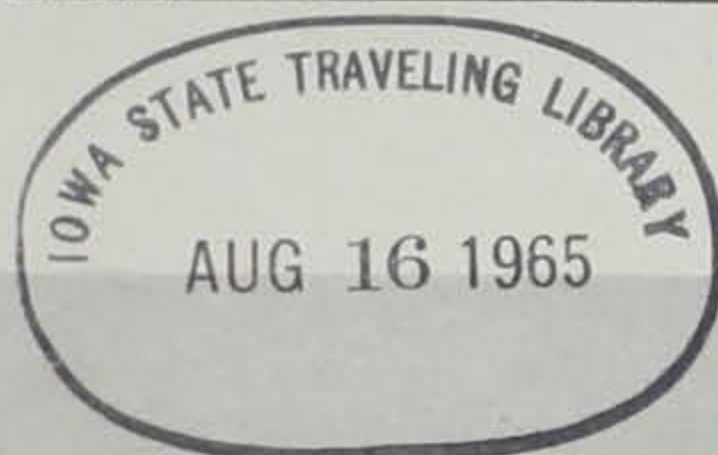




Volume 24

August, 1965

Number 8



Jim Sherman Photo

Conservation Commission Water Safety Officers patrol Iowa's waters, give water safety demonstrations and issue storm warnings in an effort to prevent water tragedy.

WATER SAFETY PAYS!

Max Schnepf

Common sense and water go together, especially when recreationists are involved.

Swimmers and boaters are becoming drowning statistics at a record pace in Iowa this year, and if recreationists continue to ignore water safety rules, more situations will develop that can only result in more accidents . . . and more drownings.

What is the cause of a water tragedy? Most frequently it is the result of not using common sense—no life jacket, overloaded boat, intoxication, over exertion, swimming on an unsupervised beach. Nearly half the people that have drowned this year were average or better than average swimmers. Many boating accidents are simply the result of a boat operator not looking where he is going.

On Lake Okoboji recently, a cabin cruiser literally ran over a row boat containing three fishermen. The two boats were the only watercraft in the area. The fishermen, who saw the potential accident materializing, tried desperately to attract the attention of the other boat's operator and move their boat at the same time. All was for naught and the cruiser ran over the fishing boat. Fortunately, no one was injured; the small boat remained upright, though it half filled with water. The fishermen were able to bail enough water with a snow bucket and paddle the craft to shore and safety.

How do you prevent water tragedy? That's like asking how to

prevent highway accidents! Obviously, not every mile of stream and lake shoreline can be patrolled continuously. The quantity of manpower is just not available, and the cost of such a massive patrol program would be prohibitive.

Since 75 percent of all boating violations are operational violations where the boater's reflexes and personal judgment are involved, water safety education seems to be the logical solution.

Qualified Water Safety Officers from the State Conservation Commission demonstrate water and boating safety to several thousand people each year. Whether or not you have participated in one of these demonstrations, heed the following safety rules, and remember, **WATER SAFETY PAYS!** If you don't believe it, you may pay with your life.

SAFETY RULES FOR SWIMMERS

1. Never swim alone.
2. Wait at least one hour after meals before entering the water.
3. Don't swim after vigorous exercise or tiring work.
4. Swim reasonably close to shore.
5. It is dangerous to venture into deep water trusting the support of water wings, an inflated tube, or another swimmer.

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Iowa Conservationist

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CIRCULATION THIS ISSUE 52,000

COMMISSION MINUTES

July 6, 1965
Des Moines, Iowa

LANDS AND WATERS

Permission was granted to the Northern Natural Gas Company for a construction permit to install a two inch gas line to serve the Lakewood Villas subdivision on the south side of Lake Manawa, excluding all liabilities and responsibilities involved in future road construction and relocation.

A request for a dock permit on a public access area at Clear Lake by Iver Egenes was denied.

Approval was given to continue negotiations for a land trade with Clough at Casino Bay in Storm Lake subject to approval of the Attorney General.

