

# IOWA CONSERVATIONIST

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## TRY CROWS FOR TRICKY HUNTING

### THEY'RE HERE AGAIN!

It's March—and again Iowa is playing a somewhat bewildered host to one of nature's greatest shows: the spring goose flight up the Missouri River.

From southeast Texas, from the Sabine Refuge and delta marshes of Louisiana and the rice fields of Arkansas, every blue goose on the continent is funneling up the Big Muddy to stop in south-western Iowa.

The peak of the flight always arrives sometime around mid-March. By late February it was usually warm farther south and the geese have begun full migration from their southern wintering grounds. But when they strike Iowa they begin to meet winter and may be halted by sudden snowstorms and cold rains. So the flocks build up in southwestern and western Iowa until the northern weather clears.

Single flocks of 100,000 birds can be watched from close range and in early evening the southern and northern skies are embroidered with the long, wavy lines of new arrivals and birds being turned back from the north. Some of these flocks feed near roads where they tolerate sightseers but thunder up at the approach of an airplane. Last spring a single flock was sighted south of Thurman that blanketed four 80 acre fields. The edge of the flock was within 50 yards of the road and a number of photographers.

Such great flocks feed mainly on waste corn that was lost the previous fall by mechanical corn pickers. A flock of geese works over an area like an immense feathered vacuum sweeper, cleaning up everything in its path. As the geese in the rear of the flocks find pickings becoming scarce they may boil up suddenly, rise over the front of the feeding flock, and drop down again. From a distance this resembles a great rolling snowball.

In spite of the staggering concentration of game birds, there is  
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The crowhunter's equipment is simple, and is the key to a world of fine sport. A wary, smart old bandit, the common crow is a sucker for great horned owls.

### DESIGN FOR BETTER HUNTING

By John Madson  
Education Assistant

Whenever hunters get together in the barber shop, clubroom or gun store, the old argument comes up: What's wrong with hunting and what can be done about it?

Some of the theories get a little wild and so do their proponents. But someone may hit upon the right answer and propose that hunting, in general, is only as good as the game supply, which is no better than the quantity and quality of the game habitat.

Basically, all game needs places to feed, rest, hide, sleep, play and raise young. These are the main ingredients of any habitable game range. However, Iowa land is just too valuable to invest wholesale in game cover. It would appear that where wildlife is concerned we don't have a plot to plant in. This is not true.

Biologists have a \$5 word: *interspersions*. This simply means a "breaking up" of vegetative types

into a greater number and variety. For example, if a section of land is equally divided into quarter sections of timber, pasture, corn and oats, the interspersions are poor, and the best game location is limited to the center of the section where game has access to the four types of habitat. However, if this game section is broken up into many small fields the interspersions are greatly increased, and so is the habitable game range.

Such increased interspersions results in a great increase of *edge*, the margin of cover types so beloved by birds and animals. Dense, unbroken forest is relatively worthless for our game species. So are large, empty fields. The prime game habitat is at the edges where forest and field meet, or around trees in the open field or in open glades in the forest. It is in these edges that you will find the most game. Fifty one-acre brush patches will provide a greater *edge effect* than a single 50-acre brush patch.

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Somebody once said that if men were really smart, they'd have black feathers.

Maybe so. Crows are mighty smart, ranking near the top of the bird world in intelligence and body structure. But like Canada geese they are a blend of brilliance and stupidity, and if we can take advantage of a crow's stupid spells we can have some of the fanciest shooting that's around.

There are many ways to deal with crows. Most hunters agree that the best is with owl decoys, for owls are the crow's greatest weakness. In his consuming hatred for this silent enemy he will lose his head (and often his life) and mob a stuffed owl in front of concealed gunners. Some say that crows hate and fear owls because an owl can sweep through a helpless crow roost at night and almost decimate it. Crows seem to know this instinctively and seek vengeance in the daytime.

The traditional crow hunt is with a stuffed or living horned owl perched on a tree limb or post 30 or 40 yards away from concealed hunters. The stuffed owl can be set in a tree by attaching two lines to it, one with a weight at its end. The weighted line is tossed up into the tree, over a limb, and as it dangles down it is used to pull the owl decoy up. The other line, also dangling, serves to pull the decoy down at the end of the shooting.

Live owls are a little mean to handle. Few birds have a more powerful grip, and an owl can easily drive its talons through the protection of a heavy glove. They must be fed, cared for and transported carefully. For practical use, a stuffed bird is better.

The owl is intended to attract crows, enrage them and hold them in the area. To heighten the deception, most hunters also use crow decoys. Commercially, these are made of papier mache, balsa wood, or in silhouettes. Some hunters even use stuffed crows. Others use a couple of decoys and depend on dead crows to fill out the stool.

You may prefer to simply festoon dead crows on bushes or in trees,

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## MISSOURI PANTHER POSSIBILITY FIZZLES OUT

When a certain Greek philosopher abandoned his bath shouting "Eureka!", he meant he had found the answer to some knotty mental problem. Four wildlife biologists from the Missouri Conservation Commission came away from here last week with considerably less enthusiasm and success after a search for a panther, said to have been critically wounded by farmer Dan Boland.

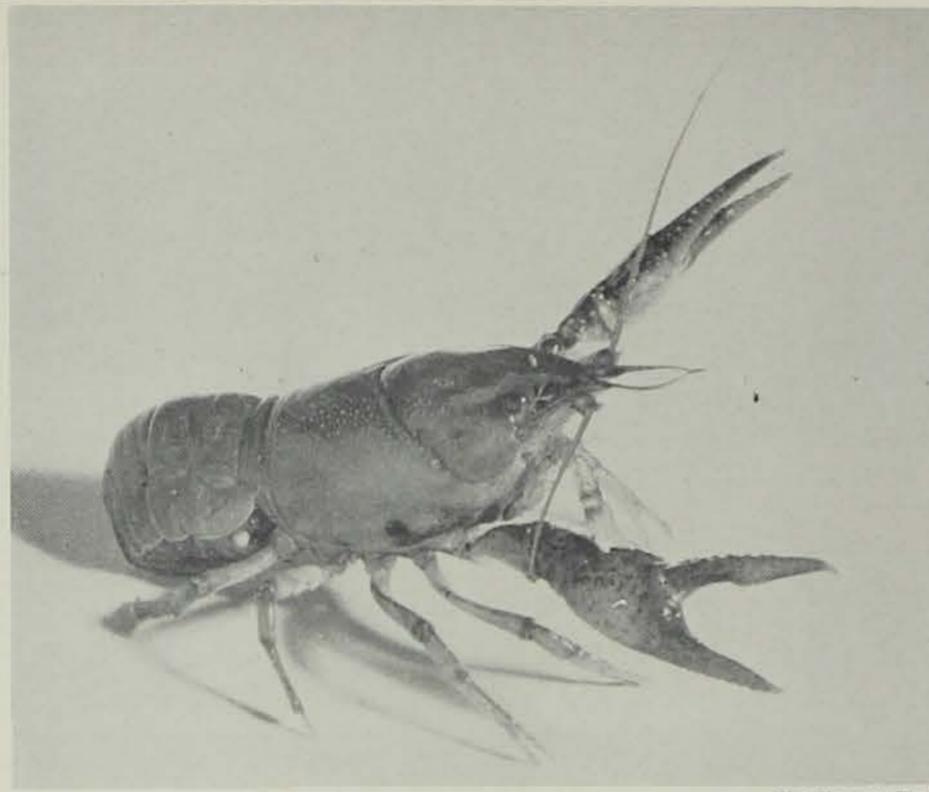
After portions of two days spent combing the rugged country in government-reserved Tyson Valley Park, Dunbar Robb, leader of the group, commented that "it could have been a panther, but it evidently wasn't wounded as badly as Boland believed."

Boland's story is that he saw the beast slinking across his field just north of the Meramec River on the afternoon of January 26. He secured a rifle and followed the animal across Highway 66 when he took the first shot—scoring a hit. The beast was already inside the high fence bounding Tyson Park. A second shot found its mark, Boland claimed, and the animal was dragging its hindquarters when last seen disappearing into heavy brush inside the area.

Commission personnel in Jefferson City were not notified until last week, but a party was sent to search the area in the hope that the animal had been mortally wounded and that a carcass might be found. It was hoped that the incident might furnish an answer to an argument waxing hot in Missouri these days: "Are there panthers?"

The settlement of the argument has been deferred once more, and it will be some time before we can shout "Eureka! We've found it."—*Missouri Conservation Bulletin*.

The venom of poisonous snakes is really a highly modified saliva. The poison of rattlesnakes breaks down the red corpuscles of the blood. Poison of the cobras attacks the nervous system.



Several of the crayfish's legs have nippers, but it's the front ones that get the most attention. Note the egg cluster glued to this female's abdomen.

## CRAWFISH OR CRAYFISH?

By David H. Thompson  
and  
Roberts Mann

Crawfish, or Crayfish? There are heated arguments about which is the correct name. The name crawfish was used in 1817 by Thomas Say, the first American zoologist to study these animals. Crayfish was coined by the English scientist, Thomas Huxley, about 50 years later. In this part of the country they are also commonly called "crawdads", "crabs" or, in the southern part of the state, "mudbugs". In Louisiana, where they are important in Creole cookery, they go by the French name of "ecrivisses". Whatever you prefer to call them, there is hardly an acre of water in Illinois (unless it is the depths of Lake Michigan) or any acre of wet land, where these small freshwater relatives of the lobster are not found. About a hundred species are known in North America, of which a half dozen are abundant in this state. However, they are so much alike that the different kinds have not been given common names.

From head to tail, a crawfish is crowded with a large assortment of appendages with special uses for each. In front are a pair of big saw-toothed pincers for defense and capturing food; then four pairs of walking legs, two with small slender nippers and two without, also used for clinging, digging, handling food, and grooming the body. About the head are three pairs of "feelers" for exploring and warning of danger; a pair of beady black eyes on the ends of moveable stalks; three pairs of "jaw-feet" and three sets of jaws that chew sidewise. The flexible 6-jointed abdomen ends in a flaring tail made up of five hinged scoops used for catapulting the

animal, when alarmed, backwards in a smokescreen of mud.

As a rule, mature crawfish mate in winter and, in early spring, the females lay 200 or more shiny black eggs which are glued under her tail in a mass that looks like a blackberry. These eggs hatch after a month or two and the young are carried there for another month before they let go of their mother's apron strings. Because the shell will not stretch, a crawfish must shed its shell and grow a bigger one, a dozen or more times before it is fully grown. After each molt, while it is still soft and flabby, it pumps itself up with water so that the new shell will be larger. Called "soft-shells" or "peelers" then, they are extremely helpless and hide until the new shell hardens. This is when they make the best bait for bass and other game fish. Most crawfish are mature after two years and 6 or 7 years is extreme

old age. Then length of our native adult ranges from 2 to 5 inches, depending on the species.

