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IOWA CONSERVATIONIST

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Volume 19 April, 1960 Number 4

IT'S OFFICIAL: IOWA'S FIRST ARBOR DAY



Jim Sherman Photo.

Arbor Day should be a family affair, an event for the youngsters to carry in their memories along with a tree to call their own that will see them through their "growing up" years.

ARBOR DAY IN IOWA

Duane DeKock

the largest living thing, the most important product used for our basic shelter, and perhaps the most universal symbol of nature's beneficence to mankind; all these things recognized on this day for their value to man.

There is much more to Arbor Day than just the physical planting of a tree. When we plant a tree it signifies many things: shelter for wildlife, protection for the soil and water, a thing of beauty for all that see it, and a strong reminder in the planter that he may not see it grow and develop.

To the Indian, the tree was used

as an example for the young and brave. Spiritually it symbolized a constant growth with its arms always reaching closer to heaven. Morally it symbolized a steadfastness; even during the worst of life's storms it stood firm with its roots deep in the Mother Earth. This, combined with the tree's physical strength, gave the original Americans a symbol for a good life.

The early legislators in Iowa had a great deal of respect for a tree. Because of its value in holding soil and moisture and its ability to protect children from the hot sun and cold winds, they passed a

law concerning the planting of trees in schoolyards. This law stated that there shall be a minimum of 12 trees planted in every schoolyard of the state.

Perhaps we should revitalize the old-time Arbor Day, celebrated in special connection with the public schools to impress our children with the importance of conservation.

In the middle of the 19th Century a number of public spirited persons concerned with the rapid deforestation of the U. S. urged that trees be planted systematically. This movement was picked up by Julius Sterling Morton, then the Commissioner of Agriculture in Nebraska, and he proposed a regular Arbor Day each year. His proposal, in 1872, succeeded in inducing the legislature of his almost treeless state to set aside this day for the planting of trees. Sterling Morton's original proposal spread through the many states in the Union until it grew into international proportions as it is today.

Few people remember the name J. Sterling Morton, but the world has not, and we hope will never forget the idea he launched. This year, 88 years after Morton captured the imagination of the farmers of Nebraska, we find the following act to establish a permanent Arbor Week in Iowa:

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF IOWA: Section 1. Beginning in the year 1960, the last Friday in April in each year shall be observed as Arbor Week. This day and week shall be designated annually by the governor with a suitable proclamation urging that schools, civic organizations, governmental departments and all citizens and groups give serious thought to and appreciation of the contributions of trees to the beauty and economic welfare of Iowa.

On a clear day an Iowan can stand in Waubonsie State Park in the southwestern corner of the state and see the home of J. Sterling Morton. It is preserved in Arbor Lodge State Park, Nebras-

ka, a minor monument compared to the millions of living memorials he caused to be planted for our protection, use and comfort.

A tree symbolized many things to J. Sterling Morton as it does to people today. To the conservationist it means preservation of soil, water and scenic beauty, for certainly few are the abuses to nature which can not be remedied if sufficient trees are planted. To the homeowner it means shade in the summer, and to a small child on Christmas Eve, a tree with lights ties together the spiritual past and material present. Every man that sees a tree experiences something different, but to all it symbolizes life and hope. In the words of the originator, "Other holidays repose upon the past, Arbor Day proposes for the future."



Jim Sherman Photo.

Not many years will elapse before this tree will far outstrip its planters, and be a living guide for the boys to follow—upright and ever seeking the light.

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DO IT YOURSELF FISHING FORECAST

M. E. Stempel
Biologist

Fifteen crappies or a dozen bluegills in 30 minutes: how does that sound? You can do it, and with a minimum of equipment once you get the habit of watching the calendar, the thermometer and the nearest box elder tree. This is assured by record catches made in artificial lakes Wapello, Keomah, Darling and Browns Slough.

Whether you fly, spin, cast or pole fish, you may find use for some of the following suggestions based on experience from 1955 through 1959. Information came from a number of individuals who regularly follow this type of fishing.

There are plenty of pan fish so take them when they hit best. During early spring, conditions usually favor wet fly fishermen and enable them to enjoy this method with a minimum of preparation.

Fine fishing can be had when the wild plums bloom, lilacs color up, and the box elder tree in the neighbor's yard is 30 per cent leaved. By the time the swifts and the swallows are here and the vultures are riding thermals in the hills between Lake Wapello and Albia, I know that good fishing is nigh. The same forces that make the new green in foliage and beckon the birds northward cause the crappies and bluegills to hit wet flies.

Prepare in mid-April to make the first trip. A rule of thumb is to go to the lake as soon as the temperature reaches 70 degrees on two successive days. Once the fish begin to hit they will continue for two to four weeks. That will not be the end, but tapering off time, and it's time to switch to another method for best results. Examples of how and when the fish hit are in the table that follows.

It has been observed that temperature is the critical factor after April 15. Following two or more

**Editorially Speaking
Til the '70 Census**

From the Editor

With the passing of the fabulous fifties, our thoughts turn naturally to what's in store for conservationists in the coming decade.

One of our major considerations must be the expanding population; we can't sidestep this problem without becoming mired in the ever increasing numbers of just plain people. A shortage of elbow room is already noticeable and unless proper steps are taken with the full support of the present populace, today's outdoorsman will tomorrow be limited to his backyard for outdoor activities.

Our natural resources have been under pressure for only a couple of hundred years, much less other states to the east, and the general appearance of the countryside shows it. In the future, industrial expansion will be pressing from every side, already evident wherever the supply of water falls short of present needs. The Mississippi side of Iowa is now a mecca for industry and the newly stabilized Missouri will rapidly progress to a like situation. These waters and other major streams are fine for recreation. Unless provision is made for recreation—both space and sufficient unpolluted water—the many hours of relaxation available to the public will be lost in these areas.

Legal action has been started to establish title to islands and other river property on the Missouri River that private individuals have taken for their own use. Forest lands are being expanded. The uses that can be made from the scenic woodlands will go a long way in giving the people of Iowa a place to get away from it all.

For those who go out and make the effort, hunting and fishing success will be good. Research and high grade management procedures assure more and better fish and game. In many respects, our programs have exceeded expected results. The deer population, for example, is much higher than ever before in the history of the state. Perhaps deer hunting in an agricultural state seems unnatural, but with a change in the vegetation of Iowa, this sporting commodity fits in almost too well, making harvest fully as important as protection.

Parks stand to take the most use, but the above mentioned forests should relieve the pressure. Fewer facilities satisfy the aboriginal urge for many who can't stand the thought of crowds.

The over-all picture demands that more be done and it is being done as the reasons become ever stronger.

Year	Highest Temp. Previous to First Good Fishing				First Known Date of Good Fishing	Kind of Fish	Lake
	71	76	73	84*			
1955	71	76	73	84*	April 18	Bluegill	Wapello
1956	85	84	89		May 9	Bluegill	Wapello
1957	79	76	67		April 28	Bluegill	Keomah
1957	76	60	61	69 76	May 6	Crappie	Darling
1958	67	69	78	83 82	April 16	Crappie	Wapello
1959	71	75	67	53 46	April 27	Crappie	Wapello

*84 degrees was the temperature on April 18, 1955, 73 was the temperature on April 17, etc.

days of 70 degree temperature, the fish mentioned have furnished excellent fishing in lakes named, as well as in other southern Iowa artificial lakes. Once they started taking lures even a sudden stormy period or cool spell didn't always end the good fishing. However, two days of unsettled weather usually stopped activity.

