

IOWA CONSERVATIONIST



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FISHING WITH THE CRAWFISH

THE 1955 IOWA DEER SEASON

By E. B. Speaker
Superintendent of Biology

For the first time in many years, Iowa deer hunters enjoyed state-wide deer hunting during the 1955 season. Bow hunters were permitted to hunt from October 29 to November 20 between the hours of 6:00 a.m. and 4:00 p.m. daily, and gun hunters—using shotgun slugs—hunted from 9 a.m. to 4 p.m. during the three-day season from November 3 through December 5. There was a seasonal bag of one deer per hunter.

In an effort to manage the Iowa deer herd properly, a total of 6,000 licenses were issued to hunters. It is felt that the percentage of successful hunters in this group would reduce the numbers of deer efficiently to keep the deer population compatible with agriculture, furnish a reasonable amount of venison, and leave sufficient breeding stock to insure perpetuation of the herd.

Landowners hunting on their own land were not required to purchase a deer hunting license. If deer killed by them were moved off the farm, however, a tag was required before the animal could be transported. It was estimated that about half the farmers tagged their deer in order to have the meat processed by commercial food service plants and others processed the deer on the farms for home use.

Licensed hunters were required to tag their deer and file a report of their hunts with the State Conservation Commission.

Nearly Half Successful

Of the 6,000 licensed hunters, 2,000 were successful in killing deer. This number included 58 deer taken by bow hunters. A total of 5,672, about 95% of the hunters, reported to the Commission.

Success by bowhunters was extremely high as compared to the previous year, when only 10 deer were taken with arrows. Iowa's total of 58 deer killed by bowhunt-

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Crayfish can be easily seined in shallow ponds and slow, quiet streams. Without a net they can be taken in rocky stream areas by turning over small stones and "handpicking" them.

By Joe Mathers

A crayfish can crawl slowly forward, backward or sideward—scorpion-like—on the bottom, but if it wants to move rapidly it propels itself backward by flipping its tail up and down. One stroke of the tail will carry the crayfish a yard or more. This is the action you want to imitate.

The crayfish should be hooked through the tail, head-down, as it is drifted or manipulated in a backward direction. Methods of hooking are the same for all types of water. Hook through the back part of the "tail" (up and down through the middle or one side, or obliquely under two top segments), or thread the hook lengthwise through the underside. The latter is a solid way to hook tender soft-shells, mushbacks and peeled peelers. Another good way is to hook it under the top of the front two tail segments. Hooked this way as you manipulate the bait the tail flips up and down in a life-like manner. To make hard shells more alluring, lift the carapace tearing it loose from the soft under tissue. This causes blood and body juices to diffuse out in all directions and drift downstream ahead of the bait. It is best to change these baits after each drift or manipulation for they die and lose their luring juices.

The size of the crayfish and size of hook you use is important. Hardshells should not be larger than medium-size, with preference for the small and very small forms. The authors length-sizes in inches are, measuring the body only: very small 1-1 $\frac{1}{4}$ (5 or 4 hook); small, 1 $\frac{1}{4}$ -2 (4 to 1/0 hook); medium, 2-2 $\frac{1}{2}$ (1/0 to 3/0); large soft-shells, over 2 $\frac{1}{2}$ inches (3/0 or 4/0). Small to very small ones are best for trout, smallmouth bass and smaller catfish. The ideal size crayfish for these fish is a small one about 1 $\frac{1}{2}$ to 1 $\frac{3}{4}$ inches long. Medium-small and medium size crayfish are best for largemouth bass and larger catfish. Soft-shells, mush-backs and peeled peelers small and medium sizes are good for any of these and many other fishes. A

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TONS OF GAME FISH FROM CLEAR LAKE

Most Iowa fishermen have long known that Clear Lake is one of the most productive fishing areas in the state, if not in the midwest.

The 3,640-acre lake supports a large fisherman population, an even bigger fish population, and intense fishing pressure.

But even the staunchest Clear Lake fan will be shaken by some statistics resulting from a 3-year study of the lake by a graduate assistant of the Iowa Cooperative Fisheries Research Unit of Iowa State College.

Charles DiCostanzo—who will receive his Ph.D. degree in fisheries management this fall—has conducted research on Clear Lake for the past three summers. Most of

his work has been concerned with methods of sampling angling success, and of developing statistical work patterns and sampling methods that will result in more accurate estimates of fishing success.

In developing this study, DiCostanzo has contacted thousands of anglers on Clear Lake and examined their catches. During three summers, he has probably queried more individual fishermen than any other Iowa scientist.

From this intensive interrogation has come some amazing catch data. For example, the number and weight of fish taken from the lake during the past three summers:

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HOW'S FISHING IN THE MISSISSIPPI?

By John Madson
Education Assistant

Fish and game departments of five midwest states and two federal agencies have begun work on a revamped program to survey the sport fishing resources of the upper Mississippi.

The states are members of the Upper Mississippi River Conservation Committee, an interstate survey group that includes Iowa, Minnesota, Wisconsin, Missouri and Illinois. Aiding in the survey are the U. S. Fish and Wildlife Service and the U. S. Army Corps of Engineers.

The organization is headed this year by Ray Beckman, Fish and Game Division Chief of the Iowa Conservation Commission. It consists of several subcommittees, but the most active at present is the Fish Technical Committee, whose 1956 chairman is Ken Madden, Superintendent of Fisheries of the Iowa Commission.

Main Study: Angling

Most of this year's activity will be devoted to a broad survey of sport fishing and the recreational uses of the upper Mississippi. This survey work will consist of three major efforts: creel census of anglers by creel census clerks; aerial checks by pilots and observers; and exploratory fishing to determine species composition and concentration areas of game fish in upper portions of the Mississippi.

Iowa portions of Ol' Man River have been divided into two sectors: from the Minnesota line to Dubuque and from there to Keokuk. Angler contact work on the Iowa side of the northern sector will be made by Keith Banning, and the southern sector will be checked by Tom Molomphy. These full-time creel census clerks will seek information on catch per hour, species caught, time of day and hours



The wild, twisting avenues of Mississippi backwaters are little known to most fishermen, and their resources are almost untapped. Aerial and ground surveys will seek out possible access areas which could make such waters accessible to the public.

fished, distances travelled, boats used, and other data.

During these checks, the clerks will also watch for good fishing waters not easily accessible, and report on such areas as possible fishing access area sites.

Flying

Regular aerial checks will be made by pilots and observers on all parts of the river being surveyed. Two aircraft will be active in Iowa; one on each sector of the river. A total of 12 flights will be made this year on each sector during days of peak river activity as well as weekdays. The flight schedule is:

WEEKENDS OR HOLIDAYS	MID-WEEK
April 28 or 29	May 16
May 30	June 28
July 14 or 15	July 20
Aug. 4 or 5	Aug. 20
Sept. 3 or Labor Day	Sept. 18
Oct. 13 or 14	Oct. 5

The main objective of the flights is to count the number of anglers using the river on these particular days. The type of water in which they are fishing will also be noted, if possible, as well as other major recreational uses (such as boating) which might benefit from public access area programs.

The aerial surveys will also determine weekend, holiday and mid-week use of the river; effects of weather, water stages and turbidity on the number of people fishing. Results of aerial work will be carefully fitted with creel census data for a picture of general river use—where and to what extent the upper Mississippi is being used by the playing public.

Hunt For Fish

There will also be an exploratory fishing survey in which fisheries biologists and crews will attempt to learn more of overall populations of various game fish and in which habitat and in what numbers the most valuable species occur.

Particular emphasis in Iowa portions of the Mississippi will be given walleyes, northern pike, largemouth bass and sight-feeding

panfish. Sampling will be done with nets, seines and electric shocking.

There are many data now available on commercial fish and fishing, but few on sportfishing. Surprisingly little is known of the angling resources of the Mississippi.

