

IOWA CONSERVATIONIST

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GAME THIEVERY CAN BE BROKEN

NATURE'S CAPTIVE CHILDREN

By John Madson
Education Assistant

"Listen!"

I was nearly asleep but my wife, always alert to night sounds and imaginary cutthroats, brought me wide awake.

"Listen!" she said again. "Hear the geese!"

High above in the cold night sky a wedge of geese was passing. From the darkness they spoke briefly of Arkansas river bars and warm Louisiana rice fields. They were overhead for only a moment, and then they and their lonely sounds were gone. But they left the mark of their passing—the trapped, futile feeling that earth-bound men have always known at the cry of the wild goose.

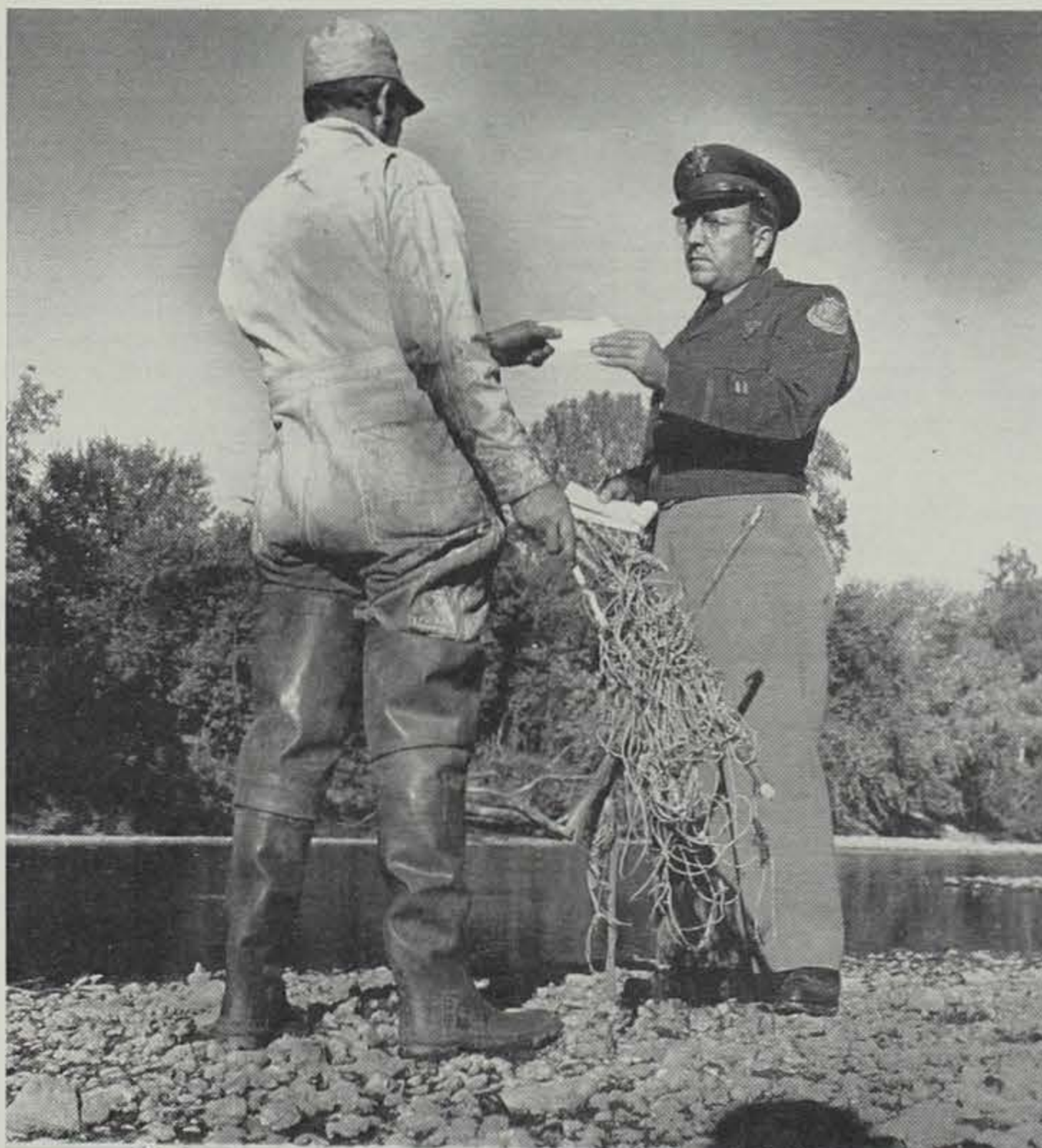
There are few creatures more symbolic of wild freedom than a big gray gander that is moving on. For ages it has made mankind ache with longing to join it. But the geese lie; they have no freedom to offer. There is nothing in nature that is bound by stronger chains.

A Canada goose does not migrate because it wishes to—it migrates because it must. This is true of all wild travelers. In some swifts the "southering" urge is even stronger than family love, and they may suddenly desert broods that are unable to fly. They are driven by laws they cannot resist.

Migrants or not, all wild creatures are imprisoned by natural law. To begin with, they have definite geographic ranges. The boundaries of these ranges are not necessarily mountains or rivers. They may be air pressure, vegetation, temperature or moisture. But whatever they are, they are stronger than the steel bars and plate glass of a zoo.

The pronghorn antelope's range is the western United States and northern Mexico. It cannot exist wild elsewhere. The same is true of the western diamondback rattler. These animals are further

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Jim Sherman Photo.
A game warden cannot successfully enforce the fish and game laws unless the public cooperates in that they themselves observe the laws and report violations.

WANTED—MORE WALNUT TREES

One million is a lot of walnuts, in fact it takes one thousand bushels of hulled walnuts to make a million, and that is the quota to be planted by the State Conservation Commission during the fall of 1953 and the spring of '54.

In 1951 the Conservation Commission set a five-year walnut planting goal on state lands of a million trees per year. During that fall and the next spring 912,000 nuts were planted by Commission employees and cooperating groups of Boy Scouts, Sports Clubs and others.

In 1952, a walnut crop failure in the middle western region cut the planting down to less than 200,000. This year with an abundance of walnuts and butter nuts found

statewide the million goal is believed to be assured.

The walnut planting program of the Commission is one phase of a new and intensive program of the Plant Iowa Committee to implement and speed up a general planting program to "Keep Iowa Green."

It is pointed out that walnut trees have great multiple value. As nut producers, they provide human and wildlife food. They are valuable as ornamental and shade trees, and last but not least they have a very high lumber value.

Prime logs from walnut trees sixty years old may bring a hundred dollars and even more at the lumber mill. Iowa's native walnut

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By Cecil E. Wright
Trial Justice
Trial Justice Court of
Craig County, Virginia

Thievery can be defined as an act or practice of stealing or taking away something that belongs to someone else. Under the laws of the United States the game resources in this country rightfully belong to the people. This was made very clear in the Supreme Court case *Geer vs. Connecticut*, 519-544, in which the highest court body in the United States handed down a very important decision on the ownership of game. This was back in 1896 and is shown in U. S. Supreme Court Reports 159-162, Book 40, pages 793-802. The two most significant paragraphs in this decision can be quoted as follows:

"In error to the Supreme Court of Errors of the State of Connecticut to review a judgment of that court affirming the judgment of the Criminal Court of Common Pleas convicting Edgar M. Geer of unlawfully receiving and having in his possession with intent to transport beyond the state certain woodcock, grouse and quail killed within the state, and imposing a fine upon him."

"Whilst the fundamental principles upon which the common property in game rests have undergone no change, the development of free institutions has led to the recognition of the fact that the power or control lodged in the state, resulting from this common ownership, is to be exercised like all other powers of government as a trust for the benefit of the people, and not as a prerogative for the advantage of the government as distinct from the people or for the benefit of private individuals as distinguished from the public good. Therefore, for the purpose of exercising this power the state, as held by this court in *Martin vs. Waddell*, 41 U. S. 16 Pet. 410 (10:1012), represents its people, and the ownership is that of the people in their united sovereignty."

In our dealings with the problem of game violations and crime, in general, one important factor

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PROGRESS IN POLLUTION CONTROL

The Central Fibre Products Company of Tama, Iowa, has set a commendable example in the cooperation it has shown with the recommendations of the Iowa State Department of Health.

The company, which is engaged in the manufacture of paper, installed new Swedish Waco filter equipment in January, 1953, after recommendations were made by the Iowa State Department of Health to reduce the amount of wastes which were polluting the Iowa River.

Since installation the Waco filter has proven fairly effective in removing a high percentage of suspended solids.