A state park closing time of 10:30 p.m. each day and an opening time of 4:00 a.m. the following day was adopted.

A five-year state park road development program was approved.

Purchase of the 50' by 150' lot with a 41' by 130' tile building and the adjacent 40' by 150' lot for the sum of \$36,200 located at Bayside on Clear Lake from the Touristville Boat Company for a lake patrol and storage house was approved.

Approval was given to a bid by L. L. Pelling and Company for \$69,385.69 for the construction of 2.568 miles of road at the Palisades-Kepler Park.

Approval was given to a bid by L. L. Simkins for the removal of 400,000 yards of silt from North Twin Lake at a total cost of \$190,592.70.

FISH AND GAME

Approval was given to preliminary apportionments of Federal Aid Funds for a six month period amounting to \$231,292.94 for wildlife restoration and \$52,880.93 for fish restoration.

Mr. Stansbury of Tabor requested an oil well drilling lease on the Forney Lake Area which was denied.

Approval was given to relinquish a license to two tracts of land

owned by the U. S. Army Corps of Engineers northwest of the town of Sabula with the provision that the license be reissued to that town for development of land for a ball park, tennis court, picnic area, fishing grounds, camping grounds and general recreational areas.

A departmental rule was approved which would restrict vehicles of the general public to roads and parking lots on all state-owned areas under the jurisdiction of the State Conservation Commission.

Approval was given for the establishment of a Supervisor III position in the Game Section, for the purpose of wetland surveys.

Approval was given for regulations governing deer hunting for the 1965 season.

Approval was given to a regulation which would restrict the use of rifled sleeve extensions on shotguns for deer hunting.

COUNTY CONSERVATION ACTIVITIES

Black Hawk County received approval for the acquisition of 40 acres of land at a total cost of \$2,000 as an addition to the Ford River Access Area six miles northwest of the town of Cedar Falls for access to the Cedar River.

Butler County received approval for the acquisition of 35 acres of land as a gift for the development of an outdoor recreational area primarily for fishing access to Beaver Creek.

Calhoun County received approval for the acquisition of 1.84 additional acres of land at a total cost of \$460 at the 27.5 acre county-owned Hickory Grove Park.

Chickasaw County received approval for the acquisition through a 10-year-lease of six separate sections of streams for the purpose of stream improvement to create better fish habitat.

Clayton County received approval for the acquisition of 103 acres of land at a total cost of \$9,600 for the purpose of preserving an excellent timber area and providing public access to the trout stream known as Buck Creek.

Hancock County received approval for the acquisition of 100 acres of land at a total cost of \$20,000 for the development of a multiple-use outdoor recreational area with picnicking, camping and wildlife areas to be included.

Howard County received approval for the acquisition of one acre of land as a gift from the Riceville Community School District for the purpose of establishing a Highway Safety Rest Area on State Highway 9.

Winnebago County received approval for the request to acquire 34.71 acres of land at a total cost of \$9,600 for the purpose of developing a multiple-use outdoor recreational area.

Winnebago County received approval for the acquisition of five separate parcels of land contain-

Conservation Forum

Dear Editor:

Sunday night we had a storm in this area about 12:30 a.m., a lightning struck a tree in the camp area. The current went through the ground, and up through the bottom of a tent to an innerspring mattress where three people were sleeping. It threw them off the mattress and started it on fire.

They were not hurt seriously, but would like for us to put it in the conservation paper, because it might be wise for other campers not to use innersprings on the ground.

The camper was Delmar Coltrain from Ottumwa, Iowa.

Albert Gandy
State Park Officer
Lacey-Keosauqua State Park

Dear Editor:

A very happy hobby for me is Edible Wild Food. (I used the Maple apple marmalade recipe in your magazine—delicious and a conversation topic.) Could you send me names of other people who you know with this hobby and willing to share it? I've certainly had fun making herb jellies, gooseberry and mulberry marmalade. In fact, I made 10 varieties of jellies last year. Milk pods are very tasty and such a surprise to friends. Just tried cattail spikes last week. My knowledge concerning plants in Iowa is what I need help with, especially mushrooms—no, I need HELP with all.

