

IOWA CONSERVATIONIST

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Number 3

NEW FISHERIES PROGRAM INAUGURATED

BIG RIVER—BIG FISH

The bigger the river, the bigger the fish. Sounds logical, doesn't it? And it is true to a certain extent. But to what extent? And why?

Well, the fish-ologists talk about a "space factor," which for some strange reason keeps fish from growing large when confined to small spaces. Just what this factor is, or why it operates, no one is very sure.

But more of that later. First, let's get down to cases, and talk about some of Wisconsin's big rivers and big fish. The Wisconsin, Fox, Wolf, Chippewa, Black, St. Croix, and Rock rivers are all fairly large streams. But Wisconsin's biggest, and the nation's biggest, and one of the world's biggest, is the Mississippi.

It is therefore, to be expected that the Mississippi River should produce some mighty big fish. And it does!

One of these monster species is the blue (or chucklehead) catfish. It is common in the lower reaches of the Mississippi but rarely has been captured north of St. Louis. It reaches the weight of over 150 pounds. The fisherman lucky enough to get one of that size on his hook (mostly they are fished for with trot lines or bank lines) finds himself in possession of a good part of his winter's meat.

A cousin to this fellow, the flat-head or mud catfish, does thrive in the Wisconsin section of the Mississippi. In fact, it makes up a substantial part of the commercial fish catch, and is often taken by trot line and by sporting tackle. Not quite so large as the blue catfish, yet it is no dwarf. Many 40 to 50 pounders are taken each year, and there are records of a few hefty ones that scaled over 100 pounds. Both of these kinds of catfish, incidentally are considered good eating, and bring a good price on the market.

Still a third member of the catfish family, the common channel catfish, abounds in the Upper Mis-

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There are several thousand acres of abandoned strip pit coal mines in south-central and south-eastern Iowa. Many of these contain water and can be made to support fish life.

RACCOON STUDIES IN IOWA

By Glen C. Sanderson
Game Biologist

How long do you think it would take you to skin 142 'coons? This is the number skinned in a single eleven-hour day by fur-buyer Louis Lamb of Bloomfield, and his helper Cleve Henderson. This figures out to about one 'coon every five minutes for the two men. Louis and Cleve have had lots of practice for during the past two seasons they have skinned approximately 2,100 of these fur-bearing animals.

During the fall of 1950 we first learned that Louis was skinning a substantial number of raccoons at his place in Bloomfield. We approached him with the idea of collecting information from the carcasses as the raccoons were being pelted. He agreed and he has cooperated with us whole-heartedly ever since.

The first year we collected several hundred bones from the reproductive organs of the males, in addition to valuable information

from several females. During the past year we collected nearly 550 bones and weighed approximately 380 'coons of both sexes at his place. In addition to the bones and body weights, the testes of the males and reproductive tracts from the females were collected and studied.

From the reproductive tracts (uteri) of adult females we can learn the number of young in each litter, because each embryo leaves a dark area (placental scar) at the point of its attachment to the uterus. By merely counting these dark areas in a number of females we can determine the average litter size which is an important key to what the population level is doing. Since all female raccoons that have given birth to young in a particular year have these dark areas, we can note the number of females without the scars and determine the percentage of females giving birth to young in a particular year—another important factor in de-

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By Lester F. Faber
Superintendent of Federal Aid

The Dingell-Johnson Program has been added to the list of fish and game activities of the State Conservation Commission. The program is technically known as the Federal Aid in Fisheries Restoration Act.

As the result of a ten per cent excise tax on fishing rods, reels, creels, and artificial lures, money is made available by the Federal Government to the various states to carry out projects designed to help the angler to catch more fish. This program is a companion to the well-known Pittman-Robertson Act established in 1937 which provided for an excise tax on sporting arms and ammunition to be used to benefit wildlife.

The basic features of the two laws are very much the same in that the money is collected by the United States Government and redistributed to the states. Although the tax has been on fishing tackle since 1941, only since 1950 have the receipts been made available to the states for fisheries work. Prior to that, they were a part of the general federal revenue.

The first money that was made available to Iowa from this source was received in July, 1951. These were the collections from the previous twelve months. As the name of the law implies, the money is to be used only where fish and fishing will receive primary benefit.

The size of the D.-J. Program in comparison with P.-R. will be comparatively small. The collections for fisheries work will be about 18 per cent of the P.-R. collections which totaled \$389,799 in 1951.

The D.-J. Program for Iowa as now planned will follow three main courses. 1. The purchase and development of areas such as abandoned strip mines that can be converted into public fishing areas. 2. The purchase and development of public access to the lakes and streams, and 3. The purchase and development of areas for the improvement of existing lakes.

There are several thousand acres

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DEER KILLED BY CAR

A car driven by Raymond H. Stoddard of Red Oak struck and killed a large buck deer Wednesday evening on the South Omaha road near the KSWI radio tower.

Stoddard, accompanied by Keith Blenderman of Omaha, was traveling west. His car struck the deer broadside with considerable damage resulting to the front of the car.

The deer weighed 225 pounds when dressed by the state conservation officer.—*Red Oak Express.*

There are 56 kinds of wild mammals in Iowa. The smallest is the little-known pigmy shrew, about three and one-third inches long from the tip of the nose to the end of the tail. The largest is the white-tailed deer.

Missouri farmers received almost \$300,000 for 10,000,000 pounds of walnuts sold in 1951 to a walnut cracking plant in Stockton, Missouri.



Jim Sherman Photo. Fishermen are amazed at the number of game fish that may be observed on Okoboji when looking through the ice during winter time. Walleyes, perch, and northerns parade by in unending processions.

SEEING IS BELIEVING

It was interesting to sit in on the discussion carried on by local sportsmen at the last Izaak Walton League meeting. Judging from the comments, they're pretty well satisfied with the fishing as it is in the Great Lakes, even though it's something that takes constant effort to maintain and make better.