Complaints were made earlier against the company because toxic wastes from material used in paper manufacture were responsible for a fish kill in the Iowa River. As a result of this condition toxic chemicals were eliminated from the paper-making process but other waste products were imposing an excessive pollution load on the stream.

In 1951, when it became evident that more would have to be done about the waste water pollution, the plant officials, in cooperation with the National Council for Stream Improvement, visited many similar plants in the United States to study means of correcting the pollution problem.

The studies led to the installation of the Waco filter, the only one in the United States used for that particular purpose.

The waste water discharged now from the Tama mill consists essentially of paper machine water resulting from the processing of old papers into paperboard products. Plant technicians are still working to improve the efficiency of the filter to remove more solids and reduce the volume of waste water.

The Tama mill produces more than 100 tons of paper daily.—*State Department of Health Bulletin.*



When a geologist visits Lake Keomah State Park his attention is first attracted by the 250-acre lake and the basin in which it lies.

LAKE KEOMAH STATE PARK

By Charles S. Gwynne
Professor
Department of Geology
Iowa State College

What does a geologist think about, as he visits Lake Keomah State Park?

First, of course, his attention is attracted by the 250-acre lake and the basin in which it lies. A little walk about, a view of the dam, and he realizes that this lake basin is like others of southern Iowa parks. It is one completed by the placing of a dam across a stream-created valley. On all sides he sees the gentle slopes to the lake shore, made by running water and soil creep, and once the sides of the valley in which the lake lies.

He suspects that the lake has not been there very long, for the banks are not undercut or steepened as they would be by long-continued wave erosion. Also he sees no accumulation of boulders along the shore. On the "wall lakes" of northern Iowa such accumulations are common. The boulders were in the subsoil. They were left as waves eroded the shore, and then they were pushed up on the shore by the winter's ice. But none of that at Lake Keomah. In fact there are not many of these boulders of the subsoil to be found in all the park.

Then too the geologist notices a smaller lake above the main one. This, he suspects, is a settling basin made to keep sediment from being carried into the main lake. He reflects that all lakes are temporary features. They are all doomed to be filled in by sediment washed from the shore by waves, or carried in by streams. Here the settling basin has been provided to slow down the filling up of Lake Keomah.

In visiting the dams, the lodge,

and other buildings of the park, the geologist's attention is attracted by the stone used as riprap at the dams and in the construction of the buildings. Great blocks have been used here and there as steps. The rock is bluish in color and is found to be a limestone. Some of the blocks contain numerous fossils. This is particularly true of the shaley layers which have a tendency to split off from the rest of the rock. Such highly fossiliferous rock is often called marl. The fossils are the impressions or replacements of the shells of animals which once lived in the sea.

The geologist recognizes these shell imprints as having been made in an ancient sea which once covered the midwest. This was during a geological period called the Mississippian, from the occurrence of its widespread deposits in the Mississippi valley. The geologist guesses that there must be depos-

its of this rock, used so freely in the park, not too far away.

There is another feature of the rock that attracts the attention of any visitor. Many of the blocks used in the building have splotches and streaks of reddish-brown stain, looking much like rust. Examination shows that these are the result of the weathering of nodules of pyrite. Pyrite or fool's gold is a brassy yellow mineral composed of sulphur and iron. Many small unweathered crystals of this can be seen in the rock. Pyrite is easily weathered by the atmosphere, and the iron is converted to a mineral which is just the same as the familiar iron rust.

This mineral, called limonite, is also formed from spring or seepage water which contains iron in solution. When this water comes in contact with the air the iron changes to the insoluble mineral limonite. At first this forms a film on the surface of the water which looks much like oil. In fact it is often mistaken for oil. A little stirring with a stick however demonstrates the difference. The film breaks up. It does not flow together again as would a film of oil. Stagnant water in pools below the dam shows this film of limonite. This same stagnant water has sediment of the rusty looking material in it.

The spillway of the main dam shows what weathering can do to concrete. It has begun to scale off. Also, large slabs of concrete have been separated, and moved by flood waters. This weathering of the concrete has been accomplished in the short space of 18 years, since the dam was completed. It brings sharply to our attention just what weathering can do in a short time, as did the change of pyrite to limonite in the limestone of the buildings. Remember that everything is thus being affected by weathering, the rocks

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As the geologist walks along the beach his attention is attracted by the gravelly material of which it is composed and he instantly recognizes it as brought in from a gravel deposit not too far away.



Jim Sherman Photo.

"The snap shot tries to shoot so quickly that very little lead is necessary and consequently he generally points directly at the target."

HOW FAST DO YOU SHOOT?

There are three types of wing-shots—the snap shot, the deliberate shot and the fellow who waits out or "points out" his shots.

Of the three the deliberate shot will, in the long run, account for more hits, whether it be in the game fields or at the traps. The snap shot is prone to "jump" or "push" his gun at the target and frequently shoots behind it. The "spot" shooter might come under the snap shot category, but there is considerable difference between the two. The snap shot tries to shoot so quickly that very little lead is necessary and consequently he generally points directly at the target. The "spot" shooter shows very little swing in his gun pointing, does not swing by his target but rather shoots at a "spot" in front of it. This type of shooter really does swing his gun some but the swing is not very apparent. Generally an experienced "spot" shooter is a deadly marksman.

The deliberate shooter is the chap who combines his trigger pull with the grace and rhythm of his swing. He "mounts" or places his gun to his shoulder quickly but smoothly, swings on the target, pulls past it, touches the trigger while his gun is still in motion and then follows through with his swing. All of this is done quite fast, but there is deliberation in every move. Here is shown the perfect co-ordination of brain, eye and muscle.

The "pointer-outer" is the slow shooter who holds his fire until he is sure his target will be in his shot pattern. Sometimes he is cursed with the habit of flinching

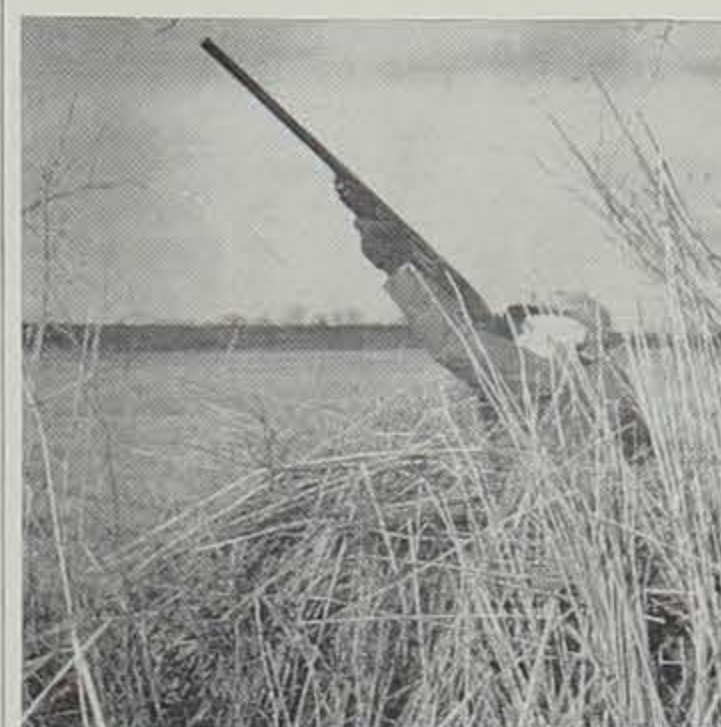
which slows him up. Generally, however, his reflexes do not react as quickly as those of others, and often he waits so long that the game bird, which is his target, has reached the safety of the cover.

But just how fast do we shoot? Probably faster than we realize. Some of us, of course, shoot faster than others, but the boys of the slide rule and pencil clan, along with the assistance of electric timing devices, have it figured down to a pretty fine point. Suppose suddenly, at a distance of about 20 yards, a game bird appears flying from right to left across your front at a speed of about 60 miles an hour or 88 feet per second.

What do you do? First, you estimate the range as best you can. Next, you shift your feet to a fairly comfortable shooting position. Third, you "mount" your gun and swing on the target. Fourth, you pull the trigger and then follow through.

All this sounds like it consumes a lot of time but it really doesn't.

