

IOWA CONSERVATIONIST

Volume 10

JULY 15, 1951

Number 7

THE WORLD'S OLDEST ROBIN

GEODE PARK CHILD OF THE SEA

By Charles S. Gywnne
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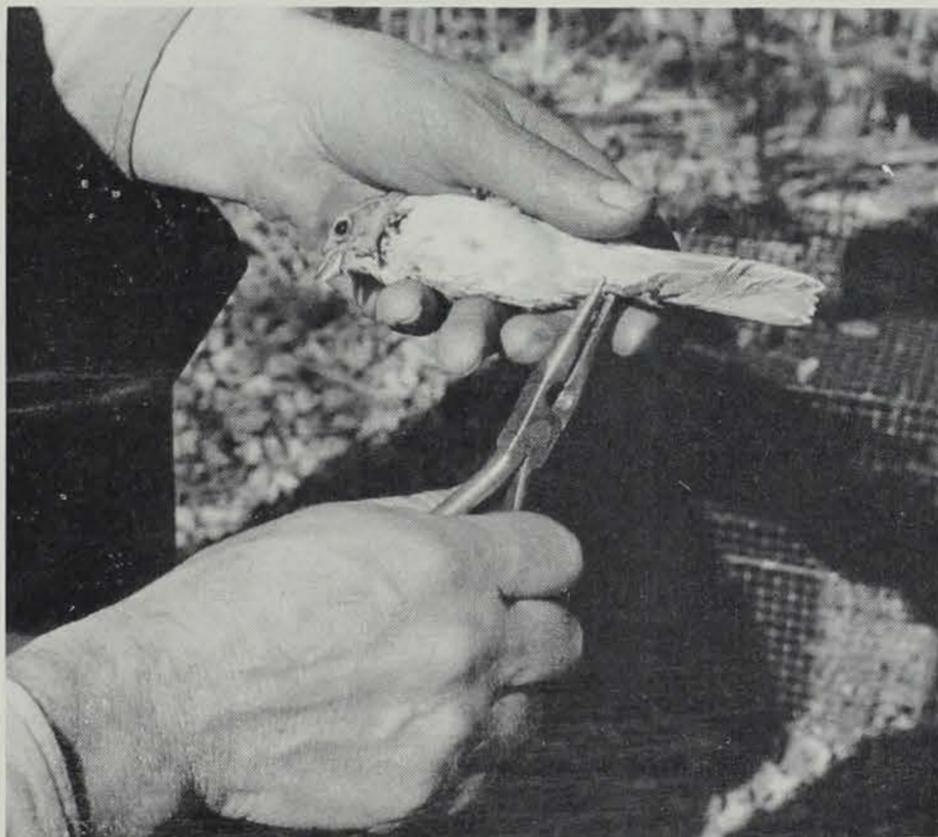
Geode State Park is named for the interesting objects known as geodes which occur in the bedrock and along the streams of the southeastern corner of Iowa. Geodes are rounded and hollow objects of stone ranging up to a foot or more in diameter. They are generally lined on the inside with crystals of clear quartz. This clear variety of quartz also goes under the name of rock crystal. The crystals are usually in the form of six-sided prisms, capped with pyramids. They point toward the center of the geode.

Some of the geodes of this region are lined with another form of quartz called chalcedony. This is a waxy-looking, translucent, white substance which does not form crystals. Instead it forms a smooth coating which is somewhat bubbly in appearance. In some cases the chalcedony may cover the crystals of quartz.

Crystals of other minerals are formed in these geodes of southeastern Iowa. These include calcite, pyrite, galena, and sphalerite. Calcite looks somewhat like the crystalline quartz, but is much softer. Pyrite is brassy-yellow in color, and occurs in cubes. Galena is soft, lead-gray in color, and occurs in cubes. Sphalerite is brown and looks somewhat like rosin.

These geodes occur in a shale formation which forms part of the bedrock of Iowa and Illinois. In Henry and Lee counties this formation is immediately beneath the subsoil, or else sticks out along the sides of valleys. Weathering and stream action free the geodes from the shale, and so they are found lying along the stream bed. They can be recognized from their rounded form and rough surface. Some are so thick-walled that they are difficult to break. Others are thin-walled and break easily. Those

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In the United States more than four million birds of various kinds have been leg banded with small aluminum numbered bands. Birds so tagged when found should be reported to the State Conservation Commission, giving complete leg band data.

Your Conservation Commission \$\$\$

By K. M. Krezek
Chief, Division of Administration

Part of the funds used by the State Conservation Commission are received from the State Legislature. The rest are collected directly from the public from the sale of licenses, permits, fees, and concessions. During the past fiscal year, June 20, 1949, to June 30, 1950, revenue from all sources amounted to \$4,422,930. This, plus an unexpended balance of \$2,754,536 carried over from the previous fiscal year (earmarked by the Legislature for special purposes) made a grand total of \$7,177,466 in the Conservation Commission treasury.

At the time of the creation of the Conservation Commission the law established three operational funds, the Fish and Game Protection Fund, the Conservation Fund and the Administration Fund. Ten

other funds on Commission books during the fiscal year are classed as Special Funds and were received from Special Legislative Appropriations, Retrenchment and Reform Allocations and Revenue accruing from special activities.

The largest of the regular operational funds is the Fish and Game Protection Fund. This is a trust fund made up of revenue received from the sale of licenses, plus other revenue from Fish and Game activities. During the past fiscal year a total of \$1,181,790.05 was received from the following sources:

Fishing Licenses	27.5%
Hunting Licenses	27.4
Combination Licenses	30.1
Trapping and Miscellaneous Licenses	3.6
Pittman-Robertson Refunds	6.4
Rough Fish Sales	2.0
Land Management	1.4
Miscellaneous	1.6
	100.0%

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By M. L. Jones
Conservation Officer

We have come to look upon the man with a hobby as the fortunate individual with a pop-off valve which may enable him to spend only a minor portion of his life in mental institutions. It may have been to maintain this mental balance that the writer turned to bird banding.

Since leaving the teaching field to take up conservation work I have found less need for outdoor recreation, therefore, my banding operations have been chiefly confined to the birds found at my feeding station in Ledges State Park. In a place like the Ledges where food has been made available each fall and winter for the past twenty years the bird population reaches a point that is almost startling. On stormy days it is not unusual to see twenty-five birds of nine or more varieties in or near the feeding station at one time.

Most of the feeders are so designed that they may also serve as a trap. Thus, the birds become so accustomed to the trap that they shy away from the feeder if the trap is removed. To these birds a banding trap means a food supply.

At the Ledges last winter the menu consisted of eight bushels of walnuts, one hundred pounds of suet, small quantities of sunflower seeds, hickory nuts and corn—both ear and ground.

If it were necessary to be restricted to two items, the ear corn and suet would be far better than any other combination to provide a constant ever-ready food supply. Corn attracts the cardinals and the suet is especially welcomed by the woodpeckers. When daily feeding is practiced nothing beats walnuts well crushed on a concrete feeding slab. Tufted titmice are "nuts" about walnuts.

Without banding the birds, there would be no way of knowing how many were feeding here regularly. For example, the chickadees are the most common birds at the station yet not more than eight or ten are ever seen at one time.

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Iowa Conservationist

Published Monthly By The
IOWA CONSERVATION COMMISSION
East 7th and Court—Des Moines, Iowa
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CIRCULATION THIS ISSUE.....44,000

Entered as second class matter at the post office at Des Moines, Iowa, September 22, 1947, under the Act of March 24, 1912.

Subscription rate.....40c per year
3 years \$1.00

Subscriptions received at Conservation Commission, East Seventh and Court, Des Moines, Iowa. Send cash, check or money order.

KNOW THE BOAT LAWS

Boats Classified. For the purpose of this chapter, boats are classified as follows: Class I. All steamboats. Class II. All boats with inboard motors used for commercial purposes. Class III. All motorboats with inboard motors used for private purposes. Class IV. All motorboats of plane or gliding type, including combination plane and displacement types, propelled by an outboard motor. Class V. All rowboats, of displacement type, with outboard motor. Class VI. All rowboats or canoes propelled by hand. Class VII. All sailboats.