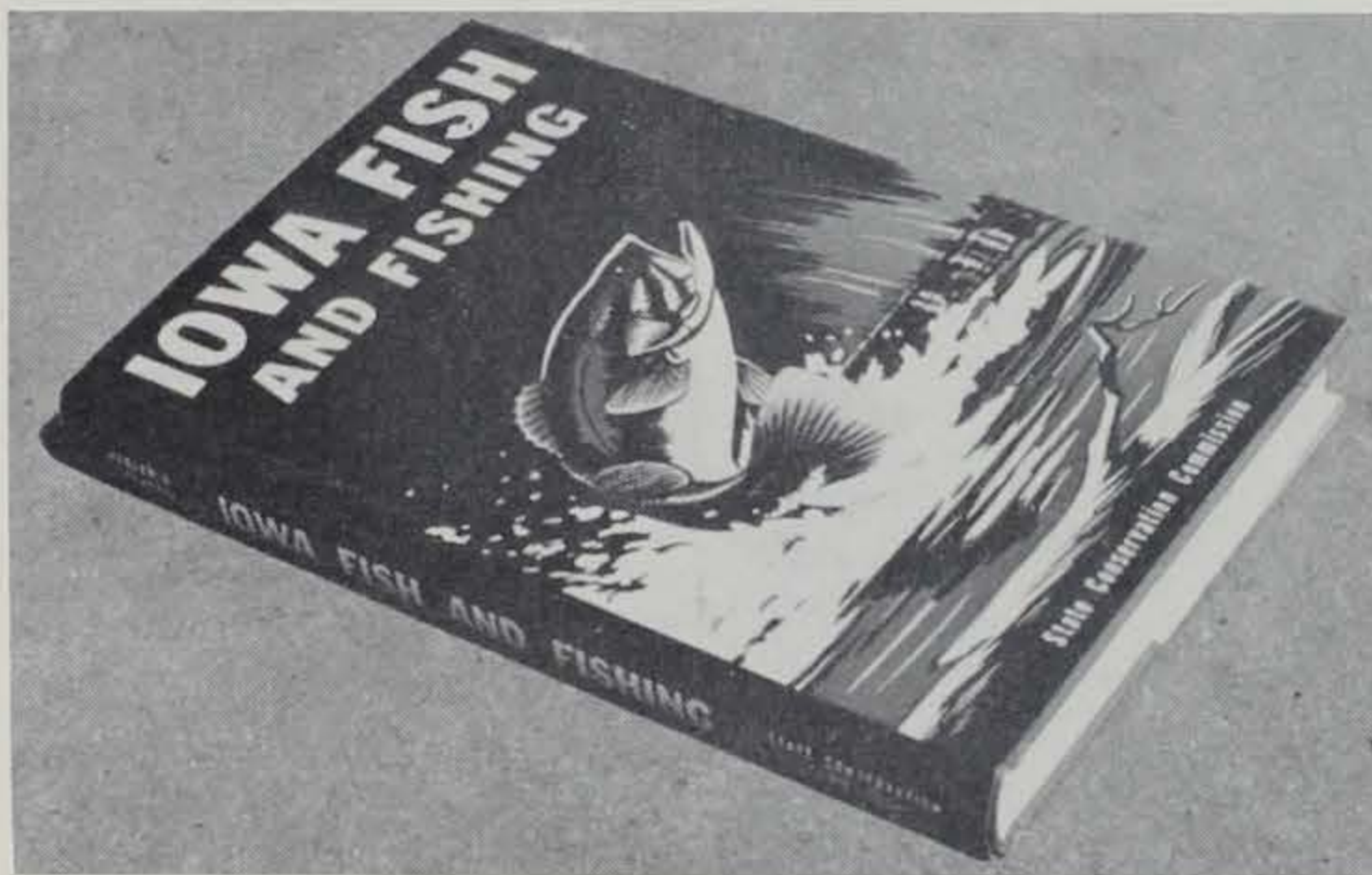
They admit that a lot of the work done to rehabilitate the fish population is experimental, but at the same time feel the experiments must be going forward with a degree of success. All you have to do is look down through an ice hole to see how many fish there are.

Unlike the strictly mid-summer fisherman, the ice fishermen have found the lakes to contain a normal

supply, perhaps even over-stocked a little with game fish. Conservation biologist Earl Rose said the natural life cycle of our scaly friends is against good fishing in the middle of summer. For fishermen who come up then in hopes of catching their limit, it's a little hard to believe there are all kinds of fish swimming around their hooks when those hooks always come up the same way they went in.—*Spirit Lake Beacon.*

The largest fresh-water fish caught by rod and reel in 1949 in the United States was a blue catfish caught by Frank Buckwood, using heavy tackle, in Pickwick Dam on the Tennessee River on May 19. It weighed 136 pounds.

Frogs lay their eggs singly or in masses. Toads lay their eggs in strings. They are surrounded by a jelly-like substance.

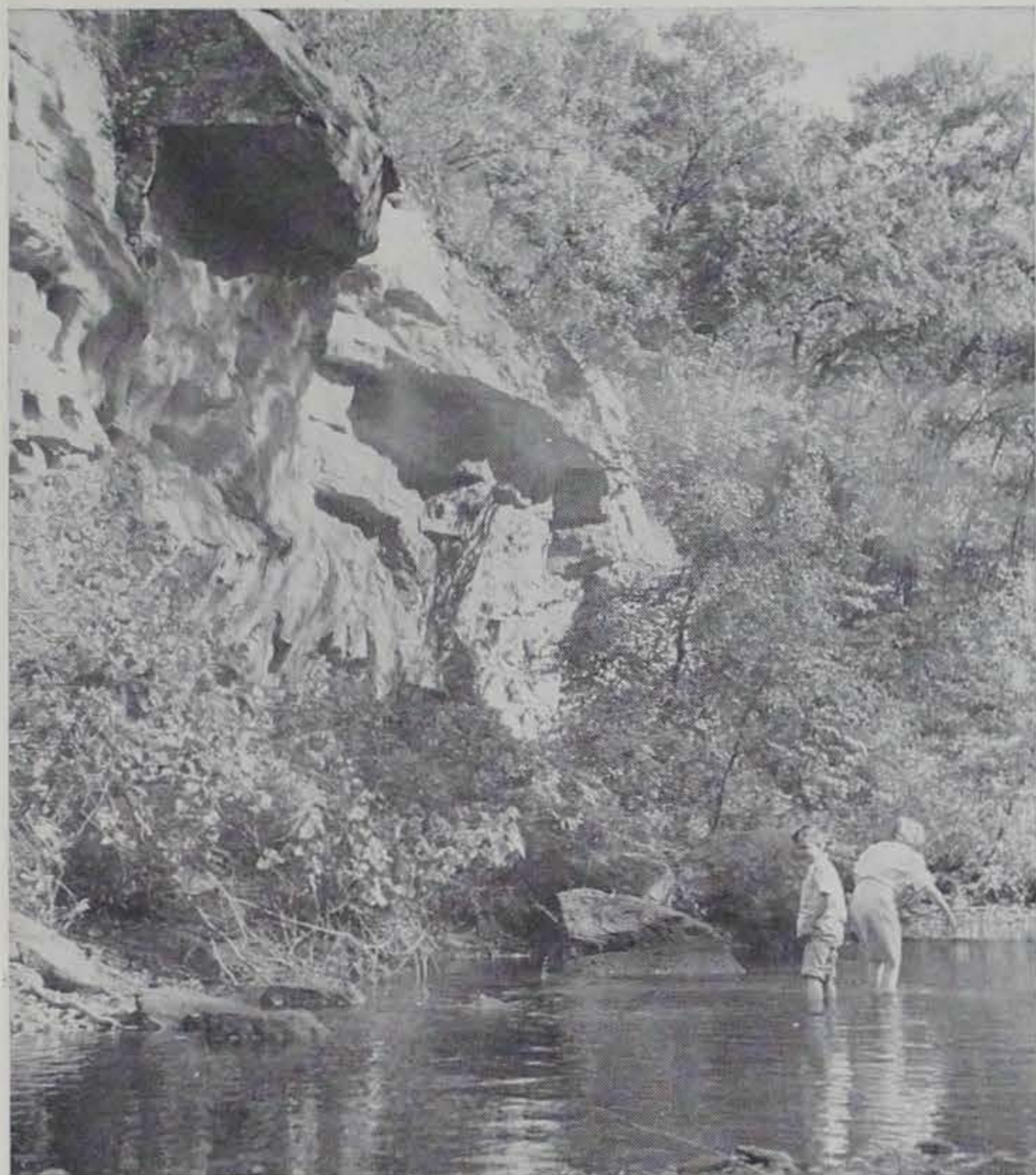


Jim Sherman Photo. Iowa Fish and Fishing, the great new book on the "what, where, how," of Iowa fishing is still available at the State Conservation Commission office, postpaid for \$2.00 per copy. Write for your copy now.