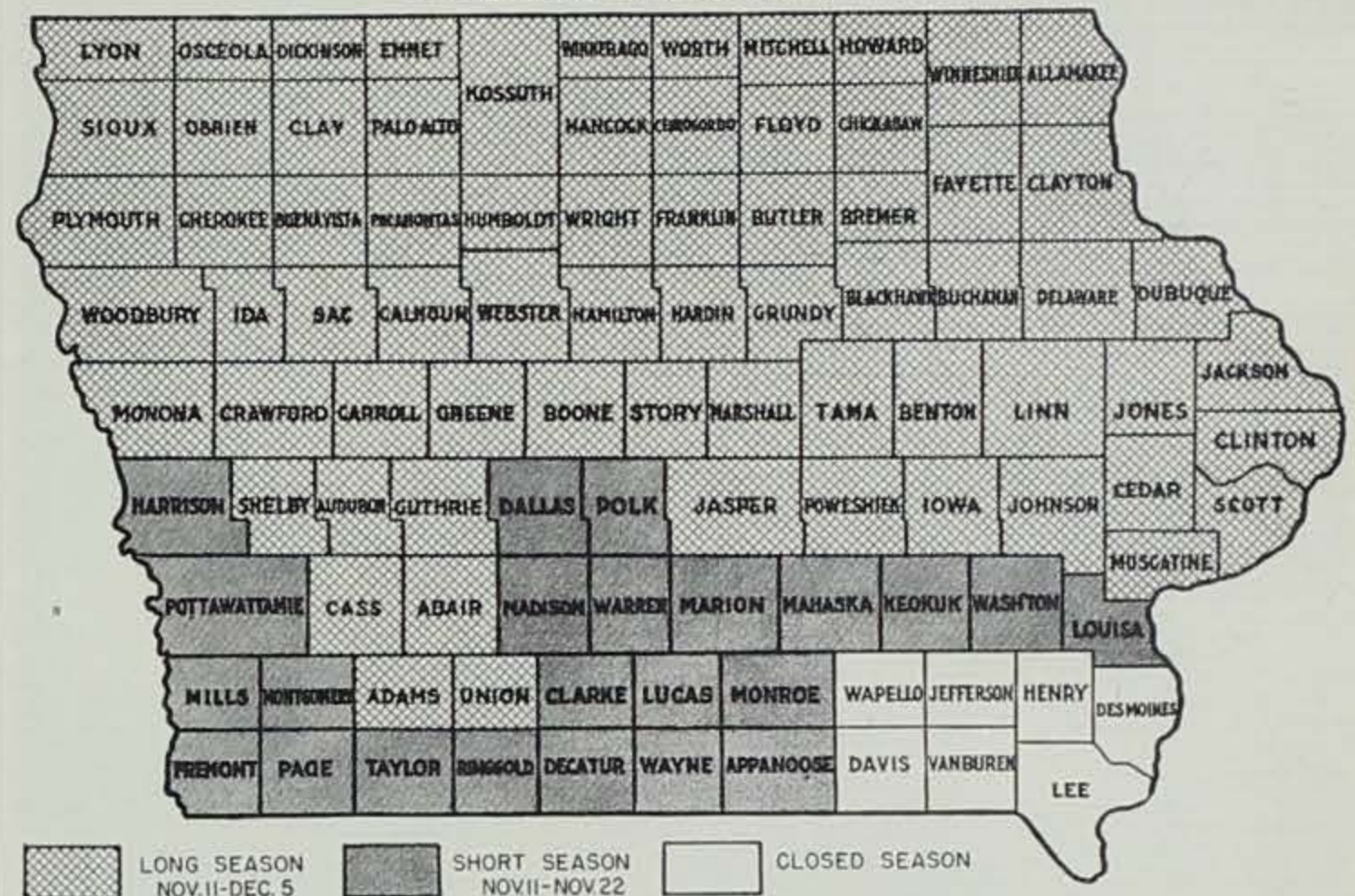
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Jim Sherman Photo.

"The deliberate shooter is the chap who combines his trigger pull with the grace and rhythm of his swing."

PHEASANT AREAS — 1953



PARTRIDGE, PHEASANT, QUAIL SEASONS SET

For the first time since 1946, an Iowa hunting season has been opened on Hungarian partridge. At its last meeting, the State Conservation Commission set a five-day season on Huns, to be open in nine northwestern Iowa counties.

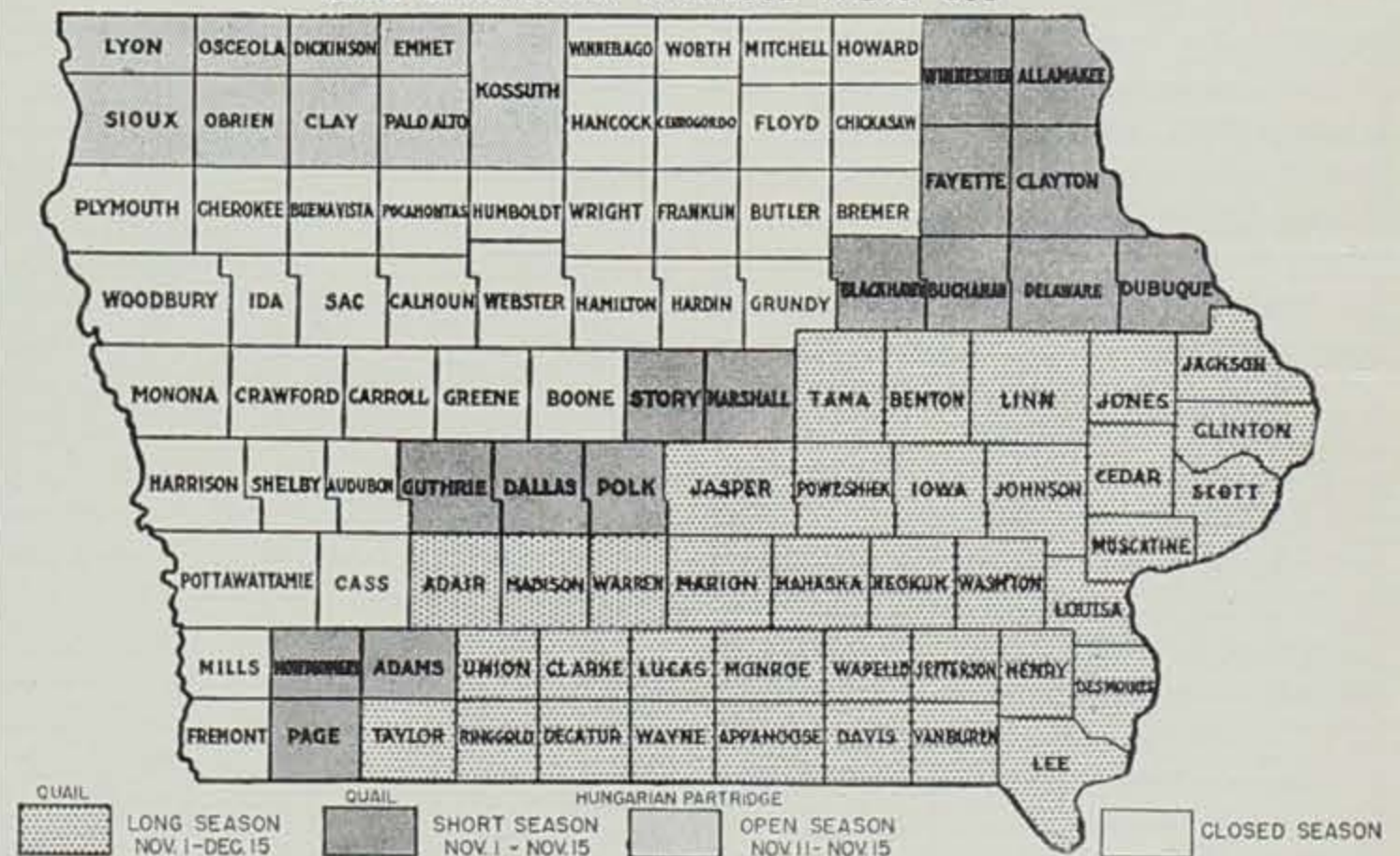
Hunting dates for partridge are from November 11 through November 15, with daily shooting hours from 12 o'clock noon until 4:30 p.m. The bag and possession limit is two (2) birds.

The Commission also announced the 1953 pheasant season, which will open in 92 Iowa counties at noon, November 11. Shooting in the long season zone of 69 counties will extend from noon, November 11, to December 5, both dates in-

clusive. In the short zone of 23 counties the season extends from noon, November 11 to November 22, both dates inclusive. Shooting hours are from 12 o'clock noon to 4:30 p.m. daily. There is a bag and possession limit of three (3) cock birds.

The 1953 quail season will open in 53 Iowa counties on November 1. Shooting in the long zone of 37 counties will extend from November 1 to December 15, both dates inclusive. In the short zone of 16 counties the season extends from November 1 to November 15, both dates inclusive. Shooting hours are from 8:30 a.m. to 4:30 p.m. daily, with bag and possession limits of six (6) birds.

