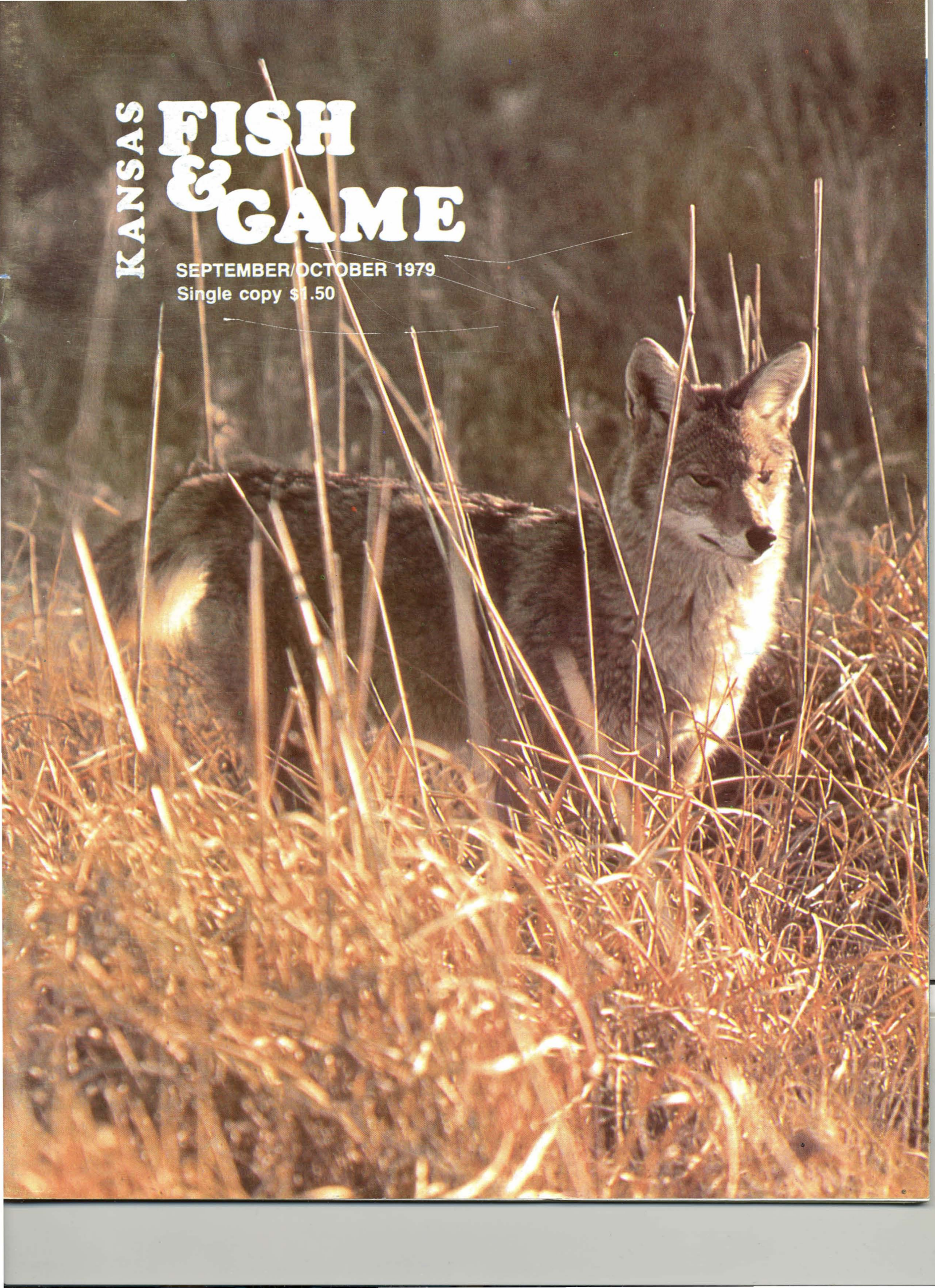


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Contents

Granddad's Game

The common snipe returns as a game bird . . . **4**

Stepping Back for a Closer Look

High-altitude satellite photography gives biologists a better look at Kansas habitat . . . **9**

Bottlenecks: Successes and shortcomings of the Plan for Kansas Wildlife

A federal planning consultant looks at successes and hitches in Fish and Game planning **14**

Park on the Prairie?

The Case Against the Prairie Park **18**

The Case For the Prairie Park **22**

Billfishing in the Interior

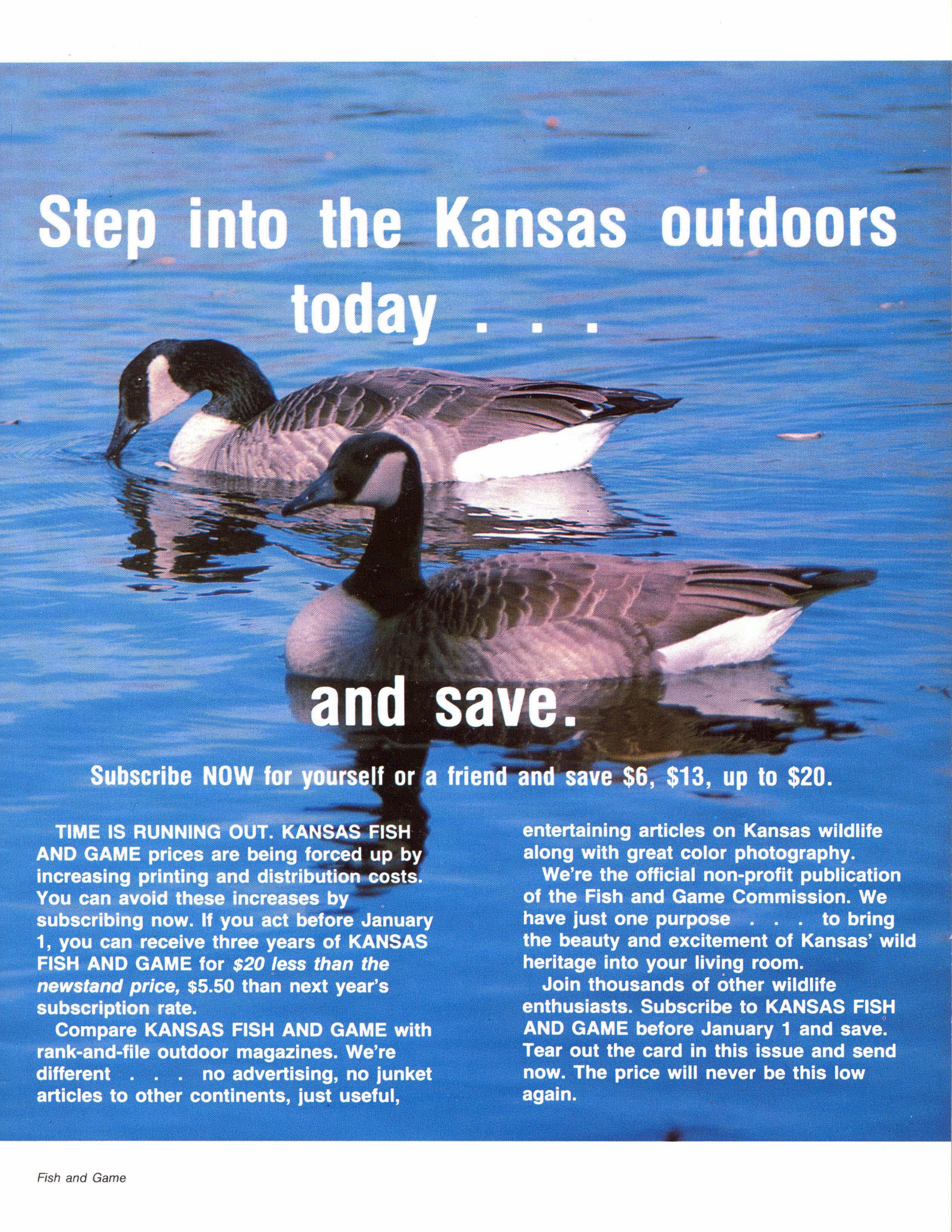
A Wichita angler matches strength with the longnosed gar **26**

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A photograph of two Canada geese swimming in a body of water. The geese are in the foreground and middle ground, with their heads and necks visible. The water is a deep blue, and the geese have dark brown and white feathers. The text "Step into the Kansas outdoors today . . ." is overlaid on the top half of the image in a white, sans-serif font.

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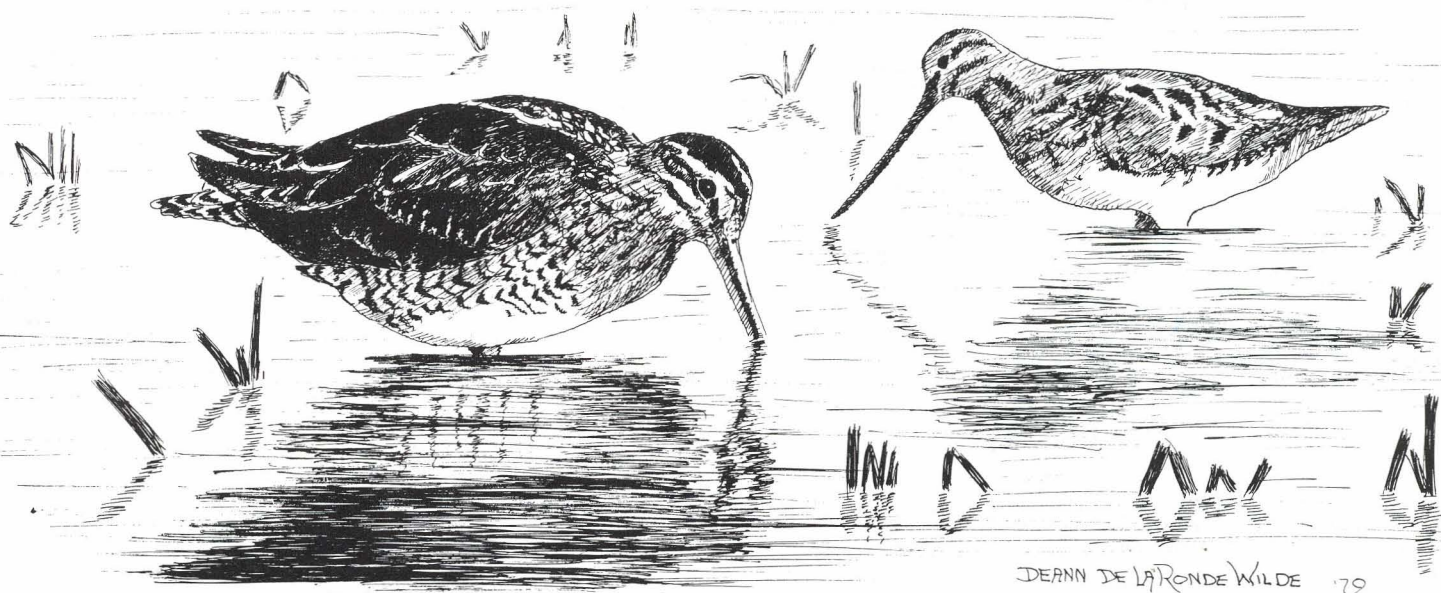
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“ ‘Your honors have been diverting yourselves with the chase? What kind of bird, pray?’ added Ryabinin, looking contemptuously at the snipe; ‘a great delicacy, I suppose. And he shook his head disapprovingly, as though he had grave doubts whether this game were worth the candle.’ ”

Anna Karenina



The humble snipe has never enjoyed universal popularity as a game bird, as the foregoing passage from Russian novelist Leo Tolstoy suggests. And today, this sporty fowl garners scant respect among American bird hunters. Many even doubt the snipe's existence. At the mention of a snipe hunt, old-timers grin knowingly and the young become wary, sensing there is mischief in the air to be had at the expense of the credulous.

But it hasn't always been that way. Around the turn of the century, the common or Wilson's snipe ranked as one of our most popular game birds. One writer estimates sport hunters killed more snipe in America during that period than any other huntable shore-bird species. They were abundant, and shooters considered them a challenging and worthwhile quarry. With open seasons and no bag limits, expert wingshots compiled some astonishing records. James J. Pringle, perhaps the premier snipe shooter of all time, claims to have killed over 69,000 snipe in Louisiana during the two decades from 1867 to 1887. In reflecting on his prodigious feat, however, Pringle could only lament the inefficiency forced upon him by primitive conditions:

"I shot with only one gun [a muzzleloader] at a time; had no loader, but loaded my gun myself; had I shot with two guns and had a loader I would, of course, have killed a great many more birds, but in those days and in those parts it was impossible to get a man that could be trusted to load" (Pringle, *Twenty Years' Snipe-Shooting*).

No one has ever surpassed Pringle's mark, though many shooters killed large numbers of snipe during the same period in other parts of the country. Captain Bogardus, a famous trap shot, recorded a 340-snipе day hunting in Illinois, and he was reputed never to have come home from a day of hunting with fewer than 150

birds.

By the turn of the century, the relentless pressure of unregulated sport and market hunting had drastically reduced the populations of many wetland birds. Immediately following enactment of the Migratory Bird Treaty Act in 1918, the federal government moved to grant protection to forty-three species of shore birds, excluding snipe and four others. That the snipe did not suffer a similar decline in numbers is probably due to its solitary behavior and preference for inaccessible areas. However, severe weather conditions in the thirties proved more formidable than hunters' guns. Extremely cold temperatures on the wintering ranges and drought on the breeding range decimated snipe populations, causing the United States to institute a closed season in 1941. The season reopened in the fall of 1953, but for reasons Glen Sanderson gives in *Management of Migratory Shore and Upland Birds in North America*, snipe shooting never regained its former popularity:

"After a 13-year break, a generation gap existed—the hunting of this sporty little speedster was not passed from father to son, and snipe hunting declined to the point where the snipe is now rarely hunted. It is usually killed incidentally to the shooting of other species."

Today, the snipe offers a relatively untapped resource to the Kansas shotgunner. The birds are numerous, the season is long (three-and-a-half months), and the bag limit is liberal (eight daily, sixteen in possession). In the fall, when pheasant hunters march across stubble fields in squadrons and waterfowlers vie for frontage on lakes and ponds, the snipe shooter often has his marshy hunting grounds to himself. And even with the increasing pressure in other branches of wingshooting, few Nimrods are likely to convert to snipe gunning; it is simply too strenuous and the tangible rewards too few. The ancients referred to a "walk of snipe" to designate a group of the birds, just as today we speak of a covey of quail or a school of fish. The term was obviously coined by a footsore medieval snipe hunter, for slogging through long miles of mud and mosquitoes is fundamental to the sport. Dan Holland characterizes the strange lure of snipe shooting this way:

"There are two kinds of hunters in the world. One will waste a half-day, considerable energy, and a pocketful of shells in a snipe bog and arrive at a simple and definite conclusion: that he will never again be fool enough to be caught chasing those silly things. With the other type, desperation and determination go hand in hand. The more he misses and the worse he fails, . . . the harder he works at it. Once the latter type is exposed to jacksnipe, he has a lot of bog-walking and mud-pulling ahead of him." (*The Upland Game Hunter's Bible*)

A migratory bird, the common snipe can be found in nearly every state of the Union at different times of the

Granddad's Game

Rod Baughman

Illustrated by
Deann de la Ronde Wilde

year. When the weather begins to cool in late August, thousands of snipe drift into Kansas from their northern breeding grounds to sojourn in the marshes and wetlands of the state. Though Kansas lies within the northern reach of the wintering grounds, only a few snipe linger through the coldest months. Most of the birds winter in the southern half of the United States, Mexico, and Central America; concentrations have been reported as far south as Venezuela and Colombia.

Classed by ornithologists as a shore bird, the snipe makes do in arid Kansas with poorly drained pastures and the damp ground along marsh margins. The diet consists mainly of animal matter—earthworms, insects and their larvae, arachnids, mollusks, and crustacea—which the bird locates by probing in the mud with its long, sensitive-tipped bill.