1952-53 FISHING REGULATIONS—Effective March 15, 1952 to March 15, 1953

INLAND WATERS OF THE STATE AND BIG SIOUX RIVER		Open Season	Daily Catch Limit	Possession Limit*	Minimum Length or Weight	BOUNDARY WATERS
Kind of Fish**						Mississippi and Missouri Rivers and Inland Waters of Lee County
Sheepshead, Redhorse, Suckers, Gizzard Shad, Mooneye, Goldeye, Carp, Buffalo, Quillback, Carpsuckers, Gar, Dogfish, Eel, Burbot, Chubs		Continuous	None	None	None	Same as inland waters.
Sand Sturgeon		Continuous	None	None	1 lb.	Same as inland waters.
Bullheads		Continuous	25	None	None	Continuous open season with no catch or possession limit.
Catfish—except Bullhead		Apr. 15—Nov. 30	8	8	None	Continuous open season with no catch or possession limit.
Trout—all species—5 a. m. to 9 p. m. daily		May 1—Nov. 30	8	8	None	Same as inland waters.
Minnows—(Closed in all state-owned lakes and trout streams)		Continuous	None	None	None	Same as inland waters.
Frogs—no exceptions		May 12—Nov. 30	1 doz.	1 doz.	None	Same as inland waters.
Walleye (Yellow Pike-Perch) or Sauger		May 15—Feb. 15	8	8	None	Same as inland waters except continuous open season.
Crappie		Continuous	15	15	None	Same as inland waters.
Perch		May 15—Feb. 15	15	15	None	Same as inland waters except continuous open season.
White or Silver Bass		May 15—Feb. 15	15	15	None	Same as inland waters except continuous open season.
Yellow Bass		May 15—Feb. 15	15	15	None	Same as inland waters except continuous open season.
Northern Pike		May 15—Feb. 15	5	5	None	Same as inland waters except continuous open season.
Smallmouth Bass		May 30—Feb. 15	5	5	10 in.	Same as inland waters.
Largemouth Bass		May 30—Feb. 15	5	5	10 in.	Same as inland waters.
Warmouth Bass		May 30—Feb. 15	15	15	None	Same as inland waters except continuous open season.
Sunfish		May 30—Feb. 15	15	15	None	Same as inland waters except continuous open season.
Bluegill		May 30—Feb. 15	15	15	None	Same as inland waters except continuous open season.
Rock Bass		May 30—Feb. 15	15	15	None	Same as inland waters except continuous open season.
Rock Sturgeon, Paddlefish		Closed	Closed	Closed	Closed	Closed.

*Not to exceed more than thirty (30) fish of all kinds in the aggregate, except that this aggregate possession limit shall not apply to fish named in this table on which there is no daily catch limit. Where waters are located within the confines of state, city, municipal parks, etc., fishing will be permitted only when such areas are open to the public.
**EXCEPTIONS: In Little Spirit Lake, Dickinson County; Iowa and Tuttle lakes, Emmet County; Burt (Swag) Lake, Kossuth County; and Iowa Lake, Osceola County, the following exceptions apply: WALLEYE PIKE, daily catch limit 5, possession limit 5; NORTHERN PIKE, daily catch limit 3, possession limit 3; SUNFISH and BLUEGILL, open season May 15—Feb. 15, daily catch limit 15, possession limit 30; WHITE or SILVER BASS, daily catch limit 15, possession limit 30; CATFISH, open season May 15—Feb. 15; LARGEMOUTH and SMALLMOUTH BASS, open season June 1—Nov. 30, no minimum length or weight; PERCH, continuous open season, daily catch limit 15, possession limit 30; CRAPPIES, daily catch limit 15, possession limit 30.
No fishing in any designated trout waters except during open season for trout.



The geological story of Dolliver Memorial Park begins with the sandstone, formed by the cementing of drift sand particles together with limey matter in solution.

SANDSTONES OF DOLLIVER MEMORIAL PARK

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

Dolliver Memorial State Park is a hilly and wooded area of about a square mile on the west side of the Des Moines River in Webster County. The frontage along the river is over a mile, and in places the park boundary extends as much as a mile west of the river. A small stream flows through the park and there are many sandstone outcrops. In places the sandstone forms high cliffs.

The geological story of the park begins with the sandstone. This



A striking feature of the park's sandstone is its bedding. The stone is overlaid by glacial deposits of clay, sand, gravel, and larger stones.

was once a sand deposit in the channel of an ancient river. The river flowed through this part of what is now Iowa a few hundred million years ago. This was at the time when the coal of Iowa was getting its start as deposits of decaying vegetation in swamps on a low-lying coast. Probably some of the water which slowly drained from these swamps flowed away through this very river.

The sand was later changed to a hard rock. This was done by the water which soaked through it. The water had limey mineral matter in solution, and this was deposited between the grains of sand. They were thus cemented together. Of course, much of the sandstone as we see it today is soft and easily rubbed away. That is because it is weathered and has lost some of the cement from between the grains.

There is also much iron in the sandstone. This is in the form of a brown mineral called limonite. It is about the same as iron rust. Most iron-containing minerals form limonite when they weather. This is due to the action of water and the oxygen of the air on minerals.

Under some conditions iron is carried in solution in the sub-surface water. Then, if it meets water containing oxygen, the iron comes out of solution as limonite. In the sandstone of the park there are streaks and nodules of hard, brown limonite. Much of the rock is yellow-brown because of the

presence of this mineral.

Another striking feature of the sandstone is the bedding, or layering. In part it is quite regular. That is, there is one horizontal layer on top of another. More than that, however, there is abundant slant-wise bedding. This is called cross-bedding. It was caused by the variable currents of the river which deposited the sand. At times, at any one place, the river would scour away the sand. Then again it would slow down and deposit it. Thus, much of the sand was laid down in an irregular fashion on a sloping surface.

The impressions of small ancient tree trunks have been found in this sandstone. These trees were not like those of today. They were the same as those which grew in the swamps of those ancient days. Some of them helped to form the peat which was later to become coal.

Overlying the sandstone is the glacial drift. This is the deposit of clay, sand, gravel, and larger rocks brought here by the glaciers. There were three periods of glaciation in this part of Iowa. The first one took place about a million and a half years ago. The last one was only 10,000 years ago. Hundreds of thousands of years elapsed between the different glaciations.

