

# IOWA CONSERVATIONIST

Volume 10

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Number 2

## GEOLOGY IN THE STATE PARKS

### THE IOWA STORY

By Harold Titus

*Reprinted from January Field and Stream.*

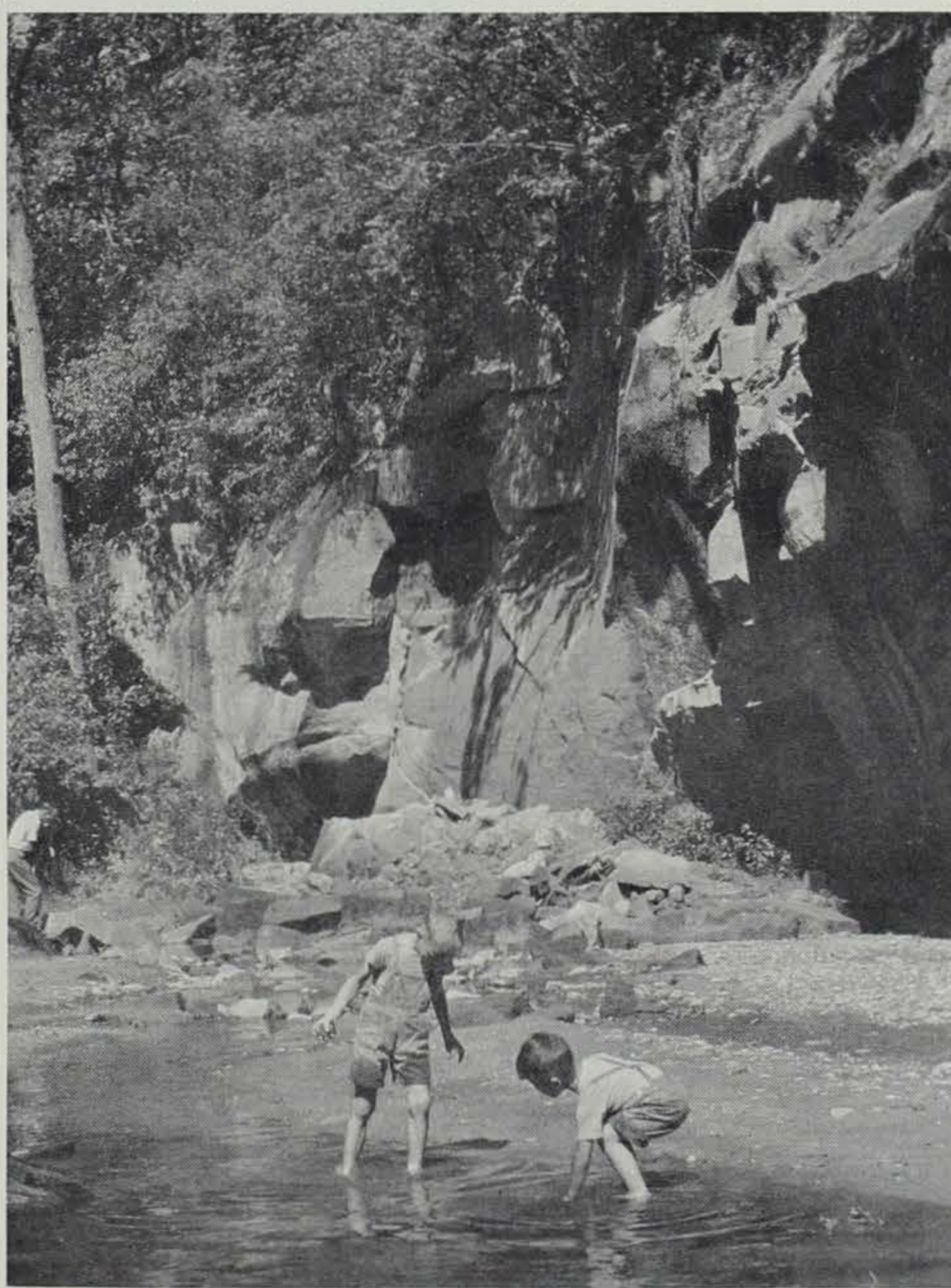
You lads who may be a little low in spirits over the prospects for future hunting in these United States should take a moment to look at Iowa—where the boys shot pheasants for their twenty-fifth season this fall. This is the state with probably the smallest proportion of publicly owned land anywhere on the continent; so what shooting there is must be on acres in private ownership, which is a handicap from the beginning.

A quarter century ago thirteen counties were opened to pheasant shooting for three half-days. That was something for the local boys, for their only other game bird—the bobwhite quail—had been protected since 1916 because one thing and another had reduced the population to remnants. In 1933 the quail population had been built up from not enough to stand any hunting whatever to a point where fourteen small experimental game areas were opened with a limit of six birds, so that the guns had two species on which to try their skill.

This fall, 83 of the 99 counties were open to pheasant shooting for 25 days, from noon to 4:30 P.M. each day, with a limit of three cock birds. Fifty-one counties were open to quail shooting, 46 of them for a six-week season. Only three counties in the southwest corner of the state were closed to all upland bird hunting. Furthermore, last year Iowa had the first legal season on beaver in seventy years! And the Conservation Commission is only waiting for a legislative nod to re-establish a deer season, which hasn't been offered since anybody can remember.

How come? Competent planning! Who sparked the planning? Ding Darling, one of the grandest guys in American game management. A quarter century ago Ding looked around his native state and de-

(Continued on page 112)



In Iowa the sedimentary rocks constitute the solid rock or bedrock beneath the soil and subsoil. The Ledges, like many other of our state parks, have outcroppings of such rock. Jim Sherman Photo.

### How Big Are Iowa's Snakes?

By Kenneth D. Carlander and  
Robert B. Moorman  
Iowa State College

Snakes have a peculiar ability to appear much larger than they actually are. Many times a startled person has run from a garter snake with a story of being chased by a snake six feet long. We have, therefore, tried to find the au-

thentic records for the largest snake of each species found in Iowa (Table 1). These records are not necessarily from Iowa snakes. In fact, most of the snakes were found and measured in other states. We do not have many measurements from which we could determine the largest Iowa specimen of several species.

(Continued on page 111)

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

Iowa's state parks are places which have been selected because of their scenic and recreational qualities. The terrain, the streams, the lakes and the vegetation combine to give the parks their respective characteristics, no two alike.

Has it ever occurred to you why these parks should be so unlike in their terrain, why some show cliffs of solid rocks and others none, why some have deep valleys and running streams while others are a jumble of rolling hills, why there are lakes in some but none in others? The answers to these questions and an understanding of the features of the various parks are to be gained only through some knowledge of geology, the science of the earth, as it has been called.

Geology deals with the minerals and rocks of the earth's crust, and with the processes that affect it. The minerals are many and so are the rocks. As an example, the familiar flint is a variety of the mineral quartz. The grains of sand are mostly quartz. The rock called sandstone is made of grains of sand, mostly quartz, cemented together.

The rocks, or stones if you want to call them that, are of three general origins. Some are igneous rocks formed by the solidification of molten rock, at the surface or underground. Lava rock is an example of an igneous rock formed by the solidification of the molten material at the surface, granite an example of one formed underground.