Pan fish hit well at various times during the day. When they started taking lures the good fishing might last 20 minutes or an hour on any single day. The best period was 3 p.m. to dark. Sundown was a productive time on pleasant days. Fishing was poor after dark.

Equipment consisted of flyrod, wet flies and hip boots. With this minimum of paraphernalia you can be ready to go to work as soon as you arrive on the lake shore. My favorite wet fly was two chicken neck feathers bound and cemented to the shank of a number three long-shanked hook. This fly was the correct weight to travel at the proper depth. Color

of lures was not important and bait could also be used.

The best place to try for the early fish was on gently sloping areas with some sand on the bottom, though mud bottoms were favored in some lakes.

The most productive water was cloudy enough that you could see down only about eight inches. Hip boots enable you to take in the catch more easily without banking them. Weeds aren't high enough to be a problem in May and the quickest way to locate fish is to wade out to knee depth, then work along shore casting out into the lake, then closer to the bank. If fish hit once, another cast was made; if there were two strikes, that was the spot to work on. Fishing could be done from shore without boots where it sloped at the proper angle.

The fly should be retrieved slowly, six inches below the surface. When the fly has a tendency to float, a bit of lead wire can be pinched on. If the fish hit short, the tail of the fly should be cut

BRIDGE HOPPING

It's not exactly new . . . in fact it has been going on to a degree for many years . . . but just within the past few years "bridge hopping" has become quite a popular pastime with both fishermen and motorists. With the motorist who is out seeking views and outdoor life, the bridge offers two vistas . . . one upstream and one downstream. Usually from a point of vantage on a bridge you can see quite a distance on a tree-lined stream . . . but binoculars open up new sights not visible to the naked eye . . . a muskrat working a cornstalk to the entrance of his den . . . a beaver gnawing away at a tree . . . or possibly a fleet of ducks bouncing in the fast water off a sand bar. Deer have been spotted, too, daintily picking their way across a remote reach of the stream.

FISHERMEN have long been bridge hoppers. Generally a couple, three or four fellows get in on the act as a team. Driving to a bridge two of the gents get out and start working down stream to the next bridge. The two fellows left in the car drive it down to the next bridge, leave it and start working downstream to the next bridge. The car is picked up by the first two fishermen and they pick up their pals in turn. That way the four get to cover a lot of stream. Duck hunters often follow this procedure in the season and it has proved most profitable.

—By John Garwood, Marshalltown Times Republican.

FISHERMEN HAVE FRINGE BENEFITS TOO

Not long ago a Cedar Rapids angler jigging for walleyes below the dam at Guttenberg felt a heavy weight on his line as though he had picked up a load of moss or some other form of underwater vegetation. Upon retrieving his hook he found attached to it a billfold containing \$51, well soaked but exchangeable for hard cash at the bank. None of the identification papers were legible so it might not be a bad idea for boaters and fishermen to encase their ID cards in plastic—especially if they carry enough money to be missed.

The white-tailed jackrabbit sometimes weighs seven or eight pounds or more.

off so that they take the hook not the tip of the feathering.

This spring when neighborhood lilacs color up and the box elder are nearly half leaved out, watch that thermometer. After two days above 70 degrees get out the flyrod and head for the lake. Some may have to be content with one or two fish an hour, but you won't have to be satisfied with that once you begin watching the thermometer and keeping an eye on the neighborhood box elder tree.

Old Mother Nature potent gal, having m fairly decent plac to reside. Hills a beans and plain merits and pausing think on it—could any better? Now agree that she seem —unless your train punctuated by an e the snap-crackle of bolt (if you hear crackle, you're too over). Working with such on hand with a little for here and a bit ahead there, she h done what you and ably never set out what tools—air and which to sculpture a rain-circling rock w backing dynamite a drills, she had to res method to make "an of big ones." Chemis answer and you can results how effective combined action of a on rocks and dirt, ev and wood is called simple and time c now it works. Weathering is a pri the making of our sta the rest of the land f er. However, don't weathering means ac ing water, or moving the wind. It is someth mysterious and subt Weathering, in the sense, is the breakdo rock by the atmosphe soaking into the grou results in a sort of r rock and thus produ the inorganic subsoil life supporting topes yped. In the first place, is primarily the result ng. Also, within the in the midwest there interesting, though disp Once a part of the e crust, they have be weathering. All the sees lying about, the bers, and of course v bedrock is right at th the ground in a park affected by the natur destruction. Fantastio produced. Large blo stone loosened by wea a little and leave a for people to walk t as that at Backbone l man's misery, or sor rial of the limestone if from the long-ago d of earlier rock. So di rial of the sandstone

BUILDING A PARK (from the ground down)

C. S. Gwynne
Geology Department
Iowa State University

Old Mother Nature is a pretty tent gal, having made this earth fairly decent place upon which reside. Hills and valleys, plains and fields, each has its merits and pausing a moment to think on it—could we have done any better? Now we'll have to see that she seems in no hurry unless your train of thought is actuated by an earthquake or the snap-crackle of a lightning bolt (if you hear that snap-crackle, you're too close—move over).

Working with such tools as are hand with a little trial and error here and a bit of full steam ahead there, she has gone and done what you and I would probably never set out to do. And what tools—air and water—with which to sculpture the chunk of encircling rock we call home. Working dynamite and diamond drills, she had to resort to another method to make "small ones out of big ones." Chemistry was her answer and you can see by the results how effective it is. The combined action of air and water on rocks and dirt, even on metal and wood is called weathering. Simple and time consuming, but how it works.

Weathering is a prime factor in the making of our state parks, and the rest of the land for that matter. However, don't think that weathering means action by running water, or moving glaciers, or the wind. It is something far more mysterious and subtle than that. Weathering, in the geological sense, is the breakdown of solid rock by the atmosphere and water soaking into the ground. It really results in a sort of rotting of the rock and thus produces most of the inorganic subsoil from which the supporting topsoil is developed.

In the first place, subsoil itself is primarily the result of weathering. Also, within the subsoil here in the midwest there are many interesting, though displaced stones. Some are a part of the earth's rocky crust, they have been freed by weathering. All the pebbles one sees lying about, the large boulders, and of course wherever the bedrock is right at the surface of the ground in a park, it is being acted by the natural forces of destruction. Fantastic effects are produced. Large blocks of limestone loosened by weathering slide little and leave a narrow cleft for people to walk through such that at Backbone Park. A fat man's misery, or something like that. For that matter, the material of the limestone itself resulted from the long-ago disintegration of earlier rock. So did the material of the sandstone of Wildcat