With the melting away of the last glacier the Des Moines River came into existence. As the years went by it slowly eroded its valley. At first it flowed on the glacial drift, but after a while it was right down on the sandstone. The valley deepening continued, but more slowly. At the same time tributaries were springing up. At first these were gullies or ravines but later they became valleys as big as the one which cuts through the park. Thus, running water is the cause of the valley of the Des Moines River, and of the ridges and steep hillsides of the park.

The trail from the park road up over the cliff to the Des Moines River makes us aware of what erosion has done here. Presently we find ourselves on a sharp ridge down which the trail leads to the river level. On either side is a deep ravine, made by the water which has coursed down it. And, there in front of us is the narrow valley of the river itself, carved by 10,000 years of river flow. Following the trail down the ridge and then up the river valley we encounter many fine exposures of the sandstone.

We are amazed to note the difference in the appearance of the country as we go in either direction on the road out of the park. North or south it is the same. A broad, gently rolling country, just as it was left by the last glacier. Head-water erosion of the tributaries of the Des Moines has not yet reached far from the river. But we are content with what the streams have done within the park. They not only made the ancient sandstone, but later they have made the slopes, the ridges and the cliffs.



Jim Sherman Photo.
"If more fishermen would look through the eyes of a fish they would more than double their catch."

TRY LOOKING LIKE A FISH

By Homer Circle

If more fishermen tried looking at fishing through the eyes of a fish, they would more than double their catch, says Heddon's Research Department.

For instance, let's imagine ourselves a big bass hiding underneath a patch of weeds. We're hiding because it takes only a short rush to grab a little fish that swims by. In open water, this little fish would keep too far away to catch without an exhausting chase.

We're watching for an easy meal when along comes a guy in a boat, splashing the oars as he rows near our weed patch. He throws over the anchor with a big splash, scrapes his tackle box around on the bottom of the boat and stands up where he makes a sharp contrast against the sky.

We've heard this sequence of sounds so many times that we know what to expect next. He'll throw a plug in our direction thinking we're silly enough to grab it. We didn't grow big being thoughtless, and we want to keep on growing, so we let the plug alone.

However, some day one of those guys who thinks like a fish is going to slip up on us with no noise. He will drift within casting distance with no oars splashing.

To hold his boat in the wind, he'll have the anchor already down, just over the bottom so that he can lower it without commotion. He'll have a river runt plug at the tip of his rod ready to cast, and not have to fumble around looking for it; and he'll not stand up to cast.

That guy stands a good chance
(Continued on page 23)



Jim Sherman Photo. When snow covers the ground, the drab hens are nearly as easily seen as the brightly colored roosters.

WINTER PHEASANT SURVEY

By Richard C. Nomsen
Game Biologist

It takes some rough winter weather to get Iowa's pheasants out into the open after a 25-day season. But when snow covers the ground and the mercury drops, pheasants move from the fields into winter quarters. Farm groves, willow clumps and heavy weed patches help break the biting winds and blowing snow. Each favorable day, they range out from this cover in search of food. These are the conditions during the winter check-up, one of Iowa's several pheasant surveys. When cover is at a minimum and snow covers the ground,

pheasants are easily seen—and what is more important for this count, the drab hens are nearly as easily seen as the brightly colored roosters. The winter pheasant count is taken each year to determine the sex ratio of our post season pheasant population.

A survey of this sort must be an extensive one in order to include all of the pheasant range. Conservation officers check each of their counties that had an open season on pheasants. They record all pheasants seen while on regular patrol—the day's totals are listed on cards which are mailed every two weeks. Their count began on January 15 and continued through the month of February. In addition, a volunteer survey is taken by rural mail carriers. The cooperating carriers count pheasants for one week along their routes.

In this way, reports from all parts of the state are received. During the winter of 1951, over 90,000 pheasants were recorded for this survey. The average sex ratio for the state last year was 2.9 hens per cock. In other words, cocks made up about 25 per cent of the total population.

Records are not yet complete for this year. Because of heavy cover conditions last fall, a higher percentage of cocks is expected to be found in our 1952 population.

Results of this count will be compared with previous sex ratio counts and will also help to complete other surveys to be taken this year. Reports of all surveys are turned over to the Commission in late summer to aid them in setting regulations for the 1952 season.

The first importation of English sparrows into America was in 1850, 101 years ago. It was unsuccessful. Another importation in 1852, by Nicholas Pike, took hold. Other importations were made later.

The Nuthatch builds its nest in the decayed trunks of trees so that its young may eat the insects that flourish in this habitat.



Jim Sherman Photo. With cold weather, pheasants move into winter quarters in farm groves, willow clumps, and weed patches that help break biting winds and blowing snow.



Krilium, a synthetic chemical soil conditioner, is expected to have widespread application in controlling slope erosion. More than thirty technical organizations have tested the new material and extensive tests are continuing throughout the United States.

KRILIUM

A synthetic chemical soil conditioner, the first product of its kind to achieve effective and economical control of rain erosion, has been developed by Monsanto Chemical Company.

The trade name of the new product is Krilium, a synthetic polyelectrolyte. It was developed as the result of original research by Monsanto and extensive tests of several years duration. More recently the conditioner also was tested by approximately 30 technical cooperators in various sections of the United States.

Krilium is expected to have wide application in controlling slope erosion problems created by major earth-moving construction projects, including highway and railroad construction, housing projects, and construction and maintenance of military installations. In addition, it shows promise in the control of spot erosion problems in productive agricultural areas.

A unique feature of the new soil conditioner is its simplicity of application when used for erosion control. Krilium, grass seed and fertilizer can be applied to slopes and freshly graded areas from mobile equipment in a single operation by means of a water spray. Alternatively Krilium, seed, and nutrient fertilizer can be dusted simultaneously on the surface by ordinary mechanical spreaders at the rate of approximately one pound of Krilium for every 100 square feet to be treated.

After it becomes wet, Krilium forms a water-permeable plastic film on the surface of the ground during the period necessary for establishment of a permanent cover crop in erosion control. In addition to providing marked resistance to the erosive action of water, including splash erosion by raindrops, the product improves conditions for seed germination and subsequent growth of the grass or vegetative cover always necessary for permanent protection against erosion. Unlike previous film-type treatments with

asphalt or resin emulsions, surface treatment with Krilium increases water penetration and reduces runoff.

The conditioner holds seed and soil in place while grasses or legumes are germinating and becoming established. Tests indicate that the surface application of Krilium is effective in treatment of a wide variety of soil types.

Economic advantages of Krilium in comparison with various surface mulches widely used in erosion control, include its ease of application, lack of flammability, resistance to wind damage, availability in areas where mulches are not obtainable readily, and savings in transportation, storage, and application costs.

In announcing development of Krilium, Monsanto emphasized that extensive tests concerning the product's effectiveness, advantages and methods of application in the field of erosion control are continuing. Results of these tests and additional product data will be announced as they become available. —Monsanto Chemical Company, St. Louis, Missouri.

