rivers. After its confluence with Shoal Creek below Bypass Dam, it makes a sharp turn almost straight south past the city of Baxter Springs and on into Oklahoma. A low water dam at the east edge of the city provides some excellent fishing.

Spring River isn't as clear as Shoal Creek, but outside of seasonally high amounts of silt and some mine tailing pollution, it maintains fair water



Spring River is an excellent example of the lazier Ozark streams. It doesn't have the rock riffles and fast water of Shoal Creek, but it does have a wide variety of bottom habitats. The orange-throated darter shown here is just one of many spectacular small fish that take advantage of these habitats and Spring River's clean water. This diverse population of minnows makes a dependable base for predator populations of spotted bass and other sport fish.

quality. The gravel streambed and numerous logs and brush along the banks provide some excellent bass and channel cat fishing. Although not as diverse as Shoal Creek, this river supports many species of fish and amphibians.

Limb lining is a popular fishing method for catfish in Spring River, and many channel cats and some flatheads are taken each year using live and prepared baits. Spotted bass are caught around brushpiles and in pools below high rock banks. Largemouth and spotted bass are also taken in large numbers below the Baxter Springs dam using crankbaits and plastic worms. Bass fishing methods and lures that are effective in Shoal Creek work just as well in Spring River. Walleye and white bass are also caught along the entire reach of the river in Kansas. During the summer, bow fishing for carp and gar below Baxter Springs Dam is popular.

Although no major construction projects are planned that would jeopardize this fishery, Spring River suffers from some mine drainage pollution since it drains strip pit areas of intensively mined land. In the past, it has experienced some fish kills attributed to industrial effluents, but in more recent times has escaped any large fish die-offs caused by pollutions. At one time several thousand walleye were stocked to recoup damages from a fish kill below the old Jayhawk Chemical Plant.

### Caney River

#### The Southeast Hills

Nestled between the Flint Hills and the Chautauqua Hills regions of southern Kansas, the Caney River is in the midst of some of the most distinctively beautiful topography of the state. With the possible exception of portions of the Marais des Cygnes in east central Kansas, and upper reaches of the Verdigris and Elk rivers in southeast Kansas, the Caney has to be the pick to represent the overall best of larger rivers in the Osage Cuestas physiographic region. This region includes about all the area east of the Flint Hills and south of the Kansas River except for the narrow Chautauqua Hills portion and the Cherokee Lowlands and Ozark Plateau of the Spring River area. The Caney originates in the sparsely populated area of western Elk County and flows straight south through Chautauqua County before making a gradual turn to the southeast into Oklahoma and Hula Reservoir. Most of its drainage basin consists of rolling hills in native grass pasture and floodplain land under row crop agriculture. Healthy stands of oak are found along the floodplain and in isolated patches on the uplands overlooking the river. The stream broadens as it traverses Chautauqua County, averaging seventy feet in width. In some places it may reach depths of ten to fifteen feet but generally averages only two to four feet in depth during normal flow. Unlike some of the other rivers of the Osage Cuestas, the Caney maintains fairly clear water at normal flow. The stream channel is predominately crooked in its floodplain valley and is filled with snags and limestone rock outcroppings. The stream bed has the diversified mix of silt, gravel and boulders typical of many high quality rivers. The banks of the Caney range up to forty feet high along some of its reaches. Low water dams built to retain water supplies exist at the cities of Grenola and Cedar Vale. The numerous log jams and snags permit large populations of sportfish to develop in the nutrient rich water-many good-sized catfish are taken each year. As in other Kansas rivers, the best catfish fishing occurs in the spring and early summer when the flows increase enough to draw concentrations of flatheads and channel cats upstream.