Clarise Hewett
Jesup, Iowa
(Continued on page 6)

ing approximately one acre each on a ten-year lease agreement for planting farm-game habitat plantings on privately owned land.

Winneshiek County received approval for the request to acquire 12 acres of land at a total cost of \$300 located on the Upper Iowa River on the first bridge up stream from the state-owned Bluffton Area.

Winneshiek County received approval to acquire 45.9 acres of land under a sponsoring agreement with the Iowa State Highway Commission for the establishment of a Highway Safety Rest Area located on the west side of Highway 52.

Woodbury County received approval for the acquisition of 335 acres of land at a total cost of \$35,000 adjacent to the Little Sioux River for fishing and boating access, picnicking, camping, nature study, reforestation, and wildlife habitat.

Worth County received approval for the acquisition of five separate parcels of land containing one acre each at the cost of \$1 per lease for the development of wildlife habitat areas on privately owned land.

Polk County was denied approval for a request to acquire one acre of land under a five-year lease at a cost of \$1 per year on Vandalia Road for the purpose of developing a Highway Safety Rest Area and community picnic ground.

Adair County received approval for a partial master development plan for a 120 acre tract of land located one and one-half mile east of the town of Bridgewater for the construction of an artificial lake.

Des Moines County received approval for a development plan for an 8.5 acre Highway Safety Rest Area on the west side of U. S. Highway 61 near Burlington.

O'Brien County received approval for a development plan for the 1.39 acre land tract called Little Park for picnicking facilities.

Winnebago County received approval for a development plan for five small tracts of land containing one acre each for wildlife habitat areas.

Worth County received approval for a development plan for five small tracts of land consisting of one acre each scattered throughout the county for wildlife habitat areas.

A report was given concerning remedial work needed on the Iowa Public Service Company's river dams and land holdings in Humboldt County prior to transfer this property to the County Conservation Board and the State Conservation Commission.