HONEY APPETITE CAUSES BEAR'S DEATH

Game Protector John S. Shuler, Lewisburg, Pennsylvania, was notified that a large bear had been found dead in his district. Food and Cover Corpsman Hoffman and the game officer located the bear, a 300 pounder, and brought the carcass in. There were no marks to indicate what caused the animal's death. Even when skinned, the body showed only a small bruised area on the head and neck.

The place where the bear had lain was checked again. About 6 feet away was a power line pole. Plainly visible on it were scars left by Mr. Bruin's claws. Shuler reasoned that the bear must have heard the humming of the wires, thought there were bees up top and scaled the pole to investigate. Likely, he contacted a "hot" wire and was either electrocuted, or the fall from the pole caused his death.—Pennsylvania Game News.

HOW ABOUT A CUP OF COFFEE, HONEY?

Warning to housewives! Perhaps it already has happened to you . . . and all we can say is "now you know" . . . but to you ladies who have yet to experience what we are about to describe . . . just keep a stiff upper lip . . . grin and bear it. There is nothing else to do once your lord and master decides that he would like to take a few midwinter living room casts with his fishing rod. It's a malady that strikes sometime between January and April . . . so if you are smart you will hide your choice vase or bric-a-brac . . . dodge into the sanctuary of your bedroom or kitchen and let the old man have his fling.

The symptoms are easy: He'll be reclining in his favorite chair, his feet sprawled out in front of him, his eyes deep in a copy of an outdoor magazine . . . perhaps he'll mutter something about "that day me and Joe were at Curtain Falls" . . . or "if the motor hadn't conked out on Big Winnie" . . . then all of a sudden he'll rare up out of his chair, his eyes glassy, as he nearly runs to the hall closet or wherever it is that you permit him to keep his fishing gear . . . right then is the time for you to grab Aunt Gertrude's picture and take off to a safe spot.

Out will come the tackle box . . . he'll rumble around in it hauling out fantastic pieces of junk (in your eyes) his cherished lures . . . next his pet reel will be given a close scrutiny . . . ending up being attached to the beloved rod.

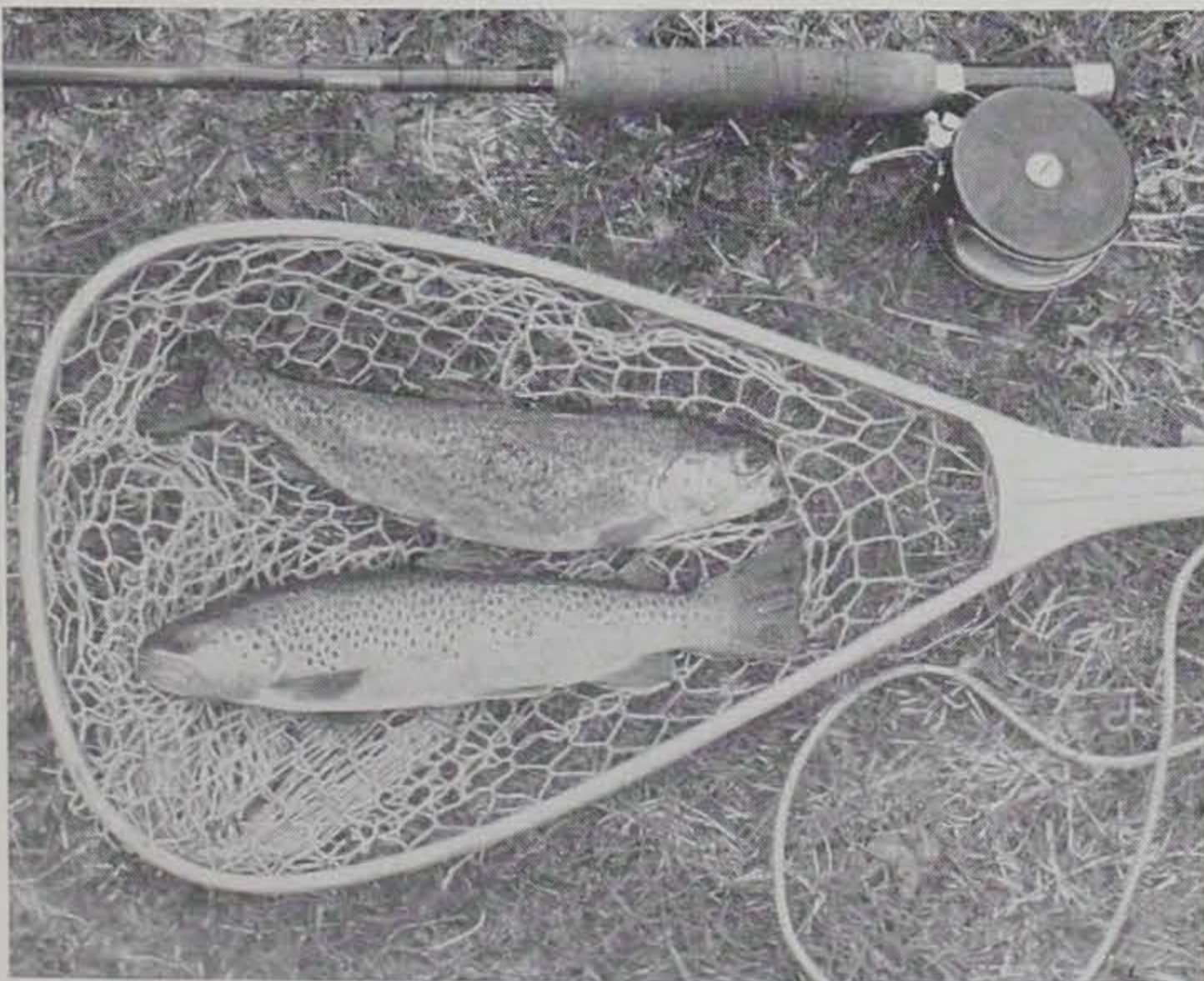
He'll probably just stand and stare at the outfit for a bit, as memories of last summer's fishing trip pass through his mind. You can peek around the corner at him . . . he won't even know that you are there . . . but look out! Back comes his arm and swish . . . the rod makes a graceful arc . . . he forgets where he is and the lure

sails out gracefully, in the reed, between the bridge lamp and the TV set, makes a resounding plop against the wall. You are lucky after the third or fourth cast if you have any drapes left . . . let alone usable light bulbs or book-ends. No, don't call the doctor or the sheriff . . . the old boy will be all right in a little bit . . . and if you take a cautious gander around the doorway you'll probably find him reclining again in his chair with all his fishing plunder draped about him.

Now if you play it smart . . . you might accomplish a lot! Just ooze into the room quietly and remark, "how about a cup of coffee, honey?" . . . you may get just a grunt or an answer . . . so just go ahead and bring in the java. He's travel-minded by now but for the love of Pete it's not the time to suggest that this summer "we should really go and visit my brother in Cleveland" or some other metropolitan area.

