

IOWA CONSERVATIONIST

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STREAMER FLIES FOR SMALLMOUTH BASS

TOADS—JUST TOADS

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

That shrill long-lasting trill coming from yonder pond is not a frog, but a toad! For toads, no less than frogs, sing during the spring months when they are concentrated about ponds and temporary pools for the spring mating season. When this season is over they scatter over the land areas away from standing water.

Toads have been superstitiously reported for centuries as the cause of warts on humans, and as being extremely long-lived when sealed in pyramids or more modern cornerstones. But neither of these things is actually so. Handling toads will not cause warts; we now know that an unbalanced diet may do so. Neither do toads live for particularly long times. The oldest American toad for which we could find authentic records was ten years of age. Toads may hibernate in holes for several months, but not for years as fables state.

Unlike their frog relatives, toads have a dry skin. This skin is thickened and covered with enlarged warts and the skin of the belly is rough and granular. Many people think of toads as having cold, moist skins. The truth is that toads, like all cold-blooded creatures, tend to have the same temperature as their surroundings. A toad seems cool if it has been picked up from a cool and damp place. The skin is quite porous to moisture and a toad in the warm sunlight will lose weight because of the evaporation of water through its skin. Similarly, a toad sitting in water will "drink" water through its skin and actually gain weight while sitting motionless!

All of the toads are chunky in build and have short legs with poorly webbed feet. There are large swollen glands behind the eyes and the skin is poisonous to many animals if eaten.

During Iowa winters the toads
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The fly rod is a first-class tool for bass fishing. When coupled with proper lures and know-how, it is truly most deadly equipment. Jim Sherman Photo.

By Joe Hopkins
Conservation Officer

Have you ever felt the throb of a fly rod when a smallmouth bass is hooked? Have you seen a bass leap into the air in a frantic effort to shake your fly? If not, you have some angling thrills ahead.

The clear cool streams of north-eastern Iowa have been smallmouth habitat for countless years. They flow over lime rock and gravel beds, down swift rock riffles and through quiet pools. The area abounds in scenic beauty that makes good fishing even more enjoyable.

The fly rod is a first class tool to use for bass fishing, and when coupled with proper lures and "know how" it is probably the most deadly. Elaborate equipment is not necessary for successful fishing, but buy the best you can afford. It will repay you in service and satisfaction.

Experienced fly rod users form definite preference for lengths and weights of fly rods. The novice would do well to start with an 8½- or 9-foot rod of medium weight. A level line will do nicely; however, a tapered line enables the angler to lay down a more delicate cast and in low clear water this is important.

The choice of reels is largely one of individual taste. Most anglers prefer a lightweight automatic. My own choice is a silent drag single-action reel. A pair of boots or waders are a necessity. A good large creel will provide handy carrying space for fly boxes, lunch, etc., as well as fish.

Many and varied are the lures used for bass fishing. They run the gamut of colors and are variously striped, spotted and scaled. All sorts of materials are used in their construction—metal, plastic, hair, feathers, wood, cork, etc. Almost all of these lures will at some time or other take bass. Some lures are decidedly more effective than others. Some, though deadly, are an abomination to cast because of their weight or bulk. In early sea-

(Continued on page 46)

PARENT FISH ARE 'FUSSY' AS HENS

Everyone has heard mothers of only children being termed "as fussy as an old hen with one chick," but few perhaps have heard that term applied to fish.

Yet fish are every bit as fussy as hens when it comes to protecting their young, and some have not only one, but about 5,000 offspring to look after. Besides, it's the male of the fish family who guards the nest from intruders after the fish are spawned.

The defender of catfish eggs and the fry (young fish) is pretty fussy about one's invading his domain to handle the egg mass, as state fisheries employee Ernest Thune can tell you. You can get away with it once, but that's all. A second molesting of the eggs and the nest will disappear, Thune says.

Some say that the male will eat the eggs if handled more than once by human hands, but the soft spok-

(Continued on page 44)

Iowa Conservationist

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BALANCING WILDLIFE AND THE SOIL

Saw a good film at Rotary Club the other day which was screened by the government to show the state and condition of wildlife in the United States, particularly big game.

It is interesting to observe the progress which has been made in arriving at full understanding of what makes big game thrive, and now that conservationists agree that it's equally dangerous to allow game to over-populate as it is to take too much game, the future of wildlife is much better assured.

Game cannot subsist unless there is nourishing food in the form of grass, shrubs, trees and other vegetation. In excessively populated areas game devours all the food and proceeds to starvation; by regulating the game population through hunting and by not taking predator game it is possible to keep game in balance.

It is the natural impulse of most persons to allow any living thing to survive and not to prey upon any group or species of animals no matter how wild they may be.

Increasingly, it is becoming clear that each animal and bird has a place in the scheme of balancing nature. Even the predators have a place, to prevent distortion of the population of wild forms of life.

This will be a greater and finer nation when over-grazing no longer exists, when denuded hills are once again forested, when the streams run clear and do not carry the sediment of valuable topsoil washed away through over-growing of intertilled crops.

It is easy to perceive that the Great Maker presented a plan of balance which man can't emulate effectively, either in changing the balance of nature or managing the economy.—*Estherville News.*

THE LOTUS AND THE WATER LILIES

By Roberts Mann
Forest Preserve District of Cook County, Illinois

In midsummer, when the weather is hot and sultry, Mother Nature puts on an extravagant water-flower show. Completely covering hundreds of acres of water in shallow lakes or sluggish streams are dense, almost impenetrable beds of plants with huge green leaves like elephant ears and stately creamy-yellow flowers as fragrant as they are beautiful. This is the American Lotus, closely akin to the Egyptian Lotus and the sacred lotus of the Hindus.

The American Lotus grows in quiet water from two to five feet deep, where its big leaves and flowers usually stand a foot or two above the surface on thick stiff stems rising from fleshy rootstalks buried in the mud. It has several leathery dark green leaves, almost circular and from one to two or more feet in diameter, each balanced at its center, like a platter, on the stem. The great flower buds open into blossoms, from six to ten inches across, with broad petals and sepals. These are followed by conical seed capsules, often the size of a man's fist. From one to two dozen seeds are set in pits in the flat top of the capsule, which breaks off and floats about, scattering the seeds.

These seeds, about the size of a white oak acorn, have a very hard shell. The Indians roasted them and ate them like peanuts, or ground them into meal to make bread, mush or dumplings. They are starchy, rich in oil and have a flavor much like chestnuts.

A few of the descendants of pioneer families in the Illinois valley still make enough flour from lotus seeds to bake a holiday cake once a year. The rootstock, which has somewhat the flavor of a sweet potato when boiled, was also eaten by the Indians.