Motorboat Defined. A motorboat is defined as any boat or water craft propelled by machinery. Any boat or craft propelled by attachment to another craft which is propelled by machinery shall be deemed a motorboat.

Block Numbers and Registration. Every licensed motorboat operated for hire shall have visible, upon both sides of the bow, a block number corresponding to the license number, plainly marked in figures not less than four inches in height. Such number shall be in color contrasting with the color of the boat.

All machinery propelled boats, not operated for hire and capable of a speed of eight miles or more per hour, shall be registered with the commission.

Boat Equipment. No motorboat, propelled in whole or in part by gas, gasoline or naphtha, shall be operated unless the same is provided with an exhaust or muffler device so constructed and used as to muffle the noise of the exhaust, and no such boat shall be operated with a cut-out or any such device which shall make the muffler ineffective.

Lights. No person shall operate any boat during the period between thirty (30) minutes after sundown and sunrise which is not equipped with lights as herein prescribed:

(1) Every motorboat in classes I, II or III and all boats in class IV, which in the latter case are capable of a speed of eight (8) miles or more per hour, shall have the following lights:

a. A bright white light in forepart of the boat as near the bow as practical, so constructed as to show an unbroken light over an arc of the horizon of twenty (20) points of the compass, so fixed to throw the light ten (10) points on each side of the vessel; namely, from right ahead to two (2) points abaft the beam on either side. The glass of the lens shall not be less than 3½ inches in diameter. In general, this light shall, when in use, be kept pointed in direction boat is traveling.

b. A white light aft (stern) to show all around the horizon. A combined lantern in the forepart of the vessel and lower than the white light aft, showing green to starboard and red to port, so fixed as to throw the light from right ahead to two points abaft the beam on their respective sides.

c. All boats in class IV, not capable of exceeding eight (8) miles per hour, shall have a constant white light in the forepart of the vessel and to be so constructed as to be visible all around the horizon.

(2) All boats in classes V and VI shall have, when operated on any lake, and when over three hundred (300) feet from shore, a white light that is constant and so placed as to be visible from any direction.

(3) All boats in class VI shall have, when operated on any river or stream, a white light which is constant and so placed as to be visible from any direction.

(4) All boats in class VII shall have a white light on deck forward of the mast. Such light shall be so constructed as to be visible from any direction.

Speed and Distance. No person shall operate any boat on any of the waters of the state under the jurisdiction of the commission in such a manner as to endanger life and property nor in any manner other than herein prescribed:

(1) No boat in classes II, III, IV or V shall be operated on a state-owned lake at a speed greater than five (5) miles per hour when within two hundred fifty (250) feet from another craft.

(2) No boat in classes I, II, III, IV or V shall be operated at a speed exceeding five (5) miles per hour unless vision is unobstructed three hundred (300) feet ahead.

(3) It shall be unlawful to operate any motorboat within three hundred (300) feet of the shore of any lake at a speed greater than ten (10) miles per hour.

Traffic. Boat traffic shall be governed by the following rules:

1. Passing from rear—keep to the left.

2. Passing head-on—keep to the right.

3. Passing at right angles—boat at the right has right-of-way, other conditions being equal.

4. Sailboats have right-of-way over all other boats. Motorboats, when passing sailboats, shall always pass on leeward side.

5. Any boat backing from a landing has the right-of-way over incoming boats.

Artificial Lakes. (1) No motorboats in classes I, II or III and no boats in classes IV and V shall be permitted on any artificial lake under the jurisdiction of the commission. "Provided, however, that boats in classes IV and V, when equipped with an outboard motor not to exceed five (5) horsepower, shall be permitted upon any artificial lake of one hundred (100) acres or more in size."

(2) No person shall operate any sailboat on any artificial lake under the jurisdiction of the commission except those lakes specifically designated by the commission. All sailboats so operated must be of a type and size approved by the commission.

(3) All privately owned boats on artificial lakes under the jurisdiction of the commission shall be kept only at locations designated by the commission.

(4) All privately owned rowboats used on or kept at the artificial lakes under the jurisdiction of the commission shall be seaworthy for the waters where they are kept or used. They shall not be loaded to the extent that more than one-third of the height of the freeboard is submerged. All such boats shall be removed from state property whenever ordered by the commission, and, in any event, shall be removed from such property not later than December one (1) of each year.

EGRETS NESTING ALONG MISSOURI RIVER

Regattas. No boat race or regatta shall be conducted upon state waters unless permission is granted by the commission.

Boats not participating in such race or regatta shall remain at least fifty (50) feet from the racing course during such contest.

Laws pertaining to speeds or passing distances shall not apply to boats or boat operators engaged in such race or regatta.

It shall be unlawful to tamper with, move or attempt to move any state-owned buoy.

No boat shall be anchored away from the shore and left unguarded unless it be attached to a buoy.

Accident—Reports. All navigation accidents shall be reported as promptly as possible to the nearest police officer and to the commission or its authorized representative.

Boat Capacity. No person offering a boat for hire nor any person using a rented boat shall permit said boat to be occupied by more passengers and crew than the licensed capacity of the boat permits.

Penalty. Any person violating any of the provisions of this chapter (chapter 106, Code 1946) shall, upon conviction, be fined not to exceed one hundred dollars (\$100) or be imprisoned in the county jail not to exceed thirty (30) days.

Fees. The annual fee for the inspection and licensing of boats operated for hire shall be based upon the passenger carrying capacity, including crew, for which said boat is licensed to operate.

Such fee shall be computed at the rate of fifty cents per person capacity, but shall not exceed the maximum of twenty dollars.

The fee for inspecting and licensing each sailboat operated for hire shall be not less than one dollar.

The annual fee for pilot's license is one dollar.

The annual fee for an engineer's license is two dollars.

Rowboats. All rowboats, whether with or without outboard motors, which are rented to the public for hire, and including boats furnished with leased cottages, shall be subject to annual inspection by the boat inspector. For such inspection, a fee of twenty-five cents per boat shall be charged. If such boat or boats are found to be in satisfactory condition the boat inspector shall attach thereto a small metal plate—said plate giving the date of inspection and the passenger carrying capacity. The responsibility for requesting such inspection with sufficient notice is upon the owner of the boat or boats, and no such rowboat or boats offered or used for hire shall be so used until such inspection has been made and the craft or crafts found to be in satisfactory condition. The boat inspector shall collect all license fees, and these shall be turned over to the general treasury and be available for the use of the commission.

Operating Motorboat While Intoxicated. Whoever, while in an intoxicated condition or under influence of narcotic drugs, operates a motorboat upon the public waters of this state, shall, upon conviction or a plea of guilty, be punished, for the first offense by a fine of not less than three hundred dollars nor more than one thousand dollars, or by imprisonment in the county jail for a period of not to exceed one year, or by both such fine and imprisonment; for the second offense by a fine of not less than five hundred dollars, nor more than one thousand dollars, or by imprisonment in the penitentiary for a period of not to exceed one year, or by both such fine and imprisonment; and for a third offense and each offense thereafter, by imprisonment in the penitentiary for a period not to exceed three years.

The first nesting colony of American egrets in modern times in western Iowa has been discovered this year on the Missouri River bottoms in the Modale Slapps near the town of Modale in Harrison County. The birds were first discovered by conservation officer Jerry Jauron on June 9.

Jauron and officer Basil Downing visited the rookery on June 10th and determined that a minimum of ten pairs of American egrets were actually nesting. The nests were located in large cottonwood trees in company with nests of double-crested cormorants, black-crowned night herons and great blue herons. The officers reported a red-tailed hawk nesting almost in the center of the rookery undisturbed and apparently not disturbing the other birds.

The once rare American egrets are now found commonly throughout the state in the late summer months when they migrate north as juveniles to find fishing grounds. After cold weather sets in they normally return south and do not return again to Iowa.