An inveterate loner, the snipe rarely flocks when flying or feeding. Even in areas where the birds are fairly numerous, they nearly always flush singly. For

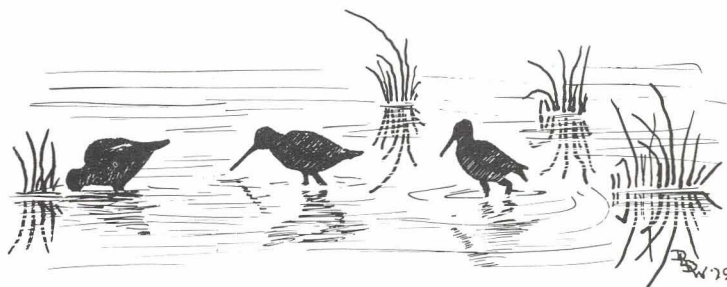
“As soon as he springs, he begins to exercise his ingenuity—now darting, like a flash, in a zig-zag line, and now soaring skyward, as if to top the range of your piece.” Krider

the hunter, this solitary behavior is the key to identification. In Kansas, three non-game lookalikes are often confused with the common snipe: the dowitcher, lesser yellowlegs, and pectoral sandpiper. Of the three, the dowitcher most closely resembles its game bird cousin in silhouette, plumage, and bill length. But unlike snipe, dowitchers are gregarious, traveling and feeding in flocks. The lesser yellowlegs shares the snipe's bent for solitude, though it is not nearly as secretive. And once the yellowlegs gets up, identification becomes easy: the slow takeoff and languid flight bear no resemblance to the snipe's slingshot flush and escape. The pectoral sandpiper inhabits the same wetlands where the snipe is found, and it is similar in plumage. But the hunter will invariably encounter this common shore bird in groups. Generally, any shore bird that gets up in a flock and flies in formation isn't a snipe. And the lookalikes are more visible when feeding or roosting. In spite of an affinity for open pastures and bare mud flats, snipe are seldom seen until flushed.

Writers wax poetic (or profane) in describing the difficulty of gunning snipe. And as anyone who has returned demoralized from a first encounter knows, they're hard to find and even harder to hit. On a lean

winter pasture scattered here and there with wiry rumex, snipe somehow manage to conjure invisibility until nearly stepped on by the hunter. And when a snipe does flush, it is with very little fanfare: no buzzing wings or nerve-shattering cackle—just a murmured *scape!* cry before rocketing out of range.

Snipe are capricious birds capable of varied behavior, and there are few techniques for hunting them that work consistently in every situation. Many writers insist that the best way to hunt a snipe ground is by walking downwind. Snipe will turn into the wind and hesitate slightly before cruising away, and that is the time to hit them. Perhaps this method works in areas where tall vegetation conceals the approaching hunter. On open Kansas wetlands, though, working downwind often causes the birds to flush wild—forty yards out or more—nearly putting out of reach an already difficult target. Stalking the birds against the wind generally yields much better shooting, as they tend to get up



closer and fly less frantically.

A few gunners aver good results through steely self-restraint. At the flush, these imperturbable souls take a firm stance, hug the stock, and wait. When the snipe finally works the kinks out of its flight pattern at thirty or forty yards out, they blaze away. In some instances this technique works fairly well. But the unpredictable fowl will nearly as often float in an easy curve out to midrange, then begin gyrating—leaving the shooter discomforted for his patience. Charles Waterman offers a snipe-gunning tip in *The Hunter's World* that bears taking to heart, if only as a shotshell economy measure:

“The experienced snipe gunner prefers to shoot at the snipe broadside rather than straight on, for the bird is so erratic from port to starboard that it may escape a pattern by zigzagging. From the side it appears to be holding a much steadier course.”

Hunters agree broadly on the guns and loads best suited for grounding the phantom flyer. A Sidewinder missile is my first choice of armament, though in the more conventional realm a 12- or 20-gauge in full or modified choke will perform quite adequately. A fairly light shotgun is best, as snipe shooting calls for quick



Lifestyle rather than appearance distinguishes the common snipe from the host of shorebirds that inhabit Kansas wetlands. In the picture above, dowitchers, stilt sandpipers, and a lesser yellowlegs feed in close aggregation. The snipe (below) prefers less company and shallower water than its look-alike cousins.

A closer look at the lesser yellowlegs (right) reveals physical differences—a larger body and the brightly colored legs from which it gets its name. The stately black-necked stilt (bottom right) usually presents no identification problem for the snipe hunter. (Photos by Marvin Schwilling.)





Nearly all shorebirds are wide travelers in spite of their seeming fragility. The snipe is no exception, traveling from South and Central America to the northern plains each year. Unlike most shorebirds, the snipe is relatively hardy and can be found near spring seeps in southern Kansas throughout the toughest winters. (Map from *Migratory Shore and Upland Birds of N.A.*)

swinging and pointing. The preferred shot sizes are 7½, 8, and 9; a dense pattern is a necessity for connecting with such a small bird. Let your shoulder be your guide in selecting light or heavy loads. Snipe shooting is similar to dove shooting in the number of shots fired during a typical day's skirmish, and magnum loads may inflict more punishment on the gunner than the game.

As with many aspects of snipe hunting, opinions vary over the type of dog that works best. Some seasoned snipers prefer Labs and other water dogs; there are those who favor the setter for his superior speed; and yet another school regards the pointer as the most effective snipe dog for his ability to wind the furtive fowl at a safe distance. The Lab probably feels more at home in the snipe's wetland habitat than a dog bred for upland hunting. And his strength can be an advantage when crossing thick tules that often intersect good snipe ground. However, hunters of the previous century leaned more toward the setter and the pointer. The difference in hunting conditions then and now partly explains this preference. A gentleman hunter entered the field often accompanied by two or three manservants. These human retrievers picked up all kills, so a dog was valued chiefly for pointing ability and a keen nose.

Whatever the breed preference, for the modern hunter to register success in the field his dog must work fairly close. The diminutive snipe weighs in at a mere four ounces, a pinpoint target even at close range. A dog with a tendency to range will put lots of birds in the air but few in the bag.

No potential snipe shooter should be daunted for want of a four-legged hunting companion, though. One of the great advantages of snipe shooting is that it can be done quite successfully without a dog. While upland birds may refuse to take flight without canine prodding, snipe will nearly always flush at the approach of the hunter. Finding downed birds is harder without a dog; but the best snipe ground is fairly open, and careful visual marking of kills will minimize losses.

The snipe's culinary value is widely disputed. An early snipe aficionado once observed: "Frequently the

slaughter committed by a sniping party is so great, that . . . nothing but the brains and trail are eaten, the rest being cast away."

Such a prospect fails to evoke tremors of delight from the fastidious modern palate. But nearly all the recipes for cooking snipe that have come down to us from the time of its high popularity as a game bird regard the innards as equal, if not superior in flavor to the breast meat. This culinary perversity probably arose from practical considerations: the compact fowl has very little of anything to spare.

The classic manner of preparing snipe for the table is to leave the head on, skewering the breast with the long beak. If the thought of several pairs of little eyes staring up from a steaming platter isn't particularly appealing, then try a more prosaic alternative. Remove the breasts, brush with a sauce, and broil them. Another way is to stew the birds; baking snipe in a pot pie along with doves or quail is a variation of this method. Whatever the approach, fairly strong seasoning must be used to remove the gaminess.

Snipe hunters of old extolled the flavor of the rich, dark meat. James Pringle declared in his book, *Twenty Years' Snipe-Shooting*, that he enjoyed eating snipe nearly as much as shooting them. Contemporary bog walkers are less enthusiastic about the table qualities of their quarry, however. Dan Holland writes:

"Of course many delicacies come in small packages, but I personally can't put a snipe in this category. I would rather eat a snipe than a mud hen, principally because there is less of it, but further than that I won't commit myself."

At any rate, it is a long way from the marsh to the table—many miles and many misses—and when the weary hunter at last secures his dear-bought meat, any irregularity of flavor is likely to go unnoticed.

Snipe season in Kansas falls during the southward migration, when the birds are at the height of fickleness. Flying mostly at night, they may suddenly appear on a marsh in large numbers, stay two or three days, then vanish under cover of darkness as mysteriously as they came. Biologists attribute this capriciousness to subtle changes in the weather; for the snipe shooter, it is yet another variable in a sport already fraught with tantalizing uncertainty.

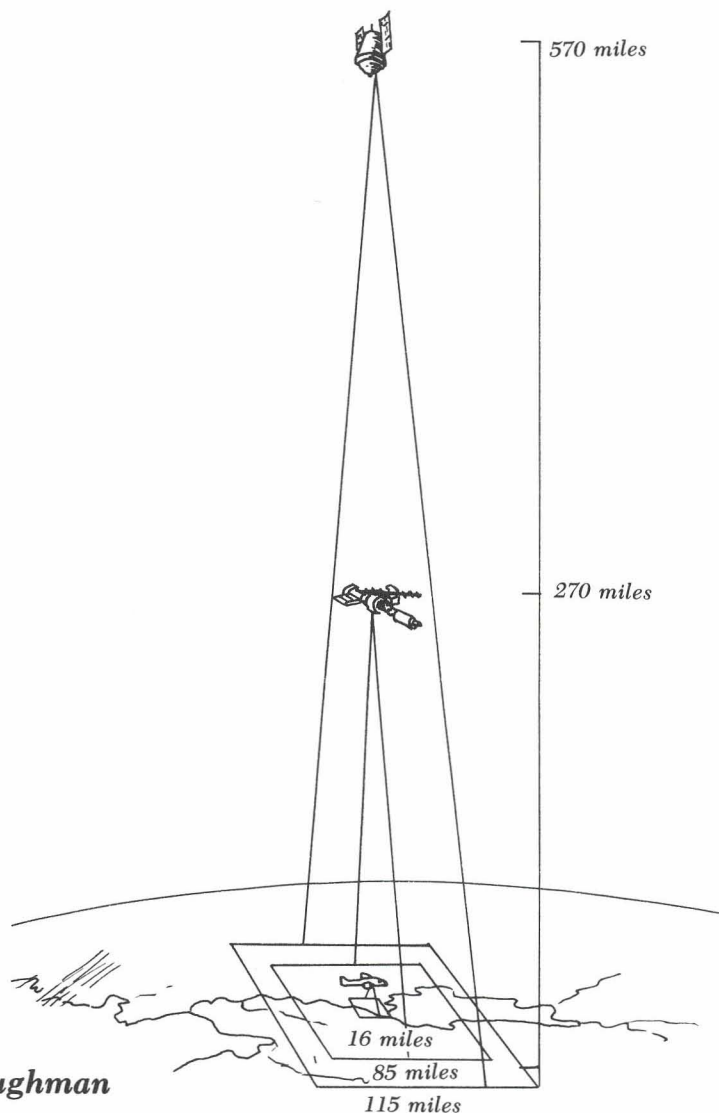
That a man would forsake the comforts of home to go wandering through marsh and bog after a bird that may not be there, that he probably can't hit even if it is, and that will barely make a light snack if by chance he does, admits to no rational explanation. It is simply the unique sporting quality of the snipe that compels such behavior. As one devotee observed, in reflecting on a lifetime of stalking the little birds, "A snipe was made to be sprung and shot as certainly as a trigger was forged to be pulled." (Krider) □

Artist Deann Wilde is a native of St. Paul, Minnesota. She specializes in artwork on mammals but also does fine work with birds and other wildlife.

The Landsat satellite furnishes up-to-date habitat information at surprisingly low cost, allowing wildlife managers to keep up with rapid land-use changes.

Stepping Back for a Closer Look

Rod Baughman



Today the wildlife professional faces an increasingly complex and difficult task in attempting to conserve our wildlife heritage. An expanding human population, with its growing need for food, energy, and raw materials, places strong demands on the nation's natural resources. In Kansas, as in many other states, this drive for development too often translates into destruction or physical alteration of wildlife habitat as the land is turned to more economically profitable uses.

Diverse influences such as water and air pollution, depletion of water supplies, conversion of native vegetation to crops, and overgrazing are changing wildlife habitat at a rapid rate. Often the changes are subtle and go undetected until irreversible damage has been done. To minimize destruction of habitat and maintain healthy wildlife populations, resource managers must be able to periodically monitor the natural environment in order to insure its quality.

In the past, such information was gathered firsthand, usually through windshield surveys or by direct observation on foot. Resource survey work that requires close attention to detail still must be carried on in this

way. But when the biologist needs to determine larger patterns and trends in habitat conditions and animal populations, the technology of remote sensing provides an invaluable tool.

Remote sensing has been defined as "the gathering of information about an object or area without having the measuring device in physical contact with the entity of interest." The term is applied chiefly to survey work conducted by air and spacecraft. While an observer on the ground can compile data that is extremely detailed and specific, this approach is normally too slow and costly for application to large tracts of land. For example, a statewide field inventory of winter quail forage could never be completed in one season in a state as large as Kansas. Continuing the survey during successive winters would introduce too many variables for the results to be reliable. And the high cost of such a project would eliminate it out of hand without regard for the time problem.

By contrast, camera-equipped aircraft can survey thousands of acres in only a few hours' time; high-flying satellites take in 10,000 square miles at a glance. Not only do aerial and space sensors cover more

ground than is possible for a land-based observer, but with the aid of special photographic films and electronic scanners they derive more information from what they see. Nearly all objects on the earth's surface give off wavelengths of radiation that are invisible to the naked eye. Infrared radiation in particular, as it is reflected from vegetation, tells the photographic interpreter far more about plant type, quality, and age than can be learned from reflected light in the visible spectrum.

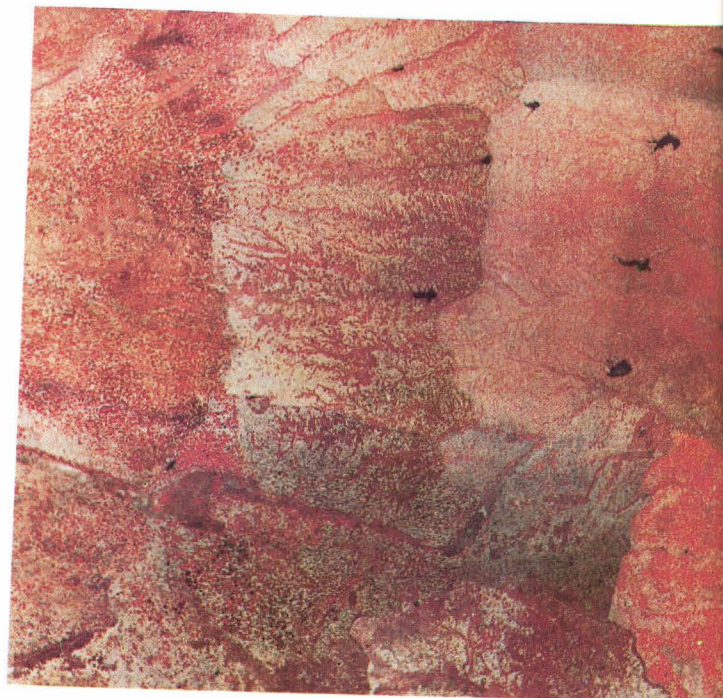
Several years ago, the Kansas Fish & Game Commission applied remote sensing technology to a serious wildlife habitat problem in the southwest region of the state. Kansas has the largest prairie chicken population of any state in the nation and is one of only five states that allow prairie chicken hunting. But one of the two species in the state, the lesser prairie chicken, has fallen on hard times lately, due to the encroachment of center-pivot irrigation on its grassland habitat. Wildlife biologists had known for a long time that conversion of native bluestem prairie to intensively managed cropland was disrupting the prairie chicken's living habits but they had no way of determining the extent of the problem.

With the cooperation of Kansas University's Space Technology Center, Fish and Game obtained satellite imagery of key lesser prairie chicken range in Finney County. The pictures showed that habitat was being destroyed at a greater rate than previously realized. With the remote sensing data to document its case, the Commission was able to secure funding from the U.S. Fish and Wildlife Service in 1976 to initiate a prairie chicken habitat research program.