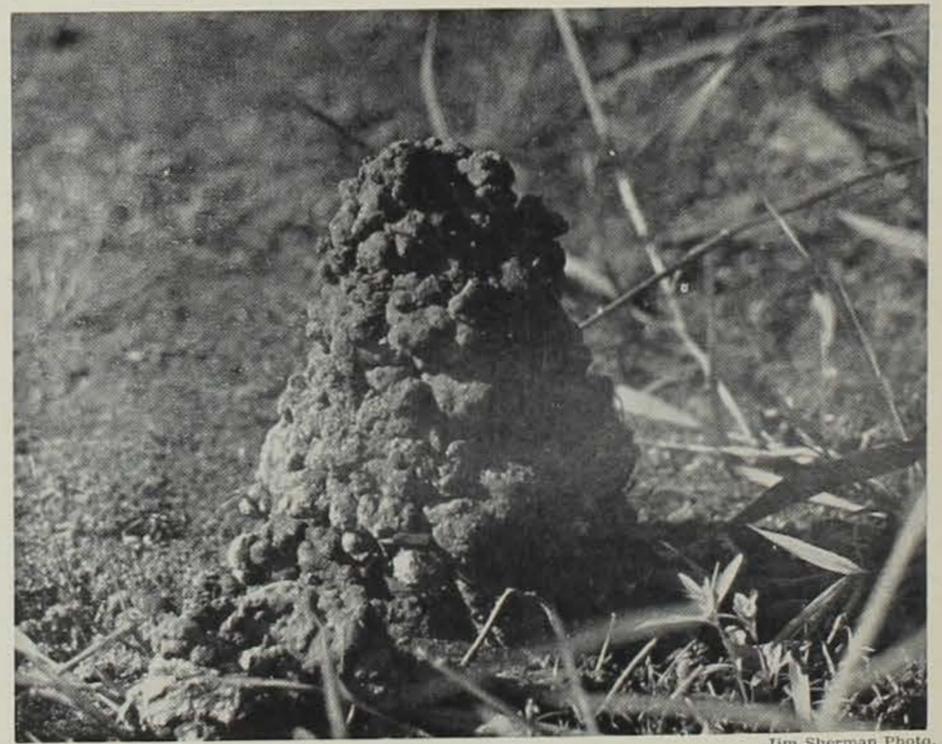
Crawfish play an important role in Nature. Feeding on a wide variety of plants and animals, either dead or alive, they are the most efficient scavengers in fresh water. Winter or summer, they clean up dead fish and other animals in a surprisingly short time. They make a superior food for about half of our fish especially for members of the bass family. The raccoon and the mink like them as much as anything else, and all sorts of water birds prey on them. Even the chimney-builders, that spend most of their time in the cool darkness of their burrows, must come to eat and be eaten.

Too few people realize that crawfish make fine eating: whether in salads like shrimp or lobster, in the famous crawfish bisque of the Creoles, or just boiled with a little seasoning for about 20 minutes. Connoisseurs eat the liver, as well as the meat in the tail, and down South they chant an old rhyme:

"Yonder comes a man with a sack on his back—  
Got all the crawdads he can pack."

—*Forest Preserve District of Cook County.*

New Albin has again come into the headlines with a couple of large fish hauls made in that vicinity recently. On Friday, February 4, Armin Luettchens of Jefferson pulled one of the largest catches in recent years hauling between 40 and 45 thousand pounds, about 33 thousand pounds being purchased locally by Herman Schweinfurth at the Lansing Fisheries. The trucks were busy running to Lansing all day Saturday and Sunday. One day last week Ronald "Pondo" May and Clyde Visger of the same town made a haul of some 20,000 pounds of carp, buffalo and sheepshead. The Luettchens catch was nearly all carp.—*Lansing Journal*.



Not much, but it's home to the chimney-building crawdad. Many people mistakenly believe these river-side chimneys are built by snakes.



There's no substitute for proper care of an outboard motor, unless it's a boy who likes to row the boat after the motor conks out.

Jim Sherman Photo.

## GETTING YOUR OUTBOARD READY

It won't be long now. The lakes are thawing and open water and the boating season are just around the corner. Now's the time to pull that outboard motor out of the basement and give it a spring checkup. May save you some grief later on.

Even if you cleaned out your outboard motor's fuel system last fall, give it another look. Remove the fuel line and drain any fuel that is still in the tank. Remove the fuel filter and wash it thoroughly with gasoline—outdoors. If you happened to use some bad fuel in incorrect proportions last summer, there may be some gum in the fuel system. This deposit can be dissolved with acetone, available at any drug store. Then sluice out the tank with fresh, clean gasoline. To clean the carburetor, simply remove the plug in the side or bottom and drain out fuel.

Replace the spark plug with a new one, even though the old one seems to be in good shape. But before you throw the old one away, examine it carefully. If you have used the proper plug the porcelain insulation will be dry and a light brown in color. If the porcelain is white or covered with a black, crusty substance, a cooler-running plug is needed. If the porcelain around the electrode of the plug is covered with oil, you may need a slightly hotter plug. When purchasing a new plug for your outboard, use one with a gap recommended by the manufacturer of the motor. If possible, check the gap with a feeler gauge, but if such a gauge is not available, use three thicknesses of penny postcard, which will be about .029 inch and close enough for most motors.

The gear housings of new motors are made so tight that little grease is lost, but check on it anyway. With new motors you'll want

to check the grease only once or twice a season but if your motor is old keep a close eye on the lube supply. If you need lube use only approved outboard grease, such as the type sold in tubes and easily squeezed into the grease port.

If you have a water barrel in your basement and your wife can stand the racket, you might set your carburetor adjustment. The first adjustment to be made is the high-speed adjustment with the throttle wide open. Vary the high-speed setting a little each way until the point of smoothest operation is found. Then throttle down and check the low-speed adjustment.

With most motors the low speed adjustment setting is about one-half to three-fourths of a turn from the fully closed position. Begin with the low-speed adjustment closed, then open it up about a half-turn.

Start the motor, wind it up to high speed, and then throttle down. If the motor spits and coughs, enrich the mixture. If it stalls frequently or fires roughly at low speed, your mixture is probably too rich.

A good pre-season precaution is to have a good fuel filter in your outboard. Such filters are cheap, easily available, and will keep out dirt and grit that is the worst enemy of engine performance.

Other general tips for good outboard performance are:

1. Never mix oil and fuel together in the tank. Always use a separate container to insure thorough mixing. Closely follow the maker's recommendations for proper proportions of oil and gasoline.

2. Never use "ethyl" gas in outboards. Tetraethyl lead will form a "bridge" of lead oxide across the gap of the spark plug and make frequent plug cleaning necessary.

3. Avoid using heavy-duty "detergent" oils. They're all right for a car's 4-cycle engine, but they are

not necessary in a 2-cycle outboard, and may cause undesirable deposits around the spark plug. Use a good grade of ordinary, refined motor oil of about SAE 30 or 40.

After you've given your outboard its spring physical, it might be wise to check up on your tool kit. It won't take up much room, and it can be worth a lot when you're in trouble. Such a kit should contain an extra starter cord, a crescent wrench, spare spark plug, screwdriver, small flashlight, cotter pins and pliers. And don't forget the shear pins!

—J.M.

## SOME ANGLES ON MARCH ANGLING

Fishing fever hit us early this year. It doesn't usually bother us until early April but it has been a long winter and we spent a lot of time by the fire just fattening up and dreaming of catfish.

So we talked to Bill Tate, Area Fisheries Manager for northeastern and eastern Iowa, and asked him what March held for the fisherman.

"Up in the northeast," Bill said, "March means chub and sucker fishing, and a few of the boys are out after trout. In fact, they never really quit."

Bill spoke warmly and at great length about the eating qualities of suckers. Here's what he had to say about catching them:

Suckers, with their small round "vacuum cleaner" mouths, are mainly bottom feeders, eating small mollusks such as fingernail clams, snails, immature aquatic insects and other small organisms. They take worms readily in the spring and fall, but because of their small mouths, size 8 or 10 hooks should be used. A small worm can be baited whole but large

angleworms or nightcrawlers should be divided into 2 or 3 baits. The bait should be threaded on the hooks with a small loop and the tail left dangling from the point. A 2-foot leader of limp, 4-pound test monofilament will increase the catch in clear water. Use a small split shot or no weight at all when fishing pools. In March most of our streams are clear and suckers can be located by sight, for they are always found in schools. When feeding they are usually found in channels near the riffles. In early spring they are often concentrated in the deepest water of pools.

Since they are typically found in schools and each good pool has its school, try shopping around a little before fishing.

The common white sucker, ironically called black sucker by most sucker fishermen, rarely attains a length of 2 feet, but a 12-14-inch fish is a good one in our smaller streams. This fish is most prized by fishermen.

Suckers are excellent food fishes but are bony. Scoring or slicing through the dressed fish on both sides at  $\frac{1}{8}$  to  $\frac{1}{4}$  inch intervals and frying in smoking hot fat will greatly reduce the number of small "faggot" bones and result in superb eating.

Some of the best sucker streams in the state are the Upper Iowa, Turkey, Crane Creek, Little Turkey, Volga, Maquoketa, Cedar and Upper Wapsie rivers.

March also means early trout fishing, and according to Tate such baits as worms, corn borers, salmon eggs, beef strips, live nymphs or artificial nymphs are good. Early last March Tate caught 4 nice trout—the first one on a worm and the others on eggs taken from the first fish.

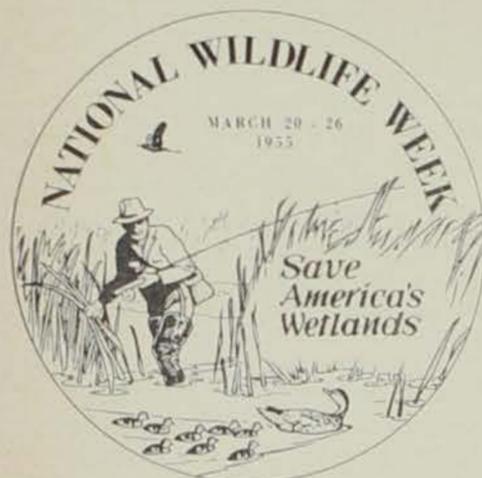
Most feeding trout move to the head of a pool where water is entering or the tail of a pool just above the riffle. Both this winter

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For early sucker fishing, Bill Tate prefers to fish pools where he can see the fish, shop around for good ones. Suckers, properly cooked, are fine eating.

Jim Sherman Photo.



**SAVING THE WETLANDS**

In an all-out effort to halt the alarming drainage of America's waterfowl areas, a "Save Our Wetlands" campaign is being carried on by the National Wildlife Federation during the week of March 20-26.

With only one-fourth of the nation's original marshes, potholes and sloughs remaining, the week-long program under the direction of Ed Dodd, cartoonist-creator of "Mark Trail," will attempt to point out the value of the nation's wetlands as resources worth saving.

According to the U. S. Fish and Wildlife Service, there were originally 120 million acres of American wetlands, much of it located in the north-central states. This original acreage has been whittled down to about 30 million acres, with disastrous effects on our duck and geese supplies.

Much of this drainage took place during both World Wars when crop prices skyrocketed and maximum land use was advocated. Our waterfowl, in a sense, were war casualties like many other natural resources. However, they are a

renewable resource with proper habitat and management.

Iowa Conservation Commission game managers say that at one time most of northwestern Iowa was a huge area of marshes, small ponds and potholes. Since 1900 it has been estimated that about 95 per cent of these duck factories have been drained, with the result that Iowa duck production is only a shadow of its former self.