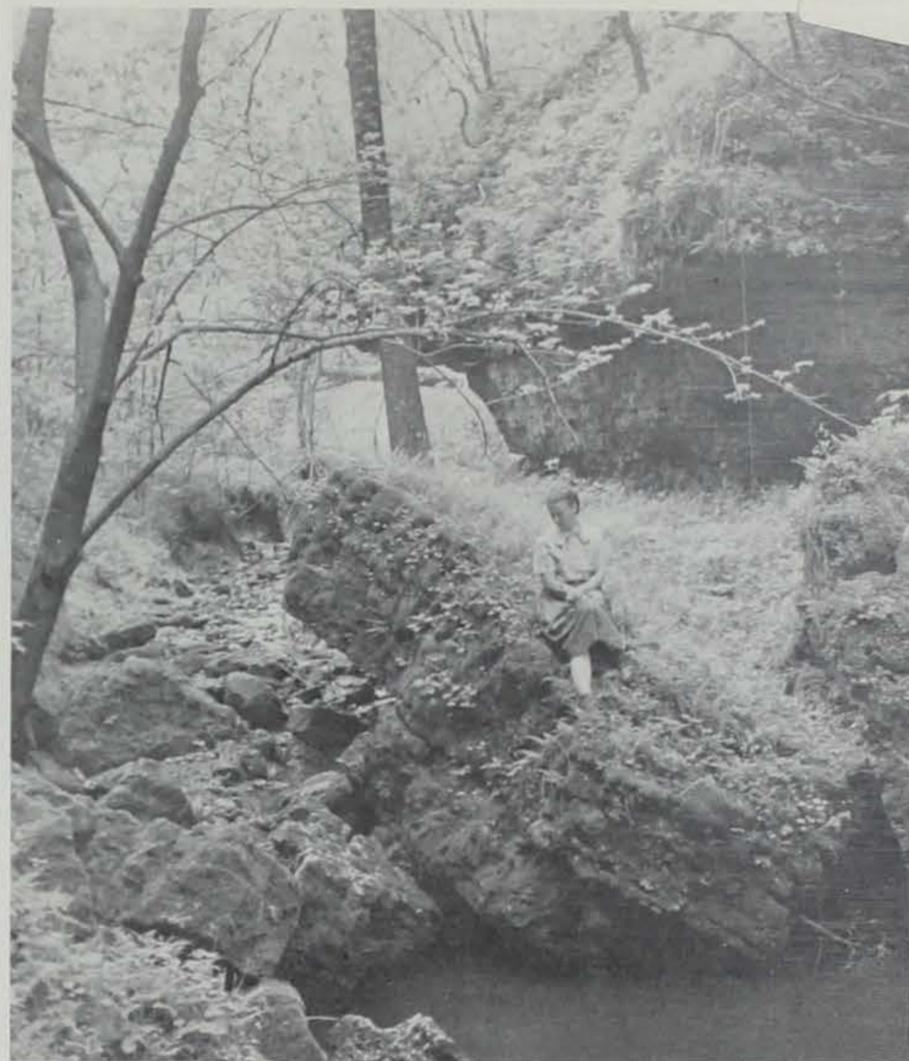
Den, Dolliver Park, and the Ledges.

But let's take a closer look and see just how weathering actually works. Much of it is done chemically. The air around us contains chemically-active gases. These are oxygen, water vapor, and carbon dioxide. The last is the familiar cause of gastronomic explosions noted after drinking soda pop, given off in breathing, and in the burning of wood and coal. These three gases slowly act upon many of the minerals contained in the rocks, changing them to clay and soluble substances. Water soaking into the ground, or penetrating cracks in the rocks, does the same thing. It carries with it some of the oxygen and carbon dioxide, and may also pick up weak organic acids, active in weathering, from decaying vegetation at the surface. Then, too, this subsurface water takes mineral substances into solution; bit by bit removing atoms and molecules from the surface of the rocks.

The change of minerals to clay through this chemical action is accompanied by an expansion which tends to crumble the rocks. This is a physical effect produced by chemical weathering. The freezing of water in cracks, crevices, and pores also helps in the physical weathering of rock and of soil materials. So does the prying action of plant roots. Temperature change alone, unless it is extreme as in the case of a heavy rain falling on rocks heated in a forest or camp fire, does not.

Thus, almost everywhere in our state parks, we are treading upon ground underlain with subsoil produced mainly by weathering. The exception would be in those places where the solid bedrock sticks through. This is the case in many of the parks in the eastern part of the state, at Pikes Peak, Bellevue, and Backbone, for example. But even where the bedrock is at the surface, the action of weathering upon it is plainly evident. The surface may be crumbly. Parts more resistant to weathering may project from the surface, natural hand-holds for climbers and hikers.

While subsoil forms the surface material beneath the grass roots everywhere, most of it was not produced by weathering in Iowa. Rather, it was weathered in country to the north and then brought here frozen in the bottom of glacial ice, some even blown in by the wind. Therefore, it is really material which was once subsoil in Wisconsin, Minnesota, and Canada. It bears witness to this because it contains many interesting stones referred to earlier, strange to this part of the country and totally



Jim Sherman Photo.

Such blocks as these are cast adrift when weathering loosens them and then running water and gravity take hold to move them down hill or down stream until another temporary resting spot is reached.

unlike our underlying bedrock. Such stones are termed glacial erratics. They range in size from pebbles to boulders weighing many tons, the latter often frustrating to farmers. And it is well to bear in mind that all these glacial erratics were freed from the bedrock of the north country by this same process—weathering. In some parks, as at Beeds Lake and Springbrook, they have been used in the construction of park buildings. In others, the glacial boulders line the roadway or form walls, so they are useful.

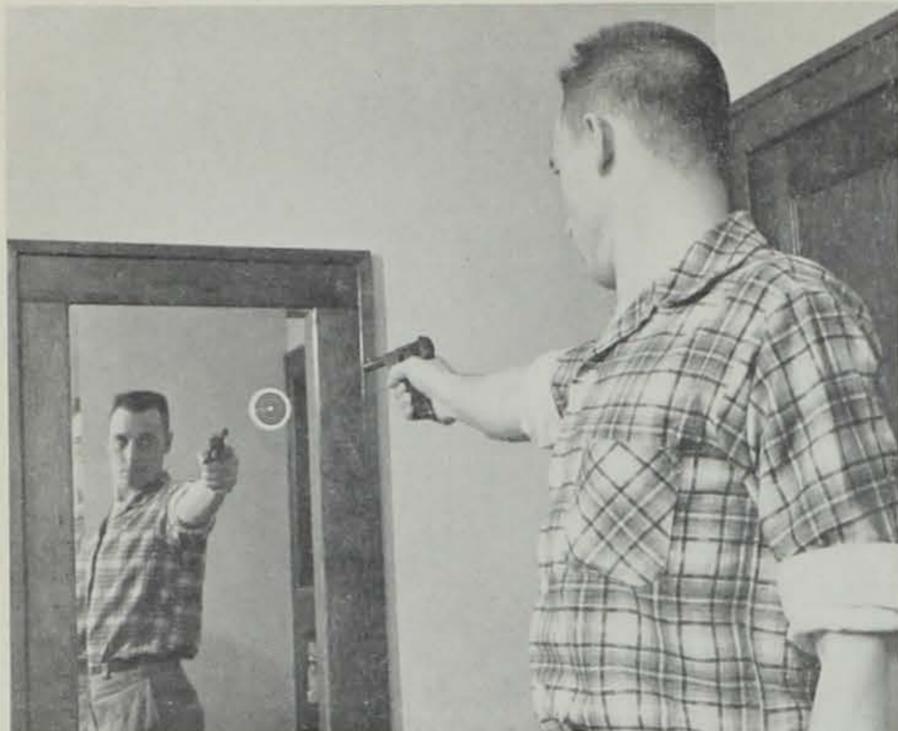
Of course many of the fragments of this glacial material—glacial drift it is called—have been further worn down and rounded by the abrasive action of rock fragments carried by running water. Some of this wear took place before the onset of glaciation, some of it in streams of glacial melt-water. This same abrasive-laden water, if flowing on a bedrock surface, would also wear that away. So some of the material of the drift—only a small amount, however—may have been derived from the bedrock by stream wear, rather than by weathering.