Sedimentary rocks with which we here in Iowa are best acquainted, are formed as sediments in a body of water, and are subsequently hardened by the sticking together of the grains. The sediments of most sedimentary rocks accumulated as deposits of sand, clay or limey material in bodies of marine water. Here in Iowa the sedimentary rocks constitute the solid rock, or bedrock, beneath the soil and subsoil. Many of our state

(Continued on page 110)



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**POP'S HELPER**

Before Harold Wohl went pheasant hunting during the past season he told his 9-year-old son, Stevie, who craved to go along, about the game laws, including the one which forbids the shooting of hens. They hadn't tramped down the corn rows very long before Dad Harold found Son Stevie had learned his "law" lesson too well. Every time a bird got up Stevie shouted: "It's a hen!" This was disconcerting to Harold, bearing the gun, whose aim was bound to wobble, and did, on legal roosters in the face of such warnings. The unscathed birds were out of trouble until father sat down with son and held Lesson No. 2 out in the corn. Point of the lesson: ALL birds aren't hens; let Daddy decide.—*Emmetsburg Reporter.*

**CONSERVATION CAMP BULLETIN NOW AVAILABLE TO TEACHERS**

A 12-page bulletin giving complete information about the 1951 Iowa Teachers Conservation Camp is now available. The bulletin, entitled "Why Iowa Teachers Leave Home," will be distributed to all elementary teachers. Others interested in the conservation camp may receive copies on request from: State Conservation Commission, East 7th and Court, Des Moines.



Ted Lorenzen advocates a special trout stamp for trout fishing in Iowa.

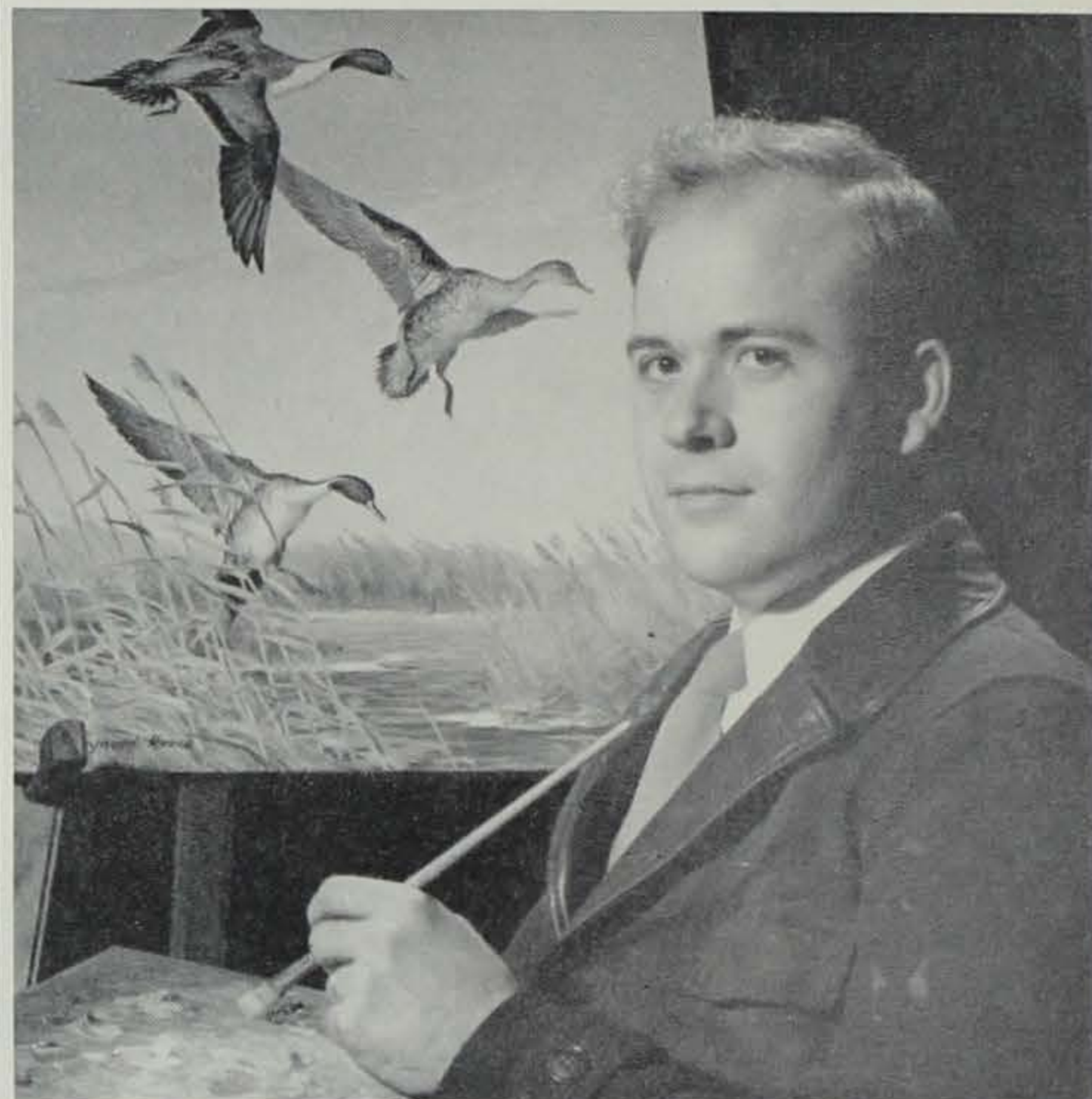
**A TROUT STAMP FOR IOWA?**

By Ted Lorenzen

Since this column has been a consistent advocate of a trout fishing stamp for use in Iowa by residents and non-residents alike, we felt that it might be of some interest to our readers to learn what luck Michigan has had with the same plan. We wrote to the Michigan Conservation Department and obtained some interesting facts.

The use of a trout stamp began in Michigan on January 1, 1948, at a price of one dollar and is required of all resident and non-resident anglers who fish for trout. There was very little opposition to the stamp plan from either the fishermen or the members of the legislature. It was felt that Michigan was spending too much of fishing license revenue in the interest of the trout fishing, and the use of the stamp brought this situation more nearly to parity.

(Continued on page 111)



Maynard Reece.

Jim Sherman Photo.

**MAYNARD REECE DESIGN FOR '51 DUCK STAMP**

Maynard Reece, staff artist and museum assistant of the State Department of History and Archives, for the second time in four years has submitted the winning design for the federal duck stamp. The new stamp will picture two gadwall ducks jumping from a pond, and will go on sale at all first and second class post offices in the United States in late summer. The stamp costs \$2.00 and is required of all migratory waterfowl hunters over 16 years of age. The first duck stamp was designed by J. N. "Ding" Darling 18 years ago while he was chief of the Bureau of Biological Survey.

The competition was open to all artists, professional and amateur, and a total of 74 designs were submitted by 51 contestants. Reece was not content with winning first prize with his gadwalls, but also won second prize with a design picturing blue geese.

Reece has gained wide recognition as a wildlife artist. His work has appeared in numerous magazines including *Ford Times*, *Successful Farming*, *Better Homes and Gardens*, *Sports Afield*, and many others. His wildlife paintings have appeared in the *Des Moines Sunday Register* for several years. He also painted the illustrations for the book *Waterfowl in Iowa*, published by the State Conservation Commission, and has recently completed a series of color paintings of fish to illustrate the book *Iowa Fish and Fishing*, to be ready for public distribution by the Conservation Commission early in April.