As a waterfowl producer Iowa is almost out of the picture. Our present wetlands produce a few small ducks, but for all practical purposes the great native marshes and sloughs are gone. Of the major Iowa wetlands still remaining, most are in the hands of the public, but the few that remain in private ownership are increasingly important, and must be preserved.

For most of our waterfowl hunting we must depend on states and provinces in the north and west, but these areas have problems, too. The Wildlife Federation states that over 32,000 small lakes and potholes are being drained each year in the Dakotas and Minnesota. From 1945 to 1950, 16 per cent of Minnesota's small ponds and lakes were destroyed with a great loss to that state's recreational areas—and Iowa's.

Many of the wetlands that have been drained for agricultural purposes just haven't panned out as farmland. Their drainage has also seriously lowered water tables over broad areas, and in some cases serious downstream flood hazards have resulted.

But to most outdoorsmen the main concern is the endangered waterfowl populations. It seems that the \$9,000,000,000 industry resulting from sportsmen's expenditures should be taken into account with the other economic aspects of wetland drainage. Just as important as any cash values of these



Richard Townsend Photo.  
Mrs. Faur often helps her flying fisherman by running nets with him, picking him up at airport in truck.

**A FLYING FISHERMAN**

Times are changing, and commercial fishermen along the Mississippi are changing with them.

But none of them has gone as far as Irwin Faur.

Faur, a veteran of World War II and a commercial fisherman for about 9 years, makes his headquarters at Princeton, a river town between Davenport and Clinton.

Most of the fisherman's nets are set in sloughs about 4 miles or more from home, and getting to them on foot is an all-day job. Faur has tried using an air boat—an aluminum boat equipped with runners and an old airplane engine and propeller for travelling over the ice, but the ice is often rough, and rough ice means slow going. So, he took to the air.

With a ski-equipped Piper Cub, Faur is running about 2 dozen gillnets in a fraction of the time it takes to check them on foot. Some of the sloughs in which his nets are set are too narrow to land in, so he lands some distance away and taxis in. In sloughs that are wide enough to permit entry of the little plane, Faur can set his ship in almost on top of the sets. He then pulls in the nets, fills a tub with several hundred pounds of fish, puts the tub in the back seat and takes off. If the narrow slough doesn't permit takeoff he taxis to where it joins the river and there is plenty of room.

When he isn't fishing Faur may be out fox hunting, spotting the animals from the air, landing out of sight, and then stalking them with a rifle. So far this winter he has killed 62 foxes.

According to Faur, the use of an airplane permits the setting of nets over a broad area, and a quick, efficient method of fishing. He runs his nets two or three times a week.

It sounds like a good idea for a good pilot, but other commercial fishermen along the river don't seem to be in any rush to become airborne.

lands are their intangibles—the values they deliver in terms of recreation and health in a time when we need plenty of both.

As part of its program to preserve what wetlands still remain, the Wildlife Federation has outlined a guide for local action:

1. Promote coordinated planning and research for wetland preservation.
2. Secure legislation to assure that a larger and definite proportion of Duck Stamp revenue will be used for the intended purpose of buying vital waterfowl areas.
3. Stop federal subsidies for unwise drainage projects.
4. Work for effective pollution-control laws and programs for our streams, lakes, marshes and coastal waters.
5. Encourage private projects in marsh restoration and preservation.

**A NEW SPORT: PLUG FISHING**

From Tennessee comes word of a new kind of fishing—fishing for plugs instead of plugging for fish.

Any caster or troller is well aware that lures often catch on snags or other underwater obstacles and are lost. In time, a good quantity of plugs builds up at favored fishing locations. Some Tennesseans are capitalizing on this.

A sizeable water-logged timber is wrapped in sacking material and permitted to sink to the bottom. By towing slowly from a power boat, the log rolls over rocks and snags and the plugs' hooks catch in the sacking. When retrieved, the log's owner has a nice array of plugs for future use.—Missouri Conservation Notes.

Only the eastern brook trout is native to Iowa. The brown trout was imported from Germany, and the rainbow trout was brought in from the west.

Never step in a light boat or canoe that is drawn up on shore. Step or walk in such light craft only when they are floating.



Jim Sheeman Photo.  
Big Wall Lake has more value as a hunting ground than as farmland. Most marshes are best suited for waterfowl crops; may fail under cultivation.

# REPORT TO THE IOWA CONSERVATION COMMISSION BY THE WILDLIFE MANAGEMENT INSTITUTE 1954

By IRA N. GABRIELSON

PRESIDENT

Wildlife Management Institute

At the request of the Iowa Conservation Commission, the Wildlife Management Institute has made a check on the program similar to the survey made in 1947, also at the request of the Commission. The present study covers the period since 1947. Therefore, this report can best be presented as a comparison with the recommendations made in the previous survey together with such changes as have since taken place.

At the time of the previous report, there was considerable friction in the staff and much uncertainty about assignments of some staff members. An obvious air of tension existed, and the Commission itself was performing a mixture of administrative and policy-making functions. The minutes of the meetings for several previous years indicated that this mixing of the individual commissioners, and on occasion the Commission itself, into administrative matters had been practiced rather commonly.

A review of the minutes since 1947 indicates that the Commission has followed out the previous recommendation by outlining clearly its own role and by giving the director the responsibility and authority necessary to handle administrative matters. The Commission, acting on the previous recommendations, has put them into effect to the extent that it has had the authority and funds to do so.

The previous report stated: "The greatest single weakness in the present organization is that of totally inadequate pay scales. Compensation for all employees from the director down is far below that of successful competitive conservation organizations in other states." Despite the fact that there have been some increases, this statement is still true. Compensation rates for most employees have not advanced as rapidly as in many other states, and Iowa is relatively at a greater disadvantage in securing and keeping trained employees than it was in 1947. Many men lost by the Department since that

year had gained their experience with the Iowa Conservation Commission. Further, it is a safe assumption that the good men still on the staff have been offered better salaries by some other agency.

This condition is caused primarily by the fact that legislation still fixes the salary of the director



Dr. Gabrielson, president of the Wildlife Management Institute, is former chief of the U. S. Fish and Wildlife Service. He is one of the outstanding conservation authorities in the world and author of several books and countless articles on wildlife conservation.

and some other employees. It should be emphasized that this condition is not the fault of the Commission. Higher salaries have been recommended frequently to the executive council which must approve most salary increases. This council has consistently denied many of these requests, a condition which existed prior to the previous study in 1947 and which has apparently become more difficult in recent years. In fact, the passage of amended Section 8.5, Code of 1950, which established a personnel division headed by a personnel director in the Office of Comptroller and giving him, through the Executive Council, con-

siderable authority over the classification and compensation for state employees, has made it more difficult to pay adequate salaries.

This law provides that, with the approval of the Executive Council, the personnel director shall make such regulations and adopt such methods of qualifying employees

tions asked when they made application for employment were "What party do you belong to?" "What precinct are you registered in?" "Did you vote in the last election?" Such questions violate the very essence of any recognized merit system. It is obvious from this and other information received that there is an effort being made to place political appointees in the conservation department.

This law has also been used rather consistently to prevent reclassification of positions and to thwart in large measure efforts to raise pay scales of the Conservation Commission employees to a level more nearly equal to that of other states. This is especially damaging in dealing with the professional and semi-professional type of employee upon which the Commission must depend for carrying on its work. Unless it is able to compete with other agencies, the Commission can expect to continue to act as a training school for other organizations.

It should be emphasized that when a man attains experience enough in his field to attract attention of outside agencies, the Commission, and through it the people of Iowa, has a substantial investment in his training and experience. The experience he can take with him, but the knowledge of the territory and acquaintance with the people in his assigned field is lost to the Commission and is of little use to him in his new field.

#### Legislative Recommendations

In the 1947 report, numerous legislative recommendations were made, but few if any of them have been adopted. These recommendations are as necessary today as they were at that time and they are repeated.

The strengthening of the soil conservation district law, Chapter 160, Iowa Code, was recommended, and while the handling of this law is not a part of the duties of the Commission, the effectiveness of the soil conservation district work

has a tremendous impact on the work of the Commission. Strengthening it along the lines recommended would be of value in the management of wildlife populations.

Better pollution laws were recommended, and the necessity for strengthening those laws still exists, particularly in regard to chemical pollution.

It was also recommended that the Commission be relieved of the responsibility of boat inspection and water navigation regulations. This properly belongs with some other regulatory agency of the state government, since much of the work has little to do with the purpose for which the Conservation Commission was established.

It was recommended that the Commission be given authority to use its funds for training personnel both before and after initial employment, but the Commission is unable to pay their expenses during the training period, a practice which is common in other states.

It was recommended that Section 107.21 of the Code which creates three divisions within the department be repealed. Comments made at that time are still valid; this law is entirely unnecessary.

It was recommended that the Commission be given authority to make habitat improvements on private land. This is an authority which many conservation commissions now have when the work is a part of a definite wildlife habitat improvement program worked out in cooperation with private landowners. It has been found to be exceedingly effective where used. Under a broader interpretation of this section, some work is now carried on, but the Commission should have clear-cut authority to engage in such activities.

It was recommended that the numerous special and local laws regulating the take of furbearing mammals and fish be repealed. The legislature should repeal these as laws but leave them as regulations of the Commission until altered by that body under the authority already granted to them by Section 109.38 and subsequent paragraphs. Many of them could be modified to advantage as better information regarding these species becomes available. The Commission should have authority to change them as it becomes desirable.

It was recommended that 107.12 and 107.13 of the code be amended by striking out the salary fixing provisions for the director and conservation officers. While in both cases the salaries paid under these provisions have been increased since 1947, they still represent a definite limitation on the ability of the Commission to pay sufficient salaries to get suitable professional and semi-professional help. Since this Commission is in direct competition with other organizations, they must be able to pay salaries comparable to other states

if they are to secure and retain the services of good men. While conservation officers' salaries are much better than they were in 1947, they should not be fixed by law but by the Commission in order that they may keep them in some reasonable relation to salaries paid in other positions.

It was recommended that the legislation be amended to place supervisory control of Commission expenditures in one agency. At that time the law was hampering to some extent the operation of the Commission. The Executive Council moved so slowly in matters of approving salary classification and expenditures for land acquisition that they greatly handicapped the work even though the request was finally approved. Records of the Commission show conclusively that this condition has become worse since 1947 and that such interference with the work is more harmful.

The 54th General Assembly amended Section 8.5 of Code of 1950 by adding a personnel director who is given control over the classification, appointments, and so forth. This law, since its inception, has been a handicap to good wildlife management.

It is recommended that every effort be made to remove personnel of the Commission from jurisdiction of this officer and to eliminate the dual control of expenditures that still exists. It is proper that the controller pass on the legality of the expenditures made by the Commission, but there does not appear to be any real justification for the present confusion and delays. The law establishing the Commission was clearly intended to provide non-partisan and non-political administration of the resources covered by the act. That objective would be more nearly achieved if that law could operate as intended.

#### Organization

It was recommended that "there be a clear-cut understanding of the relationship between the governor and the Commission. The governor should be informed of the operation and programs of the Commission but should not interfere in personnel and operation affairs." The 1947 report indicated that the Executive Council as operated did hamper the work of the Commission. The records indicate that since 1947 there has been more rather than less interference by the Executive Council and the personnel director. Recommendations have already been made for legislation to correct this condition.