Although some local residents know their way around the river, there is little published information to guide the visiting angler. Gathering such information single-handed is simply too big a job for any one department's fisheries or biology staffs. By combining forces, however, information may be gained which will be of value to all departments. The five states participating in the survey will furnish a total of nine full-time

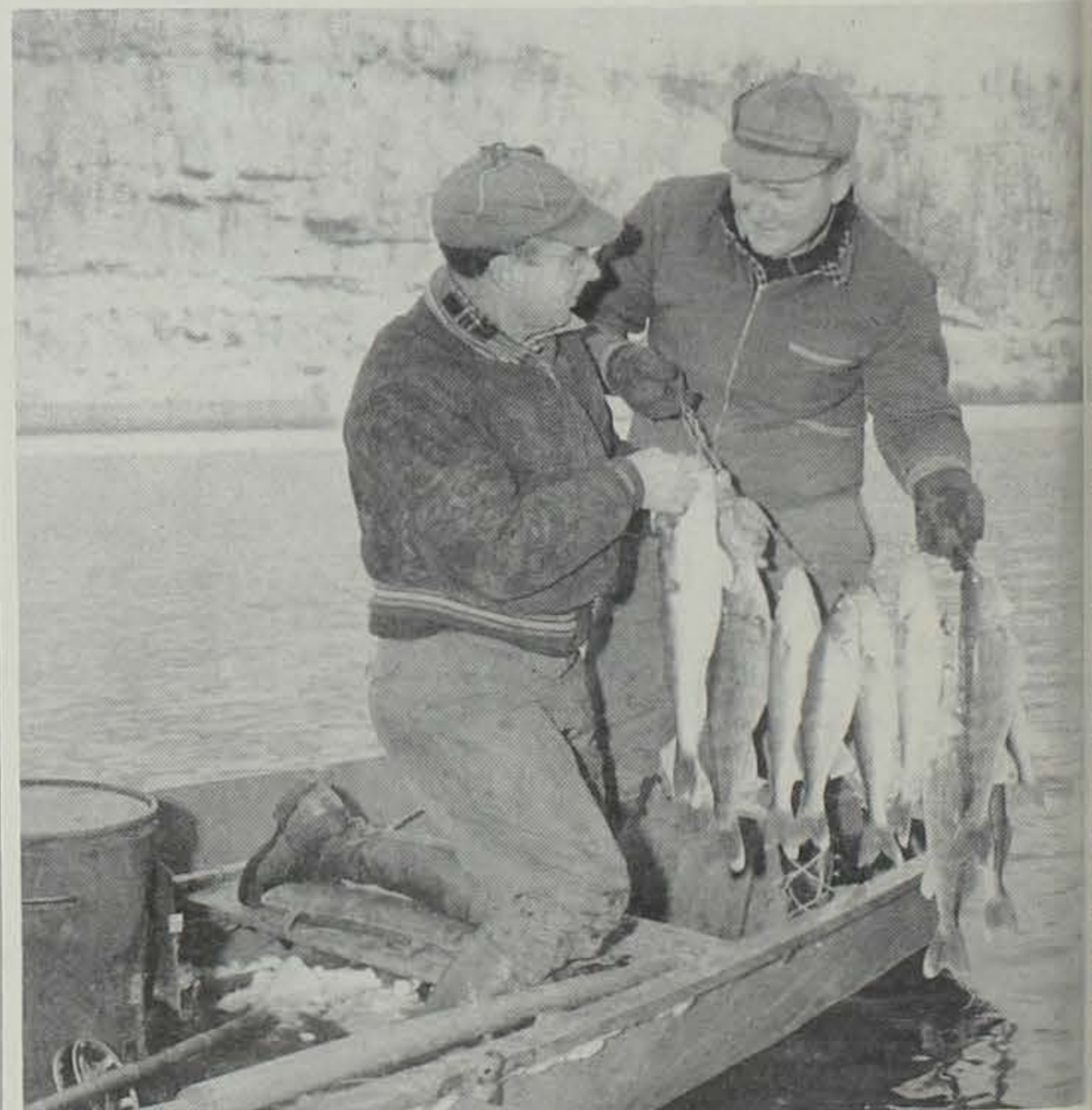
creel census crews as well as adapting regular river officers to the Committee's plans. A total of five air-craft will fly surveys on assigned dates, and exploratory fishing crews totaling 15 fishermen and biologists will investigate species and concentrations of game fish and possible fishing access sites.

Fact-Finding

This fishing survey will attempt only to compile data, and will issue publications only in certain instances. The facts, however, will be made available to member states of the survey, and the various conservation departments may analyze the data and publicize it as they think advisable. Some states hope to publish booklets containing the findings of the survey as they apply to those states. Iowa will report on survey findings through the CONSERVATIONIST and publications of the Committee.

One of the most important purposes of this part of the survey is to determine the best angling and boating areas on the river as a possible guide for present and future public access area programs. Many fine stretches of the upper Mississippi would be of greater benefit if they were more accessible. The survey will offer a measure of value of such access areas, and provide information for a sound management program. This is quite important to states that are seeking new fishing and recreational areas for fast-growing urban populations.

It is also felt that interstate uniformity in laws, regulations and management practices—for both commercial and sportfishing—may result from this study.



Some of the Mississippi's best walleye fishing is in winter below the big channel dam. Creel census checks will determine just how good such fishing is, and exploratory fishing will attempt to learn more of the walleye and northern pike populations.

RATTLESNAKE HUNTING: THE WIDEAWAKE HOBBY

By John Madson
Education Assistant

No one's sure why some men climb mountains, and why others love string. We knew a man who owned a hundred pocket knives, another who tattooed himself, and one who swam the Des Moines River each Thanksgiving. Maybe they love—the universal motive. How about the guys who hunt rattlesnakes? Explain that. Perhaps such snake hunting is a compulsion to subject yourself to danger with peculiar aspects of horror. It may be an escape mechanism from drab routine. If it is an effective one. You'll have nothing else on your mind at the time.

The first time we hunted rattlesnakes we noted a tendency to walk with both feet off the ground.



Timber rattlers are masters of camouflage, for their rich colors blend well with mottled limestone. This snake had just shed his old skin, and was as bright as a new penny. Lying peacefully on a ledge outside his den, he showed no disposition to strike.

You find yourself wishing for iron pants, and when you enter the rocky denning grounds of timber rattlers you are drawn to an almost painful tautness, especially if you are bent on taking them alive. You will never be more alert; every sense is honed to the finest edge.

Near Des Moines

The timber rattler, *Crotalus horridus*, is a heavy-bodied pit viper and in some portions of Iowa where there are stone bluffs and extensive limestone outcroppings. There are timber rattlers within miles of Des Moines, and the snakes have been verified in 16 counties, mostly near the river bluffs and rocky, rugged valleys of western and northeastern Iowa.

It is banded and marked in a pattern somewhat similar to the mondback rattlesnakes, but with black tail instead of the black and white banded tail of the dia-

mondback. The average length of Iowa timber rattlers is probably slightly under four feet, but specimens over five feet in length have been reported farther east. One of the nation's larger rattlesnakes, it's not to be taken lightly.

