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## We Must Also Be Concerned About Sow Thistle Invasion

By ADA HAYDEN

Botany Department, Iowa State College

### EDITOR'S NOTE

It is very important for Iowans to be able to recognize the perennial sow thistle. It is a dangerous weed. Experts believe it will be more of a pest than the Canada thistle. Anyone finding this plant is urged to send specimens to Dr. Ada Hayden, Iowa State College, Ames, for identification.

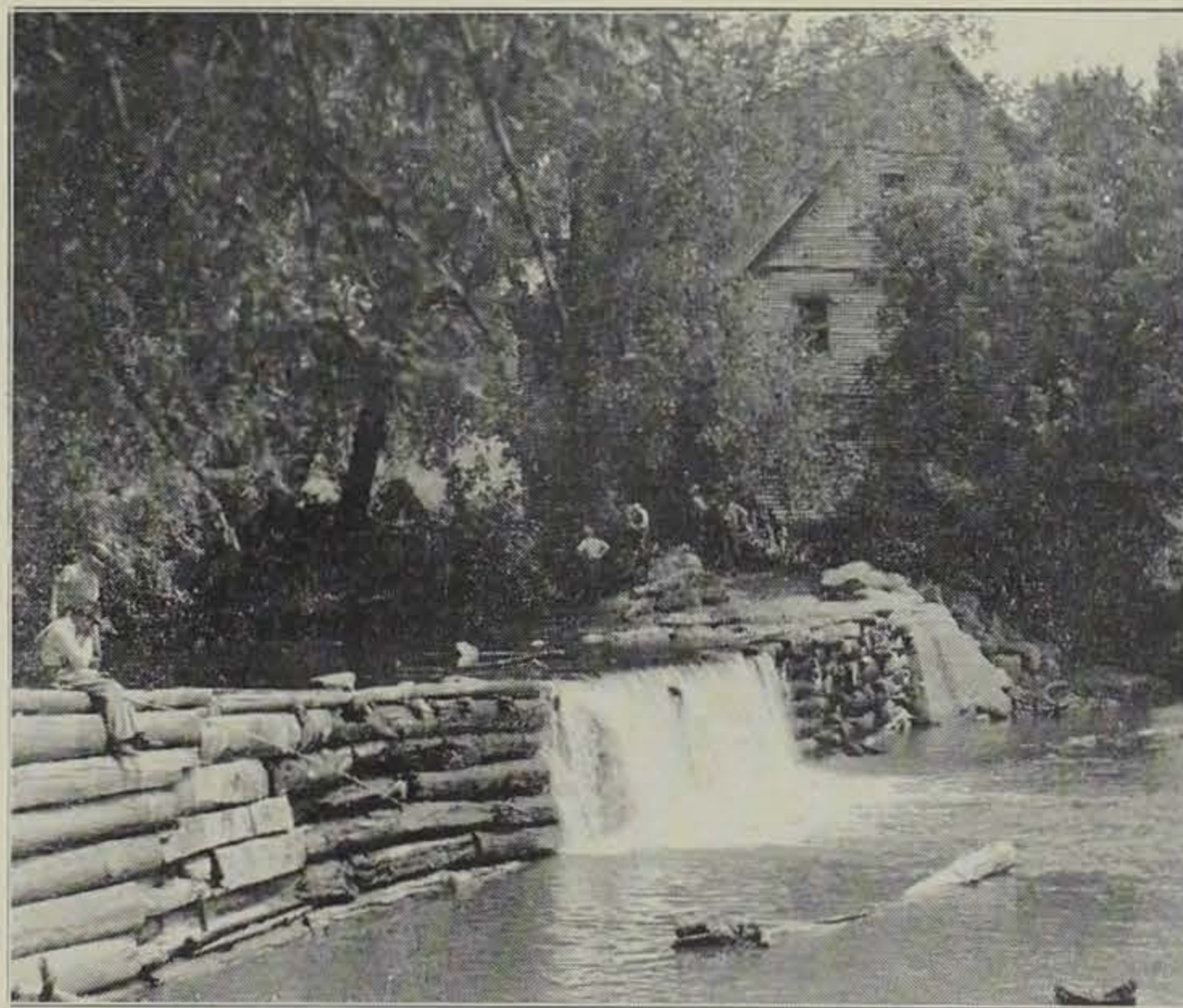
Most Iowans are deeply concerned with the invasion in Europe, but few are aware of an invasion progressing in Iowa. Ever since the advent of European settlers in the New World, many aggressive plants from the Old World have travelled with the pioneers to a new home in the virgin soil of America. Competing with the crop plants sown by the tillers of the soil, European immigrant weeds have, at first slowly, then rapidly increased, causing countless loss to tillers of the soil.

Weeds which have been most successful in establishing themselves in farmland have been called noxious weeds by persons who have recognized them as dangerous competitors with crops. Among the noxious weeds of Iowa are quack grass, Canada thistle, European bindweed, horse nettle, leafy spurge and perennial sow thistle. It is unlawful to allow such weeds to grow and increase.

Perennial sow thistle, which was first observed in northeastern Canada, has spread in the United States over three-fourths of its area during the past 50 years. It is a native to Europe and Asia and has invaded cultivated parts of Africa and South America. In 1925, the perennial

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## Plain and Fancy Loafing, Swimming and Boating Are to Be Found at Iowa Lakes



Mill dams in an early day, even as now, were the gathering point for anglers as well as fish.—Photo by A. S. Workman.

## Evidence of Water Mills, Pioneer Iowa Industry, Still Remains

Famed in song and story, the early water mills were as important on Iowa's horizon as were the forts and blockhouses, and from the standpoint of use and romance more so. Although most of the earliest structures are gone, evidence of their existence may be seen in overgrown trails leading to the mill sites as well as in the indestructible millstones and occasional fragmentary re-

mains of the power dams. In Wild Cat Den State Park the old Nye Mill on Pine Creek has been rebuilt inside and out, and although the water wheel is gone it is one of the most complete in the state. It will be preserved by the state for the aesthetic enjoyment of present and future generations.

What is believed to be the first mill in what is now Iowa was the

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## Thrills Aplenty For Those Afflicted With Fishitis

E. B. SPEAKER, Supt. of Fisheries  
SAM HYDE, Conservation Officer

Iowa's blistering July and August heat will send substantial numbers of our citizenry to a favorite lake retreat. Recreation of all kinds will be the order of the day — swimming, dancing, boating, golf, and plain and fancy loafing will suffice for many. Some 240,000 unfortunates af-

"Maximum productive efficiency cannot be obtained from workers without some opportunity for vacations in which to build up their energies for the coming year. It is our view that it is even more necessary during a war period than in normal times to provide reasonable periods as an aid in securing maximum war production."