It was recommended that the functions of the Conservation Commission and the director be clearly outlined and the responsibilities fixed with the Commission retaining only the policy-making and budgetary responsibilities. This has been done, and the records indicate

that the Commission has confined itself to its proper functions. It has given the director both the authority and the responsibility for carrying out its policies and programs. Conditions have greatly improved in this respect, and the difference in the morale in the Department as a result of this and other Commission actions is very noticeable.

It was also recommended that the director outline the duties and responsibilities of each type of position on the staff. Such an outline of the duties and responsibilities has been prepared. It provides clear-cut definitions of the duties and responsibilities of each employee. Many of the staff volunteered information that since it was prepared, they had a much clearer understanding of their responsibilities and that it made it much easier to carry on their work without duplicating the work of others.

It was also recommended that qualifications for applicants for each type of position be established and used in the selection of personnel either for promotion or for initial employment. This also has been done and has assisted in clarifying the understanding of the staff as to their own work. This combination of proper qualification standards and a clear outline of the responsibilities of each position has helped the staff to work together in a more cooperative way.

In applying these standards, the Commission has followed consistently the policy of promotion from within the staff. It has by this action succeeded in holding a number of excellent men who, it is quite certain, would otherwise have left the Department. Their efforts, however, to increase the salary scales have not been too successful because of the refusal of the Executive Council and the personnel director to accept their recommendations.

The commission has established some new positions; it has more foresters, biologists, and other technically trained men on the staff than in 1947. There are now eight biologists, four in fisheries and four in game, under a Division of Biology.

The research program with the Cooperative Wildlife Research Unit at Ames has been continued and expanded as recommended. This Unit is now doing basic research both in fish and game, a very desirable arrangement.

The public relations personnel has increased and the work has been expanded. A training program for new employees and a refresher training for older employees was previously recommended. A training program for conservation officer candidates has been established and utilized in selecting these men. The conservation officers and other employees are given some refresher work at some meetings, and engineers, bi-

ologists, and foresters are sometimes authorized to attend short courses at Ames and other places.

It was also recommended that the director establish a system of warning employees doing unsatisfactory work and giving them a chance to improve their work. Such a system has been developed for conservation officers and park custodians, but it has not been applied to other personnel.

#### Comments and Recommendations on Organization

The staff is now well organized with clear-cut lines of authority and definite instructions as to work and responsibility. The program is also clearly defined for each unit, and as presently organized is capable of rather indefinite expansion to meet increasing work loads. There are, however, a few comments and recommendations which may help strengthen the work in the future.

The Conservation Department is large enough to justify a full-time director and assistant director, and such positions have been established. However, the assistant director is still carrying a part of the staff assignment in public relations, that being his assignment before being promoted to assistant director. He carries on the duties of an assistant director to some extent but spends much time on public relations work. As it is possible to employ and develop new men, he should be relieved of the details of the public relations work.

Public relations and education is now a section of the Division of Administration. It is, however, important enough to justify full division status and as funds become available to expand the work, it should be made a division. If this recommendation is followed, there then would be two service divisions, a Division of Administration and a Division of Public Relations and Education.

The Division of Fish and Game is divided into five clearly defined sections. The present director of the division also serves as superintendent of one of the five sections, that of law enforcement. This puts him in the position of serving as coordinator of all the work of the five sections while at the same time acting as head of one of them. Such dual responsibility almost inevitably results in more attention to the details of the staff assignment and less to the job of correlation. It sometimes creates resentment in the supervisors of other sections.

It is therefore recommended that a superintendent of law enforcement be selected and appointed. This will relieve the division chief of the responsibility for the details of this work so that he may devote full time to correlating the largest division of the Department.

The Division of Lands and Waters is organized into three sections: parks, forests, and waters. In the 1947 reports, considerable attention was paid to the forestry



"The greatest single weakness in the present organization is that of totally inadequate pay scales."

program and some to the waters program, but comparatively little to the parks, which at that time seemed to be in relatively better shape. This is not true today and comment will be made on it in the program section.

At present there is no superintendent for the waters section, and the working organization of the section is not equal to its assigned responsibility. It has neither the money nor the manpower to do a minimum job. It is recommended that a superintendent of waters be appointed and a strong effort be made to secure enough funds to carry out some of the very important programs that are needed.

**Salaries**

Comment has already been made on the low salary scales imposed on the Commission, and recommendations have been made for legislation giving the Commission authority to fix salaries at a point where they can attract and hold

more trained and experienced men.

The Commission must be able to pay at least average salaries to be able to do this and the following suggested scale presents a rough average of salaries paid in states studied recently by the Institute.

Director .....	\$7,000-\$8,000
Assistant Director ...	6,000- 7,000
Division Chiefs .....	5,400- 6,000
Section Chiefs .....	4,800- 5,400
Area Managers .....	4,200- 4,800
Senior Conservation Officers, Senior Biologists .....	3,600- 4,200
Junior Conservation Officers, Junior Biologists .....	3,000- 3,600

In all grades, promotions should be provided for meritorious work.

A junior grade for both conservation officers and biologists is suggested. In both categories, qualified men with little or no experience should be given a chance to prove themselves before being promoted to the same salaries as more experienced men. The present \$3,600



Some of our choicest fishing waters are far from public access. To relieve this situation, the 1947 report recommended purchase of areas along streams, and this is being done.

for conservation officers is about average, if provision were made for promotions for exceptional work. With the possibility of promotion to higher grades for good work, the Commission should be able to recruit well qualified men for these junior positions.

**Program**

The programs for all divisions are well outlined and can be pushed forward as rapidly as funds and manpower permit. Comment will first be made on the program recommendations in the 1947 report.

Recommendation 1. The program for working with soil conservation districts and sportsmen's groups should be pushed. This recommendation is one of the vigorous programs on which the Department has been working, and definite results have been secured.

Recommendation 2. The areas owned by the Commission should be treated with such soil conservation methods as are necessary to obtain maximum values from the land. Action on this recommendation has been limited in some areas

ects with a better factual background.

Recommendation 5. It was recommended that consideration should be given of the purchasing of overflow lands along the streams by combining the needs of stream improvement and acquisition of access areas, forestry, wildlife habitat, and partial flood control programs. Some of this has been done, but it is one section that could perhaps be pushed more vigorously. Many other states are finding it advantageous to purchase carefully selected lands of this type for one of the purposes mentioned.

Recommendation 6, which dealt with the forestry program, urged that technical assistance be given to private forest owners and to provide proper management on state-owned forest lands and to provide for acquisition of additional lands to block in established areas and to consider the establishment of additional purchase areas. It was also recommended that the nursery program be expanded.



"Definite progress has been made in developing artificial lakes and the restoration of some natural lakes . . ."

because of lack of funds. The Lands and Waters Division which must depend upon annual appropriations has not received enough maintenance money to keep many of its units in as good condition as they were in 1947. At the time of the 1947 survey, the Lands and Waters Division had an appropriation of about \$400,000; the appropriation for the past year was \$475,000, the increase not being great enough to meet the increased cost of wages and materials. Practically speaking, the maintenance work is not as adequately cared for as it was seven years ago.

Recommendations 3 and 4 dealt with making careful studies of the lake improvement and stream improvement possibilities. There was some criticism of the dredging work both in and out of the Department in 1947, on the basis that some of it was unduly expensive for the results obtained. Some studies of these subjects have been made, and the Department is in a position to go ahead on such proj-

The work of providing technical assistance to private forest owners has been expanded by employing additional extension foresters. This has to some extent been at the expense of the management and maintenance of the state-owned forest lands. There has been little or no acquisition of lands for additions to state forests.

The nursery has been expanded to some extent, but the location of the nursery causes some difficulty since it is not possible to dig and ship plants from this area at the proper season for planting in the southern part of the state where there is the most interest among private individuals in such plantings.

Recommendation 7 was for increased efforts to closer working relationships with people living on the land. This is another aspect of Recommendation 1 and one which has been followed up with considerable emphasis. Some real progress has been made in this field.

Recommendation 8. It was rec-

ommended that fishery management programs be tied closely with the development of farm ponds and new artificial lakes, the restoration of natural lakes, the abatement of pollution, stream improvement, and soil erosion control. All of these elements enter into any successful fishery program. Definite progress has been made in developing artificial lakes and in the restoration of some natural lakes, both by drainage and dredging. Not too much stream improvement work has been carried on up to the present time, and this part of the fisheries and water program is in need of acceleration. Control of soil erosion and soil siltation of streams and lakes has gone ahead to some extent because of the very vigorous soil conservation program being pushed. There is much evidence that the field staff of the Commission has worked rather closely with those involved in this program and has stimulated better control of siltation by its help in soil erosion control plantings and other activities.

#### Comments and Recommendations

**Division of Administration**—The Division of Administration has four sections, each of which will be discussed briefly.

**Accounts and Records**—The Accounts and Records Section is the business unit for the Conservation Department. It maintains all physical accounts and records involving between four and five million dollars per year. This includes the collection of different types of li-

cense fees, payment of all claims, keeping a property inventory system, and carrying on other miscellaneous activities having to do with the business of the Department. Its work is reasonably current, and the information available to the director and division chiefs seems to be adequate for them to do a good administrative job.

While most of the funds coming into the Department go directly to this division for handling, there are still some that go to the chiefs of other divisions before coming to the business office.

It is recommended that all funds go directly to the business office for checking and handling and then be routed through the divisions that have interest in the matter.

With the growing volume of work, it probably will be necessary from time to time to add some clerical help. The Department is much larger than it was in 1947, and this division is better staffed.

**Public Relations**—Recommendation has already been made looking toward the eventual establishment of public relations and education as a separate division. It is at present a section of the Division of Administration, and is carrying on a fine program of public education. It is using effectively public talks; news releases; the publication of a departmental magazine the *Iowa Conservationist*, with a circulation of 47,000; and a traveling wildlife exhibit, viewed by about 300,000 people annually; and distribution of movies—the Commission library of



"The second activity is preparation of packets of multiflora rose seed which are given to farmers . . ."

films now consisting of 106 prints of 39 different titles; and radio and television presentations. All printed material and news releases go to all radio stations, and the Department's short television shows are used by some 14 stations. These television shows are of good quality, and considerable favorable public comment was heard during the survey.

A very active school program has been carried on in recent years, and perhaps one of the best projects is the Iowa Teachers' Conservation Camp at which teachers are given practical guidance for teaching conservation.

As a part of their educational program, the Department has also carried on campaigns to teach people how to handle guns and boats safely.

The book, *Iowa Fish and Fishing*, has been prepared and distributed since the last survey. This is one of the finest books of this kind in existence. It should provide real help in informing the public on the types and kinds of fishing available in Iowa as well as the limitations under which the Department works.

Altogether the public relations effort is excellent, and the Commission and its staff deserve commendation for a very fine program.

**Acquisition and Survey**—This section of the Administrative Division buys all the land acquired by the state for parks or fish and game purposes. It would presumably buy forest lands if any were purchased. In addition to carrying out the usual functions of a land acquisition group, it makes surveys, secures options, prepares plats, maps, conveyances, and the other necessary legal work. The section also surveys and marks the boundary lines of state-owned lands under the jurisdiction of the Commission and carries out numerous housekeeping functions. It has a definite program of work outlined for each year on various areas.

