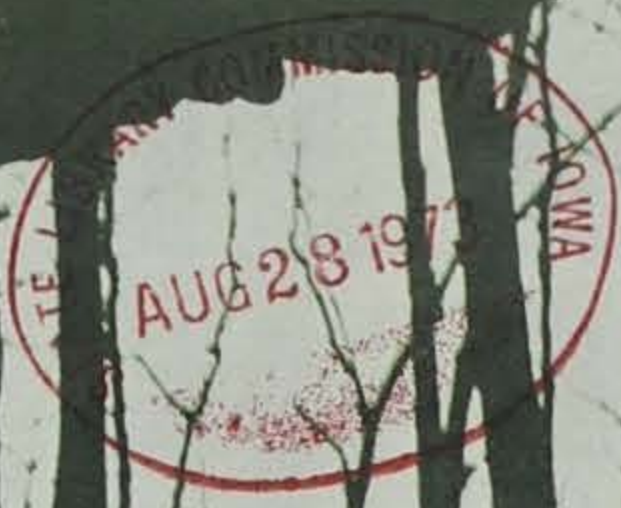


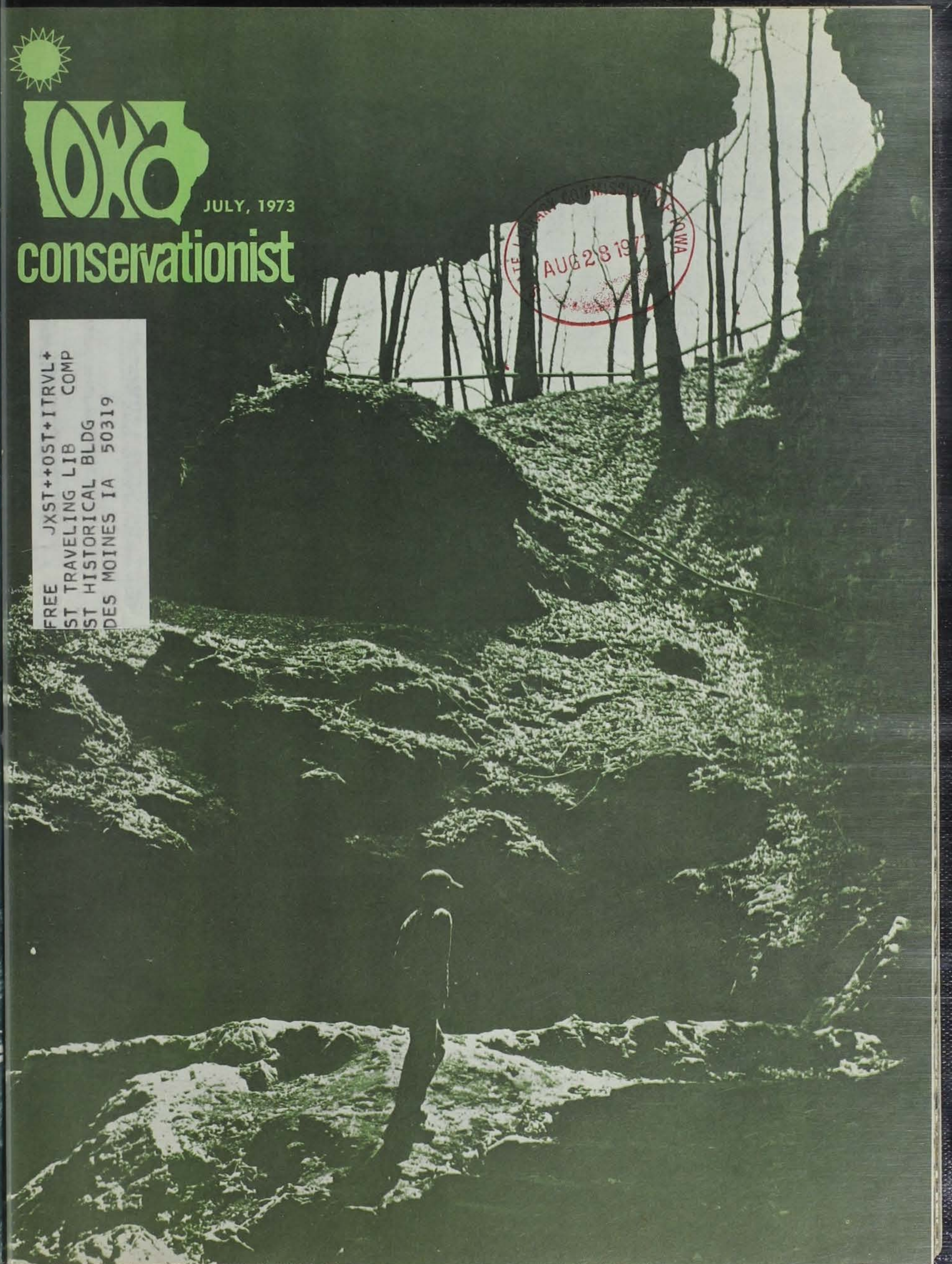


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Iowa Conservationist

Vol. 32 July, 1973 No. 7

Published monthly by the Iowa Conservation Commission, State Office Building, 300 4th Street, Des Moines, Iowa 50319. Address all mail (subscriptions, change of address, Form 3579, manuscripts, mail items) to the above address.

Subscription price: one year at \$1.00
two years at \$2.00
four years at \$3.50

Second class postage paid at Des Moines, Iowa. (No Rights Reserved).



The Iowa Conservationist, as a contribution to the preservation of our natural resources and the protection of the ecology, is printed on 100% reclaimed waste paper.





MAQUOKETA CAVES

By Debbie Bull

Jonathan Bear and David Scott, following a herd of "vanishing" deer, were the first recorded discoverers of Maquoketa Caves. The men were hunting in the heavy timber near the west fork of the Maquoketa River when they came upon the trail of a dozen or so deer in deep snow. They tracked them up a gorge which appeared blocked at the end by a rock wall. Thinking they had the deer trapped, Bear and Scott congratulated each other and began to set up camp for the night.