His mind is in the wilds . . . and you might as well follow along . . . play the game old girl! Sure, go ahead and drag out the snapshots you took at Fagan's on Lake Whoozit last summer . . . you know, the place where the skeeters were as big as sparrows and stuck like a rattler. Follow through on your cast sister, tell him how you adored the oil stove and the rustic plumbing. Keep on pitching . . . you've got him in the mood to go places . . . but for heaven's sake wait a few days or a week to smother him with the information that this year "we are really going to brother Harold's for one week and then the next week we can go back to Lake Whoozit."

It's all in your timing . . . but before the evening wears away . . . you can suggest . . . careful now . . . that you need a little change for a dress that is on sale . . . or



When you find your husband standing and staring at his fishing outfit with glassy eyes, don't call the doctor. He'll be all right in a little while. The chances are he is being tortured with a mental picture of last season's prize day.

Jim Sherman Photo.



Missouri farmers have become sold on multiflora living fence and the unlovely barbed wire strand seems to be on its way out in many parts of the state.

MULTIFLORA ROSE FENCE

Missouri farmers have become "sold" on the multiflora living fence to such an extent that the old barren and unlovely barbed wire strand seems to be on its way out in many parts of the state, according to the Wildlife Management Institute.

that new chair you have been wanting for so long . . . you can really get the guy in a mellow mood as he sits there with his fishing gear cluttering up his lap and chair . . . take it from a guy who knows!—John Garwood, *Marshalltown Times Republican*.

"The multiflora rose was introduced into Missouri by the Soil Conservation Service and methods of adapting the plant to less fertile soils developed in experiments conducted by the Missouri Conservation Commission. With proper fertilization and planting methods, technicians have found that the rose will produce good growth on anything but rock, sand and marshes. Rose hedges are replacing barbed wire everywhere in Missouri; three and a half million plants were distributed from the Commission nurseries alone in 1951 and many others were purchased from private nurseries. Five thousand plants will provide a stock-tight fence one mile long and each mile of fence represents a mile of ideal wildlife cover."

A GREAT CONSERVATIONIST PASSES

By Ira N. Gabrielson

With the death of former Secretary of the Interior Harold L. Ickes, conservation forces lost a valiant and able fighter for the improved management of natural resources. More than any Secretary of Interior in history, he familiarized himself with the public resources entrusted to his care and battled unceasingly to protect and manage them wisely. The influence for good of his official actions during the years he held that position will long be felt in America. To courage and integrity, he added a high-caliber administrative ability that made him one of the most colorful and successful public figures to appear in Washington in many decades.

He supported vigorously all constructive conservation movements, both as Secretary of the Interior and since his retirement to private life. Although a self-styled "curmudgeon" who took particular delight in sarcastic and caustic letter-writing, he had a keen understanding of the problems and difficulties of his subordinates. In my personal experience, he not only did not ob-

ject if a subordinate differed with him but rather enjoyed the experience. Never a "yes-man" himself, he admired and respected a degree of intelligent stubbornness in others, even when they disagreed with him. And if convinced he was wrong, he was quick to acknowledge the fact. To me, as director of the U. S. Fish and Wildlife Service, he was a fine chief to work for whose decisions were understandable and not easily altered. His attitude toward changes in waterfowl regulations characterized his reaction to other administrative problems. In cases in which the Service felt it possible to relax hunting restrictions, we had to prove to his satisfaction that the increase in the annual waterfowl population was sufficient to provide for the additional liberality. He was always sure in his own mind that, if additional restrictions were recommended, they were probably needed and he would sign such regulations without question. But it was always difficult to convince him that any relaxation of restrictions was good policy or good man-

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Jim Sherman Photo.

In some of the strip pit mines of southern Iowa, volunteer trees have already begun to grow. Additional plantings will stabilize soil banks and provide wildlife habitat.

New Fisheries . . .

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in south-central and southeastern Iowa of abandoned coal mines that contain or may be made to contain impounded water. Many of these have been examined, and it has been found that while some have such a high content of chemicals detrimental to fish, there are many acres of water that do now or can be made to support fish life.

Water areas will be improved or created by building or raising earth dams containing simple control structures. In some instances surrounding farm lands drain through the old excavation, while in others surface water from adjacent lands have been diverted around the pits. Where possible, surface waters from the surrounding areas will be directed into the pits where it will raise the water level and flush out accumulations of harmful chemicals.

The peaks of steep ridges will be bulldozed off, access trails made, areas created or enlarged in surface areas, and boundary fences built. The drainage throughout the area will be improved to prevent shallow, acid puddles, detrimental to the growth of trees or vegetation. The soil will be tested to determine steps to be taken to promote good vegetative cover and to aid in the selection of trees and grass species most likely to thrive.

To make good fishing areas then, a considerable amount of develop-

ment of the upland surroundings of these fishing spots will be done. The planting of trees, shrubs, and grasses will be of benefit to wildlife.

There are many hundreds of these areas, and we have to date been able to investigate only a few. We do know, however, that the chemical contents of the water and surrounding soil is of such a nature that a portion of the mines can be developed to provide fishing. We are leaning somewhat on the fact that the states of Missouri and Illinois have been able to convert some of their unsightly strip mine areas into very desirable recreational assets.

The extent of this phase of the program will depend a great deal on the number of mines that contain water that can be made to support aquatic vegetation and fish life.

In the second phase of the Dingell-Johnson Program the acquisition of access areas on lakes and streams will be of great value. The Commission has long felt that many miles of streams in the state are not providing the sport fishing available because they are inaccessible to the public. It is planned that the most desirable fishing areas and accesses will be acquired so that we can fully utilize the fisheries resources in the streams.

The access program as it relates to lake fishing is very much the same. Under the present law on

COLD FEET, WARM SEAT

By Arthur D. Nichols

*When I was but a little chap,
And spring seemed just around the bend,
Old Winter's lagging, frosty days
I thought would never, never end.*

*I counted weeks and days and hours,
As snowdrifts lingered on and on,
Made daily journeys to the streams
To see if all the ice was gone.*

*I checked the willows by the shoals,
The dogwood trees on slopes and hills,
And watched the robins just to see
If strings were hanging from their bills.*

*From many prying trips I made
I came back home with cold, wet feet,
And got what Mother warned I'd get—
A warm reception on my seat.*

*While that was oh, so long ago,
I doubt that I have learned a thing;
I still nudge winter's lagging feet
And try to force the hand of spring.*

—Outdoors Unlimited

public waters, the boundary between the state and the adjacent landowner is the mean high water mark. Margins around the lakes are to be acquired so that the public may use them without trespassing. In many instances, accesses will make available waters that may be fished from the shoreline, now impossible to reach except by boat.

There are now many privately owned sloughs adjacent to fishing

lakes. Under state ownership these areas can be developed to provide excellent spawning sites for game fish. This activity will be a small but important part of the new D.-J. Program.

The Dingell-Johnson Program will, of necessity, move slowly. The Commission, however, is optimistic and believes that substantial gains in public recreation facilities will be made from year to year.

DUCK STAMP SALES SHOW SMALL DECLINE DURING FISCAL YEAR 1951

Final reports received by the Fish and Wildlife Service from the Post Office Department on the sales of Federal "duck stamps" during the fiscal year ending June 30, 1951, show a total of 1,903,644 stamps sold to sportsmen, conservationists, and philatelists.