**COMMISSION EXHIBIT AT SIOUXLAND SPORTS SHOW**

An exhibit of Iowa wildlife by the State Conservation Commission will be one of the major attractions at the First Annual Siouxland Sports and Vacation Show at Sioux City, Iowa. The show will be held March 14-18 in Sioux City's new municipal auditorium.

The conservation display sponsored by the Conservation Commission will consist of live animals, birds and fish native to Iowa and surrounding states. State conservation officers will be on hand to distribute literature and answer questions about the exhibit and other conservation matters.

The big blue-and-white semi-trailer which ordinarily houses the Commission's traveling exhibit during its visits to Iowa schools and fairs will not have a part in the Sioux City show. The trailer proved too large for even the largest entrance doors of the new auditorium.

**THIS FISH STORY HARD TO BELIEVE**

State conservation workers last week seined 8,000 fish from the Wapsie with the intention of getting rid of carp and buffalo. The big surprise was the fact that 99 per cent of the fish turned out to be crappies and were thrown back. About 200 catfish were counted but only a few carp and buffalo were found.—*Waverly Independent.*





Twenty-nine and six-tenths per cent of all shotgun shells fired in the United States have cottontail rabbit as their target. Jim Sherman Photo.

## FOREST, FIELD AND STREAM

By Russ Graham

Rabbits mean different things to different people. To most sportsmen he means good hunting, a chance to bring home some game, and food equal to fried chicken on Sunday.

To boys he is one of the best teachers of accurate shooting and safe hunting with a .22 rifle.

Bird hunters also appreciate the value of a good crop of cottontails because they serve as a buffer, being food for the fox and crow, thereby saving a goodly part of our quail and pheasants.

To the orchard owner and gardener he is a pest, while the market hunter considers him to be almost as good as money in the bank. Rabbits can be bought and sold in Iowa, but the average sportsman frowns upon this practice as the professional hunter is inclined to harvest the crop too closely.

One of the main reasons for the state of Iowa having a Conservation Commission is to provide the total population with the greatest possible number of hours of outdoor recreation and sport, while at the same time maintaining a balanced crop of game through education, game cover planting, and restocking where advisable.

Our rabbit crop is fair, but insufficient for the number of hunters in most parts of the state. So from here it seems as though the state legislature would be pleasing a lot of Iowa sportsmen if they would put rabbits out of reach of the market hunters.

New York state tried to stock rabbits when hunting pressure increased, only to find the results so poor that it cost almost \$7 for each additional rabbit put in the hunter's game bag.

One of the best ways—and the only sure way—of increasing eastern Iowa's rabbit population is to plant more game cover areas. Sportsmen's clubs, farmers, and

other groups should start the spring planting talks now, and if possible orders should be placed at this time with the Conservation Commission for multiflora rose and other wildlife plantings.

Hunting rabbits with a beagle or basset hound is still the favorite recreation of countless Americans. Beagle registrations exceed all other hound classifications, being topped only by English setters and pointers in the sporting breeds. The cocker spaniel is the most popular of all dogs because he is a little bit of a hunting dog as well as a show dog and a house dog. Many beagle owners claim their dogs make good house dogs.—*Cedar Rapids Gazette*.

## REMOVE PINE LAKE CARP

Work of eliminating carp from Pine Creek and the two Pine lakes has been conducted by Earl Rose, state fisheries biologist, and a crew of six men from Spirit Lake, assisted by Kay Setchell of Eldora, state conservation officer.

Three methods were used to complete the job as thoroughly as possible. Exhaust from a gasoline engine was piped under the ice; a rotenone emulsion was deposited in the holes and near the springs, not only in the lakes but also in the creek a mile east into Grundy County, and some of the deeper holes were dynamited.

The rotenone emulsion, while said to be absolutely harmless to human beings and land animals, is fatal to fish by affecting their breathing and acting upon their nerve system.

The gate at Lower Pine Lake was closed Saturday and considerable water has already accumulated in the lake bed.

The work of clearing out the lake of the carp and other worthless fish was begun last September when the two lakes were drained. The work has been done under the direction and supervision of state employees acquainted with that type of work.—*Reinbeck Courier*.

## FISHIN' AND FACTS

By J. Curtis Grigg

Winter has come and snow blankets the fields and woods, and most of the rivers and creeks are frozen over.

The wild birds and animals are searching for food; we find that the chickadees and other small birds are feeding on weed seeds. When the snow comes all the wild things leave a map of their doings for anyone to read. We found where the coons had come out of their dens and had dug around in snow on a nearby hillside for acorns; one large coon track we followed went over a mile to a hazel nut thicket where this coon had dug under the bushes and feasted on hazel nuts.

This reminded us of one time when we were hunting and trapping brush wolves, how these animals were living mostly on acorns. That was a long time ago and we could hardly believe our eyes. We thought wolves lived on fresh meat, and to find them eating acorns was a great surprise to us. We knew that foxes eat wild grapes and other wild fruit, but to find wolves eating acorns when there were plenty of rabbits and other game was out of the ordinary, we thought. Later we found that it was not, but at that time our knowledge of wolves consisted mostly of what we read in books.

We believe that most of the wild things are not over-particular as to what they eat, especially if the snow is deep and food scarce. We have seen where red squirrels have barked the top branches of sugar maple trees late in winter, perhaps mostly to drink the sweet sap as the bark lay all over the snow under the trees. We are sure in our minds that the nuts and acorns that the squirrel hides each fall in shallow holes in the soil are located again by this animal's keen sense of smell, and we believe that most of the trees such as oaks,



"When the snow comes, all wild things leave a map of their doings for anyone to read."

walnuts, etc., grow from acorns and nuts that were hidden by squirrels. We also think that these nuts and acorns may be dug up by any squirrel that happens along, as he is able to locate them by his keen sense of smell. Although a squirrel usually has a "home tree" where he lives maybe for several years, at times he moves to other localities.

There was a little grey squirrel that lived in a big white oak tree on top of Flanigan rocks. This tree stood on a "fox crossing," and I used to stand by it to get a shot at the fox when the chase came that way. This little grey squirrel used to come out of his hole in the tree and chatter at me; he'd keep coming down the tree till he got on a limb about six feet over my head, and he sure did tell me what he thought of hunters in general and me in particular. Of course, it could have been a different squirrel, but anyway this went on for three winters, and I kind of missed him the fourth season when he failed to appear. We never knew if he moved or was shot by some hunter, or maybe died of eating too many acorns.

We used to think that squirrels hid their supply of nuts and acorns in hollow trees, but now we don't think they do; they bury them here and there under the trees, and

(Continued on page 112)



"We have seen where the red squirrel or chickaree have barked the top branches of sugar maple trees and scattered the bark all over the ground." Jim Sherman Photo.





Winter fishing on West Okoboji has been popular, with as many as 300 dark-houses being used at one time.

## WINTER FISHING AT THE OKOBOJIS

Winter fishing has been good recently at the Okobojis and Spirit Lake, and Garfield Harker, supervisor of fisheries in this area, advises fair weather fishermen who haven't tried it to take it up.