This unit is well organized to do its job. The chief handicap to its program has been caused by the slowness in getting approval of land acquisition proposals.

**Design and Construction Engineering**—This unit carries on the usual functions of an engineering unit. It reports on all new construction projects and prepares and designs roads, dams, bridges, and other structures, and writes construction specifications for the structures that are built. At the time the survey was made, it was engaged in many construction and surveying activities widely scattered over the state, and did not have sufficient staff to carry out both the new work and the necessary inspection for maintenance purposes.

It is obvious that in the near future one or more inspecting engineers will be needed. Many of the park buildings and other structures are reaching the point where more maintenance will be necessary.

#### Fish and Game Division

The Fish and Game Division, by far the largest division of the Department, has its work divided into five sections—game, fisheries, biology, federal aid, and law enforcement. The programs in effect in this division are good and will be commented on specifically by units.

**Game**—The present game program includes habitat development on privately owned lands, game stocking, maintenance and development of state-owned land, nuisance animal control, and a few miscellaneous activities.

The habitat development on privately owned land is carried on through two media, one in cooperation with sportsmen's clubs which encourages sportsmen's clubs to initiate projects to plant trees and shrubs for wildlife cover and food, and the distribution of seed directly to landowners.

The project areas are usually recommended by the clubs and in-



"At present the public relations section is carrying on a fine program . . . the traveling wildlife exhibit is viewed by about 300,000 people annually . . ."



"Natural lakes are managed by trapping and seining rough fish under a continuous program in many of the larger lakes."

spected by the conservation officers. They are not usually checked by the game managers, and are not inspected to determine the results secured. Plans have been made to examine some 500 of these farmer-sportsman cooperative projects to evaluate the results obtained by this effort.

The second activity includes the preparation of packets of multi-flora rose seed which are given to farmers with instructions as to methods of planting, transplanting, and care.

In addition, the three area game managers supervise a wide variety of other management activities.

This habitat improvement program follows a common pattern. It aims to provide a volume of habitat improvement with the aid of interested citizens. It is a good program but also has the common weakness of similar programs of failing to provide any follow-up to discover causes of failure of the plantings.

The Commission and staff are to be commended for their plans to check some of these projects, and such checks should be provided regularly in order to obtain more results for the volume of work accomplished. In the long view, it is better to make fewer plantings and obtain a greater percentage survival of the plants used.

The game bird stocking program is built around one game farm located at Boone. It produced about 11,000 pheasant and 8,000 quail last year. At two weeks of age, the birds are turned over to cooperating sportsmen's clubs. The number of birds for each county is determined by the local conservation officers.

While this part of the program

may have some public relations value, its value in terms of providing more hunting is open to question and a factor that should be carefully checked. A growing number of states are cutting down on artificial propagation and release of game birds, and some have eliminated it entirely from their programs. The small number of birds released in Iowa indicates that this part of the program could be eliminated gradually without an adverse effect on the hunting provided.

Maintenance and development of state-owned lands, one of the major activities of this section, is closely intermingled with the Federal Aid Section in the development of areas purchased under that program. While this division does some acquisition work, the majority of the land acquisition program is handled under the Federal Aid Section. The area game managers supervise the maintenance of fences, roads, buildings, and habitat, and also provide new plantings of food and cover plants. As much of the work as can be anticipated is rather carefully planned, but there are always unexpected contingencies arising in land management work.

This program is good, but there seems to be considerable overlapping between the work of this unit and that of the Federal Aid Section. The work of the two units must be closely integrated. At present the two programs seem to be progressing without much friction and the work compares favorably with other states.

**Fisheries**—The Fisheries Section, like the Game Section, has three area managers who handle and supervise the work in their districts. The fisheries program em-

phasizes management work on both streams and lakes, hatcheries, and stocking, mostly in lakes and ponds and rough fish control.

Stream work involves a number of miscellaneous activities; the collection of various species of fish for distribution to hatcheries; new artificial lakes, and some inland streams; collecting northern and wall-eyed pike eggs to produce fry for a state-wide system of rearing pools; and some stocking of streams by fish rescue crews, although this is more or less sporadic.

The major stream activity is the continuous stocking of trout in suitable waters from April to November. There is no closed season on trout, and the Fisheries Section believes that this distributes the fishing pressure and reduces the congestion and trouble that formerly occurred on opening day.

Comparatively little stream stocking work other than for trout is carried on, although catfish, smallmouth bass, walleye and pike fingerlings are stocked in small numbers as they appear to be needed.

Stream improvement work has been limited. State-owned or leased access areas are maintained. A small amount of acquisition has been projected, but this is one part of the program that has not made much progress.

Fish rescue work is confined largely to the waters adjacent to the Mississippi and Missouri Rivers, although some is done in overflow waters adjacent to inland streams. Fish taken in this rescue work are used for stocking purposes in other areas of the state where they are presumed to be needed.

A considerable portion of the activity on natural lakes consists of stocking. Some of the lakes are stocked on an experimental basis and some effort is made to classify the lakes as to the type of fish that can be best used in them. Fish that are used for stocking purposes are a combination of hatchery-produced fish and those that are obtained by the fish rescue crews. Special effort is made to secure bullheads for the "Kids' Fish Days" where small lakes and ponds are stocked especially for these events. Lake improvement work is based on surveys and investigations made in cooperation with the Biology Section. Lake access areas are secured and maintained, and some jetty, rip rap, and fish screen work is done. Some lake drainage and poisoning operations for the removal of fish have been carried on, with more emphasis on drainage than on poisoning. Farm ponds are stocked with largemouth bass and bluegills at the rate of 100 bass to 300 bluegills per surface acre, the majority of these ponds being in the southern part of the state. In addition to stocking, advice on con-

struction and management of ponds is given to landowners. Publicly owned artificial lakes are stocked following investigations and recommendations by the Biology Section. Fingerling largemouth bass, bluegills, black crappies, catfish, and forage minnows are the fish commonly used. Attempts are being made to control the excessive numbers of panfish by heavy stocking with predatory fish, and special panfish control and removal programs are carried out where stunted fish and slow-growing populations develop.

Natural lakes are managed by trapping and seining rough fish under a continuous program in many of the larger lakes. Some of this seining is by state crews; other seining and trapping is by commercial fishermen where it is possible to obtain them.

Considerable emphasis is placed on fish hatcheries, and effort is made to produce as many northern pike and walleye fry as possible. Trout production is the major activity in this section, legal-sized fish being reared and planted on a continuous planting schedule in the streams in the northeastern part of the state. In addition to these, smallmouth bass, catfish, bullheads, largemouth bass, and some minnows are produced at the nine hatcheries. In addition, 15 nursery ponds and lakes are used principally for growing walleye, smallmouth and largemouth bass, and bluegills.

The fishery program is generally good but appears to be somewhat out of balance. Too large a part of the available funds go to producing legal-sized trout for stocking a limited number of streams in the northeastern section of the state. This highly specialized put-and-take trout fishing should be paid for by those who enjoy it, and the system of using a special trout license, successfully used in some states, might be considered as a means of financing this program.

In the absence of this or some other means of financing this limited group, more funds and more emphasis should be placed on the lakes and streams that provide the great volume of fishing in the state. More emphasis should be given to management of the lakes and streams and less to hatchery operations and fish planting.

**Biology Section**—This section with four game and four fishery biologists is responsible for the field inventory and investigations work of the Department. It receives assistance from the Game and Fishery Sections and from the conservation officers.

The major fishery activity is a continuing study of the fish populations in a number of the major lakes and streams in the state, and special investigations on various species in different sections. The Biology Section also makes investi-



"The major fishery activity of biologists is a continuing study of the fish populations in a number of the major lakes and streams . . ."

gations of fish populations in the areas to be affected by flood control impoundments and carries on some stream pollution studies.

Creel censuses are conducted on specific lakes and special studies are carried on in artificial and natural lakes. Some experimental work is being done on farm pond stocking problems.

The game men in this section are responsible for the game inventory work with the assistance of conservation officers and other personnel. A combination of techniques has been developed and modified to suit Iowa conditions and carried on annually on pheasants and quail.

Migratory waterfowl work covers duck nesting populations on certain marshes and waterfowl migrations. In addition, special studies of aquatic vegetation, banding work, hunter success are initiated and continued as needed.

Similar needed work on such game and furbearing animals as deer, beaver, cottontail rabbits, squirrels, muskrats, raccoons, mink, and others are also the responsibility of this section.

The Biology Section works closely with and contributes funds to the Cooperative Wildlife Research Unit at Ames, which does the basic research work for fisheries and game work for the Department.

The work of this section is well organized. It gets much help from the personnel of other sections or it could not produce the volume of work it accomplishes. This is an indication of good cooperation and good team work within the Division. The section is understaffed to do the work assigned to it, and additional men should be provided when funds are available.



One of the functions of the federal aid program is to increase the supply of public hunting, fishing areas.

**Federal Aid Section**—The Federal Aid Section, as its name implies, is responsible for the two major programs that are financed by Federal Aid funds. The Pittman-Robertson Act provides funds for wildlife restoration and the Dingell-Johnson Act for fisheries restoration. These funds are used for five major kinds of work: surveys and investigations, land acquisition, fish and wildlife habitat programs, fish and wildlife management coordination, and maintenance projects.

**Surveys and Investigations**—Projects have been under way to determine the methods and techniques for providing wildlife habitat development on various types

**Habitat Improvement**—The habitat improvement work of this section on private lands is carried on by crews that plant, fence, and cultivate the land for two years. These are on 10-year easement projects on which the farmer prepares the site. An annual inspection is made of these projects and some survival counts are carried out.

**Maintenance**—Under both laws it is possible for a certain percentage of the funds available each year to be used for maintaining areas previously acquired and developed. Four management projects, in most cases each project covering a number of areas that are reasonably close to each other, handle this work. These projects maintain the



"The program of the law enforcement division is one in which law enforcement is only one of many activities."

of land that cannot be used profitably for agriculture, to study areas for acquisition and development for fish and game habitat. Most of the land acquisition program has been carried on by this section and with these funds.

**Land acquisition**—A long list of projects on which acquisition is or has recently been active show that this has been pushed rather vigorously. A number of investigations of possible new areas have also been pushed, and surveys have been made looking toward shoreline acquisition on some game areas now owned by the state. A few areas have been purchased for fishery purposes and several joint fish and game purchase projects have been initiated since Dingell-Johnson funds became available.

This section carries on the land acquisition once the projects are found feasible and have been approved, and does the developmental work once the land is acquired.

property, keep up fences and buildings and other necessary maintenance work.

**Coordination**—This is really the administrative unit of the Division and includes the superintendent of the Federal Aid Section and his two assistants.

**Comments**—This is a good program which has emphasized the acquisition and development of wildlife lands, particularly marsh lands. A continuation of this program, especially the acquisition and development of joint fish and game areas, is recommended.

Care should be exercised in coordination of the work of this section with those of fishery and game in order to prevent any duplication of effort.

The comments made in the game section regarding the desirability of checking on the results secured by habitat improvement work also apply to this program.