QUAIL & HUNGARIAN PARTRIDGE AREAS-1953



FISH YOUR WAY TO HEALTH

There is something basic and elemental, and even primitive, in man's response to fishing—something that comes nearer taking him entirely out of the world of tensions in which he lives and bringing him into communion with the soothing forces of Nature. This affinity definitely exists, otherwise fishing would not be what it is today—the most popular of all participation sports in this nation.—*The Fisherman Magazine.*

Although the mute swan is quite beautiful and has been domesticated by man for years, it is often very ferocious.

There are records in England of park swans attacking young children and dogs that approached too closely. Some were dragged into the water and drowned by the angry birds.

Otters (*Lutra canadensis*) have been drowned in crab pots baited with clams set at a depth of 60 feet.—G.S.



Jim Sherman Photo.

During the summer time our lakes, like a three-layer cake, are composed of three well defined strata of water. This is a fact unknown to many anglers.

OUR LIVING LAKES

By Tom Moen
Fisheries Biologist

Like woodchucks, bears and golfers, our lakes also hibernate. In a few weeks they will take a deep breath, pull coverlets of ice over themselves, and sleep until spring.

But before this can happen there must be a succession of frosty nights and cool days to break up the layering of the lakes. For until now the lakes have been composed of three strata of water, like three-layer cakes. Each layer of water was colder than the one above it. Swimmers found this out when they dived deeply and came up gasping that they had swum into a cold spring. Fishermen discovered this layering (unknowingly) when they fished too deeply and caught no fish.

The three layers of water in the lakes were caused by temperature. As water cools it becomes denser and heavier, and waters of varied temperatures will no more mix than will oil and water.

The upper layer of the lake was the warmest and lightest. It was the layer that was fully charged with oxygen by wind and wave action and by the life by-products of water plants. This is the zone of life—the home of plants, fish and animals. During the heat of summer and early fall it may be the only region of the lake in which fish may be caught.

The next layer was the one which chilled the deep-diving swimmer. It is a strata that becomes increasingly colder with depth. Below this, when there is no longer a temperature drop, the bottom layer has been reached—the cold stagnant depths of the hypolimnion.

This is the coldest and heaviest of the three layers. It is never stirred by wind, and the decaying plant material that has drifted down from the sunlit lake above has used up most of the oxygen. With no water plants to replenish

this lost oxygen, or wind action to stir it in, the bottom layer remains cold, stagnant and deserted by higher life. Fish cannot live there, and if they are trapped there during a brief excursion they quickly die.

With the first cool days of autumn the warm upper layer of the lake begins to chill. It becomes heavier and denser than the layers beneath it and sinks, driving up warmer waters from below. Each warmer layer arrives in turn at the lake's surface, cools and sinks. The lake takes a deep breath, completely circulating in the "Fall Overturn."

By now the entire lake's temperature is about 39° Fahrenheit at which water is at its greatest density and weight. From this temperature down to 32°, or freezing, water actually becomes lighter. Because of this, ice floats. *Were this not so, ice would sink, lakes and streams would freeze from the bottom up, and fish life as we know it would be impossible.*

By freeze-up, rains and storms of late fall have usually charged the lakes with oxygen. Those storms were important, for the lake will be sealed for months, and can no longer depend on the atmosphere for oxygen. But if the blanket of ice is clear and transparent the action of the water plants will go on, and help supply the lake with oxygen. However, if the ice is rough, cloudy or covered with snow, the thin sun of winter cannot reach the plants. Although fish and decaying plant and animal organisms continue to demand oxygen, there will be no oxygen, and the lakes die in their sleep. This happens most often with "rich" lakes—the shallow prairie lakes with muddy bottoms and much plant life.

After four months of hibernation, the ice blanket begins to turn black and rotten under the rains of late February and March. The icy water is slowly warmed, and

from its melting point up to 39° Fahrenheit it becomes heavier and sinks, driving up colder waters from the depths. These waters are finally warmed to the point where they no longer sink, but form layers according to temperatures.

This is the "Spring Overturn." The lake has taken a deep breath and stretched. It is once again ready for anglers, boaters and bathing beauties.

Last summer many of our state-owned artificial lakes and reservoirs were given physical examinations by Commission biologists. The purpose was three-fold—to check on fish life, oxygen, and the layering of the lakes. The value to fishermen is obvious.

KEOMAH—Stratified this year; no oxygen below 12 feet; temperature record indicates fishermen should not fish deeper than 7 or 8 feet. Excellent adult bluegill population.

KEOSAUQUA—Stratified again at about 9 feet. Excellent population of bass that are now 7 to 10 inches long and an equally good population of adult bluegills.

GEODE—Lake in excellent condition, not as many large bass as some fishermen would like, but there is a good crop of yearling bass and good reproduction of bass. Stratified with good (oxygenated) water to a depth of about 12 feet.

DARLING—Low oxygen below 10 feet, but this affects only a small area near the dam, estimated at about 1/4 of the lake. Excellent crappie population with individuals weighing over 1/2 a pound quite common (one weighed 25 ounces).

AHQUBI—This lake was not checked this year; extensive fisheries investigations are being carried on by the Iowa State College Fisheries Research Unit.

RED HAW—Lake continues in excellent condition. Stratified, with good water down to about 7 feet.

NINE EAGLES—Lake in good condition. Tremendous reproduction on all species, particularly noticeable was the reproduction of bass. Stratified, good water down to about 12 feet.

ALLERTON—About the same conditions as last year; crappies are showing some growth; lake has had one or two clear water periods and fishing improved during those periods.

WAPELLO—About the same conditions as last year. Sufficient oxygen to support fish down to about 18 feet.

COLD SPRINGS—Low oxygen below 9 feet. Yearling bass growing



Jim Sherman Photo.
One Wood Duck.

NO WOODEN DUCK LIMIT

The 1952 duck season didn't furnish many ducks, but it was good for a few laughs.

Conservation Commission personnel stationed at Forney's Lake last fall tell of checking in duck hunters on the state-managed marsh. Several of the hunters had ducks, but one disgruntled nirod came in alone and empty handed. When he was asked about his morning's shooting, the hunter blew up.

"No, I didn't get anything! How could I, when I was the only legal hunter on the lake? If I was to put out fifty decoys like some of you guys, I could get ducks too!"

While the other hunters listened in amazement, he held forth on the illegality of using more than one decoy. Someone finally reminded him that there was no limit on the number of decoys used. The hunter roared denial and produced some hunting laws.

"Why don't you guys get together! Here it is in the law—you can't have more than one wood duck!"—J. M.

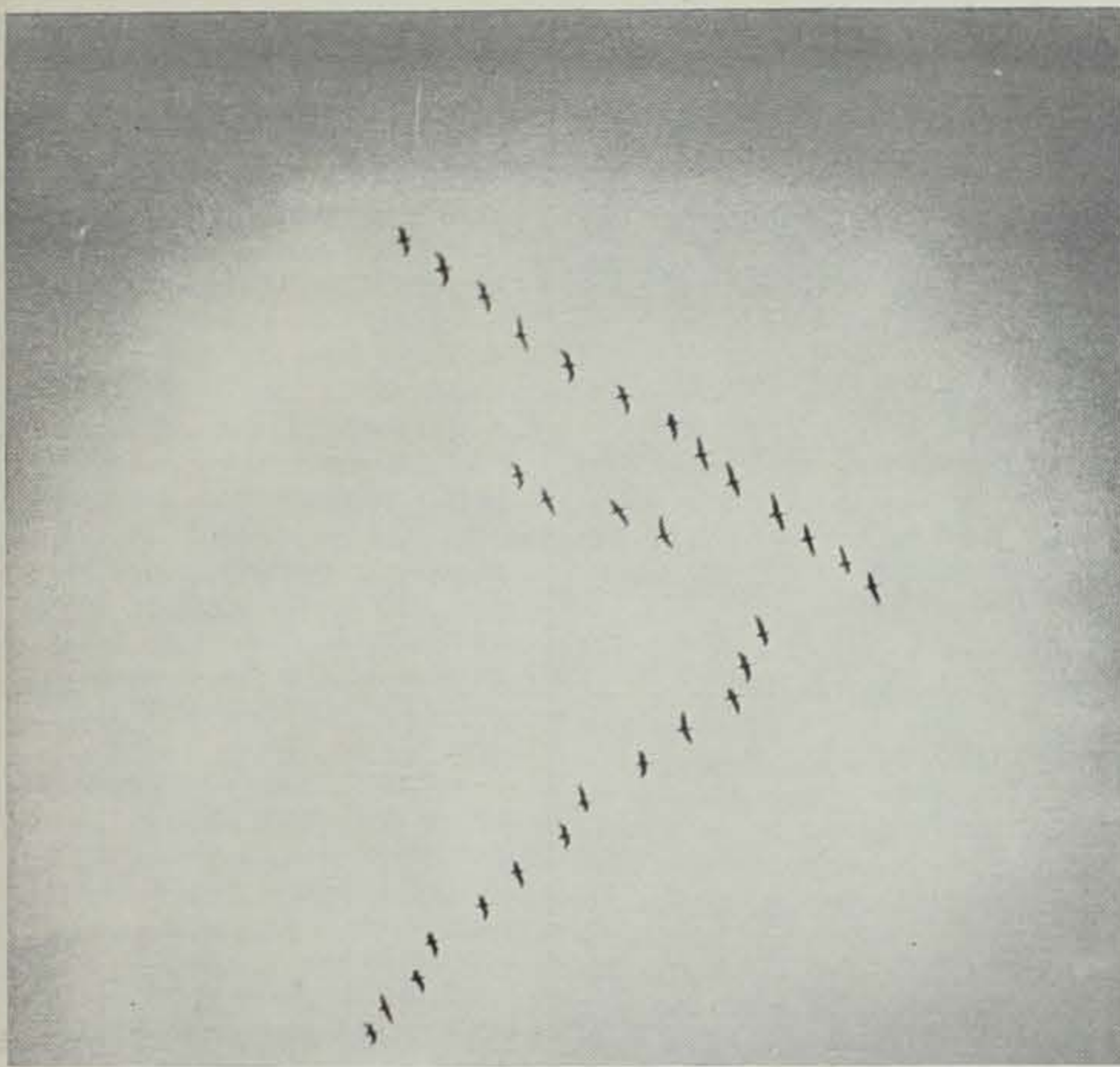
slowly, reproduction on all species low. Plenty of bullheads present, but our seine haul failed to collect very many.