Fishing west of the bridge in the West Lake on a recent Sunday, he caught eight perch (with some help from his family) in a couple of hours. The smallest fish was 10½ inches long and the longest 11½.

Gar caught his perch in a fish house using small shiners on a snelled gut perch hook for bait. For perch, the smallest shiners seem to be the best, although others have been caught on corn borers, available, we hear, in any cornfield, perch and trout flies, and even chunks of hard-boiled eggs and apples.

The walleye pike and northern pike fishermen use large chubs. Whatever the bait or lure, it is usually jiggled up and down to attract attention and some, using flies, bait them with worms or shiners which always seem to us like gilding the lily.

Here are some tips from Harker: It is far better to fish in a fish house than without one and the house can consist of anything, a regular tarpaper shack or merely a tarp draped over a few supports. Just so it's dark inside and you can look down through your hole in the ice and see what's going on down there.

Harker finds this opportunity to



Inside the dark-house a channel is cut in the ice. When the door is closed fish movement in water as deep as 25 feet is easily observed.

look through a window into the world fish live in more interesting than catching fish. It's a good look-out for studying fish and fishing as it applies to both winter and summer.

Such a study is, of course, impossible in the summer. But the other day Harker saw things like this: A school of fifteen perch swim by in a stately parade without giving his bait a look; several perch swim under his window and all pass on except one, which stopped with his nose only an inch from the bait and stared at it several minutes, then moved on.

Perch come along and examine the bait carefully from all sides, appear to "smell" it, but never touch it. There is excitement when a perch studies the bait a long time and then softly nibbles the bait. In winter fishing you can see exactly the moment to jerk the line.

"It was plain to me," Gar said, "that in the summer we may have many fish look over our bait and even some nibble at it that we never know were there. You will see a perch gently work on your minnow or worm and there will be absolutely no feel of it in the rod or line."

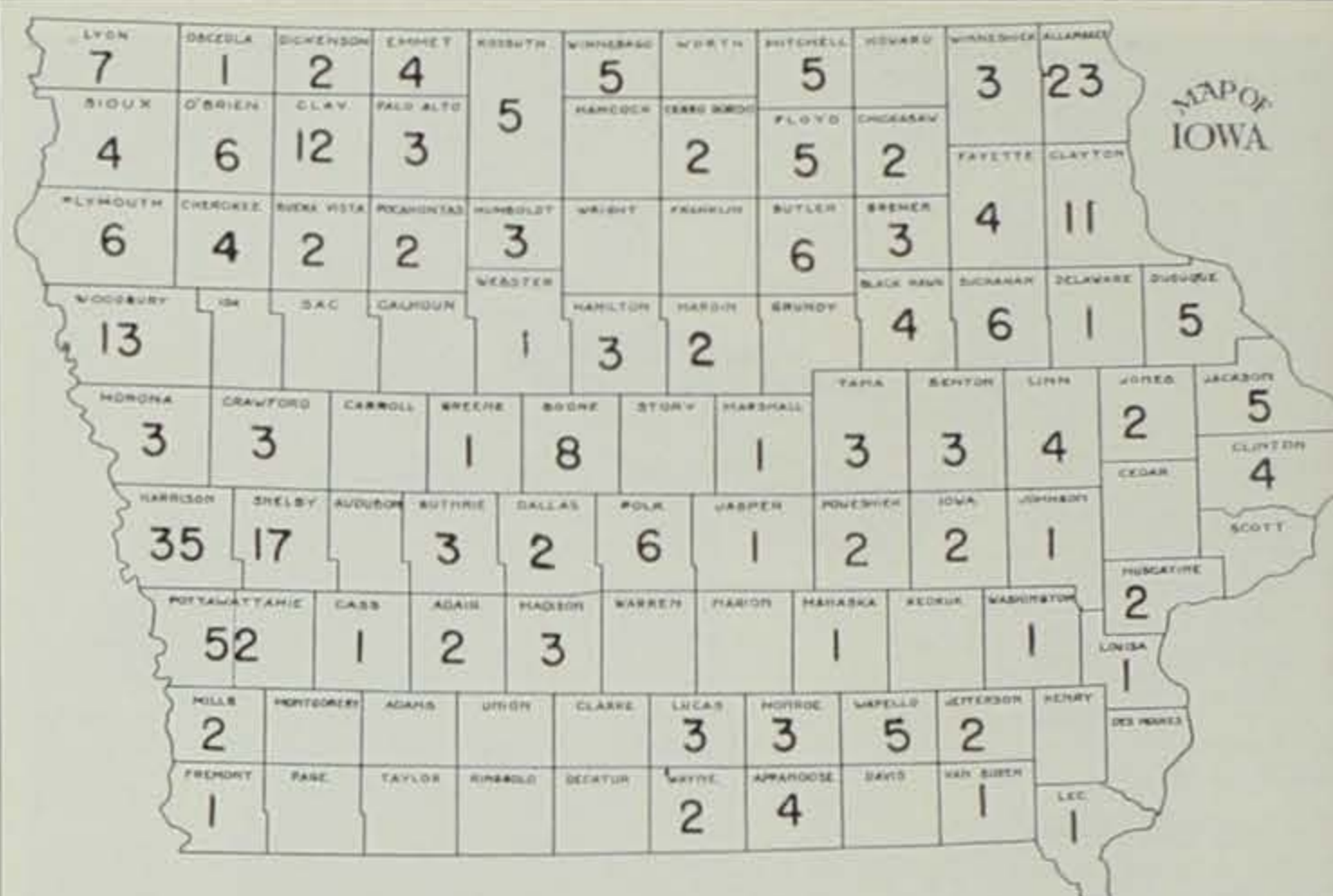
It is a thrill, in winter fishing, when a big northern pike cruises by under your window, or a walleye pike. Bullheads pass by in swarms in some areas of the West Lake but they will take no bait whatsoever. Harker said they appear to be swimming blind. Just to see if he could do it, one fisherman stuck a dip net through a hole in the ice into a raft of passing bullheads and scooped out twenty-nine. He returned these to the lake as this is illegal fishing.

Harker said the best times for catching fish in the winter are the same as for summer. Five walleyes weighing 23½ pounds were taken early one morning, starting at 5:30, from Spirit Lake. Another good walleye time is shortly before dusk and an hour afterward.

More perch are caught than anything else with walleyes and north-erns next. Crappies were taken earlier in the winter but not so many recently.

Gar says nearly all the fish caught are adults and any fear that winter fishing will hurt summer fishing and the supply of game fish in the lake are "unfounded."

"Most of these adult fish," he explained, "are of an age equivalent to people 70 and 80 years old."



Map showing number of deer known to have been killed in Iowa during 1950.

## IOWA DEER KILL HIGH

Iowa's deer herd, conservatively estimated at more than 5,000 animals, faced a hazardous 1950, according to Conservation Commission figures. More than 350 deer are known to have been killed by automobiles, poachers, dogs and miscellaneous accidents. During the year 187 animals were reported killed by truck and automobile, 105 were known to have been illegally shot, and 61 met death in a wide variety of accidents. Fence

collisions and dog killings were high on the miscellaneous list.