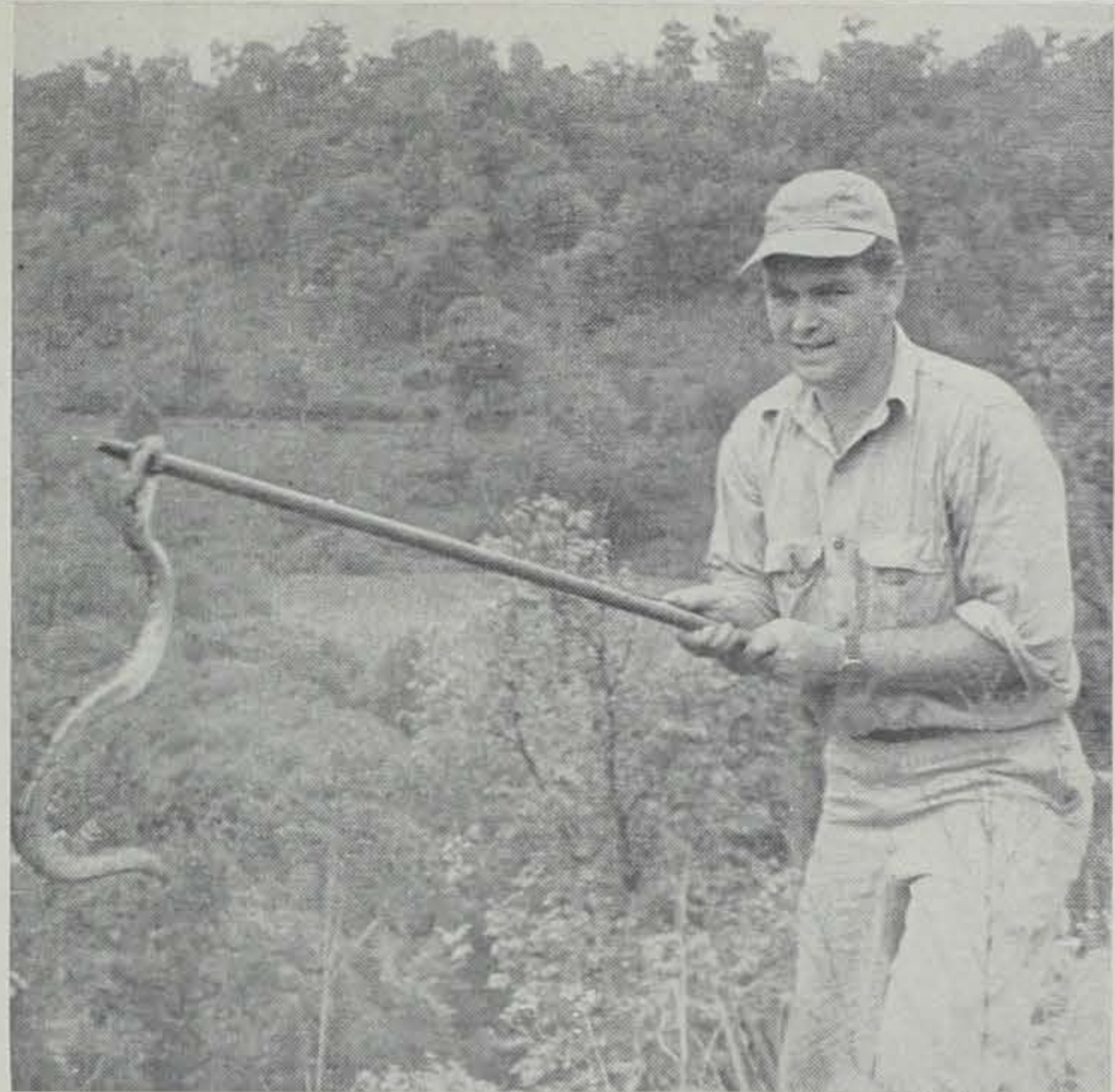
Timber rattlers hibernate in deep limestone crevices and fissures, sometimes in fairly large numbers. These snake dens are often old, established wintering places, used for generations. During the first hot days of mid-spring, when the sun warms the snakes' sluggish blood and draws them out into the warm outer world, they may gather on ledges near the den entrances. Here they may be found in groups, sunning themselves on warm rocks. We've heard tales of a dozen adult rattlers occurring on a single ledge, but we have never seen more than three together.

As spring wears on and becomes summer, the snakes disperse to their hunting grounds in nearby woods and uplands. Most snake hunters prefer to hunt the reptiles

in May when they are still near the dens; here the snakes are concentrated in a small area, are still a little dopey from cool weather, and are not hidden by the heavy vegetation of mid-summer. Experienced snake hunters are often a little nervous in heavy brush where visibility is poor.

Some Caught Alive

Some Iowa rattlesnake hunters work over these denning areas with shotguns: a dull business. Not so with the conservation officers who capture them for state fair exhibits. Exhibit snakes must be taken alive and unharmed, usually with a "snake stick" that is equipped with a heavy cord noose that can be slipped over the rattler's head and drawn up. The snakes can not be handled roughly. Few creatures are as delicate and easily injured as a snake. We once lost a fine rattlesnake after in-



For exhibit purposes, rattlesnakes are taken with a "snake stick": a short pole equipped with slip noose. Each summer conservation officers capture the rattlers used in the State Fair exhibit.

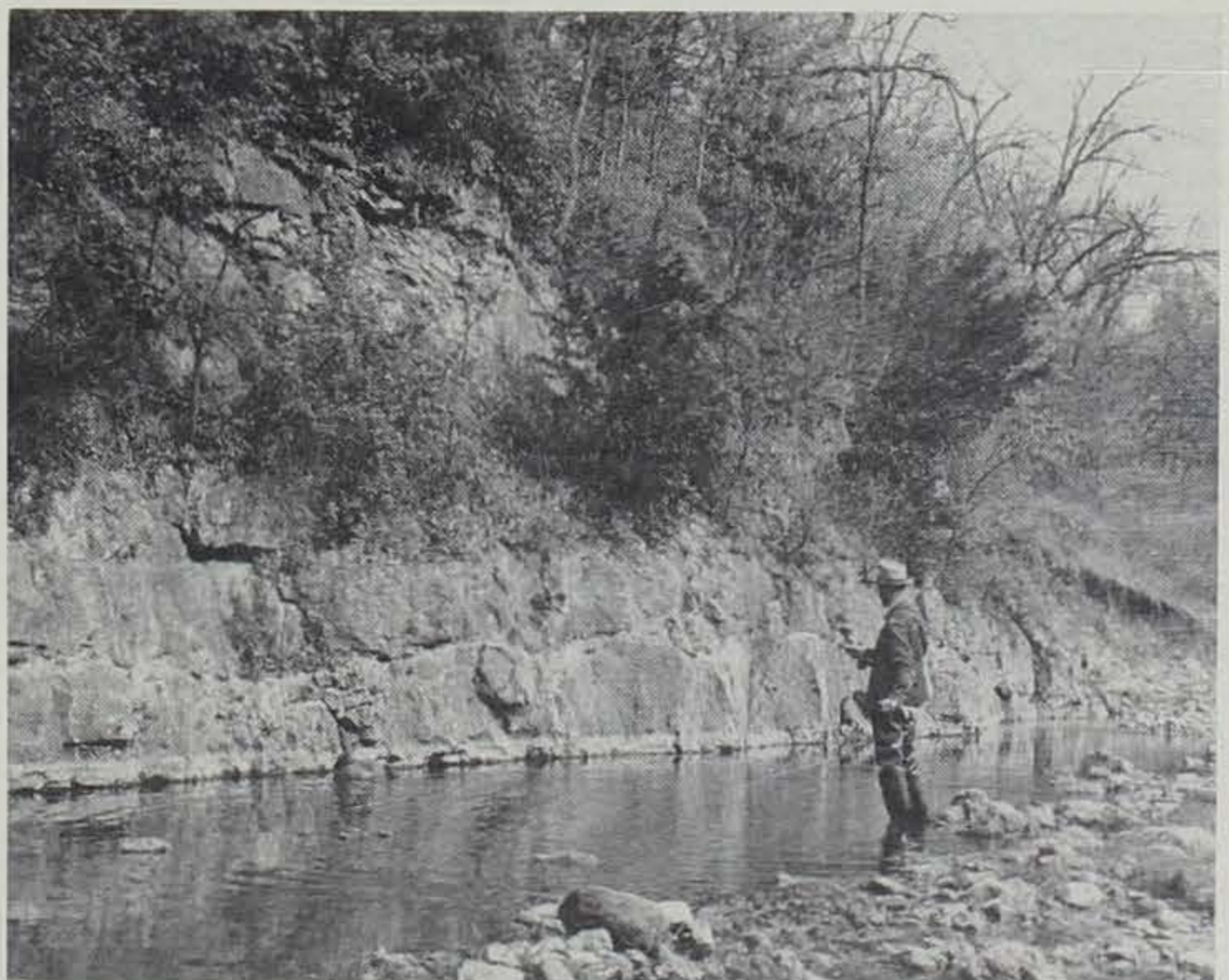
cluding it during capture. We had noosed the snake too far behind the head, giving it room to strike the stick. It was a nervous specimen that injured its mouth and fangs trying to kill the hardwood pole, and it later died of oral infection.

Few rattlesnakes are killed in Iowa as a result of organized hunts, but are usually taken by farmers or sportsmen who just happen to find them. However, there is still some snake hunting in northeastern Iowa, and we've been told that during the late depression years a few men ranged the rocky hills and valleys of Allamakee County hunting rattlesnakes for bounty. On a good day, a man could make a dollar or two.

For a number of years some workers in the Earlham lime quarry north of Winterset have hunted abandoned parts of the quarry during noon hours, earning a little extra money in their lunchtime. But generally, rattlesnakes are seldom hunted except by a few men who know the country—and the snakes—intimately.

One of these is Joe Martelle of Harper's Ferry, an experienced snake hunter and a fine naturalist. Joe is a trapper and commercial fisherman, but during springs when river conditions aren't right for fishing and he has some time on his hands, Joe may head for the hills behind Harper's Ferry and work over the snake population.

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Our main timber rattlesnake range is the rugged limestone country of eastern and northeastern Iowa. However, this angler has little to fear. The snakes are shy, tend to avoid man's activities, and are seldom found unless deliberately hunted.