Jim Zeiner, bait dealer and avid stream fisherman from Wichita, has high regard for Caney catfishing. Jim has fished the river a lot in past years and offers these remarks: "The Caney is very good for two- to three-pound channel cats. Shad sides, cheese bait, and minnows all work well. It's an excellent limb lining stream." Jim baits his limb lines with live green sunfish or goldfish about six inches long hooked through the eyes. He uses 150-pound braided nylon line with barrel swivels and number 9/0 and 10/0 hooks and fishes his bait just under the surface where the flatheads will come up to "woof 'em down." "I've caught several flatheads down there that went anywhere from ten to thirty pounds."

The Caney also offers some good spotted and largemouth bass fishing. Sunfish, crappie, carp, and white bass are also caught, particularly below the two low water dams mentioned earlier.

Access is scarce along the river, but many landowners will give permission to outdoorsmen who take the time to ask. Surveys conducted by the Kansas Fish and Game Commission indicates that the Caney River supports about 3,000 mandays of fishing a year, relatively light considering the fishery resource offered.

The Caney River has been polluted with brine originating from oil field operations in the past, but efforts have been made to reduce salt water contamination and protect this highly productive fishery.





Like most of Kansas' best rivers, the Caney flows out of hill country. The Chautauqua Hills are a narrow outcrop of limestone—an automobile traveler can drive into them and come out the other side before he notices the change in scenery. The hills and the Caney River bottoms are excellent wildlife habitat, harboring successful populations of deer and Rio Grande turkey. It's pretty country, too—not spectacular, but a pleasing quiet corner of the state that contradicts the flatland concept most people have of Kansas.





### Saline River

Out of the plains

Wilson Reservoir and the Saline River in Russell County are probably the most attractive scenic combination in the state. Right in the heart of the subtle grandeur of the Smoky Hills, this short section of the Saline out-competes other major streams in this physiographic area for overall quality. The rolling country around the Saline River supports thousands of acres of native mid-grass prairie. The brownish—orange color of these hills is attributable mainly to the presence of little bluestem, the predominate grass species.

In spring and early summer, the native flowers are in full display, giving the impression of a gigantic flower garden. Blues, oranges, reds, and yellows provided by these prairie plants stand out on a background of native grass, a pleasing experience for the eye.

Limestone outcrops in the Saline valley add to the display along with extensive stands of cottonwood, ash, elm and boxelder trees that line the stream banks. The Saline River is a fairly clear stream but has high concentrations of minerals and salts which accounts for its name. Even though the normally shallow, sandy bottom stream is not extremely fertile, it still harbors some respectable channel catfish, sunfish, and bullheads. Most important though, some of the best white bass fishing in the state occurs directly above Wilson Reservoir in early spring when the whites run upstream to spawn. According to the Fish and Game Commission's stream survey conducted there in 1972, this one reach supports almost as much fishing as the rest of the river from its headwaters in Thomas County to its confluence with the Smoky Hill River at New Cambria. Whether triggered by longer photoperiods or higher water temperatures, the whites get the urge to spawn in early to mid-April when the water temperatures approach sixty degrees. The smaller males move upstream before the larger females enter the river. Finally when conditions are right, the females swim up to meet their mates, and vigorous spawning activity ensues with the female spreading thousands of eggs near the surface.



Several males emit sperm that fertilize the eggs as they sink and become attached to submerged logs, gravel, and vegetation. The whites are most susceptible to the angler's lure during this spawning run up until the time the fish return to deeper water in the reservoir. They feed voraciously before the run when they are staging in backwater areas and during the actual spawning activities in the faster river water. During the peak of the fishing action which sometimes lasts for a couple of weeks, they'll strike almost anything, but the most preferred lure is a small  $\frac{1}{16}$  to  $\frac{1}{8}$  ounce white or yellow jig on four- to six-pound nylon line. The best way to catch the whites is by walking the bank and casting into pools or the lower end of riffles. The fish are often in water from one to three feet deep. Finding a concentration of fish is the key. When one white hits in a pool or narrow chute, several more may be caught in the same spot. Some people wade the stream and do well working a jig vertically in pools around logs and against the bank. Bruce Zamrzla, the Fish and Game biologist for the area, estimates that white bass fishermen put in 2,000 to 4,000 mandays during the spring run. According to Bruce, fishermen carry out stringers of fifty to sixty when it's really hot. The fish range from ½ to 1½ pounds with the average size varying from year to year. The best area to fish is that portion of the stream from the bridge straight north of Bunker Hill east to the reservoir. Access is available from the north side of the river west of the bridge on the Fish and Game Commission's Wildlife Area.