Deer, currently reported in all of Iowa's 99 counties, are most numerous along the Mississippi and Missouri river valleys, with large herds present in most of the major inland stream valleys. Heaviest deer loss, averaging 35 per county, occurred in Pottawattamie, Harrison and Shelby counties. Northeast Iowa, with 23 animals killed in Allamakee and 11 in Clayton County, accounts for the second largest area loss.

## ABOUT A DOG

By Bruce F. Stiles  
Director, State Conservation Commission

Two young men were shooting ducks during closed season when U. S. Game Management Agent "Flick" Davis spied them and their dog on an earthen dike near the center of Green's Slough below Council Bluffs. The hunters saw Davis about the same time and they lit out across the swamp with Davis after them. Due to the character of the country Davis was unable to see them after setting out, but following their tracks for some distance he came to a place where one of them had fallen down in the mud and water while crossing a drainage ditch. The hunter had apparently thrown his muddy gloves away for one of them lay on the bank of the dike. There sat the dog. A dirty little yellow non-

By being caught, these fish are serving their purpose and will not reduce the production of young fish."

The lakes region is going for the winter fishing in a big way. Scores were on the West Lake Sunday, fishing in houses, outside of houses and from automobiles. Automobiles are driven freely over many areas of the lake. The ice is 14 to 16 inches deep.

Most popular fishing areas have been at the bridge, Pillsbury Point, Miller's Bay, Emerson's Bay and the old perch beds in the north end at Triboji. — Emmetsburg Democrat.

descript mongrel, flee-bitten and woebegone. He was blind in one eye and his mangy coat was full of beggar's lice and cockleburrs. There was his master's glove and it was up to him to take care of it. The only friend he had ever known had run on and left him and now an ominous stranger was rapidly approaching from down the dike. His master's fear and panic had been contagious. He was more afraid than he had ever before been in his life. He was skinny and forlorn and he shivered in the chill March wind, but he had a job to do and he was doing it. When danger is faced without fear it may be called bravery, but true courage is that spirit which carries on in spite of fear. The little dog held his ground. Although he trembled, he managed to get out a few weak snarls. In his eye was the light of desperation. He knew men and he had been beaten by them—he expected it now, but here was his master's glove and his duty was as plain to him as the high hills. He never wavered. His was the courageous heart.

"Flick" crossed the ditch and continued through the swamp after the hunters, tracking them to a ramshackle group of farm buildings more than a mile away. Two hours later he retraced his way through the swamp. The dog was still there but now he was busily engaged in trying to get something out of the water. It was the other glove. A thin shelf of ice extended out into the water for eight or ten inches and the glove had gotten under this. "Flick" retrieved the

(Continued on page 110)





## SPEED OF ANIMALS



"The fox must be fast enough to catch the rabbit. . . . the rabbit in turn must be fast enough to escape the fox."

By Roberts Mann  
Forest Preserve District of Cook  
County, Illinois

A few adult animals, such as sponges, sea anemones and oysters, sit like plants and wait for their food to come to them. Most animals, however, go after it and this frequently develops into a speed contest between the hunter and its prey. Foxes must be fast enough to catch rabbits; and rabbits, in turn, must be fast enough for some of them to escape. However, such speed trials are not run on race tracks or according to any rules of racing. The fox is able to beat the rabbit on a straightaway, but the rabbit can dodge quicker and gain time by plunging through bushes and briars. Some animals win by short bursts of speed while others are noted for their endurance.

Accurate records of the speed of animals are rather scarce. The best measurements have been made in recent years by following them with an automobile or airplane and reading a speedometer, or by using movie cameras, stop watches and other devices.

The world's record for speed among living things is best established for the Indian spine-tailed swift, a bird which was repeatedly

clocked in level flight, over a carefully measured two-mile course, in as little as 32.8 seconds, or 219 miles an hour. The European peregrine, a hawk used in falconry, was timed at 165 to 180 mph during its dive after quarry. In the United States, the golden eagle and the duck hawk can dive from high altitudes at similar speeds and the latter, in level flight, easily overtakes and seizes such swift birds as ducks and pigeons.

A few homing pigeons have averaged 60 mph over courses of a few miles and as much as 55 mph for 4 hours. The mourning dove and the golden plover have been chased by airplanes at 60 to 65 mph. Some ducks and geese can reach speeds of 55 to 60 mph or more, and the tiny hummingbird can do 50 to 55. Most birds habitually fly at speeds much less than their maximum. For example, crows commonly cruise at 20 or 30 mph but can speed up to 40 or 45. The distance endurance record is thought to be held by the Arctic tern which migrates to the Antarctic and back in about 20 weeks—a distance of 20,000 to 22,000 miles.

In a foot race, the cheetah or hunting leopard wins. It has been timed at 70 miles an hour during short bursts of speed in pursuit of

gazelles and antelopes. It can overtake and pull down the black buck of India which is reputed to reach 65 mph. The pronghorn antelope of western United States has maintained 60 mph for two miles and 36 mph for 27 miles. The lion can charge at 50 mph over short distances. Even the largest of all land animals, the African elephant, with its stiff-legged trot could beat our best track stars in the dashes, while the rhinoceros can gallop neck and neck with a good horse for two miles.

Several strains of dogs have been bred for extreme speed. The fastest of all seems to be the saluki of Arabia, or the related Afghan hound, which can step out at 43 mph and overtake the fastest Arabian horse. Greyhounds and whippets sometimes reach 35 or 40 mph in dog races.

A man has run one mile in a trifle over four minutes; a ridden horse in a little more than 1½ minutes. The distance record for a horse is reputed to be 100 miles in 8 hours and 58 minutes; for a racing camel (dromedary): 115 miles in 12 hours.

When it comes to endurance in a very long overland trip, the winner would probably be the camel, the horse, or even man.

"just in case someone should forget that they are wild animals."

There is no expense to keeping the buffalo other than the cost of the pasture which is their home, Sherman said. It includes a spring that never freezes; even in the coldest weather minnows are swimming in it. And the grass is all the feed the animals get.—*Mason City Globe-Gazette.*



## CORN CRIB COON

The other day a Plymouth County farmer told game warden Newel a good coon story. He was sitting in his car in the alleyway of his granary corn crib when he heard something drop on the metal car top. He stepped out to investigate and heard some noise in a bin overhead. Thinking it was rats he banged a shovel against a wall—and out came a coon, followed by 13 others.—*Sioux Center News.*

## LETTER OF THE LAW

*The Devil walked the river bank,  
A heavy creel hung at his flank:  
I asked him what was in it.  
It bulged with souls of sporting men  
Who always took their lawful ten.  
He bragged: "I got the limit."*

—EDWARD S. PARKER, M.D.

## BUFFALO HERD AT NORA SPRINGS

Motorists on highway 18 for a number of years have remarked about the small herd of buffalo along the highway a mile east of Nora Springs. The pasture was empty for four years after the fall of 1945 but last fall there were buffalo in it again.

The late E. E. Sherman first bought three cows and a bull about 1937 but after keeping them a couple of years butchered them and sent the meat to a Chicago restaurant. Later he got a few more and raised a couple of calves. But when his son, Francis, was due home in October, 1945, after four years and four months in the army, the father planned a "Buffalo Day" for the entire countryside in celebration.