In addition, direct action by the glaciers is responsible for part of the drift material. Wherever the bottom of the glacier, packed with gritty mineral and rock fragments, rode against the bedrock, it wore it away; just as any abrasive would. Or, it may have plucked away large fragments. But certainly, most of the drift is the direct result of weathering.

And the weathering continues as may be seen in sections cut into the drift along roads and in quarries. On top, the earth is generally black because of the organic content. Down a few feet it becomes brown, and at still greater depth the brown changes to gray. As originally deposited, the drift in this part of the country was gray, but with time and the inevitable weathering going down from the surface, the upper part became brown. This was due to the oxidation of iron-containing minerals, which gives the tell-tale rust color. Decayed remains of plants and animals then gave the top soil its characteristic blackness.

So, the materials upon which most of our state parks are based are primarily the result of weathering. In addition, this process has played a great part in the production of their famous features, wherever bedrock is at the surface. Great blocks of limestone, freed by weathering, slowly creeping downhill at Brush Creek Canyon State Park! Narrow clefts between the limestone ledges at Maquoketa Caves, where gravity is separating the blocks loosened by weathering! At the Ledges, a huge sandstone block has been dropped down in the stream bed! Spectacular examples indeed to remind us of this never noticed process that will go on until we run out of air, or water, or earth.

The squirrel's name comes from two Greek words—skia and oura.



George Tovey Photo.
Cold weather needn't keep you from sharpening your shooting eye. Dry firing has the blessing of experts and around tax time it's a cheap way to better your form and reflexes. Consistent practice will make your hunting buddies cast an admiring glance your way the next time you're out for game.

"DRY" SHOOTING AIDS MARKSMANSHIP

Even though there is no chance for wing-shooting in the field until the open hunting seasons roll around again, it isn't necessary for the serious-minded shooter, who wants to improve his marksmanship, to lay his firearms aside and wait for time to pass.

Next to actual field shooting at game, clay target "busting" provides the best practice for the scatter-gun fan and firing at stationary targets or moving targets on established ranges is the rifle and pistol shooter's "meat."

"There is another form of shooting practice which is of great value to the individual and which can be brought into play almost anywhere and at any time," says Henry P. Davis, public relations manager of the Remington Arms Company. "This is known as 'dry shooting' and merely consists of simulated firing with an empty gun. This sort of practice is really a MUST for the beginner and the seasoned gunner quite often brushes up on his gun handling through this method.

"The best way to become accustomed to a new gun, or the old one, too, for that matter, is by handling it frequently. If it is a shotgun, raise it to your shoulder quickly, align the sights and swing on an imaginary target. Do this as fast as you can. Then after you have pressed the trigger and completed the follow-through swing, check your shooting position. This includes the position of your cheek on the stock, the position of the gun butt on your shoulder and the alignment of the gun barrel. Make the necessary corrections and do the same thing over again. Repeat this, time after time, and after awhile the gun will swing up to your shoulder in the proper manner almost instinctively, your head will automatically

place itself in the right spot and the whole firearm will seem to become a part of you. Keep at this until the barrel is instinctively aligned on the object at which you are looking. It is then that you are holding correctly.

"Practice this mounting of the gun, swinging and follow-through before a mirror. This will aid you to correct your shooting position. It will also allow you to check up on your follow-through for you MUST remember to keep swinging after you have pressed the trigger. The bird won't stop flying just because you have your gun properly aligned on him, so why stop it? You MUST keep it moving with the object at which it is pointed.

"The 'feel' of the gun is probably not so important to the rifleman as to the shotgun shooter. Rifle shooting is generally more deliberate, and when shooting at stationary objects, the rifleman has the advantage of time and the rifle sling. But trigger-squeeze is one of the most important fundamentals of rifle shooting. And proper trigger-squeeze means constant practice. The top flight small-bore expert spends hours cocking his rifle and squeezing off the trigger. He becomes so proficient in this that the actual time of firing comes to him almost unconsciously. In addition to trigger squeeze the beginner should practice shooting triangulations. This method, described in any rifle shooting handbook and known as aiming exercises, is designed to perfect sight alignment. These practices can be engaged in without a cartridge in the chamber and indoors or outdoors.

"To the pistol shooter 'dry shooting' is all important. It is the shortest cut to good marksmanship. Many pistol shooters

BARK

Thompson and Mann

A tree has three main parts: the roots, the trunk with its branches, the leaves. The trunk has a dense core of heartwood that gives it strength. Surrounding that is a layer of sapwood. On the outside is a layer of bark. The bark protects the wood against attack by fungi and, most important, it protects the cambium: a microscopically thin layer of wonder-working cells between the sapwood and the bark. If a tree is "girdled"—its wood exposed by removing a band of bark around the trunk—the cambium dries and the tree dies.

The cambium enables a tree to live and grow. Each year it builds another layer of sapwood and also a layer of bark. The sapwood conducts water and dissolved nutrients, taken from the soil by the roots, up through the trunk and branches to the leaves. Food manufactured by the leaves is carried down to the trunk and roots through the spongy sieve-like inner bark. As new layers of wood and bark are added, the older growths of bark are pushed outward. They become dry and hard. Eventually they become loose and drop off.

In each species the bark on the older trees has a distinctive appearance. Even during winter, many of our hardwoods can be identified by color of the bark and whether it is smooth, ridged, deeply furrowed, scaly, or shaggy. The beech, the paper or canoe birch, both hornbeams, the sycamore, hackberry, white oak, bur

paste a small bull's-eye on a mirror and stand before this, aligning their sights, watching their positions, and squeezing the trigger with great care to be sure that the gun is so held that the falling of the hammer will not disturb the sight alignment. Any slight flinch can be detected in this manner. Flinching is the bugaboo of all pistol shooters and the trigger must be squeezed in such a manner that the shooter hardly knows when his gun is going off.

"'Dry shooting' includes learning to cock the piece while held at arm's length without bending the elbow. It takes in timing of your shots for both timed and rapid fire, and acquaints one with the time interval between shots. It allows the shooter to completely get the 'feel' of his gun, to know just where the grip should fit into his hand and just the right spot for his thumb. Without a lot of 'dry practice' the pistol shooter has a long struggle before him before he can expect to make a good showing in top-flight competition.

"So during the 'off season' handle your gun frequently. You'll learn to point it correctly and properly align the sights with your eyes closed . . . and you're on your way to becoming an expert marksman."

oak, black cherry, and shagbark hickory are familiar examples. On some kinds the bark is rather thin; on others, such as a bur oak, it may be two inches thick; on a gigantic sequoia the deeply wrinkled bark, spongy and fire resistant, frequently has a total thickness of two feet.

Our American Indians had some use for one or more parts of almost every plant, including the bark of trees and shrubs. Sheets of bark peeled from the paper birch were used to cover Ojibwa wigwams and canoes. It was used to make all sorts of baskets, buckets, trays and vessels for gathering, cooking and storing foods. The Potawatomi commonly used elm bark to make utensils and cover their wigwams. Both tribes used fibers from the inner bark of the linden (basswood) for cordage and weaving. For various medicines they used bark from hemlock, tamarack, pine, spruce, black and choke cherries, poplars, willows, slippery elm, speckled alder and buckthorn. They made dyes from the bark of sumac, speckled alder, birch, oaks, hemlock, willows and wild plum.

Marco Polo told how, in the 13th Century, the Mongols made paper money out of the inner bark of the paper mulberry, now used in Japan for making paper, and in the South Sea Islands for tape cloth. Cinnamon, the aromatic inner bark of evergreen trees native in Ceylon and India, has been prized for centuries as a spice and as an ingredient in perfumes and incense. For tanning leather we have used, since colonial times, the astringent barks of chestnut, oak and hemlock, now largely supplanted by quebracho bark from Argentina and Paraguay. The bark of cinchona trees, native to Peru, furnished quinine.