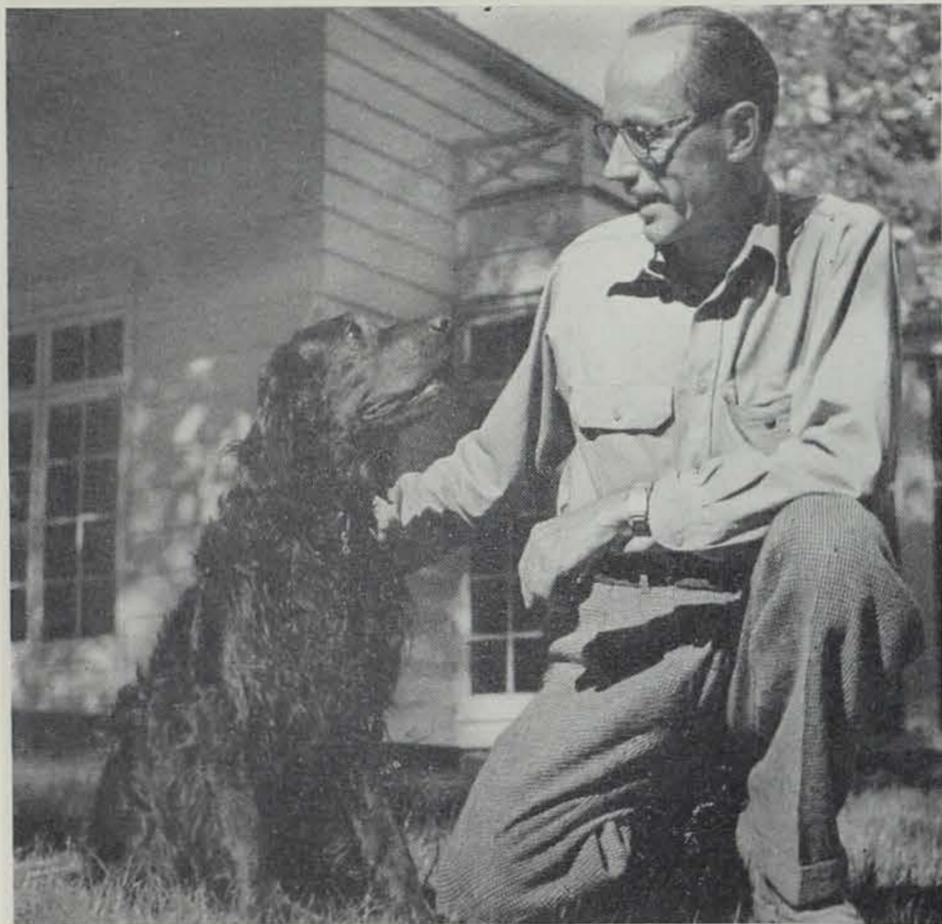
The only other nesting of American egrets known to have occurred in this state during modern times was a rookery established on the Mississippi River near Sabula in 1943. The Sabula colony containing some 600 pairs at its peak was not re-established during the 1946 season. The Modale rookery is now the only known nesting of these spectacular white birds occurring in the state.



Egrets and herons nest in large colonies, often with as many as twenty-five nests in a single tree.

In the early morning and late evening you will usually get your most bites in the shallower water in eddies, either above or below deep holes or in the main channel over gravel bottom and water three to six feet deep. Day fishing through mid-summer, you should get the most bites fishing in deep holes near drifts, rocks, log piles or eddies under trees that give the water a twisting motion.

Fish for carp on mud bottoms or in sloughs at the edge of weed and lily beds.



Jim Sherman Photo.

"Look, boss, I love you, but . . ." Gordon Setter Laddie explains to Gib Knudson that chasing sticks is foolishness.

MY DOG LADDIE

By Gib Knudson

Our Gordon setter, Laddie, is no barn burner as gun dogs go these days. He is the deliberate type and won't be pushed around which may be a sensible view to take of the world, at that.

We can throw sticks till our arm is tired and he won't retrieve them. He knows they're sticks and such horse play is foolishness. Been that way since he was a pup. We'd had him three days when we got a rubber ball with a bell in it and rolled it across the rug. He lay there on the rug with his front paws crossed, ignored the ball and looked up at us with disbelief.

At first we believed he was lazy. He trotted behind us at heel when we tramped across obviously birdless cover. Or, when we came to a sticky briar patch, he would circle around it and probably push his head in as far as his neck. We knew, when there weren't birds in these places, he would have done no practical good by exploring them thoroughly. The only good he would have done would have been to please our vanity, which to him never has seemed worth pleasing. Just more foolishness.

The first fall we had him we had many misgivings. He wasn't supposed to be a duck dog but any dog of ours has to be one. He tiptoed through puddles and yawned in our face when we happened to hit a duck. He didn't do one worthwhile thing for us duck hunting that first fall but he got used to our shooting right over his head, and by that time we were fond of him despite everything.

He is four years old now and we've hunted him three falls. The

second fall he began looking good just often enough to make us think maybe he wasn't a total loss. About five times that year he pulled up sharp on pheasants and was solid as a rock on point, waiting until we'd walked up, kicked out the bird and shot before he twitched a muscle.

He also did a little better on ducks but not much. But this he did do, on both ducks and ring-necks: he rounded up birds winged by our sloppy holding which we'd never have gotten otherwise. Almost all dogs will do this, if they see the birds fall, and if all the dog we had was a Boston bull we'd take him hunting with us for this reason alone.

Well, this fall Laddie (a name we've never liked, but it came with him) began earning his board. We will try to cut it short but to our surprise he suddenly became the best duck dog we'd ever had, plunging with spirit into icy waves and making a few retrieves so long we were worried he'd never get back. He pointed ducks sitting in on the rocks like pheasants and one day on three occasions came out of the brush with a winged mallard and two winged widgeons picked up from where nobody knows.

His two chief virtues on pheasants were: 1. Running down (as we said before) birds we didn't hit squarely; and 2. Finding birds for us to shoot late in the season when roosters were hard to locate. He was the difference between two pheasants and none the last Sunday of the pheasant season. In heavy cover we had walked past them and when we turned around to look for our dog we found him on point behind us. His nose was an inch from the tail of one of those roosters and we had to boot

the bird out.

But he's still no barn burner, as we said, and never will be. At times, when he gets off course, our voice gets shrill from yelling and we stand there feeling like a fool. He still won't tunnel into thorny thickets if he's made a nasal inventory which tells him there is nothing in them.

He has made us maddest by acting his worst when we are hunting with friends. He usually does everything wrong then and we have yet to have the pleasure of showing others what he can really do.

But after three years of hunting we understand each other. We have learned to trust his nose and judgment and our belief, that most gun dogs can become pretty good hunting dogs if taken out often enough, has been confirmed.

While he may take his own sweet time catching on to something new, we have found his memory is long and dependable and for the most part he has a strong urge to please us. He has learned to overlook our misses and to come up, tail waving, even in the face of foolish orders or fretful handling.

We're writing all of this because we can't understand why there are so many dogless duck and pheasant hunters. They're missing 99½ per cent of the fun of hunting. It is still fun, even if hunting dogs don't come ready-made, even if you have to work with them a long time sometimes to get them where you want them.

Every hunter who has never had a dog should get one, remembering not to expect too much too soon and that the dog is starting from scratch, as he did himself one day.

Note from Laddie's proofreading mistress: Laddie, a good Scotch name for a good Scotch Gordon setter, is a GOOD dog! And we've seen humans who got rattled in front of a critical audience too.—*Emmetsburg Democrat.*

FISHWORM FACTS AND CULTURE

By Curly Sharp

Earthworm culture is not difficult, provided one exercises diligence in three fundamentals. These are, the use of good soil in which to keep the worms, judicious watering and proper feeding.