Remote sensing can tell wildlife professionals a great deal about aquatic habitat, also. When a fish population inventory of Douglas County State Fishing Lake indicated an unsatisfactory growth rate among largemouth bass, Commission fisheries biologists began to search for the cause. They found that excessive vegetation was hindering the bass from preying on forage fish—in this case, bluegill. The dense growths also stunted bluegill reproduction, further reducing available forage for the predator fish.

Fish and Game had tried on several occasions to reduce the aquatic vegetation with herbicides, but this method proved largely ineffective. Since the plants grow in water no deeper than about seven feet, lake managers considered deepening the shore zone as a possible solution. This would disrupt public recreation at the lake, since the water level would have to be drawn down to dry out the shore terrace. Before proceeding with the project, the Commission needed to know the extent of the aquatic vegetation and the actual relationship between plant growth and shore-zone depth.

After studying the problem, Space Technology Center personnel recommended mapping the lake by means of low-altitude photographs taken at the peak of



Seeing only what it wants to see, the Landsat satellite features the reservoirs and lakes of Kansas in this image taken from 500 miles in space. Landsat's scanning instruments record both visible light and infrared waves reflected by the earth's surface, then beam the information back to receiving stations where it is processed by computer and converted to images. By isolating specific bands of infrared radiation recorded by the scanner, scientists can enhance





Eros Data Center



Ken Stueben

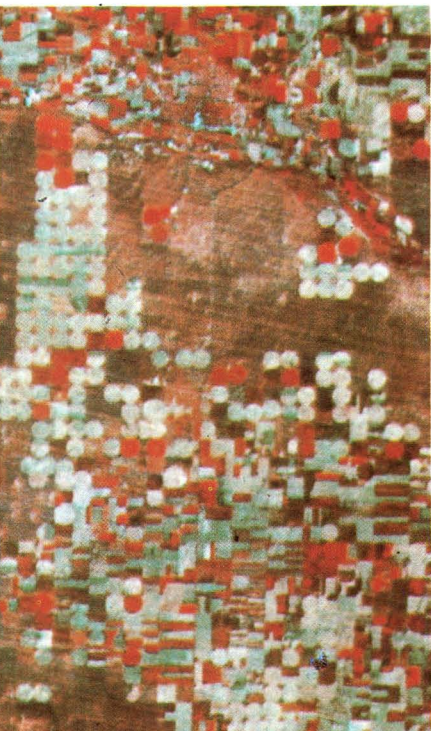


particular features of the landscape.

Center-pivot irrigation systems stand out in the southwestern Kansas scene below. Lower right is an aerial photo of the same subject, lower altitude, taken with conventional color film. In a satellite view of southeastern Kansas (top right), the Neosho River curls threadlike toward the Oklahoma border. Middle right is a conventional look at the Neosho.



Bill Hanzlick



vegetation growth. In late August 1975, a flight was made over the lake at three-thousand feet above ground level using four cameras with four different film and filter combinations. By superimposing a contour map over the vegetation map compiled from the photographs, Fish and Game biologists were able to establish a definite correlation between vegetation density and water depth.

In addition to providing a means of assessing wildlife habitat conditions, remote sensing can also be applied directly to the critters themselves. Warm-blooded animals generally give off more heat than their environment. Thermal infrared scanners attached to low-flying aircraft have demonstrated fair accuracy in detecting these "hot spots." The technique has definite limitations, however: under most conditions, only large animals such as deer or elk emit enough heat to consistently register on the instruments. Thermal censusing is impractical in areas with dense cover, since overhanging vegetation tends to block infrared radiation, concealing the animals below.

The ultimate value of low-altitude, aerial remote sensing as a tool for keeping tabs on wildlife populations largely hinges on future technical improvements in the sensing equipment. Though he considers live-animal detection to be "generally poor with available technology," Bruce Gill of the Colorado Division of Wildlife's Research Section sees potential in some of the research being conducted in this field. "Experiments with sensors operating in the near-infrared band show promising results in detecting warm-blooded animals," Gill said. Near-infrared radiation has a slightly shorter wavelength than thermal infrared and is less affected by intervening cover as a result.

While aerial remote sensing will continue to have numerous applications in wildlife resource management, space satellite technology holds the greatest promise for the future. Since the early experimental launchings of captured German V-2 rockets a few months after World War II in which cameras were installed, American scientists have recognized the potential value of monitoring the earth from space. But it wasn't until nearly thirty years later that this country's space effort began to yield tangible benefits for resource managers.

Following the successes of the space exploration program of the Sixties, the National Aeronautics and Space Administration focused its technical know-how on the earth to help solve far-reaching natural resource problems. The launching of Landsat-1 in July 1972 marked the beginning of a long-term satellite program aimed at providing continuous, standardized information on the condition of the earth's resources.

Landsat circles the earth in a polar orbit at an altitude of approximately 570 miles. Since the earth rotates perpendicularly to the satellite's path, in effect sliding eastward under it, Landsat is able to provide coverage of the entire earth every eighteen days. When

Color coding sets off the diversity of vegetation types in this Landsat image of northeastern Kansas. Yellow and orange represent grasses, red is wheat, magenta signifies forest and invaded pasture, bare ground is white. From top to bottom in the picture are Perry, Pomona, and Melvern reservoirs. Resource managers use color-enhanced imagery to determine quantity and distribution of wildlife habitat over large areas.

two satellites are circling the globe, coverage is obtained in only nine days. Landsat's orbit is sun synchronous; that is, the satellite's orbital plane is always between the earth and the sun. NASA selected this type of orbit because it insures the lighting of the scene below will always be consistent for all imagery at each latitude.

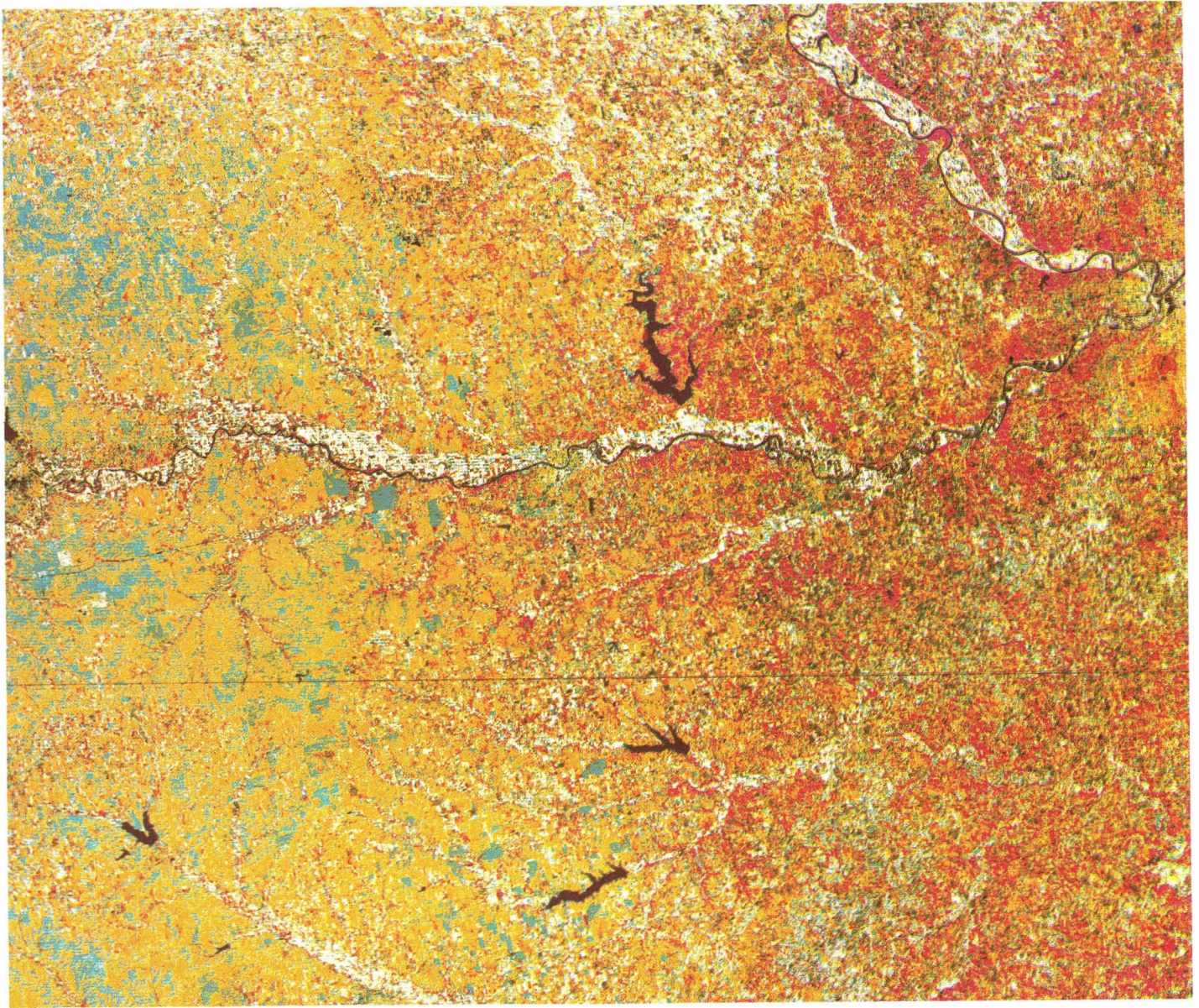
The instrument in Landsat that produces most of the imagery is not really a camera at all but a device known as a multispectral scanner. The scanner records the levels of energy reflected from the earth's surface in both the infrared and visible-light bands, then beams this information back to receiving stations on the earth, where it is processed by computer into black-and-white and color images.

With an image swath 115 miles wide, Landsat takes in a huge area at each pass. Entire regions can be scanned in much less time than it would take for an airplane to cover the same ground. This broader coverage reduces the per-acre cost of imagery, making it economically feasible for wildlife agencies to conduct comprehensive habitat inventories over areas comprising thousands of square miles.

Recognizing the potential applications of satellite technology to resource management, several states have launched remote sensing programs that use Landsat data. Probably the most ambitious to date is the statewide vegetation inventory currently being conducted by the Texas Parks and Wildlife Department. The chief problem afflicting wildlife populations in the Lone Star State is essentially the same one Kansas wildlife managers must cope with—habitat depredation. With native habitat rapidly giving way to urbanization, intensive agriculture, and livestock production, Texas Parks and Wildlife saw the need to take stock of the remaining natural vegetation and devise a method for monitoring future changes.

Working from Landsat data, Texas researchers defined ten broad vegetation categories that encompass the major habitat types found in the state. To assist wildlife biologists in keeping track of wildlife population trends and formulating long-range management plans, the entire state will eventually be divided into ecological management units based on the dominant plant associations found in each.

In addition to classifying vegetation types over large tracts of land, remote sensing can provide accurate estimates of vegetative production capability. By surveying an area at the peak of the growing season in summer and then again in winter, it is possible to determine the amount of forage actually available to



wildlife. With this information, the wildlife manager can determine the carrying capacity of the area, then strive to manage it in a way that will maintain wildlife populations at optimum levels. Colorado is currently using remote sensing techniques for this purpose. Researchers collect imagery and photographs in low-altitude flyovers, then field personnel on the ground survey the area to check accuracy.

In Missouri, a cooperative venture between the U.S. Forest Service, Soil Conservation Service, Missouri Department of Conservation, and state universities will soon result in a statewide, geographic information system. Remote sensing will play a part in this project, and Conservation Department personnel are currently familiarizing themselves with the language and concepts of this burgeoning field. Jim Fisher, planning branch supervisor with the Department, indicated two areas in which remote sensing will be applied in the

system: "Most of our efforts are directed at doing forest inventory work. However, we also intend to analyze the life histories of animals and their habitat requirements." Fisher said field study data will be collected to check the reliability of remote sensing methods.

To date, 26 states have employed remote sensing in wildlife management programs. The list of potential uses would easily run into the thousands. For the person concerned about wildlife and the environment, it is tempting to place the blame for all environmental threats—pollution, urban sprawl, destructive farming techniques—on science and technology. Certainly man's ingenuity has contributed to the problems affecting our natural resources. But with the development of remote sensing and its demonstrated usefulness as a resource management tool, the wildlife professional now possesses an opportunity to turn technology to his advantage. □

**After two years with Fish and Game,
a federal consultant looks at
progress in agency planning . . .**

Bottlenecks: *Successes and problems in the Plan for Kansas Wildlife*

Spencer Amend

Any quail hunter or fisherman will offer his views on the responsibilities of the Fish and Game Commission free of charge, and the further he is from the inner workings of the agency, the more positive his opinions are likely to be. With such a mass of wildlife experts available, a lot of Kansans have a hard time figuring out why the Commission hired an outside expert on planning to straighten out many problems that were unique to the state. It was even harder to figure out why any advisor would leave a job in Portland, Oregon with its tremendous salmon fishing, waterfowl, big game, and gorgeous scenery to set up a planning program in Pratt.

The reason for the planning effort itself was straightforward enough. Two and a half years ago, the Fish and Game Commission was ripe for the application of sound management to its administration and business. A new director was about to come on board, and an interim study committee of the legislature had reviewed the agency's management and decided that it was floundering without direction or clearcut goals, ignoring the use of sound business-like information when it made decisions. In their search for a solution, the committee came across a technique called comprehensive planning which several states had used to significantly improve their fish and game agency performance. The governor's office recommended the concept to all Kansas agencies, and the Fish and Game Commissioners adopted it.

As for the advisor who left Portland—many people

have accused me of being crazy for leaving the Pacific Northwest to come to Kansas, but I had some excellent reasons for the move. Wildlife agency management is an increasingly sticky business, one I find interesting and challenging and one that must be handled well if wildlife and outdoorsmen are to benefit. The Washington, D.C. definition of an "expert" is someone more than fifty miles from home who carries a briefcase. By that standard, I was only half qualified for the expert's job with Kansas. I admit to carrying a briefcase on occasion, but a move to Pratt was actually a move home for me. Although I was stationed in Portland when the job was announced, I had grown up in Great Bend, a scant fifty miles from Fish and Game headquarters. For that reason, the position was tempting for other reasons besides the professional challenge. The idea of reliving some of the fine hunting and fishing I had enjoyed in Kansas as a boy appealed to me, and I was also interested in observing some of the changes that have occurred in Kansas over twenty years and renewing some old friendships.

Before agreeing to take on the planning position, however, I had to find whether or not the agency and state government were committed to coming up with a better way of doing business. After an interview with the commissioners and the new director, I was firmly convinced of their dedication to the idea, and the information I could obtain from Topeka led me to believe that the legislature and other state agencies

shared that dedication. With that, I packed up my family and headed for Kansas.

My experience since that move has led to a couple of conclusions. I have found that the character of the land and wildlife in Kansas has shifted just as it has in other parts of the country. The hunting and fishing experiences of twenty years ago are not those of today. I've also found that my early assumptions concerning state support for the Fish and Game planning effort were not totally accurate.

The difficulties were not in the early phases of the planning process. Most personnel recognized that the agency's mission was to use available money as efficiently as possible to provide wildlife oriented recreation. There has never been nor will there ever likely be enough money in any fish and game agency budget to cover any but the highest projects. The essence of planning is to make sure that the money available is spent on these high priorities.

Fish and Game is not like most other state agencies. The Commission operates out of a special fee fund derived almost totally from sportsmen themselves as opposed to most of state government which runs on general tax revenues. Fishing, hunting, and trapping licenses provide approximately three fourths of the Fish and Game Commission's income. The other fourth comes from funds collected by taxes on hunting and fishing equipment. It took two years to bring the plan and budget together. During that time, we assessed the supply of various wildlife resources and demand for them. We published the agency's major goals, its strategies for future wildlife resource management. Professionals throughout the agency designed projects to reach those goals and ranked them according to comments from agency and public and differences in demand for various recreational activities. Quite simply, we added a business-like management approach to the professional wildlife management expertise that already existed in the agency. Both the individual projects and the underlying strategies they represent are already scheduled for review and revision as better wildlife and recreation information comes to light.