Guaranteed: A PLEASANT, VALUABLE SUMMER FOR TEACHERS!

"The Iowa Teachers' Conservation Camp guarantees college credit, travel, practical training, fun and good food—"

Sponsors and staff of the five year old camp support the claim with a list of 475 satisfied and enthusiastic customers—teachers eager to tell of benefits received from the camp sessions they attended. During the summer months of 1956 another hundred or more Iowa teachers will come to camp and return to their classrooms this fall better and more confident teachers as a result of their experiences.

The setting for all these satisfying experiences is Springbrook State Park in Guthrie County. Here, since 1950, Iowa State Teachers College, the State Conservation Commission, the State Department of Public Instruction and other state and private agencies have cooperated in offering training in conservation to teachers from every part of Iowa.

College credit is given at the rate of five quarter hours for each of the three week courses or sessions. Three such sessions will be offered in 1956, beginning June 3, June 24, and July 15. These courses meet natural science requirements for certification and for teachers working toward advanced degrees or requiring graduate credit.

The college courses offered at the Teachers Conservation Camp are unique in several respects. Teachers live in a comfortable group camp with modern facilities but refreshingly different from the usual camp surroundings. Instruction occurs in the field for the most part, rather than in stuffy classrooms. Instructors change from

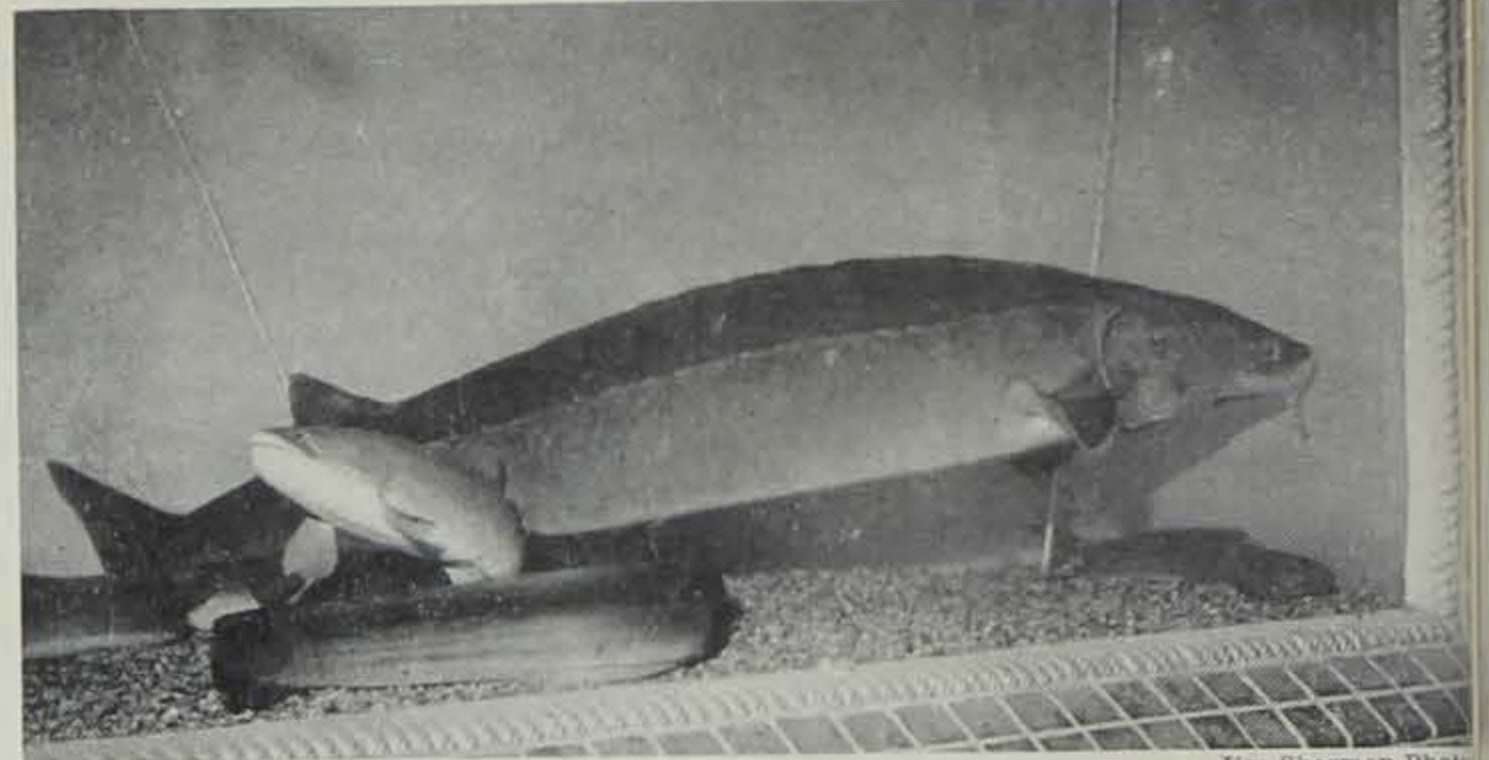
day to day, with new specialists arriving to lead the field work as each phase of the course develops. There are trips by bus, car and on foot to see and study natural resources and conservation practices. Identification of birds, trees, wild flowers, rocks and minerals, insects, and other elements of the outdoors is practiced daily. Swimming, fishing, boating, square-dancing, photography, volley ball, softball, picnicking, hiking and other forms of relaxation are readily available. Teaching collections are made for use in the classroom. Teaching aids may be constructed in the well-equipped shop under the guidance of a trained industrial arts instructor. The informality and pleasant living have to be experienced to be believed, and add to the practicality and usability of academic learning. Appetites sharpened by fresh-air living are satisfied by excellent meals, prepared and served by a professional cateress and her staff.

Cost of attending each session is \$25 to \$29.50 for tuition and \$55 for board and room, and Soil Conservation Districts are offering to pay tuition for teachers from their county. In many communities sportsmen's groups, women's organizations or other groups are offering to pay remaining expenses of interested teachers. Soil Conservation District Commissioners or local state conservation officers in each county may be contacted for further information concerning sources of scholarship assistance, or interested teachers may write directly to Dr. H. Seymour Fowler, Camp Director, Science Department, Iowa State Teachers College, Cedar Falls.

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Teachers are guaranteed practical training at the Teachers' Conservation Camp. Field trips are led by visiting specialists, and include geology, fish and wildlife, soils, forestry and other subjects.



One of the fish listed by Simons as "taken for granted" is the Great Lakes sturgeon. Although the huge fish is not endangered in many large rivers it is said to be dwindling in the Great Lakes.

SURVIVAL OF THE FEWEST

By Howard Simons

Reprinted, with permission from *Science News Letter*, weekly summary of current science, issued by Science Service, non-profit institution, Washington, D. C.

The largest flesh-eating animal and the tallest bird in the United States face extinction.

Extinction is a very harsh word. It means the end of life. Not just the life of an individual, but the life of an entire species. It is particularly harsh today, when man seems most concerned with preserving his own species.

However, at least 38 different species of wildlife on the continent are in peril of disappearing completely.

For the most part, man has been responsible for the dangerous plight facing these animals, birds and fishes. It is also, ironically, man who can save the few remaining individuals of these species and perhaps bring their numbers to a safe margin of survival.

This is both the warning and the plea made by conservationists.

Some of the endangered wildlife, such as the temperamental old grizzly bear, the largest flesh-eating animal in the United States, and the proud whooping crane, the tallest bird, the green turtle of soup fame and the American crocodile, are well-known.

Others, such as the Eskimo curlew and Attwater's prairie chicken, are less familiar.

Some Taken For Granted

Still others, such as the lake trout and the lake sturgeon, are so taken for granted by the public that suggestion of their possible extinction is almost as hard to swallow as their bones.

Nevertheless, conservationists emphatically state, "the day may soon be here, if we are not alert, when we will no longer enjoy the stately beauty of some of our finest animals."

These animals, all of which were once numerous on the continent, are the victims of man's mismanagement of his natural resources and his greed.

Conservationists point to the destruction of the animals' homes through poisonous pollution of our

waters, burning of the forests, overgrazing of the grasslands, careless draining of swamps and marshes, and wanton hunting with gun, trap and rod.

In combination, these factors have decimated many animal populations. Man has already destroyed some species.

He will never again see the Merriam elk, passenger pigeon, Labrador duck, Carolina parakeet, sea mink, great auk or heath hen.

Now others have been placed in a position where they, too, may soon be talked of only in the past tense.