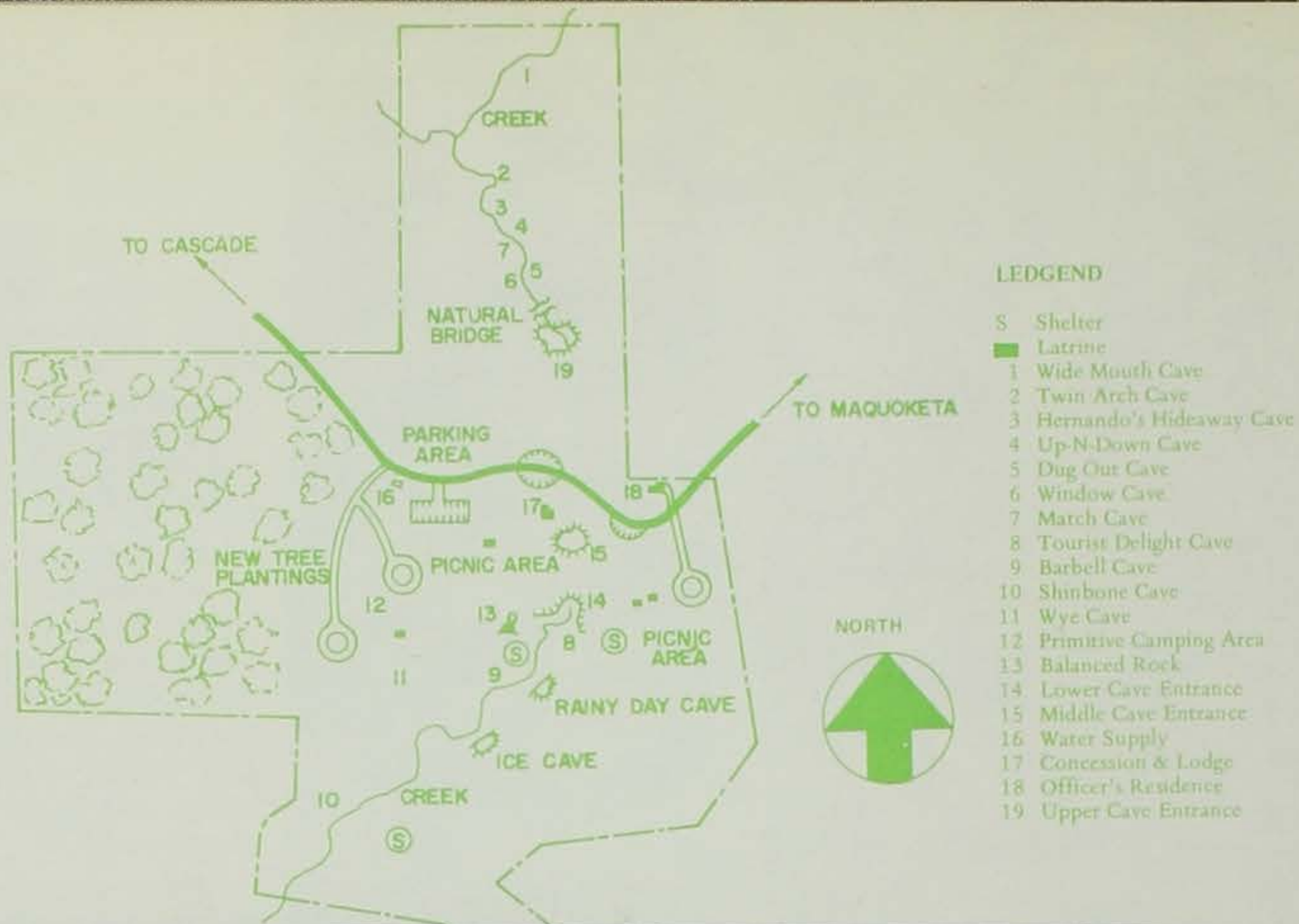
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After deciding to take a look at the deer, they discovered the animals had disappeared as if the ground had opened up and swallowed them. Investigating further the men found the deer had taken refuge in a cave. So to prevent the deer from escaping, the men promptly moved their camp to the entrance. When they awoke in the morning, their quarry had vanished again. An outlet at the back of the cave provided an escape. Thus, the men lost their game, but discovered the beautiful caves of Maquoketa.

Soon, pioneers were using the area for picnics and recreation. Some carved their names into the rock as early as 1835. Originally the park was called Burt's Caves after the first owner and was changed to Moorehead Caves. Finally, with the state's purchase of the area, it became Maquoketa Caves State Park, appropriately sharing its name with the nearby Maquoketa River. To the Indians Maquoketa meant "high banks."

Some groups of prehistoric Indians, probably of the Woodland Culture, found shelter and protection in the caves. Air temperature inside stayed warm in the winter and cool in the summer. Excellent game resources and water supplies were close at hand.

Many artifacts of flint, bone, and horn have been discovered in the cave, as well as arrowheads, pieces of pottery and spear points. Some were left by the Sauk and Fox that used the area for hunting until they were or-





dered out by the Black Hawk Treaty of 1832. The rest date back to an earlier Woodland Culture.

Some 400 million years ago the shallow Niagran Sea covered Iowa with deposits of lime. Before the lime deposits of this area hardened into limestone, some of the calcium was replaced by magnesium, forming harder rock called dolomite.

After the last great sea, came the age of glaciers. Three times the park was covered with glacial drift.

Layers of a fine wind-blown soil called loess were deposited on top of the glacial drift. Streams and rivers formed from the melting glaciers shaped the land surface, by eroding the loess and drift to expose the bedrock. Limestone and dolomite are soluble in carbon dioxide and water and over the following centuries, the present formations were slowly carved.

Water flowed down the valleys and plunged over the steep cliffs into water falls. At the same time, some of the water in the upper stream bed found its way downward through cracks and crevices to rejoin the stream at the foot of the falls.

As erosion enlarged the cracks and crevices, more and more of the water took this path instead of flowing over the falls. Cracks grew, became large channels, and the upper streambed eroded deeper and deeper into the rock

until it approached the level of the streambed below. Finally the enlarged channels carried all the water under the rock wall leaving a tunnel. The streams running through the caves carried enough water to lodge boulders in the tunnel and block the passage so that true caves were created.