This lotus is found from Massachusetts to Minnesota and south to Florida and Texas, but it is thought that the Indians carried it across the Allegheny Mountains to the east coast for its food value.

In the north central states there are a few other native water lilies, near relatives of the lotus, that also grow in ponds, lake margins and slow moving streams. Two species with large floating leaves and large floating white flowers are often seen in this region, but never in beds so extensive as those of the lotus.

One is the Sweet-Scented Water Lily, wonderfully fragrant. The other is the odorless White Water Lily or Water Nymph. The first has round waxy green leaves, pinkish underneath and sometimes 12

NEW PARK FOLDER AVAILABLE

A revised edition of the popular folder "Where to Go and What to Do in Iowa's State-Owned Recreation Areas" is now being distributed free of charge by the Conservation Commission.

Contained in the folder is a list of the 90 state recreation areas, their locations, facilities available and post office addresses of park custodians where one may write for reservations or more specific information about particular areas.

The folder also lists areas where tent and trailer camping are permitted and where overnight cabins, lodges and group camps may be rented, together with fees for each.

Copies of the park folder may be obtained cost free by writing the Iowa Conservation Commission, 914 Grand Avenue, Des Moines 9, Iowa.

inches in diameter, with a cleft on one side that extends in to the stem attachment at the center. Its flowers, three to six inches broad and pure white or tinged with pink, have a center of many yellow stamens. The Water Nymph is similar, but its flowers and leaves are larger. Both kinds have long limber rubbery stems and long rootstocks in the mud.

The famous Royal Water Lily, native in the Amazon River of Brazil, has creamy white flowers that turn pink or red, and gigantic floating leaves with upturned edges. These leaves, sometimes six feet in diameter, can support the weight of a 150-pound person.

The water lily, says an Indian legend, originated from a falling star.

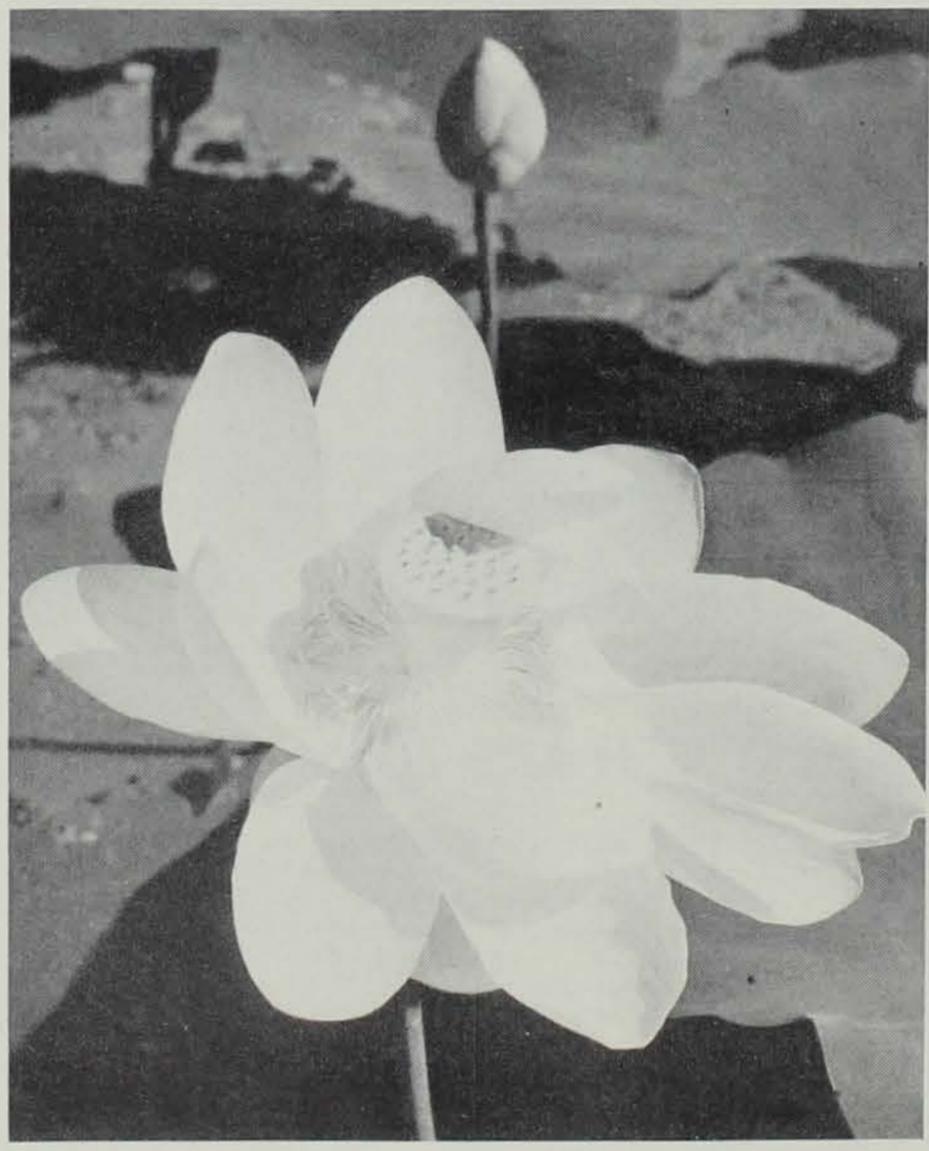
Villisca, Iowa
May 23, 1950

Iowa Conservationist
Des Moines, Iowa
Gentlemen:

I note in the last issue of your magazine several recipes for fish bait. Do not go off the deep end for any of these concoctions, as I am working on something really good. I am crossing nightcrawlers with a piece of rope. All you do is wind it on a spool, take it fishing with you, snip off the length you need, and there it is.

As soon as I get it perfected I will let you have the first 100 feet free if you will send me your magazine for one year without charge, starting with the next issue.

Respectfully yours,
COLLIS E. MOORE,
Postmaster,
Villisca, Iowa.



The American lotus grows in quiet water. The great flower buds open into blossoms from six to ten inches across. Jim Sherman Photo.

The gestation period for mink varies from 42 to 62 days.

Echoes From The Past

(Editor's Note: This is the fifth of a series relative to life in early Iowa. Additional excerpts from pioneer books, newspapers, and diaries will be printed in future issues.)

PREHISTORIC IOWA

In December, 1891, Professor Samuel Calvin, state geologist of Iowa, delivered a very interesting lecture before the State Historical Society on prehistoric Iowa. The following extracts show what Iowa was according to geological teachings in the most remote ages of its existence:

"These records, untampered with and unimpeachable, declare that for uncounted years Iowa, together with the whole great valley of the Mississippi, lay beneath the level of the sea. So far as it was inhabited at all, marine forms of animals and plants were Iowa's only occupants. During these long years of submergence, the rocky strata of Iowa, as well as of all the adjacent states, were successfully accumulated as soft sediments on the sea bottom.