War Labor Board.

flicted with the incurable disease — fishitis — will pursue the scaly denizens of the lakes. It is primarily for the amateurs among this group of social outcasts that this article is written.

There is little hope that can be offered the "expert" who has learned the fine art of fishing by scientific study and from the great school of experience. The novice, on the other hand, may welcome a few simple suggestions on lake fishing and selection of tackle.

The waters of the world are

(Continued to Page 50, Column 1)

# Iowa Conservationist

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## Plain and Fancy Loafing

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teeming with fish, and Iowa lakes are no exception to the rule. High game fish populations have been found this year by fisheries test-net crews, and the State Conservation Commission is optimistically hopeful that the angler's harvest will be greater than ever before.

You are cordially invited to contact the conservation officers, fisheries employees, and park custodians, as well as the central office personnel for information concerning fishing in Iowa, for we know it is our job not only to produce fish for you, but to assist you in harvesting the crop.

The four principal methods of taking lake fish are: still-fishing with natural baits, trolling, cast-



The time-honored baits for bullheads are worms and nightcrawlers. Some Iowa lakes produce bullheads weighing as much as two pounds apiece.

ing with artificial and live baits, and fly fishing. Each of these angling methods may be from shore or from a boat, except trolling.

For panfish, including crappies, bluegills, bullheads, perch, etc., a cane pole is frequently used. These poles are usually equipped with a line about the length of the pole, a gut leader 10 or 12 inches long, a hook, small sinker, and sometimes a bobber. These rigs are often furnished by boat livery-men at the major fishing lakes and are probably the simplest type of tackle used. Many still-fishermen use the conventional steel casting rod and reel with the same simple rigging, and when fish are biting, little or no other equipment except bait and stringer is needed.

When still-fishing for crappies, bass, and perch, minnows are generally used. The hook is inserted just below the dorsal fin or the middle of the back of the minnow, care being taken not to injure the spinal column. Minnows are also frequently hooked through the lips (the preferred method of many fishermen), care being taken not to run the hook through the brain, killing the bait.

A boat is often used in still fishing for panfish in shallow, weedy bays, a bobber being used to keep the bait a few inches from the bottom.

For bullheads and bluegills, the time-honored bait is worms. The nightcrawler, big cousin of the worm, is preferred by many, especially for bullheads. Most fishermen cram on as many worms as the hook will hold. Although this method is often productive, it is wasteful and not necessary. In fishing for most panfish, only one worm is essential. The wiggling ends attract the fish, and we prefer to hook the worm once or twice, leaving both ends free.

The casting rod is usually most

effective for bullheads, especially when fishing from shore. Generally a heavy weight to facilitate casting the bait out from shore is used, and it is surprising the amount of line that can be thrown from even a "coffee grinder" reel when the angler uses the proper "wind-up". Bait for bullheads is placed on the bottom. Best bullhead catches are made in the evening and during the night, particularly in the early spring months and in some of the Iowa lakes these fish are a large size, often reaching a pound and a half or two pounds per fish.

Bluegills frequent weedy, shallow bays and sand bars. They have good appetites and can be caught most any time of the day. In addition to angleworms, many insects including small grasshoppers, crickets and grub worms are excellent baits for the still fisherman.

Frogs, minnows, chubs and crayfish constitute the bulk of the still-fisherman's bait for large and smallmouth bass, walleyes, silver and yellows, northern pike, and catfish. In still-fishing with frogs, the usual procedure is to hook the frog through the lips from the underside and cast it into weed beds. Usually large minnows or chubs are used for the above named species. Crayfish constitute a substantial portion of the diet of bass, and is a favorite bait of the still-fisherman. Some prefer to hook the crayfish in the tail, others through the carapace or back shell, while still another school will use only the tail portion of the animal.

Whatever the bait, it is always well to give the fish a minute or two to "mouth" it before setting the hook. Many species of fish have the peculiar characteristic of mouthing or playing with the bait before devouring it.

Probably more people fish and

more fish are caught by still-fishing than all other methods combined. The tackle is inexpensive, and it is the most effortless method.

When the fish are not biting, or still fishing is unproductive, there are other effective ways of catching fish for the pan—trolling is one.

Trolling simply means pulling a bait slowly from behind a boat at the proper depth to take various fishes. Fish that may be caught by trolling include wall-eyes, northerns, silver, yellow and both varieties of black bass. Occasionally even a rambunctious bullhead, sheepshead, perch, or other fish may strike the moving bait.

Tackle used in trolling includes both bamboo trolling rods and steel casting rods. They are invariably equipped with guides and reels. Reels are usually of a level-wind type, and occasionally large spooled surf reels are used. The line is from 12- to 24-pound test, 18 being the most commonly used. The lure is generally trolled at from 25 to 100 feet to the rear of the moving boat, sometimes a foot or two under the surface, sometimes barely off the bottom.

If two fishermen are fishing from the same boat, ordinarily the oarsman's rods are extended at right angles from the boat, while the fisherman in the rear directs his rod tips at an angle of about 25 degrees or fishes directly back.

The principal thing to remember in trolling for walleyes is to fish deep, running the lure one to three feet off the bottom. This is particularly true during the daylight hours. Walleye fishing is usually done over rock reefs and sand bars, although some catches are made in the deep water over mud flats.

Northern pike are generally taken along the edges of underwater aquatic thickets or along rushes. Silver and yellow bass may be found feeding in almost any situation, sometimes deep, sometimes shallow. Fish are generally found by experimenting at different levels and then fished for at the depth where the first fish is caught. Black bass usually are found in comparatively shallow water in weed beds or in rocky bottoms, with smallmouths preferring the latter and largemouths the former.

The most popular trolling lures, when used in conjunction with minnows, include the June-bug, willow leaf, Colorado, Prescott, or other type spinners. In hooking the minnow for trolling it is not necessary that it remain alive. The spinner attracts the attention of the fish and gives the bait a life-like appearance. Most fishermen prefer to run the hook down through the mouth, out through the gill, then through

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Walleye fishing is usually done over rock reefs and sandbars with night fishing preferred by many anglers.

## Plain and Fancy Loafing

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the fleshy part of the back between the head and dorsal fin.

Other lures commonly used for trolling include the dare-devil type spoon fitted with a white bucktail fly and small wooden plugs. These baits are frequently fished at dusk and after dark in shallow water when the fish are feeding near the surface. Various spinner-fly combinations are extremely effective, and often flyrod pork rind is used in addition to the fly. When trolling, the bait should move slowly, most oarsmen rowing the boat only fast enough to keep the spinner revolving and the bait off the bottom.

If the wind is blowing, fishermen often ship the oars and drift with the wind. This is a particularly effective way for a lazy man to take walleyes when this fish is on a feeding spree.