Worms are bisexual or hermaphroditic, meaning each worm possesses both male and female organ. Each one deposits capsules from which three to six baby worms will hatch. The number of young will depend upon the age of the worm depositing the capsule. The older the breeder the more young are hatched per capsule and the more capsules deposited. The eggs hatch in about 20 to 30 days and the baby worms mature in about four months after hatching, depending upon soil and food available.

Worms do most of their feeding at night and begin to mate about three months after birth and they are very prolific. A breeder worm will live several years if lucky enough to keep out of the hands of some ambitious fisherman.

They are very sensitive to extreme temperatures, hot or cold. They breathe through their skin, have no eyes, but can tell the difference between daylight and dark.

To be successful in raising night-crawlers they must be kept in a cool damp place for best results. A cellar, cave or basement is a good place, or pick a good shady place where the sun seldom hits and bury your worm box in the ground leaving about 6 inches protruding above the ground level. This will keep excess water from running in after a rain.

You can use a wooden tub, also a 50 gallon barrel sawed in two. I make a good stout box out of tongue and groove lumber, 4 by 6 feet and 4 feet in depth which will

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Giant catfish like this 36-pounder caught by Russell Yedlick and Don Robbins in the Iowa River at Iowa City can often be tempted to hit big juicy gobs of nightcrawlers.

NORTHEAST IOWA STREAM CENSUS

By Robert Cleary
Fisheries Biologist

With 15,000 miles of fishable streams to cover in the state of Iowa, Conservation Commission biologists would have to be facsimiles of Superman to more than spot-check the fish catches on the streams. So in order to get information on fishing pressure and resulting catch of stream game fish, a volunteer method of creel census was set up in northeast Iowa in 1950. Selected anglers were asked to send in weekly reports on their stream fishing efforts and success.

The cooperator was asked to send in weekly a listing of his fishing trips, noting stream and county where fishing was done, number, kind, and sizes of fish caught and the number of hours spent fishing.

Now, those of you who have kept track of your catches and hours spent fishing know that this is a rather tedious job at best. We were, however, pleasantly surprised with results in 1950. Our cooperators, just a handful, mind you, turned in reports on nearly 5,000 hours of stream fishing.

This year we have over 200 cooperators in the 27-county area who have indicated that they will furnish us with their catch data and we are hoping to increase the number of reported hours to between 20,000 and 30,000. Since most of these anglers besides being actively interested in this study are good fishermen, their data should give us a reasonably true picture of the harvestable surplus of the rivers they fish. With these datum made available to us over a period of years, we can compare it with our netting survey results and realize a more complete picture of the fisheries situation in some of our eastern Iowa streams.

Let's look at some of the facts brought out by the volunteer creel census, remembering, of course, that this is an extremely small sample and that the figures are not to be considered as an area average. Briefly, our contacts reported catching 1,425 trout, averaging 1.22 per hour spent fishing. They also reported on 2,878 other river game fish, taking .77 fish per hour, giving a per hour catch of all stream species of game fish of slightly over 1 fish per hour.

Our contacts reported on unsuccessful trips as well as those in which they took fish, coming home with empty creels once out of every four trips. These trips average 3½ hours in length.

If all your life you've harbored a secret ambition to be a statistician, or if these figures haven't bored you into turning to another article, here are some others for you to digest.

Table I
TYPE AND NUMBER OF FISH PER HOUR CAUGHT BY CO-OPERATING ANGLERS IN THE STREAMS OF NORTHEAST IOWA

Type of Fish	Number Caught Per Rod Hour
Bluegill	2.40
Bullheads	2.00
Trout	1.22
Crappie	1.20
Largemouth Bass	.73
Catfish	.70
Smallmouth Bass	.62
Walleye	.58
Northern Pike	.43

Want some more? Okay. From these weekly reports we were able to get some meager information on monthly trends in fishing success and the amount of time spent fishing for particular species.

From field observations we have always assumed that trout fishing received an initial splurge the first two weeks or so and slowly dwindled away to almost nothing. The reports validated our assumption, for 61 per cent of the time devoted to trout fishing and 58 per cent of the total catch was made during the month of May. Each succes-

(Continued on page 152)



Multiflora rose fence on the Fred Lingenfelter farm, one mile west and two miles south of Bondurant. Breast-high, two years after planting, this is one of two half-mile fences on Fred's farm.

FROM SEED TO LIVING FENCE

Eleven million multiflora rose seeds were distributed free by the Conservation Commission last year for fall planting. Each of the 11,000 packets contained 1,000 multiflora rose seed with instructions for planting.

The small plants should be from 2 to 4 inches tall by this time and should be kept free from weeds and grass by hand weeding throughout

the summer. For best results they should now be "thinned" to 2 inches apart. This fall they should be 12 inches to 18 inches tall.

As early as possible in the spring of 1952 the multiflora rose should be transplanted to the permanent site for a fence. The ground should be plowed and prepared this fall on the permanent site. Prepare a strip of land from 6 feet to 8 feet wide in order that the plants can be cultivated and kept free from weeds or grass the first two years after transplanting.



Sixty deer are known to have been killed illegally and by accident during the first six months of the year.

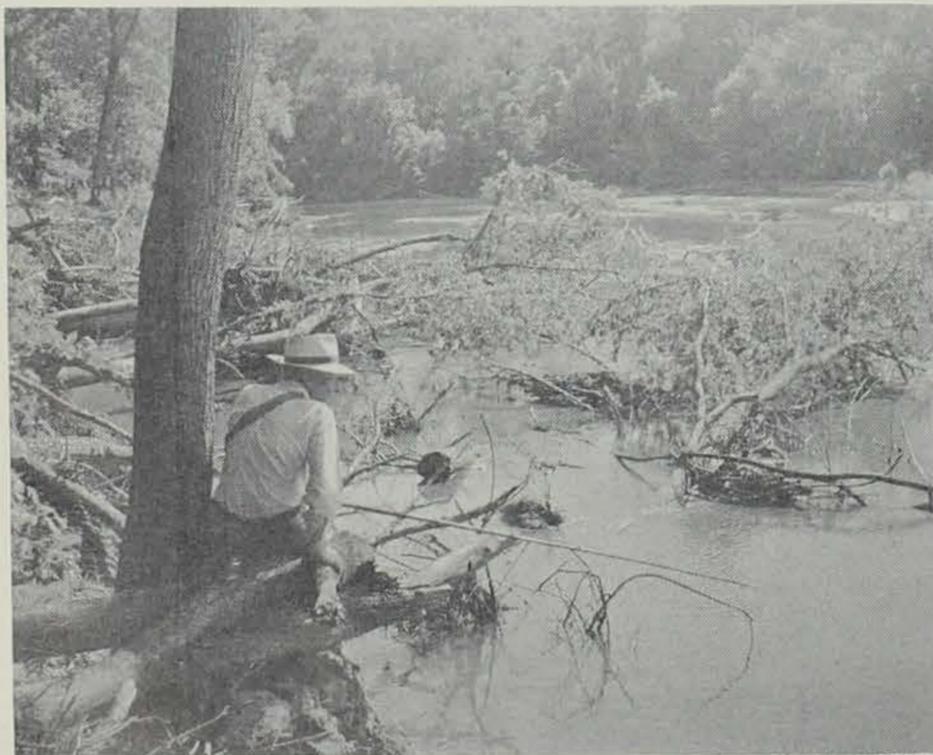
DEER LOSS

Fifty-nine deer are known to have been killed in Iowa from January 1 to June 20, 1951. Thirty-one of the deer were killed by automobiles, the rest by poaching, dogs and other miscellaneous accidents. All but eight of the deer killed were in the north half of the state. Eight were reported from Allamakee, five each from Clayton and Plymouth and six from Woodbury counties.