"Omitting the small area of Sioux quartzite in Lyon County, the oldest strata in the state are the limestones and sandstones of northeastern Iowa. These contain the record of a period of duration altogether incomprehensible.

"Myriads of years, if not myriads of centuries, passed again, and in the meantime the light-colored limestone so well represented at Anamosa grew by imperceptible sedimentary accretions.

"Other ages of similar duration drag on slowly into the lengthening past, but bring us only to the point at which the limestones and shales represented in Johnson County are completed.

"About this time a small portion



Crinoids, or sea lilies, are small animals that were abundant in Iowa's shallow seas. Their delicately formed arms give them the appearance of flowers. Jim Sherman Photo.

of Iowa in the northeast becomes dry land, but all of the region south and west was still under the all-pervading sea.

"Another of those ages, to human comprehension limitless, wends slowly by, and the agents of sedimentation build up in slow succession the great crinoidal beds at Marshalltown, Burlington and Keokuk, together with the coal measures and associated strata of central and southern Iowa. Still Iowa and the rest of the world are without human occupants.

"Soon after the completion of the coal measures, the sea left our whole state as a part of the growing continent, but after long ages the sea again took possession of at least the northwestern part of the state, and another geologic period goes by before the upward movement of the land by which Iowa is at length permanently disenthralled from the dominion of the sea.

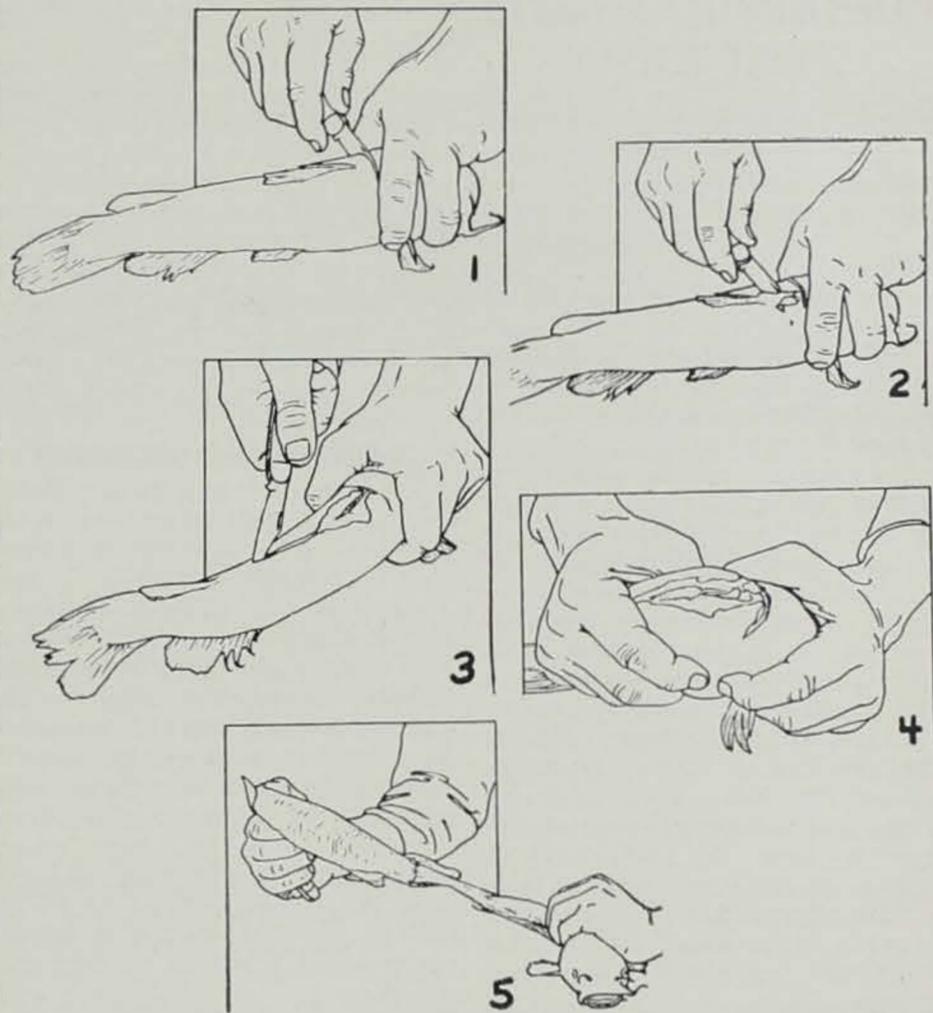
"Forests take possession of the surface. Animals related to the dog, wolf and panther, as well as to the deer, the camel, the ox and the horse, unite with lizards, birds, bats and monkeys to impart a modern aspect to the assemblage of animals that occupy this latitude.

"The climate was that of southern Louisiana. The conditions were not inconsistent with the possibility of man's existence. Yet the records show that at the beginning of this new period man was not only absent from Iowa, but was still absent in every quarter of the globe."—*Annals of Iowa*, Vol. 1.

At an old settlers' meeting of Jefferson County people, E. R. Smith, in referring to buffalo in that county, mentions buffalo hunting, buffalo hunters and other game in Jefferson County, including bear, deer, antelope, wild turkey, quail and pheasants. He states that jack rabbits were very scarce and a few were found around Glasgow and Beckwith until a few years ago. (Note: Jack rabbits are recent migrants from the west in Story County since about 1895.)—*Annals of Iowa*, Vol. XVII.

Horsehair snakes are neither horsehairs nor snakes, but members of the small group of animals phylum Nematomorpha ("form of a thread"). The sudden appearance of the worms is due to the fact that the larvae develop as parasites in insects and the adults emerge full grown from their insect hosts.

Among mink farmers there are two generally recognized strains of mink. The Yukon mink are a large prolific strain that tend to have a slightly coarser fur than eastern mink. Eastern mink, which include the Labradors, are a smaller strain and they have a finer fur and thinner skin.



SKINNING A BULLHEAD

Probably more of us would enjoy catching and eating bullheads if it weren't for that unpleasant job in between. Actually the skinning task need not be so formidable, once you have learned to grasp the fish without being horned.

The actual skin removal, as shown here, is quite easy, and really works. All you need is a sharp jackknife. Time per bullhead: 15 seconds.

(1) Feel for slight depression just ahead of dorsal horn. Cut here as shown, not too wide, deep enough to penetrate backbone, killing fish. (2) Cut away from your hand, removing the dorsal fin and horn. (Bigger the bullhead, tougher the horn.) Make this cut shallow as possible. (3) Keeping same firm grip, one horn protruding between index and middle fingers, slit just under skin all the way down backbone to tail. (4) Keeping left hand in same position, grasp fish with right hand as shown, and bend tail down toward head, causing backbone to protrude. (5) Grip end of backbone firmly between thumb and knife; pull up, out. If cuts have been made as shown, skin, entrails will stay with head.