Beautiful, milky white stalagmites and stalactites covered the caves to ceiling when the caves were first discovered. Minerals in the dripping water of the caves created these icicle-like rock formations. Unfortunately, the caves have long since been robbed of these beautiful formations by souvenir hunters. The park contains two natural bridges. The biggest rises in a dramatic 40-50 foot arch above the valley floor. The bridges are made of dolomite and are easily found by following the well-marked park trails.

The cliffs of the park are formed when blocks of dolomite and limestone crack and fall from the rock mass. Cracking is commonly caused by weathering. Gravity and erosion work on the rock until it splits and falls leaving a sheer rock face behind.

Spelunkers will delight with the 13 limestone and dolomite caves distributed throughout the park. To the north of the only main road are eight of the caves. Following the stream that meanders through the area one will find the caves in this order north

to south, Wide Mouth, Twin Arch, Hernando's Hideaway, Up-N-Down, Dug Out, Window, and Match. Closest to the road will be the entrance to Upper Cave.

To the south of the road another stream meanders by and through another series of caves. The caves from north to south are Tourist Delight, Barbell, Rainy Day, Ice, Shinbone, and Wye. The entrances to Middle and Lower Caves can be found just to the south of the road.

The major caves have electric lights strung through them but a good flashlight, extra batteries, and a partner are recommended for exploring the others.

As well as caves, visitors will enjoy some of the passages between caves. Bat Passage and Steel Gate are the two major ones. Bat Passage got its name from the harmless brown bat.

Another marvel in the park is the 17-ton balanced rock resting precariously on about a square foot of area. The rock can be found by following the signs south of the main road.

In all its 191 acres, this beautiful little park has only .37 miles of paved road. The rest of the exploring and sightseeing must be done on foot. Trails in the park are a delightful challenge to all visitors. Hiking some of these trails even passes for a mild form of mountain climbing. Hills and

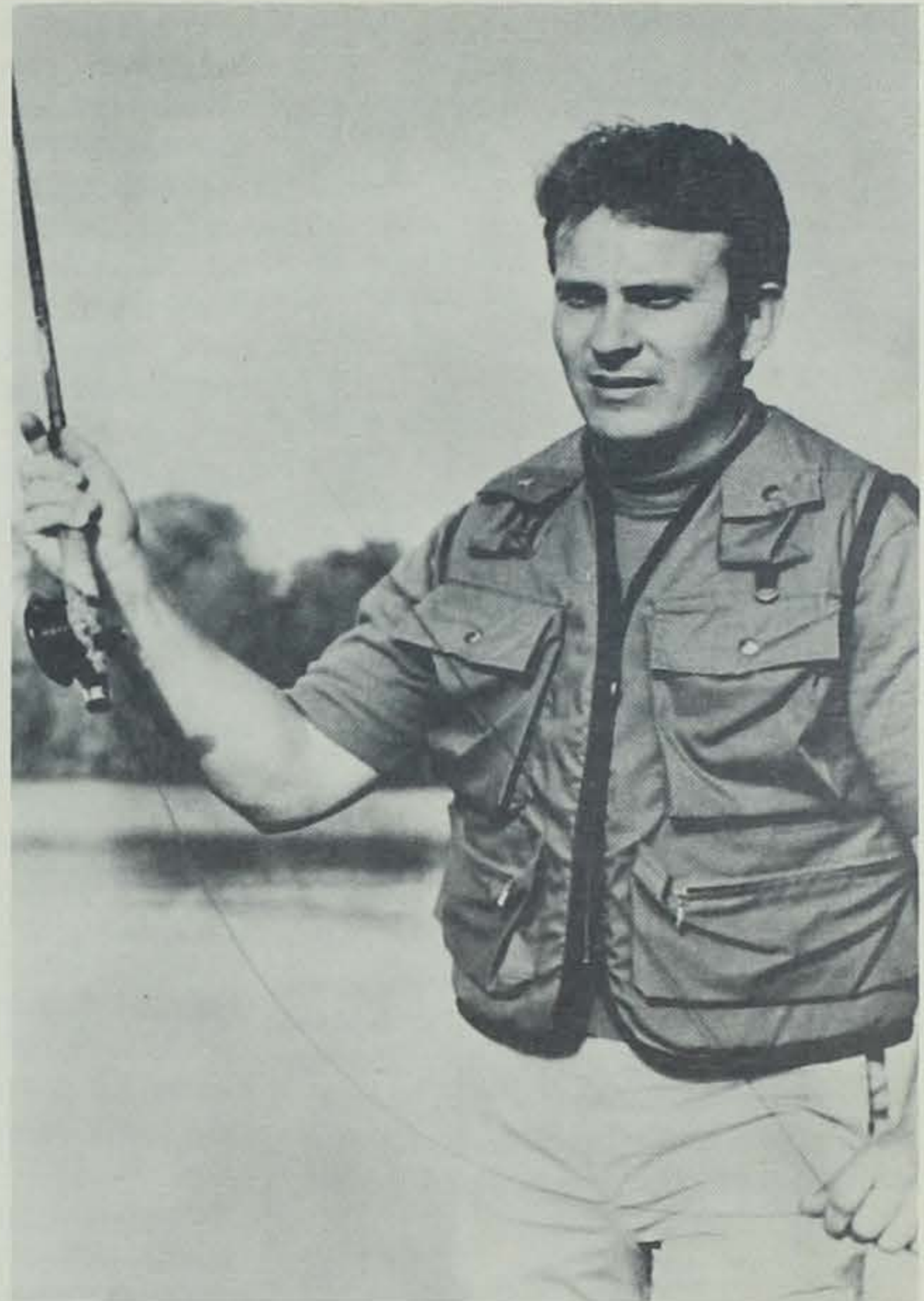
(Continued on Page 15)



LIFE

E JACKETS

for all seasons



"Fishing vest" can float angler.

By James E. Horan

Boating Safety Coordinator

Coast Guard Approved P.F.D.'s
Now Come In A Variety of Shapes,
Sizes and Colors and Can Be Worn
Any Time of the Year.