**Law Enforcement Division**—The



"Iowa has a fine park system. The Park Section is responsible for maintenance and operation of 89 state parks which are heavily used by the public."

program of the Law Enforcement Division is one in which law enforcement is only one of many activities. The conservation officers cooperate with other divisions in many types of investigations and studies, assist in taking censuses on both fish and game projects, and work closely with various projects within their territory. The officers help in obtaining information on populations, investigate claims of crop damage and nuisance complaints, and do much public relations work with youth and local groups.

Conservation officers are also expected to promote farmer-sportsmen cooperative programs for providing wildlife food and cover plantings.

There has been a marked improvement in the work of this division since the last study. The work is well outlined, and a study of reports indicates that the officers take an interest in and are active in many phases of the work of the Department.

Efforts to raise the standards to qualify for future employment as conservation officers should be more successful in attracting more highly qualified men since salaries have been increased to the present level. A number of states are successfully attracting college men with wildlife training to these jobs, and it is believed that the broad assignments and present pay scales in Iowa can do the same in this Department.

**Division of Lands and Waters**

The Division of Lands and Waters is a relatively small division supported entirely by legislative appropriations and the miscellaneous receipts from cabins, group camps, and concessions on areas operated by it. Its appropriation for the past year was \$475,000, plus such miscellaneous receipts. There

has been available in the past, however, for development for new construction, land acquisition, dredging, and so forth, a substantial sum of money. Whether or not any will be available in the future is not known.

The Division consists of three sections, one responsible for state parks, one for forestry, and one for waters.

**Park Section**—The Park Section is responsible for the maintenance and operation of 89 state parks which are heavily used by the public. It is responsible for the maintenance and repair of all structures and facilities for maintenance and roads within the parks, for maintaining and protecting all of the facilities on these areas.

Iowa has a fine park system, well distributed over the state. A considerable number of them were visited during this survey and were found to be very heavily used by the public. Many of the buildings are in urgent need of repair and much of the equipment for maintaining roads and facilities is so old that an excessive amount of time is needed to keep it operating. Much of it should be replaced.

Money for repairs, needed improvements, and operating costs in the last legislative appropriation was only \$75,000 more than the 1947 appropriation while costs of material and labor have greatly increased. Greatly increased appropriations are needed to repair buildings and structures, and it would be good business to do the additional developments needed to permit full public use of present parks and artificial lakes before adding more units to the system.

The artificial lake development program has been successful and highly popular and should be continued after provision has been

made for full development of the present park system.

**Waters Section**—The Waters Section is, up to the present, a paper organization which does not have a superintendent. The division chief handles such work as is done with the help of two men. One state boat and materials inspector checks emergency equipment, holds training schools for personnel in water safety and first aid and inspects boats offered for hire. Another man checks on lake concessions, on sand and gravel operations on state properties, and on construction permits that are issued for structures in state waters.

Under a cooperative agreement with the Iowa State College, this section is carrying on some water studies and has some underground water surveys under way in cooperation with the University of Iowa. It also carries on erosion control on the watersheds of some of the principal park lakes, particularly the artificial lakes, and does some other work to protect shorelines. Dredging operations to remove silt from some of the more important lakes also is carried on.

While this section has had appropriations for work under the popular lake dredging program, it has not had sufficient funds to do even a minimum amount of the needed work in maintaining state-owned spillways, riprapping and other bank protection work on state-owned waters.

A larger staff is needed for the routine work which is the responsibility of this section. The section knows the job that needs to be carried on and additional funds for its work is urgently needed.

The nation is rapidly awakening to the complexity of its water problem, and Iowa should not fail to develop a sound water manage-

ment program. The work of this section is a logical place to start.

**Forestry Section**—The Forestry Section manages the state forest lands, operates the state forest nursery, carries on the fire protection program, carries on a research program with Iowa State College. It also operates a farm-forestry program, and at the time of this survey had five extension foresters working in this field.

The 1947 report indicated that the forestry program was lagging and it still is. There is not sufficient money to do an adequate job in maintaining present state-owned forest lands and little progress has been made in blocking in these holdings.

The farm forestry program has expanded, but at the expense of other work, since there has been little increase in available funds. The farm foresters are doing good work, and the work could be expanded if more men could be employed.

The state-owned forest lands should be managed partly at least as demonstrations of good forestry practices, but in recent years funds have not been sufficient to do the necessary routine management practices.

One nursery located at Ames now produces 1,500,000 trees and shrubs annually, and there is need for one further south to produce trees for earlier planting.

It is recommended that the staff of extension foresters be increased whenever funds can be secured.

It is recommended that energetic efforts be made to get funds both for extension and for adequate maintenance and management of existing state-owned forest lands. Such funds are also needed for a limited land acquisition program to block out state forest lands for management purposes.



"State-owned forest lands should be managed partly, at least, as demonstrations of good forestry practices . . ."

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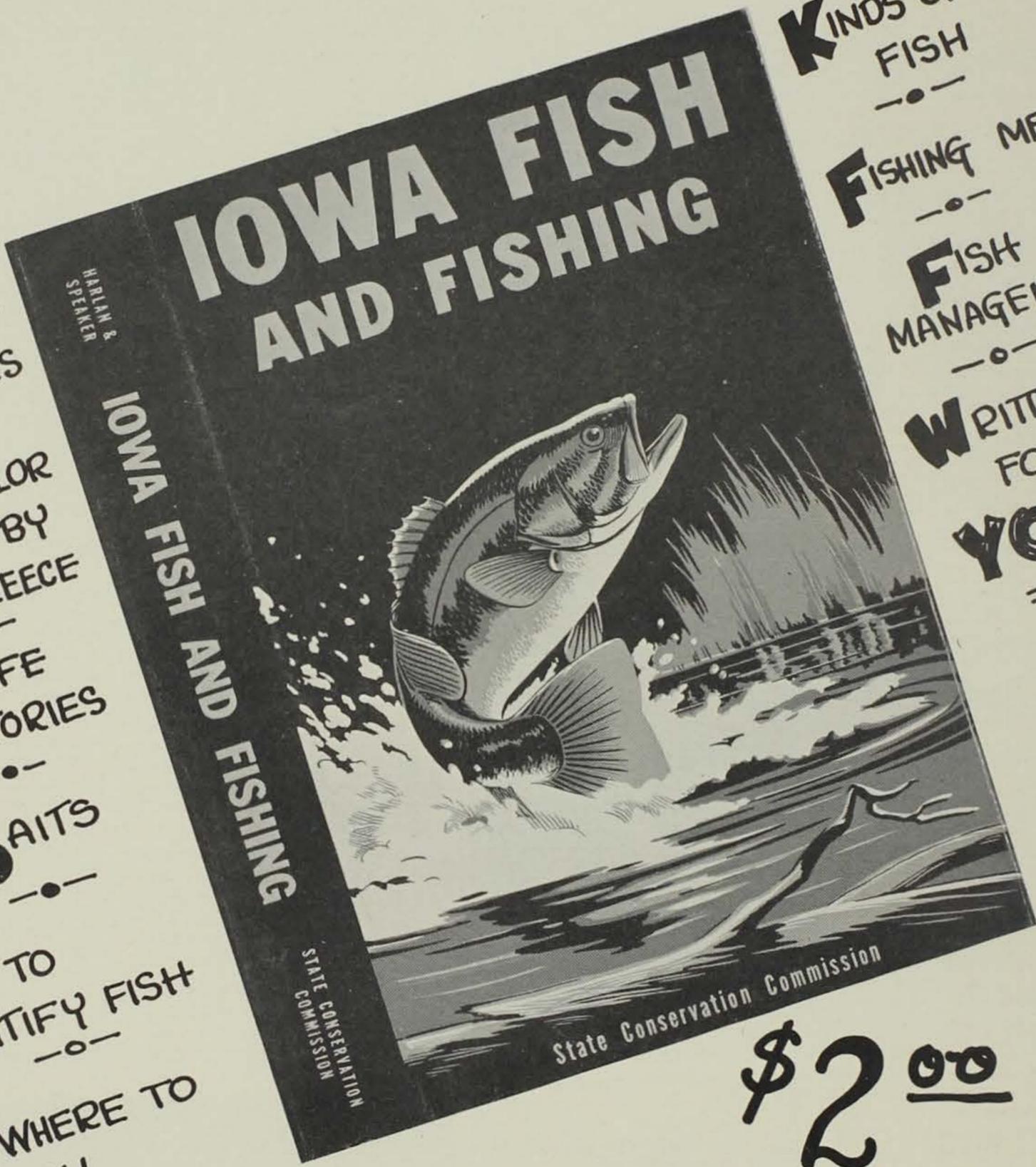
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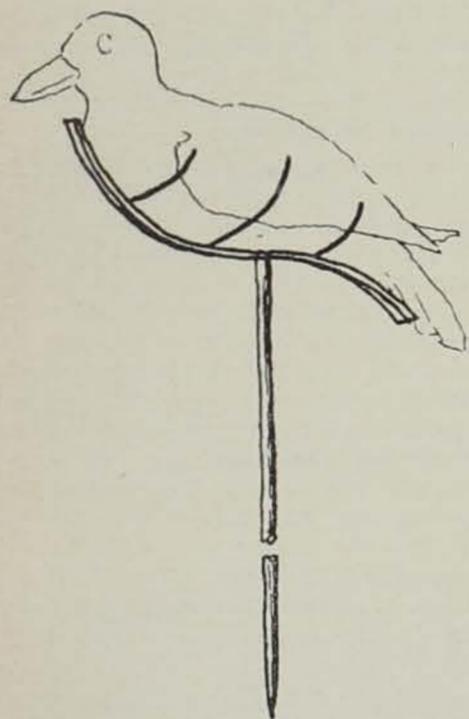


Some veteran crowhunters use mounted crow skins, as well as an owl, for decoys. Crow decoys may be placed on sticks, tree branches, or fenceposts.

### Crows . . .

Continued from page 113)  
or mount them roughly with sharp sticks and set them up on posts or on the ground.

Dan Nichols, Muscatine County's veteran conservation officer, has designed a special rig to mount dead crows:



To a 3/8-inch rod of soft steel, Dan welds a strip of strap iron about 1/2 x 1/16 inches. One end of this strap iron is bent up to support a crow's head and neck; the other end is bent down. Three piano wire or spring wire brackets are soldered to the strap iron to hold the crow's wings close to its body. At the head end of the support Dan solders a clip such as is used to fasten cars' seat covers. The two prongs of the clip are inserted in the neck skin of the crow to hold its head up. The sharpened rod can be pushed into the ground for use in fields.

As shown, the other end of the strap iron is bent down. Dan has several slip-jointed sections of half-inch electrical conduit of light steel. The rod is slipped into the end of the hollow conduit, the crow mount is lifted up into a tree, and the end of the strap iron is hooked over a limb. The conduit is drawn down, disjointed and hidden. The crow mount is so balanced that it hangs from the limb and swings slightly with the wind, giving realistic movement.

Crow silhouettes are easily made and often effective. By using battery clamps as "feet" they can be clipped to wires, branches or cornstalks. Decoys can also be made from wire coat hangers, using the straightened hooks as stakes. The hanger is bent into the rough shape

of a crow and a black sock is stretched over it. We haven't tried it, but it sounds good.