Francis was in Chicago on "Buffalo Day" and didn't get home but the event must have been outstandingly successful from the standpoint of those who did get there. In any event, when Francis got home all the buffalo had been eaten and his father had to buy one in order to have buffalo steaks for

his own family.

The new herd was bought by Francis when he was in Montana last fall to buy feeder cattle. They are all two-year-olds—a bull and nine cows—and were trucked to Nora Springs from the National Bison Range at Missoula, Montana.

Sherman bought the buffalo mainly as a curiosity but admitted that he probably could make money on them if he wished. He signed an affidavit when he purchased them that he would not slaughter them within five years. But the cows drop calves each year, starting when three years old, he said, and there is a ready sale for the meat in Chicago or even locally at good prices.

The owner, photographer and farm editor walked into the 20-acre pasture with a buffalo and the picture shows how close an approach was made. Sherman doesn't advise it, however. "I wouldn't want to try it myself on foot during the mating season or if one of the cows had a calf," he said.

The fact that it is dangerous is proved by the fact that he carries liability insurance on the beasts—



Buffalo herd on Francis Sherman farm on highway 18 one mile west of Nora Springs.



## Geology . . .

(Continued from page 105)

parks have outcroppings of such rocks.

Below the sedimentary rocks lies a complex of crystalline rocks of which we know but little. Presumably this is composed of igneous rocks and members of a third class called metamorphic. The latter were at one time either sedimentary or igneous but they were changed through the action of great heat and pressure resulting from deep burial in the earth's crust.

These rocks, at the surface, are broken down by weathering. The gases of the atmosphere, the force of expanding ice in cracks, the pressure exerted by plant roots, all combine to crumble the most resistant of rocks. Running water, wind, glaciers and waves also wear upon the rocks at the surface. Their action, combined with that of weathering, produces a mantle of subsoil, which in most places hides the underlying solid rock or bed-rock beneath. This mantle may also be shifted about by running water, wind, glaciers and waves. The streams are constantly carrying it to the sea.

The land surfaces would long ago have been reduced to the level of the sea had it not been for upward movements within the crust. These movements may result in withdrawal of the sea from flooded areas of the continents and in the formation of mountains and plateaus. Downward movements may bring about slow spreading of the seas over land areas. The seas have been in and out of what is now Iowa many, many times.

The movements of the crust, the action of weathering, running water, glaciers, wind, and waves have combined to produce the surface features of Iowa as we know them today. In some parts of the world volcanoes and related phenomena have played a part, but not in Iowa.

To understand the geologic features of our state parks one must have some understanding of the geologic history of this part of the world, as it is read from the geological record. The record is in the rocks of the cliffs and deep wells, in the soil and subsoil, and in the topography or "the lay of the land" on top.

From a study of the solid rock seen in the cliffs along rivers, in roadside cuts, and in quarries, it has been learned that recurrently, through hundreds of millions of years, Iowa was covered by shallow seas. In these seas, deposits of gravel, sand, clay and limey material accumulated. These materials were swept from the land by streams and wind, or worn from the shore by waves. The limey material came from the shells of marine animals and from the precipitation of mineral matter from the sea water. Subsequently these deposits hardened to rock. Water, percolating through the material, deposited mineral matter between



Has it ever occurred to you why state parks are so unlike in their terrain, why some show cliffs of solid rock and others none?

the grains. Gravel became a rock called conglomerate or pudding-stone, sand became sandstone, clay and mud became shale, and the limey material became limestone.

The last of the seas to spread over this part of the world withdrew about 60 million years ago. Coming from the west, it covered about half of the state. Other seas of which there are records ranged as far back in time as 550 million years.

Much has happened since the withdrawal of the seas. Weathering and erosion by streams and the wind continued for a long while. Then came the glaciers, like those of today in Greenland and Antarctica. They are believed to have

spread from centers in Canada, and to have been thousands of feet thick. The first one covered all of Iowa, about a million and a half years ago. It got as far south as the Missouri River. After the climate had changed and the glacier disappeared, events continued much as they had before.

After the lapse of a few hundred thousand years another glacier spread over this part of the world. It covered all of Iowa except the northeastern counties, but it, too, reached as far south as the Missouri River.

In the hundreds of thousands of years which have elapsed since the retreat of this glacier there have been other onsets of glaciation.



The glaciers left deposits of clay, silt, sand, pebbles, and boulders and formed the natural lakes in northwest Iowa.

The third one got into only the southeastern counties of Iowa. The fourth moved into northern Iowa, retreated, and then advanced, in the form of a lobe about four counties wide, as far as Des Moines.

These glaciers left a deposit of clay, silt, sand, pebbles, and boulders called drift. Much of the drift is a jumble called till. The rest, that deposited by the melt-water, is stratified. Along with the drift there are found deposits of a silty substance called loess. This is a deposit made by the wind. It is at the surface, beneath the grass-roots, over much of Iowa. The barren surface left by the retreating ice, and the bottomlands of big rivers were the source of this loess.

We have now a general picture of the pre-human history of Iowa. We can then visit the state parks in turn, and note how spreading seas, glaciers, and the forces of wind and water have brought these state park areas into being.

## THEY STILL DO IT

An example of what state conservation departments mean when they say to leave young wildlife alone is offered by a recent release of the United Press.

According to this report, Mr. and Mrs. Seaton Barker, owners of a health resort near Colusa, California, adopted a fawn four years ago and raised it on a bottle. All the children in the neighborhood made a pet of "Bambi," as the deer was called, and they delighted in posing for their pictures with their arms around the sleek neck of the now full-grown buck. Bambi was their playmate until a few weeks ago when a sudden change took place in his personality.

A few days ago, the deer was seen with blood on his antlers, and one Nick Miskulin was found dead near his car, his body trampled and torn by hooves and antlers. A posse shot the buck as it tried to break into an automobile in an attempt to reach two screaming women who had barely reached safety ahead of him.

What might have happened if this instinctive, seasonal aggressiveness had overtaken the deer at one of the children's photography parties is not pleasant to contemplate.

Leave young wildlife where you find it.—Wildlife Management Institute.