Whooping cranes, subject of much publicity in recent years, now number 28. Dependent on only one wintering area in Texas, after a flight down the middle of the United States from Canada, these huge white birds have been fighting for survival for 40 years.

Less than 50 Everglade kites once found throughout most of Florida, are left.

The Key deer, which stand only 22 to 26 inches high, now number 130 in their home in the Florida Keys.

The last surviving members of the largest land bird in the nation, the California condor, number 60. These birds, now restricted to the mountains of California, ranged as far eastward as Florida many thousands of years ago.

Attwater's prairie chicken has been reduced to less than 20 small colonies. As one conservationist states, since the Attwater's prairie chicken dies on the installment plan, another 15 years of grace not anticipated.

Perhaps the saddest example of contemporary extinction or near extinction of a species is the story of the ivory-billed woodpecker, the largest woodpecker in North America. Originally an inhabitant of the swamps of the Southeast, by 1912 the bird was believed extinct. Although a few birds were spotted from time to time in the '40's and '50's, there have been no authentic reports of an ivory-billed woodpecker since 1952.

"The lake sturgeon of the Great Lakes," we are told, "is another candidate for the listing of extinct animals. Once of great importance to commercial fisheries

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Bredow believed old Archimedes, and not fellow sportsmen. To prove his beliefs, he leaped fully clothed into the school swimming pool.

HIP BOOTS AND DEEP WATER

By Vern Bredow

Many times while hunting and fishing I have wondered what would happen if I suddenly fell to deep water dressed in heavy hunting clothes and hip boots. All my hunting and fishing friends had gloomy answers, and insisted that the boots would fill with water and immediately drag me down. They claimed that I would have to sink to the bottom and take my boots off. I'd have no chance at all; I'd be a goner.

What do you think? But according to old Archimedes' principle of flotation, the boots would not weigh much beneath the water. I knew, for example, that a pail of water didn't weigh much when supported below the surface. How much would heavy clothing and equipment drag a one attempting to swim?

Jumped In

I'm a physical education instructor at West Waterloo High School, here we have an indoor swimming pool. One morning recently I found myself looking into seven feet of sparkling water at this pool. I was dressed in a sweat-shirt, pair of pants, a hunting coat and a pair of hip boots.

As I looked into the water the clothes seemed to get heavier and I wondered if Archimedes had been right. I also thought of the shortage of teachers in general, and of one teacher in particular. But having two capable life guards and a boy with a pole to drag me out, plus the urging of 40 high school boys, I took a deep breath and jumped in feet-first.

I went under and came up with no difficulty. The boots did not immediately fill with water. I turned on my back and found the air trapped in the foot of my boots actually held my feet up. I could float and, gently kicking, swim on my back by sculling with my hands for the length of the pool, which is 60 feet.

Tough Going

Swimming was more tiresome with this equipment on. It was slower and required more energy but it could be done. The boots did not fill immediately with water and pull me down as I came to the surface with no difficulty.

I then wondered what would happen with the boots filled with water, and moving to a vertical position I allowed the boots to fill completely. I was able to swim any stroke: crawl, side, breast or back stroke. True, the boots were a hinderance but were not excessively heavy. If one began to cough and choke, I believe he would be in trouble. I found an easy stroke to swim was the side-stroke, and probably the best was simply to lie on the back and scull along.

Is it possible to undress in the water, and remove boots and clothing?

I did not have anklefit boots and the straps around the calf of my leg were not snapped shut. First, I removed the coat without too much difficulty. I then unbuckled my belt and loosened the top two buttons of my pants, gave a couple of easy kicks, and the pants and boots slid off. I tried this again with the boot straps fastened around my calves, and was unable to get the boots off. It was impossible to swim with one hand and slide the

other hand inside the boot to un-snap the strap. One strap was too loose and slid down to my heel where it caught and caused me more trouble than before. Even in shallow water—about 3½ feet deep—I had trouble getting the snaps loose.

Couldn't Get Out

Another sidelight may be of value to some unfortunate angler trying to crawl out of deep water.

The deck of the pool is about 12 inches above the water level. From deep water I was unable to pull myself out with the boots full of water. It took two good-sized high school boys to pull me out. The wet clothing and water-filled boots were extremely heavy out of the water.

I didn't have any shells or other equipment or extra weight in my coat, so I had added a 10-pound diving brick to a game pocket. This weight created a serious problem in lifting myself bodily out of deep water, but as long as I stayed in the water I was still able to swim with no great difficulty.

Doubting Dad

I don't know if I have proven anything to anyone but myself. One of the boys told his dad about the experiment and dad said it couldn't be done and that he'd never believe it.

However, I did convince myself that:

1. Hip boots will not "suck you down" in deep water.
2. You can come to the surface with no difficulty.
3. It is possible to swim with hunting equipment and hip boots on.

However, sportsmen must realize that this experiment was done under ideal conditions, in water with

no current or waves and which was not icy or rough.

And even more important, I was prepared and the immersion was not a surprise. I did not get panicky and splash around in a vertical position as so many drowning victims do; I can easily understand how panic and wild struggles in such a situation would create a tragedy.

If a person were to accidentally step into a deep hole or fall out of a boat with hip boots and heavy clothing on, I think some good advice would be to:

1. Stay in a horizontal position.
2. Keep your feet up. (Bending the knees slightly will trap air in the boots and provide buoyancy if you are paddling or swimming face down.)
3. Be careful of your breathing so you do not begin choking.

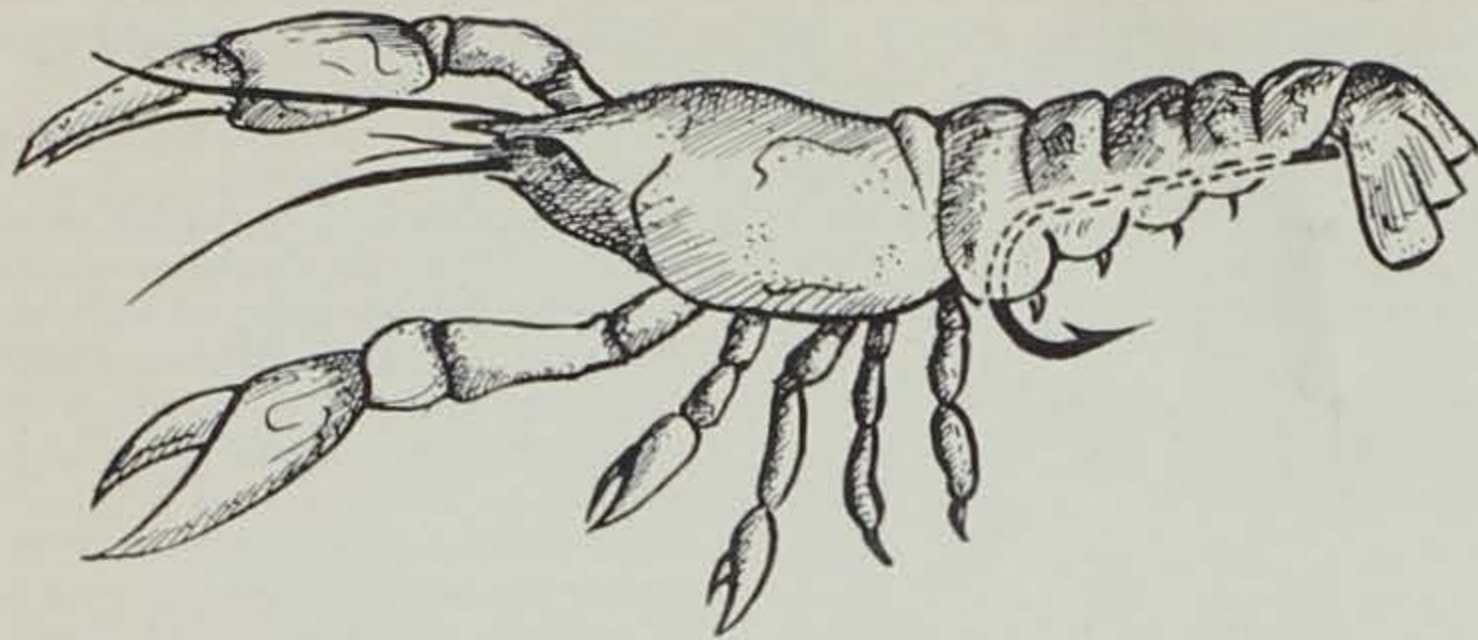
And above all, take it easy! Don't become panicky! You will not sink to the bottom like a rock, and it is possible to swim out. Forty boys in our high school swimming class regretfully witnessed this fact.