—New York State Conservationist.

FEDERAL JUDGE ADVOCATES WATERFOWL BAITING

A federal district judge, who has taken a solemn oath to uphold the laws of the United States, served as spokesman for a group of Maryland duck hunters who turned the recent waterfowl forum in Annapolis into an unprecedented attack on the federal migratory bird regulations, the Wildlife Management Institute reports.

In his statement, Judge William C. Coleman of Baltimore said that he favored the use of bait throughout Maryland, an open season of from 60 to 70 days, an increased bag limit and shooting until sundown. He said that the district attorney had come to his office a month of so ago with a long list of cases in which the baiting of duck blinds was charged and said he did not feel that they should be prosecuted. He characterized the baiting regulation as "an unenforceable law" and said that 95 per cent of the hunting in Maryland is done over bait.

Dr. Clarence Cottam, assistant director of the U. S. Fish and Wildlife Service, who presided at the stormy session, replied that unrestricted hunting favored by Judge Coleman and others at the meeting would spell the end of waterfowl hunting and that the meeting was

the most selfish of all those he had attended across the country. J. Hammond Brown, president of the Outdoor Writers Association of America, in his newspaper column stated that there is little doubt that, if the federal authorities satisfied the demands made at the Annapolis meeting, most of the continent's waterfowl would be wiped out within 30 days.

After attacking the federal regulations which he is sworn to uphold, Judge Coleman turned to Dr. Cottam and asked what he intended to do about it. If baiting cases being brought to Judge Coleman by federal law enforcement agents are not being tried, as he stated at Annapolis, much of the blame for the prevalence of baiting in Maryland logically must lie with the handling of such cases by the court. In view of the jurist's public admission of his own handling of baiting cases, it would seem that the millions of law-abiding, tax-paying sportsmen in this country should have the right to ask Judge Coleman what he intends to do about it. His remarks were interpreted by Drew Pearson in his syndicated column as an open invitation to all hunters in Maryland to disregard the federal baiting law.

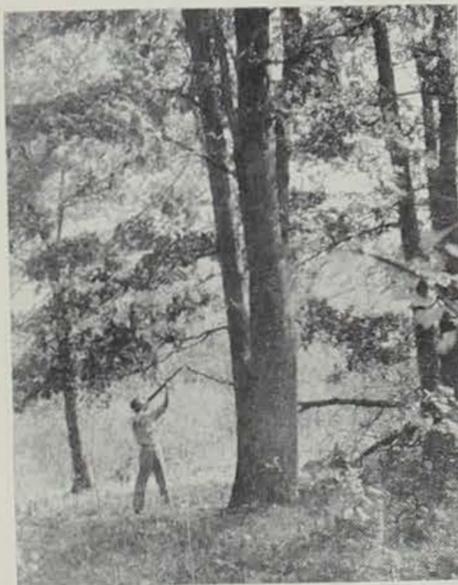
HUNTING IS A SAFER SPORT TODAY

Hunters who went afield last season had far better chances of escaping shooting accidents than they did ten years ago, according to the Wildlife Management Institute.

A survey of six of the nation's more popular hunting states, made from 1940 to 1948 by the Sporting Arms and Ammunition Manufacturers' Institute, indicates that the number of fatal hunting accidents, in proportion to the number of hunters afield, have been cut exactly in half during the last eight years. The survey shows that hunting fatalities in these states decreased progressively from 6.4 per 100,000 hunters in 1940 to 3.2 in 1948. During the same period, the number of licensed hunters increased by more than 1,000,000. The states of Maine, Michigan, Minnesota, New York, Pennsylvania and Wisconsin were selected for the test. In 1940, 2,671,955 hunting licenses were sold in these six states. In 1948, the number of licensed hunters had increased to 3,742,989. Non-fatal accidents dropped from 30.5 to 21.8 per 100,000 hunters during the survey period.

All states surveyed participated in the safety campaign of the Sporting Arms and Ammunition Manufacturers' Institute by featuring the ten commandments of hunting safety and distributing the Institute's posters which are designed to help the states decrease hunting accidents. In pointing out the success of the program, the Institute credited the noteworthy accomplishments directly to excellent efforts of the various states in conducting safety campaigns. Thirteen states now participate actively in this drive to make the hunting field a safer place, and all states and most sportsmen's magazines have made increased efforts to educate hunters in the basic rules of shooting safety.

Hunting is a far safer sport than newspaper headlines sometimes in-



The number of fatal hunting accidents in proportion to number of hunters has been cut exactly in half during the past eight years. Jim Sherman Photo.

dicade. Some editors add deaths from automobile accidents and heart disease when compiling their own statistics. But why the death of a hunter in an automobile accident should be a hunting fatality and that of a man on his way to the golf links just another traffic fatality is not always clear. This survey by SAAMI indicates that the states' educational campaigns are making hunters increasingly muzzle-conscious and the game fields a safer place for all.

WATERFOWL DECREASE

According to the Fish and Wildlife Service, there was a drop of nearly 25 per cent in North American waterfowl — ducks, geese, brant, coot and swans—as shown by the 1950 migratory bird census. The annual inventory was taken January 10-13 in the United States, Canada, Mexico and the West Indies. Albert M. Day, director of the U. S. Fish and Wildlife Service, reported the findings. The sharp decrease under the 1949 count means shorter hunting seasons next fall unless northbound flocks find favorable conditions on breeding grounds in Arctic tundras and marshes.

Losses in continent-wide populations of almost all species of waterfowl were evident, Mr. Day reported. He blamed a late breeding season in 1949 combined with droughts and excessive drainage of waterfowl havens in the prairie sections of this country and Canada. The drop in waterfowl numbers contradicts winter-long reports of local sportsmen "who in many areas have seen more ducks and geese this year than in former years," Mr. Day said. This was because millions of waterfowl stayed in this country during the unusually mild fall, instead of moving on to Mexico and other southern wintering grounds, he explained. "In addition, birds were concentrated on reservoirs and other large bodies of water. Drought conditions—dried up marshes in some parts of the country," he added.—*Science News Letter*.

FEATHERED MOUSETRAPS

For the landowner who takes a potshot at every hawk and owl he sees, and for the hunter also, here's something to think about.

Mice at times destroy as much as 50 per cent of corn shocked in fields, and as much as 75 per cent of alfalfa. Though such extravagant losses are infrequent, even normal losses are of such importance as to justify protection and encouragement of our natural mousers, namely, hawks, owls, skunks and weasels. The small damage that these creatures cause to poultry is greatly outweighed by their usefulness, according to biologists.