Bait casting is popular with many anglers and is less work (if you are the oarsman) than trolling. It also demands more skill and knowledge of fish habits. The object is to cast a bait in the vicinity of a hungry fish, move it in a manner to fool the fish into striking, catch the fish, land him, string him, and then fool his big brother. This can go on until one of three things happens, generally in the following order: The fisherman gets tired; the fish quit biting; the angler gets his limit.

Bamboo and steel casting rods of varied length are used in bait casting. The most popular rods are from five to five and one-half feet in length. Light weight ornament-type rods up to six and one-half feet are becoming more popular with expert bait casters. They are particularly useful in casting light weight lures. Level-wind reels are most commonly used and lines from

nine- to 18-pound test predominate. Lighter weight lines are used for casting than for trolling. Expert fishermen use very light lines, from six- to 12-pound test. These lighter lines are particularly useful in casting light weight baits. The average fisherman, however, usually uses a 12- to 18-pound test line.

When casting, the reel handles are always held up and the cast is usually made overhead. Casting is done either from the shore of the lake or from a boat. Shore casting is often productive on the windward side where the waves are coming in to the shore. When casting in the evening from a boat, the boat is usually anchored 50 to 100 yards from shore, and casts are made toward the shore.

When fishing for walleyes and silver bass, the most productive catches are made in the evening or at night when the fish come in close to shore to feed. If the fish are feeding close to the surface, as they generally are in the evenings, wooden or plastic plugs such as midge-orenos, Lazy Ikes, pikie minnows, Little Joes, river runts, etc., are very effective. These baits are fished relatively near the surface. If the fish are feeding deeper, the lure must travel deeper, and a small weight placed ahead of them on the leader where the line is attached will cause them to travel at the proper depth. Many anglers prefer to cast with spinner-fly combinations, sometimes using a flyrod pork rind attached to the fly. Spinner rigs may be fished shallow or deep as circumstances dictate. Hair and feather streamer flies are the preference of most anglers using this type of lure. Many walleye fishermen in mid-day fish these weighted artificials a few inches from the bottom, particularly over rock reefs. The bait is cast, and sometimes several seconds elapse to allow the lure to sink before the re-

trieve is started. Most beginners retrieve artificial baits much too rapidly. The retrieve should, generally speaking, be as slow as possible to allow the bait the proper action for which it was designed. Effective retrieves are sometimes made in short, erratic motions, caused by twitching the rod tip or winding the reel with a jerky tempo.

A southern method of fishing rapidly gaining popularity in our waters is known as "bass popping". In this method a special popping lure is used. It is cast onto the surface, usually on hot, sultry days or in the evening about sundown, and retrieved with short, jerky motions. The bait splashes along the surface of the water in the manner of a crippled fish or injured frog.

Other baits popular in certain Iowa lakes include plugs with propeller fore and aft, which spin at the surface of the water such as the cripple minnow, etc.

Some fishermen prefer to cast with live baits. Frogs, crayfish, and chubs are perhaps most commonly used for this type of fishing. These baits are generally fished near shore and may be fished exactly as the artificials are, either on the surface or well down in the water. Most natural baits are retrieved slowly, keeping the bait at the proper depth desired.

Fly fishing on the Iowa lakes, until comparatively recent years, was a sport enjoyed by only a select few. It was thought by many to be a secret art confined to a small group of experts. Most rods were hand made, expensive, and beyond the means of the proverbial one - gallus fisherman. With improved production methods, manufacturers have been able to turn out excellent rods well within the means of everyone.

Actually, fly casting is a simple art, and when mastered, one of the most enjoyable ways of taking fish. The literature is crowded with volumes on the technique of fly casting, so no mention of it will be made in this article.

Each fly rod enthusiast has his personal likes and dislikes for the multitude of flyrods on the market. Our choice for lake fishing is the nine-foot stiff dryfly action weighing five and one-half to six ounces. Many anglers pre-

fer the heavier so-called heavy bass rods running nine and one-half to ten feet in length and weighing up to seven and one-fourth or eight ounces. These are excellent rods but are rather tiresome to use to cast for long periods. Remember the rod is the most important part of your fly fishing equipment, select it carefully.

The line is perhaps the next most important part of your equipment. There are three general types, the level, the double-tapered, and "bug" or torpedo type. Specific information about lines can be obtained from your local sporting goods dealer and fly fishing friends. If you are using a stiff-action dry fly rod nine feet long, weighing in the neighborhood of five and one-half to six ounces, you won't go very far amiss to use D or C level line; and HDH or HCH double-tapered line or an HCG torpedo. Here again it is advisable to seek the advice of an expert since the line should be purchased to fit the rod you are using.