RAISED MOTOR TRANSOM?

Are there any advantages to be obtained by raising the height of your boat's transom beneath your outboard motor? Quite often. You can sometimes get a bit more speed and clearance for shallow-water running by raising the transom height. To test, try ½-inch, ¾-inch, and 1-inch strips of wood between the transom top and the motor bracket and try the boat on turns at planing speeds. When the correct height is found, fasten the piece in place permanently.—*Fisherman Magazine*.



In deep water, Bredow found that he did not sink and could even swim. With feet held near the surface, and his body in a horizontal position, heavy clothing and hip boots did not drag him down.



A method of hooking "softshells".

Crawfish . . .

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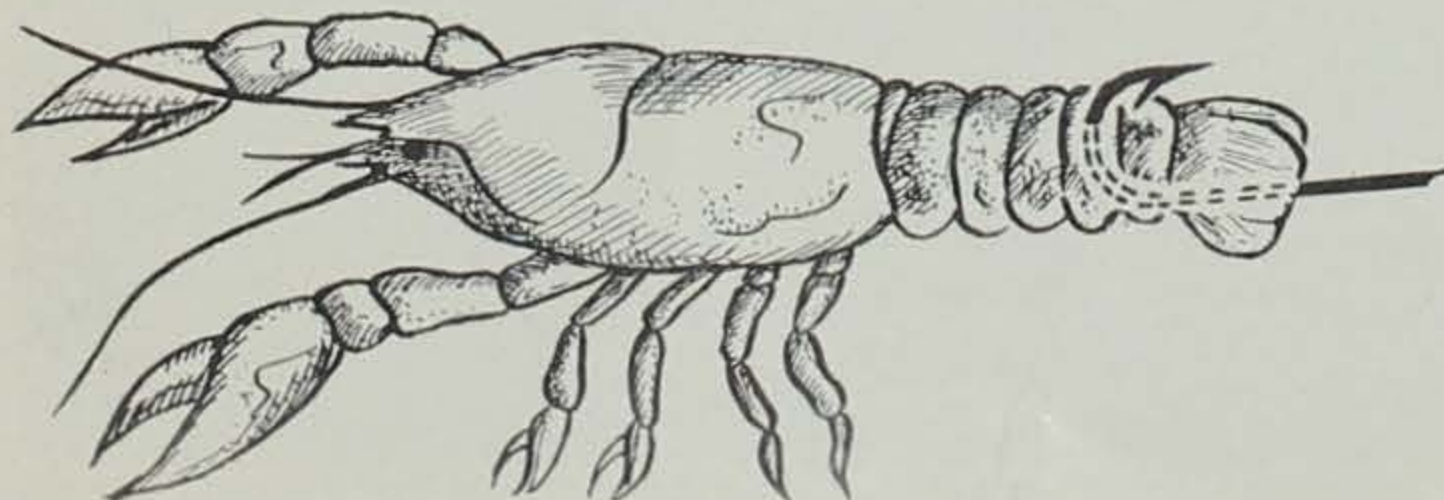
large or very large soft-shell or mush-back is a superior bait for largemouth bass and larger catfish.

The crawfish can be fished by drifting, and should be fished only that way in swift waters. It can be twitched, drag or pull fished cross-current and upstream in slow or sluggish currents. In standing waters it can be manipulated any direction. In cross or upstream fishing or when fishing in standing waters, it should be continually twitched or pulled, or periodically twitched, dragged or pulled with pause-intervals between. To keep the crawfish from grasping objects on the bottom clip off the large pinchers and small pinchers of the first two walking legs.

The best way to exhibit the crawfish is on the end of a 6-8 foot light weight leader. Using a terminal hook, hook the crawfish through the tail and pinch on a split shot or two or put on a small sliding sinker 18-24 inches from the hook. Another very effective way to fish the crawfish—drifted, but especially twitched or dragged—is to modify this rigging slightly by attaching a submerged float 6-7 inches back from the terminal bait. Make your float out of a piece of tree bark, balsa wood or wooden clothespin, cutting and carving it to resemble a hellgrammite, crawfish, minnow or large grub worm. Stain or paint the hellgrammite or crawfish dark brown or black, the minnow dark green on the back and sides and belly light blue, silver or whitish, the grub's body cream or greenish and head dark brown or black. Or, use a small floating plug for the float—with or without hooks. This gives you a life-like float to keep the bait off bottom so it attracts more attention, can't attach to or crawl under rocks and produces a tandem effect of two moving baits.

Another way to fish the crawfish a few inches to a foot above the bottom is to attach a 12-18 inch sinker dropper 6-7 inches from the "terminal" hook. To rig this tie a short blood dropper loop 6-7 inches from the terminal hook, then tie a 12-18 inch dropper line to this. Attach the sinker to the end of this dropper. The dropper should be a single strand and of lighter weight leader material than the main leader. Keep the sinker as small as possible. You can rig this plain or modify it by attaching a cork or one of the above mentioned float objects on the main line a few inches above the dropper tie. This holds up the bait. It is a good rigging when still-fishing, twitch, pull or jig fishing over rocky, snaggy bottoms and beside and over weed beds.

A similar rig with or without the submerged float can be made for still-fishing, drift, twitch, pull or jig fishing with a "sliding sinker." The difference between this and the above is that the sinker is adapted to the line so it will slip. The leader is passed through the "eye" of a lighter weight 12-18 inch dropper which has a sinker tied to its end, and then through a stopper. The eye of the dropper is formed by a small end loop or barrel knot. The stopper with hole drilled in it is made of a piece of cork, bark or dry hickory nut hull carved in the shape of a grub, worm, stonefly, nymph, small hellgrammite or other bait object and is held in position by a half-split shot set 6-7 inches from the terminal hook. Paint or stain the stonefly nymph brown or black, and the grub or hellgrammite as indicated above. This set-up enables the line to slide freely through the end loop of the sinker dropper, thus forming a "sliding sinker." When the line is tightened the eye of the sinker dropper pulls snugly down on the stopper so the bait can be cast, drifted or otherwise manipulated. I commonly use this rigging when



Hooking "hardshell" through end of tail.



Hamburg Reporter Photo.

Of the 58 deer killed in Iowa last fall by bowhunters, one was a big western mule deer. It was shot near Hamburg by archer Harold Stanton, who stalked deer for two weeks before making the kill.

Deer Season . . .

(Continued from page 33)

Iowa ranks high in the national figures. Missouri, for example, reported 37 deer killed by bowhunters. The nation's high for 1955 was the 227 deer killed by North Dakota bowhunters.

Deer were harvested by licensed hunters in 90 of our 99 counties, with Allamakee, Clayton, Pottawattamie, Woodbury, and Plymouth counties each reporting 90 or more deer killed. Allamakee County headed the deer list last season with a total of 277 deer kills reported.

Landowner Kill

In addition to the deer taken by licensed hunters, 338 were tagged by state conservation officers for landowners who moved the animals from the farms for processing. The known total deer kill last year, therefore, was 2,888. It was conservatively estimated that from 300 to 500 deer were processed on

downstream fishing in swift water where a heavy sinker is needed to keep the bait down.

Crawfish can also be effectively fished in slow to moderate currents by float drifting with a cork. Use a 6-8 foot light weight, camouflaged leader, pinch on a split shot 6 inches from the terminal hook and set your cork so that the bait drifts along a few inches to a foot or more above bottom. Try different levels until you find the fish. Drift your baits through deep channels into drift piles, around sunken logs, boulders, boles of large trees, off rocky ledges and bars and through pools below rifles, rapids and dams.

farms and not reported or checked, bringing the total from 3,200 to 3,400.

In the harvest by licensed gun hunters, 1,402 deer were males, 1,058 females, and 32 of unknown sex. Of these animals, 1,980 were adults, 456 were fawns, and 60 were of unknown ages. A total of 1,019 deer were taken on December 3, 739 on December 4, and 706 on December 5. Dates were not given on 28 animals.

Licensed Iowa hunters spent 94,000 hours in the field, of which 70,000 hours were devoted to gun and hunting and 24,000 hours to hunting with bow and arrow. Over 45,000 deer were observed by hunters but many of these animals were seen more than once, and consequently reported more than once.