Cork, an extremely light, buoyant substance which has many important uses, is obtained in Portugal from the outer bark of the Mediterranean cork oak. During World War II, the bark of Douglas fir was found to be valuable for many purposes and is no longer wasted. The thick shaggy bark of our California redwoods is now utilized as material for insulation, floor cleaners, and as a substitute for wool in fabrics.

The bark of a tree has been transposed into clinks of the mighty dollar.

SEND FOR YOUR INDEX

Now on hand for distribution are the indexes for the 1958-59 issues of the IOWA CONSERVATIONIST.

If you plan on binding your copies, send for the index and make the job complete.

The opossum will eat small mammals, birds, eggs, insect fruit, carrion and garbage.

FISH AND

With the sneezin' had it (I say sneezin' 'reazin' on account. Does'n't bother me but the sneezin'), the n... of the cane-fly will... sole-rod is due to... ervation and ge... he more serious... he good life. Seen... here's not many of... our systems well en... stand the rigors of th... by separating spo... ing, cooking and storing foods... ne in) I'll call to min... about my favorite m... Blackhawk Lake. Situated next to... Lake View on High... 00 acre body of wat... of room for fish and... hat come after th... fished hard at times a... people go home mu... being short changed. The lake has been f... last few years for... and-catfish, and to a l... or its yellow bass an... walleyes. Neighboring... lake is equally famo... case, the big fighting... Crappies The crappie is one... important pan fish... lake and they are av... he angler. The crapp... sea anything from... (angly bamboo pole, t... fishing rod, the late... fishing equipment. The canepole fisher... use a pole from ten to... length, with about... amount line and lead... the leader should be... our feet depending... he fisherman prefer... heavier than ten-poun... size is important in... ag. It should be abov... of the head end of a p... hook, between the sha... sharp point. A small... tendency to pull out... die's paper-thin mon... larger one he won't... easily. The hook sho... thin, light wire type, ... restrict the swimming... he live minnow, whic... he only live bait the... lake. The minnow sho... me and one-fourth to c... half inches long and... nder the dorsal fin... kin. A dead minnow... crappie about as muc... sh washed up on the... eals to you or me. ... alled hook, about... ches, should be a s... hot sinker, and the... a pencil-type, which... e pulled beneath the... he water by the light... The fly-fisherman she... roven type of flies for

FISH AND FISHING IN BLACKHAWK LAKE

Jim Wallace
Conservation Officer

With the sneezin' season about it (I say sneezin' instead of sneezin' on account of the freezin' sn't bother me half as much as sneezin'), the mighty wielder of the cane-fly willow-cast spinning-rod is due to come out of hibernation and get back to some of the more serious aspects of livin' good life. Seems as though there's not many of us can fortify systems well enough to withstand the rigors of that man-from-separating sport called ice fishing, so for the majority (count 'em in) I'll call to mind a few facts about my favorite minnow pond—Blackhawk Lake.

Situated next to the town of Lake View on Highway 71, this acre body of water has plenty of room for fish and the crowds that come after them. It gets crowded hard at times and not many people go home mumbling about things short changed.

The lake has been famous in the few years for its crappies, catfish, and to a lesser degree, its yellow bass and fat, saucy shales. Neighboring Arrowhead is equally famous for black bass, the big fighting kind.

Crappies

The crappie is one of the more important pan fish present in the lake and they are avidly sought by the angler. The crappie-fisherman uses anything from the long, heavy bamboo pole, to the fly or spinning rod, the latest innovation in fishing equipment.

The canepole fisherman should use a pole from ten to fifteen feet in length, with about the same amount line and leader attached. The leader should be from two to three feet depending upon what the fisherman prefers and not heavier than ten-pound test. Hook size is important in crappie fishing. It should be about the width of the head end of a paper matchstick, between the shank and the eye point. A smaller hook has a tendency to pull out of the crappie's paper-thin mouth and a larger one he won't take very easily. The hook should be of the light wire type, so as not to restrict the swimming action of the live minnow, which is about the only live bait the crappie will take. The minnow should be from one and one-fourth to one and one-half inches long and hooked just under the dorsal fin through the gill cover. A dead minnow appeals to the crappie about as much as a dead fish washed up on the shore appeals to you or me. Above the hook, about six to ten inches, should be a small, split-sinker, and the best bobber is a pencil-type, which can easily be pulled beneath the surface of the water by the light-biting crappie.

The fly-fisherman should use the same type of flies for Blackhawk

Lake (bluetails, ruptured ducks, and the white maribous) tied on a hook about the size described for the cane-pole fisherman.

The spin-cast fisherman may use either live-bait, the same way as the cane-pole fisherman, or flies with the new type bobber which may be filled with water to obtain the desired depth where the fish are hitting.

With the how and where out of the way, what about the when? Around the fifteenth of April until the last of May the crappies should be in the shallow water feeding, building nests and laying eggs among the rocks and old weed beds along the shore. Crappies have a tendency to move toward these spots during the last hour and a half of sunlight, when the surface water is extremely still. A limit of crappies may often be caught within an hour or less at this time of day. Many times during this period of the year, crappies are found in these areas during the daylight hours, too. A good rule of thumb is to fish during the day in about three to five feet of water and as evening approaches, lessen the depth to a foot or two.

Through the latter part of June and the months of July and August, crappie fishing falls off in Blackhawk, only to rebound in September, when they again frequent the shallow water during the day. After freezeup, ol' fat belly hits pretty well in water from six to ten feet deep during the afternoon hours until dark.

Catfish

The catfish is another game fish which is sought by many in Blackhawk. He is a good early spring feeder and continues to do so throughout the summer and fall until freeze-up. The largest cat caught here in the past few years weighed forty-two pounds; the next was thirty-four pounds. Generally they range from one to eight pounds.

The dyed-in-the-wool cat-fisherman is a man of vicarious rigs and baits. Most any kind of gear can be found, from the cane-pole with a taped-on casting reel, to the spinning rod. The most popular outfit used here has been the casting rod with at least one hundred yards of line on the reel. To select the type of hook to be used, take about one-half of the matches out of a new paper match book and what is left should just about fit between the hook barb and the long shank. A small splitshot sinker should be used whenever possible, except for the shore fisherman who likes to get as far out as possible. He may need a heavy sinker in order to make a long cast.

Catfish go for all types of baits, but those most successful in the lake are small shad and shad entrails, chicken and turkey liver, live and dead minnows, chubs four to ten inches long, and crayfish.

Sometime in the first fifteen days of April, this big, wide-mouthed fish goes on a feeding spree. All points and rock reefs are good spots to fish; also close to the shore along the deepwater in the town bay. After this initial feeding spree, the catfish slows down or spreads out and fishing slackens a bit until June, when they come back to the rock piles and weed beds to spawn. One bait dealer on the lake says, "The cat will hit best when the cherries are turning red." The best bait about this time seems to be crawdads fished along the rocks. Use a bobber and never fish much more than ten minutes in any one spot. At this time of the year, a person must go to the catfish.

