

# IOWA CONSERVATIONIST

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## PROMISCUOUS FISHING SEASON SET

### THE LOWER FORTY

By Corey Ford  
 Field and Stream Magazine

"Tain't what it used to be," old Farmer Libbey assured the discouraged members of the Lower Forty Shooting, Angling and Inside Straight Club. "I tell you, boys, the huntin's all gone around here. You just don't find the pa'tridge any more."

The members nodded their heads in sad agreement. Certainly their morning's hunt had been less than rewarding. They had tramped the autumn hills until their feet ached, but the stone walls and alder covers around the old Godfrey place had failed to produce any shooting. Even Farmer Libbey, who claimed to know the whereabouts of every grouse in the county, had been able to kick up only a few scattered birds.

"You should have been here sixty years ago," Farmer Libbey lamented as the members sprawled disconsolately on a sunny slope at the edge of the Godfrey pasture and unwrapped their noonday sandwiches. "Back in them times a bird hunter could go out and fill a bur-lap sack before breakfast. Never had to leave his own woodlot."

Judge Parker leaned back against a pine and took a long swig from Uncle Perk's jug of Old Power Saw. There was only one grouse in his game pocket, and he had obtained that by outshooting Doc Hall, rather than outshooting him. Clem Libbey was right, he sighed to himself; the hunting wasn't what it used to be. He took another swig to console himself, and loosened his bootlaces and unbuttoned his shirt in the hot sun.

"Take frinstance when my father was a boy," Farmer Libbey was saying, "the pa'tridge was so thick you couldn't hardly see to shoot. I guess them good old days have went forever. . . ."

The judge shut his eyes, and tried to picture the old days in his mind. Coveys of grouse seemed to thunder out on all sides as he walked. A dozen birds were perched in an apple tree ahead,

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Jim Sherman Photo.  
 The Conservation Commission has been empowered to open promiscuous fishing in areas where fish are endangered. The most common form of such fishing is with spears through long trenches in the ice.

By John Madson  
 Education Assistant

By early December, field reports from conservation officers, biologists and fisheries workers indicated that fish populations in many parts of Iowa were in for a hard winter.

Nearly all waters of the state were far below their normal levels, and solid autumn freezes covered these shrinking lakes and streams with thick ice. By late December, tests by field men revealed that oxygen was almost completely gone in some shallow lakes and the supply in many rivers was almost as critical. Each day brought new reports of a "fish kill" in some river or lake.

In an attempt to salvage some doomed fish from these waters, the Conservation Commission opened a special promiscuous fishing season that will extend to March 1. Such fishing will be permitted in the following waters:

AREA	COUNTY
South Twin Lake	Calhoun
Swan Lake	Carroll
Ventura Marsh	Cerro Gordo
Elk Lake	Clay
Greene Slough	Clay
Barringer Slough	Clay
Round Lake	Clay
Goose Lake	Clinton
Pleasant Lake	Dickinson
Prairie Lake	Dickinson
Jemerson Slough	Dickinson
Diamond Lake	Dickinson
West Hottes Lake	Dickinson
Eagle Lake	Emmet
Spring Lake	Greene
Lakin Slough	Guthrie
Boone River	Hancock
Cottonwood Pits	Monroe
Iowa Lake	Osceola
Rush Lake	Osceola
Virgin Lake	Palo Alto
Lizard Lake	Pocahontas
Little Clear Lake	Pocahontas
Big Wall Lake	Wright
Elm Lake	Wright
Boone River	Wright
Pickrel Lake	Buena Vista
Grand River	Decatur, Union, Madison
Minnewashta Lake	Dickinson
Lower Gar Lake	Dickinson
Welch Lake	Dickinson
Swan Lake	Dickinson
East Okoboji Lake from the mouth of the narrows north	Dickinson
Tuttle Lake	Emmet
West Fork of Des Moines River from highway 17 bridge south of Emmetsburg to Minnesota State line	Palo Alto, Emmet
Boone River	Hamilton
Middle River	Madison
North River	Madison
Badger Lake	Monona
Silver Lake	Palo Alto
Morse Lake	Wright
East Fork of Des Moines	Kossuth, Emmet
Madison River	Adair

### THE STORY OF KALSOW PRAIRIE

By Charles Gwynne  
 Professor of Geology  
 Iowa State College

Just southwest of the Blanden elevator in southeast Pocahontas County and a few miles north of Manson are 160 acres of virgin Iowa prairie—the Kalsow Prairie Biological Monument. There aren't many such areas left in Iowa. Here one may see the type of country encountered by the settlers as they spread over the state.

It is interesting to a geologist to reflect upon the fact that not so long ago, geologically speaking, this part of Iowa was covered with glacial ice, as it had been before at least three times.

Even today, in Greenland, the ice is as much as 6,000 feet thick in places. The Greenland glacier and the much larger one around

the South Pole are thought to be similar in origin and behavior to those which spread over Iowa. The latter had their centers in Canada, and the earlier ones reached as far south as the Missouri River. Of course, world climates were much different then.

The final glacier to cover northern Iowa, in its last forward surge, got as far south as Des Moines. With a more temperate climate the glacier grew smaller, finally disappearing. This was about 10,000 years ago.

What did the country look like then?

#### Before the Prairie

At first it must have been a barren surface of glacier drift, the subsoil of most of Iowa. It is the material brought by the glacier from the north.

STATE LIBRARY COMMISSION OF IOWA

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**THE PILEATED PICKAXE**

By John Madson  
Education Assistant

The "Cock of the Woods" is a strange one. In some remote mountain regions it's called the "Great God Woodpecker" or the "Lawd God Bird," but no one seems to know why. Most Iowans wouldn't know what to call it, and even if they saw the bird they probably wouldn't believe it.