More and more Iowans each year turn to boating as a leisure time activity. With the addition of thousands of acres of water in our reservoirs, fishing and waterfowl hunting has increased. This situation has also produced an unfortunate statistic. In the last four years, 91 people have drowned on Iowa waters while enjoying such activities as duck hunting, fishing, rafting, and boating.

These tragic incidents probably could have been avoided if personal flotation devices (p.f.d.'s) would have been in use at the time. (Coast Guard approved life jackets and buoyant vests are now referred to as "P.F.D.'s.") Of the 91 drownings, only seven persons were wearing

life jackets, and these drownings were under very unusual circumstances and probably not the fault of the victims. After reviewing the drowning and boating accident reports, it is evident that poor judgment, over-confidence, or reckless operation usually are the contributing factors in each incident.

Often a duck hunter will be operating out of a small or overloaded boat, in extreme weather conditions, with chest high boots on, and no life preserver. Because of the cold, a considerable amount of energy is used up in a day of duck hunting. Towards the end of the day, the effects of cold weather, rough winds, and little activity saps the body's strength to the point that a fall overboard without a p.f.d. on could easily result in tragedy.

The p.f.d.'s available now allow the waterfowl hunter freedom of movement, camouflage and warmth while enabling him

to enjoy reasonable protection against drowning. They come in a variety of styles, sizes and colors from different manufacturers. Many are available with hoods and some are even reversible.

Fishermen, like waterfowl hunters, should wear their p.f.d.'s at all times: A slip in the water, whether from a boat, when wading in a stream, or while standing on shore, can result in a drowning. If the water temperature is very cold or you have hurt yourself when falling in, or for some reason your swimming ability is impaired, your chances of survival are immeasurably greater if you are wearing a "Coast Guard Approved" p.f.d. A life preserver left on shore or wrapped in plastic in the bottom of the boat is of little value when you need it.

Boating enthusiasts constantly face a potentially hazardous situation. (Continued on Page 10)

Are you summer largemouth addicts perspiring more and catching less? Then beat the heat and work the night shift — the bass do.

It's a fact that lunker largemouth cruise the shallows at night. Under the cover of darkness, big bass move out of their mid-day haunts in search of food. Shallower water permits a greater amount of sunlight to strike the bottom where most of the nutrients are. With a higher concentration of natural resources (the bottom-borne nutrients) and more energy (the sunlight), microscopic plants called phytoplankton can thrive in the shallows. A food chain develops with minute animals called zooplankton feeding on the phytoplankton, aquatic insects and small fish feeding on the zooplankton, and game fish feeding upon the aquatic insects and small fish. So it only makes sense to fish where the fish are—the shallows, and fish when they're around — at night.

There are other benefits to the fisherman also. Nighttime fishing avoids the heat and humidity of the day. As the sun sets, most of the fishing fraternity depart the waters until the following morning. Rarely does one find someone else in his fishing spot after dark. Gone are the noise and crowds of the day.

An angler also refines his skills by fishing on the dark side. With the sense of sight being less important, the fisherman must rely on his senses of hearing and touch.

To derive the most enjoyment, and in many cases the most fish from P.M. bass fishing, an angler should use those surface plugs he's been trying to figure out what to do with since he bought them. This isn't to say most fishermen don't make good use of surface plugs (they add a special touch to finely decorated tackle boxes). But surface lures come into their own special prominence after dark.

Surface fishing at night is no casual affair, however. A calm surface is almost essential. Infrequent ripples won't affect the fishing, but a steady chop ends it. Contrary to some, this author feels fishing the new moon is

more productive than the full moon. The reason big bass generally come into the shallows only at night is because the darkness offers protection. It only follows that the less light there is, the better. Likewise, the less moon the better. However, the clarity of the sky doesn't seem to follow this theory. A perfectly clear sky seems to produce much better results than an overcast one. In fact, heavy fog usually ends all surface fishing. Perhaps the bass need a background to see the ripples or actual form of the plug. An overcast or foggy night acts like the silver on the back of a mirror when viewed from under the water at night. A cloudless sky permits surface action to be seen more clearly.

Many of the shallow water areas so productive for lunker largemouth after dark are areas that escape the constant pressure from shore fishermen during the day. A boat isn't necessary but it provides access to little fished shallow offshore reefs and points off of islands. One regulation Iowa fishermen must observe is

SCORE WHILE THE COMPETITION S

BASS

by Jon Gibson
Information Specialist

that every boat must show a bright light all around the horizon. To minimize the light's effect on the fish and your vision and still retain its safety function, always keep the light on the opposite side of the boat from which you are fishing.

A little scouting during the day often comes in handy. It will help pinpoint shoals and points that are difficult to locate when the sun goes down. It also refreshes your memory on hazards to boating after dark.

When approaching the fishing area, row the final hundred yards—it's good for you, and you won't scare the fish. Distance from the shoreline is critical to the fisherman for snagged lures can be much harder to retrieve in the dark. Judging distance from the shore at night is not as hard as it seems. On a clear night, the outline of trees against the sky is still visible. By noting how high

above the horizon the treeline reaches, the fisherman can estimate how far he is from shore. The angler can determine how far his lure is from the edge of the water by its echo when it splashes down. Except for treeless areas, an echo is always returned by lures landing close to shore. The greater the echo, the closer to shore it is. Although a rock ledge returns an echo the best, even a stand of trees does the job. If after a long cast you don't hear an echo, you're either far short of the shoreline or in the trees. Adjust accordingly.

Don't be afraid to fish shallow water. Water one to two feet deep is fair territory for lunker bass under the veil of darkness. The effective depth for topwater fishing is about eight feet with a perfectly calm surface. Long casts keep the noise of oars and tackle boxes further from the fish. Big bass are quite nervous in the shallows, so the less noise and distraction the better.