THREE FIRES—Low oxygen below 9 feet. This year's survey indicated a higher population of crappies than last year's work; other species about the same.



Jim Sherman Photo.

The upper layer of a lake is the warmest and lightest. It is the layer that is fully charged with oxygen by wind and wave action and the by-products of water plants.



Jim Sherman Photo.

There are few creatures more symbolic of wild freedom than the big gray Canada goose as it cries from the sky.

Captive Children . . .

(Continued from page 169)

limited within their ranges. The pronghorn cannot survive on a mountain top and the rattler can't live in the Rio Grande. Few wild creatures have the freedom of their entire geographic range. They are found only in certain *habitats*—forest, river or mountain—within that range.

And even within the habitat, all wild creatures are herded by nature to their own set of living conditions. This is the *ecological niche*. It may be a grove of oaks beside a cornfield for fox squirrels, or a grassy hillside above an alfalfa patch for woodchucks. Each species of animal has such a niche—its own home environment. If this environment does not meet certain requirements the species cannot survive.

As if these restrictions weren't enough, the animal is not free even within its home niche. For within these ecological niches there must be established territories, or home-sites, for each individual, family or social group. These are private claims staked within the habitat.

Wolves, foxes or coyotes may stake these claims by urinating on posts, stumps or rocks. Bull alligators establish property lines in swamps by bellowing, and birds in trees by singing. Bears establish "No Trespassing" signs by clawing trees, and such animals as crabs homestead their claims by simply being there and showing a claw.

Once these territories have been established, heaven help trespassers of the same species! A territory has been defined as "any defended area," and it is sometimes defended to the death. A bear may have a territory of twenty square miles but he may not leave it with-

out a battle, for on adjoining territories are other bears that resent the intrusion of strangers. Some naturalists think this is a reason for the grizzly's terrible reputation. In the old days they often attacked man without hesitation, and they may have done so because they thought man was another bear.

Thus each habitat is a patch-

work of territories. The borders of territories of one species seldom, if ever, overlap. But in the bear's territory there may also be a pair of cougars, a herd of elk, many deer and numberless gophers, mice and birds. Each has its own territory, in a sort of "wheels within wheels" arrangement.

Territories vary greatly in size. A California cougar may have a territory of 20 square miles, but a beetle can call 10 square yards home. For the individual, family or social group there are definite places in the territory for watering, feeding and sleeping. There are established travel lanes, escape routes and secret places for hiding.

An animal is imprisoned not only within a geographical range, but within a habitat within that range, an ecological niche within that habitat, and a home territory within that niche. And it is even subject to domestic routine within the territory!

So don't feel trapped and bound at the sight of a wild goose or a bull elk. You, a man, are the freest of nature's children.

When a pocket gopher is actually digging or moving dirt, its ears can be sealed tightly with small valves, preventing any dirt from entering.—J. M.

A little-known use for sycamore is in butchers' chopping blocks. An unusual quality of sycamore is that meat cleavers do not stick in it.—J.M.



Jim Sherman Photo.

This short-eared owl gives the appearance of unlimited freedom as it skims the fields in search of mice; yet, like all other wild creatures, it is herded by nature into an iron-bound set of living conditions.



Drake University Photo.
Harry Blomquist.

HARRY BLOMQUIST IS FATALLY INJURED

Harry Blomquist, 34, conservation officer for Fayette County, died of injuries received in an automobile accident on Monday, August 31.

At the time of the accident, Blomquist, his wife, Elsa, and two children were enroute from their home in West Union to the State Fair, where Harry had been assigned to duty.

As they were traveling south on Highway 63 west of Tripoli, another automobile attempted to cross the highway ahead of them. To avoid a collision Harry drove out on the shoulder of the road and his car overturned. He died in a Waterloo hospital the following morning, exactly four years after he had received his appointment as a state conservation officer. Mrs. Blomquist and their two children were also hospitalized.

Blomquist joined the Conservation Commission on September 1, 1949, and was assigned to Fayette and Wineshiek Counties. He is survived by his wife and three children, Mike, one; Kathy, three; and Karla, eight; and by his parents in Aurora, Illinois, and one brother, John A. Blomquist.

The vacancy will be temporarily filled by James Becker, officer for Buchanan and Delaware Counties.

THE FISHING CIRCLE

When you consider that some 60 per cent of the fish are caught by 10 per cent of the anglers, it emphasizes that "know how" is a strong factor in lengthening the time between "skunkings." You've got to learn how the fish feel about it. It's the little things that count.—*The Fisherman Magazine.*



This year, with an abundance of walnuts and butternuts found statewide, the seed for nut trees may be secured easily this fall for planting next spring. Jim Sherman Photo.

Walnut Trees . . .

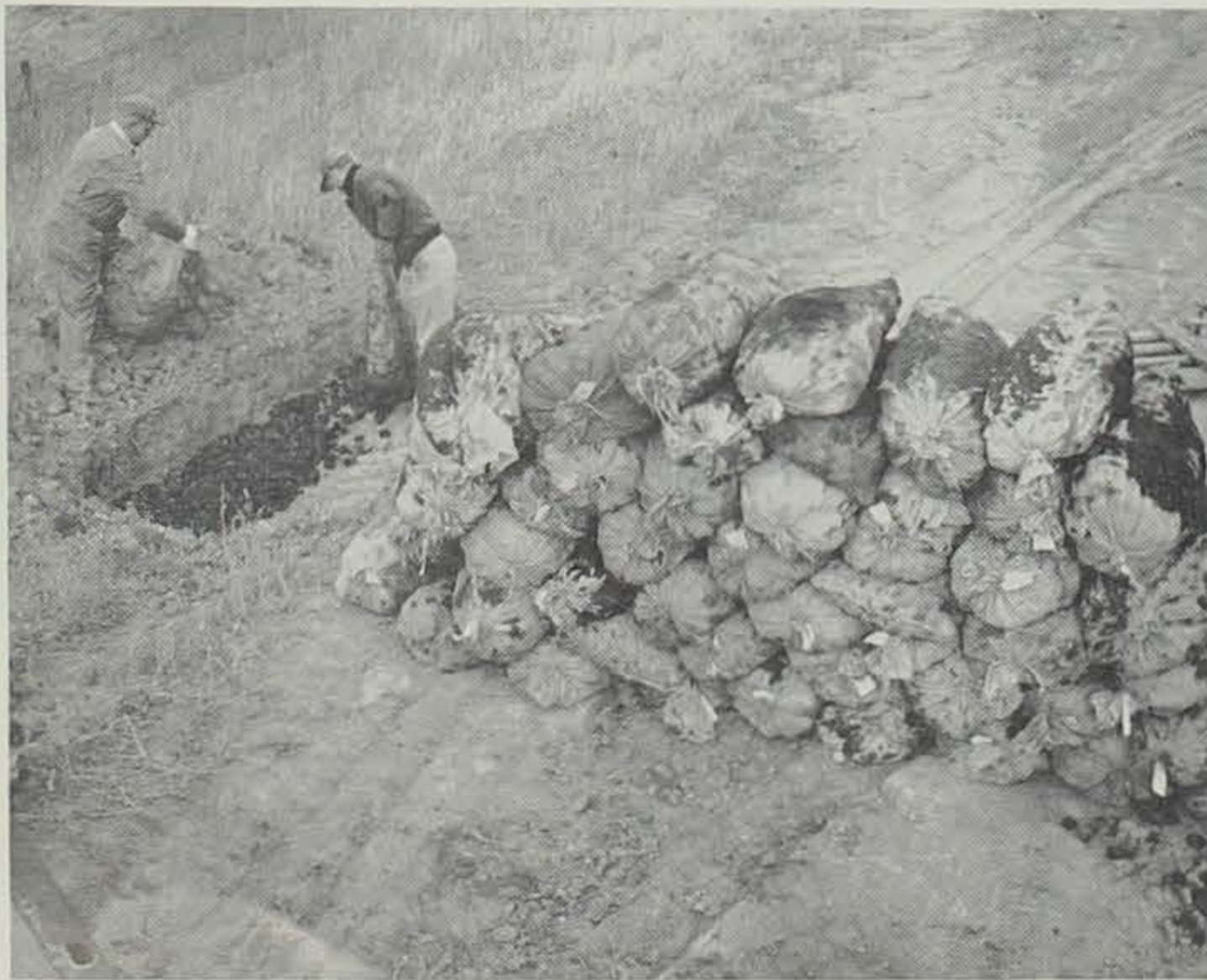
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has been cut over until only a fragment of our original stands remain, and these, for the most part, are poor logs. We need more walnut trees.