Oil field pollution and pipeline breaks have caused some problems on the Saline in the past. However, the river is not threatened by any impending major changes. More extensive consumption of water upstream may jeopardize the fishing in the future, but since the water is highly saturated with dissolved salts, it is unlikely that significant diversion for irrigation or drinking water will occur. The excellent white bass fishing will undoubtedly be enjoyed by thousands of fishermen for many years to come.



Fall River

**Bass water** 

have established themselves in healthy contrast to the rolling prairie. In the larger valleys like the Fall River valley, row crops are grown next to the lush riparian ecotone. The combination of grain crops, river, and associated forested banks is ideal cover for large populations of whitetail deer, raccoon, songbirds, and other wildlife.

The fish populations are very diverse in this reach of the river. In 1976, Fish and Game biologists conducted a fish population assessment on Fall River at several locations. Twenty-one different species were recorded. For this oneshot sampling, it wasn't a bad showing, but what was impressive is that spotted bass made up from twelve to nineteen percent by body weight of the fish collected during this assessment. This high percentage of bass indicates a healthy abundance of these top predators in the river with many harvestablesized fish waiting to be caught. A low water dam at Eureka just above highway 54 aerates the river during normal flow and attracts periodic concentrations of crappie, white bass, channel catfish and flatheads. The gar fishing is popular here during the spring spawning season. Fishermen get to this dam from the west side of the river. In spring and early summer a few float fishermen coax spotted bass out of cover and the deeper pools with spinners and artificial worms. From Eureka, it is a short but splendid trip to the upper boundaries of the Commission's Wildlife Area at Fall River Reservoir. Starting about 150 yards east of highway 99 the river flows through several miles of the wildlife area and provides free and easy access to excellent fishing and some exciting canoeing during higher flows. Limb lining for channels and flatheads is very popular. Large cats up to twenty pounds are quite common in the angler's creel. A boat ramp at Ladd Bridge, an old iron bridge spanning the river in the Wildlife Area, provides access for boat fishermen or hunters who want to get on the water. Fishing is good in the winter months also, according to Tom Giffin, fisheries biologist at Eureka: "Many channel cats, crappie, and some white bass are caught during the colder parts of the year above Ladd Bridge when the river is lower. Most anglers wade the riffles fishing with shad sides, minnows, and jigs."

White bass run up the river to spawn in early April and are caught from the reservoir up to the mouth of Otter Creek before the fishing slows at the "narrows" where Otter Creek and Fall River almost converge.

Below the reservoir, the river angles southeast through the Chautauqua Hills and parts of the Osage Cuestas before joining the Verdigris River at Neodesha in Wilson County. The spillway area directly below the dam supports considerable angling year after year. Fish are flushed through the outlet works and also concentrate in the pool area of the stilling basin after swimming upstream. Channel catfish and white crappie are the most common fish taken in the basin. Flathead catfish, white bass, and carp are also taken regularly. Almost forty miles of stream separate the stilling basin from the junction with the Verdigris River at Neodesha. About a fifth of the angling that occurs on the river takes place in this reach. Near Neodesha, three overflow dams provide good fishing just before the river enters the Verdigris. Large flatheads, channel cats, and even an occasional walleye are taken below these structures.

Fish kills have occurred at the mouth of Fall River in past years. In 1976, two kills occurred in this area that were attributable to some untreated effluents entering the stream. Oil field operations throughout the basin present potential pollution sources. As a whole, though, Fall River remains relatively pollution free, and diverse healthy populations of sportfish attest to its purity.