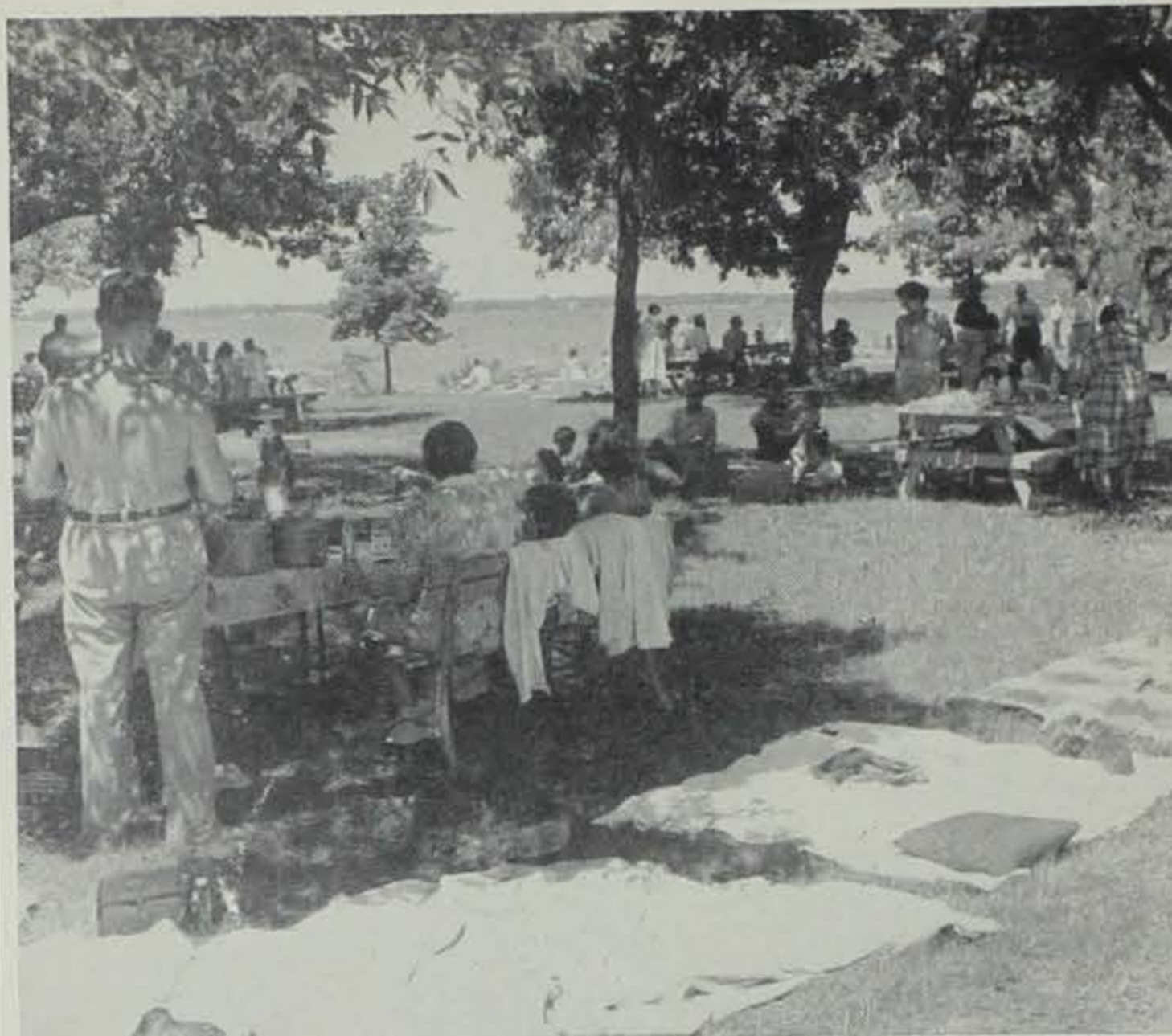
Imagine a slaty bird about the size of a crow with a brilliant, poppy-red crest. Imagine a head striped with black and white, and a bone-hard dagger of a beak nearly three inches long. Add a hoarse, flicker-like cry and a lonely tract of dense timber and you'll have the pileated woodpecker—the bird that cuts square holes.

A few people in eastern and northeastern Iowa have seen the bird, and many more are familiar with its works. A dead tree that's been afflicted with pileated woodpeckers is unmistakable. If it isn't quite dead, it soon will be. It appears to have been mortised with giant chisels and contains a number of roughly rectangular feeding holes about the size and depth of a building brick. These holes sometimes merge, forming a lozenge-shaped rectangle several feet long that may extend to the heart of the tree.

In its search for insects, an eager pileated woodpecker has been known to cut a hole entirely through a large tree. The big woodpeckers have also cut holes through the walls of northern log cabins. At the foot of a feeding tree there may be a bushel or more of wood chips, and one ornithologist reported finding a single chip more than 14 inches in length.

Another scientist tells of wounding and capturing an ivory-billed woodpecker, a species very similar to the pileated woodpecker. The man confined the rare bird to his hotel room and left for a leisurely supper. He returned an hour later, just in time. The huge woodpecker had cut away a 15-inch square of plaster, cut through the laths,

(Continued on page 3)



For years Clear Lake has ranked high in summer use. One of Iowa's largest natural lakes, it is a haven during hot summers for anglers and broiling citizens.

**ANOTHER STATE PARK ATTENDANCE RECORD SET**

Iowa park attendances have continued their steady postwar climb and evidently the blue summer sky is the limit.

All past park attendance records were shattered last summer with crowds totalling about 5,695,000 through the month of November, as compared to the total 1954 attendance of about 4,898,000. Only a few years ago state park officials had set 4 million as the possible peak of annual park attendance.

The high 1955 figure didn't take park officials by surprise, however. High attendances are always expected during hot summers. Last summer millions of Iowans and out-of-state visitors, seeking some measure of relief from a sweltering summer, flocked to all state areas. The "water parks" showed the greatest use, with record crowds visiting such areas as Clear Lake,

Lake Manawa, Lake Ahquabi and similar public playgrounds.

The totals of the 10 most heavily used parks were:

	1954	1955
Lake Ahquabi	236,450	263,665
Backbone Park	238,023	190,310
Blackhawk Lake Park	153,312	171,774
Clear Lake Park	270,930	427,409
Lake Keomah	116,383	223,201
Ledges Park	161,214	248,470
Lake Manawa	712,265	674,236
McIntosh Woods Park	117,215	206,705
Pine Lake	144,500	172,670
Rock Creek Lake		175,081

July was the big month, when 1,840,000 persons visited Iowa's state parks. In July, 1954, 1,334,000 visited the same areas. The July attendance of Iowa state parks was greater than the total 1954 summer attendance (1,330,517) of Yellowstone National Park.

Park facilities were taxed heavily and in spite of some new parking areas—such as the one at Lake

(Continued on page 5)



A state park bottleneck is the lack of parking space. Some parks have had parking areas enlarged, but traffic may be turned away on busy weekends.

**EASY TO BUILD TARGET RANGES**

One of the most frequent questions from prospective sponsors of junior shooting programs is, "How do we go about building an inexpensive target range?" Many groups who might otherwise undertake the task of setting up a rifle range for the youngsters of their community, defer action because they think elaborate indoor or outdoor facilities are a necessity to such a program.

Actually, nothing could be further from the truth. The facilities can be as elaborate or as simple and inexpensive as the sponsoring group wants. To illustrate, let's consider the basic requirements for the simplest, most inexpensive outdoor and indoor ranges.

**Outdoor**—safety and accessibility should be the primary considerations in choosing an outdoor site. The range should be located in a spot where there is no danger of the firing injuring anyone or damaging any property, yet it should be close enough to town so that it is easy to get to. The impact area should be backed by a steep hill free from rocks and boulders or an adequate artificially constructed backstop. If possible, the range should face in a northerly direction so that firing can be done at any time of day without the sun shining in the shooter's eyes. While this isn't absolutely necessary, it makes for much more flexible use of the facilities. Funds permitting, it is also a good idea to fence the range area to prevent people from straying into it. In any case, it is wise to post the land in the firing area to warn passersby to stay clear.