It would be foolish to name the best lures for topwater fishing, for the subject is as personal as a guy's dentures and as opin-

ionated as a Missourian. It does seem logical, however, to make a lure imitate its real-life counterpart. If you retrieve an injured minnow imitation lure like a frog, then you should've bought a frog-like lure in the first place. How else can you justify those wild lures in your tackle box (ducklings, mice, bats, etc.) Lures with a dark, preferably black underside, are the best producers. Although a fish is attracted to the lure by sound, sight of the lure or the ripples surrounding it are important when the fish makes its strike. Black is far more visible than white when viewed against the nighttime sky. To prove it, take both a black and a white lure and hold them against the sky. The white one can't be seen, but there's a surprising amount of light present at night to clearly outline the black lure. One rule to remem-

(Continued on Page 14)

ON SLEEPS



Jackets double as P.F.D.'s
by Stearns

Jacket/P.F.D.,
by Gaylord Horr, Inc.



Vest by Gaylord Horr, Inc.



LIFE JACKETS . . .
(Continued from Page 7)

uation. River current, wind conditions, speed and wake from other boats, submerged obstacles, and many other equally dangerous situations can spill people from a boat in seconds.

A sharp turn of a boat can easily throw an individual sitting on the bow, sides or back of the seat overboard immediately. Wearing a life preserver will not prevent you from falling overboard; that's usually a result of negligence on the part of the boat operator or yourself. But leaving your life preserver in the boat locker will certainly not help in preventing a greater disaster.

Ice fishermen and snowmobilers should also utilize the new equipment. Ice conditions in the past few years have been particularly unstable. The new trim and lightweight p.f.d.'s can be worn as part of your cold weather gear.

The accompanying pictures demonstrate the variety of p.f.d.'s available for any of the above activities. Personal choice in design and color can be made.

The important thing to do, though, is to provide for yourself and your family the extra insurance of a Coast Guard Approved p.f.d. Before going out on any kind of boating activity, try to think of situations which could place you in danger. Then require that each person wear a life preserver or have it within reach at all times. With the new lightweight, comfortable gear, this exercise should not depress your enjoyment and excitement. It will replace a false sense of security with real safety and a much greater chance of survival in case of an accident.

To insure the future enjoyment of boating for yourself and your family, we strongly recommend the following tips:

1. Read the "Iowa Boating Regulations". If you study this pamphlet like you would prepare for a driving examination and observe the regulations, it is extremely unlikely that you will be the cause of an accident.
2. Be sure the operator of the boat and each passenger has a "Coast Guard Approved" p.f.d. on or within easy grasp in case of an emergency. Check for other required safety equipment.
3. Take a minute before launching and think about potential hazards (weather, mechanical problems, obstructions, other boaters, etc.).

This kind of positive action will provide a very real kind of safety and give you the sense of security necessary to best enjoy your outing. ☆



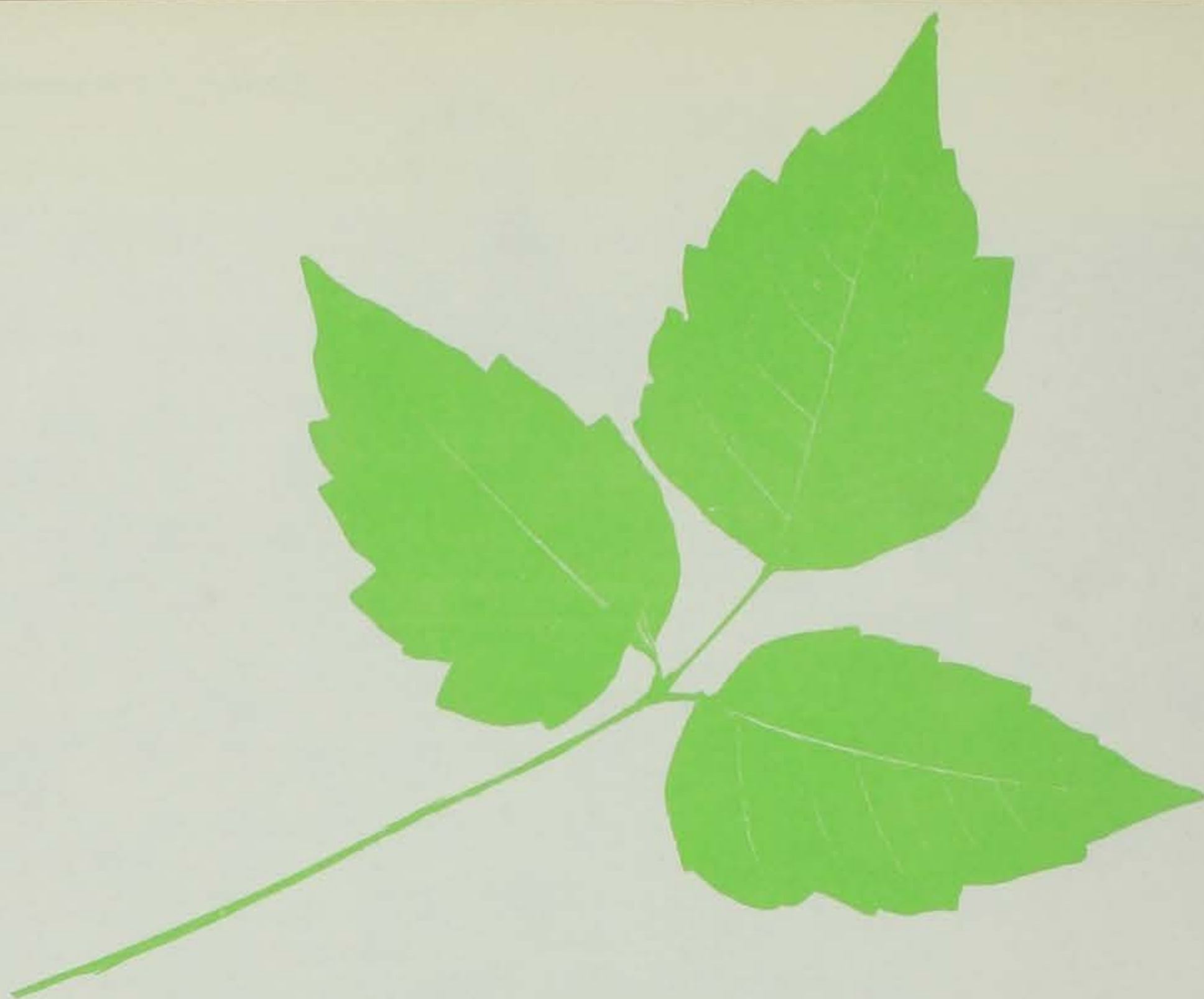
education center receives top award

The Iowa Conservation Commission Education Center has received an award from the American Association of Conservation Information. According to the Association, the Education Center is cited for having the "outstanding environmental education program" in the nation.