From July 1, 1950 to June 30, 1951, the sale of Migratory Water-

fowl Hunting Stamps represented a decline of 51,090 from the 1949-50 season figure of 1,954,734.

The largest sale in any one state this fiscal year was 150,661 in California. Minnesota was second with 145,708 stamps, while Texas attained third place with total stamp sales of 131,674. Iowa's total sales during the period was 49,518, the state ranking fourteenth.



Jim Sherman Photo.

According to duck stamp sales for the 1950-51 fiscal year, Iowa's waterfowl hunters totaled 49,518. The Hawkeye state ranked fourteenth in number of duck stamps sold.



Jim Sherman Photo.
In two years, Louis Lamb, Bloomfield fur buyer, and his helper Cleve Henderson, have skinned approximately 2,100 raccoon.

Studies . . .

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termining what raccoon numbers are doing.

Raccoon Age Studies

These raccoon studies were first initiated in Iowa in the fall of 1949 with the cooperation of hunters all over the state. Some of these first hunters are still cooperating and others are being added each year. The hunters report on the results of their hunting trips and, in addition, save the bones from the males. From these bones, called bacula, the age of the animals can be determined. The hunters also report the sex of each animal they kill. The changes in the age and sex composition of 'coons in the hunter's bag from year to year are important additional clues to changes in the population level, because an increasing percentage of female and juvenile 'coons is associated with a rising population level, while the reverse is true in the case of a declining population level.

In addition to the sex ratios ob-

tained from hunter-cooperators and from examining the animals at Bloomfield, several fur buyers in the state have allowed us to determine the sex of large numbers of 'coon pelts in their fur houses. The information from all sources is then added together to get the sex and age composition of the 'coon harvest for the entire state of Iowa.

Young-of-the-Year

Thus, from our studies we found that during the 1949-50 season females comprised 52.5 per cent of the catch and 55.1 per cent of the catch during the 1950-51 season. Young-of-the-year animals made up 64.9 per cent of the harvest in the former season and 65.1 per cent in the latter one. The raccoon population has been at peak levels since 1946 and these age and sex ratios are not expected to change much until the population level starts to change. Of course, we are watching the age and sex ratios mainly so that we will know what the population level is doing.

Accurate information on age and sex composition of the population over the entire state is much easier to obtain than is accurate information on the exact number of 'coons in the state. It would be nice to know the total number, but the actual number is not important; rather it is population trends that are important. This is true not only for 'coons, but for most other wildlife populations as well.

How Big a Coon?

Another part of our study includes weighing as many 'coons as possible, because body weight reflects food conditions, weather conditions, and perhaps in some cases age-composition. Well, just how much does an Iowa 'coon weigh? It all depends on whether the animal was weighed on a pair of scales, or by the hunter's imagination after he had carried the 'coon home through the woods late at night. 'Coons weighing more than 30 pounds do occur, but most

of them that supposedly weigh this much do so without the benefit of scales.

During the past two years we have weighed approximately 500 Iowa 'coons during the open season, and the heaviest one weighed only 23 pounds. Louis weighed one that was a little heavier than any weighed by us. Last season he offered a prize for the heaviest 'coon weighed at his place before Christmas. The prize was collected by a man who brought in one weighing approximately 28 pounds.

The adult males we weighed ranged from approximately 23 pounds down to 12.5 pounds, while the juvenile males ranged from 17.0 down to 7.5 pounds. The adult males averaged 17.1 pounds, the juvenile males 11.6 pounds, and all males 13.9 pounds in body weight. Females weigh less, on the average, than do males. Adult females ranged from 19.0 pounds down to 12.0 pounds in body weight and juvenile females from 14.5 down to 6.0 pounds in body weight. All females averaged 13.7 pounds in body weight.

Of course, these average figures will vary somewhat from year to year depending upon the available food and weather conditions. Although 'coons do not go into true hibernation, as do some animals, they will stay in their dens for several days at a time during periods of severe winter weather. Their body weights are usually at a maximum during the fall and early winter declining through the late winter until a new food supply is available in the spring. Then their body weight usually remains at a minimum level until late summer or early fall when they put on fat rapidly in preparation for the winter.

But why, you may ask, are you bothering with the 'coon now when we have more of the critters than we have ever had. Too many times in the past we haven't been concerned with our wildlife until it was gone. Based on past experiences we know full well that one of these years our raccoon population is going to decline. We may not be able to prevent this inevitable decline, but at least we hope to be able to predict when it will come. At least we are studying the population while we have it to study and it is our goal, and hope, that we may learn enough to keep Iowa's 'coon population from reaching its low levels of 15 and 20 years ago.

Try Looking . . .

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of adding us to his stringer for all we'll know is that a good looking meal splashed in the water over our heads and is trying to get away. Being unsuspecting and either mad, curious or hungry, we'll more than likely take a bust at it. It's as basically simple as that.

Simple, that is, if you look at it like a fish!

Kurly Kinks

By Curly Sharp

An old fountain pen makes an ideal dispenser for split shot. Remove the point and insides of pen and fill with your favorite size shot. Place cap on pen and clip to your shirt when you go fishin'.

THE MUD-BALL TRICK—If there's a big trout that resists all your tricks, try this and chances are mighty good that he'll wind up in your fryin' pan. Mix wet earth into a stiff paste. Hook on a lively nightcrawler or garden worm and cover with mud-ball. Lower it silently into the deep pool where the big boys' lurk. Then keep quiet, holding your rod motionless. The current will wash off the mud-ball and the worm will emerge by degrees and wiggles. No hungry trout can withstand such a perfectly presented snack.

Don't let the June bugs that collect on your screens go to waste. Collect 'em and use 'em for bait the next day. You can gather them alive where they are attracted by lights and both large and small-mouth bass are nuts about 'em.

Here's a tip that will help you get your fish home in good shape if you don't have one of the coolers now available on the market. Dress them as soon as possible. Remove gills, entrails, and all traces of blood along the backbone. Don't wash the fish in water, but wipe dry with dry grass or cloth. Put in a layer of lily-pads, watercress, or any water plant; lay fish in, keeping separated with more water growths. (Never use green grass as it heats up.) Occasionally sprinkle them lightly. Water plants will keep cool and the evaporation intensifies this.

Don't make the error of believing that you won't sunburn on cloudy or hazy days when out in a boat or away from the shade. You can acquire extremely painful sunburn even if the sun is behind the clouds all day.

Play your fish easily, don't try to horse 'em in. You've got all the time there is when fishin' and that's usually a lot. You'll not only have more fun, but while away many minutes that would otherwise be idle—not to mention saving many a big fish you can easily lose through haste. Keep the line tight and guard against slack at all times. Easy does it! Good timing, reliance on a good rod and line rather than brute strength make for more fish and fishin' fun.

A snap swivel on your favorite length leader saves a lot of time in changing your hooks, baits and lures.