Fish and Game's 1980 budget was the first to reflect the comprehensive planning effort. Planned projects were not hidden in this budget by splitting them up into equipment requests, estimated salaries, proposed contracts, and professional services. Each project showed its entire price tag. The projects were ranked according to their importance and a recommended cut-off point was established on the list where available money ran out. Our best information from public meetings showed that a majority of outdoorsmen wanted a longer list of projects than we could afford, and they were willing to support a license increase to get it. As a result, we expanded our project list and recommended a coordinated fee increase to cover the extra cost.

The new budget was a good example of the right product produced at the wrong time. The new administration in Topeka had a minimum amount of time to examine the new approach, and, since they were faced with general taxpayer dissatisfaction, they decided to oppose the commission's request for a license fee increase. Unfortunately, the Division of Budget did not use the agency's project ranking as a guide in cutting back Commission spending. Cuts were made by removing parts of projects up and down the priority list that had been so carefully drawn by the Commission and approved by sportsmen. Such vital projects as the state's hunter safety program were cut out entirely. Because of this piecemeal approach, the Commission and many sportsmen across the state actively lobbied for reinstatement of many of our most vital projects. Organizations like the Kansas Wildlife Federation, Geary County Game and Fish Association, and the Kansas Bowhunter's Association were particularly active in this effort along with many individual sportsmen. Some key items were restored as a result, and legislative efforts to eliminate the proposed license increase were defeated.

Many people influence Fish and Game decision making. In the field, professional staff make day-to-day management decisions based on their training and judgment, according to information concerning wildlife populations and demand for outdoor recreation. At the administrative level in Pratt, scarce money and manpower are assigned according to the number of benefits a project provides or their importance. Most of the sweeping, statewide perspectives are handed down by the Commissioners. Since these individuals are replaced as their terms expire and new commissioners are appointed, these perspectives can change rather rapidly. Influences outside the agency can have a large influence on agency programs and directions. A decision may be made, for example, that there should be no new construction in any division of state government; therefore, a project for a new regional fish and game office to provide better service to the public may be cut out.

These kinds of reductions can actually reduce the money the agency has to work with. Pittman-Robertson and Dingell-Johnson funds collected by the federal government are passed back to state fish and game agencies on a matching basis. For every dollar Fish and Game spends on an approved project, the feds kick in three. The federal money is appropriated to each state every two years, and it reverts to the feds if the state doesn't use it in that time. In the past, approximately half a million dollars of this money appropriated to Kansas have been lost because the state agency simply didn't have the money to match it. If the Budget Division or legislature continues to make arbitrary cuts in Fish and Game proposals, many more of these dollars will be lost. This is particularly significant now because federal funds available to Kansas in

this program are increasing rapidly.

Most of the agency's problems can be boiled down to a simple question: who *really* runs Fish and Game? If the commissioners are not allowed to make decisions based on the best available information, and if the special fee fund agencies in Kansas are treated the same as general tax agencies when reductions are made, then the Fish and Game Commission cannot effectively manage wildlife. In some states, a clear distinction is made between fee fund agencies like the Fish and Game Commission and those supported by general tax revenues. In other states, the comprehensive planning management system has been accepted as an effective way to define an agency's goals and design projects to attain them. This is certainly the case in private sector business management. Kansas sportsmen would do well to demand similar treatment.

The agency has made a lot of progress in the last

planning for the future. The question is whether it will have the chance to do more than just plan. Without adequate funding, no amount of planning, re-evaluation, or priority setting will result in concrete benefits for wild Kansas and the people who enjoy it. Fish and Game also needs a stable, consistent leadership so that it can follow through long-term programs.

To really get on the right track, I think the agency could use a couple of specific items. If the commissioners, those five gentlemen appointed by the governor, were to have longer terms than the governor's, the agency would be much less exposed to rapid changes in policy. There would be a more consistent, long-term approach to the long-term threats that Kansas wildlife faces. Recognizing the Commission as an official bipartisan board would also assure more consistency and insulate Fish and Game from politically oriented decision making.

Hunters and fishermen support Fish and Game work with license fees and equipment taxes. As a group, however, they don't want to be bothered with finding out how the use of that money is affected by politics. Sportsmen who want to protect their interests need to provide state wildlife agencies with independence as well as money.




couple of years. Overall, the commissioners have done an excellent job of adapting their involvement to the comprehensive planning format. In fact, I think they are particularly comfortable with planning because it is so similar to the approaches they use in running their own businesses.

The director has observed that we now have the right people in the right jobs. This staff will increase Fish and Game's reputation for professionalism in wildlife management. Most of these people are reasonably familiar with the new management system; certainly all of them are familiar with the problems that are facing wildlife. The outfit itself is lean and well prepared to take advantage of the abilities of all its personnel in

The sportsmen of Kansas pay for Fish and Game work, either directly with their license fees or indirectly with taxes on their equipment. Although the new comprehensive planning system is hard work and involves some tough questions, it will give sportsmen a chance to see where every dime of their money is going. That's fine, but watching the finances will not guarantee top-notch Fish and Game work by itself. Concerned citizens need to fill the agency with men they can trust, then give those professionals their heads by demanding that wildlife management in the state be divorced from politics. Fish and Game can make the plans, but it will take the support of Kansas outdoorsmen to carry them out. □

the YELLOW Pages



INDEX

	Page
WILDTRUST	3
Letters	6 - 7
Lawman/Artist	8

ENERGY PLAN PROMPTS ENVIRONMENTAL CONCERNS

Does President Carter's \$142 billion energy plan pose a needless threat to our environment? Can the U.S. solve its energy problem without wiping out the environmental gains it has made in the past decade?

Eleven national environmental groups think the answer to both of those questions is "yes." They think the nation can meet its energy needs without adding two new, powerful and expensive agencies — an Energy Mobilization Board (EMB) and an Energy Security Corporation (ESC)—to the array of government bureaus already working on the problem.

The environmentalists also feel that the Carter Administration has not put enough emphasis on what they see as the quickest and cheapest solution to the present fuel shortage—the conservation of energy. And so they have joined forces to protect environmental laws they see threatened by the proposed EMB and ESC and to force the Carter Administration and Congress to pay more attention to "conservation energy."

THEIR ARGUMENT AGAINST the quick creation of two new super-powered agencies is an impressive one—the more so because it comes from broadly-based citizen conservation groups that have consistently supported the President on energy and environmental issues. The largest of the groups, the National Wildlife Federation, in fact, gave Carter its "Conservationist of the Year" award only last March. These are not no-growth, stop-the-world, obstructionist organizations.

They are particularly fearful of the proposed EMB. The concept of three Presidential appointees sitting as a board to ensure "fast track licensing" of critical energy facilities is an alluring one. Everyone likes to cut red tape. But environmentalists see the EMB as an authoritarian vehicle that could ride roughshod over fundamental laws and regulations now protecting us from poisoned air, polluted water, and toxic substances everywhere.

More dangerously, in their opinion, the EMB proposed by the White House would be exempt

from many federal laws that protect us from arbitrary government: the Administrative Procedures Act, which requires fair hearings on disputed issues; the Freedom of Information Act, which prevents the government from acting secretly; and the Ethics in Government Act, which requires disclosure of conflicts of interest.

The environmentalists' fear that EMB might use its powers arbitrarily was not allayed by a Carter Administrative official who told them at a White House briefing: "We'll simply have to be a government of men and women, not laws."

For these and other reasons, the eleven environmental groups are equally wary of the proposed Energy Security Corporation, the \$88 billion federally-funded corporation designed to develop the energy equivalent of 2.5 million barrels of oil per day from coal, oil shale, and biomass by 1990. ESC's seven-member board would also have extraordinary powers to push for the production of synthetic combustibles.

THE CONSERVATIONISTS favor a "crash" effort to develop alternate sources of energy, but feel that the Administration's emphasis on "synfuels" is misplaced. These fuels are the hardest and most expensive to extract and refine. Mining them would lay waste thousands of square miles — an area the size of Delaware, by one estimate. It would devastate much valuable cropland and require millions of gallons of water in places where it is scarcest. And since the synfuel technology has not been proved, the conservationists see the ESC program as a fantastically expensive, environmentally damaging "shot in the dark."

Since voicing their objections to the Carter plan, the environmentalists have received support from research groups at two of the nation's top universities—Harvard and Princeton—and from one of its preeminent "think tanks," the Rand Corporation.

A six-year study by the Harvard Graduate School of Business Administration has reached the conclusion that a stepped-up program to encourage conservation would prove far more rewarding than any other energy path. The Harvard scholars, in a report called "Energy Future," also pumped for

(more)

an accelerated solar energy program—a favorite of the environmentalists—but conceded that they are less certain of gains to be made with solar than those achievable by conservation.

Two physicists working at Princeton's Center for Energy and Environmental Studies, in a report prepared for the Federation of American Scientists, reached a similar conclusion. They found that the U.S. could "produce" the energy equivalent of 2.5 million barrels of oil per day by the late 1980s if the government aggressively supported a conservation program, mostly by insulating and heating homes more efficiently. That would be more than one-quarter of the 8 million barrels a day we are now importing and equal to the amount of energy the Carter Administration hopes the ESC will produce by 1990.

IN ITS REPORT, prepared for the federal government's own Department of Energy, the Rand Corporation scientists were more concerned with the excessive cost of synfuels than with savings by conservation. They warned that any attempt to create by 1990 a synthetic fuel production capacity in excess of one million barrels a day might not be

successful. Any crash effort to build synfuel plants would cost billions more than estimated, they predicted, and would probably contribute to inflation.

Conclusion: The rush into admittedly "dirty" synfuels might prove to be a classic case of haste making waste.

Obviously, there is no easy road to energy security. Most of the options facing the President and Congress have drawbacks and so, after all the arguments have been heard, they must choose between undesirable alternatives. What is to be hoped is that before adopting an energy course for the next decade they will listen to the arguments now being advanced by the environmentalists.

Ten years ago a different President and Congress listened impatiently to environmentalists' suggestions concerning the Alaska pipeline. They adopted those suggestions only grudgingly and after a court fight. Now, Aleyeska admits that those suggestions made it a better and safer pipeline. Much time could have been saved if the environmentalists' views had been considered in the first place.

(National Wildlife Federation)

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PERMIT FORM BOOKLETS AID ACCESS-SEEKING SPORTSMEN

Wichita sportsman Roger Evers has an idea on how to improve sportsman-landowner relations. Evers is distributing booklets of hunting and fishing permit forms that may help sportsmen seeking permission to hunt on private land.

Evers devised the forms because state law requires written permission if land is posted closed to trespass except by written permission only. The permit forms are designed to provide the landowner a detachable stub with the sportsman's name, address, and signature. The sportsman retains an authorization blank with the landowner's signature granting permission to fish or hunt on his land.

<p>LANDOWNERS AUTHORIZATION</p> <p>The holder of this authorization has been granted permission to fish or hunt on land designated by the undersigned.</p> <p>Dates Valid _____</p> <p>Signed _____</p> <p><small>COPYRIGHT © 1977, HOME PRINTING CO.</small></p>	<p>Sportsman Information</p> <p>Name(s) _____</p> <p>Address _____</p> <p>City/State _____</p> <p>Type Vehicle _____</p> <p>Lic. No. _____</p> <p>Signed _____</p>
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Persons interested in acquiring the permit forms should contact Evers at 753 Litchfield, Wichita, Kansas 67203 — (316) 265-6061.

WILDTRUST — NEW OPTION FOR ESTATE MANAGERS

The Fish and Game Commission is expanding its land acquisition activities through a new donation program entitled WILDTRUST.

WILDTRUST is being developed to encourage landowners interested in preserving wildlife and other natural resources to consider donation of portions of their land to the Commission. Several existing state fishing lakes and wildlife areas are situated on land donated by interested individuals in years past. In certain instances, a landowner may have no heirs or have so many that equitable distribution of an estate is not attainable. Donation to an agency such as the Fish and Game Commission is a logical solution to preserve the natural resources which the owner found to be of great enjoyment.

A WILDTRUST booklet is being published that will provide details of past land donations and outline some of the tax advantages of such donations to the Commission.

With less than one percent of the land area of Kansas available for public recreation such as hunting and fishing, an active acquisition program is essential, according to Lee Queal, land acquisition coordinator for Fish and Game. The WILDTRUST donation program will provide a definite boost to this effort, he said.

When fully implemented, the WILDTRUST program will be under the supervision of Assistant Director Fred Warders, a 25-year veteran with the Commission. Inquiries can be addressed to Warders at the Fish and Game Commission headquarters, Route 2, Box 54A, Pratt, Kansas 67124.



The first official WILDTRUST donation was the construction of a new \$7,000 shelter house at Kingman State Fishing Lake. The Dale Voge family of Goddard supplied the materials and labor for construction of the shelter house—a memorial to Timmy W. Voge, who was killed in an auto accident last March. Voge, one of five sons, was an active hunter and fisherman in Sedgwick and Kingman counties.

† † † †

MINNESOTA LAWMAKERS MAKE WETLANDS PRESERVATION PAY

The Minnesota Legislature recently passed a provision eliminating property tax on privately-owned wetlands. The new law also includes a provision for landowners to receive a property tax credit for every acre of wetland they agree to maintain on their lands. To qualify for the credit, a landowner simply agrees not to drain his wetlands for a one-year period.

The tax credit for wetland retention is computed at a rate of .75 percent of the highest acreage value on the farm, per acre of wetland. So, a farm with land valued at \$1,000 per acre would receive \$7.50 per wetland acre retained. The law is effective beginning with the 1979 tax year.

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CORPS' NONSTRUCTURAL FLOOD CONTROL WORKS

The U.S. Army Corps of Engineers' flood control program on the Charles River Watershed in Massachusetts is an outstanding example of how to reduce flood losses without extensive damage to important natural resources in the area, according to the Wildlife Management Institute.

The program was initiated in 1972. Nonstructural means were included to help control flood waters. The Corps is acquiring 17 of the watershed's most critical wetland areas which will be preserved in their natural state, allowing them to continue their age-old function of storing storm waters. Within four years, the Corps plans to have acquired 9,000 acres of these wetlands.

In the past winter, the Corps said the new Charles River Dam, the other component of the flood control program, prevented an estimated 14 million dollars in damage. And the wetlands again performed effectively, storing floodwaters and then gradually and safely releasing them, Corps officials said.

"Our wettest January on record has demonstrated that this dual approach to flood plain management is not only unique--it works," said a Corps spokesman. Many of the acquired wetlands will be managed for wildlife by the Massachusetts Division of Fisheries and Wildlife.

† † † †

DUCK STAMP CONTEST OPEN

Artists interested in submitting waterfowl art in the 1980-81 "Duck Stamp" contest have until Oct. 15 to get it done. The annual competition is the only art contest regularly sponsored by the federal government. The colorful stamps whose designs are selected through the contest constitute the longest running, annually issued series of stamps in revenue or postage stamp history.

Interested artists should contact the Office of Audio Visual, U.S. Fish and Wildlife Service, Department of the Interior, Washington, D.C. 20240, for copies of contest rules and an entry form.

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WIND EROSION CONTINUES

Nearly 2.9 million acres of land were damaged by wind erosion in the Great Plains from November 1978 through May 1979, according to R. M. Davis, administrator of the U.S. Soil Conservation Service.

Reports from the 10-state area indicated wind damage on 2,874,385 acres, up slightly from 2,844,135 acres during the same seven-month period in 1978. The southern plains were hardest hit. Texas accounted for 52 percent of the total damage.

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WILDLIFE MITIGATION COOPERATION URGED

The process of mitigating fish and wildlife losses caused by federal or federally-approved water projects must become more creative and more cooperative if it is to remain strong in the face of the nation's energy problems, according to Interior Solicitor Leo M. Krulitz.