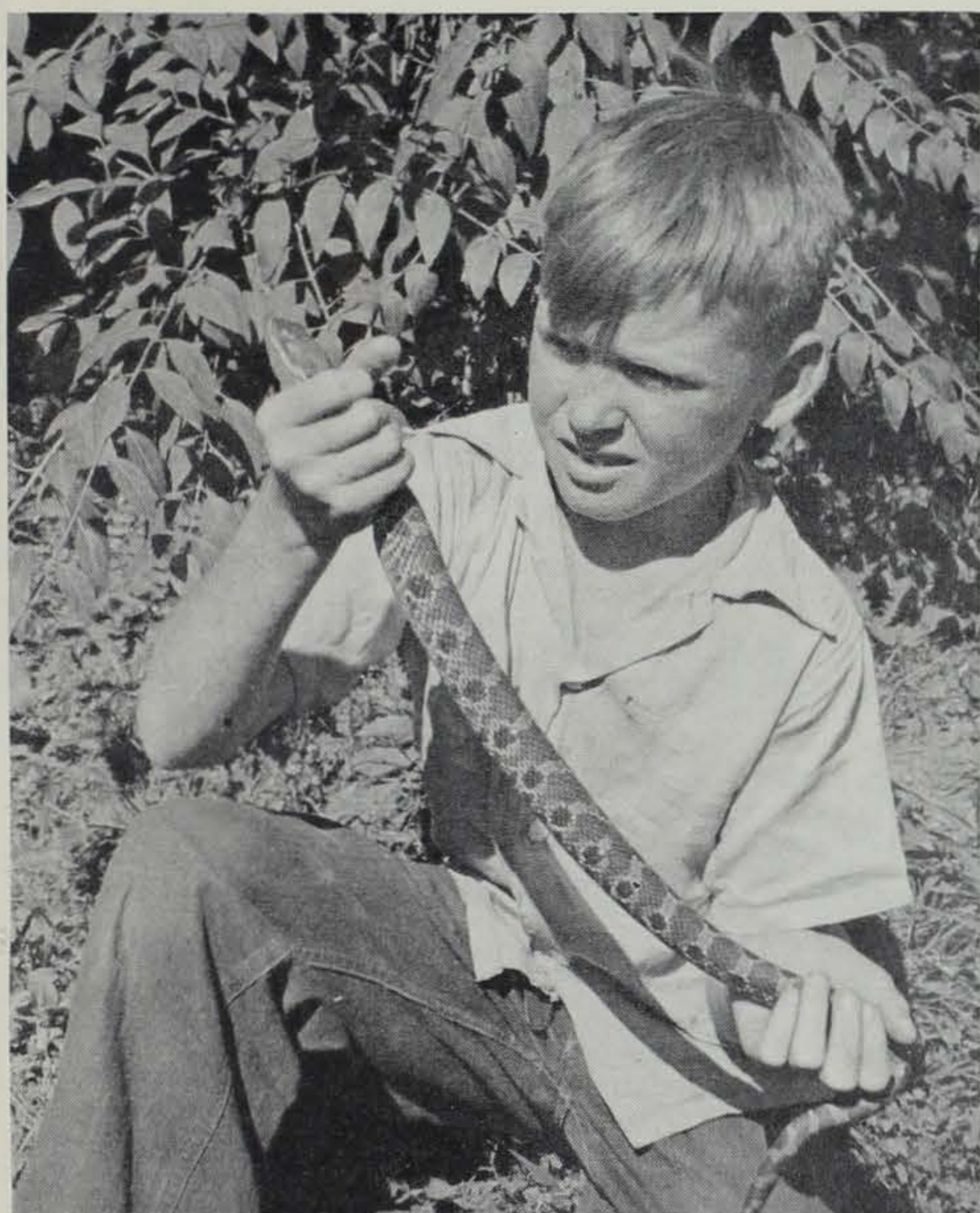
## About a Dog . . .

(Continued from page 108)

glove and threw it up on the bank on top of its mate. The dog eyed "Flick" suspiciously for a moment and then taking the gloves in his mouth he trotted on up the dike.

Bench shows and field trials bring out breeding that is recognized by sportsmen and rewarded by blue ribbons but this dog had those inherent qualities of courage and faithfulness that transcend all pedigrees. This, my friend, was a thoroughbred.





The fox snake, one of our more beneficial mousers, reaches a maximum length of 5 feet 5 inches. Jim Sherman Photo.

## Snakes . . .

(Continued from page 105)

Measurements of skins from snakes are not very helpful in determining the size of a snake because the skin stretches easily. Indeed, it is almost necessary to stretch the skin if it is to be properly cleaned and tanned. The skin of a 7-foot 2-inch python was found to measure 8 feet 8 inches after drying.

Some of the species found in Iowa do reach a good size. A pilot black snake of 8 feet 5 inches or a bull snake of 7 feet 8 inches is a rather awesome sight. While snakes nearing these record sizes are extremely rare, it is not unusual for snakes of these species to approach or exceed 6 feet in length. Fortunately, they are both non-poisonous species and are not prone to attack a man.

The prairie rattler, although not reaching as great a length as the bull snake or the black snake, may be a larger snake if we consider bulk, because of the heavier body of the rattlesnakes. A 4.5-foot rattlesnake may weigh six pounds or more.

One-third of the Iowa snakes have a maximum length of less than 3 feet and six species never reach 2 feet. About two-thirds of the Iowa snakes reach their maximum length before 4 feet.

Among most snakes the females are the larger. The fox snake, the milk snake, and the massasauga are exceptions among Iowa snakes.

Some people claim that the larger size of the females is to provide more room for the eggs or young.

What is the smallest Iowa snake? The species with the smallest maximum size is the ground snake, where the longest specimen measured one-half inch over one foot. The smallest Iowa snakes are probably the red-bellied snakes when they are first born—at a length of 3 inches (Table 1). It is possible that worm snakes or ground snakes are even smaller when they first see light but we have no measurements for young of these species. Incidentally, in our lists of snakes in Table 1, those down to the water snakes lay eggs while the water snakes and those beyond them give birth to young.

Just to indicate where Iowa's snakes stand as far as length goes, the longest snake in the world is the royal python, from Burma and Malaya, which may be 38 feet long, and the shortest snake (i. e., at maximum length) is a slender blind snake from tropical America which never exceeds 4 inches in length. This latter snake is often passed up as an angleworm.

## CORRECTION

In the January issue of the CONSERVATIONIST an article titled "Club Teaches Safety and Conservation" appeared, and through error no credit line was given. This story should have been credited to the *Sibley Gazette-Tribune*.

## Trout Stamp . . .

(Continued from page 106)

The first year, 1948, the revenue from the stamp was \$170,665. In 1949 it jumped to \$182,190. The 1950 figures will probably be a little under 1949. Since at one dollar per head the stamp figures reflect the actual number of trout anglers, it is interesting to note that in 1949 Michigan issued 818,590 resident fishing licenses and 132,400 annual non-resident licenses, plus 153,749 special 10-day fishing licenses. Against this great number of over one million licenses, 182,190 fishermen purchased trout stamps, or a fraction under 20 per cent of the total licensees.

Present Michigan law provides that all money from the trout stamp shall be used for the purpose of propagating and planting trout and in the improvement of trout streams. Exactly the thing which we have advocated if the plan were to be adopted in Iowa.

In his letter to us, F. A. Westerman, chief of the fisheries division, indicated that it was his opinion the trout stamp would become a

permanent fixture in Michigan. Chief opposition has come from a few localities where trout waters are predominant, but even in these areas any movement to repeal the stamp law would be resisted. In many districts sportsmen think the fee for the stamp should be increased, some even going so far as to say it should be \$5.00 per year instead of \$1.00.

Obviously, Iowa does not boast of anything like a million anglers or 182,000 trout fishermen. On the other hand, Iowa does afford limited trout fishing. How much better this could be if the stamp plan were adopted we leave to your imagination, but if as few as 5,000 anglers purchased a one dollar trout stamp each year, the sum total in 20 years would be \$100,000 and who will deny that even this amount in these days of astronomic figures would not conduct a very neat stream improvement program. Well, the legislature is now in session. If you trout fishermen want to do anything about it, this is the year to do it.—*Davenport Democrat*.