Jim Sherman Photo.
Hundreds of raccoons of all ages and sexes were carefully studied by Commission biologist Glen Sanderson during the 1951 trapping season.



A 103-pound Mississippi flathead catfish, proving the axiom "big river—big fish." The Fisherman Magazine.

Big River . . .

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Mississippi River. It is plentiful enough in number to be one of the river's most important food and game fish, but compared to its two cousins it is a piker for size. Usually it runs from 2 to 8 pounds, but it has been taken up to 22 pounds or more.

It should be remarked that this same species of catfish, taken from the Great Lakes, weighs up to 40 or possibly 50 pounds. Although this may be a separate subspecies or race, there is some reason to believe that the size difference is due simply to the difference in environment, perhaps connected with the size of the bodies of water.

A vague, but somewhat general rule, says that the bigger kinds of fish tend to be the kinds that feed on other fish—in other words, the fishes of prey. But as a startling

STATE PARK ATTENDANCE						
	1946	1947	1948	1949	1950	1951
TOTAL PARK ATTENDANCE	1,446,881	2,512,709	2,756,690	3,687,287	3,625,350	3,433,478
CABIN ATTENDANCE	18,925	21,924	23,905	25,850	24,877	20,366
LODGE ATTENDANCE	50,040	41,875	40,107	53,810	52,171	39,812
TENT AND TRAILER ATTENDANCE	13,145	6,763	8,019	7,863	10,118	13,005
ORGANIZED GROUP ATTENDANCE	12,010	13,973	15,553	15,187	17,934	18,132

exception, consider the paddlefish. This primitive fish dines on minute crustacea ("water fleas" and the like) with occasionally a few small aquatic insects thrown in. Yet it grows to the ponderous size of 160 pounds or more.

The paddlefish (or "spoonbill") is a living member of an ancient and mostly forgotten group of fish. Scaleless, with a long, thin, paddle-like snout, it is indeed of amazing appearance. Once so abundant in the Upper Mississippi that it was slaughtered in great numbers for its roe only, it is now so scarce in the upper part of the river that it is completely protected by law. In the Lower Mississippi, however, paddlefish are produced in fair amount, and are prized both for their roe and for their delicately flavored flesh.

The rock sturgeon also has become very scarce in the Upper Mississippi, although still moderately plentiful in the tributary St. Croix River. This, the largest of Wisconsin's fishes (with a possible weight of over 200 pounds) has for its main range the Great Lakes drainage system, the Red River of the North, and Hudson Bay.

A closely related sturgeon, the hackleback, occurs in large numbers in the Mississippi River system, but this is a puny fellow of only two to six pounds. The big brother in the sturgeon family is the Pacific coast sturgeon, of the Columbia River system. In fact, this fish is far and away the largest freshwater fish of North America. It has been recorded authentically at over 1,000 pounds. The Russian sturgeon, in Europe, reaches a weight of over a ton.

Among the killers of the fish world, there are few more vicious and voracious than the gars. These, too, are left-overs of an

ancient tribe. Armor-plated, and equipped with a long snout and many needle-sharp teeth, they are ferocious indeed. Many a fish falls prey to their ever-eager appetite.

The two species of gar of the Upper Mississippi Valley are relatively small, ranging from two to five feet in length. But the alligator gar of the southern river and bayou country attains a length of eight to 12 feet, and a weight of perhaps 75 pounds. If a small fish could know fear, the sight of one of these deadly marauders surely would strike terror to him.

If your experience has been with creeks and small lakes, where the common sucker is often quite common, but usually running around a pound or two, it may surprise you that some of the biggest fish of the Mississippi River system belong to the sucker family. Yet such is the case. These big boys of the sucker tribe are the buffalo-fishes. They are not noted for much gameness nor are they especially prized eating fish. Yet, because they are produced in very great numbers and with relatively small effort, they are of great importance in the commercial fishing industry.

Frequently buffalo-fish weighing from 15 to 20 pounds are caught, and an individual top weight of over 60 pounds has been recorded.

Other kinds of suckers present in these waters include the carp-suckers ("quillback") which reach about 10 pounds, several species of redhorse, which run from five to ten pounds, and the rather unusual Missouri (or blue) sucker which weighs up to 15 pounds.

Next, we come to the well-known but little loved carp. At first hailed with praise, and later damned with disgust, the carp at any rate is here. In some of our waters, like the Mississippi River, the carp, like the native buffalo-fish, has come to be an important part of the commercial fishing industry and of the food fish of the nation. So there is some mitigation, after all.

In the line of carp, the Mississippi produces its share of big ones. Although 10 to 15 pound carp are more usual, an occasional one is taken that weighs 30 pounds or better.

An odd thing of course is that the carp is a member (a foreign member to be sure) of the multitudinous family of minnows nearly all of which are midgets of a few inches in length. However, there is a minnow native to the Southwest, the so-called "white-salmon," that is known to reach 75 pounds! So family relationships do not always mean everything.

Now how much of this depends upon the fact that it is a big river? That question is hard to answer.

That reason is surely not the only one. Part of the explanation is simply that certain kinds of big fish happen to be found in the Mississippi, just as certain kinds are found in other waters.

Nevertheless, there is no disputing that there is some sort of connection, however mysterious, between the size of a fish and the size of the body of water in which it dwells. For example everyone knows that goldfish reared in a bowl grow to a maximum of a few ounces, no matter how well fed and cared for. Yet when planted in the water of a river or lake, the same species will attain a weight of several pounds. The cutthroat trout of the Rocky mountains thrives in the small mountain streams, but grows only 8 to 12 inches long. The same species in Colorado lakes, has been known to reach over 30 pounds. Other examples, not so startling perhaps, but certainly numerous, point out that some fish can be cramped for room.

Nor is it simply a matter of over-crowding (too many fish too close together) or of food competition. Remember, the goldfish in the bowl may be all alone, and may be fed the fat of the land. And the 8-inch cutthroat trout are fat, and show no tendency toward what is commonly considered stunted growth.

So seemingly it does become, after all, a matter of space, or room-to-live or what will you. And that is about where the matter rests, as to present knowledge, although this is one of the many subjects pertaining to the physiology and psychology of fish that fish research investigators are constantly studying.

At any rate, to some extent at least, there is truth in the saying, Big River—Big Fish.—The Fisherman.

Conservationist . . .

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agement. In other words, his interest was entirely in the resources.

During the years that I worked with Harold Ickes I formed a very high respect for his integrity and his ability and feel keenly his loss, both from a personal standpoint and from that of a fellow worker for conservation.

The nighthawk has a habit of "buzzing" his mate, as she sits on her eggs. He does this by darting down upon her from a considerable distance and then sweeping upward with a loud booming noise.

Many consider the beaver quite a harmless animal. When aroused, however, it becomes one of the deadliest of water fighters, easily killing a hunting dog if attacked in the water.

There is no other way to maintain prosperity but to maintain the resources on which prosperity is founded.



Old Oscar, one of Iowa's giant representatives from the Mississippi River, being transferred from a fisheries truck to his tank at the state fair fish and game exhibit.