In the keynote address to the Mitigation Symposium at Colorado State University in Fort Collins, the Solicitor said the combined problems of energy cost and supply will put great pressure on many important environmental programs.

Mitigation—offsetting losses to fish and wildlife and their habitat caused by water projects—is based on the Fish and Wildlife Coordination Act of 1934 and major amendments to that Act in 1946 and 1958. The Act requires that fish and wildlife be given “equal consideration” with other aspects of projects federal agencies undertake or approve. Construction agencies, such as Interior's Bureau of Reclamation and the Army Corps of Engineers, must consult with the U.S. Fish and Wildlife Service, an Interior Department agency, and state wildlife agencies to determine what steps may be necessary to mitigate and compensate for project-caused losses.

The National Environmental Policy Act and the Endangered Species Act also contain consultation and mitigation requirements.

“The requirement to mitigate is a firm, statutory mandate,” said Krulitz. “But the extent of mitigation is largely discretionary with the construction agency. The Congress has made it clear that it intended to accept a reduction in other project benefits in order to achieve the benefits of fish and wildlife conservation. And the courts have been firm on two points: project approval must hinge on the public interest; and the public interest includes fish and wildlife.”

The major strength of the mitigation process, Krulitz said, is that it is flexible and can be adapted to a wide range of circumstances. The key to its success and continued strength is the consultation process.

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HUNTING PROSPECTS BRIGHT

On balance, the upcoming hunting seasons have all the necessary ingredients for a banner year.

Pheasant populations are up again after a 1978 statewide harvest that came close to the highest total ever recorded. Last winter was generally rougher in the eastern part of the state than in the west, which holds the state's highest concentrations of ringnecks, so they entered the nesting season in good shape. Latest surveys indicate good nesting success so pheasant hunting is expected to be excellent this year.

Quail didn't do quite as well. Unusually cold and harsh winter conditions took their toll on populations. Certain regions also were reporting a decline in production due to heavy rains during the breeding season. Much of the Flint Hills and some localized areas in northcentral Kansas were apparently hardest hit with too much spring rain.

Prairie chicken hunting prospects look about the same as last year, which produced a bumper crop of birds. Chicken hunters in 1978 took the second highest statewide harvest ever recorded.

Reports of above average production on northern waterfowl nesting grounds indicate excellent duck and goose shooting prospects. Teal and gadwall numbers are up considerably. Mallard breeding populations are slightly better than last year. Giant Canada geese showed only an average production year but lesser Canadas and white-fronts have increased.

While breeding ground counts are fair indicators of the fall flight, biologists say, local habitat conditions ultimately determine the harvest in Kansas. The good news there is that the relatively abundant rains throughout most of the state this year have provided plenty of water for wetland areas.

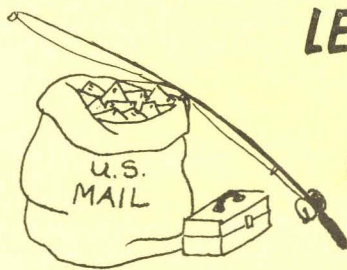
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PROPERTY DONATION TAX BENEFIT MEASURE STUDIED

Legislation introduced by Congressman John Dingell (Mich.) would allow landowners to receive increased tax benefits for donating property to be used for conservation purposes, the Wildlife Management Institute reports.

The bill--H.R. 4611--would allow property owners a federal tax deduction for the surface value of land while allowing the subsurface mineral rights to be retained by the original owner. Current law does not permit that.

"The legislation would remove a longstanding impediment to the donation of thousands of acres of land in need of protection and allow property owners to receive a fair tax deduction without being deprived of their mineral rights in the property," Dingell said. Under the bill, landowners could get the benefits whether donating to the federal government or private conservation groups.



LETTERS to the EDITOR

BACK TO THE FARM

I am writing to let you know that I do enjoy your magazine very much, as it takes me back to my days on the farm as a young lad when I used to trap, hunt, and fish. I only fish now but I sure enjoy reading your stories on all types of game. I also enjoy the beautiful photography.

Edward K. Fox
Topeka

* * *

FAMILIAR FACE

It was such a pleasure to open the July-August issue of Kansas Fish & Game and find my former Manhattan neighbor, Royal Elder. He and his family were the best of friends and neighbors. It is a warming touch of Kansas, and home, to come across unexpected news of people I know or places I've been.

The cover pictures on that same issue were excellent. Ed Schulenberg has a genuine gift with photography. Ken Stiebbs' work has been admired by me ever since the first issue which featured his work. I look forward to enjoying future photos by these men. Keep it up. Although we live in Abilene,

Texas, my husband and I (both native Kansans) still call Kansas "home" and we both enjoy the link to our favorite state via your magazine.

Judy Macy Willingham
Abilene, Texas

* * *

HUNTERS VS. SPORTSMEN

This is a letter from one of the millions of well-meaning, etc., "I Brake for Animals" nuts (Re: "Observations on the Shooting Sports," May-June issue). I am very glad to know that people like you exist. Unfortunately, I believe you are a *rara avis*.

Having spent the first 18 years of my 35 to date on a farm in Iowa (with excellent ground cover), I had frequent encounters with hunters, not sportsmen, there's a difference. Station wagons full of orange-vested gentlemen all decked out in the finest Sears' outdoor shop had to offer would descend upon us each November. Articles like yours do little to dim my memories of broken fences, litter of every type, spooked cows, dead pets, and the thrill of strangers tramping over our land upon coming home from a trip to town.

One of my most memorable moments was when I chased a carload of them "up the road" after they bravely shot out the window of their heated car at some wild rabbits feeding at a pan ten feet from our house. Probably one of the most foolish things I've ever done, but I was mildly incensed at the time.

You, Mr. Hill (a-k-a sportsman), are not my enemy. I am not yours. Our mutual enemy is the irresponsible, beer-swilling, gun-wielding, hunters afore-described.

Sharon Miller
Merriam

A DIFFERENT OPINION

I was intrigued by your article "Conservation in the Seventies: The New Battles" in the July-August issue. After reading the article I had the feeling (if I didn't know better) that the only thing America's wildlife has going for it is the International Association of Fish and Wildlife Agencies. The author seems to have done his best to create confusion among the readers about the intentions of environmental groups. It was obviously his intent to let readers know that there are some very real problems being faced by wildlife and wild lands from radical groups and the political process.

However, to stereotype conservation or environmental groups as a "tangled mass of incompatible groups who... have lost sight of the resource they got together to protect in the first place" is a gross injustice. It seems to me that the author would have been more effective had he just printed the stated goals of those organizations he feels have done the most for our wildlife resources and encouraged his readers to join the one that best suited them.

By dwelling on the negative issues he has succeeded in frightening his readers about environmental groups and unjustly presented the impression, at least to me, that we would be better off without them.

The only strong political allies wildlife has are the environmental and conservation organizations. Without these concerned citizens banding together there is no doubt that the wildlife manager would have little to manage.

Steve Burr
Salina

My comment that the modern conservation community is "a tangled mass of incompatible groups..." stands up well, unfortunately. We have seen intra-group strife. The firing of David Brower is a good example; growing dissatisfaction with the staff of the National Wildlife Federation is another. There is grumbling in many of the large organizations about high-handed political moves and a failure of the staff to accurately reflect the opinion of the rank-and-file member. In many cases, these accusations have a germ of truth: Power corrupts in any large, well-financed outfit, no matter how noble its stated goals.

More important, however, are the inter-group squabbles, the ones I had in mind when I wrote the article. The list of opponents inside the conservation camp is longer than I care to enumerate. Balance the good we've done in the last decade with the not-so-good. How does it come out? We've altered construction plans for the Alaska pipeline--

good; we've passed the Wild Burro and Horse Protection Act--not so good, since we've doomed thousands of acres of public land to overgrazing and increased competition for forage between escaped domestics and native wildlife. We've established the wilderness area system--good; we've tied the hands of Yellowstone park managers who are trying to avoid disaster in the northern Yellowstone elk herd--not so good. We've slowed the Army Corps of Engineers in their lake building and channelizing--good; we've attacked the Pittman-Robertson Act and seem bent on destroying one of the most effective long-term conservation funding systems ever invented. Some of us are doing great things; others of us, just as quick to gather the mantle of the conservationist around themselves, are doing great harm.

Does this mean I think the private conservation organization has outlived its usefulness? Sure doesn't. I'm mightily impressed with the work of a number of private groups (besides the International Association of Fish and Wildlife Agencies). In many situations, the private group is going to have to carry the load in future action. These groups are going to be forced to increase their sophistication in politics, ecology, and public relations, but it's vital that they also look at the whole picture of American conservation, the nuts-and-bolts management efforts as well as the sweeping romantic battles. Activity of "conservation" organizations like the Friends of Animals will have to be countered with well-financed, effective pro-conservation campaigns. To do this, we may have to compromise on issues that are not central to the conservation movement. That's what I said in my last three paragraphs in the magazine.

The furthest thing from my mind in the article was to discourage private citizens from taking action on conservation issues. I'm only concerned that they take action that counts. — Chris Madson

* * *

APPRECIATIVE READER

I just thought I'd drop you a line to let you know how much I enjoy your fine publication. I especially enjoy the photography work that is done in your magazine, and also the articles on Kansas furbearers are very informative. Being an avid coyote caller and trapper, I can relate to many of your articles.

Dennis A. Struble
Caldwell



CULTIVATING TASTEFULNESS

Got a flavorful fish or game recipe you'd like to pass around? If so, we'd like to hear from you. We're sure there are some tried and true epicurean delights that deserve wider acclaim. We're also sure there are thousands of others like us more than willing to sample innovative table fare.

If you'd like to contribute, write: Editor, Kansas Fish & Game, Route 2, Box 54A, Pratt, KS 67124. We'll give contributors credit so we'll all know who to thank.



GAME PROTECTOR'S METAL SCULPTING EARNS PRAISE

Jim Hale is a game protector who combines a love of wildlife with a talent for metal sculpture. The combination has resulted in an eye-catching collection of copper, steel, brass, and aluminum figures that pay tribute to the natural world.

One of Hale's latest projects was the adornment of an exterior wall at the Fish and Game Commission's Pratt headquarters. Earlier this year, he mounted a collection of copper, brass, and aluminum wildlife figures on the formerly blank wall. The "wall mural in metal" invariably prompts compliments from office visitors praising the addition.

Hale spent more than 150 hours of sketching, cutting, welding, hammering, and shaping the collection of pieces, which includes buffalo, deer, ducks, geese, fish, pheasants, cattails, and sunflowers.

The Wakarusa resident, who patrols Osage and Shawnee counties as a game protector, first learned metal-working at a Topeka trade school in the 1950's. A metal-working class he took some years later at Washburn University fired his interest in plying the cutting torch and welder in the field of art. Since he began work as a game protector in 1970, Hale has honed his talents as an artisan and now is regularly commissioned by individuals who want a Hale sculpture hanging on their bedroom walls or standing in their living rooms.

If all the land controversies in Kansas, the prairie park issue is probably the most heated. Arguments over a Flint Hills park have raged for more than twenty years, beginning with early proposals for Wabaunsee County and continuing even today.

Compromises have been offered on both sides and generally refused by opponents. This session of Congress will see another prairie park bill introduced.

The Fish and Game Commission has left the issue to Kansas citizens to decide. Here are the statements of two groups intimately involved in the debate:

Park on the Prairie?





The Case Against a Prairie Park

A summary of the stand of the Kansas Grassroots Association

To a majority of Americans, the National Park System is one of the last bastions of apple-pie goodness in the federal government. Millions of families take two weeks a summer to tour Yellowstone or stand on a ridge in Rocky Mountain National Park, coming away with a warm feeling toward the continent's scenic wilderness and the conviction that, in the middle of runaway inflation, political corruption, and gas line panic, the Park System is one thing the U.S. has done right.

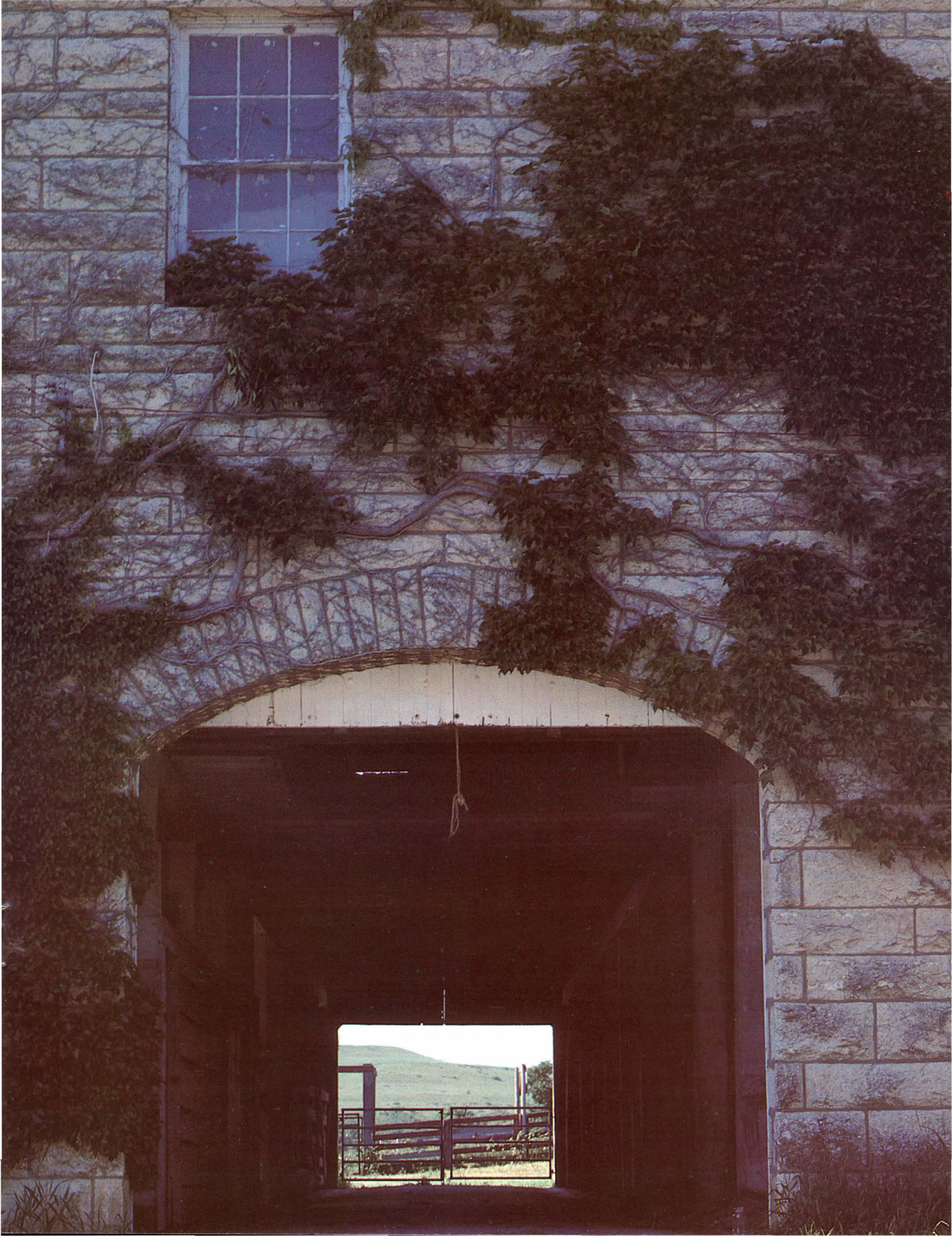
Like most other black-and-white views, this blanket support of the national park concept ignores important problems. Many of our parks, intended to be final reservations of wilderness, are in danger of being loved to death. Yosemite Park officials have been forced to exclude most private cars from the valley to avoid Los Angeles style traffic jams. The areas around Old Faithful and other attractions in Yellowstone have the dog-eared, grimy look of New York subway stations. People management in the popular parks has become almost the sole objective of the staff in charge.