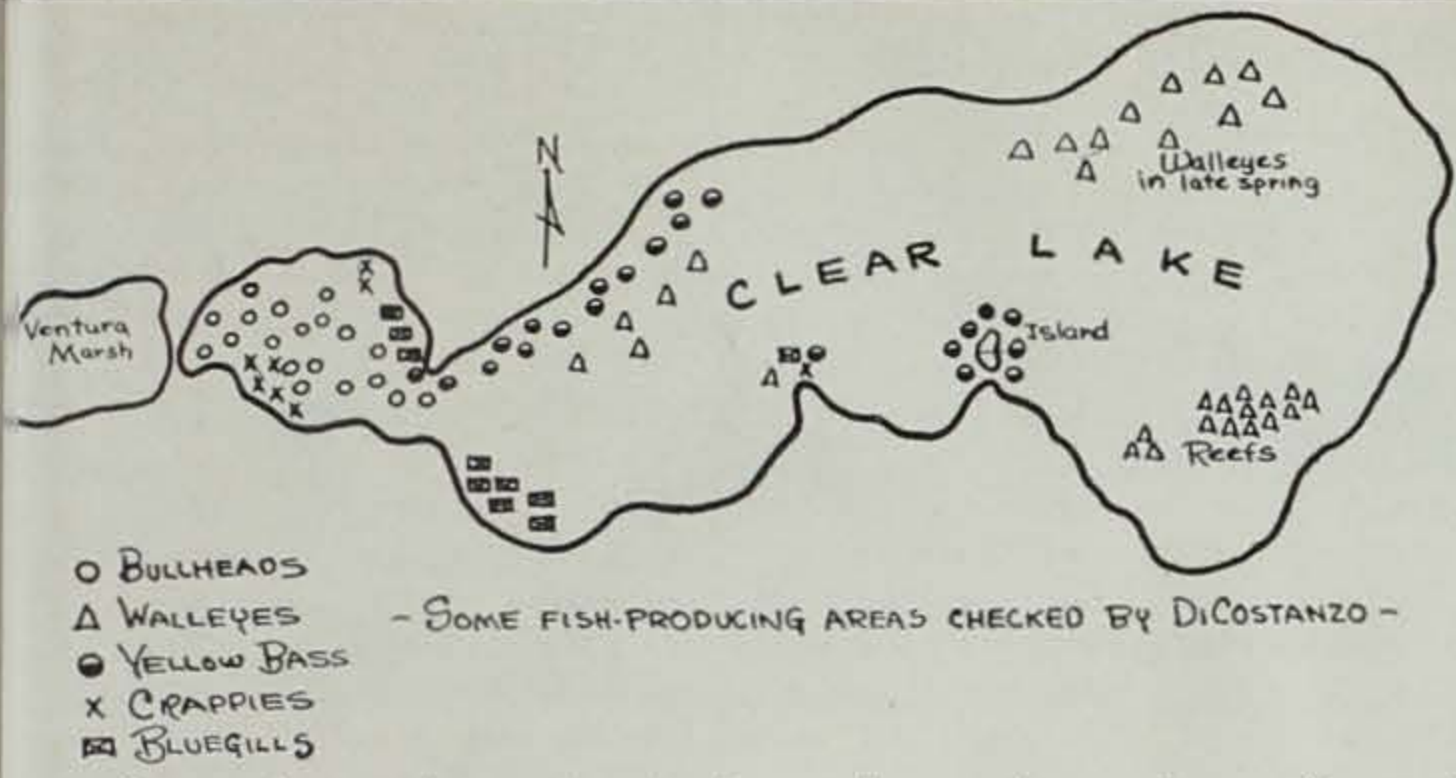
Four checking stations were established at widespread vantage points throughout the state and operated by personnel from the biology, federal aid and game sections to secure additional information on sex, age, weight, condition of herd and other information needed for good game management. A total of 170 deer were checked by the men in these stations.

Guaranteed . . .

(Continued from page 36)

Teachers!! Want college credit, travel, usable training, fun, recreation, good food? Come to the Iowa Teachers Conservation Camp this summer. Satisfaction guaranteed!

The quickest way to dry out a pair of hip boots is to insert the nozzle of a vacuum cleaner in the boot and turn it on.



Game Fish . . .

(Continued from page 33)

Species	NUMBER			WEIGHT (pounds)		
	1953 ¹	1954 ²	1955 ³	1953	1954	1955
Yellow bass	88,400	120,000	172,000	38,000	50,000	71,500
Bullhead	50,700	105,000	83,100	15,600	38,000	30,000
Perch	25,400	13,700	2,350	5,300	2,700	500
Walleye	1,050	375	900	1,600	450	1,100
Crappie	6,200	8,800	7,700	1,700	2,900	2,600
Bluegill	6,000	38,000	54,000	900	8,000	11,000
Northern	125	2,500	300	300	3,800	400
Others	1,000	1,000	1,000	400	600	1,000
Totals	179,000	290,000	320,000	64,000	106,000	118,000

¹ for 72 days during summer
² for 73 days.
³ for 79 days.

These numbers and weights are impressive, but represent estimates only for the summer seasons. When spring and early fall catch figures are included, as they are in the data for last year, angling success is, for much of Clear Lake's best fishing is in the late spring

SPECIES	NUMBER	WEIGHT
Yellow bass	247,000	102,000
Bullhead	206,000	74,000
Yellow perch	9,000	2,000
Walleye	3,700	4,500
Crappie	34,000	11,000
Bluegills	100,000	1,400
Northern pike	1,800	2,000
Others*	1,400	1,400
Approximate totals	602,000	218,000

* channel catfish, largemouth bass, silver bass and sunfish. In both tables, figures are roughly rounded.

and early autumn. DiCostanzo's estimates of fishing success from April 17 to September 5, 1955, indicated a weekly average of five tons of fish taken from Clear Lake during that period!

These catch estimates for the period from April to September indicate a yield of 60 pounds of fish per acre in Clear Lake.

These statistical estimates are based on the large sample of anglers actually questioned, and are the results of careful computation. Formulas used included adjustment for error, and the statistical patterns used precluded any large bias or error. Dr. Kenneth Carlander, DiCostanzo, and Iowa State Col-



A fragrant resident of Margo Frankel Woods is the shadbush, which blooms at about the time shad are making their spring spawning runs up northern streams.

MARGO FRANKEL WOODS

By George W. Holmes

About 1 mile north of Des Moines and only about 15 minutes from the heart of town, is a recently established state park known as the Margo Frankel Woods. Local residents formerly knew it as Parker's Woods, Parker's Timber, or "85 Acres."

Today the area is divided by Highway 60, and has a new entry road running into the south end of the eastern section. The part lying west of the highway is about 23 acres in size, while the eastern portion is about 110 acres.

Before the war, the heart of the area comprised about 100 acres of nearly virgin timber, but the original woodland was slightly re-

duced and divided into two sections when Highway 60 was relocated to shorten the travel distance between the city and the small arms plant near Ankeny.

Most of the park now is timbered. The only large grassy area in the original woods was used occasionally for picnics by local schools but with the coming of the war, this was covered deep with dirt and clay to make a road bed for the highway.

There are evidences of this same area having been the former residence of some hardy pioneer family. There are deep depressions in the earth near the top of the hill that resemble cave and building excavations that have been filled in; there were several apple trees nearby and a wagon road led up the hill.

Except for a season or two when stray cattle grazed here, the land was left almost as nature had planned it. During the late 1930's a brush fire cleared much of the dry timber and fallen logs but since that time it has reverted back to its natural state. The underbrush has now covered many of the old footpaths, the trees have spread in some sections to keep out the sun, and one can again sink nearly knee-deep in fallen leaves during the late autumn months.

In the western section of the park is Saylor Creek, a small stream that is often dry during many summer months. But like all creeks it can become a raging torrent after a July cloudburst, and at one time carried a tree 2 feet in diameter nearly 500 feet downstream. During the school vacation when the creek flowed normally, a secluded section was dammed up with the aid of potato sacks filled with sand and it became the old swimmin' hole for many local boys.

But historical background is unnecessary to the lovers of nature who have roamed these woods. —J.M.



The Clear Lake angler has a happy duty: to harvest plenty of yellow bass and help maintain a balanced fish population for the benefit of fish and fisherman.

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Survival . . .

(Continued from page 36)

it has now reached the biological threshold where restoration efforts may do little good."

The lake trout, although abundant in most of its American habitat, is endangered in its Great Lakes home. In Lake Michigan, for instance, only eight lake trout were caught last year in more than 1,000 miles of gill net fishing that 20 years ago would have netted 50,000 fish.