Outdoor rangers for youngsters are usually 50 feet, the official distance for NRA organized junior competition. In building the facilities, however, remember that the program may expand and it might be that you will want to lengthen the range to handle 50 and 100-yard firing.

The target butt, on which the target frames are hung, should be of simple construction, built of 2x4's spaced six to eight feet apart. Drive nails into these 2x4's and hang the target frames on them. The frames should be made of strips of material about 7/8" x 2" in dimension and should be placed at height most convenient for prone or off-hand shooting. Just be sure that the bullets go into the side of the hill or backstop.

It is a good plan to cut away part of the hill behind the target frames, so that a near vertical surface is exposed to the line of fire. This will lessen the chance of ricochet and make the range safer. If no suitable hill is available, an artificial backstop can be built without too much difficulty.

The backstop should be 18 inches from front to back and should be

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Fred Kent Photo.

The pileated woodpecker is the second largest woodpecker in the world—about the size of a crow. Its nest holes are usually round, and almost always face east.

ckaxe . . .

(Continued from page 2)

rough the framing, and had a good hole started in the exterior siding.

He recaptured the woodpecker, tethered it to a table, and again left the room: mistake number 2. When he came back a few minutes later the bird had completely ruined the heavy mahogany table.

Barbed Tongue

A large, strong bird, the pileated woodpecker can also wreck havoc on hardwood. It uses its strong, hooked beak as a pick, driving it with a powerful neck. Like all woodpeckers, its skull is composed of thickened, shock-absorbent bone. This flying carpenter wages personal war against insects in dead or dying trees, particularly carpenter ants and boring beetles. It evidently locates the insects by sound and can bore into a seemingly healthy tree directly to a colony of ants.

Once it has torn away large chips of wood and found such a colony, it goes to work with its amazing tongue. Long and slender, this organ has a horny, barbed tip. It can be extended several inches beyond the tip of the beak, and the hyoid bones of the tongue are normally enclosed in muscle sheaths that curve back from the beak, behind the hinges of the jaw, and up over the top of the head. When feeding on ants or beetles, the bird simply extends its long tongue into the insects' burrows, catching them on the barbed, sticky tip. This horny tip has led to the belief that woodpeckers actually cut wood with their tongues, but it isn't so.

Although trees have been known to be felled by these pileated pick-

axes, the birds are almost completely harmless to man's interests. They're concerned with big, aging trees infested with insects and seldom work on telephone poles, as do their smaller cousins. They



Fred Kent Photo.

Like all nestlings, young pileated woodpeckers eagerly greet their meal ticket. Later, this adult called from a distance, possibly trying to coax the young birds from the nest.

eat some vegetable food, but it's almost entirely wild berries.

Round Holes and Square

But you can't tell about pileated woodpeckers. Jim Harlan, assistant director of the Conservation Commission, was once betrayed by one.

"Some friends and I were walking along French Creek in northeastern Iowa," Jim tells, "when I heard a pileated calling from a nearby ridge.

"My friends were from southern Iowa, and to impress them with my bird lore, I told them about this giant woodpecker that cut square

holes. They flatly refused to believe it."

"Pretty soon the big woodpecker flew down the valley and lit nearby, and we headed for the tree to see the square holes I'd been yapping about. Trouble was, the bird had flown into a round nesting hole."

Pileated woodpeckers have a rule: square feeding holes—round nesting holes. Harlan has distrusted them ever since.

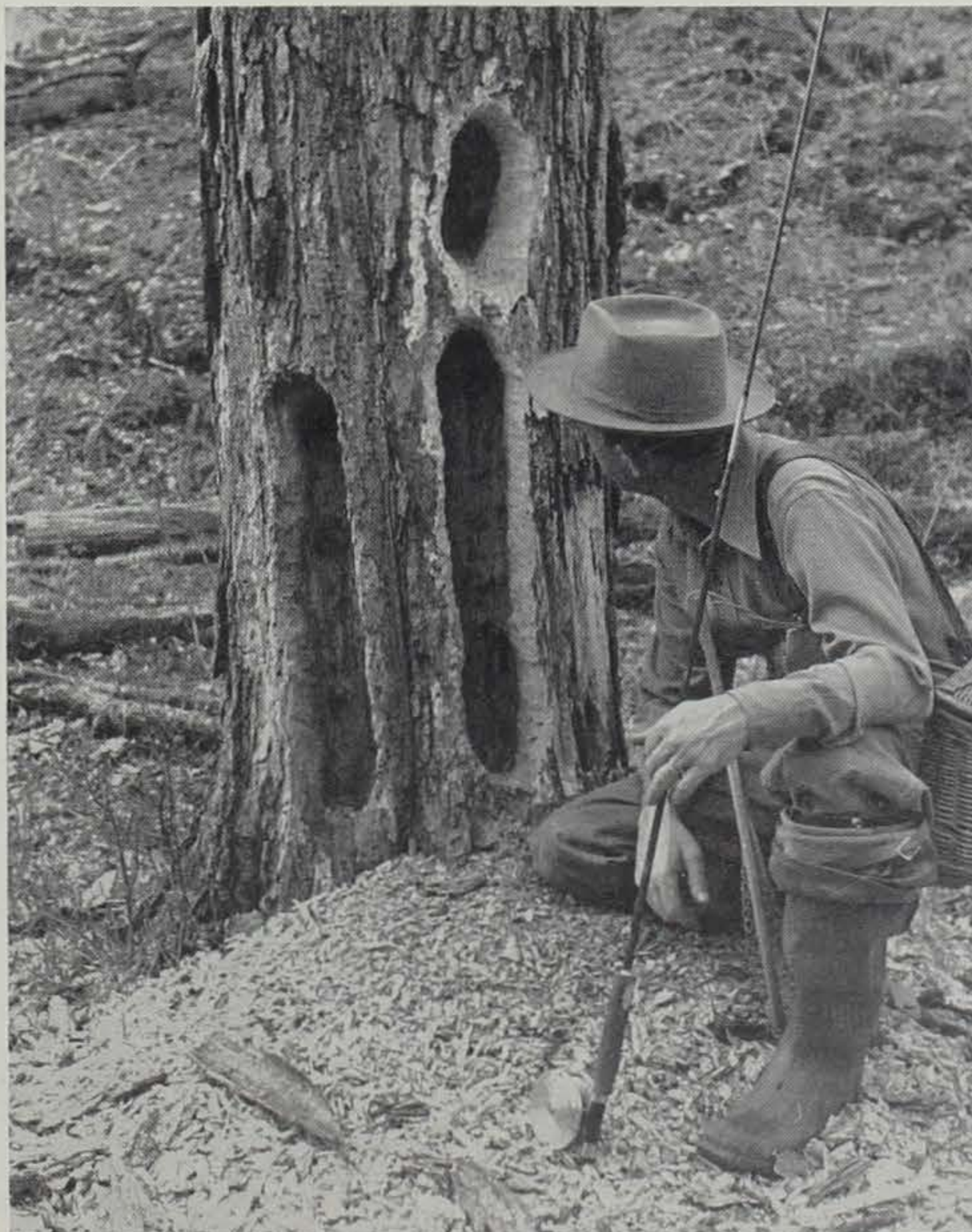
We heard our first pileated woodpecker working on a tree in the same area. The drumming was somewhat similar to a smaller woodpecker's, but sounded as if someone were beating on a distant log with a pick—which was about right. The rapid drumming during the mating season and other times of the year is a staccato beat that fades at the end. Once heard, it will be remembered.