The award presentation was made in Hot Springs, Arkansas, at the annual meeting of the AACI. Accepting the award on behalf of the Iowa Conservation Commission was Curtis Powell, Conservation Education Center administrator.

The Conservation Education Center was established at Springbrook State Park near Guthrie Center, to provide instruction for teachers, students and conservation-oriented groups in the areas of conservation techniques and methods, ecology and the environment. ☆





POISON IVY

"Leaflets three, let it be."

That's not just a children's rhyme but some good advice to all outdoorsmen who suffer from the torments of poison ivy.

Learn to identify the plant on sight and save yourself some agony this spring.

As the verse goes, poison ivy grows with three leaflets on each stalk.

This is the only dependable characteristic of the plant.

Leaves can vary in size, shape and color; the plant can be only a little shrub or it can grow into a 75-foot vine reaching into the tops of trees or covering a stone wall.

Another means of identifying the plant is its kinky, brown aerial rootlets which cover the vines and attach themselves to crevices in rocks or small openings in the tree bark. The rootlets make the vine look like fuzzy rope.

Clusters of small, five-petaled flowers appear on the ivy in late summer. Don't be tempted to pick the yellowish-green flowers or the resulting green berries which ripen into an ivory color.

Autumn turns the glossy leaves yellow, red and orange.

Poison ivy's ingredient is an oily substance called urushiol which occurs in the sap and is found in all parts of the plant.

Urushiol packs an itchy wallop any time of the year and lingers on even when the plant is dead.

Ivy branches cut and left outdoors on a garage roof for 18 months were found still to be dangerous.

Urushiol can be transferred to the skin by handling tools or camping equipment which have come in contact with poison ivy.

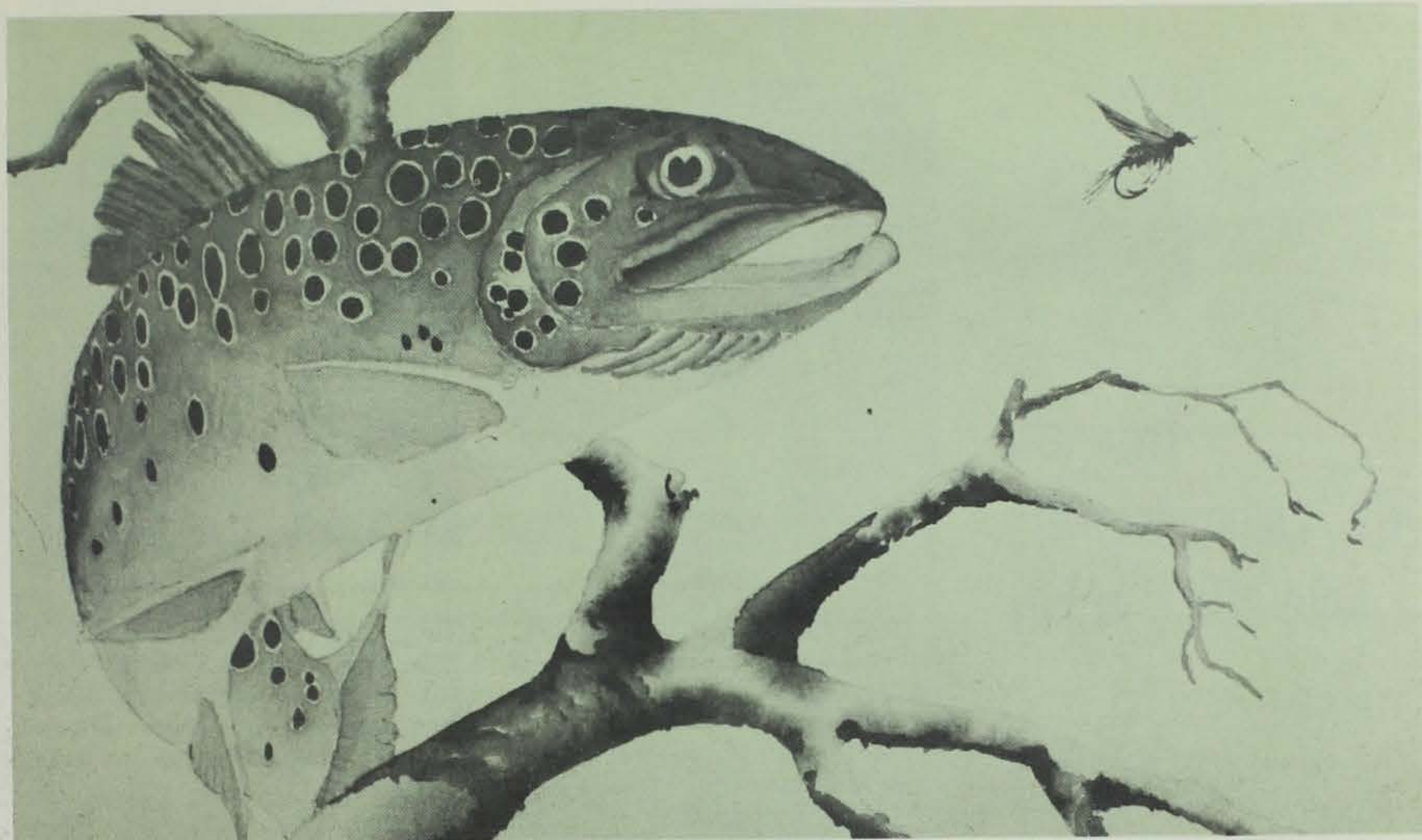
Even petting the family dog after it has romped in ivy-infested woods can transmit the oily toxin and cause infection.