Such usefulness of hawks and owls is recognized in most states and many species are protected.—*Davenport Democrat*.



Lake View hatchery pond, one of the 150 fish nurseries scattered throughout Iowa.

PARENT FISH . . .

(Continued from page 41)

en caretaker of the state fish hatchery at Humboldt will only confirm that the nest disappears. He readily admits he doesn't know what causes the disappearance.

Hatching in Nail Kegs

Before the female catfish are ready to spawn in the hatching ponds, nail kegs are placed horizontally on the bottom in some two to three feet of water. Gravel in the bottom of the keg provides the lining for the nest. With that job completed, the male fish takes over and swishes the gravel around readying the maternity ward.

The male has whipped about all the gravel outside the keg by the time the female catfish has laid the eggs. After his mate has spawned, he drives her out and guards the nest himself.

The fry are about one-half inch long when hatched and are very light colored. When they are an inch and one-half or so long, the fry become fingerlings.

By the time the fish are big enough to get threaded on an angler's string, three or four years have elapsed since they saw the inside of a nail keg.

Operation Catfish

Thune has 68 old catfish that will be put in the river soon. They represent the parents of this year's

fry and they're three or more pounds heavy now. Minnows are the only food that they get outside plant and animal food in the ponds.

The young catfish live on a diet of beef hearts, liver and fish meal. The caretaker plans to try feeding the second hatch horse hearts and liver to see if they'll develop and live as well as those being fed beef.

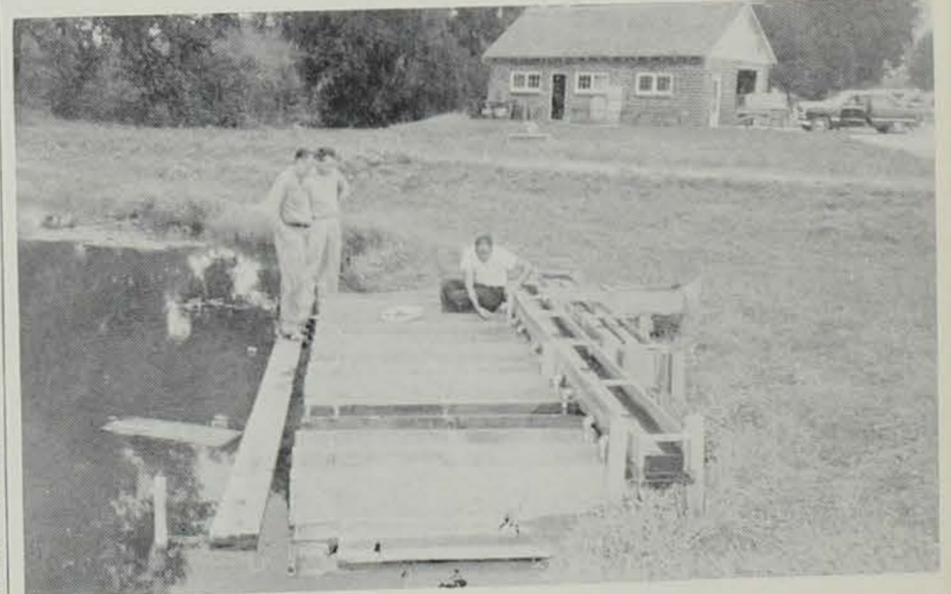
Catfish fry live in specially built troughs along the edge of the hatching ponds; water is piped from the power plant raceway to the ponds with outlets to the river. In this manner fresh water is at hand at all times.

Bass, Walleyes, Too

Besides catfish, Thune hatches smallmouth bass and walleyes in the rearing ponds. Some 25,000 walleye fry were stocked in the pond east of Highway 169 in May. As soon as they become uneven in size, they are separated. Otherwise they eat each other up.

Some 50,000 smallmouth bass fry are also stocked in the hatchery ponds. Bass nests are constructed by the male in shallow water; they are hollowed out in a saucer shape in coarse pebbles by the male, who swishes them free of any silt, moss or other debris.

It will take some three years for the bass that were hatched this spring to reach the legal length for fishing.—*Humboldt Independent*.



Catfish fry live in specially built troughs along the edge of the hatching ponds with flowing water in constant supply. Bob Cooper Photo.

PELICANS, MASTERS OF THE AIR CURRENTS

The pelicans at Twin Lakes have been one of Calhoun County's outstanding attractions for the past two or three weeks. At the peak, about ten days ago, there were 2,000 of the birds stopping over at the lakes en route north.

E. T. (Bud) Goeders, state conservation officer for this area, made an official census of the birds at the time and is fairly confident that his count was accurate, although such a count is always hampered by the constant movement of the birds.

A few pelicans, from 40 to 100 birds, have been general every fall and spring at the lakes for years. Starting about four years ago the pelican flight through here has been getting larger. Goeders says that four years ago there were between 50 and 100 birds, the following season about 150 and last spring 500 or 600 birds.

Just why this is, no one knows for certain. A lower water level at the lakes may have made it a better feeding ground; the pelicans may have changed their north and south flight route; the pelican population may be on the increase. These are just a few of the reasons offered by those who should know.

While the peak of this spring's population has passed, Goeders thinks there were 1,500 at the lakes the first of this week. Just how long they'll stay is a matter of conjecture. A few good warm days and the pelicans will leave. If it stays cold up north they may remain here for two or three more weeks, Goeders thought.

Since the pelicans have concentrated on South Lake, Goeders feels that they will be of a distinct benefit to the lakes. The percentage of rough fish in the South Lake is extremely high and this is their spawning season. The rough fish are in the shallow portion of the South Lake, which makes them an easy prey for the pelicans, says Goeders, and the birds should reduce the rough fish population a great deal.

Matt Roche tells me that during

his years at the lakes the greatest concentration of pelicans never exceeded 500 birds. He says that he always enjoyed watching a flock of pelicans taking off on their northern flight.

The pelican is a soarer and not a flier. He relies on the updrafts in the air currents to keep aloft. Matt says that the flock of birds when they get ready for flight congregate at one end of the lake and then with a wily old bird in the lead skim across the water until the leader finds just the right updraft. With the briefest of signal by his wings, the old bird starts upwards followed by the others in perfect formation. The flock then drifts lazily upwards until out of sight.

The pelican's large wingspan gives him plenty of buoyancy and the older birds ride up with only an occasional moving of their wings. Some of the younger birds, the daredevils, Matt says, get out of formation and away from the air current and then have a real battle on their hands getting back to the flock.

The pelican—"that queer bird whose bill can hold more than its belly can"—has always attracted a lot of attention, but never more than at the lakes the past few weeks. The question is whether the birds will be back every year in such large numbers or will return as smaller flocks.—*Manson Journal*.