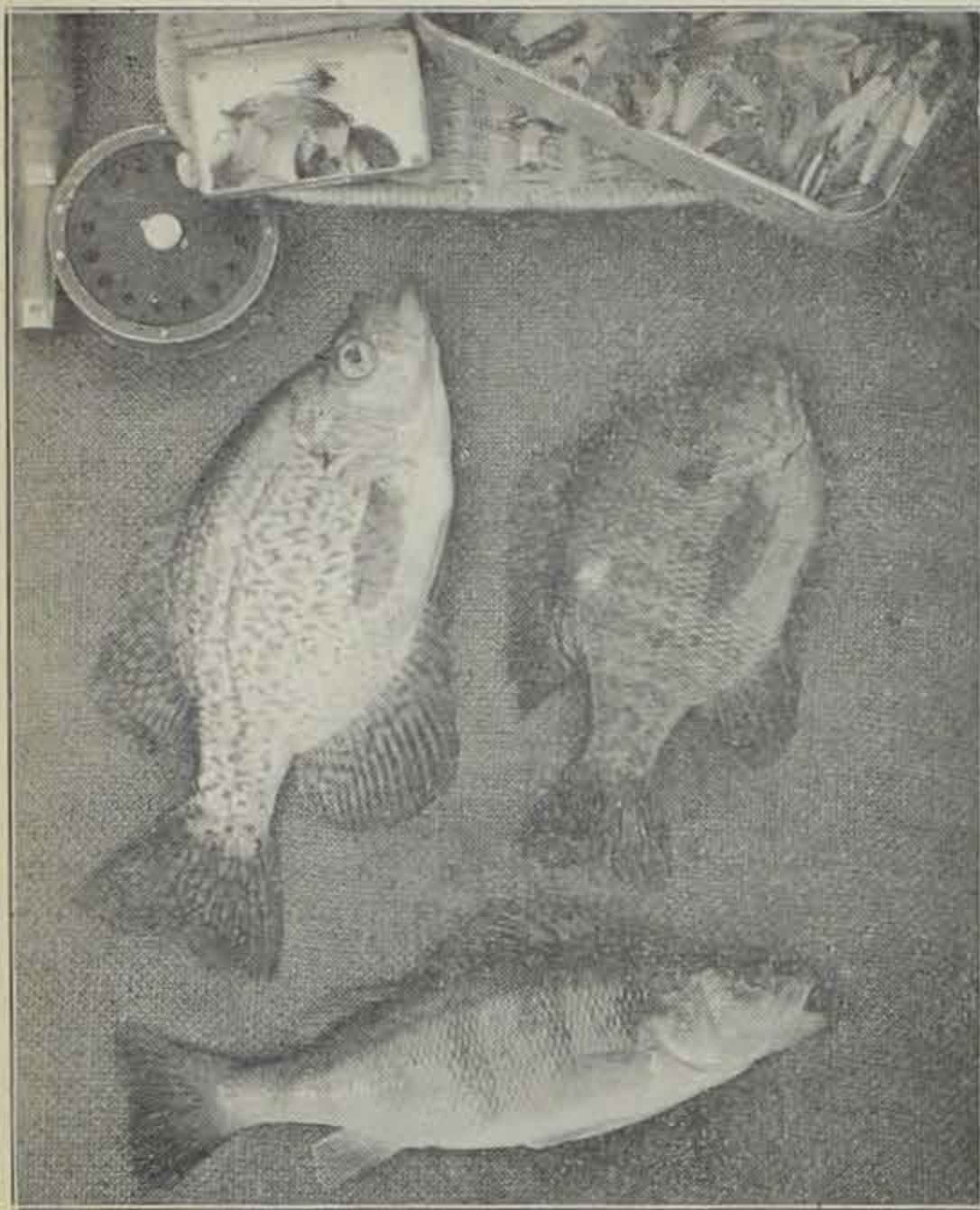
Reels most commonly used are of two general types—single action and automatic. While it is desirable to have a good reel it is perhaps the least important of your equipment since it simply stores the line you are using. It plays no active part in your casting. Like the line, it should be purchased to fit the rod you are using, and some anglers insist it should weigh approximately one and one-half times as much as your rod. This is a matter of opinion, and a very debatable subject. The main object is to purchase a reel which will nicely balance your rod and either the single action or automatic is satisfactory for lake fishing. Be sure the spool fits snugly in the frame if you use a singleaction reel so there is no danger of the line getting pinched. Get a big enough reel to hold your fly line and at least 50 yards of casting line. This "back log" will come in mighty handy when the big ones strike!

Until recent years leaders were chiefly made of silkworm gut. Since this material has been almost unobtainable lately, many synthetics have entered the markets. A number of these are excellently suited to most types of fly fishing. If you are using dry

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When casting the reel handles are always held up and the cast is usually made overhead.



If you have never tried fly fishing, try it this summer and see for yourself the thrills you will have taking fish on a flyrod.

## Plain and Fancy Loafing

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flies, it is important to use tapered leaders; if not, the level varieties will suffice.

Fly rod lures are made in a tremendous range of patterns, from the delicately tied dainty dry flies to monstrosities fierce enough to frighten a barracuda. Extremely heavy lures should be avoided, because they will invariably give a set or kink to the tip section of the rod.

Flies commonly used are of several distinct types. The dry fly as its name implies is intended to be floated on the surface of the water. Spentwing and fan-wing flies are variations of the dry fly and represent a prostrate insect lying with wings extended on the surface of the water. They may be obtained in scores of patterns. Hackle flies are fuzzy, puff-ball types which float high on the surface of the water. They are frequently of solid color such as brown, gray, and black, and in recent years have been tied with a light hackle near the eye of the hook and are called bi-visible. These flies are particularly productive in the evening fishing. The word bi-visible is derived from the fact that both the angler and fish can see the fly.

Wet and dry fly fishing is the time honored method for taking many pan fish, particularly bass, bluegills, and crappies. It is not necessary to make a long cast and usually the best result will be obtained if you place your fly at from 25 to 35 feet. Sometimes it is necessary to make long casts if the fish are feeding a considerable distance from shore, but in this case, it might pay the angler to drift over the lake surface in a boat. Most of the standard patterns of wet and dry flies are ef-

fective. A few of our favorites include the black gnat, gray hackle, brown hackle, coachman, and white miller. Some fishermen are cranks on the size of hook used. We have found, generally speaking, that a number 6 to 8 hook is about right for bass, silvers, etc., and number 12 to 14 is good size for the smaller pan fish.

The wet fly is fished beneath the surface of the water. Streamer flies are made of feathers, squirrel tails, bucktails, etc., and are usually intended to represent minnows or small fish. Nymph flies are usually tied to represent some of the immature stages of aquatic insects.

Bass bugs come in an extremely wide variety of color patterns and shapes. Heaven only knows what they are intended to represent but they are effective lures. They are usually made of deer hair although many of them are made with cork and wood bodies. They are floating "bugs" and are usually fished over beds of vegetation and rock reefs and retrieved with a quick jerky motion. There are, of course, scores of other wet and dry flies which are too numerous to mention at this time.

One of the most effective lures for largemouth, smallmouth, yellow and silver bass, crappie, rock bass, and other pan fish is the spinner - fly combination. If streamer flies are to be used with spinners, the eye should be straight, not turned up or down. They are extensively used in the larger lakes for taking walleyes. The rig preferred by many anglers is a number 2 willow-leaf, Prescott, Hildebrandt or Colorado type spinner fitted with a feather streamer or hair fly. Some anglers prefer to add a small slice

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## Sow Thistle Invasion

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sow thistle was reported in Iowa from Allamakee, Clay, Clinton, and Cerro Gordo counties and in the following year from Page County. During the growing seasons of 1926 and 1927, a considerable number of specimens of perennial sow thistle were sent to the Botany Department of Iowa State College for identification. Some surveys made in two counties in northeastern Iowa showed that the plants at that time appearing in any community occurred in waste areas. The plants were frequently located beside public buildings such as warehouses, elevators, and depots. Avenues of commerce near which they were found were cattle, railroad, and lumber yards. Piles of rubbish, such as old machinery, barbed wire and dump heaps, also furnished shelter for the plants. At first no seeds could be found and the plants were seldom seen in fields among crop plants.

It is now known that when flowers are pollinated by pollen from other flowers in the same patch, they usually do not produce seed. But if flowers in one patch are cross-pollinated by pollen from a neighboring colony, seeds will be formed. As soon as colonies of perennial sow thistle plants become so widespread that bees or other insects may cross-pollinate them, seeds will doubtless become abundant.

The seeds, which are borne singly inside a tight-fitting, rough brown seed case known as an achene, are transported by air-borne parachutes composed of a tuft of white hairs. The seeds are therefore able to travel for miles on air currents. The tufts of hairs when wet will also stick to the fur, feathers or feet of animals, as well as wheels of automobiles or farm machinery. The plants of perennial sow thistle spread not only by means of seeds, but by running roots which penetrate the earth to a depth of 15 or more feet, and also extend the area occupied by the colony by means of radially-running, shoot-bearing roots.