Exposure to poison ivy calls for a thorough scrubbing with heavy-duty soap several times during the first half-hour after contact.

Clothes worn in the woods should be washed before being worn again.

Calamine lotion will help ease the itching in mild cases of poison ivy infection but severe blistering must be treated by a doctor.

Remember the rhyme and steer clear of the three leaflets. ☆



1974 State Trout Stamp Design Winner Announced

DES MOINES, IOWA — A painting of a brown trout leaping for a fly has won the 1974 State Trout Stamp Design Contest sponsored by the Iowa Conservation Commission.

Winner of the contest is Craig Ritland of 304 Columbia Circle in Waterloo. Mr. Ritland, 31, is a landscape architect. His watercolor painting scored highest out of the 16 entries submitted and judged.

Judges for the contest were Mrs. Peggy Patrick, Assistant Director, Des Moines Art Center; Norman Hine, Hatchery Manager, Manchester National Fish Hatchery and Otto Knauth, Staff Writer, The Des Moines Register. The winning design was selected for its artistic composition, anatomical accuracy and suitability for use on a stamp.

The design will be used on over 20,000 1974 State Trout Stamps. ☆



two new ICC commissioners take office in july



John C. Thompson

DES MOINES, IOWA — John C. Thompson, 53, Forest City, and Herbert T. Reed, 47, Winterset, were sworn in as Commissioners at the July 10 meeting of the Iowa Conservation Commission (ICC) in Des Moines.

Governor Robert Ray appointed the two men to serve on the ICC for six-year terms ending June 30, 1979. They replace two retiring commissioners—William Noble, Oelwein and Edward Weinheimer, Greenfield.

Mr. Thompson is owner of the



Herbert T. Reed

Thompson Agency, Inc., Forest City, dealing in insurance, loans, real estate and accounting. He is Executive Director of the Winnebago Regional County Planning Commission and was elected in 1955 to the Forest City Park Board where he has been instrumental in the development and expansion of a city parks system designed to meet the public needs. Mr. Reed is co-owner of the Circle "B" Cashway Lumber Company in Winterset. He is an outdoorsman and enjoys boating, fishing and hunting. ☆

BASS . . .

(Continued from Page 9)

ber, however, is that often the loudest retrieve gets the biggest largemouth bass. When retrieving the last few feet of line, don't reel the lure any closer to the rod tip than five to six feet. An amazing number of rods have been broken by large bass dancing around in pitch blackness on two to three feet of line.

Spincast reels offer a minimum of line handling. Their simple operation is an asset to nighttime bass fishermen. Heavier lines are not as visible to bass at night and may help land big bass in brushy areas. Snap swivels can impair the action of surface lines and should not be used.

Most topwater strikes will be heard before they're felt. Strike instantly! If you're batting aver-

age of fish landed to strikes received is .500, you're on anybody's all-star team. When you get hung-up, don't try to flip the lure back to you as you might during the day. A gang of treble hooks flying back towards the boat is dangerous enough during daylight. At night when you can't dodge what you can't see, it can be a disaster. Row up to all snagged lures and free them by hand. Be sure to check your hooks and line for wear every hour or so when fishing after dark. They'll take a beating from frequently striking the shore and water-borne obstructions.

In addition to checking hooks and line for wear, landing a fish is just about the only excuse an angler has for using a flashlight. Many experienced fishermen prefer a miner's cap. The light will

follow the motion of the head and keep the fish illuminated. Use lights sparingly at other times to avoid attracting mosquitoes. Be sure to take along the insect repellent. Mosquitoes can ruin a nighttime fishing trip.

Another problem associated with fishing after dark is the safety factor. In case of a sudden spill, it's not so easy to find a flotation device in the dark. Use a life jacket, not a cushion, and wear it!

Methods for topwater bass fishing after dark vary from angler to angler. The opinions above come after years of thrashing surface water from Iowa to eastern Ontario to Kentucky while the sun wasn't looking. Become an expert and take your share of lunker largemouth by fishing while the competition sleeps. ☆

Maquoketa Caves . . .

(Continued from Page 5)

ravines bordered with cliffs having sheer drops of as much as 75 feet are as beautiful as the caves and bridges. Many uncommon species of wild flowers and other plants find this cool, moist habitat ideal.

The picnicking and camping facilities are located just off the main road amidst the beauty of the park. Sanitary facilities and water are provided in both areas.

In the center of the park just off the road is a concession stand and lodge. The concessionaire and the park officer gladly give further information about the park to interested persons.

In the Spring the park is carpeted with wild flowers of delicate pastels. Summer finds the park a rich emerald green with an abundance of colorful birds. In the fall the trees and shrubs blaze with reds, golds, and browns. A fresh snow in the winter leaves the park a frosted fairyland. Maquoketa Caves is a rare find in any season with its combination of beauty and adventure. ☆

In Case of an Emergency What Would You Do?