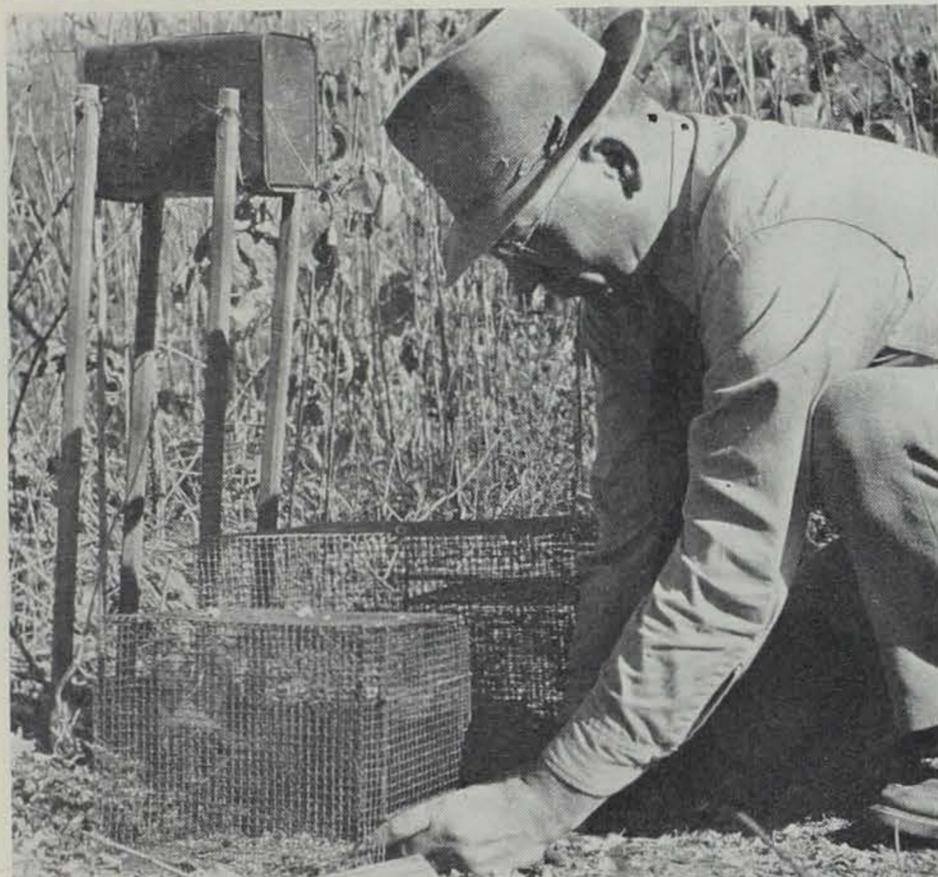
Raccoons go to sleep when food is scarce in winter. During mild spells they often leave the den during the night to satisfy their appetites.

SHOOTS TREE-CLIMBING GREY FOX

Last Friday morning, the large Shepherd dog of Freddie Wulf, living northeast of Reinbeck, was making quite a commotion and came into the farmyard full speed, with a large grey fox just a few feet ahead of him. The fox, in its fright, took to a large tree and scaled the first 18 feet to the limbs as easily as would any squirrel. The fox then proceeded up the tree another five feet. Freddie, armed with his 410-shotgun, brought down the animal with one shot.—Reinbeck Courier.



Catfishing in northeast Iowa builds up to a peak in July and then tapers off to practically nothing. May was the best month in 1950 with a .98 fish per hour, July next with .73.



Conservation Officer Merle Jones at summer banding trap. The bait in these traps is fresh water that drips from the supply can above.

Oldest Robin . . .

(Continued from page 145)
Banding records, however, prove that on a stormy day in March, 1950, sixty-two chickadees fed in the traps during the day. One of them had a perfect attendance record, having "reported" at the station at least once a year for the past five years.

It is these long-time records and recoveries from the far corners of the continent that make banding interesting.

A number of band recoveries have been previously reported in the CONSERVATIONIST but the latest and one of my best is that of Robin No. 36-325726, banded September 15, 1937, at Pomeroy, Iowa, and found dead at Harlan, Iowa (only 65 air miles from Pomeroy), about ten and a half years later. *At the moment this is a world record. No other robin is known to have lived so long.*

Greater proven distances of travel were brought out by the rose-breasted grosbeak banded at Ames and later recovered near the Panama Canal; or by the tree spar-

row recovered in the central part of Saskatchewan, Canada; or the blue jay caught in a mink trap along the Hudson Bay.

Some bird banders concentrate on a single bird species; others, especially the beginners, try for as many species as possible.

Winter banding operations as carried on here at the Ledges at present are not conducive to large varieties. Continued banding, however, results in something different when least expected. A rather rare species of owl, the long-eared owl, was observed in a pine tree last January. Bringing out the fishing tackle resulted in its capture for banding purposes. Thus, a new species was added to my list which now totals 114. To date I have banded 8,821 individuals.

There have been about four million birds banded in the United States and one might expect that every bird bander would capture other operators' birds, but I have yet to trap a bird banded at any other station.

One bander in North Dakota captured 15,000 birds before trap-

ping a single bird banded elsewhere. In the eastern United States banding stations are more numerous and consequently "foreign station" birds are more frequently trapped.

A great many people find dead birds wearing bands but do not know what to do with them. They lay them away some place thinking they will ask someone about it and the band is eventually lost. Thus, hundreds of hours of bird banding time and valuable information is lost.

If a bird band is found, it should be opened flat, then scotch-taped to a card or letter and enclosed in an envelope and mailed to the Iowa Conservation Commission, Des Moines, Iowa, or to the Fish and Wildlife Service either at Washington, D. C., or the Patuxent Research Refuge at Laurel, Maryland, and the finder will be given complete information. If you wish to have the band returned for a souvenir, say so, but in any event be sure to give the date and place you find the band.



To the birds at the Ledges a winter banding trap means a food supply. Here, titmice, chickadees, juncos and a nuthatch, all wearing aluminum bands, find food at the feeding station trap.

HEDDON FISH FLASH

By Homer Circle

Fish are where you find them and, according to Heddon's research department, it's about like hunting rabbits.

For instance, you will never see a rabbit hunter sitting on a stump in the middle of a field, waiting for the game to come to him. It would be a long wait between rabbits.

And yet, how many fishermen

have you seen doing this very thing, just sitting in one spot, waiting for the fish to come to them? The good rabbit hunter tries all kinds of cover until he locates his game, then he concentrates on that type of cover.

The good fisherman does the same thing, and here is the plan Heddon suggests. Start casting the shoreline with a floating diving lure like the floating River Runt. If the water is clear, start the bait moving the second it strikes the

(Continued on page 150)

The following people have contributed to Iowa Ornithology by reporting bands found on dead birds.

			Banded	Recovered
Ralph Briley	Ames	Robin	1940	1942
Edward Hanna	Marion	Bronzed grackle	1936	1938
George Thomsen	Ames	Red-bellied woodpecker	1940	1942
Fred Martens	Clare	Downy woodpecker	1938	1941
T. J. Maney	Ames	Blue jay	1936	1940
Vernard Vardenhoff	Clare	Red-bellied woodpecker	1936	1937
O. A. Larson	Pomeroy	Blue jay	1937	1939
Mrs. William Steele	Ames	Blue jay	1939	1940
Donald McCauley	Manson	Bronzed grackle	1935	1936
James Miller	Keota	Bronzed grackle	1934	1935
J. W. Mack	Rockwell City	Yellow-headed blackbird	1938	1941
H. A. Sohn	Harlan	Robin	1937	1948
Sylvester Russell	Gilbert	Crow	1936	1936
Thair Best	Pomeroy	Blue jay	1934	1935
Grace Tuttle	Pocahontas	Blue jay	1933	1934
Walter H. Weamers	Pocahontas	Robin	1937	1939
Edwin Brieholz	Pomeroy	Rose-breasted grosbeck	1934	1937
Perry Lester	Hamburg	Goldfinch	1942	1943
Loren Jones	Boone	House wren	1948	1949
H. M. Sanderson	Des Moines	Shrike	1936	1936
Paul Leaverton	Humboldt	Chimney swift	1939	1940
Louis E. Lemke	Olin	Mourning dove	1949	1950



The good fisherman searches out the fish, trying different locations in the water and different lures until the quarry is found.