Ken Stiebben



Most of the 10,000 miles of stream left in the state support at least a fringe of bottom timber along each bank. This bottomland cover makes perfect wildlife habitat water, timber, and upland crops are in close association and provide a variety of food and cover for everything from deer to chickadees. From the air, most of this riparian habitat looks like a skimpy fringe of trees along the river, but, to the river traveler, it screens out the marks of civilization and creates an illusion of wildness.





Another Flint Hills stream, Mill Creek exhibits many of the same physical attributes as Fall River in its upper reaches—clear water bottom, associated tallgrass prairie, and high quality lowland cover with a diverse wildlife fauna. It unquestionably qualifies as one of the best streams in the state, not only because of its setting also because of its fish and wildlife resources. Regardless of the fact that the majority of its length is leased or restricted to access, this free flowing, unobstructed stream deserves recognition. The main branch of Mill Creek is formed by the union of its east and west branches at Alma in Wabaunsee County. The west branch heads near Alta Vista in the southwest part of the county and the east branch begins near Eskridge to the east. Below the confluence of these branches, the stream averages about eighty-five feet wide but widens to 125 feet near its mouth at the Kansas River near Maple Hill. The main stem traverses nearly forty miles before reaching the Kaw. The creek bed is deeply cut—banks may be twenty feet high near its origin at the junction of the two branches and nearly forty feet at the lower end. In some ares, the winding stream has cut down to bedrock and formed small natural waterfalls which add to its beauty. Numerous riffles, pools up to twenty feet deep, and boulders in the channel give it the appearance of a mountain stream. A few miles of Mill Creek parallel and cross under Interstate 70 near Paxico where a traveler can take a look at some of the virtues of the creek. In fall when the oaks and hickories turn color, a spectrum of reds, oranges, and yellows spreads along the stream's corridor as if to signal a defiance to the onslaught of winter. The winter scenes with sparkling ice patches and snow cushioned rocks and a thread of cold water are just as spectacular. This brilliant display is virtually unparalleled in the Flint Hills.

Since Mill Creek is a tributary of the Kansas River, the stream's fish fauna shows a distinctly different evolution than south flowing streams like Fall River. The spotted bass of the south are replaced by largemouth bass while certain new darter species replace counterparts that occur to the south. The southern red-bellied dace, a colorful minnow with red undersides, is quite common in Mill Creek but is found in only a few isolated localities elsewhere in the state. In addition, the state-recognized threatened species, the Topeka Shiner (Notropis topeki), is abundant. A stream survey indicates good populations of largemouth bass, although relatively few people fish for them. The same survey shows that large populations of catfish flourish in the creek. Doug Sonntag, state game protector from Wamego, sees many catfish taken on limb lines and rod and reel throughout the year, particularly in the lower reaches. "I've seen a lot of channels of the two- to eight-pound class caught and some large flatheads up to thirty pounds near the mouth." Doug goes on to explain illegal fishing activities that he suspects in the stream. "I'm sure that a lot of 'telephoning' for the bigger cats takes place on Mill Creek, but the violators are hard to catch in the act and people are reluctant to turn them in when they are aware of this activity." As do other residents of the area, Doug appreciates the quality of this stream, saying "there's not another resource like this in this area of Kansas. Besides the excellent channel catfishing, there is a great deal of other wildlife such as deer, bobcats, coyotes, and squirrels. It's a largely untapped natural wildlife resource."

Some access is available near the towns of Paxico, Maple Hill, and McFarland. For the rest of the creek, access is difficult, but some landowners may give permission to those taking the time and effort to ask.

With the exception of some city sewage treatment ponds, a few livestock feedlots, and minor agricultural runoff, there is little potential for pollution of Mill Creek.