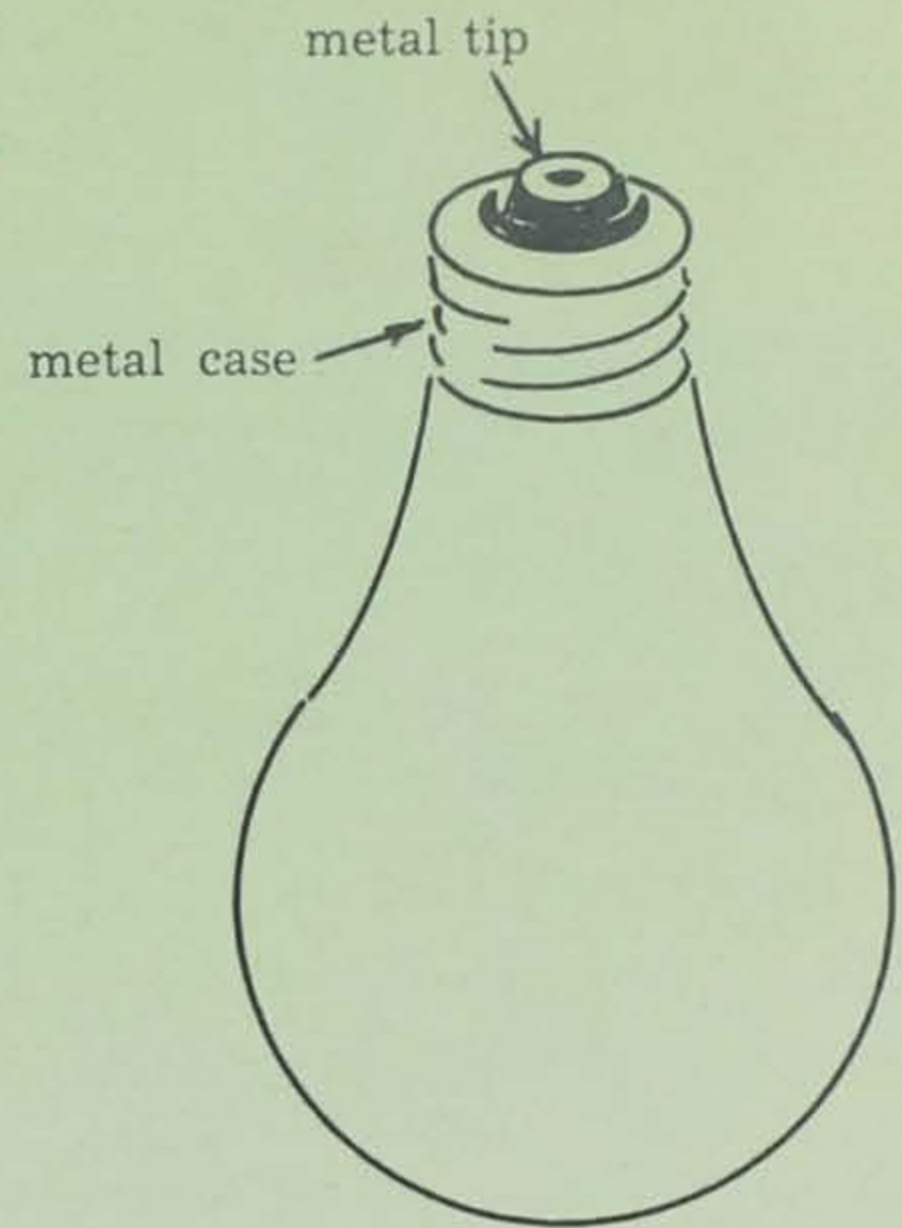
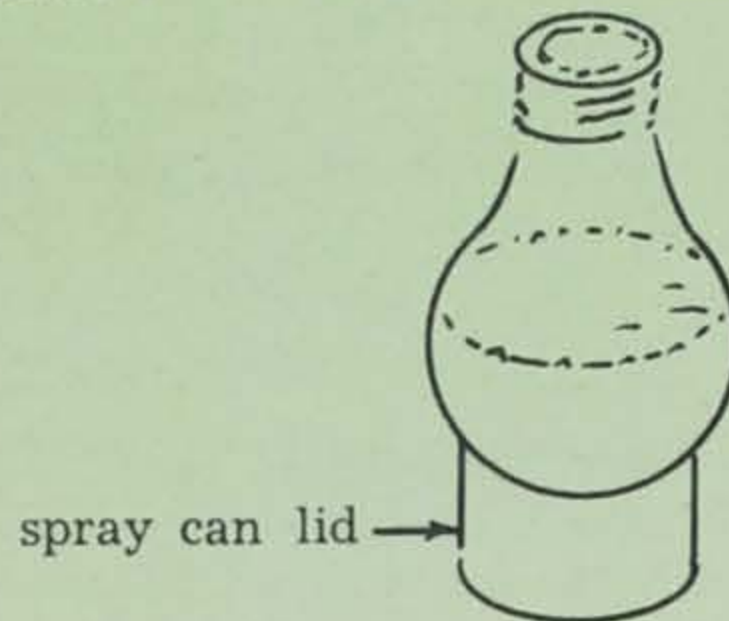
If a boating accident should occur, immediate, positive steps could mean the difference between life and death. Devise a mental "Plan of Action" you could take if suddenly necessary. Ask yourself, "What would I do?"

Send your plan of action to the Iowa Conservation Commission, Boating Safety Coordinator, 300-4th Street, Des Moines, Iowa 50319. Comments will be compiled and used to promote safe boating in Iowa. Your suggestions may save lives! ☆

Classroom Corner

By Curt Powell
Administration

Conservation Education Center



There are many ideas sent to us from around the state of Iowa concerning conservation education projects. My thanks goes to Mrs. Ardath Jagnow of Roosevelt School at Iowa City.

How many of us have thrown away burned-out light bulbs? Would it be possible that there are other uses rather than just trash? It has been said that one man's trash is another man's treasure. Perhaps it is so!

Let's use these burned-out bulbs for small aquariums or terrariums. This procedure involves the use of a burned-out light bulb (not colored or three-way), a screw driver, a pair of side-cutters, and gloves. Be certain to wear your gloves in case the light bulb would shatter during the process.

First clip the metal tip off the end of the light bulb. Don't cut off the metal case (see illustration). Next, using the screw driver, break apart the glass inside and remove the glass and the wire. Rinse the bulb with water. It is now ready to use as either a small aquarium or planter. If you should use it for an aquarium, fill it only about half full with water. If it is filled completely, there will not be enough

water surface available for absorption of oxygen.

How do you make this device stand up? There are a number of methods you might use. Styrofoam may be used as a base or a simpler method of using the cover lid off of a spray can may be used.

July is a fabulous time to visit this fantastic state of ours. Rather than observe creatures in artificial environment such as I've described, why not take the opportunity to visit some of the many state-owned natural areas? You don't have to go far to visit places of solitude and peaceful enjoyment. As you well know, the fuel crisis is a real thing, therefore, investigate areas of interest near your hometown and relax without driving very far.

If you are in the Guthrie Center area or just passing through, stop by the Education Center and view the Richard Sloane State Bird Print Collection. Although not yet complete, there are enough of these beautiful prints here to make a stop well worthwhile. Our office hours are 8:00 A.M. to 4:30 P.M. Monday through Fri ☆