The perennial sow thistles are now spreading rapidly in Iowa. They no longer occur only in



—Photo by Ada Hayden

Portion of flowering shoot of sow thistle showing one head and three unopened buds.

waste areas around rubbish and buildings, but are becoming frequent along highways and commonly occur in pastures, as well as fields of corn, oats, and soybeans. Look for a plant or colony of plants two or three feet tall whose leaves and stems resemble the common wild lettuce and bear clusters of bright yellow heads resembling those of a dandelion. The heads open on sunny days in early morning and close near noon, sunlight. This is one of the most serious of Iowa's noxious weeds and should be identified and eradicated wherever it occurs. It is now known to occur in 36 counties.

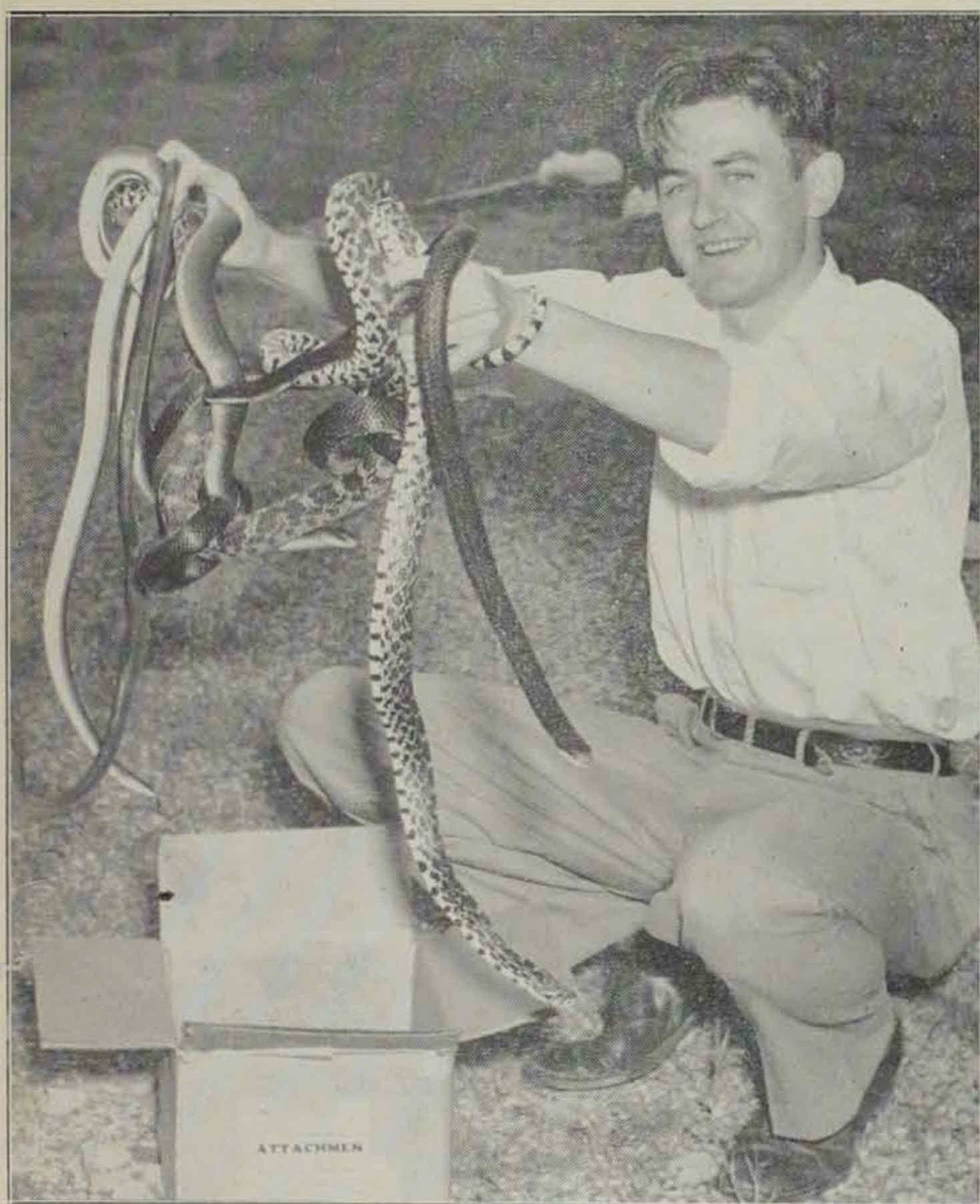
Perennial sow thistle thrives in the shallow-rooted bluegrass of pastures and along highways, where it is often introduced in clover and grass seed. However, it does not compete successfully with deep-rooted plants of native prairie which occurs along many Iowa highways. Strips of prairie grassland should not be mowed until the end of the growing season, thereby providing a protective buffer between crops and the spreading weeds bordering the pavement. Mowing should be continued on the shoulder of the highway only, where in the loose soil most weeds become established. Colonies of perennial sow thistle should be

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A vigorous colony of perennial sow thistle growing among clover and timothy along highway 69. It has spread nearly to the fence.

—Photo by Ada Hayden





Most of Iowa's 25 species of snakes are interesting and of value in control of insects and rodent pests.

## What Should One Do When Bitten by a Poisonous Reptile?

Most of Iowa's 25 species of snakes are interesting and of value in the control of insect and rodent pests. There are, however, in some localities in the state considerable numbers of deadly poisonous rattlesnakes. The most important, because of its abundance, is the timber rattlesnake, and each year the newspapers announce the tragedy of someone's being bitten by one of these venomous reptiles.

Reports from snake-infested regions most commonly include cases of children being bitten while at play, and men and women being bitten while about their duties on farms. The fisherman, with his attention fixed upon his line, may be easily approached within striking distance of a snake. The hunter, oblivious to all but the game he is stalking, is frequently exposed. Camping and picnicking in infested regions may be dangerous.

It is often asked, "What should one do if bitten by a poisonous snake?" In a leaflet for general distribution by one of the national biological laboratories, the following, "What To Do Before a Physician Is Reached", is suggested:

"Apply a ligature or tourniquet a few inches above the bite. A rubber garter, a piece of small rubber tubing, a handkerchief, cord, or even a shoestring will do. Do not apply it tightly, but just firmly enough to retard circulation returning through the veins toward the heart. The sole object of the tourniquet is to delay absorption of the poison into the general circulation, but if it is applied too tightly or kept on too long, gangrene is likely to set in, with resulting destruction of the flesh in the affected area. It is important, therefore, to release the tourniquet every 10 or 15 minutes for about a minute at a time; if the limb becomes cold or numb, loosen the tourniquet.