Commission \$\$\$. . .

(Continued from page 145)

The revenue from this fund can be expended under the law only for Fish and Game purposes and a total of \$1,132,278.75 was expended in the following activities.

Supervision	.5%
Enforcement	25.4
Biology	6.3
Fisheries	22.0
Game and Pittman-Robertson	30.8
Transfer to Division of Administration	13.4
Miscellaneous	1.6
	100.0%

A working balance of approximately \$500,000 is maintained in order to have money available to meet expenditures during the low revenue months of January, February, March and April of each year.

The second major operating fund is the Conservation Fund of the Division of Lands and Waters which is used for the maintenance and operation of state parks, forests, and waters. The fund is derived primarily from legislative appropriations but is augmented by other revenues such as concession fees, boat and dock licenses, cabin rentals, sand and gravel leases, etc.

During the last fiscal year the Conservation Fund totaled 488,319.73, of which 85.2 per cent was received from legislative appropriation and special allocation and 14.8 per cent from miscellaneous receipts. These funds can be expended only for maintenance and operation. No land acquisition or extensive improvements in park areas can be made from this fund. During the fiscal year \$442,936.30 was spent in the following manner.

General Supervision	.9%
Park and Reserves	53.3
Forestry	15.7
Waters	7.3
Transfer to Division of Administration	22.8
	100.0%

Third and last of the three regular funds of the Commission is the Administration Fund. This fund is derived from assets of the Fish and Game and Lands and Waters Division, forty per cent coming from the appropriated Lands and Waters Fund and sixty per cent coming from Fish and Game Funds. During the fiscal year \$321,127.17 was received in the Administration Fund and expenditures totaling \$261,002.46 were as follows:

Commission	2.7%
Director's Office	4.6
General Supervision	2.0
Accounts and Records (fiscal)	29.7
Education and Public Relations	27.9
Land Acquisition	7.4
Engineering Construction	16.6
Miscellaneous	9.1
	100.0%

Of the ten Special Funds mentioned above by far the most important and largest is the Special Capital Improvement Funds appropriated by the Fifty-second and Fifty-third General Assembly, for capital improvements on state park



During the 1950-1951 fiscal year, \$1,181,790 was received in the Fish and Game Protection Fund. This revenue can be expended under law for fish and game purposes only.

and preserves, state park and forest land acquisition, lake dredging, new artificial lake development and soil erosion. These funds are being used as fast as conditions permit subject to approval and release by the Retrenchment and Reform Committee. The appropriation of the Fifty-second General Assembly totaled \$2,713,100 and the Fifty-third, \$2,700,000.

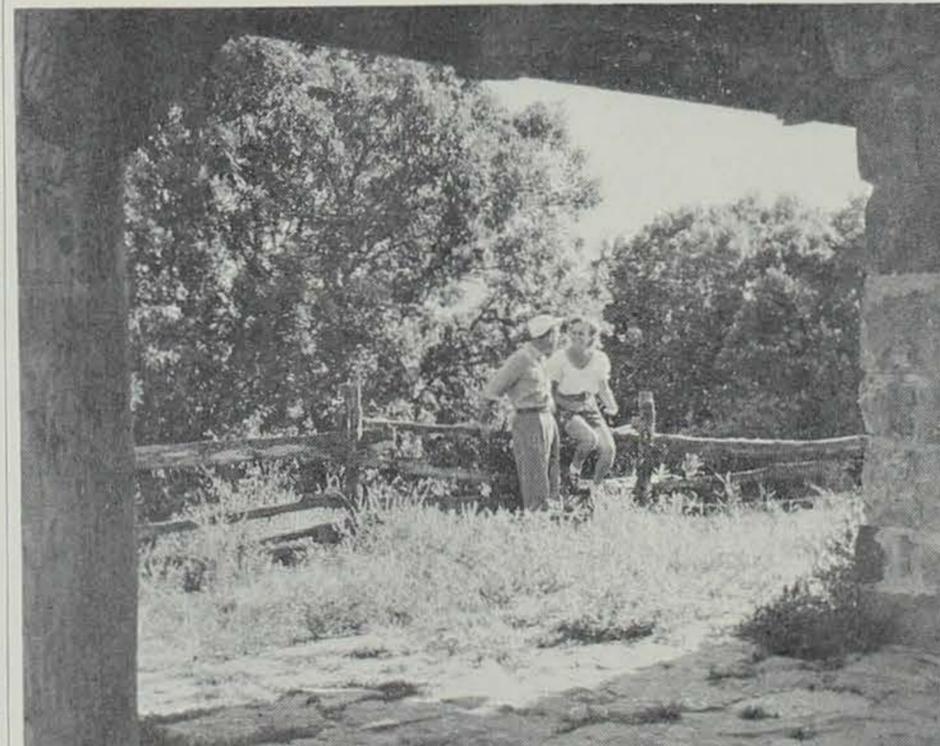
During the biennium the Commission had available all of the revenue from these two appropriations with the exception of \$689,358 expended the previous fiscal year.

Other trust funds carried on the books during the fiscal year included Iowa Great Lakes Sewer, 48th General Assembly, \$347.19;

Conservation Works, 49th General Assembly, \$14,131.42; Clear Lake Survey, 53rd General Assembly, \$15,000; State Forest Nursery Fund, \$21,262; Iowa Great Lakes Sewer Fund, \$20,795; Paint Creek Forestry Fund, \$6,316; Lake Dredging Fund, \$19.70 and Union Grove Fund, \$50.00.

The Conservation Commission's books showed \$7,177,466 during the 1950-51 fiscal year. A business this large is big business in any league.

The best baits for carp are good dough-ball baits, peeled crawfish tails, orange colored fresh-water clam meats, fresh and cut in bait size, also fresh sweet corn, three or four grains to the hook.



The Conservation Fund during the 1950-1951 fiscal year totaled \$488,319. The Conservation Fund is used for maintenance and operation of the state parks and reserves and for forestry and water activities.

Fish Flash . . .

(Continued from page 149)

water. If the water is dingy, let it remain motionless for five or ten seconds, then start retrieving. . . . This gives the fish time to find it when visibility is poor. Occasionally try a surface lure like a Chugger or Crazy Crawler.

If no fish are taken around the shore, then try casting from the shore into the deeper water, using a sinking bait like the Go-Deeper River Runt, which will dig right down to the bottom.

Next, try the heavier cover, like the moss beds, weed patches or lily pad fields. Cast a slow sinking lure like the Punkinseed or River Runt next to the cover and make a steady retrieve. Then, occasionally try a jerky retrieve; also, stop and start the lure quickly, to give a varied action to your plug.

Perhaps the fish are far back in the pads or weeds. This calls for a weedless lure like the Ace, Weedless Widow, or Stanley Weedless Hook with pork chunk or strip. Toss one of these lures deep into the cover and retrieve slowly. When the fish strikes, set the hook today; tomorrow is too late.

Sunken logs, fallen trees, brush piles, small patches of cover, drop-offs, rocky shorelines are all excellent places to work. Approach quietly, don't let the fish know you are around or the big ones will give you a good "letting alone."

As a last resort when the aforementioned spots haven't produced, try this, and don't sell it short. . . . Tie a floating River Runt to the end of your line and about 18 inches away attach a keel sinker just large enough to sink the lure. Troll this slowly through the middle of the lake. The sinker will ride nicely over all types of cover while the lure will swim along behind, rarely snagging.

When you catch a fish, mark the spot well by picking landmarks in four directions, then visit this spot often, it's exclusively yours and will pay off regularly.

Fish are where you find them. Don't be a one-spot, or a one-bait fisherman. Be systematic and once you hit upon a system that works, your stringer will grow heavier and your troubles lighter.