Second Largest

The pileated woodpecker is the world's second largest woodpecker, second in size only to the extremely rare ivory-billed woodpecker of the deep south. It is a permanent Iowan that never migrates and is now found mainly in eastern and northeastern counties. According to IOWA BIRD LIFE, official publication of the Iowa Ornithologists' Union, it has been identified in Allamakee, Chickasaw, Clayton, Winneshiek, Black Hawk, Buchanan, Clinton, Delaware, Dubuque, Jackson, Jones, Linn, Keokuk, Lee, Louisa, Butler, Emmet, Kossuth, Boone, Decatur and Woodbury counties.

A bird of dense, unbroken forests, it has become generally rare, and because of its habitat, shyness and scarcity it is almost unknown to most Iowans. Many authorities once feared that it was doomed to follow the fading flight of the ivory-billed woodpecker as virgin forest lands diminished.

However, some observers think that pileated woodpeckers have increased in Iowa in recent years. Several years ago we came upon a hillside clearing in northern Iowa that was filled with rotting downlogs and high stumps. As we top-



Jim Sherman Photo.

Feeding holes of pileated woodpeckers are familiar to many anglers in northeast Iowa. The large, deep cavities indicate the power of the birds' necks and beaks.

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## THE TROPHY OF THE YEAR



Jim Sherman Photo.

When Robert Hawthorne, a Des Moines bowhunter, saw a huge buck trotting down a fenceline, he also saw a fine trophy for his den. He was right, in a way, but things didn't work out as expected.

Hunting early in the deer season, Hawthorne had taken a stand near a fenceline while fellow hunters worked through some distant cover. Suddenly the bowhunter saw a huge buck trotting easily toward him.

"I was only about 15 yards from the fence," he remembers, "and I was sure he was going to jump it. I already had him shot, skinned and mounted as a trophy. He was a tremendous animal."

As the buck reached the fence, however, it stopped. The archer had a clear shot at the animal, which was less than 60 feet away. There was a big gap in the fence and it was through this that the arrow was directed. A small stick about 1½ inches in diameter had been used to prop the sagging top wire, but the archer didn't notice this.

"I loosed the arrow," Hawthorne explains, "and I heard it strike the deer—or something. But the buck dashed down the fenceline, acting perfectly all right."

You've guessed it. The hunting arrow had struck the stick holding up the fence, splitting it full-length. Bob's best shot of the season had been ruined by a fence-prop.

Mrs. Hawthorne says that Bob was "pretty low" when he came home that night. His friends in the Greenwood Archers, a Des Moines archery club, leaped into the breach as hunting buddies are wont to do. At their next meeting they presented Hawthorne with the trophy pictured here. Hawthorne, in a final gesture of despair, tagged it with his deer tag.

"It's a fine trophy," he grins. "I'm going to keep it as a souvenir of an exciting hunt. Besides, how many bowhunters have anything like it?"

And then the grin fades. "But man—that was a huge buck!"

A British government body called the White Fish Authority came to the aid this week of such unappetizingly named creatures of the deep as catfish, dogfish and coalfish.

"In cooperation with the fish trade," said a spokesman for the authority, "their names are to be changed."

Catfish, to persons who accept

this decision, will be known as rockfish. Dogfish will be flake. Coalfish will be called saithe.—*Council Bluffs Nonpareil.*

The sumac is a valuable winter food for Iowa mammals such as rabbits, mice and deer, because its bark contains a high percentage of fat that is valuable cold-weather nourishment.—*J. M.*

## Target Ranges . . .

(Continued from page 2)

made from two-inch planks. The filling should be sand or dry earth and the structure should be long enough to cover the entire firing line. Particular care must be taken with this type of backstop to insure that there is a clear area in back, and shooters must be cautioned to shoot only into the backstop. In addition, boards must be replaced periodically when firing tears them apart.

**Indoor**—For a standard 50-foot range, all that is needed is a large room at least 65 feet long (approximately 15 feet are needed for a backstop and for space back of the firing line). The width of the space necessary depends on the number of firing points wanted. A rough rule is to allow four to five feet for each one. Basements of school and town buildings or community centers are often ideal, and often old warehouses or garages can be utilized. In any case, the area should be thoroughly checked to make sure it is safe to use, and special care should be taken to avoid any fire hazards.

In constructing the range itself, a backstop made of steel plates is vital. The impact area should be well protected against any stray shots that might miss the backstop, and the room should be well heated, lighted and ventilated. Any windows between the firing line and backstop should be fitted with steel baffles to guard against stray shots, and the back wall should be of good solid material.

There are a number of commercially available small galleries or bullet traps on the market, but if you want to make your own, an inclined steel plate with a stand box bullet catcher as its base will serve very well.

The steel plate should be ¼" thick and should be set at an angle of at least 45 degrees. The sand box should contain at least four inches of dry sand.

The targets can be illuminated

by means of a frame in front of the backstop. Four or five 100-watt bulbs should do the trick for a four-point range. The lighting fixtures should be well out of line of fire and protected against stray shots.

In developing plans for either outdoor or indoor facilities, it is a good idea to check with your local authorities to be sure you are conforming with all safety and fire regulations.

The outdoor and indoor facilities described above are adequate for the needs of most junior programs. The expense involved for materials is modest, and community effort usually results in donation of a great deal of time and effort involved. More elaborate ranges can be built for correspondingly greater cost, but these plans are well within the reach of almost any sponsoring group.—*Remington News Letter.*

## A FAR-FLYING DOVE

Dr. Ed Kozicky of Iowa State College recently received a notice concerning a mourning dove that the Iowa Cooperative Wildlife Research Unit had banded on August 3 on its nest.

At the time of banding the dove was about two weeks old. The dove was harvested by a hunter on October 22, 1955, 2 miles west of Beeville, Texas, a flight approximately 1,000 miles southwest of Lewis, Iowa—the site of the banding.