After the cat has left his nest and gone back into the lake proper, most people quit fishing for him or quit fishing altogether. Actually, this is the best time to go after cat. Equipment is the same as for other times of the year, with the addition of a boat and some time between the hours of 7 and 11 p.m. The boat should not be too big, so that it can be rowed fairly easily. The best bait



Jim Sherman Photo. Though not regarded highly in most fishing circles, many people go after carp and for the benefit of game fish they should be fished as hard as possible.

is a chub from four to seven inches long and by all means skin him before you put him on the hook. Catfish love soft bait and skinning lets the blood from the chub wash off, attracting this nosy individual. Pick a still night or one with a very light breeze—this time of year just about every evening is perfect for catching cat. The place—well, just about any place in the lake east of Provost Point and Lakewood Point. There's one point to bear strongly in mind—fishing this way you must be alert and ready for action because when Mr. Catfish hits a moving bait, it's not just an easy tug, but more like an express train which can easily spring the rod right out of the boat.

Drifting for lake catfish is not new in northwest Iowa and has been done successfully for many years on Storm Lake. On still nights on Blackhawk, go to the east end of the lake and row at a slow, easy pace. When there is a breeze, you may have to put a couple of minnow buckets over the side to act as sea-anchors. This type of fishing will produce many tight lines during an evening's fishing and some beautiful catfish on the stringer upon returning to the dock.

Walleyes

Walleyes are another important fish in the lake and may be caught on the rock bar at the east end of the lake early in spring. As summer progresses and the water warms, these big boys move to the deeper waters of town bay and, during July, are favorite early morning targets for anglers casting with silver spoons and light-colored plugs. Opening the season, small plugs or spoons should be

(Continued on page 30)



IOWA STATE TRAVELING LIBRARY
DES MOINES, IOWA

BIOLOGIST'S



CORNER

Editor's Note:

Beginning with this issue, we're going to devote a column or two each month to ideas, thoughts and suggestions from our biologists. These men are technically trained in wildlife management and furnish much of the basic information needed to guide the management and harvest of our fish and game. They keep tab on populations and conditions, conduct research projects and in general keep one eye on the future and one on the past to insure your success today in the field and on the stream.

This month, biologist Bob Cleary brings up an interesting point about

"WHO GETS THE FISH"

Have you ever heard or ever said to yourself: "No wonder he's such a good fisherman, he fishes all the time"? The reference being to the angler who consistently fills up his stringer.

Now we take no quarrel with this statement when it refers to the specialist, who through diligent application and study has arrived at a technique for taking a particular species of fish in great numbers. He knows when, where, and how to fish his specialty and has eliminated almost all non-productive effort.

However, just because a postman walks farther than most citizens during a year does not automatically qualify him as a potential walkathon champ. I've known the desk men who could hunt the legs off many a postman and so do you.

Nothing pleases a biologist more than being able to prove or disprove either a scientific or popular conception. With this "show me" attitude we dug back into the 1958 creel census data on the Mississippi River and came up with the following.

One of several questions put to more than 8,000 anglers contacted on the river was, "How many fishing trips do you make to the river a year?" Ask yourself the question and after a little thought and perhaps prompting (the census clerk furnished the prompting), it isn't too difficult to arrive at a reasonable estimate.

Number of Trips to River	Fish per hour
1-9	1.07
10-24	.92
25-49	1.27
50-74	1.08
75 and over	1.16

We then took the answers, broke down the number of trips into the different groups and cross-checked them with the specific fishing suc-

THE IOWA STATE PARKS

A "Where to Go and What to Do" Feature

LACEY-KEOSAUQUA

Lacey-Keosauqua State Park, in Van Buren County, is worth a trip anytime—in fall for the colors, in winter for the skating and coasting, summer for everything else *except* what you find there in April and May, for this is when the blossoms are at their glorious best; when the bluebells, dog's tooth violets, sweet williams and many many other varieties of wild flowers paint the hills and glens with the colors of paradise.

This is Iowa's largest state park. Among its 1,653 acres of flower and shrub filled woods may be found evidence that it has been used as a park for thousands of years, and no wonder. Ancient Indian tribes must have found its tree-covered slopes, limestone gorges, cliffs and open meadows just as relaxing as do modern campers and picnickers.

The great horseshoe bend of the Des Moines River, extending two miles along the northern boundary, offers beautiful vistas and panoramas when viewed from overlooks at different points in the park.

Nature trails abound and the wildlife sheltered here includes deer, raccoon, opossum, gray squirrel, red fox and every species of birdlife found anywhere in the middlewest, as well as some rare birds that seem to reside only in this park.

Herbaceous plants, ferns of many kinds, shrubs of all varieties and magnificent trees, many of them over 200 years old, make hiking an endless delight.

A lovely and very exacting golf course is also within the park's boundaries. Its rough consists, in part, of a species of cottony prairie grass found only in this area of the state.

The formal opening of Keosauqua State Park took place on October 27, 1921. Six years later, a huge boulder overlooking the Des Moines River above Ely's Ford was inscribed as follows:

"This boulder is dedicated to Major John Fletcher Lacey, eminent lawyer, statesman, soldier and citizen for his constructive work in conservation, by the Iowa

conservationists of only the anglers who fitted each of the individual categories.

As you can see from the above figures, just because a man fishes a lot doesn't mean he's bound to become an expert fisherman. There is no clear-cut superiority of one category over another, but we can speculate that if you make between 10 and 25 trips a year to the river, you had better make either fewer or more trips 'cause you're not up to par—successwise.—Bob Cleary.



Drive across the bridge just south of Keosauqua, then turn west up a fine, hardtop road. Just a little way and you'll have your ticket to a day's picnicking, hiking, fishing and sightseeing. Fine camping areas invite you to spend up to two weeks in this magic land of relaxation.

Conservation Association, August 15, 1926." Therefore, the name, Lacey-Keosauqua.

Ely's Ford, on the north side of the park, was the river crossing for the Morman Trail and the pioneers from the south side of the river before the bridges were built. The origin of the present town of Keosauqua goes back to 1839.

A quarter of a mile back from Ely's Ford is the site of a prehistoric Indian village. The river bank by the ford has a chain of six Indian mounds, most of which have been opened and their contents of bones, both human and animal, and ancient artifacts, removed to museums.

Within the memory of many people of Van Buren County are the woodsmen who resided on the southern slope of one of the park's ridges and made their entire living by cutting and selling timber. Ruins of their cabins may be found by careful hikers on the right trails today.

The nearby towns of Keosauqua and Bentonsport hold much of historical interest. Dams, locks, old steamboat landings and power mills (or what is left of them) along the Des Moines River, when it was a highway to the interior of Iowa before the days of the railroads, recall the past.

Waterfowl of all kinds can be seen on the river and lake, and hunted, in season, outside the park. Fishing is permitted by licensed visitors at all times and tales of big channel cat and flatheads taken in the Des Moines are numberless. Panfish abound in the lake.

Three types of camping are permitted at Lacey-Keosauqua: tent and trailer, cabin, and overnight group camping. Reservations for all three, and the shelter and lodges, must be made through the park custodian.—S.A.W.

The steel trap was invented in Oneida, New York, in 1823, by Sewell Newhouse.

BLACKHAWK LAKE—

(Continued from page 29)

used and you'll find, as others have that the lighter colored ones work better than the dark ones.

Yellow Bass

Yellow bass are another early spring hatter and may be caught on minnows, flies and are often picked up while casting for wall eyes. They are a small pan fish but have firm flesh and are favored by many. Use the same technique as for crappies.

If a person likes to cast for large mouth bass, Arrowhead Lake and Halletts Pits will give you a real run for your money. Both are old gravel pits and public fishing access areas, and are located just south of Lake View. Come late afternoon and the old pro will be out after the lunkers with surface plugs and those new plastic night crawlers. The best time of year, of course, is the old stand-by month of June.