Currently, the Mill Creek Watershed District is pressing for flood control







The red bellied dace, one of the more colorful residents of Mill Creek's riffles.



structures and other land treatment measures in the watershed area that could affect the total resource. It is difficult to determine what benefits or liabilities these relatively large tributary impoundments may hold for the fish and wildlife resources at this time. Providing the proposed treatment alternatives do not adversely affect fish and wildlife along Mill Creek, there is little chance that any other major problems will develop to threaten this remarkable resource.

## Chikaskia River

#### Sand country

Larry Tiemann



The of the best five streams in Kansas" was the assessment of the Chikaskia given in 1975 by Fish and Game staff members involved in intensive preliminary planning of the proposed Corbin Reservoir on that river. The wildlife agencies involved in analyzing the proposed Sumner County reservoir agreed that replacing the wildlife habitat along the Chikaskia would be extremely expensive and perhaps impossible. They had good cause for their reaction to the proposed dam. Of all the shifting sand bottom streams of the high plains of Kansas, this one represents the best in fish and wildlife resources, water quality, and aesthetic appeal. Although its headwaters in southeastern Pratt County aren't much to brag about, it develops into a prime stream as it enters the Wellington Lowlands of Harper and Sumner Counties after traversing the lower portion of Kingman County.

No other major high plains river environment equals the quality of the Chikaskia. The Saline River in the Smoky Hills described earlier is similar and parts of the Smoky Hill River come close, but both rivers lose out to the Chikaskia when the total fish and wildlife resource is considered.

Covering 100 miles as it travels southeastward through parts of four counties in Kansas, this fairly shallow river epitomizes what many of our western Kansas rivers were like a hundred years ago. Many carried silt-free water over sand beds and were inhabited by a variety of fish life. Tillage of the prairie sod, consumption of water for irrigation and water supplies for municipalities, and various forms of pollution have changed all this for most of these rivers, but the Chikaskia has avoided the more critical threats to its integrity. It passes by Argonia in western Sumner County, with a channel width of about seventy-five feet, extensively forested banks, and numerous large sandbars. The excellent riverside habitat dominated by cottonwood stands out in contrast to the associated rangeland and fields of corn, wheat, and milo that surround it. Rio Grande turkey, bobwhite quail, and whitetail deer thrive in this woodland along with many songbirds, rabbits, and squirrels. Beaver are quite common.

Like most other streams, the Chikaskia becomes more turbid during periods of high water but quickly reverts to its normal clarity when the water recedes. Crayfish, frogs, and aquatic insects such as dragonfly larvae, mayfly nymphs, and caddisflies provide ample forage for the excellent fish populations. The Chikaskia is a very productive fishing stream. A survey at several sites in 1976 showed that this river produces over 300 pounds of fish per surface acre of water in some areas—quite a fishery when compared to the forty to fifty pounds per acre found in many of our streams. A large portion of this poundage is in the form of "ole Whiskers." Jim Zeiner fishes for these catfish in the Chikaskia and says that for just plain catching a lot of fish, the Chikaskia can't be beat. As Jim says, "It's good for smaller channels in the one-half to one pound category and it's good any time of day." Jim likes to use his own special cheese-bait or a special minnow imitation lure he calls the "Swimtail."

"You can wade the riffles and fish just above them or right below and usually do pretty good, and also any hole or pool under some brush will give you some action. Jigs are also productive for these catfish below the riffles."

Jim is not the only river nut who knows what the Chikaskia has to offer. It was estimated by the Commission's stream survey project that almost 2,000 fishermen wet a line along this river every year. A lot of this fishing goes on at two low water dams. One of these is about halfway between Corbin and Argonia and the other is at Drury on the lower portion of the river. Many of the rivers in Kansas had low water dams built to supply water power for milling operations. The Drury mill has long since been abandoned but the dam persists and provides good fishing immediately downstream. It's just a short hop from there to the Oklahoma border and



then on down several miles to Blackwell, Oklahoma. Soon after, the Chikaskia River joins the Salt Fork of the Arkansas.