"Apply local treatment in the form of incision and suction. Make a cross-cut incision at each fang mark. For this purpose use a sharp, clean knife or razor blade and make the cut all the way through the skin, that is, about  $\frac{1}{4}$  inch deep and  $\frac{1}{2}$  inch long. This allows some of the venom to escape.

"The removal of toxic fluids is increased by applying suction over the incision. The suction may be done by mouth. There is

## Simple Methods of Preventing Spoilage of Your Catch Related

With the fishing season just now getting into full swing, state conservation officials point out the wartime importance of fish taken from streams and lakes and suggest some simple methods by which anglers can prevent hotweather spoilage of their catch. The Conservation Commission estimates many thousand pounds of fish are wasted every year through improper handling.

The best way to keep fish fresh is to keep them alive, if possible, until the end of the day's trip or until they can be cleaned. This can be done through proper use of a live stringer, live-box, or a cotton or burlap bag tied in the water.

Stringing through the gills will kill many kinds of fish. Black bass, crappie, and other members of the sunfish family should be strung through the lower jaw or through both lower jaw and upper lip. This permits the fish to breathe normally.

Catfish may be strung by passing the stringer through the "chin" tissue just behind the lower front teeth, although a cord passed through the gill and mouth

doesn't seem to do the hardy bull-head any particular harm. Catfish will stay alive several hours simply wrapped in a wet sack.

In the case of carp, which will die quickly in hot weather if the gills are injured, the stringer should be placed in the mouth and out through the soft spot in the fish's head beside the eye.

Remove the hook carefully. If gills or internal organs are torn, causing the fish to bleed, it probably will die within a short time anyway. When this is unavoidable, the fish should be cleaned at once. A dead fish will spoil quickly if left in the water.

Always dress fish as soon as possible and pack in ice if available. Many fishermen make a practice of removing the gills and entrails of all fish as soon as they are caught.

If ice is not readily available, dressed fish can be kept in good condition for several hours by packing in aquatic vegetation such as watercress, or in damp, green grass or tree leaves.

If fishing from a boat, lift your string of fish over into the boat when you move from one place to another. Dragging fish rapidly through the water on a stringer will prevent the normal functioning of their gills and cause them to drown.—Missouri Conservation Commission.

no danger if there are no sores or scratches on the tongue or membranes lining the mouth. Suction may also be done mechanically if a special first aid kit is at hand.

"Don't run or get overheated. Don't take any alcoholic stimulants. Circulation, increased by exercise or by alcohol, serves to distribute the poison much more rapidly through the body. Don't injure the tissues by injecting potassium permanganate, although this will destroy venom outside the body. Do not depend

upon snake-bite 'cures' or home remedies commonly used. They are of no value. Do not cauterize the site of the bite with strong acids or anything of a similar nature."

Poisonous snake bites always require the attention of a qualified physician. Although they may not be fatal, they are extremely dangerous, and in territories where rattlesnakes abound, it is well to remember that an ounce of caution is worth a pound of cure.



The most abundant poisonous Iowa snake is the deadly timber rattler.



ALFRED S. WORKMAN

Alfred S. Workman, conservationist. Business man, teacher, sportsman, artist, statesman.

To know him was a pleasure, to be his friend was an experience in living. The contemplation of his association over the years brings up with startling vividness a realization of his strength of character. The fine things that were taken for granted as a part of his personality now appear in a new light. They are accentuated in their loss—appreciated in their true value by their absence.

He was deeply concerned over the welfare of others, conscientious and honorable in his actions, solicitous of his associates.

He loved the out-of-doors, the smell of rain in the damp woods, the sound of wings in the gray chill dawn over the duck marsh, the spray of water breaking over the prow of the boat and the

warm rays of the summer sun sinking beneath the ragged outline of loess hills.

To him the conservation of our natural resources was a creed. He believed in it as he believed in himself. He thought in the future. He worked for humanity. He was honest, kind and understanding, yet strong in his convictions. Everyone who knew him was bettered by that association.

In his passing the ranks of conservation have lost a staunch friend.

I now inherit the richness of his memory.—Bruce F. Stiles.

### Plain and Fancy Loafing

(Continued from Page 52)

of pork rind to the fly and claim further success. Some favorite spinner-flies include the white bucktail with silver and red body, Mickey Finn, Brown Bear, Yellow Marabou, Red and White, Col. Fuller, Coachman, and Silver Doctor. This is particularly effective in the evening for wall-eye, silver and yellow bass, and largemouth. For no particular reason, we prefer light colored flies for evening fishing and murky waters and dark colored flies for bright days. This may be a silly superstition, but at any rate, it has been productive. (Editor's note: "Oh yea!")

Many anglers prefer miniature models of their favorite casting rod lures. A flyrod size dare-devil type spoon, fly-orenos, pikie-minnows, and a host of others are favorites. The flyrod size dare-devil type bait is extremely effective and is one of the favorite baits for pike, silver and yellow bass. Natural or live baits are also extensively used for flyrod fishing. Worms, crickets, grasshoppers, helgram-

mites, grubs, small frogs, minnows and others make tempting morsels for bass and pan fish. Use live baits, if you prefer, but please don't use flyrod in lieu of a trolling pole!

If you have never tried fly fishing, try it this summer. A small or medium sized fish will give you plenty of thrills on the flyrod. If perchance you meet with one of the old warriors, hold your breath and pray that nothing "snaps" until your prize is safely in your landing net. Yes, carry a landing net when fishing with a flyrod. This equipment will not stand the strain of "horsing" big fish into the boat.

Your fishing success will depend largely on three things, (1) perseverance, (2) skill, (3) luck. Perseverance is a personal quality and can be cultivated. Skill is acquired by making a study of the fishes and technique of catching them. Luck is the unknown factor.

So off to the cool comfort of one of Iowa's fishing lakes! With one or two added bits of equipment—don't forget your lucky rabbit's foot and a current fishing license!

### Water Mills

(Continued from Page 49)

sawmill on Yellow River across the Mississippi from Prairie du Chien, Wisconsin. The mill, known as the Jefferson Davis Mill, was built in 1831 by the Confederate Civil War president when he was a lieutenant in the United States Army. At this mill the logs with which Fort Crawford was built were sawed.

From this early beginning saw and grist mills sprang up along our water courses wherever settlements were established. Quite

often the miller selected a mill site in advance of the immigrants, built his mill, and tilled the soil until the ever-increasing demand of new arrivals required him to be a miller on a full-time basis.

Many of the important figures of our early history were millers by profession. At least two governors of the state were millers. William Larrabee operated a mill at Clermont in Fayette County, was elected to the general assembly and finally governor of the state. Samuel J. Kirkwood, as a miller, was known by the title of "Honest Sam" and was elected to the governorship and eventually became a member of the president's cabinet as Secretary of Interior in 1881.