The salivary glands of leeches manufacture a substance called "hirudin," which prevents coagulation of the blood while the leech is taking its meal. For this reason a wound made by a leech continues to bleed for a long time after the leech has detached itself.

The blue-winged teal is the most common nesting duck in northwestern Iowa, the Dakotas and western Minnesota.

Contrary to popular opinion, good waterfowl nesting areas in the Dakotas produce as many or more waterfowl per square mile than are produced in equivalent areas in Canada and Alaska.



Tests made by the University of Michigan show that outboard motors have no appreciable effect on fishing success.

FISH AND OUTBOARD MOTORS

Largemouth bass were chosen as representative game fish of North America in tests made to determine effects of outboard motors on fishing. The tests were made by the University of Michigan scientists for the Outboard Boating Club of America. Complaints that operation of motorboats had adverse effect on fish life and fishing prompted the checks. In addition to largemouth bass, tests were also run on bluegills, one of the most popular species of panfish. Anglers making the tests (all graduate students at Michigan University) fished for six hours a day for 66 days under varying conditions, both still fishing and casting. Every other day a motor boat powered with a five horsepower motor was run on the lake. It passed each fisherman every half hour. On alternate days no motors were used at all. Results showed no appreciable effect of motor boats on fishing success. Other tests showed

negligible effect on fish propagation.—*Davenport Times*.

And again—

Duane Dewel, in the *Algona Advance*, quotes an item from the *Belmond Independent*, which says the University of Michigan has completed tests in six ponds showing outboard motors don't hurt fishing.

Three ponds were churned to a froth with kickers and in three there was no disturbance, but fishing was equally good in all six.

"Outboard motors seem to concern some fishermen much more than they do the fish," says the *Belmond* paper.

That's right, they do, and number us among the "concerned." We expect to be reading next that it helps fishing to heave rocks in the water, kick the tackle box around and to take a swan dive off the box.

We're so cranky about such matters we don't even want a back seat driver in the boat with us.—*Emmetsburg Democrat*.

INTERIM COMMITTEE VISITS LAKE DARLING

Iowa's interim committee met in Washington the first time this community has had that honor. The interim committee, you know, functions between legislative assemblies. It comprises a group of senators and representatives who stay on the job after the other boys go home, handling such legislative details as they can, and thus lightening the load when the next assembly meets. It was a privilege to sit in at the meeting, along with a number of other Washington citizens, and watch the interimic wheels go 'round.

After the meeting Thursday, the entire group drove to the new Lake Darling west of Brighton and watched the finishing touches being put on the dam's spillway. There can be no doubt about the lake's water supply. With the heavy rain the other day, the water accumulated in the lake bed so fast that it threatened for a time to go over the spillway, which wasn't prepared for such an emergency. When the dam is given its final concrete treatment, which should be within the next few days, one or two good

rains will spread Lake Darling out over the area in all its beauty and loveliness. Then this immediate section of Iowa can feel for the first time that it has just as good recreational advantages as our neighboring sections to the north. The interim committee seemed favorably impressed by Lake Darling. So are we, — *Washington Journal*.

AIRPLANE AND WILDLIFE

Iowa wildlife may as well get used to modern inventions. The Iowa Conservation Commission has purchased an airplane to use in making wildlife surveys and in game law enforcement. It has been rather easy for out of season duck hunters, for instance, to get away from a warden as he approached across swamp and through weeds. But now he can swoop over them in a plane and spot them quickly. Just how they are going to count quail or pheasants from an airplane is not very clear. It might help in sizing up the deers herds now becoming rather common in Iowa. At any rate Iowa game is getting the advantage of the latest in progress.—*Centerville Iowegian*.



Pelicans, ungainly on land, are one of the most graceful of all birds on the wing. Here a pair resembling flying boats glide in for a landing. Des Moines Register & Tribune Photo.



Streamer flies and cork-bodied bugs are excellent smallmouth bass lures. E. B. Speaker Photo.

STREAMER FLIES . . .

(Continued from page 41)
son or murky water, spinners are at their best. Pick your spinners for lightness as well as spinning qualities. Deer hair frogs and poppers are good lures during the summer months and particularly for evening fishing. They are, however, bulky and are difficult to cast. An angler who becomes addicted to hair frogs and poppers will need a powerful rod and heavy line. The lures that cast best are the streamer flies and regular trout flies in large sizes.

The streamer flies and bucktails are naturals for smallmouth fishing. Many streamer patterns have been developed by our brethren the trout fishermen, and they are even better bass lures. Designed to imitate a minnow, compact and feather-light, they cast beautifully. Having no protruding lip or wiggling device, they pick up easily even on a long line. Streamers are effective throughout the summer months when the streams are clear or reasonably so. Bass seem to take them best during daylight hours. Using streamer flies, excellent fishing may be had at midday even in hot weather, contrary to the general opinion that only early morning and late evening offer good bass fishing at such times.

Streamers are usually fished across and downstream or across and slightly upstream if additional depth is desired. In fast water the current alone will impart a lot of action to the lure as it swings down with the current. Being a minnow imitation, the fisherman should endeavor to make the fly dart and pause or dart and drift back in the manner of live minnows. This is sometimes accomplished by drawing about 18 inches of line through the guides while slightly lifting and vibrating the rod tip—pause and repeat. By all means experiment. Try slow steady retrieves, short choppy jerks, hand twist retrieves. Try letting the lure drift on a slack line. Sometimes a fly skipped over the surface in fast water will bring savage strikes. There is a certain indescribable knack in the handling

of a rod that will at times spell success or failure. The angler would do well to try to analyze just how he handled the fly when a fish struck and file that information away for future fish and fishing trips.

A few patterns 1½ to 2 inches long tied up on No. 6 3X long hooks would make a good beginning selection. Include both dark and light patterns. Some should be dark above and light below as many species of minnows are. Others should have a dark center stripe. Here are a few well known streamer patterns that are good bass lures: Black Ghost, Black Dog, Gray Ghost, Parmachene Belle, Supervisor, Warden's Worry, Mickey Finn, Black-Nosed Dace, and Brown and White Bucktail. Those creations made of peacock herl and marabou are also good. Bass are definitely selective. At times they will accept one pattern and reject others. A good selection of patterns and sizes will add to your fishing success. Good flies will last through several seasons if properly cared for. Always dry them thoroughly on your hat band or a piece of sheepskin sewed to your fishing jacket for that purpose before replacing them in the fly box. Damp boxes rust hooks and stain the flies. Protect against moths while in storage. Venerable flies that have accounted for fabulous fish are the prized possessions of many anglers.