Every landowner can cooperate in a statewide walnut planting program by planting some of these trees on his own property. Contrary to popular belief, walnut is a fast growing tree, and will begin to produce nuts in about its seventh year.

For most successful results nuts should be carried over the winter in stratification and planted as soon as the frost is out of the

ground in the spring. Walnut stratification is simply a matter of keeping the nuts moist and cooled below the germination point through the winter. They may be stratified by burying in the ground out of reach of squirrels and other rodents. Freezing does not destroy germination; drying out, however, will.

It is hoped that the Conservation Commission's walnut planting program of a million nuts per year on state lands will light a fuse that will cause the planting of many more millions of these magnificent native trees on private lands. Get your walnuts now for spring planting while they are still available.



Walnuts may be simply and easily stratified for spring planting by burying in the ground in the hulls over winter where they will stay moist and dormant. Jim Sherman Photo.

Lake Keomah . . .

(Continued from page 170)
everywhere, the soil and the subsoil.

As the geologist walks along the bathing beach he recognizes the gravelly material as something which has been brought in from a gravel pit not too far away. In artificial lakes such as Keomah it would not be possible to have such a fine beach without this improvement. Gravel has also been used on some of the trails. The varicolored pebbles are mostly of the hard mineral quartz, nicely rounded by stream action.

That is about all, of a geological nature, that "meets the eye" at Lake Keomah, but there is much more to the geological story of the area. The limestone of the riprap and the buildings give us a clue to part of it. Inquiry discloses that it was brought from a locality in southwestern Keokuk County to the east. Here the Mississippian limestone occurs beneath the soil and subsoil. Geologists know also that this limestone forms the solid rock of the earth's crust directly beneath the three major river valleys of Mahaska County in which the park is located. These rivers are the North Skunk, South Skunk and Des Moines. The park is located on a small tributary of the South Skunk, only a few miles south of the river. It is only a few miles east of Oskaloosa.

But away from the three river valleys the Mississippian limestone is overlain by shale, sandstone and coal, formed in a later geological period, the Pennsylvanian. All the coal mined in Mahaska County has come from this system of rocks. The Pennsylvanian rocks have been eroded away from the large river valleys, but they probably underlie the park area.

Road cuts in the vicinity of the park disclose that most of the subsoil is the wind-blown silt called loess. Beneath that is the glacial drift. Still lower but not exposed lie deposits of the ancient seas.

Thus we complete our story of the items of geological interest to be seen in the park, and to be learned from its surroundings. Much of it should be evident to those who become acquainted with park and the nearby country.

BULLS I

If you squirrel hunters think you're good men with rifles, try this one:

Knock the bung out of a keg and roll the keg downhill. When it is rolling at the proper speed, fire a bullet through the bung hole. If conditions are right, the bullet will pass through the keg's interior just as it has completely rolled over, and the slug will pass out of the keg through the bung hole by which it entered.

A fine rifleman should be able to shoot at such rolling kegs all day and not put a single bullet hole in them.—J. M.

350,000 VOLUNTEER FIRE FIGHTERS

In spite of the dry conditions of fields, woods and marshes, accidental fires can be greatly minimized this fall if all Iowans out-of-doors take a few fire prevention precautions.

Great care with matches and tobaccos should be used, in our timbers, duck marshes and fields. Many of the sloughs in particular are tinder dry. Remember that grass cover that is so easily burned now is the necessary winter home of a lot of wildlife.

All sportsmen are urged to carry two simple fire fighting tools in the trunks of their cars, a spade and a couple of burlap sacks to be wetted when needed.

These simplest of tools are all that are needed to control most fires. You are also urged to put out or help fight unattended fires wherever they occur. Wild fires are everyone's responsibility.

Three hundred and fifty thousand hunters can be the most effective volunteer fire brigade in history. Do your part this fall!

How Fast . . .

(Continued from page 171)
At any rate, you generally do them all. The slide rule boys tell us that it takes about one-fifth of a second for the average shooter to get "set." In this split-second your bird has flown approximately 18 feet. He'll fly another 18 feet by the time you have your gun up and on him, and still another 18 feet while you're pulling the trigger. Calculating on the basis of an average shot charge velocity of 900 feet per second over your original range of 20 yards, the shot charge will require approximately one-fifteenth of a second to reach the crossing point with the path of the bird. This means the bird has flown an additional six feet, or sixty feet in all, from the time you saw it until it runs into your shot pattern.

Of course you are not going to get this kind of a shot all the time, and it is used as an example only. Other types of shots may require more time and straightaway shots should require less. The human element, of course, is the determining factor, and while this seems like mighty fast shooting, the shooter with average reflexes is doing it every day.

Don't try to be a super-fast shot. Get on your target as quickly as you can, but don't crowd yourself too much. Haste makes waste in shooting more often than not. Be deliberate—but don't wait too long.—Gail Evans, *Remington News Letter*.

Game Thievery . . .

(Continued from page 169)

which is almost completely forgotten is the good citizen or the supposedly good citizen who traffics with the violator and criminal and thereby abets crime.

The amount of thievery which goes on in well governed cities is shocking. But the amount of stolen goods that finally gets into the hands of people who did not steal them is most disheartening.

Gambling is generally considered to be an evil which undermines good government and law enforcement. In one great metropolis after another the police force has been corrupted by those who have wanted to make the huge profits which go with organized gambling. But there is not a gambling ring in the United States which could stay in business a fortnight without the traffic that comes from those who like to call themselves "good citizens." Likewise, game violations could be reduced to a minimum, if not stamped out altogether, if those who like to call themselves "good citizens" or "good sportsmen" would report all violations and willingly and honestly testify against the violators.

If the hunter and fisherman would report all violations and testify against the violator, the efforts of the Commission of Game and Inland Fisheries in the propagation of game and fish would not be sabotaged by the deliberate violator and sneak hunter and fisherman.

Too many people are more anxious and more interested in getting laws made than they are in seeing that laws are observed and enforced. Making laws is one of the simplest tasks to which a modern government addresses itself. If the millennium could be brought in by just laws, ably written, it would have arrived hundreds of years ago. But writing laws does not change the character of the public.

The success of any law depends upon the fidelity with which it is enforced. Criminologists in large numbers are agreed that it is not the severity of punishment that deters men and women from committing crimes but the certainty of punishment.

The game wardens cannot successfully enforce the game and fish laws unless the public will cooperate in that they themselves will observe the laws and report all violations. To that end, we should appeal to the general public for their co-operation in protecting and preserving game and fish by honestly observing all laws and reporting all violations.

It is hard to make a private citizen see why he should report game violations when he sees one taking place. Yet, this same person would quickly report a robbery. Perhaps if Mr. Citizen could be made to realize that game thievery is a crime against the entire public, instead of a game of cat and mouse with the game warden, he would

change his attitude toward the game thief.

Any citizen who demands that a law be passed or enforced protecting him in his rights, or his property, must assume the responsibility for obeying that same law when the rights of property of others are involved. In all too many instances it has been true that lawmakers and law enforcement officers have become lawbreakers and greater anarchy would be difficult to imagine.