It is difficult for modern Iowans to envision the mill and the community it served. Grain trickled down from the backlands, sometimes many miles distant, as certainly as the water from a tributary stream flows to the parent river.

The customers with their ever present grain sacks came upon foot, horseback, and even ox wagon. The mill was, even before the church, the center of social activities. Here discussion of crops, politics, and small talk of the neighborhood thrived. Many of the mills served as post offices. The restored Pine Creek Mill, for instance, received letters addressed to "Nye Mill, Indian Territory."

Going to mill for our pioneers was always an event and often a hardship. Some settlers had to travel 50 miles or more to mill over bad roads with few bridges. High water, lurking Indians, and the possibility of the mill being broken down added to the un-

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## STATE ARTIFICIAL FISHING LAKES

NAME OF LAKE	COUNTY	TOWN	ACRES	KINDS OF FISH								BOATS and BAIT	CABINS for RENT	GUIDES	
				Bullheads	Bass	Crappie	Bluegill	Walleyes	Perch	Silver or Yellow Bass	N. Pike				Catfish
Swan	Carroll	Carroll	130	*											
Springbrook	Guthrie	Guthrie Center	27	*	*	*	*						*	*	
Three Fires	Taylor	Bedford	125	*	*	*	*						*	*	
Ahquabi	Warren	Indianola	130	*	*	*	*						*	*	
Red Haw Hill	Lucas	Chariton	72	*	*	*	*						*	*	
Keomah	Mahaska	Oskaloosa	82	*	*	*	*						*	*	
Wapello	Davis	Drakesville	287	*	*	*	*	*	*	*			*	*	
Lacey-Keosauqua	Van Buren	Keosauqua	30	*	*	*	*						*	*	
Macbride	Johnson	Solon	138	*	*	*	*						*	*	
Palisades-Kepler	Linn	Mt. Vernon	125	*	*	*	*	*	*	*			*	*	
Backbone	Delaware	Lamont	125	*	*	*	*						*	*	
Echo Valley	Fayette	West Union	12	*	*	*	*						*	*	
Beaver Meadow	Butler	Parkersburg	30	*	*	*	*						*	*	
Heery Woods	Butler	Clarksville	50	*	*	*	*						*	*	
Upper Pine	Hardin	Eldora	70	*	*	*	*						*	*	
Lower Pine	Hardin	Eldora	64	*	*	*	*				*	*	*	*	
Beeds	Franklin	Hampton	130	*	*	*	*						*	*	
Mill Creek	O'Brien	Paullina	25	*	*	*	*						*	*	
Union Grove	Tama	Gladbrook	118	*	*	*	*						*	*	

### Water Mills

(Continued from Page 54)

certainty of a successful trip. Quite often the mill looked like a Saturday night barber shop, and a wait of a day or more was not unusual for grinding was a slow process.

The speed with which the grinding operation was performed is reflected in an old Van Buren County story: The miller and a man with grain to be ground became involved in a heated political discussion, and as the grist slowly trickled from the turning wheels a hungry hound dog slipped in unseen and licked up every crumb as it ran from the mill. At the end of a two-hour run the miller had a mad customer, the dog a full belly, and there

was no meal for the return trip. However, many were not impatient with the delay at the mill, for, even as now, mill dams furnished fine fishing. Catfish, walleyes, northern pike, and small-mouth bass were caught readily and sometimes fried and eaten on the spot.

For many years the dam at Bonaparte had caused fish, attempting to pass upstream, to congregate on the downstream side where game fish of all kinds were slaughtered in large numbers. In 1894, sportsmen offered to put in a fishway to be paid for by popular subscription, but the owners refused to cooperate. A long and bitter fight followed that ended in the "Fishway Law" passed in 1902. When the legislature met that year, the senate

was presented with a fishway petition in the form of a verse of 15 stanzas beginning:

"Said the pickerel to the catfish  
I heard rare news today,  
That the dam down here at Bonaparte  
Will have a good fishway."

At the end of the poem the bill was unanimously passed.

### Sow Thistle

(Continued from Page 52)

removed as soon as discovered. Mowing not only increases the succession of flowers and therefore aids seed production, but also stimulates the growth of the running underground roots by which the colonies spread vegetatively.



—Photo by Ada Hayden.  
Leafy rosettes of perennial sow thistle uninjured by mowing.

Earthworms, nightcrawlers, and minnows are the favorites for bait fishing, but crayfish (crawdads), frogs, grasshoppers, and grubs are effective on various occasions.

## LAKES & PONDS OPEN TO THE PUBLIC FOR FISHING UNDER SPECIAL AGREEMENT OR STATE OWNERSHIP

NAME OF RESERVOIR	COUNTY	TOWN	ACRES	KINDS OF FISH								BOATS and BAIT	CABINS for RENT	GUIDES	
				Bullheads	Bass	Crappie	Bluegill	Walleyes	Perch	Silver or Yellow Bass	N. Pike				
Greenfield City Reservoir	Adair	Greenfield		*	*	*	*								
Corning City Reservoir	Adams	Corning		*	*	*	*								
Hayes Lake	Allamakee	Lansing		*	*	*	*								
Centerville Reservoir (2)	Appanoose	Centerville		*	*	*	*								
Moulton City Reservoir	Appanoose	Moulton		*	*	*	*								
Tipton City Reservoir	Cedar	Tipton		*		*	*								
Gravel Pit	Cherokee	Aurelia		*			*								
Sand Pit	Cherokee	Marcus		*			*								
Spring Lake	Cherokee	Cherokee		*	*	*	*								
Osceola City Reservoir No. 1	Clarke	Osceola		*	*	*	*								
Osceola City Reservoir No. 2	Clarke	Osceola		*	*	*	*								
Bloomfield City Reservoir	Davis	Bloomfield		*	*	*	*								
Railroad Pond	Davis	Drakesville		*			*								
Dunham's Pond	Harrison	Dunlap		*		*	*								
Park Lake	Iowa	Marengo		*		*	*								
Sabula Area	Jackson	Sabula		*											
State Pond	Jasper	Kellogg		*			*								
Fairfield City Reservoir No. 1	Jefferson	Fairfield		*	*	*	*								
Fairfield City Reservoir No. 2	Jefferson	Fairfield		*	*	*	*								
Robins Lake	Linn	Cedar Rapids		*		*	*								
Chariton City Reservoir (East)	Lucas	Chariton		*	*	*	*								
Chariton City Reservoir (New)	Lucas	Chariton		Stocking not complete											
City Park Lake	Mills	Glenwood		*	*	*	*								
Malvern Reservoir	Mills	Malvern		*		*	*								
Forneys	Mills	Thurman		*							*				
Iowa Slough	Muscatine	Muscatine		*	*	*	*	*							
City Park Lake	Plymouth	Le Mars		*	*	*	*								
City Park Lakes	Polk	Des Moines		*		*	*								
Manawa	Pottawattamie	Council Bluffs		*	*	*	*				*				
Big Lake	Pottawattamie	Council Bluffs		*	*	*	*				*				
Crescent	Pottawattamie	Crescent		*		*	*				*				
Arbor Lake	Poweshiek	Grinnell		*			*								
Mt. Ayr City Reservoir	Ringgold	Mt. Ayr		*	*	*	*								
Loch Ayr	Ringgold	Mt. Ayr		*	*	*	*								
McIntosh Pits	Sac	Odebolt		*			*								
Credit Island Lake	Scott	Davenport		*	*	*	*			*					
Lindsay Park Lake	Scott	Davenport		*	*	*	*			*					
Cherry Lake	Tama	Tama		*		*	*				*				
Lennox City Reservoir	Taylor	Lennox		*	*	*	*								
Thayer Lake	Union	Thayer		*	*	*	*								
Afton Lake	Union	Afton		*	*	*	*								
McKinley Lake	Union	Creston		*	*	*	*								
Park Lake	Wapello	Eldon		*	*	*	*								
Harvard Reservoir	Wayne	Harvard		*	*	*	*								
Seymour Reservoir	Wayne	Seymour		*	*	*	*								
Humeston City Reservoir	Wayne	Humeston		*	*	*	*								
Corydon City Reservoir	Wayne	Corydon		*	*	*	*								
Hartwick Lake	Delaware	Manchester		*	*	*	*	*		*					