Table 1

Species	Size when hatched or born, in inches	Maximum Size Feet	Maximum Size Inches
Worm snake	..	1	2.75
Ringnecked snake	5	1	8
Smooth green snake	4.5	2	0
Rough green snake	7.5	3	6
Western hognosed snake	..	2	6
Common hognosed snake	5.5-8.0	3	7
Yellow-bellied king snake	..	4	5
Eastern milk snake	8-9	3	8
Red milk snake	..	3	5.5
Speckled king snake	10	5	4
Blue racer	8-12	5	10
Pilot black snake	11.9-15.6	8	5
Fox snake	9.5-11.0	5	5
Bull snake	15.0-15.5	7	8
Graham's water snake	8	2	10
Common water snake	8.5-9.0	4	3
DeKay's snake	3.2-4.5	1	4.5
Red bellied snake	3.0-3.4	1	3.25
Western ground snake	..	1	0.5
Plains garter snake	6.3-7.3	3	5
Common garter snake	5.5-7.0	3	8
Ribbon snake	9.5	3	8.75
Striped swamp snake	8	1	8
Copperhead	..	4	5
Massasauga	6.38-10.75	3	0.87
Timber rattler	..	5	0
Prairie rattler	..	6	2



This timber rattler is coiled and ready to strike. His 4 1/2-foot heavy body may weigh as much as 6 pounds. Jim Sherman Photo.



## Fishing and Facts . . .

(Continued from page 107)

those that they fail to dig up grow. Perhaps this is nature's plan to keep the woods and forests over the land.

We have watched many squirrels as they scampered along here and there under the trees, and have noted that at times they kept their noses close to the earth like a dog following or looking for the scent of an animal. Then maybe they'd stop and sniff around carefully till they found the right place and with a few quick strokes of their front paws unearth a nut or acorn.

We were standing on an oak ridge waiting for the hounds to bring a fox one time when we noticed a squirrel coming along up the hillside. He'd come along a way, then he'd stop and look around and listen, then he'd come a few rods more. When he got under a big oak tree he began to walk and sniff around with his nose close to the ground, and when he located the right place he began to dig. About that time another squirrel came down out of the big hollow oak, and he sure was scolding. He took after the first squirrel, and away they went as fast as they could go, with the last squirrel cussing to beat the band in squirrel language. We thought how carefully the first squirrel had approached, only to get caught swiping acorns from his neighbor.

When spring comes squirrels feed on buds, and later they eat many kinds of mushrooms, and later yet they feed on certain types of plants and grass along with what nuts and acorns they can locate from last fall's supply.

Now if time hangs heavy on your hands and you are tired of working or hearing about the doings of the human family, put on your heaviest coat, overshoes and mittens, take a sack of nuts and some "bird feed" and take a trip out over the land and learn how the wild things make a living when Ol' Man Winter has his grip on the woods and fields. It'll do you more good than a truck load of vitamin pills, and likely you'll forget for a time that there's a big war brewing. If you look closely you're sure to find that the wild things have a hard time making a living, too, and that there's a perpetual war going on in nature and many animals and also many birds live in constant fear of being caught and eaten by larger birds and animals—only the strongest and wisest escape. Perhaps it's the way the world was planned to be.—Hopkinton Leader.

The cottontail rabbit is not a rodent. It belongs to an order (Lagomorpha) which includes only the hares and rabbits.

The number of points on a buck deer does not necessarily indicate its age. The teeth are a more accurate age criterion.

## 14TH NATIONAL WILDLIFE WEEK MARCH 18-24

By Lloyd F. Wood  
National Wildlife Federation

The fourteenth annual National Wildlife Week this year falls in the week having the first day of Spring. The observance of this week is sponsored by the National Wildlife Federation and its affiliates in 40 states representing from two to three million nature lovers, sportsmen and conservationists.

National Wildlife Week is dedicated to the sensible management and use of wildlife to the mutual benefit of the public, sportsmen and natural resources, both animate and inanimate, of our country.

Since its inception by presidential proclamation in 1938, National Wildlife Week has been used as a symbol to point up the urgency of conserving, protecting and restoring our fast diminishing store of natural resources. For decades, we have been digging deeper and farther into our storehouse of natural resources. Four billion tons of soil are being washed away each year; our forests are being cut down fifty per cent faster each year than we grow them; our waters are getting more and more polluted and the drain on other resources is equally appalling.

This year, with a national emergency upon us, the need for a carefully planned program of wildlife protection is doubled. As the keystone of this program, we find conservation education. For too long has an apathetic public smiled tolerantly, sympathetically and dis-

couragingly whenever a professional conservationist begins to tell of the far reaching values of conservation. This attitude is fostered to a very large extent by a complete misconception of the aims of conservationists. All too few have paused long enough to hear the true story of a balance between nature and man—between animals and forage areas—between forest land and flood areas—yes, between supply and demand as a business man would describe it. This, then, is the true aim of conservation—so to balance the supply of wildlife that it will neither grow so abundant as to destroy itself by impossible demands on space and forage nor to allow the demands of thoughtless hunters, business men, farmers or just plain you and me to reduce any of our God-given heritage to the point of annihilation.

National Wildlife Week is dedicated to spreading this information to all walks of life, to point out how conservation, or its lack, has its effects on all people—city dwellers or country folks—on the dust bowl in Texas or the flood zone of the Mississippi.

In order to finance this educational program, the National Wildlife Federation produces each year a sheet of Wildlife Conservation Stamps. This year the stamps have been painted by three of the nation's foremost nature artists, Roger Tory Peterson, Francis Lee Jacques and Leslie Ragan. Mammals, birds, fish, trees, wild flowers and insects make up the 36 Conservation Stamps in beautiful natural colors. In the previous 13 issues, the Federation has reproduced 484 different species of American wildlife, thus bringing

the total to 520—a veritable pictorial encyclopedia of our outdoor wildlife friends.

A sheet of these full color stamps may be obtained for a contribution of one dollar or more, and they are distributed from the headquarters of the National Wildlife Federation, 3308 Fourteenth Street, N.W., Washington 10, D. C. Details relating to Wildlife Week activities may also be obtained at the above address.



Ecil Benson Photo.

## NEW LICENSES APRIL 1

Mayor Albers of Ft. Madison displays 37 consecutive licenses beginning with a hunting license purchased in 1914. The first combination hunting and fishing license Mayor Albers purchased in 1925. His Honor is waiting for April 1 to add the 38th license to his collection. He does not brag how much game and fish he has taken in the past 37 years; however, he has carried all of the licenses in the same pocketbook since 1914, and he is also using the same gun he purchased at the beginning of the first World War.

## Iowa Story . . .

(Continued from page 105)

cided something should be done, and look at the results!

The Iowa experience is an everlasting example of what can be accomplished when sights are set high and programs of long duration launched. The men responsible resorted to no short cuts. They didn't listen to the more vocal pressure groups. They set out to convert their landowners to the idea that game is just another crop and a valuable one, and to teach their sportsmen that day after tomorrow is a whale of a lot more important than tomorrow when it comes to insuring game populations.

This comment brings to mind Seth Gordon's soft-pedaled criticism of most American game agencies, voiced at the last get-together of conservation commissioners in Memphis. He commented that, of all the states, only one—Virginia—had set up an up-to-date, long-range program of game management. It indicates that some of the boys who have their eyes fixed on today or tomorrow might shift them over to Iowa for a minute or two and then look off toward the horizons.



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Black-and-white reproduction of four of the 1951 wildlife stamps.