I hope we can do something to encourage the citizens of every walk of life to see the absolute necessity for the protection and preservation of game and fish. I hope that through members of the courts, game wardens, members of the Commission of Game and Inland Fisheries, hunting clubs, fishing clubs, wildlife organizations and the *Virginia Wildlife* magazine we can adopt and bring to the majority of the people a theme with special emphasis on protection and preservation of game and fish. I feel like an addition to the Conservation Pledge for 1952 would be fine. That is, that through the above stated clubs and organizations we will seek to get as many people as possible to make the following pledge:

"I give my pledge as a Virginian and an American to save and faithfully to defend from waste the natural resources of my county, my state and my country—their soils and minerals, their forests, waters, fish and wild animals and birds. I further pledge to faithfully observe all hunting, fishing and forest laws and to report all violations that come to my attention."—*Virginia Wildlife Magazine*.

WARDENS' TALES



Ben Davis, Floyd County's fish and game officer, tells of an incident that almost resulted in mayhem.

At a Floyd County fair Ben was in charge of the Conservation booth, one of the attractions of which was several mounted ocean fish that had been donated by a local sportsman. One of the fish was an ocean gar, similar to our fresh water variety but smaller.

A portly gentleman smoking a large stogie approached the booth, looked it over, and pointed at the mounted fish.

"What kind of a fish is that?"

"Which fish do you mean, sir?" asked Ben.

"The top one," the man replied, indicating the gar.

Without thinking, Ben replied, "That is a sea gar."

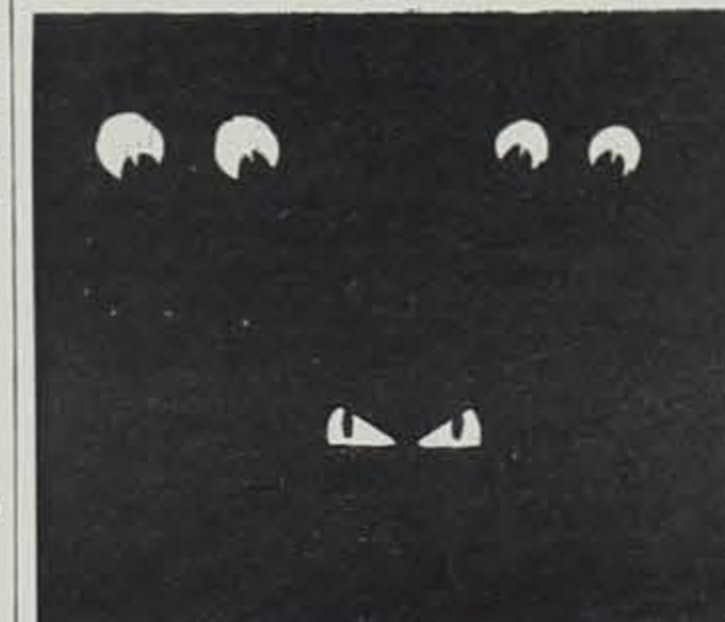
"Don't get smart with me, boy!" the gentleman exploded. It took several minutes of fast talking to convince the man that it actually was a sea gar, but not of the panatela variety.



Herb Eells, Conservation officer for Howard and Winneshiek Counties, knows quite a bit about catfish. But until recently, he has had no experience with fishcats.

While Herb was fishing a stretch of North Bear Creek awhile back, a cat came wandering down to the edge of the water to watch the action. When Herb hooked a ten-inch brown trout the cat gave the line all the attention that a good bird dog gives a rising covey. After the fish was landed, the cat seemed quite insulted that it went into a creel instead of her stomach.

Herb caught a number of chubs and at his final count the cat had eaten seven and was hanging around for more. She followed him down the stream for about a quarter of a mile and seemed to know just what was going on. Herb figures that the cat had been around trout fishermen before, and that she was making the most of a good thing.



Early last spring Conservation Officers Lloyd Kiefer and Bill Basler were called by a Linn county farmer who had wounded a wildcat.

The farmer had shot the cat with a .22 rifle, and the animal had escaped into a small crevice in a limestone out-cropping.

Upon investigating the den, the two officers found that it was large enough to crawl into for some distance. However, it was such a tight squeeze that they were forced to leave most of their clothes at the den entrance. The farmer remained outside with a gun.

After worming their way through the crevice at the expense of skin and temper, the officers finally came to a small room in which they could stand. There was no sign of the wounded wildcat, however, which had evidently escaped through a small branch tunnel too small for the men to enter. And, may we add, it was probably just as well.



Early last spring Jim Fitzgerald of Mason City and Leo, his fishing buddy, were bullheading in an open patch of water at the Ventura grade at Clear Lake.

Fishing was slow, and after a time Fitzgerald's partner decided to practice cast, using a floating can for a target.

He hadn't been at it long before a car raced up the road and slammed to a stop on the bridge. Out boiled Jack Stevens, Cerro Gordo County's veteran conservation officer, with fire in his eye and arrest on his mind. But when he saw the practice plug that was being cast he began to talk about the weather and anything else that came to mind.

"Jack's binoculars couldn't tell the difference," Fitzgerald writes, "but it's a good thing that my friend Leo's practice plug didn't have any hooks on it."

(But hooks or not, Leo caught a 200-pound conservation officer!)

Harold Johnson, in charge of Emmet and Palo Alto Counties, has a couple of good fishing stories that have nothing to do with fish:

While working on the Iowa Lake recently, Johnson checked the fishing license of Mrs. Mary Stagman of West Bend, which showed her to be ninety-one years of age. Mrs. Stagman was using a rod and reel and catching her share of fish. She will be ninety-two in October.

Later, on Five Island Lake at Emmetsburg, Harold checked the license of Frank Konsella. The license number was 106501, the same number issued to Konsella in 1952 and also in 1951!

FARMERS' PLAN FOR HUNTERS

Sixty Mosalem Township farmers promised that squirrel hunting will be permitted on their land providing hunters ask permission first.

Hunters and farmers were "more than pleased" at how successfully the system operated during the past two years and decided at a meeting Thursday night at St. Catherine's School to follow the same rules this fall.

"All we want is the hunter to drive into our yards and ask if it is okay to hunt on our land," one farmer said at the meeting.

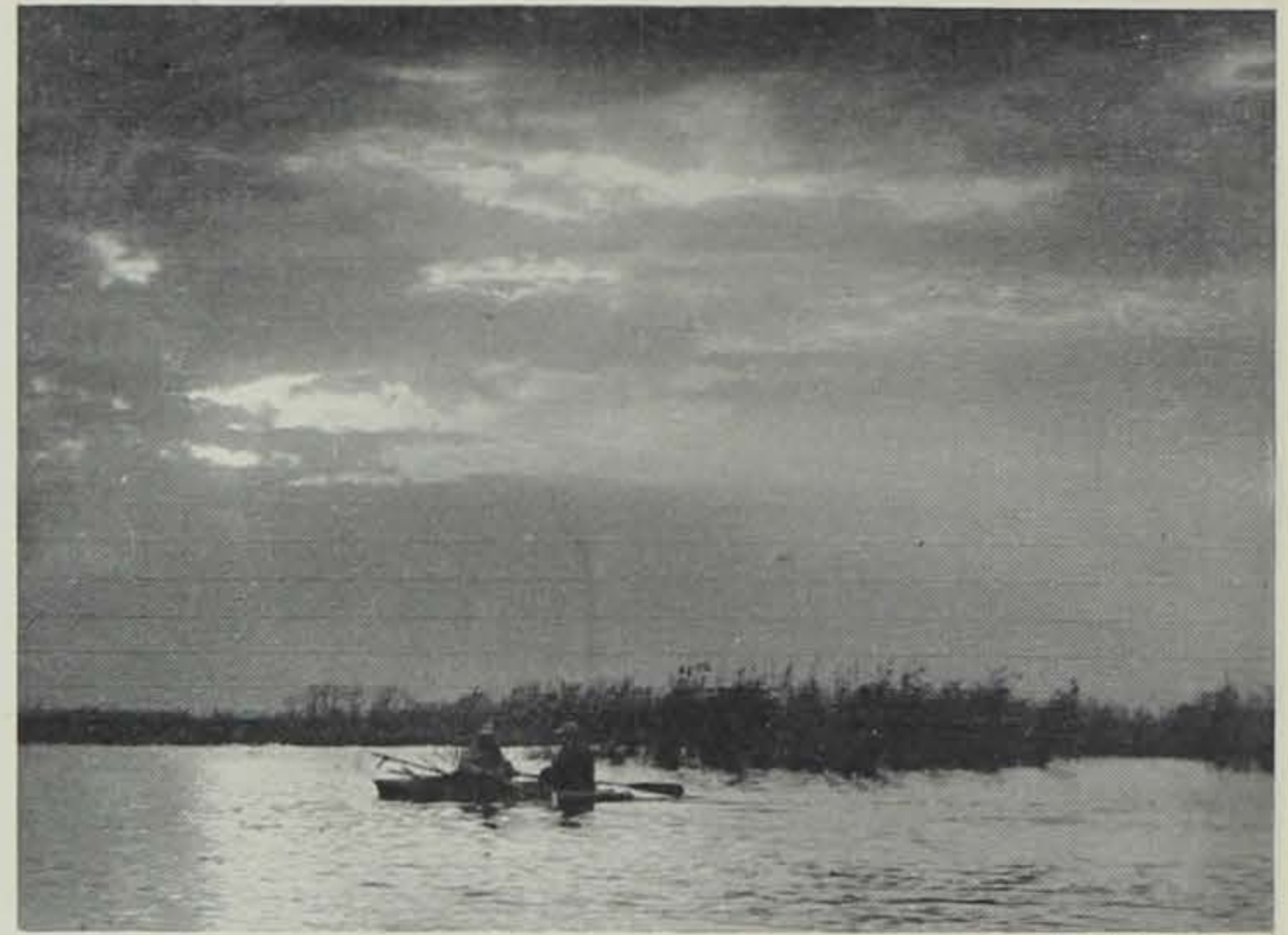
The group was organized two years ago when hunters stormed the fields, ruined fences and shot so wildly that farmers were afraid of their lives when walking across their own fields, it was said.