Management of the park environment itself has also run into snags. Strict protection of wildlife inside park boundaries has led to overgrazing on Yellowstone's

northern elk range and in the wild burro country in Grand Canyon. Forests in many western parks are slowly turning into fire hazards as dead timber builds up. Forest harvest, like hunting, is not allowed in most national parks.

Presented against the background of current Park Service management troubles, a prairie national park in the Kansas Flint Hills isn't nearly as appealing as supporters present it. The central issue in the prairie park controversy is preservation. Park advocates foresee three major threats to the Flint Hills prairie: encroachment of the plow; destruction of scenic prairie vistas by powerlines, interstate highways, mineral development, or reservoirs; and mismanagement of rangeland by ranchers. Local ranchers and other opponents of the park question the danger of any of these threats.

The Flint Hills have remained rangeland through more than a century of surrounding agricultural development because they will support no other use. Although bottomland soils in the Flint Hills support the agriculture of the plow, the hills themselves have spines of chert that are barely covered with dirt. These rock outcrops exclude small grain or feed grain farm-





ing. Attempts to establish this style of agriculture have consistently failed; in fact, there are more acres of grass in the Flint Hills today than there were in 1935.

The risk of further destruction of scenery is minimal. Most of the highways, transmission lines, and reservoirs the region needs have already been built. Most landowners in the area seem willing to accept the idea of scenic easements to protect the remaining vistas as long as such arrangements are not mandatory. All mineral deposits in the Flint Hills are already being exploited; exploration is complete and indications are that there will be no more mining or drilling in the Flint Hills.

Misinformation on the rancher's management of Flint Hills grass has confused discussions of the prairie park concept. Park supporters insist that annual burning of tallgrass prairie as practiced by ranchers discourages the growth of many spectacular grassland flowers, especially broad-leaved, nongrass species. In fact, most ranchers do not burn every year. Generally, they burn in rotation every three to five years, the recommended span between prairie burns. Park advocates have also expressed concern over the shift in the Flint Hills from summer grazing of steers to cow-calf operations that leave stock on the grass year-round. While many ranchers have gotten into cow-calf operations, they have, in most cases, reduced the number of animals on the range and rotated the stock from pasture to pasture to avoid overgrazing. Many Flint Hills landowners are college graduates in range management or agriculture, acquainted with the most modern techniques of conserving grass for efficient use by livestock. Other ranchers in the region have access to up-to-date information from Kansas State Extension which they add to generations of experience on the land. It's hard to imagine any federal agency managing the grass better than men equipped for the job with a combination of affection for the prairie and economic interest in its well-being.

Prairie Park boosters have stressed the scientific importance of reserving a tract of tallgrass prairie. No responsible opponent of the prairie park has ever denied the value of research on plants and animals of native grassland. The disagreement between the groups emerges in their opinions on the scientific value of a national park. The Nature Conservancy, various state agencies, and universities have bought up tracts of prairie that fill nearly any conceivable research need. In Kansas, KSU's Konza Prairie, 8600 acres of native tallgrass, will soon be equipped to handle anything from microhabitat studies to research on the effects of native ungulates like elk and bison. The

Konza reserve avoids one research pitfall that would cause constant trouble in any park research project—people. Access to Konza is restricted to research personnel; no recreational use of the area is allowed. Such restrictions would be out of place in a national park, but, without them, public interference with study plots and equipment, whether accidental or intentional, would compromise the reliability of the experiment.

Many park supporters argue that the preservation of prairie species, both plant and animal, is in itself an important scientific function of the park. They maintain that many native grassland animals are in danger of disappearing because of agricultural activities on the plains. Emporia State University biologist Dwight Spencer feels otherwise. In his presentation to a Kansas Senate hearing in 1975, Dr. Spencer had this to say:

"There has not been a large scale reduction of mammalian species in the tallgrass prairie of the Flint Hills since the advent of European man. Shrews, field mice of various kinds, and rabbits are there as are deer, coyotes, bobcats, beaver, foxes, and many others. Some, such as the deer and coyotes, are probably more numerous now than they were in the 18th century. Others, such as bison, grizzly bear, and wolf, are gone because their presence is not compatible with the use now made of the area . . ."

Dr. Spencer and two other Emporia State biologists also questioned pro-park statements that "genetically pure" strains of prairie plants would be protected in a prairie park. Park supporters believe that these native plants might eventually be of use in development of improved crop strains. The Emporia State biologists responded to this statement in the hearing:

" . . . this cannot be done in the confines of a national park . . . Genetic drift (departure of genetic makeup from the makeup of the population as a whole) is characteristic of small, isolated populations . . . Prairie plant species cannot be kept 'pure' by protecting them inside a fence. Most are pollinated by wind action or by insects, and fences are not a barrier to these pollinating agents."

Many park advocates feel that access to the tallgrass prairie is a major issue in the park controversy. These are largely urban dwellers who want to see the Flint Hills without a background of traffic noise but say they have trouble finding a landowner to get permission for an off-road expedition. They feel this access problem looms even larger for a tourist from out of state who is only passing through the prairie on vacation. This difficulty is largely imaginary. The majority of ranchers in the Flint Hills are happy to meet a prairie enthusiast who has taken the time to look for a landowner. Generally, they'll grant permission unless there is a specific reason for keeping people clear of the area. Most park opponents feel that demand for this sort of prairie recreation is exaggerated. Wading waist-deep through the grass on a summer afternoon seems like a romantic thing to do until you've tried it with the temperature hovering around 104 degrees. The Kansas Grassroots

Association, the major organization of park opponents, has suggested a prairie parkway as a compromise. The state has already identified a parkway route through the Flint Hills; the Grassroots Association feels that, with federal funding, this route could be expanded and improved to provide all the tallgrass prairie experience most tourists would ever want. Small reserves—100 acres or less—could be established along the route to accommodate people who wanted to wade through the prairie. The scenic easements mentioned earlier might be established to protect the view the parkway was intended to show off. The Grassroots Association doesn't oppose such easements as long as landowners can choose whether or not they will participate.

Another issue that concerns landowners involved in the park debate is federal control of Kansas land. Various federal bureaus already own substantial tracts of land in the state—the 106,000-acre Cimarron National Grassland, the 100,000-acre Fort Riley Military Reservation, and 125,000 acres of federal reservoirs.

support in a number of counties would be drastically reduced while school enrollment remained about the same. Probably more important, a number of ranches would be put out of business. Loss of the cash flow from these operations could cause a substantial decline in demand for goods and services which would be felt throughout the business community. In addition, the region's cattle productivity would be impaired at a time when worldwide hunger is becoming increasingly common.

Park supporters say that this economic loss would be balanced by income from tourism. That assertion is open to question. Interest in a prairie park may be high among a small group of its supporters, but many local residents doubt that the majority of Americans are that interested. Those who do come would probably be inclined to spend a couple of hours and move on, making few purchases they would not have made in any event. Many locals are opposed to tourist-oriented development no matter how much money it might

"In the dialogue over preservation of the tallgrass prairie, many park proponents overlook another element of the Flint Hills worth preserving—the rancher himself."

According to Farm Bureau officials, city, county, state, and federal government "now owns, controls, or more or less manages" more than 650,000 acres in the state. Kansas ranchers look west to the problems stockmen in other states have had with grazing rights and access to public lands and wonder why there is any need to expand government control in their own state.

During the 1975 Kansas Senate hearings, biologist Robert Parenti pointed out that the prairie acreage proposed at that time would amount to one to two percent of all the tallgrass in Kansas. According to Parenti, park supporters have stated that they were after one-third of one percent of Kansas prairie. This figure was obtained, says Parenti, by comparing the 60,000-acre park proposed in 1975 with total prairie acreage in the state—short-grass, midgrass, and tall-grass. Dr. Parenti seemed to feel that the percentage of tallgrass prairie the park will take up is more significant than comparing park acreage to total Kansas grassland acreage. Since this 1975 presentation, park supporters have more than quintupled the number of acres they are recommending for inclusion in the park.

The economic impact of land reservation on this scale could be considerable. The tax base for school

bring in. They see a quiet, well-cared-for region turning into a tangle of neon signs, cheap hotels, and curio shops.

In the dialogue over preservation of the tallgrass prairie, many park proponents overlook another element of the Flint Hills worth preserving—the rancher himself. The Flint Hills began attracting settlers in the 1850's, and many of the stockmen in the region are descendants of those pioneers. It's not unusual to find the fourth generation of a Flint Hills family living in the native stone house granddad built before the turn of the century. They have stayed because they love the land and the lifestyle it represents, and, in many cases, they have sons who look forward to taking their places as ranchers in the future. Talk of land condemnation for a prairie park, the economic boost the area would get from an influx of tourists, and the need to protect the land from people who have lived on it for more than a century understandably upsets residents. As far as they are concerned, the real threat to the Flint Hills grass is park sentiment, not the rancher. As one landowner put it, the people who live on the grass are looking for a way of "preserving the prairie from the preservers." □



The Case For a Prairie Park

**A statement from Save the Tallgrass Prairie
Lawrence Wagner**

Lying between the deciduous forest to the east and the Great Plains to the west, a romantic land of tall grasses and wildflowers once extended from Indiana to the Flint Hills in Kansas, northward to Canada and southward to Texas along this same meridian. This was the tallgrass prairie, 400,000 square miles in all. Today, one percent remains, in a narrow band in the Flint Hills of Kansas and the Osage Hills of northern Oklahoma. Many people believe that this small, remaining area is in need of preservation. They think that the best way of preserving this land and the treasures it contains is by setting aside parcels of the very best of it as units of the national park system.

Legislation proposed for the 96th Congress and introduced by Rep. Larry Winn of Kansas' Third Congressional District is designed to accomplish this objective in a way that will minimize interference with private lifestyles and family relationships to the land. This bill has the backing of the National Wildlife

Federation, the Isaac Walton League and virtually every other conservation organization in this country, including the World Wildlife Fund which recognizes the tallgrass prairie as having international importance. The National Park Service has designated preservation of some part of the tallgrass prairie as its number one objective after Alaska.

The proposed legislation would create a park of the natural area category with preservation of the tallgrass prairie ecosystem its first priority. The usual recreation objectives, often associated with national parks, would be the lowest priority. While the precise planning of the park would be the responsibility of the National Park Service through the adoption of a master plan, it is reasonable to anticipate that such things as vehicular camping would not be permitted inside the park boundaries. Likely this would be handled at existing and enlarged parks associated with federal reservoirs in the prairie areas through agreements between the

National Park Service, the U.S. Corps of Engineers and the state of Kansas and Oklahoma. The bill makes suitable provisions for this. Visitors' centers most likely would be outside the boundaries of the national park units. One can visualize that automobile penetration to overlooks close to park boundaries would be provided. Maximum penetration would likely be available to hikers and primitive campers.

Three areas are described in which land would be obtained for national park purposes. An area in Wabunsee County of approximately 70,000 acres is the most northerly of these. Land comprising 150,000 acres in Chase, Lyon, Greenwood and Butler Counties lies some 50 miles farther south. The third unit, of 100,000 acres, straddles the Kansas-Oklahoma border, most of it being in Osage County, Oklahoma, but some in each of Cowley and Chautauqua Counties, Kansas. A prairie parkway, using existing state and secondary roads, would traverse the finest parts of the Flint Hills and the Osage Hills from Marysville, Kansas to Pawhuska, Oklahoma, connecting the three sites.

Around each of the national park parcels, easements would be obtained which would prevent honkytonk development. These easements would also protect the national park units against visual degradation and threats to their biological integrity. Likewise, easements obtained on both sides of the prairie parkway would add further protection against intrusions and unsightly development.

Those who are working for the creation of this national park know that the park will not be for them. It may not even be for their children. But their grandchildren should see it and many generations in the future will benefit from its existence. In order to save this ecosystem, without uprooting families and destroying ways of life, the proponents of this plan are willing to forego any reasonable likelihood that many of them will personally benefit except from the knowledge that this ecosystem will be saved.

The bill does not provide for condemnation of private land unless some parcel in a designated park site is being degraded by the owner to a degree that would make it unacceptable for ultimate national park purposes. The Secretary of the Interior would be granted the right of first refusal on any land that comes on the market for sale. If he elects not to buy it because the price is too high, or for any other reason, the landowner will be free to sell it to another private person on the same terms. Pending the day that each owner is ready to sell, he may pass it down to his heirs and they to theirs. Easements also would be acquired only from willing sellers. In effect, the Secretary of the Interior will stand ready to pay the owners of land in the easement areas for agreeing to continue their present style of land use. Stated another way, they would be paid for not doing those things they probably have no plans to do anyway. Acquisition of the land and the

easements would be with funds generated by offshore oil deposits developed and exploited by privately owned oil companies. Under the Land and Water Conservation Act certain of these proceeds are set aside annually for acquisition of land in a program sometimes referred to as "Buying America Back." If they are not spent for prairie, they will be spent for land acquisitions elsewhere. The bill provides for a very small part of these funds, \$10,000,000 per year, to be set aside for tallgrass prairie land and easement purchase.

Whenever the Secretary of the Interior has acquired contiguous parcels sufficient to constitute a manageable unit, he will create the nucleus of a national park by publication of its boundaries in the Federal Register. The National Park Service will have an early presence in the area by the establishment of an information center soon after the bill becomes law.

The tallgrass prairie in Kansas and Oklahoma is perceived in various ways. By some it is thought of as pasture land and they ask, "Why would anybody come half way across the country to see someone's pasture?" Most ranchers see it as a grassland. Park proponents view it as an ecosystem now under stress but which, with rest and minimal help, can replenish itself. Knowledgeable strangers see it as being of prime national park potential. When viewed as a pasture, or even when viewed as a "grassland", it seems to many that it is seen "through a glass, darkly." Its history is forgotten and its potential unacknowledged.

The opponents of prairie legislation take the position that ranching is not inconsistent with preservation and many also feel that a suitable substitute for a national park would be the prairie parkway alone with overlooks periodically spaced at appropriately high points along the way. The proponents agree that a prairie parkway would be an excellent idea. They even agree that most ranchers are preservationists. But the point they seek to make is that preservation of pastures is not the equivalent of preservation of a total ecosystem. They do not wish to see the entire Flint Hills designated a national park, only a nationally significant portion. It is needed so that an ecosystem can again exist as it once did, a hundred years or more ago. Pasture maintenance—pasture preservation—will not accomplish this.

In pastures stocked for maximum production of beef, many of the hundreds of broad-leaf plants which make up half of the total prairie biomass, have all but disappeared and even some of the grasses have. You seldom see eastern gama grass in pastures. Cattle like it too well. The most prominent of the native forbs in pastures are those the cattle do not like. The ranchers are aware of this. They catalog broad-leaf plants as decreasers or increasers according to how they react to heavy, long-term cattle grazings. Prairie lands used for hay meadows customarily contain many more of the beautiful flowering forbs than the pastures do. Areas



which are neither grazed nor hayed (but are occasionally burned) produce even more. Some pastures are so deficient in broad-leaf plants that only verberna and Baldwin ironweed are left

to represent the hundreds of broad-leaf plants that once grew there; yet those same pastures may be well preserved as a pasture. Their grasses may be lush and rich. For a rancher who thinks of his prairie as pasture, broad-scale herbicidal spraying may be a reasonable alternative to fire as a means of preventing brushy invasion, but herbicides kill broad-leaf plants as well as brush. Herbicidal spraying is anathema to a prairie ecosystem.

It is thought that, given time—in some cases perhaps many years—the native broad-leaf plants will again reestablish themselves from windblown seed or from dormant seeds or dormant rootstocks. The longer the creation of a park is deferred, thus delaying the commencement of this process, the more the danger increases that some or many of the sensitive decreasers will be gone forever.

This natural ecosystem, of course, will have its grazing mammals—elk, bison and antelope—but the animal units per acre will be substantially fewer than the animal units customarily employed in a cattle grazing economy. The prairie plants evolved in this environment. They are genetically in tune with the kind and extent of grazing which these original primary consumers exemplify.