SMALL BOY APPETITE

While fishing in Waterloo Creek last week, we landed a small trout which had feeding habits resembling those of a goat. When landed, it had our small fly in its mouth. But also trailing from its mouth was six inches of nylon leader to which was attached a rusty spinner. We opened the fish, and deep in its stomach we found a hook attached to the other end of the leader. A second rusty hook was also found in its stomach, indicating that the fish had been hooked twice before this season. And it was only six inches long.—Waterloo Courier.



Geode State Park is named for the interesting objects known as geodes which occur in the bedrock and along the streams of southeastern Iowa.

Geode Park . . .

(Continued from page 145)

found along the streams are likely to be stained on the inside, as water may get in through cracks, or they may be broken.

Geodes also occur in other formations and in other parts of Iowa, but these generally are of a composition different from those of Henry and Lee counties. Mostly they occur in limestone and are composed of calcite. They do not weather out of the rock as do the quartz geodes, but are lined with crystals just as beautiful.

While the park was named for the geodes, there are other features which attract the attention of the visitor. Its heavily wooded slopes, hills, and valleys form an attractive recreational area which has an interesting geological story back of it.

The park is a large one, comprising an area of almost two square miles. It is mostly in the southeastern corner of Henry County, but extends over into southwestern Des Moines County. The drainage from the park is into the Skunk River, just beyond the park to the south.

The story of this area begins with the formation of the bedrock, all deposited as sediments in seas which spread over the continent millions of years ago, and since hardened to rock. Some of this bedrock is exposed along the stream channels and valley sides of the park. It is composed of sandstone, limestone and shale. Fragments of these rocks are scattered along the valley bottoms, torn from the bedrock by the current action. Some of the rock is composed of broken fragments which have been cemented together. Others contain the imprints of the shellfish which lived in the seas. Some of the shalebeds contain the geodes, although not many are to be found in the park.

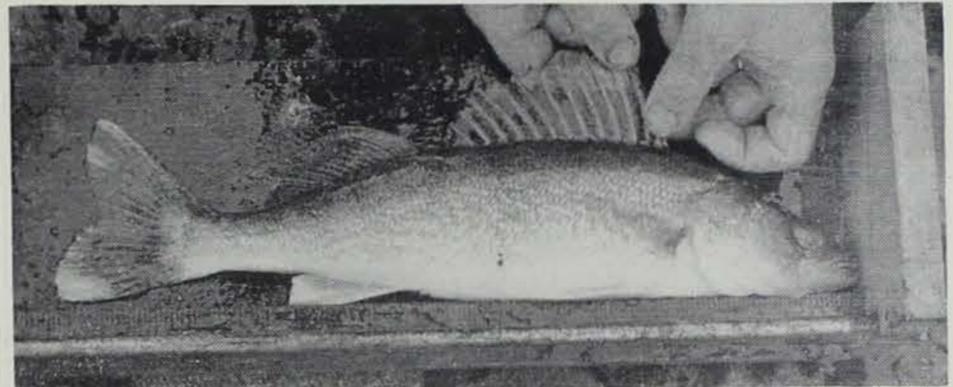
Long after the last sea had with-

drawn, glaciers covered this part of the continent, leaving a deposit of drift. Later the wind spread a deposit of loess upon the drift. Since these times the forces of weathering, wind, and running water have been at work. The Skunk River has cut a deep valley. Tributaries have developed, and these in turn have cut their valleys until now we have the rugged area of the park. The lake is man-made. That is, a dam has been built across one of the valleys. This forms a basin in which the water collects.

But what about the geodes? How were they formed? The answer seems to lie in the work of the water beneath the surface. The ground water, as it is called, has somehow created a cavity in the shale. Then, with changing conditions, it has proceeded to deposit the substance of the geodes. In



The Geode State Park Lake contains 200 acres of water in what is probably the most beautiful setting of any of the artificial lakes. The road in the center background is the historic Agency Road, now covered with water to a depth of 30 feet.



Ravenous walleyes gladdened the hearts of Clear Lake anglers during the first half of the 1951 season. This year in thirty-four days 7,495 walleyes were caught compared to 372 during the same period in 1950.

WALLEYES SET CLEAR LAKE ON FIRE

For some reason, biological or physical, the walleyes in Clear Lake have been attacking bits of polished metal and chunks of painted wood with a voracity unexcelled in recent years, and as a result walleyed-pike fishermen at Clear Lake are grinning from ear to ear.

Conservation Commission personnel have known that a heavy population of well-conditioned walleyes existed in the lake for several years but angling success has been poor. This year these much-sought-after fish have been appearing in large numbers on the stringers of the expert and novice alike.

some cases deposition has continued until the geodes are solid.

The geodes of southeastern Iowa are well known to the residents of the area. Broken open, they are objects of great beauty, and are used in rock gardens and as treasured objects in the home. More than that, the geodes of this area are famous among geologists all over the world. Specimens are found in all the leading museums, and in the collections of mineralogists. It is indeed fitting that one of our state parks should be named after these interesting objects.

It may be that the population has outgrown its food supply, there may be a break in the food chain, or some other physical or ecological factor, but whatever the cause, Clear Lake walleye fishermen are happy.

As an index to the fish take on important Iowa lakes, a creel census is carried on during the first forty-five days of the season. The census clerk contacts as many fishermen as possible (estimated at 60 per cent at Clear Lake) and these results are turned over to biologists for analysis.

Census figures for the walleye catch in '51 compared to recent previous years, reflects the condition that has made Clear Lake the most outstanding walleye lake in Iowa during the first half of the current fishing season.

Walleyes censused in Clear Lake in the 34-day period, May 15 through June 17 totaled 1,651 in 1948, 1,294 in 1949, 372 in 1950, and in 1951, 7,495.

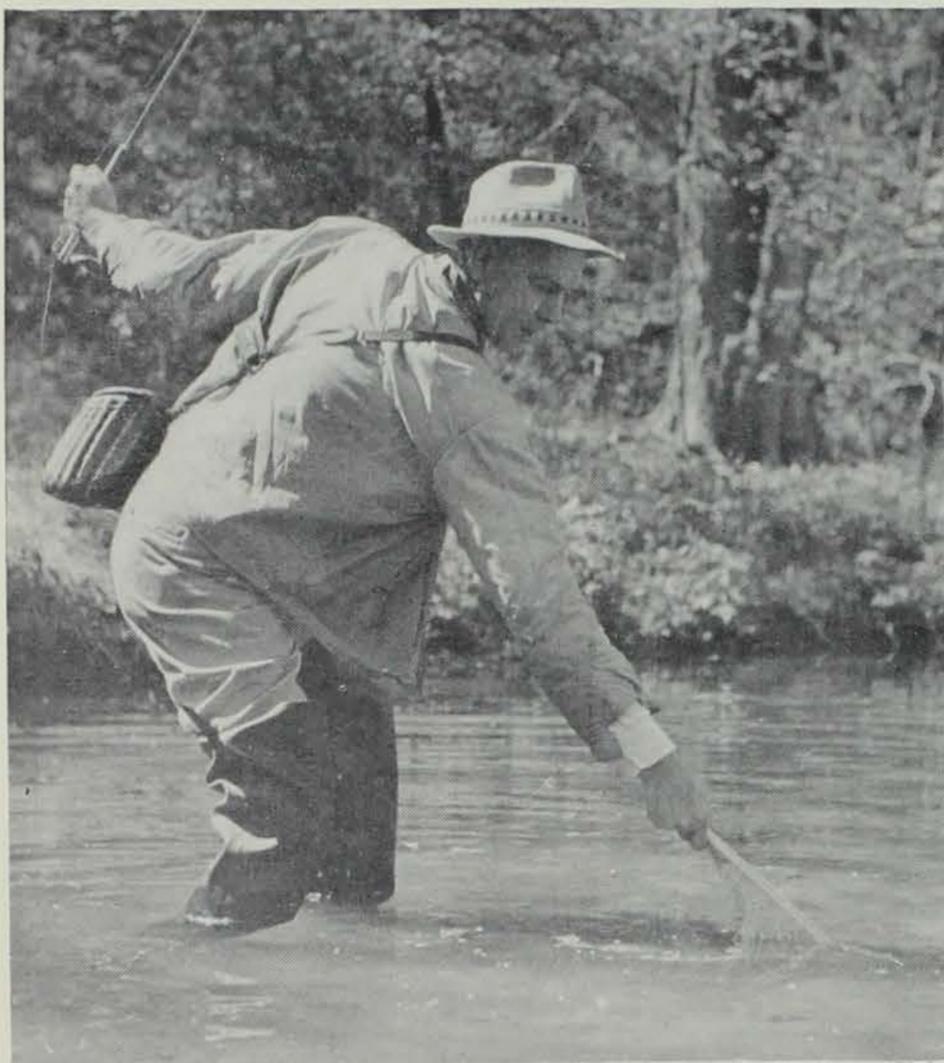
PRAIRIE CHICKEN

The prairie chicken, Missouri's once abundant game bird, appears to have suffered another set-back during the past year, as shown by the annual census conducted by Don Christisen of the Conservation Commission.