Three teams of two men will patrol the hunting areas for unauthorized "guests," a system that reportedly worked well last year and the year before.

It was pointed out that the system also was well received by the sportsmen themselves.—*Dubuque Herald*.



Sunrise.



Sunset.

Jim Sherman Photo.

DUCK HUNTING HOURS

1953

IOWA CONSERVATION COMMISSION

STATE OF IOWA—30 MINUTES BEFORE SUNRISE SCHEDULE AND SUNSET SCHEDULE

CENTRAL STANDARD TIME

(Note: This table has been compiled from official schedules furnished by the Weather Bureau Stations listed. A schedule from the Omaha, Nebraska, Station is used because there is no station in southwestern Iowa. The difference in time between stations should be taken into consideration in figuring the exact time at your particular location.)

		DAVENPORT		BURLINGTON		DUBUQUE		KEOKUK		CHARLES CITY		DES MOINES		OMAHA, NEBR.		SIOUX CITY	
		30 Min. Before Sunrise	Sunset	30 Min. Before Sunrise	Sunset	30 Min. Before Sunrise	Sunset	30 Min. Before Sunrise	Sunset	30 Min. Before Sunrise	Sunset	30 Min. Before Sunrise	Sunset	30 Min. Before Sunrise	Sunset	30 Min. Before Sunrise	Sunset
Oct.	8	Noon	5:34	Noon	5:35	Noon	5:33	Noon	5:37	Noon	5:41	Noon	5:45	Noon	5:55	Noon	5:56
	9	5:38	5:32	5:39	5:33	5:38	5:32	5:41	5:35	5:47	5:39	5:49	5:43	5:59	5:53	6:01	5:55
	10	5:39	5:30	5:40	5:32	5:39	5:30	5:42	5:34	5:48	5:37	5:51	5:42	6:00	5:52	6:02	5:53
	11	5:40	5:28	5:41	5:30	5:41	5:28	5:43	5:32	5:49	5:36	5:52	5:40	6:01	5:50	6:04	5:51
	12	5:41	5:27	5:42	5:29	5:42	5:27	5:44	5:31	5:51	5:34	5:53	5:39	6:02	5:49	6:05	5:50
	13	5:41	5:25	5:43	5:27	5:43	5:25	5:45	5:30	5:52	5:32	5:54	5:36	6:04	5:47	6:05	5:47
	14	5:42	5:24	5:44	5:26	5:44	5:24	5:46	5:28	5:53	5:31	5:56	5:35	6:05	5:45	6:07	5:46
	15	5:43	5:22	5:45	5:24	5:45	5:22	5:47	5:27	5:55	5:29	5:57	5:33	6:06	5:44	6:08	5:44
	16	5:45	5:20	5:46	5:23	5:46	5:20	5:48	5:25	5:56	5:27	5:58	5:31	6:07	5:42	6:09	5:42
	17	5:45	5:19	5:47	5:21	5:47	5:19	5:49	5:24	5:57	5:26	5:59	5:30	6:08	5:41	6:10	5:41
	18	5:47	5:17	5:48	5:20	5:49	5:17	5:50	5:22	5:58	5:24	6:00	5:28	6:09	5:39	6:11	5:39
	19	5:48	5:16	5:50	5:18	5:50	5:16	5:51	5:21	6:00	5:22	6:01	5:27	6:10	5:38	6:12	5:38
	20	5:50	5:14	5:51	5:17	5:51	5:14	5:52	5:20	6:01	5:21	6:02	5:25	6:11	5:36	6:13	5:36
	21	5:52	5:14	5:52	5:15	5:52	5:12	5:53	5:18	6:02	5:19	6:04	5:25	6:12	5:35	6:15	5:35
	22	5:53	5:13	5:53	5:14	5:53	5:11	5:54	5:17	6:03	5:18	6:05	5:23	6:14	5:33	6:16	5:34
	23	5:54	5:11	5:54	5:12	5:54	5:09	5:55	5:16	6:04	5:16	6:05	5:22	6:14	5:32	6:18	5:32
	24	5:55	5:10	5:55	5:11	5:56	5:08	5:56	5:14	6:06	5:15	6:07	5:20	6:16	5:30	6:19	5:31
	25	5:56	5:09	5:56	5:09	5:57	5:06	5:58	5:13	6:07	5:13	6:07	5:19	6:16	5:29	6:21	5:29
	26	5:57	5:07	5:57	5:08	5:59	5:05	5:59	5:12	6:08	5:12	6:08	5:18	6:17	5:28	6:22	5:28
	27	5:59	5:05	5:59	5:07	6:00	5:03	6:00	5:10	6:10	5:10	6:11	5:16	6:20	5:26	6:23	5:26
	28	6:00	5:04	6:00	5:05	6:01	5:02	6:01	5:09	6:11	5:09	6:11	5:15	6:20	5:25	6:24	5:25
	29	6:01	5:02	6:01	5:04	6:02	5:01	6:02	5:08	6:12	5:08	6:13	5:13	6:22	5:23	6:25	5:24
	30	6:02	5:01	6:02	5:03	6:03	4:59	6:03	5:06	6:13	5:06	6:14	5:12	6:23	5:22	6:27	5:22
	31	6:03	5:00	6:03	5:01	6:05	4:58	6:04	5:05	6:14	5:05	6:14	5:11	6:23	5:21	6:28	5:21
Nov.	1	6:04	4:58	6:05	5:00	6:06	4:57	6:05	5:04	6:16	5:04	6:17	5:09	6:26	5:19	6:28	5:20
	2	6:06	4:57	6:06	4:59	6:08	5:55	6:06	5:03	6:17	5:02	6:18	5:08	6:27	5:18	6:31	5:18
	3	6:07	4:56	6:07	4:58	6:09	4:54	6:08	5:02	6:19	5:01	6:19	5:07	6:28	5:17	6:32	5:17
	4	6:08	4:55	6:08	4:57	6:10	4:53	6:09	5:00	6:20	5:00	6:20	5:06	6:29	5:16	6:33	5:16
	5	6:09	4:54	6:09	4:56	6:11	4:52	6:10	4:59	6:21	4:58	6:21	5:05	6:30	5:15	6:34	5:15
	6	6:11	4:53	6:11	4:55	6:13	4:50	6:11	4:58	6:22	4:57	6:23	5:04	6:32	5:14	6:36	5:13
	7	6:12	4:51	6:12	4:53	6:14	4:49	6:12	4:58	6:23	4:56	6:24	5:02	6:33	5:12	6:37	5:12
	8	6:13	4:50	6:13	4:52	6:15	4:48	6:13	4:56	6:25	4:55	6:25	5:01	6:34	5:11	6:38	5:11
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	13	6:19	4:45	6:19	4:48	6:21	4:43	6:19	4:52	6:31	4:50	6:31	4:56	6:40	5:06	6:44	5:06
	14	6:20	4:44	6:20	4:47	6:22	4:42	6:20	4:51	6:32	4:49	6:32	4:56	6:41	5:06	6:45	5:06
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	29	6:37	4:34	6:36	4:38	6:41	4:31	6:37	4:42	6:51	4:38	6:49	4:46	6:58	4:56	7:04	4:54
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Dec.	1	6:39	4:34	6:38	4:37	6:43	4:31	6:39	4:41	6:53	4:38	6:51	4:46	7:00	4:56	7:06	4:54