Fish worms are generally distributed over the earth, being absent only from regions where the soil is nearly pure sand or from mountain regions where the soil is scanty and also poor.—*H.H.*

Opossums usually den in hollow trees. The young usually number from 5 to 14 with 2 to 3 litters raised each season. A new born opossum is less than one half inch long.—*H.H.*



Firing on a good outdoor range with big rifles can be perfectly safe. Dale Scambler is firing a Mauser on the 200-yard Izaak Walton range near Ames; a range with a hill for a backstop.

Jim Sherman Photo.



Jim Sherman Photo.

vere floods often drive fish into tributary streams to spawn. Such crests may come over bass and other game fish have spawned, wiping out nests and cutting reproduction.

## FISH SURVIVAL IN FLOOD AND DROUGHT

By Ray Kooser

What happens to fish in the smaller streams of Iowa when these tributaries are alternately subjected to drought and floods? Information gathered along the entire length of Squaw Creek in central Iowa seems to support the idea that fish can adapt with some success to extreme conditions. During recent years, Andy Paloumpis, a graduate student in the Zoology Department of Iowa State College, has studied various species of fish under drought-flood situations.

His study has been of Squaw Creek—from 40 miles north of Iowa State College to where it empties into Skunk River a mile south of Ames.

### "Stagnant" Pools Have Current

Many Iowans believe that in a drying stream with no visible running water between isolated pools most fish soon perish. However, findings by Paloumpis and Dr. Kenneth Carlander, of Iowa State College, have proved otherwise.

"We found that when dye is placed at the head of one of these isolated pools, the color moves quickly to the bottom and to the other end of the pool," Dr. Carlander states. "This proves definitely there is a current running through the creek bed—out of sight." The current was revealed by digging about a foot below the surface of the creek bed.

Within these isolated pools, Paloumpis discovered large numbers of bullheads, creek chubs, stone-collars, and common suckers.

"In the spring of 1954 there was a good population of creek chubs and suckers," he reports. "When the big flood came in March of that year, many fish were caught during their spawning period. Some of their nests were swept away by the first flood waters, but most of them spawned in the

smaller tributaries of the Squaw and had stayed there to complete the task."

### Travelers and Stay-at-Homes

The young scientist sets wire traps at certain times of the year in order to catch these fish and mark them so that their movements can be studied. He related an example of movement of two different creek chubs. "One Chub was tagged in Squaw Creek on July 25, 1954, and was recaptured in the same general location on April 14, 1955. Another chub was tagged April 20, 1955, in the same area and was caught in the Skunk River four miles south of Ames just 12 days later."

"It is reasonable to assume that the first marked creek chub probably covered quite a distance dur-

ing those 10 months and just happened to return to the same area," theorized Paloumpis, "but the second one showed how far a fish can actually travel in a short time."

The wire traps used in the study are about four feet in length and are constructed with a funnel on one end. They are placed in at least a foot of water and are aimed downstream. "A fish is usually inclined to swim against the current," Paloumpis related, "and the fish will swim into the funnel and through the small hole—into the trap." He added that few fish escape until they have been marked or checked by the student.

Some fish are collected and dissected during and after drought periods and before and after flood spells. "Naturally, stomach contents in the fish are going to differ in each extreme situation," Paloumpis said. "During the floods on the Squaw, for instance, the stomach contents showed many terrestrial insects, like grasshoppers. Earthworms also form an important part of the fish food material."

Samples of the stream bottom on the Squaw are collected by Paloumpis on trips after a flood period. The samples are taken to his laboratory where they are washed thoroughly. He has discovered varying amounts of potential fish food materials by this method and also learns the effect of flood and drought conditions on these foods.

### Old Pools Fill

Stream bottoms are constantly changing during heavy current flow, particularly in smaller streams such as the Squaw. "Sometimes, after a heavy wash down the Squaw," Paloumpis states, "we

will find that the silt has completely filled one of the old pools and has already grooved another one further downstream."

The fact that many streams are continually cutting away their banks, especially in flood times, explains the presence of terrestrial insects in sandy stream bottoms after waters have receded. The common minnow feeds primarily on these "dry land insects", aquatic worms, and snails.

Paloumpis, in studying the effects of flood and drought conditions on fish, finds that the short life span and the adverse conditions are more evident in the minnow population than in other Iowa fishes. "The minnow has a life span of about two or three years," Paloumpis commented, "while a crappie may live five years or longer."

"In working on the Squaw we have noticed another interesting phase of streams in the past several years. Many times, especially in the spring, we've noted that a stream muddied by a cloudburst takes some time to clear. Evidently part of this stems from the fact that farmers are farming down to the stream bank and are not using erosion plantings to hold their top soil in check."

"Always before, nature took its own time and course and drained water gradually—supplying the stream at a slower rate and over a longer period," Paloumpis believes. "It's a problem that probably won't be corrected in the near future, and it may be that we'll just have to accept it and live with it."

The results of Andy's drought-flood stream research will be written in thesis form for use by the Iowa Cooperative Fisheries Research Unit, which is sponsored by the State Conservation Commission and Iowa State College. He is only one of many students working on projects of interest and value to Iowa's fisheries management.