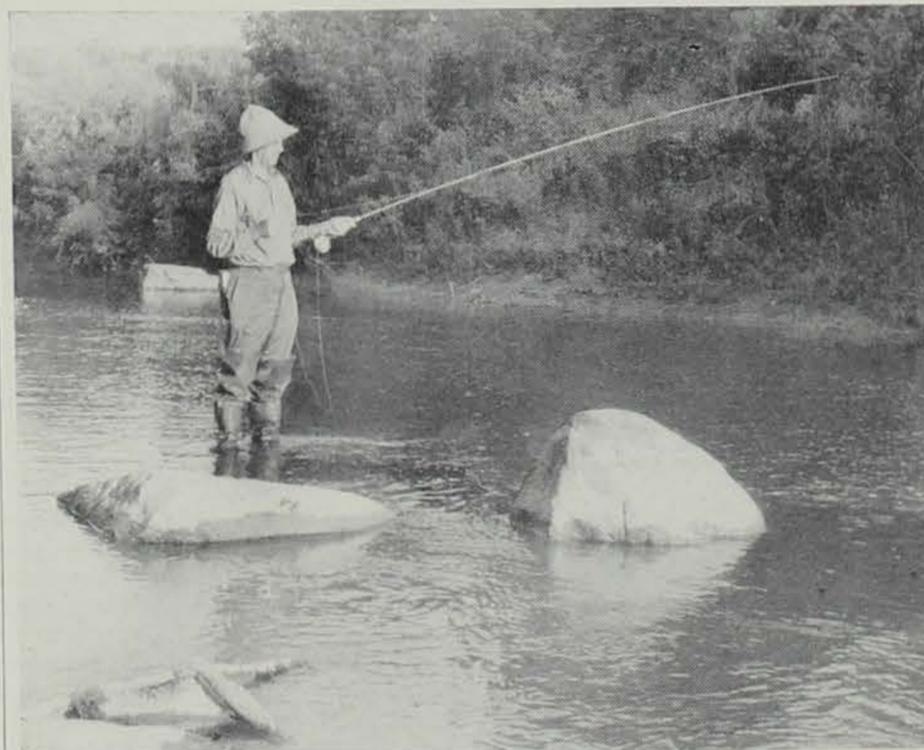
Most fishermen are all too careless about their leaders. They begin the season with 6- or 7½-foot leaders and continue using them. In time their leaders are broken and cut even shorter while water conditions become progressively lower and clearer. Low clear water requires the use of long fine leaders—9- to 12-foot are not too long. If trouble is encountered straightening out long level leaders on the cast, try tying up tapered ones

heavy in the butt section. For No. 6 streamers a 9-foot leader tapered from 10-pound to 3½-pound is about right for easy casting. Light leaders break the visual continuity between line and fly and so aid in deceiving wary fish. Light leader tippets are also more flexible than heavier ones, and they enable the water to impart more action to the fly.

White or bright colored clothing have no more place on a bass stream than they have in a duck blind. Fish as long a line as you can handle comfortably. Learn the casting technique known as the "roll cast." It is invaluable when brush is behind the angler. Remember that a fish sees objects in the air better on a calm day than they do on a windy day when the surface of the water is ruffled. Fish normally head upstream in a current and have better vision ahead than behind. The fish you are most apt to fry is the one who does not know you are there. This is all good bass lore.

Learn to recognize good bass water. It does not need to be deep. In fact, 18 inches to two feet of water over a rubble or rocky bottom is topnotch smallmouth water. Concentrate on eddies and breaks in the current. The end of the smooth glide at the head of a riffle and the tail water below it are "fishy" spots. Undercut banks, stumps and submerged rocks are all worthy of casting effort.

The fly rod is at home on a smallmouth stream, and the fly fisherman who knows his lures and techniques need have no anxious moments wondering if perhaps a casting rod or a pail of minnows should have been brought along. He may work leisurely along, enjoying the day and the life and flow of the river, confident that the fish will respond to his methods if they will take anything on that particular day.



Bass fishing enthusiasts claim northeast Iowa smallmouth bass waters have no peer on the North American continent. Jim Sherman Photo.

Wardens Tales

Shop Talk From the Field

Floyd Morley, conservation officer in charge of Winnebago and Worth Counties, writes:

"We have one of those no-name dogs up here that is a whiz on pheasants. Being from Winnebago County, he is, of course, the best there is. He not only points them on the ground, but in the timber will tree the birds and bark 'treed' until you come to shoot them. He can't tell the hens from the cocks, but he'll not cease raising a racket until you come and flush them out.

"I was out with him and his owner, Mike Wheeler, of Forest City, the last day of the pheasant season last year. He treed three hens and two cocks for us. He's in perpetual motion, circling the tree and barking. This permits the hunter to walk right up close. We walked within ten feet of one bird without flushing him.

"This may not be a new yarn, but I had to see it before I would believe it."

Game Area Manager Tom Berkley, formerly conservation officer in charge of Dallas and Madison Counties, was invited by Conservation Officer Warren Wilson to talk to a group of 4-H boys at a state convention being held in Ledges State Park.

"After I finished my talk we had general discussion, and one small boy raised his hand and said, 'We have plenty of pheasants in the summer, but most of them don't live through the winter.'"

Berkley asked the trouble and the lad replied, "Heck, they shoot them!"

Berkley told the youngster, "Well, your warden should get on the ball. By the way, what county are you from?"

Berkley turned bright crimson when the lad replied, "Madison."

Conservation Officer Maurice Jensen, in charge of Jackson and Clinton Counties, writes:

"One cold morning about 3:30 I was waiting for an illegal trapper to come visit his traps. I hadn't been in location too long before I saw car lights coming. The car came up, stopped, the trapper got out and looked at two traps on the other side of the bridge. He got back into the car and started the motor just as I reached the door and stopped him.

"I opened the door and asked, 'Are you doing a little trapping?'"

"As if in answer to my question, a live mink hopped out of the back seat and started across the road. I put my foot on it and held it down until I could pick it up by the neck. It was in pretty good shape, so I released it. This is the first time I have ever had the evidence deliver itself. As a result of this evidence on the hoof the Clinton County school board became richer by a hundred dollars."



Toads sing during the spring months when they are concentrated about ponds during the mating season.

TOADS . . .

(Continued from page 41)

are in hibernation, either in the pond mud or in holes in the ground. A toad digs into the soil in a strange way—backwards, with its hind feet shoving the soil to the side as the burrow deepens.

The American toad, *Bufo americanus*, is Iowa's most common species. It occurs everywhere in the state except in counties along the western border. The warts on the back are very large and the belly and breast are marked with irregular dark spots.

The song or love call of the American toad is a high-pitched trill that may last half a minute or more. This surprising call is heard most often from mid-April to June.