Park opponents sometimes ask, "What harm will come to the Flint Hills prairies?" They are protected from plowing by the thin soil and rocky outcrops." True, much of the land cannot be plowed (although a city man bought 35,000 acres of Flint Hills pastures a few years ago and immediately plowed 6,000) but that does not protect it against being parcelled into ever smaller units by roads, highways and federal impoundments. It doesn't protect the prairie esthetics against power transmission lines and microwave towers. Thin soil poses no protection against technological changes in ranching and farming which are designed as specifics for this type of problem. Aerial fertilization of pastures awaits only the intersection of two curves on a graph: the price of beef and the price of fertilizer. Once aerial fertilization becomes common, the ecosystem is doomed. Some species will use the fertilizer better than others and will crowd the latter out, decreasing diversity, not only forever changing the unique plant composition, but also the other life that depends upon it. Aerial seeding of grain crops in the prairie is in the conceptual stage. Viewed in the long run, the mantle of chert covering the ridges and hillsides in this region may be just a deterrent to

farming, not a prohibition. That which is protected only by economics is doomed to ultimate change.

Historically, the tallgrass prairie was swept by fires periodically. Probably the earliest of those fires were lightning-set and during the last 25,000 years they have occurred also by intervention of people of the various Indian cultures that used these prairies. They doubtless found what ranchers know today—that burning increases the utility of the prairie for grazing animals. Experiments now underway on the Konza prairie at Kansas State University will ultimately tell us much about the optimum burning periodicity. Today the best guess is that in nature the vast majority of the prairie probably burned every three to five years' thus inhibiting the encroachment of brush which ultimately would have lead to a climax forest vegetation. The forests inhabited the stream bottoms where higher humidity and decreased winds permitted the trees, particularly the burr oaks, to escape the wrath of the flames. It is known that burning will be a necessary part of the preservation techniques that will be employed by the National Park Service. Konza prairie experience shows that ungrazed prairie can be burned in a controlled manner utilizing tributaries and ridge lines as natural barriers. Times for burning would be carefully selected as to humidity, wind direction and velocity and temperature. Perhaps prairie visitation of certain types would have to be restricted on days of extremely high risk as a protection against wildfire.

In this country, we have preserved as national parks or monuments mountains, forests, swamps, deserts, caverns, and geysers. We have done the same thing with our national rivers and our national seashores. But, with the exception of the redwoods, nothing on the list which we have preserved to date is unique as part of a world-wide museum. Everything else is replicated on other continents in both hemispheres, some of it in national parks.

Grasslands, in some ways similar to the tallgrass prairie of North America, once occurred in a small portion of southern Manchuria. The Danube Basin in Europe also had an ecosystem of tall grasses and forbs. Both have long since yielded to the plow. Areas of shorter grasses, more like our midgrass prairies, are still extant in Russia, Australia, Africa, and South America. Parts of Uruguay and Brazil boast areas of tall grasses in wet lowlands, quite unlike our upland prairie. The sandhills of Nebraska contain some tallgrass prairie species, but this is a sand prairie, yet another ecosystem. Areas of tall grasses occur in certain parts of the tropics, but they are vastly different from prairies which occur in the mid-latitudes.

The tallgrass prairie of North America is the only one of its kind the world has left. And, with the exception of small relicts scattered here and there through the once vast tall-grass prairie dominion, it is found only in Kansas and northern Oklahoma.

Today, production of foodstuff for a hungry world

makes some people ask whether we can afford to take grazing land out of production. There are more than 20,000,000 acres of grazing land of various kinds in the state of Kansas. This includes the shortgrass and mid-grass prairies which are somewhat less productive than tallgrass and includes also the tame pastures which, with fertilization, may be considerably more productive. If all the land provided for in the pending legislation becomes a national park, it will result in a reduction of Kansas' grazing land by less than 1.3 percent. When one considers all of the other millions of acres of grazing land in other states, it is at once apparent that this represents an insignificant part of the total meat producing land inventory in this country. When a national park is created, it certainly will not destroy the land for food production and if ever it is needed badly enough, Congress will see that it is used. At about the same time, one assumes, the millions of acres in the nation's golf courses would also be put to food production.

One sometimes hears the remark that the government already owns too much land in Kansas. In fact,

"That which is protected only by economics is doomed to inevitable change."

the federal government has title to 1.3 percent of the State of Kansas, one of the lowest percentages in the United States. On the day that the last parcel of the national park sites is acquired, perhaps 100 years or more from now, that percentage would be increased to 1.8 percent. Viewed alongside Nevada (86 percent), Utah (66 percent), Idaho (68 percent), Oregon (52 percent) and Wyoming (48 percent), it doesn't seem such an exorbitant amount.

It is also sometimes said that the National Park Service does not know how to manage grasslands. Upon examination, it often turns out that there is a confusion between national parks and national forests. The latter, containing millions of acres of grasslands of one kind or another (none of it tallgrass prairie), are managed by the Forest Service, part of the Department of Agriculture. Some very just criticism has been leveled at both the Forest Service and the Bureau of Land Management (which, together, administer by far the majority of our public lands) for some of their ill-advised management decisions. Unfortunately, the National Park Service has often been tarred with the brush meant for these other agencies.

When privately held land goes into the hands of the

government, it goes off the local tax rolls. In the case of national parks, the lost tax base has usually been regained, in time, through capital investments made in the surrounding towns to serve the public attracted by the park. Such things as motels, restaurants and service stations make up the bulk of these capital investments. Legislation currently in effect, providing for payments by the federal government to states, counties, cities and other local political subdivisions in lieu of taxes, is designed to ease the transition. Rep. Winn's bill provides additional benefits of this nature because of the relatively long time which will elapse before substantial tourist traffic can be expected. The long acquisition time contemplated for this park will, in itself, make the transition a very gradual one, free of large, immediate tax impacts.

Also minimizing the effect of loss of tax revenue is the fact that local governments will not have to provide schools, police, or fire protection nor road maintenance inside the national park when it is created. In addition, local communities will probably be entitled to federal assistance on some road maintenance outside park units.

Prairie belongs to this country's heritage. Its influence on the past and the present; its scenic hills, flats, expanses, and wooded drainages; and its characteristic complex of animals and plants, justify preservation of a significant sample so that present and future generations may experience and enjoy the tall grasslands as they were when the red man and white man first knew them.

Historically we have, as a nation, held as most valuable those national assets that could yield an immediate profit and have tended to disparage those things from which we could gain no immediate economic benefit. But a new national consciousness is arising. We are becoming ever more aware of the verity that man does not live by bread alone; he is a fragile being who needs to be nourished in many ways. Perhaps subtle ministrations to his mind and soul are of the most importance. We need to be reminded also of our untested strengths; that in our genes is the vigor that enabled our pioneer ancestors to cross a thousand miles of inhospitable prairie to tame a country. Men and women yet unborn will stand on a prairie hilltop and truly believe for a moment that they, with their dependent family and their meager belongings, have just emigrated from the forests of eastern North America and here they stand, unprotected by the forests' sheltering boughs and unfettered by their horizon-destroying limitations. Here they will be for that moment, Westering people. They can know their fears because they feel them. They can know the same stirring response to vastness as gooseflesh dots their skin. They will know their heritage and draw great strength from it.

We will be poorer than we should be until we have a Tallgrass Prairie National Park. □

It's a long way from nearly anywhere to the Sea of Cortez, the deep water Pacific stomping grounds of the sailfish and blue marlin. Most Kansas fishermen with an interest in bluewater trolling take the edge off their fantasies by watching TV accounts of Curt Gowdy challenging a half ton of marlin from a stainless steel fighting chair. Television exploits are thin enjoyment, however, and most anglers are forced to bide their time with their billfishing ambitions in the hope that their names may miraculously appear in the will of a well-to-do aunt.

There's no use pretending that Kansas can beat the experience of trophy fishing off the coast of Peru, but if you live anywhere near a river or creek that is part of the Mississippi River system, the opportunity exists on a smaller scale. The tackle is minispincasting equipment; the fish, the common gar.

The gar family, *Lepisosteidae*, indigenous to the Mississippi flowages, is made up of the long-nosed, the short-nosed, the spotted, and the alligator gar of the lower Mississippi in Arkansas and Louisiana. A related species is the Florida gar whose habitat is Florida to South Carolina. Having fished extensively with artificial lures for the short and long-billed species, I can simply say the common gar is one of the gamest, strongest, and certainly the most vicious of fresh water fishes, including the vaunted muskie. The violence of its strike is hard to explain; it may be an expression of rage, curiosity or constant appetite—which, I am not sure. It is pretty awe-inspiring to have a fish five feet long and weighing twenty-five or thirty pounds bolt

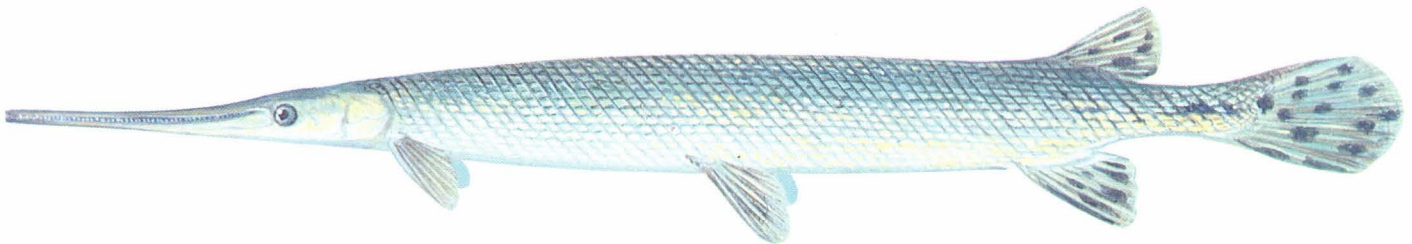
some six feet into the air from the water surface before you.

I am not alone in my opinion of the gar's sporting qualities. Although the gar has achieved little acclaim in the popular outdoor magazines, its value as a sport fish has been noted by knowledgeable fishing authorities. Charles A. Purkett, Chief of Fisheries of the Missouri Conservation Commission, writing on the species in *McClane's Standard Fishing Encyclopedia*, says the long-nosed gar should be "utilized as a sport fish to a much greater extent." In a recent article on gars, a prominent fishing writer, Erwin Bauer writes: "American anglers for years have overlooked a number of good game fishes—unsung species, they might be called. Gars are included because they are high jumpers and vicious strikers—gymnastic fighters worth any angler's attention."

Let me review with you some of the common facts on the gar as a background to telling how, when, and where to fish for them and how to make the simple hookless lures which catch this fish.

A member of an ancient fish family, the gar has a unique air bladder which enables it to breathe surface air. This is probably a holdover from prehistoric times when it may have lived on land. When oxygen in the water is depleted during the summer, the gar must rise to the surface periodically to gulp air.

All of the gar species have a long cylindrical body covered with diamond-shaped scales, not unlike the pike's. The dorsal fin is far down the back almost over the anal fin. The body is predominantly olive green,



Courtesy of Maynard Reece and Iowa Conservation Comm.

with white belly and yellowish-orange fins and tail, both black-spotted. The long-nosed gar, as its name suggests, has a long bill, eighteen to twenty times its least width, studded with hundreds of needle teeth. This type is the most abundant in Kansas. Gar with bills ten to twelve inches long and body lengths of four to five feet are common. An average female is said to produce as many as 28,000 eggs. Gar roe is poisonous to man and should not be eaten. These sticky green eggs attach to weeds or other objects and hatch in six to eight days. After the first few weeks of life, the gar has only one major predator—man. The young grow rapidly to nineteen to twenty-two inches the first year; males mature at three to four years and females at six. Except during the first few days of life, other fish or amphibians compose most of the gar's diet, although it will eat anything that moves. (Credit for this scientific data is due to *McClane's Standard Fishing Encyclopedia*.)

Most of my angling for gar has been on the Arkansas River and its tributaries in southern Kansas and northern Oklahoma. The general period for fishing is between mid-March and early November, with the spawning months of mid-April through mid-June being the most productive. However, near-surface fishing may be good any time in the hot summer months of July, August, or September, when these hungry giants are floating on the top of the water. Clear or semi-clear water is required for best results. Time of day seems to make no difference—I fish for them anytime during daylight. Gar can be caught from the

bank, but fishing is better from either a boat or individual floating device. I usually pursue them from a floating canvas or nylon-covered tube with a seat in it; combat occurs in the water right in front of me—man to fish.

I seek a good hole with a shallow rock or gravel bottom at one end. Spawning usually occurs on these bars in two to four feet of water. Like many other fish, gar often congregate below a dam, waterfall, or drop-off in the stream where the most food accumulates. Frequently, larger gar are present in feeder streams near their confluence with a larger watercourse, especially where the larger watercourse is a major Mississippi tributary such as the Arkansas, the Missouri, the Ohio, or the Red rivers. While gar are not school fish, they often gather in a common stream area year after year. Where gar are numerous, there are usually few game or edible fish because of the gar's voracious appetite for nearly everything that has fins. One does not pursue the gar for table fare—only for sport and in the interest of conserving sport fish by reducing numbers of this gluttonous species.

Most of the fish taken on artificial lures will average between five and fifteen pounds. Infrequently one catches the pencil-type, less than five pounds, and quite frequently, giant gar fish from fifteen to thirty pounds. The Kansas record for rod and reel gar is 31 pounds 8 ounces. I have seen more than a few swimming specimens I would estimate at fifty pounds or more—great logs of fish. As noted earlier, when water conditions are warm, gar must surface regularly. This makes them fairly easy to locate. Gar reveal themselves by a dimple, a sizeable swirl, a porpoise-style up-and-down movement, or a vault into the air, with a resulting body-thrown-off-the-bridge splash.

Gar will bite on any kind of live bait and will hit most sub-surface artificial lures such as plugs or spinner baits, particularly the latter. They will on occasion hit a surface lure or a bass bug. A ten-pound gar on a three-ounce flyrod such as I normally use for bass flyfishing will not only get your attention but take at least ten minutes of your time to solve the problem if he is hooked solidly and your bass leader does not break. Because of the bony structure of the gar's bill, it is a hard fish to hook and keep hooked. Some gar anglers use a specially rigged wire loop as terminal gear, and some articles have been written on taking gar by bow and arrow. The most effective and least expensive method, however, is the nylon floss lure, of which there is at least one patented, commercially sold model and many homemade versions. The lures I make are simple and inexpensive to produce, attract strikes readily, and are about seventy five percent effective in reducing a gar to possession. I make them for casting or spinning gear and in a lighter, smaller version for flyfishing. A few strands of commercially available nylon rope or cord and the pop top openers on ordinary

Casting for the longnosed gar— Kansas version of bluewater marlin fishing . . .

Billfishing in the Interior

Frank Theis

beer or soft drink cans are the only materials required.

The lure is composed of hundreds of tough, minute nylon strands that flutter enticingly in the water and become enmeshed in the long bill teeth of the gar. It is impossible to extricate the floss lure from the fish's needle-toothed snout, so a lure is lost with each fish caught. Just above the nylon lure, I place a detachable Indiana-type spinner. I use a fairly large spinner for bait casting or spinning equipment and a very light one on the fly tackle. Above the spinner comes a twenty-or thirty-pound-test metal leader at least six inches in length. The spinner action and the attractive flutter of the nylon strands combine to attract the most strikes, although the lure without a spinner will catch its share of gar, too.