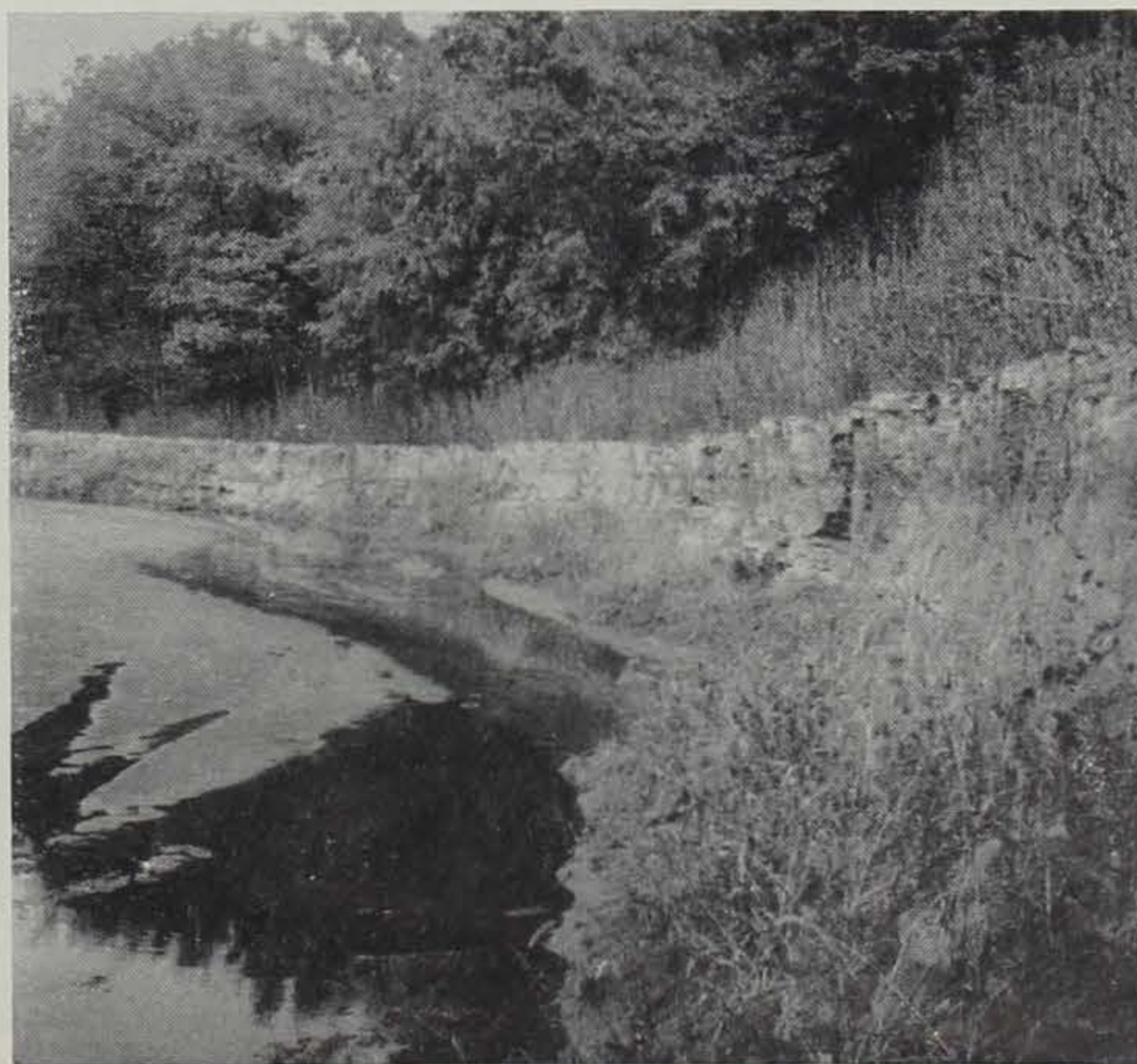
"Squaw Creek is a good example of smaller streams in Iowa," Paloumpis reflected. "On this stream you can actually study varying situations under many conceivable weather conditions." And it's there—on such small streams—that important problems confronting conservationists may be solved.

## Record . . .

(Continued from page 2)

Ahquabi—surplus traffic was turned away from some parks during hot summer weekends.

State park officials hope that lack of facilities and disrepair in some state areas will be at least partly remedied by the new prison labor program in some parks. However, present plans for utilizing prison labor are largely restricted to eastern Iowa parks areas near Anamosa and Fort Madison.



Even when streams become trickles, there are pockets of water where a fish can survive, and biologists have found current even in isolated river pools during drought periods.



Severe winter fish kills affect all species. The promiscuous fishing season was set in an effort to prevent waste and to give fishermen a chance to harvest doomed fish such as these catfish and bass.

### Fishing Season . . .

(Continued from page 1)

Little Sioux River from highway 18 bridge in Spencer to the dam at Linn Grove . . . . .Clay, Buena Vista  
Big Sioux River from highway 77 bridge in Sioux City to the Minnesota State Line . . . . .Woodbury

Until March 1, Iowa anglers may take fish from these waters by any means except dynamite, poison, electrical shocking devices or any stupefying substances. They may be lawfully taken with spears, nets and other means. However, they may not be taken for commercial purposes.

Efforts had been made by fish rescue crews to save as many fish from some of these areas as possible. In some areas fish were netted from the stagnating waters and restocked in places with more oxygen. On the Little Sioux River, for example, fisheries workers dipped nearly 10,000 catfish and stocked them downstream from the Linn Grove dam.

"Freeze-out" is a misleading term. Winter fish kill has nothing to do with fish freezing, since natural waters seldom freeze to the bottom. Actually, the fish "drown out"—they suffocate for lack of oxygen.

Late in the fall a lake undergoes what is called the "fall overturn". As surface waters cool and become heavier they sink, driving warmer, lighter waters to the surface. In turn, these waters cool and sink and the lake waters are thoroughly circulated. The lake takes a final "deep breath" before the winter freeze, and during this overturn it absorbs a certain amount of oxygen.

Brisk autumn winds chop up the lake's surface, stirring in still more oxygen. When the freeze finally comes, the lake is usually well-charged with life-giving oxygen.

But this may not be enough to last through the winter. A lake's main source of oxygen is its aquatic plants. Unlike man and animals,

plants use carbon dioxide in their synthesis of sugar and give off some oxygen as a by-product of their respiration. This oxygen is the fishes' main winter supply.

However, sunlight is vital to the photosynthesis of plants. Without light a plant cannot synthesize sugar and cannot give off oxygen, the respiratory by-product. If lake ice is smooth, clear and without heavy snow cover, the danger of a winter fish kill is greatly reduced. But if the ice is rough and covered with snow, sunlight cannot enter and oxygen production is seriously curtailed.

Yet, sunlight or not, the tremendous oxygen demand of the lake continues. Decaying organic materials in the basins of our rich lakes require their share of oxygen, and fish and other free-swimming organisms require theirs. If there is no sunlight—and no photosynthesis—the oxygen runs out and there is soon not enough to go around. The higher organisms usually die first. Game fish are often the first to go, followed by such species as bullheads and certain rough fish. (This is not always the rule; sometimes the game fish are the last to die.) In a long, cold winter with no melting of snow and ice cover, a large percentage of the lake's fish may perish.

This is not entirely bad. Some of our lakes and ponds are choked with countless stunted fish; bullheads, green sunfish, bullgills, gizzard shad, crappies and others. In some of our minor lakes a heavy winter fish kill can actually be beneficial, thinning tremendous populations of runt fish and giving the lake a new chance to produce fish of catchable size. In many other waters, however, a winter fish kill is a piscatorial tragedy.

Devices have been tested in attempts to add oxygen to winter-bound waters. None have proven practical on a major scale. Cut-

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## A SPORTSMAN LOOKS AT "LAND BANK" PLAN

If and when the proposed "soil bank" phase of conservation and agricultural benefits becomes law, every person interested in fishing, hunting or trapping should hail with gladness the new order of things.

Because in this new notion of taking land out of production is the hope of preventing siltation of streams, the adequate storage of rainfall, and the restoration of streams to something of their normal and natural flowage.

Trout streams like Elk and Spring Branch are not good any more because of two dismal factors: siltation and lack of flowage from feeder springs. If and when the suggested 15 per cent of the land draining into such streams is taken out of crop production, then the filling of such streams with sand will tend to cease, and there will come to pass an increase in the volume of water from the feeder springs.

Creeks in this area once famed for bass — Silver Creek, Buck Creek, Plum Creek, Coffin's Creek, and others—will benefit from the conservation factor contained in the "soil bank" idea. And whatever benefits the creeks will immediately benefit the rivers of this part of Iowa.