If the above hasn't been enough to get you drooling all over the place, why then conjure up in your mind's eye a skillet full of fresh fried fish. But before you can eat 'em you gotta catch 'em. Let's Go!

HELPFUL RABBIT FREES DEER

According to information provided the National Wildlife Federation, Nebraska has a modern version of the fable of the mousetrap and the lion. The Nebraska Game Commission has been liberally trapping and releasing whitetail deer as a part of biological studies. Late in January, a deer entered a baited trap and was caught. The rabbit, however, chewed a hole in the netting through which the deer was able to escape. Only compensation for the deer must have motivated the bunny. The netting was a mesh too large to confine a rabbit and contained no flavor or edible interest to cottontails!



HISTORY SPEAK

By Stan Wick

THE STATE FARM

The Biennial Report of the century made a proposed game farm in the State Fish and Game Commission and his Department was most certain as early as 1904 or '05. Black pheasants were introduced into this country. The first farm was built in 1913 and mentioned until five years later in 1918, when Warder wrote Governor Harding that: "We established a game farm in Des Moines in 1913 for an experiment and on a small scale. Game warden and we wanted two things: first, what such as can be raised and thrive in Iowa. Second, could they be raised in a market? Our first experience proved both could thrive in Iowa. We began looking for a larger farm and made a purchase one at Ames College farms for an educational feature. It was decided that would be helpful to both this Department and the farmers, as well as the game warden. It was decided to do it. We have the farm to the state. The farm did pay for itself until the crop prices tumbled. Game birds could be cheaper from dealers. They were practically gone by 1932 the Clive Game Commission discontinued entirely. Over-shooting, drought, disease, unfavorable seasons and a new method known as the machine were blamed for the loss of stock and in 1933 the Conservation Commission was organized. The farm is located at Ames, Iowa. The organization of Boone County Game Commission in each county was properly planned until twenty years ago. Legislation was passed



HISTORICALLY SPEAKING

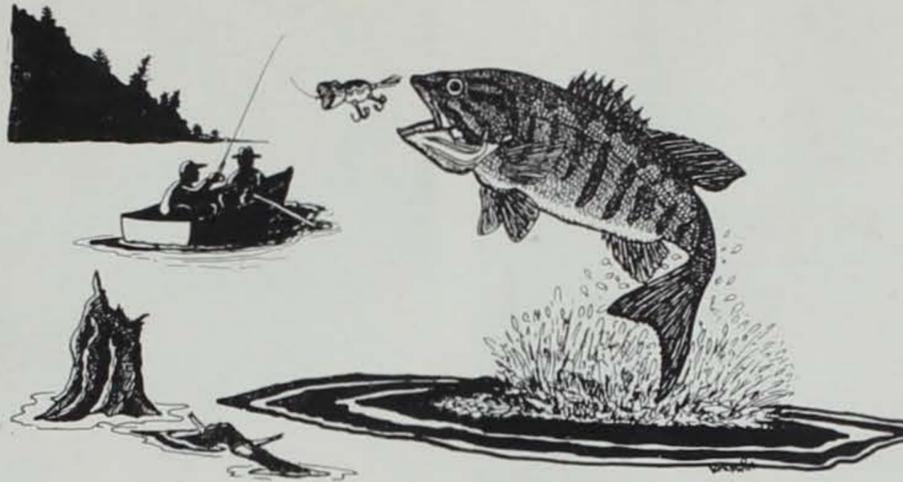
By Stan Widney

THE STATE GAME FARMS

The Biennial Reports at the turn of the century made no report of proposed game farm for the use of the State Fish and Game Warden and his Department although it was most certainly thought of as early as 1904 or '05 when ring-necked pheasants were introduced to this country. The first such farms were built in 1913 and were not mentioned until five years later, in 1918, when Warden E. C. Hinshaw wrote Governor William L. Harding that:

We established a game farm in April of 1913 at the State Fair grounds in Des Moines. This was an experiment and was built on a small scale. Game farming was new and we wanted to determine a few things: first, would the birds, which as can be raised in captivity, increase and thrive in Iowa? Second, could they be raised cheaper than they could be bought on the market? Our first two years' experience proved both points. They would thrive in Iowa, and could be raised for about half the market price. We began looking for a larger farm and made an attempt to purchase one adjoining the Ames College farms thinking that an educational feature would be added that would be a wonderful help to both this Department and the farmers, as well as the college. A position developed and we were able to do it. We have moved the farm to the state farm at Ames where we hope it will pay. The farm did pay for a few years, until the crash of '29 brought prices tumbling to where the birds could be bought cheaper from dealers, and farm prices were practically worthless. In 1932 the Clive Game Farm was continued entirely.

Over-shooting, drought, severe winters, disease, unfavorable nest-seasons and a new invention known as the machine cornpicker were blamed for the lack of partridge stock and in 1938 the State Conservation Commission decided on two things: one, a new game farm to be located at Ledges State Park south of Boone; and, two, the organization of a Conservation Committee in each county to see that the parent stock of game birds was properly planted. It was not until twenty years later that legislation was passed forming the



This is the new face you'll see on your 1960-61 fishing law leaflet. Entirely redesigned, the new leaflet, in booklet rather than folder form, will be easy to slip in your pocket or tackle box and won't flutter all over in the wind as you check your limits, sizes, etc.

BOUNDARY WATERS

Kind of Fish	Open Season	Daily Catch Limit	Possession Limit	Minimum Length or Weight	Boundary Waters	
					Mississippi Rivers and Inland Waters of Lee County	Missouri
Carp, Buffalo, Quillback, Gar, Dogfish, Gizzard Shad, Sheepshead, Sucker, Redhorse, Chub, Sunfish, Bluegill, Bullhead, Rock Bass, Warmouth, Minnows, and Sand Sturgeon	Continuous	None	None	None	Same as inland waters	
Rock Sturgeon	Closed				Closed	
Paddlefish	Continuous	15	30	5 lb.	Same as inland waters	
Perch, Yellow Bass, Crappie and Silver Bass	Continuous	15	30	None	Same as inland waters except no catch or possession limits	
Trout	Continuous	6	10	None	Same as inland waters	
Catfish	Continuous	16	16	None	Continuous open season, no catch or possession limit	
Smallmouth Bass Largemouth Bass	May 28- Feb. 15 N. of Hwy. 30 Continuous S. of Hwy. 30	5	10	None	20	Same as inland waters except continuous season. Daily catch 10, possession 20
Walleye and Sauger	May 14- Feb. 15 N. of Hwy. 30 Continuous S. of Hwy. 30	5	10	None	20	Continuous open season. Daily catch 10, possession 20
Northern Pike (Pickerel)	May 14- Feb. 15	3	6	None	10	Continuous open season. Daily catch 5, possession 10
Frogs (except Bullfrogs)	May 14- Nov. 30	4 doz.	8 doz.	None		Same as inland waters
Bullfrogs (Rana catesbeiana)	May 14- Nov. 30	1 doz.	1 doz.	None		Same as inland waters

Where waters are located within the confines of state, city, municipal parks, etc., fishing will be permitted only when such areas are open to the public.

EXCEPTIONS: On all state-owned natural lakes, all angling through ice is prohibited between the hours of 6:00 p.m. and 6:00 a.m.