We won't argue about calls. Some hunters claim that good calling is everything; others don't think so. However, an old-time crow-hunter guards his call with his life.

A good crow caller really gets worked up when he's on crows. He growls, snarls, barks and cusses through the call, sounding like a flock of demons. In short, a good crow caller can sound mad, clear through! If you've never called there are only two ways to learn: study angry crows that are working owls, hunt with a veteran crow shooter, or both.

And so to the blind. This is the critical part of crow gunning. Unlike a duck blind, a crow setup has to be foolproof. It must hide the hunter completely. It must completely mask the shooter and hide his every movement; merely breaking up his outline is not enough.

Build your blind where you'll have clear shooting; you can have cover at your back but don't set up under a tree that will block shooting. Some hunters use portable blinds—chickenwire screens that are closely woven with long grass, cattails or horseweeds. "Sew" the vegetation through two or three loops of the chickenwire and make the blind about four feet high. Cover it tightly with vegetation so that no movement can leak through. Drive stakes into the ground, slanting them in so that the top opening will be small. Then cover it with your portable screening. The opening at the top must be small or the birds may see you when they hook over you making passes at the owl. A blind about 5 feet long and 3 feet wide, placed roughly 40 yards from the owl, is fine. And have some old shell boxes to sit on.

Other hunters may use vegetation at hand, building dense blinds of horseweeds in brushy fence cor-

ners, fence lines, or around old haystacks or timber edges.

The huge old crow roosts in inland Iowa have been broken up. There are still big roosts along the Mississippi and Missouri Rivers, but most of the inland roosts range from 25 to several hundred birds.

You can locate such roosts by following the birds in at sundown, usually to old groves (most often evergreens, if available) or woodlots.

Once the roost is found, don't shoot in it. A good roost can be burned out in a single night and months of sport ruined. Crows simply won't hang out in a roost that is being heavily gunned.

When you find the roost, case it for a few evenings, finding out what the lanes of approach and departure are. Crows leave and come back to roosts in regular traffic patterns, and it's in these flight lanes that you'll have the best prolonged shooting.

There may be three, four or more of these aerial highways in and out of the roost, extending many miles into the countryside. Set your blind a couple of miles from the roost on one of the flyways; the best shooting will be at early morning and late in the day. These blinds may be along brush patches, timber edges, along river bottoms, on sand bars or in ditches. But don't shoot the roost, if you want future crow hunting.

Along in early April the roosts begin to break up and the birds go their own ways to establish nests. They may still feed together in choice fields, but the gregarious roosts have adjourned until fall.

The smaller the flock is, the tougher it is to hunt. The most practical crow hunting is around immense roosts. Most inland Iowa crows have been worked over for many years. Crows live for a long time and the old flock sentinels become gunwise and acquire an uncanny judgment of shotgun ranges. Some of our best hunting is around the Mississippi and Missouri river bottoms, where there are still roosts that number 20,000 birds.

Down in Oklahoma and Kansas where many of our crows winter, roosts reach staggering proportions. One Oklahoma roost was estimated to contain over a million



Crow blinds must be dense, completely hiding the hunter. Only when he's ready to shoot does the gunner show himself. This blind, made of horseweeds, is in a fence-row.

birds and when it was "bombed" recently, 60,000 crows were killed in one blast! Another roost bombing in Kansas a few years ago netted about 125,000 of the black rascals.

We heard a story the other day about two hired hands in northern Iowa who scorned bombs, preferring heavy artillery. These two characters, after using black powder one winter to split logs, decided to make a crow cannon.

First they scrounged several barrels of overripe eggs from a local hatchery. They then wrapped a hunk of 5-inch well casing with several pounds of baling wire, poured in a few cans of black powder and a couple of bushels of scrap piston rings they had broken up with a borrowed axe.

They strung the eggs out in a field in long rows, and at one end they dug their fox hole. Ten feet in front of the fox hole they placed their crow cannon. The first morning there were some crows feeding on the fragrant eggs; the second morning there were still more, and on the third morning the field was black with crows. On the morning of the fourth day (it's still called "Bloody Thursday"), our two heroes touched off the fuse and ducked.

It is said that they filled up a small wagon with dead crows. The fact that they didn't kill themselves bears out the old saying that Providence watches over fools and small children.

If you're tired of living, that's one way of doing it. But it's more fun with a shotgun—J.M.

### March Angling . . .

(Continued from page 115)

and last, trout have been caught through the ice in pools.

To fish the water entering the pool, make a natural drift with bait, using a light leader or 2 or 3 pound test when the water is very clear and size 8 or 10 hook when fishing worms. Use even smaller hooks for natural nymphs. Do not use a sinker, but simply allow your bait to drift free into the head of the pool in as natural a way as possible.—J.M.

When catching insects for fish bait, place them in an ordinary tin can tightly covered with a thinly stretched piece of inner tube. Cut a slit in this rubber covering and insects may be put through the stretched opening, which immediately closes after the insect is safely inside.

Landowners and sportsmen around Iowa rivers and lakes are urged to make an "old boat census" along their shorelines. If you have any old, unseaworthy boats lying around that cannot be repaired, destroy them. Children often find such boats, and try to float them in deep water, sometimes with tragic results.



Once a raw gully, this is becoming a pocket of lifegiving wildlife cover. Around these evergreens the snow was packed with pheasant and rabbit tracks. Jim Sherman Photo.

### Better Hunting . . .

Continued from page 113

The amount of game present on a given section of land is directly proportional to the sum of the edges of various types of habitat.

Even if we could assign 500-acre blocks of fat Iowa land to wildlife plantings, these principles tell us that this wouldn't be the best type of game habitat in Iowa; better would be numerous small blocks of habitat, providing far more edge and interspersions.

And while the farmer can hardly be expected to break up his place into 20-acre fields just to satisfy game requirements, there is another way to have this edge effect, interspersions and their benefits.

All over Iowa are millions of "odd areas"—fence corners, gullies, timber borders, creek banks, and rocky and marshy inlands in fields that have no agricultural value. If even a fraction of these farmland waste areas were planted to suitable wildlife cover Iowa's game habitat would be increased a thousandfold. The cover existing on some of these areas today is meagre, or if there is cover in quantity it is not of the quality best suited for game.

If these tiny waste areas were planted with wildlife cover the total edge and interspersions of game habitat would be staggering.

Look what it could mean to pheasants. One of the weakest links in our pheasant production is in nesting. Early in summer there is little new cover; the hems, horse-weeds and wild grasses are still thin and scanty. Yet the hen pheasant must nest. So she is forced into the lushest cover at hand: hayfields, where she is at the tender mercies of mower blades. No game bird can flourish if a high percentage of nests and young, not to mention female adults, are regularly destroyed.

But old game plantings in fence corners could decoy some hens away from the deadly hayfields.

While not green, last year's plant growth could give some shelter for the priceless nests. The old fence corner could offer an alternative, where now there may be no alternative but death.

Here, in this fine theory of planting up Iowa's odd waste areas, we hit a snag. Dr. Trippensee, in *Wildlife Magazine*, states: "High protection (of game) by management will be accomplished only if carried out by the owner or custodian of the land, and then only where there is an economic incentive for doing it."

Such incentive may not exist on a strictly cash basis, but it's there. There are about 2 million miles of streambanks in the United States, several thousand miles of them in Iowa. Many of these banks are cutting badly, devouring the most expensive farm land in the world. Many farms also have some gullies—running sores that drain away dirt and dollars. There is only one practical way to heal raw streambanks and gullies: with plants, and if this is done why not use plants of value to wildlife? Forget about all other areas that could be

planted to wildlife cover. If only erosion were checked in Iowa it would be the answer to a game manager's prayer.

The future of Iowa wildlife and hunting is wedded to the average farmer, for better or for worse.

Sportsmen can help, but how many are willing to expend time and energy in increasing game cover? The Conservation Commission's planting programs on private areas are essentially "display cases" of conservation to set examples for sportsmen and farmers. We simply do not have the men or money to establish all the game cover required by Iowa wildlife.

The Commission sent up a trial balloon this fall. For the first time in about 13 years the department has revived the wildlife plant packets, selected species of plants that are tailor-made for different sections of the state. One packet was made up for northern and eastern Iowa; one for southern Iowa, and one for the western part of the state. Made up with an eye to foliage, vigor, cost, resistance and food value, the packets were carefully designed for small areas so vital to wildlife but worthless to agriculture. The supply of the packets is limited, but response to the idea has been good.

The main product of the Commission's Nursery at Ames is still the old reliables of game planting: black locust, black cherry, walnut, multiflora rose, dogwood, wild grape and others—plants to give new life to our game populations.

Price lists and full information can be obtained from state conservation officers, the Conservation Commission Nursery at Ames, county extension directors and soil conservation district offices. There's still time to order.

There's more to game management and better hunting than just building game cover. Wise regulations, good law enforcement, biological studies (more and more!), a bond between farmer and hunter and an awakening of real sportmanship and public awareness are essential. But all of these pale before the need for more

wildlife habitat. A closed season is cold comfort to a pheasant killed by a power mower, or to a rabbit caught by a fox in an open ditch.

Our wildlife is dumb; it cannot cry out in protest against the naked land and write heated editorials against clean farming. It must register its protest in the only way it can—by waning a little more each year.

### HAVE YOU CHECKED YOUR SPORTING GOODS LATELY?

It's a good time to start snooping in the sporting goods shops. Don't wait until the last moment to rush in all out of breath to buy what you need. Buy a few things today, some more tomorrow—take lots of time to think through all the items you know you'll need this coming season. Being prepared is the prime essential in successful fishing.

For years and years I have suffered from the lack of a bait bucket that would keep nightcrawlers, crawfish, worms and cutbait in good condition. Three years ago I "invented" a bucket container that largely solved the problem, but it was very crude. Two years ago I made some radical improvements. Last year I made a couple of buckets that really did the trick. This year I've made a bucket container that I think will have the problem solved 100 per cent.

In live bait there isn't anything that beats worms—nightcrawlers and garden worms. But to keep them alive and healthy in hot weather is the problem. Now I have no difficulties with these baits. Crawfish have heretofore been a problem with me—now I can keep them in fine condition. For catfish my favorite baits have always been dead minnows, cut bait and sour clams. But to keep such bait from going soft was almost impossible. Now I can keep such cut bait and dead bait for days.

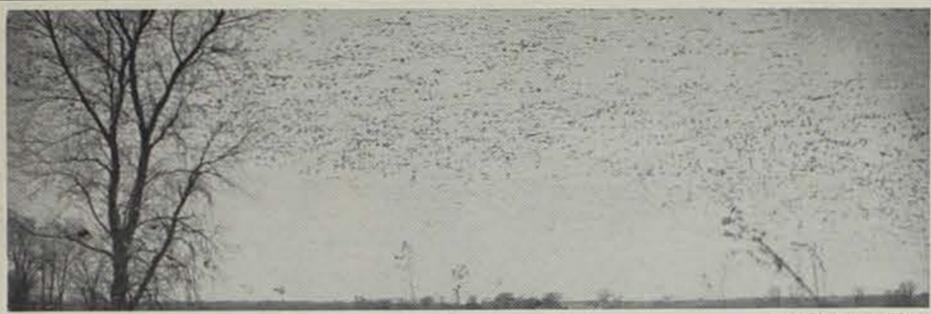
The secret is in the construction of the container and ventilation. Wish I could show all of you my invention. Cost me about a buck for the materials, plus the labor, but it gives me a thousand dollars worth of satisfaction.