All of us know that to have good stages of water in the streams we must first have great underground storage of water from rainfall and snow. During the last half-century, during which time the agricultural emphasis has been to put in production every possible acre, this underground water storage has been depleted, year after year, until today the water level has receded almost 30 feet

from the underground level of 50 years ago. Around the turn of the century a well dug out on the prairie seldom had to be dug deeper than 20 feet to supply a lot of water—today a dug well is out of the question because such a well would have to go down 60 to 70 feet to produce an adequate supply of water.

Most of us are dismayed by the spectacle of Silver Lake at Delhi. Unless a small miracle comes to pass, this famed body of water will disappear in 1956. But if the "soil bank" proposal is put into effect in the drainage adjacent to Silver Lake, the likelihood is that this beautiful body of water will be restored to its normal and natural level.

So, apart from the primary benefits to be derived by agriculture, the "soil bank" proposal means salvation for fishing, hunting and trapping.

Fish life can't thrive in scanty water. Waterfowl have no habitat without abundant surface water. And our furbearers will vanish unless the marshes, creeks and rivers give abundant and steady flowage.

It is the fervent belief of this writer that every sportsman's organization in the agricultural areas ought to go on record on behalf of the "soil bank" program, and further, that individual sportsmen ought immediately to begin a campaign of letter-writing to members of congress and to our state legislature advocating the program.

If there be politics involved, let us ignore them. Personally, I care not a whoop which party advo-

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The writer believes that intensive agriculture has lowered Iowa's water table and that many feeder springs have suffered. The "land bank plan" could help prevent this, and preserve our smaller streams.

Jim Sherman Photo



How, friend. How's hunting?" "Lousy, man. The game was all gone when I got here."

## Lower Forty . . .

(Continued from page 1)

Another six or eight at the fallen suit beneath it, and several more appeared up out of the path as Farmer Libbey strolled toward him, carrying a burlap sack over his shoulder. At least, it looked like Farmer Libbey. He had the same bony face and lank jaw, but he appeared a trifle younger, and he was wearing homemade cowhide boots and a blue cloth cap with earflaps and a long visor.

Judge Parker greeted him uncertainly. "You're Clem Libbey, aren't you?" he asked.

"Me? No, I'm Clem's father. Clem ain't born yet. Matter of fact, I'm still courtin' his mother."

"I guess I must be a little turned round," the judge faltered, peering about him in increasing bewilderment. The pasture seemed familiar, but the big elms around the farmhouse were missing and there was a stand of first-growth pine where the apple orchard should have been. "Isn't this the old Godfrey place?"

"Godfrey place wa'n't built for another fifty years," Clem Libbey's father corrected. "This here's the Lamshackle place. Later it burnt down and they built the Godfrey place on the same site."

"I see," Judge Parker said weakly, and sat down at the base of a pine. Clem Libbey's father squatted beside him, leaning his gun against the trunk. It was a 10-gauge Greener, the judge noticed, with outside hammers and twin barrels of twisted Damascus steel.

"That's quite a gun you've got," he remarked after a slight pause.

"Corker, ain't it?" Clem Libbey's father nodded proudly. "I swopt it the other day for my old muzzle-loader. Only trouble with these newfangled double-barrels," he complained, "you got to duck under the powder smoke after you fire at the first bird, so you can see to shoot at the second one."

"I suppose the hunting's pretty good around here," the judge said enviously.

"Tain't what it used to be," Clem Libbey's father sighed. "You just don't find the birds here any more. Why, back in the old days they was so thick you could have filled a sack like this before breakfast." He glanced up casually as a stranger approached.

"Hi, Davy."

The stranger was wearing a coonskin cap and a fringed leather jacket, the judge observed, and he carried a singleshot Kentucky rifle with a powder horn slung over his shoulder. He sat down beside them in silence, opened the patch box in the stock, and took out a wad of cloth soaked in bear grease.

"How's the hunting, Mr. Crockett?" Judge Parker asked.

"It's the same old story," Davy Crockett said in disgust, running a wooden ramrod down his rifle barrel. "Too many hunters and not enough game. There aren't any birds left any more. It isn't like it used to be." He nodded as another hunter trudged toward them. "Afternoon, Miles."

Judge Parker blinked at the new-

comer. He had on a high-peaked hat and a black frock coat with a turned-down white collar. He propped his improved matchlock harquebus against the tree and sat down wearily, stretching out a dusty pair of square-toed shoes. To the judge's surprise, he opened his powder flask and began to slice an onion into it.

"Prithee, what dost thou, Captain?" inquired the judge, who had gone to Harvard.

"They say a little onion will make the powder stronger," Miles Standish explained with a frown. "These birds are so wild nowadays they get up 'way out of range."

"You mean the hunting's no good any more?" the judge gasped.

"Hunting?" Captain Standish swore in Puritan. "What hunting? There are no birds left around here. It isn't like the good old days."

There was a loud clanking of breastplates and a stalwart figure in an embroidered tunic made his way awkwardly toward them. He rested his crossbow against the pine trunk, took off his helmet, and mopped his forehead.

"How did you make out?" Judge Parker asked.

"Lousy," said Christopher Columbus. "The game was all gone when I got here."

He started to lower himself to the ground, but his armor was top-heavy and he landed with a deafening crash. Judge Parker sat up with a start and opened his eyes, staring wildly at his own shotgun lying beside him. Doc Hall grunted, "I should think you'd know better than to lean your gun against a tree like that."

The judge stood up, trying to collect himself. His foot was asleep and he stamped it to start the circulation. "I think I'll work this old stand of pine that they cut down to plant the orchard instead," he said vaguely. "Maybe there's some birds that aren't here either."

"It's just a waste of time," old Farmer Libbey sighed. "The huntin' ain't what it used to be."

"It never was," the judge said cheerfully, shouldering his gun. "Come on, let's get started."

## Pickaxe . . .

(Continued from page 3)

ped the rise, about six pileated woodpeckers flew into the dense timber beyond. This was a surprising congregation. Contained in less than an acre, it had probably found a choice feeding area. Some observers regularly see the woodpeckers within the city limits of McGregor and Lansing.

In Iowa, pileated woodpeckers usually nest in May or June, cutting a nest hole about two feet deep in a dead snag or tree at heights from 10 to 70 feet. These round nest holes are said to almost always face east, as do the holes used by flying squirrels. To many woodsmen this is a more reliable compass than the traditional mossy side of the tree.

## Watch Nesting Birds

It's a rare break for ornithologists to observe nesting pileated woodpeckers. Several of the photographs used here were made last June by Fred Kent of Iowa City at a nesting site in the Picture Rocks Area on the Maquoketa River near Monticello. The nest had been found by Ted Climer of Anamosa, and was fully reported on in IOWA BIRD LIFE by Dr. J. Harold Ennis of Cornell College.