Some oil fields in the basin present potential pollution trouble, and in 1976 there was widespread misuse of crop sprays that produced fish kills—some in tributaries to the Chikaskia. But the main threat to the river is not pollution. The Bureau of Reclamation and the City of Wichita would like to dam the river at Corbin to create a large water supply and flood protection reservoir. It is still in the planning stages at this writing with no determination yet as to the selection of alternatives for a future water supply for Wichita. Attempts are being made to require a corridor of wildlife habitat on each side of the river above and below the proposed reservoir as partial mitigation for the damages that the reservoir would inflict on the river and its natural resources. Also, plans call for guaranteed downstream flows to maintain fish and wildlife populations. The best alternative for the Chikaskia River itself would be to permit absolutely no tampering with its integrity. Ken Stiebben





Many times, dams on free flowing rivers improve fishing by allowing the introduction of non-native sport fish. The white bass run up the Saline River above Wilson Reservoir is an excellent example of this sort of benefit. On the other hand, dams completely disrupt riverine environments by forming lakes ripe for the proliferation of "trash species" such as carp, by adversely altering streamflows for miles below the structures, and by destroying acres and acres of prime riparian wildlife habitat. Potential disaster awaits the highly regarded Chikaskia River because of these potential effects.

Near drought conditions in recent years in parts of the state have accentuated another threat to Kansas streams—dewatering. A case in point is the Arkansas River west of Dodge City where the combined effects of water use from the river and its valley alluvium, removal of timber, and token flows from a more or less indifferent Colorado have all but written the obituary for this major western river. Other streams have or probably will succumb to dewatering—the upper Smoky Hill River, Rattlesnake Creek (Stafford Co.), and the Solomon River in places, to name a few.

Today there is increasing interest in reserving stream flows. Environmentalists, ecologists, fishermen, hunters, and farmers are all showing more concern for what's happening in western Kansas. Recently the Governor's Task Force on Water made two recommendations that may offer future relief of streams suffering from overuse. First, the state can now enter into formal agreements with federal agencies for minimum streamflows on regulated streams below federal dams. If executed, planning and agreements would permit adequate flows below these structures in order to maintain downstream resources. Second, it was recommended that the state recognize the significance of instream flows and direct the Kansas Water Resources Board to implement provisions of the State Water Plan Act

Extremes of Kansas stream use. Elm Creek drains rangeland in Barber County's Red Hills and is a topnotch stream because its watershed is well managed. Not all streams are as well served by the land use that surrounds them. The Neosho River fish kill shown here killed 225,000 fishmore than 4,000 tons-along a two-mile stretch.



to set minimum streamflows on unregulated streams. This last recommendation holds the key to survival of rivers suffering from the same symptoms that have killed the upper Arkansas. Strong interest and across-the-board support from sportsmen and environmental groups will be needed to insure action on this issue which is in full alignment with the national water policy to protect minimum streamflows. Only a concerted effort by concerned citizens will guarantee that something is done to prevent further loss or mismanagement of many of our state's most valuable natural resources.

Pollution has also taken its toll of fish from our streams. Although stream poisoning isn't nearly as widespread now as it was ten or twenty years ago, Kansas still experiences from twenty to thirty stream kills annually, and these are only the ones on record as being investigated by Fish and Game personnel. Some are small kills involving less than 500 fish that include lowly regarded carp and suckers, but others may extend for miles and account for hundreds of thousands of fish, including channel catfish, bass, walleye, shad, minnows and carp. Such was the case in July of 1976 on the lower Republican River from southern Nebraska past Concordia. Commission personnel along with support help from the Department of Health and Environment investigated the kill and took samples. No cause was positively determined. Although many smaller kills are quasi-natural due to low water conditions and prolonged ice cover, all too many others are caused by municipal and industrial effluents, feedlot runoff, or pesticide contamination. Efforts by the Department of Health and Environment in compliance with federal mandates have reduced the incidence and severity of fish kills, but much more needs to be done not only by the Department but by other water agencies and concerned citizens.