These are but a few stark illustrations of how once abundant wildlife populations have been backed into a survival corner.

To those animals already mentioned must be added the Tule elk, the black-footed ferret, the sea otter, the kit fox, the woodland caribou, the gray wolf, the red wolf, the desert and Sierra bighorn sheep, the manatee and the Caribbean monk seal.

Their feathered companions of the continent who are facing extinction are the Mississippi, swallow-tailed and white-tailed kites, the roseate spoonbill, the Hudsonian godwit, the Florida sandhill crane, the Laysan teal, the nene, the Aleutian tern, the Florida burrowing owl, the peregrine falcon, the red-bellied hawk, Kirtland's warbler and the Cape Sable seaside sparrow.

The Great Lakes whitefish, the American crocodile and the green turtle may be passing away forever.

Conservationists are confident that with concerted public and governmental action many of these animals can be saved. Some, however unfortunate, are beyond help.

The National Wildlife Federation has outlined eight courses of action to help save the nation's endangered wildlife. They call for:

1. The promotion of coordinated research to determine the best restoration methods.
2. The enforcement of Federal and state laws of protection.
3. Halting deliberate and accidental slaughter of endangered wildlife.
4. Establishment of comprehensive use policies at the national, state and local levels for protection dependent on development of other natural resources.
5. The initiation of more public education campaigns.
6. The protection from encroachment of established state, Federal and private sanctuaries, forests, parks and refuges.
7. Effective pollution control.
8. Support for the International Union for the Protection of Nature in Brussels, Belgium.

Margo Frankel . . .

(Continued from page 39)

Here nature can be found in all of her various phases: birds, animals, insects, flowers and trees.

The natural condition of the park has made it a haven for many species of birds that are not normally seen in open fields or small woods. The scarlet tanager visits

these woods, and during its migration the water thrush haunts the creek beds, and the rarer cerulean warbler has visited the park. As many as 45 species of birds have been counted in an hour's walk through the timber in early or mid-May.

In recent years the bluebird has been found here more frequently, and even the red-headed woodpecker has headed for the seclusion of the deeper woods. The bobwhite quail is a frequent visitor and resident, but confines his nesting area generally to the borders of the park where open pastures are accessible for quick escape.

In previous years this area was a squirrel hunters' paradise, but now this long-tailed tree climber can spend his life in peace and safety. As in most wooded portions of this section of the country, Frankel Woods is well populated with chipmunks, skunks, groundhogs and other small animals, and in recent years the tracks of deer have appeared more frequently.

Of the 95 species of trees listed in "A Handbook of the Native Trees of Iowa," issued by the Iowa State College Extension Service, about 35 can be found in these woods. One species that is fast disappearing is the butternut, but about 25 years ago many pecks of butternuts were taken out from trees along the south creek each autumn. Although not listed as a tree, the smooth sumac is in great evidence throughout these woods. It usually is not noticed until fall when its leaves spread out like a beautiful red carpet, brightening the landscape before Jack Frost has even arrived.

Nature has provided much of the area with flowers; in early spring the ground is lush with hepatica, spring beauties, adders' tongues, bloodroot, violet, dutchmen's breeches, May apples and jack-in-the-pulpits. In the fall the hillsides are bedecked with wild members of the aster family, goldenrod and silverrod, and a few trellises of bittersweet are found interwoven among the branches of the smaller trees.

The woods actually offer little in the way of geological or historical material, but to the nature lover they offer a wealth of valuable information of the flora and fauna of central Iowa. They should be preserved not just for the benefit of the people who visit them, but also for the wildlife which lives in them, that they may be enjoyed not only by the nature lovers of today but by the generations who are to follow.

SOME OUTDOOR TIPS

To avoid scrubbing that heavy carbon formation from the outside of your outdoor cooking gear, simply coat the outside of your pans with a thick paste, made by mixing water with soap flakes before you put them on to cook on your open fire. The carbon thus forms on the soap coating and is easily removed by gentle washing.

Rattlesnake Hunting . . .

(Continued from page 35)

He's killed or captured hundreds of rattlers, but the excitement has never worn off. When Joe is lowering the boom on a "hot" rattler, he buzzes almost as much as the snake. Once, while we were transferring a rattlesnake to a sack Joe was holding open, we noted that he held the sack at full arm's length. We commented on this.

"If you ever see the day," he answered, "when I don't rear back from a mad rattler, you tell me. 'Cause that's the day I'll quit hunting them!"

In a couple of weeks Joe may kill 50 rattlesnakes, and although a man won't get rich at 50c per snake, it's not to be ignored if you know of a few good dens. Bounties are paid by county recorders, who require that the snake's head, rattles and two inches of the tail be submitted as proof.

Since 1938, \$6,628 has been paid in rattlesnake bounties in Iowa. In 1955, 749 snakes were bountied for a total of \$374.50, and Allamakee County headed the list with 312 snakes. Other counties paying rattlesnake bounties were:

County	Rattlesnakes
Winneshiek	48
Plymouth	4
Madison	137
Lee	14
Jones	31
Johnson	1
Fayette	6
Dubuque	96
Des Moines	1
Delaware	15
Clayton	44
Chickasaw	40

Timber rattlers—to the complete satisfaction of most Iowans—aren't easily come by. Seemingly ideal areas will completely lack snakes, while a certain ridge or hillside will have good numbers. Prime snake habitat probably depends more on den sites than any other factor, providing the "Rattlesnake Hills" and "Rattlesnake Ridges" famed in local areas.

Rattlesnakes are shy reptiles, prizing their solitude and freedom. They are most dangerous when that freedom is challenged. They are not vicious and aggressive, and although they hold the whip hand over most wild creatures, they are not bullies. We've never had a rattler strike at us without provocation. For temper and just plain cussedness, a common water snake is far uglier than a rattler. In fact, there are records of captive rattlesnakes being given live rats for food, only to have the rats kill and partially eat the snakes without being struck.

The timber rattler is not a "gentleman", and does not sound his rattles as an act of courtesy. The buzz of a rattlesnake is a signal of nervousness, much as the twitching of a cat's tail or the drumming of a man's fingertips while he's waiting for his wife to finish primping.

No Fatalities

If anyone has been killed by a rattlesnake in Iowa, the writer has not heard of it. Snake bite reports pop up now and then, but most

cases involve a nonpoisonous snake and a badly frightened victim.

However, Conservation Officer Bill Basler cites a case of snakebite when he was assigned to Jones County. A 17-year-old friend of Bill's spent a lot of time around the Maquoketa River, and had promised to catch a timber rattler and her brood. The old snake was killed and the boy scraped the small snakes into a heap and proceeded to tie them together with a shoelace. One of the little rattlesnakes nipped the boy on the thumb, and although he discounted the injury and didn't wish medical attention, he was taken to a hospital. He received prompt treatment, but was a sick lad for a couple of days.

Tom Berkley, Area Game Manager for eastern Iowa, tells of a fisherman being struck on the ankle on a rocky riverbank north of Winterset. In great pain, the man was rushed to Des Moines for attention. Fortunately, one vial of rattlesnake antivenin—the only one—was located in Des Moines. Although the man's life was probably not in danger, the antivenin greatly reduced the effects of the poison.

Timber rattlers possess fangs up to a half-inch in length, and are equipped with a good supply of haemotoxic venom. This venom type—characteristic of pit vipers—affects the blood, breaking down the red corpuscles and walls of capillaries and other small blood vessels. Such a wound is extremely painful and may be subject to secondary infection as tissues in the bite area break down and are opened to bacteria.

It's this potent armament—plus the sheer fact that he's a snake—that makes the rattlesnake what he is to most people. But comparatively few timber rattlesnake bites end in death, and when the snake is stripped of human prejudice, horror and superstition, he can be seen as an interesting member of the wilderness family. He is the enemy of mice, rats, and other rodents, keeps to himself, and never occurs in large numbers. Man is too prone to stamp certain creatures "good" or "bad". The rattlesnake is neither; he's simply a wild critter trying to get along in a world of hatred.

From a logical viewpoint, it's difficult to justify the 50c bounty on timber rattlers. A bounty will never have an important effect on snake populations, but may tempt the inexperienced person into trying something that's better left alone.

Because rattlesnake hunting is strictly for an old head like Joe Martelle, and even then it's a heck of a way to earn four bits.

Suction cup coat hangers on the windows inside a station wagon can be used to hang fishing rods while traveling. The rods are never broken, and are up out of the way at night if you sleep in your station wagon.