Luckily, the nest was near a road and an automobile could be used as a photographic blind. The adult birds, although extremely wary, continued to visit the nest and feed their young while observed. If there are other photographs of pileated woodpeckers feeding their young, we've never seen them published—Mr. Kent is to be highly commended for his patience and skill.

They are shy birds, not easily held in captivity and impossible to tame. When wounded or captured they exhibit a fierce bravery and will not hesitate to attack, even when dying. The pileated woodpeckers are symbolic—even more than the bald eagle—of the lost wilderness and the old forests. Above all, they show a happy, squawking disdain for man and his affairs, and that's a high recommendation for any wild creature.

## Land Bank . . .

(Continued from page 6)

icates such legislation. I'm thinking that the water needed in our creeks and rivers is neither democratic nor republican water. Surely political leaders of either major political party cannot be so dumb or stubborn as to oppose a program of such far-reaching benefits to everybody.

We want more and better hunting. The agricultural lands segregated under the "soil bank" plan will provide ample and natural propagation and secure environment for both birds and animal wildlife. Why did the prairie chickens become extinct in Iowa? Because the natural environment for such wildfowls became non-existent. If we really want pheasant, quail and other game birds, there must come to pass an environment favorable for their nesting and development.

There will be strenuous opposition to the "soil bank" proposal. Many farmers will resist most earnestly any program that denies them complete use of their productive land. But it is logical that when 15 per cent of productive land is withdrawn from production, market value of products will more than compensate for the production of land so withdrawn. —*Fins, Furs and Feathers, Manchester Democrat*

Bats feed mostly on night-flying insects; some species eat fruits, while others feed upon fresh blood. —*H.H.*



Kalsow Prairie is one of the few remaining virgin prairie tracts in Iowa. Now state property, it once belonged to the rivers of ice. Jim Sherman Photo.

### Kalsow Prairie . . .

(Continued from page 1)

from the country over which the ice moved. Some of it was the soil and subsoil of the north country. Some of it was rubbed off the bedrock surfaces by the grinding action of the dirt in the bottom of the ice. Some of the larger pieces, already partially freed from the bedrock but still in place, were seized by the ice and carried along.

If one could dig below the surface of Kalsow Prairie, he would find his glacial drift mostly a jumbled mixture of particles of all sizes, from clay to large boulders. This kind of drift is the *till*. There might also be some pockets of sand or gravel, material sorted by the meltwater. This is the *glaciofluvial drift*.

At some depth below the surface the till is blue-gray in color. It is mostly clay, dark blue-gray in color and very sticky when wet. When it dries it hardens to a rocklike state and is light gray.

#### The Prairie Comes

That was the sort of material at the surface of Kalsow Prairie when the ice left. Corn and soybeans would not have flourished in it, and it needed some treatment by nature before it could become fertile Iowa. How was the change brought about?

Gradually plants which could grow in such clayey stuff took hold. Vegetation spread over the landscape. The roots of these plants served to open up the drift, so that water could penetrate. When the plants died the roots contributed organic matter to the surroundings. Cracks were developed in other ways, through wetting and drying, and through frost action.

Water and air were able to get into the growing soil, along the roots and rootlets, and along the cracks made in other ways. They brought about changes in the great variety of minerals and rocks in

the growing soil. Frost action tended to break up even the tiniest of particles into still smaller ones.

The water with its dissolved oxygen and carbon dioxide taken from the air went to work on the silicate minerals. They were changed to clay. If they contained iron, limonite—nature's brown iron rust—was produced. Any soluble elements like calcium, magnesium or potassium were converted to carbonates. Limestone grains and larger fragments gradually went into solution. Only the mineral quartz, abundant as sand and silt,

was unaffected by these agents. It remained as sand and silt.

#### Beginning of Soil

Thus a soil, topsoil, gradually developed. With the accumulation of plant remains it became rich in organic matter, almost black when wet. It became more open and porous, through the action of the roots, the freezing and thawing, wetting and drying, burrowing by insects and worms, and by rodents.

Water penetrating downward carried the finer clay particles a few feet below the surface. Nearer the surface there was more sand and silt, helping to give the material a loamy character.

Climate helped a lot on this, being cool enough to keep bacteria from flourishing. Otherwise the organic matter would have been destroyed. The character of the landscape also helped. The surface of the glacial drift was gently rolling, poorly drained, and had many undrained depressions. These soon developed into swampy areas, where the organic matter could better accumulate and where the soil could be well soaked with water. When this part of Iowa was first settled the swamps were everywhere.

#### Black to Brown to Gray

Digging through the black topsoil one would soon reach material that is brown in color. In this zone no organic matter has accumulated. The iron and iron-containing minerals have been oxidized to limonite, hence the brown color. This zone may be leached of its

limey content in the upper part. It may also contain more clay than the material at the surface. Gradually, as one digs deeper, the brown color disappears and the material becomes gray.

Even in the gray till the effects of weathering may be found. In places cobbles and boulders of what was once granite or similar rock are found completely disintegrated. The subsurface water, with its dissolved gases, has accomplished the breakdown.

Take a look at the roadside cuts anywhere in the vicinity of Kalsow Prairie, or almost anywhere in north-central Iowa. Or the types of soils and subsoils where a foundation is being dug. The change from the black subsoil to the brown drift below is apparent. Only the deeper roadcuts and foundations extend down to the unweathered gray till.

#### Under All: The Bedrock

Beneath the glacial deposits lies the bedrock, the hardened deposits of ancient seas. The most ancient of these seas spread over the continent about 550 million years ago; the most recent withdrew some 60 million years ago.

During that long span the sea rose and fell many times. The central part of what is now North America was often land for long periods. Whenever it was land nature must have been at work changing the surface materials.

During the first hundred million years or so there were no plants on the land. They came later, and these ancient plants must have played a part in the formation of the topsoil, just as they are doing today at the Kalsow Prairie. So this area may stand not only as a biological monument, but as a monument to the soils that nature has produced at this site—not just once and recently—but many times in the distant past.

### Fishing Season . . .

(Continued from page 6)

ting holes in ice cover is of little value, as is pumping air into the lakes with outboard motors and other devices. The only large-scale remedies for winter fish kills are nature and favorable weather conditions.

In the zoological scheme of animals, the frogs, toads, and salamanders occupy a place between fish and the reptiles. When young, they resemble and live like fish. Upon becoming adults, they resemble and live more like reptiles. —H.H.

Over the world, there are about 30,000 different kinds of fish. Of these, nearly 700 different kinds live in the fresh waters of the United States. Europe, on the other hand, has only about 125 species. —H.H.

An individual fish worm is both male and female; however, it must cross with another worm to produce young. —H.H.



Blazing star, one of the old native prairie flowers, helped build Kalsow Prairie's dense, black sod. Bob Cooper Photo.