Now here's a tip on helping to keep catfish bait from becoming soft and spoiling. Better clip this, or memorize. Buy a box or can of powdered borax. Dust the cut bait thoroughly in and with the borax until the bait is well coated. One good treatment will keep dead minnows and cut bait for several days.

If you're so dumb as to let your shadow fall on the pool where you're fishing for trout, you're through. Trout are finicky. Remember, your shadow penetrates fifty feet of water—you might just as well toss rocks into the pool as to cast your shadow.—*Manchester Democrat-Radio.*



The future of Iowa wildlife, through its habitat, is in the hand of the farmer. Sportsmen and game managers can help by providing plants, work and research. Jim Sherman Photo.



The clamor of geese fills the air above the broad bottom fields of the Missouri River. Long before the barns and men were there, the geese were. Jim Sherman Photo.

**They're Here Again . . .**

(Continued from page 113)

very little illegal shooting. In the old days when we were growing out of the Kill Everything Complex, poaching along the Missouri was serious, and the spring goose flight sounded like a Juarez election. Education, stiff fines, airplane patrol, and good roads that give mobility to conservation officers, have cut spring goose shooting to almost nothing.

The first arrivals pull into the Hamburg area in extreme southwestern Iowa in late February or early March, and rest on the settling basins, fields and broad sandbars of the Missouri. Forney's Lake near Thurman, formerly a concentration point for the geese, had dried up in recent years and is no longer headquarters for the early flights. By the 15th or 17th of March most of the geese are found within a few miles of Thurman, Percival or McPaul in Fremont County.

A few days later they appear at Kellogg's south of Glenwood, going from there to the Green Bottoms, Lake Manawa and the Manawa bottoms south of Council Bluffs. The next large concentrations appear near the Onawa-Turin area or around Grant Center, and the last great flocks in Iowa are in the Hornick-Lutin area south of Sioux City.

From Iowa they head up through the prairie provinces of Canada, over Winnipeg, and make an almost non-stop flight to their sum-

mer home—the barren, forbidding nesting grounds of Baffin Island.

The earliest Iowa flocks are mainly blue geese, but as March wanes they are joined by greater numbers of snow geese. There are Canada geese, too, but they are fewer in number and avoid their noisy cousins. It's said that the Canadas dislike the smell and constant gabble of the blues and snows and keep aloofly to themselves.

It's something to watch when a high flock of blues see some of their kin in a promising field and let down to join them. From hundreds of feet they come almost straight down in a breath-taking falling-leaf maneuver, the snow geese sparkling in the thin March sunlight as the entire flock sid-slips and stalls, killing altitude to get in on the meal. Although the field may be almost covered with geese, the arrivals find room and drop easily and lightly to the ground where there is seemingly no space left.

Then, at sunset, the flocks rendezvous and go to their nesting grounds. Last March some Commission personnel were waiting at the settling basins near Thurman to make some sound recordings of the flight. As the sun set there was still no sign of geese; the evening was clear except for low cloud-banks in the northwest. As we watched, the cloud slowly lifted and in a few minutes we could see that it was geese! Hundreds of thousands of blues and snows, stretched across the sky in waves,



A pioneer name for the pasqueflower was prairiesmoke, because of its hairy stem and leaves. One of earliest prairie flowers, its woodland counterpart is the hepatica. Jim Sherman Photo.

To the spring prairies, when snow is still in the hollows and the first spears of big bluestem are just appearing, comes the pasqueflower. In late March and early April it blooms briefly, flowering so early that it is also called the Easter-flower.

Its furry stem, up to 16 inches long, bears flowers that range in shades from white to bluish-lavendar, a color that has also given it the name of wildcrocus. Its leaves are also densely hairy, as if to protect the plant against the raw winds of early spring.

After the plant has flowered the head becomes a soft mass of long-tailed, silky fruitlets that give a distant colony of pasqueflowers a misty appearance, and the pioneer name of *prairiesmoke*.

And, like prairiesmoke, it is vanishing. It is a flower of the old native prairie, never found on cultivated lands or in forests. When the last scrap of wild sod is burned and broken the pasqueflower will be on its way out.—J.M.

staggered lines, loose V's and flocks. Within fifteen minutes the sky above the dark settling basins was filled with a solid umbrella of waterfowl, with a backdrop of red and purple sunset.

The geese are only with us for a few weeks, but they've become an institution along the Missouri River. Newspapers give statewide coverage to the goose calendar and at the peak of the flight roads may be lined with cars, amateur photographers, and news cameramen.

This spring reception is a lot more cordial than the one in the fall, a point that might confuse the geese if they dwelt on it. How can bird lovers of the spring become the hunters of autumn? One observer remarked: "In November the coming of the geese means head colds, flue and fuel bills, and I'm happy to declare war on them. But in Macrh the goose flight means the beginning of spring, and that's different."—J.M.

The red fox's tail serves as a muff and a gyroscope. In cold weather the fox curls its tail

around feet and nose as it sleeps in the open. While running full tilt the fox helps keep its balance on rough ground by using its tail as a rudder.

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News photographers and amateur cameramen do the only "shooting" on the goose flight. Empty film boxes have replaced empty shotgun shells along back roads. Jim Sherman Photo.



Jim Sherman Photo.

On the other hand, we have scrap-lead sinkers, heavy wire leaders, and 30-pound line. Even a bullhead deserves something better than this.

### THE LIGHT TOUCH—AND BETTER FISHING

An old catfish is nobody's fool. He may eat anything that swims or floats but he generally knows what he wants and how it should taste and feel. Catching him may depend less on *what* you give him than *how* you present it.

Many Iowa fishermen make the mistake of overgunning them-

selves, whether fishing for flat-heads or bluegills. Their lines and rods are too heavy, their hooks too large, and their sinkers are anvils. Some fish, especially catfish and carp, tend to feed delicately, it's hard to tell the nibble of a lunker from that of a fiddler. With heavy tackle you lose the "feel" of the

fish, and often the fish itself.

Take sinkers, for example. Fish are used to eating food that is floating or lying free in the water, and not solidly attached to something. The average sinker, an unwieldy chunk of lead, ties bait to the bottom in an unnatural manner. The ideal all-around sinker is probably a light slip-sinker type that allows line to run freely through it and provides no drag on the bait. Such a sinker will not hold in swift channels, of course, nor do you want it to. The best general catfishing method is to drift bait with a light sinker, and line, allowing the bait to move with the current through channels and over the edges of deep holes and pockets and around log drifts and boulders. For this, a light sinker is desirable.

A heavy weight is not necessary for carp either, since much of the best carp fishing is in slow-moving backwaters and eddies.

A light line is also best. If you do much casting you will find that a lure or bait on a 12-pound test line will cast much smoother and farther than on a 24-pound line. Good reels are handicapped by a bulky, heavy line and casting accuracy and distance are sacrificed by such cordage. The new monofilament lines and spinning outfits have opened up a new concept of fishing, making it possible to use small, deadly baits and lures under an infinite variety of conditions.

How many catfish have you seen taken that couldn't have been landed with a 12-pound line? Sure, you can't horse a big cat with that kind of gear, but who wants to horse a fish anyway? Besides, the heaviest line in the world won't

land a catfish if it prevents him from being caught in the first place.

Most rods can stand lightening up, too. Good baitcasters prefer rods in the 5½ and 6-foot class—light rods with plenty of life. These outfits can literally shoot a lure and light line and are highly efficient and easy to handle. Of course, a rod used for drifting bait in large rivers should be one with plenty of backbone.

For panfishing, and many other types of still-fishing, a fly rod is just the ticket. Use a small hook, a 4-6 pound nylon leader, and a very light quill or balsa bobber. Add a split shot or two for weight. Nip a small minnow through the back or tail and you're in business. A light leader is a must in angling for sight-feeders like bass, bluegills and crappies. In fairly clear water a fish may be alarmed by a heavy, easily-seen line. Sight-feeders have remarkable eyes, even in murky water; experiments show that a sunfish can see in water lit with only 1/500,000 of maximum daylight intensity!

In the past few years a lot of Iowa anglers have been swinging around to light tackle, and have found it's paying off in both sport and catch. Try the "light touch" this summer. What you sacrifice in tackle weight you'll make up for with a heavier creel.—J.M.

We still think pheasants have some means of communication by which they tell each other the precise day the annual hunting season starts, when they make themselves scarce, and the day it ends, when they appear again in great numbers.—*Sioux City Tribune-Journal*.

### 1955-56 IOWA FISHING REGULATIONS

Inland Waters of the State		Daily Catch Limit	Possession Limit*	Minimum Length or Weight	Boundary Waters
Kind of Fish	Open Season				Mississippi and Missouri Rivers and Inland Waters of Lee County
Sheepshead, Red Horse, Suckers, Gizzard Shad, Mooneye, Goldeye, Carp, Buffalo, Quillback, Carp-suckers, Gar, Dogfish, Eel, Burbot, Chubs	Continuous	None	None	None	Same as inland waters
Bullheads	Continuous	25	50	None	Continuous open season with no catch or possession limit
Catfish (Except Bullheads)	April 15-Nov. 30	8	16	None	Continuous open season with no catch or possession limit
Trout—all species	Continuous 5 a.m.-9 p.m. daily	8	8	None	Same as inland waters
Minnows	Continuous	None	None	None	Same as inland waters
Frogs (Except Bullfrogs)	May 12-Nov. 30	4 doz.	8 doz.	None	Same as inland waters
Bullfrogs (Rana catesbeiana)	May 12-Nov. 30	1 doz.	1 doz.	None	Same as inland waters
Walleye (Yellow Pike-Perch) or Sauger	May 15-Feb. 15	5	10	None	Same as inland waters except continuous open season
Crappie, Yellow Bass, Warmouth Bass, Sunfish, Bluegill, Perch	Continuous	15	30	None	Same as inland waters
White or Silver Bass	May 15-Feb. 15	15	30	None	Same as inland waters except continuous open season
Northern Pike	May 15-Feb. 15	4	8	None	Same as inland waters except continuous open season
Smallmouth Bass	May 30-Feb. 15	5	10	10"	Same as inland waters except season May 2-Feb. 15
Largemouth Bass	May 30-Feb. 15	5	10	10"	Same as inland waters except season May 2-Feb. 15
Rock Bass	May 30-Feb. 15	15	30	None	Same as inland waters except continuous open season
Rock Sturgeon, Paddlefish	Aug. 1-Nov. 30	15	30	5 lbs.	Same as inland waters
Sand Sturgeon	Aug. 1-Nov. 30	15	30	1 lb.	Same as inland waters

\*Not to exceed more than fifty (50) fish of all kinds in the aggregate, except that this aggregate possession limit shall not apply to fish named in this table on which there is no daily catch limit. Where waters are located within the confines of state, city, municipal parks, etc., fishing is permitted only when such areas are open to the public.



Jim Sherman Photo.

Skill with light tackle takes a lot of the luck out of fishing and makes it a fine art. The fly rod is a deadly outfit for crappies and other panfish.