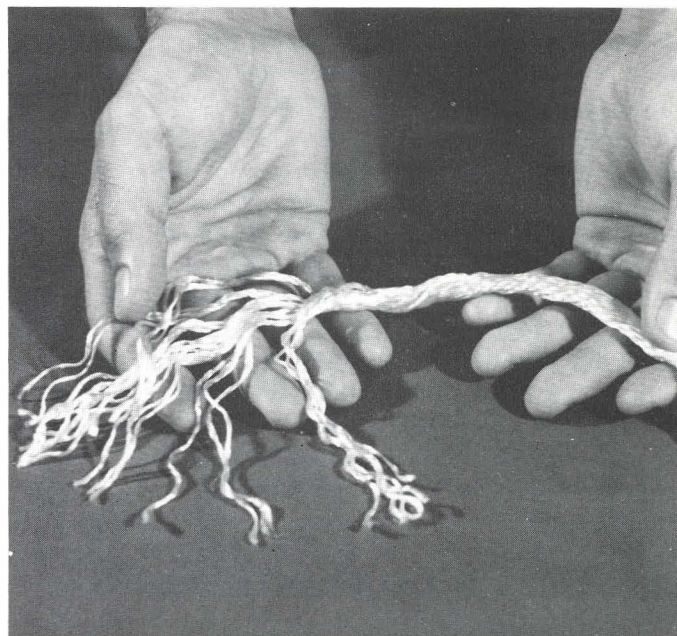
While large gar may be subdued on a light spinning rig with six-pound-test mono, it will take ten to twenty minutes of delicate play because of the fish's incredible stamina and strength. With a salmon-or steelhead-type flyrod, it quite often takes twenty to thirty minutes to subdue a fish. I recommend a twelve-pound monofilament line or fly leader for victory with either type of rod.

Let us begin a hypothetical angling venture at one end of a known gar hole. Casting will cover the whole of the stream course from banks to center. Usually blind casting is called for, although it is hard to resist sight casting to a heavy rise and trying to determine which way the fish was traveling so its visual course can be crossed or interrupted. Any kind of retrieve may be effective—slow, moderate, or fast. Gar may be at any depth but since they must come to the top for air, most will be taken at mid-depths or near the surface.

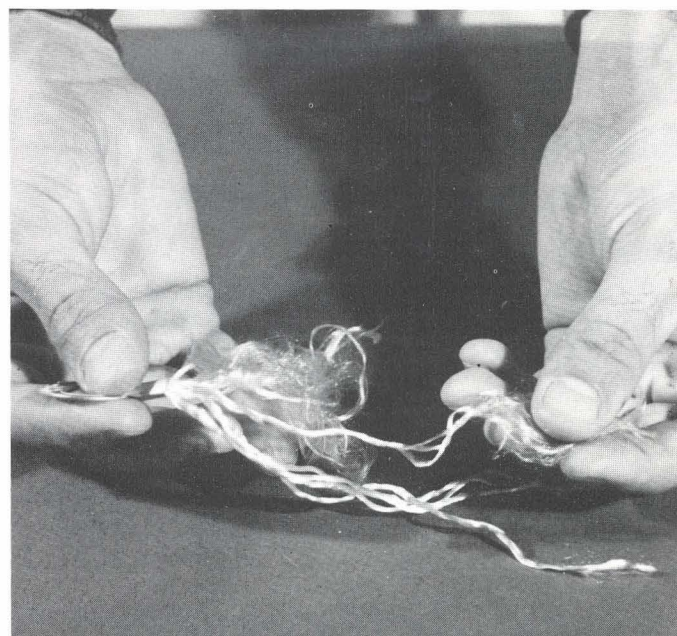
The strike may be a rod-puller or a gentle tap. The slashing or hard strikers immediately become enmeshed and usually take off in a reel-screaming run fifty feet straight up- or downstream. If the strike is a tap, avoid reacting as you normally would with a hook. Let him take it, mouth it, or whatever occurs, so that the floss gets wrapped between the teeth. Here, also, if you are fishing with a light line, set your reel tension as low as two to four pounds, both to encourage the tangling and, most important, to avoid your line being snapped when the fish feels restraint and swiftly turns to make its first run.

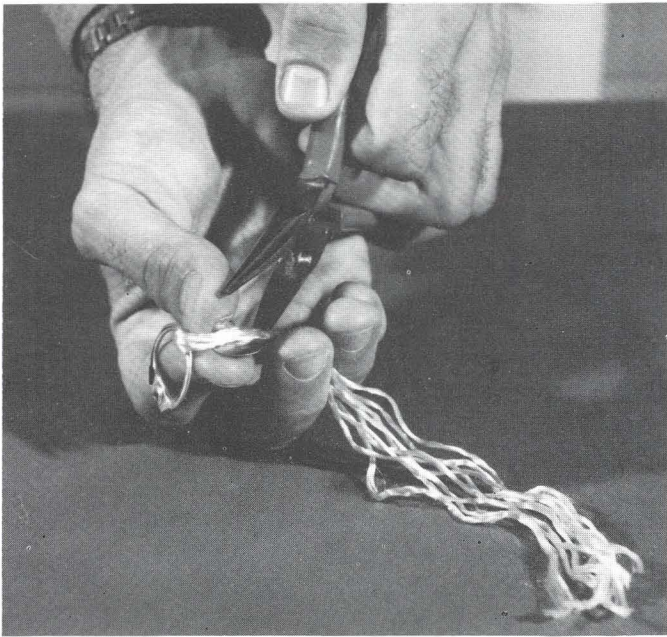
Usually, the line-stripping spree occurs right after the strike with a jump at the end of the run. However, as all anglers know, fish behavior is unpredictable, and just after the strike and the first feeling of tension, a larger gar may well perform a tail-walking run comprising several jumps. Or he may be a pussycat until landing time—no surging run, no jumps—just a swimming log, but a time bomb of latent power.

One of the attributes lacking in gar which characterizes other game fish such as bass, pike, trout, or even catfish, is the run for the nearest underwater obstacle. The gar depends on brute strength at all times and



Because the gar's mouth is almost solid bone, the usual spinner-and-treble-hook combination seldom works on him. Gar specialists prefer a nylon floss spinner instead. Although these lures are commercially available, they're easy to make from inexpensive materials. Spinners are advertised in a number of tackle catalogs at a reasonable price. The nylon floss itself can be ravelled out of 3/8-inch nylon rope (upper left). The large strands





that make up the rope are separated and doubled through the ring of a pop-top from a soft drink can. The pop-top tab is crimped around the strands to secure them (upper right). The strands can then be frayed into individual nylon fibers which tangle in the gar's teeth when he strikes (lower left). Some gar fishermen dress their spinners with brightly colored yarn to simulate a bleeding, disabled bait fish. Photos by Bruce Kintner

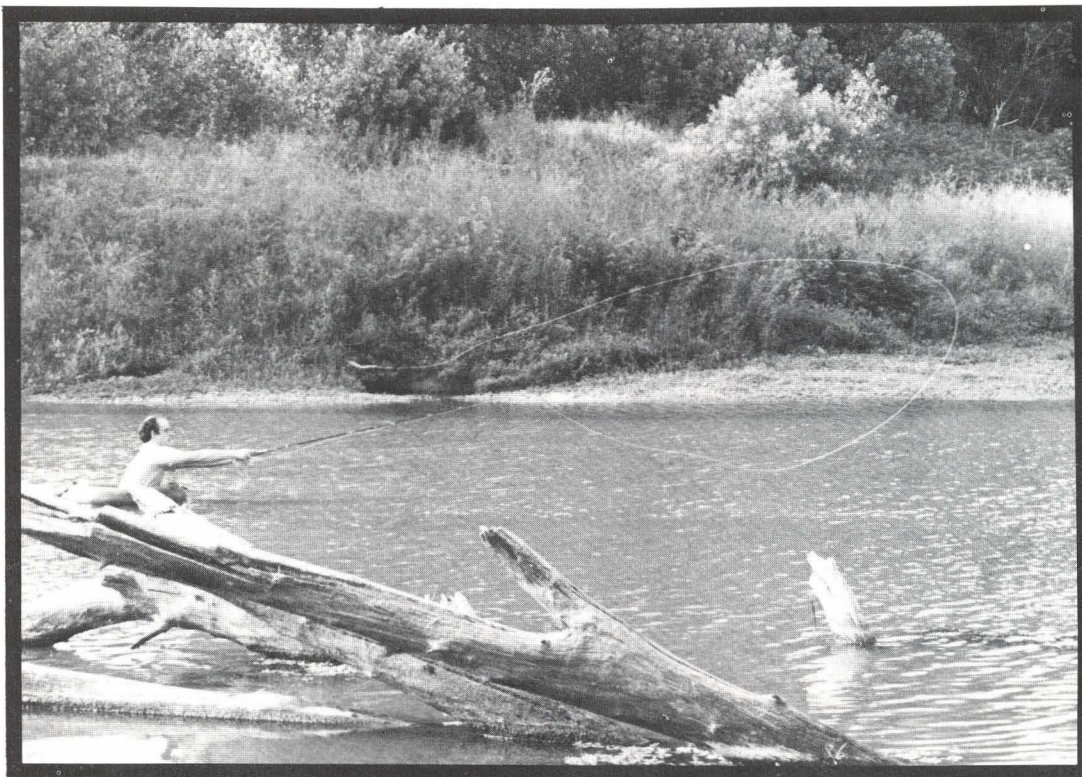


apparently does not have the brains or feel the need to entangle your line.

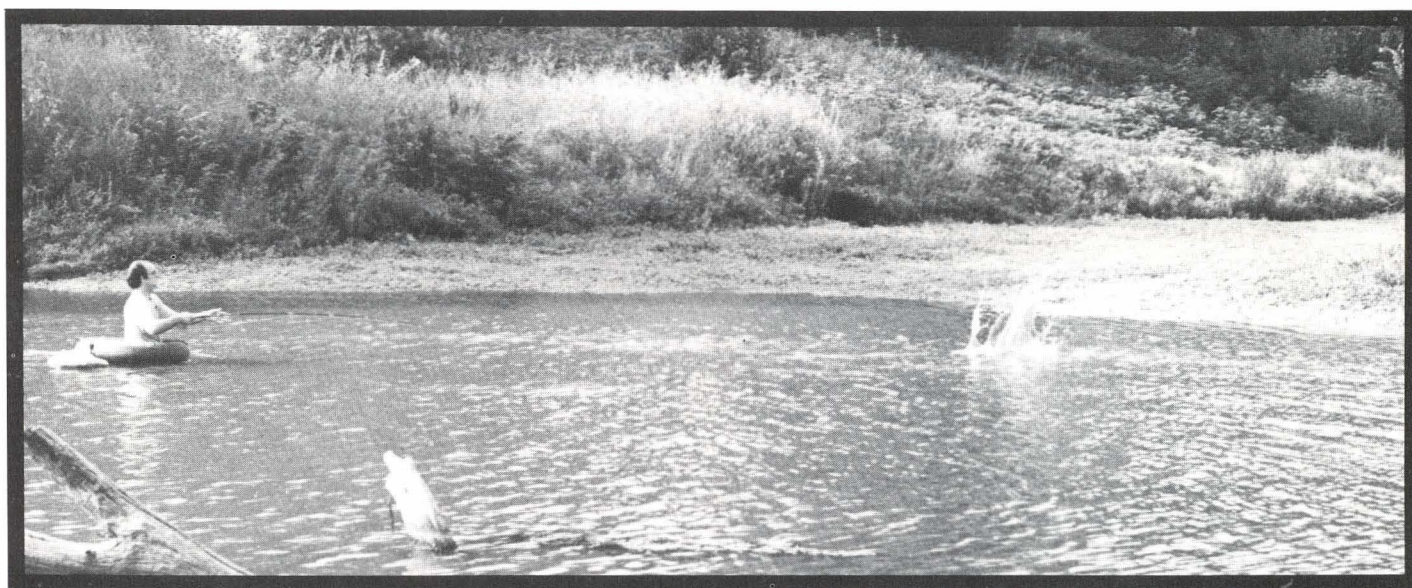
In any event, unless a fisherman is using ocean or "telephone pole" tackle, he is normally in for a probable minimum of ten minutes in which a sizeable gar is going to do as it pleases. A gar is like the pike, muskie, and many ocean fish—it is amply equipped to cut short your angling enjoyment by either raw power, needle teeth, or razor-sharp gill plates. The terminal wire connection is your best defense against such awesome strength and formidable cutlery. Assuming a spent fish confronts you, your final problem of reducing it to possession may call for one of a variety of solutions. If you are near the end of a hole and flat landing area exists, you can beach the fish on the shoreline. If you are in deep water, your landing options are either netting with a huge pike or ocean-type net, gaffing, or bludgeoning the fish with some type of club. A fourth method I have heard of, but which I do not recommend due to the ricochet problem, is shooting the gar in the head with a pistol or rifle. In netting or gaffing into a boat, take care to avoid the toothed bill of the thrashing fish. Since I rarely fish a stream in a boat, my method of subduing an apparently spent gar fish is to bring him alongside my float and hit him over the eyes with a homemade billy club or sapper, which I carry in the float in lieu of a net. The club is made from the butt fifteen to twenty inches of a broken pool cue, the head of which has been bored out vertically, and filled with molten lead. A hole is drilled horizontally through the small or handle end to which a plastic loop thong and elastic net cord is attached. A gar is an armored, underwater missile whose only vulnerable spot is a soft head covering just back of its eyes. A smart blow accurately placed will render a gar completely *hors de combat*. The float fisherman should take extreme care to bring the fish into position so the blow will be behind the terminal tackle and smack on the gar's button. An off-target blow will only send the spent fish into a frenzy of wild thrashing in which his bill could rip your float and sink you. If you're worried about the ugly visage of a gar and the possibility of one attacking you with its bill while you're wading or floating, relax; I have never seen one inclined to do hand-to-bill battle.

Now that the fish is subdued and securely in hand, let us return again to the technique of making the gar lure. At any hardware store you can now buy various sizes and types of nylon rope. Some of the nylon filaments are hard or glassy, while some are soft. Either will suffice, but I prefer the soft nylon. This rope sells cheaply—five to twenty cents per foot, depending on diameter and dealer. A yard of three-eighths-or half-inch nylon cord will make dozens of lures.

First, cut off a piece of rope or cord twice as long as you want the floss portion of the lure to be. Then fray out or unravel the group strands of four or five which have been twisted together to form the rope. For a



Unlike many other fish, gar seem to remain active through the heat of the day; a fisherman can tube fish through the afternoon just to cool off with the added possibility of hanging a good-sized fish. There is no need for long casts, either. Drifting with the current, a tube fisherman's approach is almost undetectable.



spinning lure, take a twelve-to fourteen-inch length of group strand and double it over or through any light metal ring. I use the ring part of the pop top on beer or soft drink cans. After doubling the strand over the ring, either tie a couple of overhand knots cinched to the ring, or crimp the soft metal tab from the pop top around the doubled strands tight against the ring. The doubled strand makes a lure six to seven inches long. After you tied or clinch it, rub or pick the strand, teasing it into hundreds of tiny filaments which will catch in the gar's teeth. For flyrod lures, I double an eight-to ten-inch strand or part of a strand to make a

lighter castable lure of four or five inches. For these I usually use the smaller pop top of a small six-ounce can of tomato or other juice.

While the trailing, squirming filaments make an undulating movement in the water attractive to fish, I sometimes tie an overhand knot near the tail of the lure to give it a snakey appearance and prevent the filaments from slipping from the teeth of the gar, as can sometimes happen after a strike. This is especially effective with longer spinning lures. One other aesthetic refinement dresses up the looks of the lure and contributes to its efficiency. I may tie a three-inch



strand of bright-colored nylon yarn—red, hot pink, purple, yellow, etc.—into the ring.

Remember that you always lose a lure with every gar caught. You save your spinner by detaching it from the ring. The ring then offers a convenient way to string the fish without risking finger damage from the needle teeth.

Basically, I am a flyrod bass fisherman addicted to fishing clear water, moderate flow streams, in an individual float. I fish first for recreation, second for the exercise, and third for a little meat—all of which are abundant in this form of angling. But purely physical

combat on the brute level, a pitched battle with a rampaging gar has no equal for excitement this side of deep sea fishing. And this exciting sport yields another benefit: in removing the voracious predator from Kansas waters, you will be conserving the other game fish on which it feeds. □

Frank Theis is Federal District Court Judge in Wichita. A resident of Ark City, he has spent more than fifty years stalking trout, gar, and other trophy fish.