This toad lays its eggs in two strings or spirals of jellylike material apt to entangle with water plants or brush. The eggs hatch in three days to two weeks, depending on the water temperature. When the resulting tadpoles reach a length of about one-half inch, they may begin to grow legs and

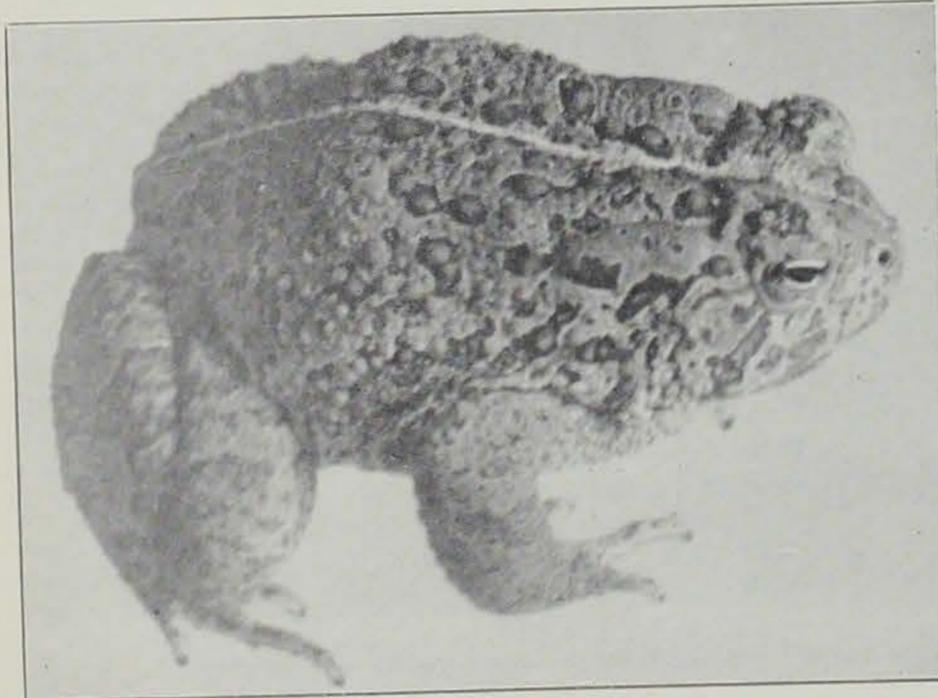
make other changes toward the adult toad form.

This is truly a garden variety of toad, for individuals are often found among the rows of vegetables in the cool of the evening.

The Great Plains toad, *Bufo cognatus*, is found only in the column of counties bordering the western side of the state and a few adjoining counties. It can be told from the American toad by the smaller warts on the back and the absence of spots or mottling on the belly and breast. Too, the large blotches on the back have conspicuous light-colored borders.

The voice pouch in the throat of the male toad is very large and, when inflated with air, extends forward and upward in front of the toad's very nose. The call or trill is very loud and long-lasting and is harsh and tinny in quality.

This toad seems to limit its mating and egg laying to periods immediately after heavy rains. If spring rains are late in coming, the mating season is delayed accordingly.



Rocky Mountain toads are found only in the counties adjacent to the Missouri River. It is the largest of all our toads. Iowa State College Photo.

The Rocky Mountain toad, *Bufo woodhousii woodhousii*, is another western species, being found only in counties lying within the main valley of the Missouri River. This is the largest of Iowa toads, although its three to four inches of body length do not greatly exceed that of several of the other toads. It seems to prefer bottomland ponds and rarely occurs in upland areas.

The dark spots on the back of this toad are not light-bordered as on the Great Plains toad, and the breast may have a few dark spots or be entirely spot free. It has smaller warts than does the American toad and always shows a light-colored line down the center of the back, the line being absent in the more eastern species.

The song is a low trill that lasts but three or four seconds.

The other common toad in Iowa is Fowler's toad, *Bufo woodhousii fowleri*. Although closely related to the Rocky Mountain toad, it is found in an entirely different part of the state, being known only from counties in the southeastern corner. It is the latest of all our toads to come from hibernation, and its calls may be heard from lowland ponds as late as July. The call is a metallic droning sound, harsh to the ears and with little trill or vibration to it.

Fowler's toad has a light line down the center of the back, an unspotted belly and an occasionally spotted breast as does the Rocky Mountain toad.

The rarest of all toads found in Iowa is the narrow-mouthed toad, *Microhyla carolinensis*, known only from Davis County. Whether this form should be called a frog or a toad is perhaps debatable. Certainly it is only distantly related to the others we commonly call toads.

The body of this unusual toad is small and relatively smooth-skinned. To identify this toad look for a fold of skin extending across the head just back of the eye. As the name suggests, the head is unusually narrow and pointed, seeming to be too small for the rest of the body.

The narrow-mouthed toad is not often seen during the day, as it spends most of the time hiding under decaying logs or other shelter. It appears most commonly during heavy rainstorms.

Toads as a group are very useful to mankind. The adults or their tadpoles serve as important food for many animals, fish and birds. Toads are one of the best natural controls over the numbers of insects. They often consume tremendous numbers of destructive pests such as potato beetles, grasshoppers, cutworms and chinch bugs. Their efforts in our gardens alone mark them as valuable neighbors.

Only about 10 per cent of the adult game fish are caught annually from the Iowa lakes. This was determined by commission biologists in marking studies.



When toad tadpoles reach a length of about a half-inch they begin to grow legs and make other changes toward adult toad form. Jim Sherman Photo.

State of New Mexico DEPARTMENT OF GAME AND FISH

Sante Fe, New Mexico

May 16, 1950

To All State Game Departments:

This is to advise you that the New Mexico Public Health Service, working in cooperation with the U. S. Department of Public Health, has found the bubonic plague prevalent among rodents in several counties of New Mexico. They have also found plague-infested fleas on dead cottontail rabbits.

A great many rabbits are live-trapped in New Mexico each year by private individuals and shipped out of state for stocking purposes. Some of these are purchased by game departments of other states and some are purchased by private hunting clubs. In New Mexico, unfortunately, cottontail rabbits are not classed as game animals and the game commission has no jurisdiction over their being live-trapped and shipped out of the state, and there is no other existing law at the present time that could be invoked to prohibit the shipping of cottontail rabbits out of the state.

I am advised by the health department that there is a great danger of introduction of the bubonic plague into other states by the shipment of rabbits with the plague-infested fleas from this state.

I am giving you these facts so that you may take such action as would seem appropriate in the case to prevent the importation of any live rabbits into your state from this state. I understand the health department has communicated this information to the health department of every state in the Union.

Trusting this information will be of value to you in preventing the introduction of the bubonic plague into your state, I am

Yours very truly,
ELLIOTT S. BARKER,
State Game Warden.