MEANDERED NATURAL LAKES

NAME OF LAKE	COUNTY	TOWN	ACRES	KINDS OF FISH								BOATS and BAIT	CABINS for RENT	GUIDES
				Bullheads	Bass	Crappie	Bluegill	Walleyes	Perch	Silver or Yellow Bass	N. Pike			
Big (No. 1)	Allamakee	Lansing	679	*	*	*	*					*		
Big and Kains	Allamakee	New Albin	200	*	*	*	*					*		
Mud Hen	Allamakee	Harper's Ferry	164	*	*	*	*					*		
Pickereel (see Clay)	Buena Vista	Marathon	176	*			*			*				
Storm	Buena Vista	Storm Lake	3,060	*	*	*	*	*	*	*	*	*		
North Twin	Calhoun	Rockwell City	569	*	*	*	*			*		*		
South Twin	Calhoun	Rockwell City	600	*		*	*							
Clear	Cerro Gordo	Clear Lake	3,643	*	*	*	*	*	*	*	*	*		*
Trumbull	Clay	Ruthven	1,190	*			*			*		*		
Round	Clay	Ruthven	450	*			*					*		
Dan Green Slough	Clay	Dickens	285	*			*							
Elk	Clay	Ruthven	261	*			*				*			
Pickereel (see Buena Vista)	Clay	Marathon	...	*			*			*				
Lost Island	Clay	Ruthven	1,260	*	*	*	*	*	*	*	*	*		*
Silver	Delaware	Delhi	45	*			*							
Spirit	Dickinson	Spirit Lake	5,684	*	*	*	*	*	*	*	*	*		*
East Okoboji <sup>1</sup>	Dickinson	Arnolds Park	1,875	*	*	*	*	*	*	*	*	*		*
West Okoboji	Dickinson	Arnolds Park	3,939	*	*	*	*	*	*	*	*	*		*
Center	Dickinson	Spirit Lake	264	*	*	*	*	*	*	*	*	*		*
Silver	Dickinson	Lake Park	1,058	*	*	*	*	*	*	*	*	*		*
Diamond	Dickinson	Spirit Lake	166											
Welch	Dickinson	Spirit Lake	75											
Marble	Dickinson	Spirit Lake	175	*										
Hottes	Dickinson	Spirit Lake	312	*										
Little Spirit	Dickinson	Spirit Lake	214	*										
Swan	Dickinson	Superior	371	*	*		*							
Prairie	Dickinson	Arnolds Park	136											
Pleasant	Dickinson	Arnolds Park	82											
Jefferson	Dickinson	Arnolds Park	100											
Four Mile	Dickinson	Spirit Lake	219											
Four Mile (see above)	Emmet	Estherville	...											
Tuttle	Emmet	Dolliver	981	*		*	*	*	*	*	*	*		*
Iowa	Emmet	Armstrong	308	*		*	*	*	*	*	*	*		*
West Swan	Emmet	Wallingford	1,038	*	*		*							
Twelve Mile	Emmet	Wallingford	290	*	*									
Mud	Emmet	Wallingford	421	*	*	*	*	*	*	*	*	*		*
High	Emmet	Wallingford	467	*	*							*		
Little Wall	Hamilton	Jewell	273											
Eagle	Hancock	Britt	906											
Wood	Hancock	Britt	52											
Crystal	Hancock	Crystal Lake	238	*		*	*					*		
East Twin	Hancock	Kanawha	193	*		*	*							
West Twin	Hancock	Kanawha	109											
Nobles (see Pottawattamie)	Harris	Lowland	160	*		*	*							
Swan	Johnson	North Liberty	44	*										
Babcock	Johnson	North Liberty	58	*										
Goose	Kossuth	Swea City	103											
Swag	Kossuth	Swea City	46											
Green Bay	Lee	Ft. Madison	272	*	*	*	*				*			
Blue	Monona	Onawa	918	*	*	*	*							
Rush	Osceola	Harris	359	*										
Iowa	Osceola	Harris	116	*										
Medium (Five Island)	Palo Alto	Emmetsburg	945	*	*	*	*	*	*	*	*	*		*
Silver	Palo Alto	Ayrshire	638	*	*	*	*	*	*	*	*	*		*
Rush	Palo Alto	Mallard	460											
Lost Island (see Clay)	Palo Alto	Ruthven	...											
Virgin	Palo Alto	Ruthven	200	*	*									
Clear	Pocahontas	Pocahontas	187	*										
Lizzard	Pocahontas	Gilmore City	268	*				*						
Noble (see Harrison)	Pottawattamie	.....	...											
Blackhawk	Sac	Lake View	957	*	*	*	*	*	*	*	*	*		*
Rice	Worth & Winnebago	Lake Mills	612	*			*				*			
Duck	Winnebago	.....	72											
Browns	Woodbury	Salix	840	*	*	*	*				*		*	
Silver	Worth	Northwood	318											
Cornelia	Wright	Clarion	285	*	*	*						*		
Elm	Wright	Clarion	463	*										
Wall	Wright	Clarion	905											
Twin Sisters	Wright	Belmond	108	*								*		

<sup>1</sup>Includes Upper and Lower Gar and Minnewashta Lakes.