In Little Spirit, Dickinson County; Iowa and Tuttle (Okamanpedan Lakes, Emmet County; Burt (Swag) Lake, Kossuth County; and Iowa Lake, Osceola County, the following exceptions apply: WALLEYE, daily catch limit 6, possession limit 6; NORTHERN PIKE, daily catch limit 3, possession limit 3; SUNFISH, daily catch limit 15, possession 30; CATFISH, open season, Saturday preceding May 15 to February 15, daily catch limit 16, possession limit 16; SMALLMOUTH and LARGEMOUTH BASS, open season, Saturday preceding May 30 to November 30, catch limit 5, possession limit 5; BULLHEADS, CARP, SUCKER, REDHORSE, BUFFALO, BURBOT, DOGFISH, GARFISH, QUILLBACK, SHEEPSHEAD, no closed season, no daily catch, possession or size limits. The possession limit shall not exceed thirty (30) fish of all kinds in the aggregate except that the aggregate possession limit shall not apply to fish named on which there is no daily catch limit.

USE OF SPEAR OR BOW AND ARROW. In all waters of the state legally open to fishing it shall be permissible to take, by use of spear or bow and arrow, carp, buffalo, quillback, gar, dogfish, sucker, redhorse, and gizzard shad between the hours of sunrise and sunset each day by persons lawfully permitted to fish. It shall be unlawful to use spear or bow and arrow from within an enclosure of the type that materially hides the fisherman from view.

County Conservation Boards, but they may have had their start right there.

This year the Game Farm is undergoing modernization for the first time since 1939. New display pens, more parking space and an information center will be of great help to visitors. Since its inception the farm has earned the reputation of being one of the most popular sight-seeing spots in the state. Only a little over 30 miles from Des Moines, motorists drive up by the thousands on summer

evenings and weekends to see the only natural "zoo" in the vicinity. The proximity of Ledges State Park, Iowa's most popular picnic ground, of course has something to do with that, but there are plenty who come to the farm to study the many species of wildlife gathered there. When you want to see such animals as beaver, badger, otter and deer or eagles, owls, pheasant and quail at close range, take time out for a trip to the game farm. It's worth it!

THE LATEST THING FOR HOLDING UP BANKS

One of the most recent developments for holding up banks—or perhaps we should say, holding DOWN banks and even explain it a little more; holding stream banks in place—has been used for centuries for an altogether different purpose. The purple willow, otherwise known as the basket willow, is now being introduced to help stream bank erosion.

It comes by the name "basket willow" naturally because in Europe, from whence it was imported, it was used in the manufacture of willow baskets. Not to be outdone by scientific synthetics, its value to man has again been raised by its excellent soil holding qualities where we need it most, on stream banks.

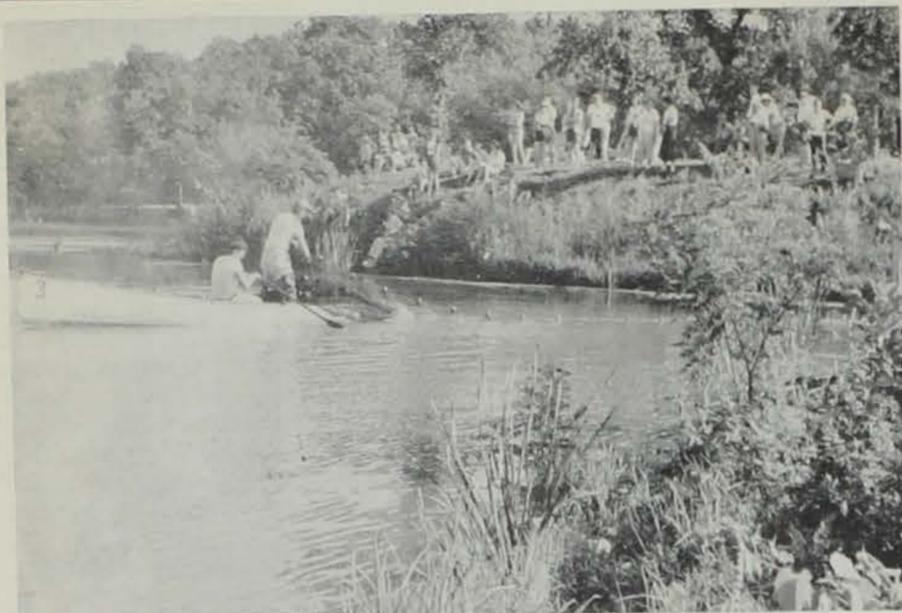
The variety being grown at the State Conservation Nursery is the dwarf, growing only to six feet at maturity. At this height it probably will prove a boon to a fisherman by hiding him from wary fish and yet being low enough so as not to interfere too much with his fishing gear.

Conservation officers are being sent enough shoots this spring to start a pilot plot that eventually will fill the needs in their areas. Cooperation by service organizations is expected to take care of the actual plantings.

Rising to about four feet by the second year, the purple willow can be cut back to the ground and the stems cut into one foot lengths for planting. With a half-dozen buds below and only two above the ground, the shoots are planted in rows along stream banks where undercutting, at flood stage, is not a problem. As silt and soil from run-off accumulates, it is held in place by the fast growing willows, maintaining the present channel and at the same time helping to keep the stream clear and providing shade to cool the water. A double edged tool, they save the shorelines and aid the fish.—M.K.J.

HUNTING SAFETY IS COMPARED TO DRIVING SAFETY

Hunting accidents are tragic because they usually can be prevented by proper precaution. Despite publicity, however, hunting is safer than driving an automobile. Thirteen persons, according to information provided the National Wildlife Federation, were killed by gunfire during Wisconsin's open deer hunting season. In the same period, however, 46 persons were killed in traffic accidents. The Massachusetts Game and Fish Division says that insurance records show hunting rates 17th among sport participants in terms of accidents per 100,000 and is safer than football, baseball, swimming, etc.



Personnel from both the State Conservation Department and Iowa State Teachers College work together collecting fish for the onlooking class members.



Students under the direction of experts in many phases of conservation gather specimens for identification and study. This same lake offers evening swimming and fishing.



An important part of the instruction comes under the heading of soil. Understanding how it was made is basic to knowing how best to conserve it.



Knee deep in living biology, the students soon learn the pleasure of getting into the middle of things—such as this fragrant marsh where a multitude of wildlife is found. Joy is apparent in the faces of these eager learners.



Budding foresters all, the class examines newly planted seedlings and later tours a forest, sawmill and lumber yard. From planting to cutting, they study the whole picture of forestry for the benefit of their future students.

OUTDOOR CLASSROOM

THE IOWA TEACHERS CONSERVATION CAMP is open to all college students, teachers and naturalists. A student may earn three hours of credit, learning about conservation by seeing and doing, rather than sitting and listening. The course is very intensive, yet enjoyable and a change of pace from the usual hot summer classroom. Many scholarships are available. Information on the school may be obtained by writing to any of the co-sponsors: The State Department of Public Instruction, Des Moines; Iowa State Teachers College, Cedar Falls; or the State Conservation Department in Des Moines.

Volume 19

EARLY

IS A CAMPER'S

M. E. Stempel

Ever had the experience of a bottle of milk over in the rain, and the morning? One camper grandmother and her did all three in that they wouldn't have a day of their regular because of a baby. Itings are so popular that maps and directions published on the subject information presented here ed during more than ree years of camping d tents, and from interviews at Lake Darl st, 1959.

Iowa residents report ve less than 50 miles; they were family o or four and had less ars experience. Many out their gear in P longer hops.

Residents of Illinois



ing offers a multitude of Fishing, hiking, n