The drop in population was slight, but is a continuation of the trend that has gone on for years in Missouri. Under modern farming methods, with less permanent pasture, over-grazing, burning and intensive mowing and plowing, the habitat that gave food and shelter to the prairie chicken is steadily dwindling. It takes 40 acres of permanent grass in each 100 acres in order to maintain good conditions for the bird.

Today there is only about 2,500 square miles of range left of the great areas of north and western Missouri that were vast prairies, where the chicken danced his mating dance and boomed at his rivals. —Missouri Conservation Commission.

When fishing at night for channel cat use little or no sinker, floating or casting your bait downstream, keeping a tight line, always ready to set your hook when you get a strike.



Jim Sherman Photo.

Over 200 expert fishermen are keeping detailed records of their fishing and will make the facts available to biologists who, with other types of censuses, expect to determine fishing pressure and resulting catch on the streams in northeast Iowa.

Stream Census . . .

(Continued from page 148)

sive month shows a drop in the number of hours fished and the number of trout caught. For all intents and purposes the trout season ends in September with only the die-hard persisting in diminishing numbers to the November 30 deadline. The month of August produced the highest rate of catch, with 1.55 trout per hour.

Smallmouth bass angling builds up from June in numbers of fish taken and hours spent fishing to the peak month of August and then tapers off. October and November show little pressure but reasonably high returns. Again it is only the specialist who persists in fishing in the late fall and this may be the cause of the higher take per hour.

Catfishing, with an April 15 opening builds up to a peak catch and effort in July and then tapers off to practically nothing. In 1950, May was the best month for catch per unit effort with .98 fish per hour while July was next with .73 fish per hour.

Largemouth bass fishing, done chiefly in the Mississippi River and lower reaches of the Wapsie in streams covered by this survey, was fairly static in both catch and time expended. July was the peak month for both categories, but September produced the best catch per unit effort.

If we were able to graph crappie fishing pressure, it would closely approximate that of our lake walleye fishing with both a spring and fall peak and summer doldrums.

Species	April	May	June	July	Aug.	Sept.	Oct.	Nov.
TROUT								
Number		829	236	118	113	93	33	18
Hours	*	741.75	164.5	106.25	72.75	73.25	40.0	16.5
Fish per hour		1.12	1.43	1.11	1.55	1.27	.83	1.09
SMALLMOUTH BASS								
Number			81	110	130	92	15	5
Hours	*	*	163.75	175.5	185.25	148.25	20.5	7.5
Fish per hour			.49	.63	.70	.62	.73	.67
CATFISH								
Number	66	211	150	274	116	91	54	7
Hours	122.75	215.5	233.75	372.5	185.25	148.5	100.5	22.0
Fish per hour	.54	.98	.64	.73	.62	.61	.54	.32
LARGEMOUTH BASS								
Number			53	67	48	46	26	
Hours	*	*	78.75	96.25	72.25	51.5	25.0	
Fish per hour			.67	.70	.66	.89	1.04	
CRAPPIE								
Number		73	58	20	3	19	25	
Hours	*	50.5	34.0	25.0	7.0	16.5	15.5	
Fish per hour		1.45	1.71	.80	.43	1.15	1.61	
WALLEYE								
Number		1		13	2	23	41	3
Hours	*	11.0		12.0	3.5	37.0	62.75	11.0
Fish per hour		.09		1.08	.57	.62	.65	.27

*Closed season.

May and June are the peak months with much less fishing in October but a high success-effort ratio.

Walleye fishing in the inland rivers is primarily a fall project with more fish being caught and more time expended in September and October than all the other months combined. The accompanying table shows July as a peak month for catch per unit effort, but this is based on returns from the Mississippi River only. October is the best month for all rivers in the district.

Fishworms . . .

(Continued from page 147)

hold a lot of worms. Bore inch holes over the entire bottom spaced about 6 inches apart for drainage and ventilation. Get from your hardware store wire screen and tack over the entire bottom, starting in the middle to prevent buckling. Also cover all knotholes or knots in your box. One little hole and all your worms will go home.

The filler for the worm bed must be kept moist and free from packing down. A good mixture is equal parts of rich black dirt, leaf mold from the woods and old black sawdust. Peat moss may be used instead of leaf mold if available. Mix thoroughly and add a small amount of corn meal to the bed filler, about 3/4 pound to each cubic yard of filler. Mix again thoroughly.

Have the pit for your worm box plenty big enough and fill the bottom of the pit with 6 to 8 inches of fine gravel for drainage, then set the box in on top of the gravel and fill around sides.

Fill the worm box to within 8 inches of the top with the above mixture. Then place your worms in the box. Be sure they are alive and discard all that have been hurt or don't look lively. Dampen some burlap bags and lay on top of your bed filler. Cut grassy sod and place on top of the burlap bags. Your wormery is now ready.

Watering is very important. Keep the soil moist at all times but never soggy. Change sod once in a while. Add more filler as it settles down. Keep an inventory of worms put in and taken out so that you will always know how many are in the box. I keep a pad on one end and mark the number taken out or put in.

Fix a tight frame and cover with wire screen to keep worms in and rats and thousand-leggers or centipedes out. Add more feed as needed. Run your hand down in the box and lift out a handful of soil. If there is no feed present it is time to feed. It will be necessary to remove the burlap and sod and replace after each feeding.

I mix 5 pounds of regular rabbit pellets, 1 pound soya bean meal and 1 pound sugar. Put the pellets, meal and sugar in a tub and add water to soak them up to a soft crumbly mass. Never soggy wet. Karo syrup may be substituted for the sugar. This will keep them healthy, fat and full of wiggle. Then the poor fish just can't resist them.

WATER—OR YOUR LIFE

Arthur H. Carhart of Denver, Colorado, a Mapleton, Iowa, boy and graduate from Iowa State College, has written a new book, "Water—Or Your Life" pointing at the problems of water and water use in the United States.

Carhart's goal in writing "Water—Or Your Life" was to bring home to the reader his personal stake in the nation's water wealth, pointing out that in our present-day United States "the water everyone needs for daily living amounts to 1,300 gallons for each person."

J. N. "Ding" Darling said after reading advance proofs of the book: "If you want to know about water, this is it—and it will scare you into fits—I hope."

"Water—Or Your Life" is published by J. B. Lippincott Company at \$3.50.

When using live bait, crawfish, grasshoppers, frogs, etc., take your favorite hook with a long shank and at two points on the shank wrap fine copper wire which can be obtained from an old radio coil and fasten with a drop of solder. Cut off so that the wire stands out two inches on each side of the hook. Fasten with a drop of solder. Place the bait on the hook shank, bring wires up and around bait and twist fairly tight to hold the bait securely. Live bait is not harmed and can be used to take fish after fish and be as good as ever.

Worms are most effective for many kinds of fish, minnows second. Insects such as grasshoppers, hellgrammites, crickets, grubs and caterpillars are often also excellent.



Earthworm culture is not difficult if proper care is exercised. Successful results depend on use of good soil, judicious watering and proper feeding.