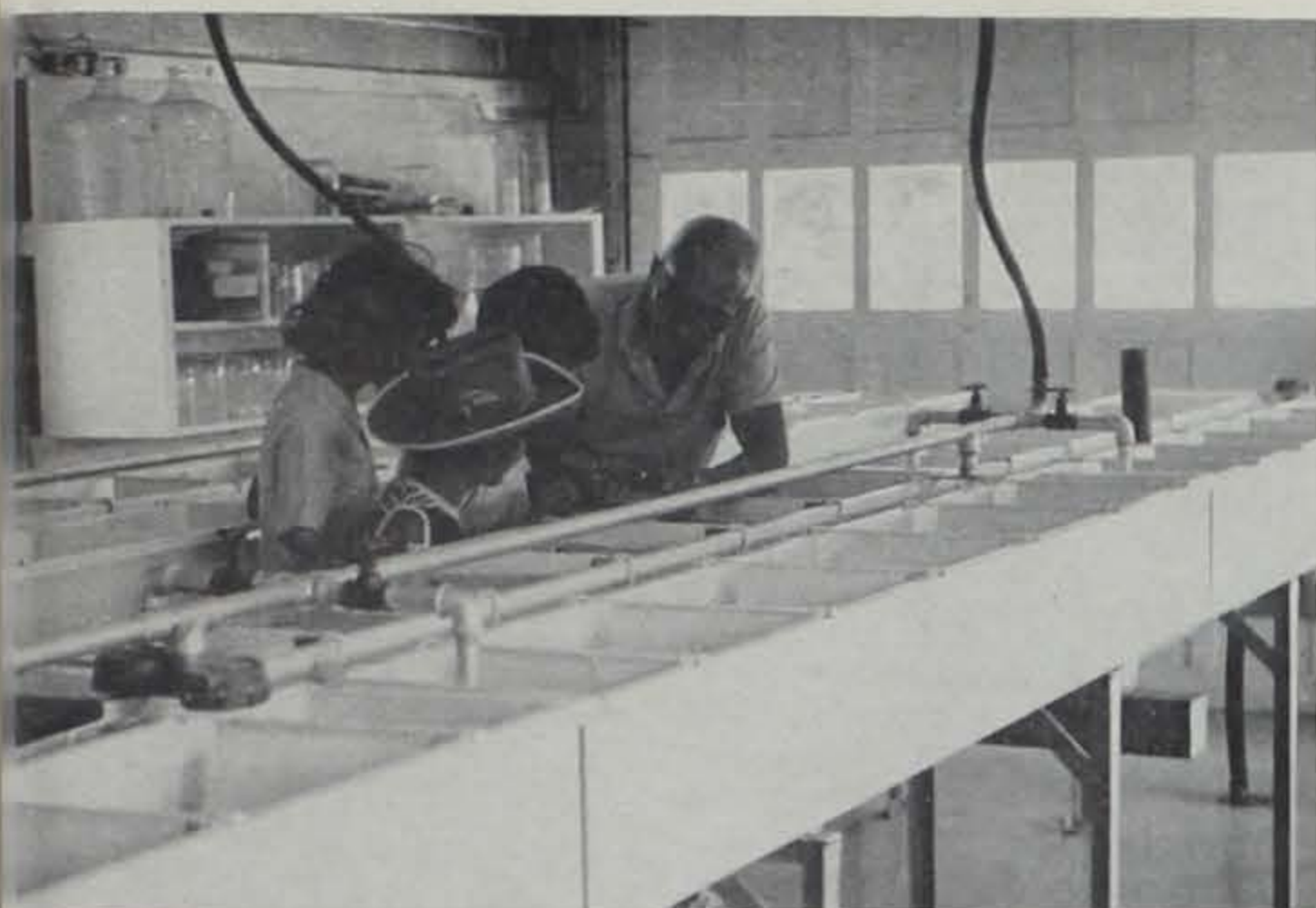
GENERAL

A report was given by the Personnel Director concerning pay scales and salary levels in the State Conservation Commission.

Travel was approved to the Mississippi Flyway Council Meeting at St. Louis; to Dorchester, Wisconsin, to haul muskies back Iowa; to the Conservation Education Association Meeting in Columbus, Ohio; to the Missouri Conservation Department at Jefferson City for a Bureau of Outdoor Recreation Meeting; to the Council of State Government Meeting.

The Commission approved the appointment of thirteen special police officers.

Approval was given for a resolution of thanks to Mr. and Mrs. Noble of Oelwein for their offer to donate a parcel of land adjacent to the Mississippi River to the State Conservation Commission and voted to have their August Meeting with the Commission in Oelwein on August 17.



Thousands of people from ages eight to 80 visit the hatchery to observe the catfish hatch.

SUMMERTIME . . . AND THE CATFISH ARE HATCHIN'

Story and Photos by Max Schnepf

In 1947, a batch of brood channel catfish was delivered to Ernie Rame, Fish Culturist at the Conservation Commission's Humboldt Fish Hatchery, with an order to "raise catfish!" So Ernie read what literature was available on catfish culture and began the long trial and error process of learning to raise what many people consider the number one game fish in the Hawkeye State.

That first attempt to culture catfish in Iowa netted 4,000 eggs. Today, the operation has mushroomed to the point where it exports an annual quota of a million catfish and is one of the major midsummer attractions in the Humboldt area.

The hatchery's operation is geared to coincide with the peak of the catfish spawn in late June and early July. In mid-June, brood fish are collected from the Little Sioux and Des Moines rivers. Five hundred to 600 adult catfish are netted, transported to the hatchery, sexed and released in concrete raceways or holding

pens, males in one, females in the other.

As the spawning date nears, the fish are paired—a male with a slightly smaller female—and released in two and one-half by five foot spawning pens constructed around the edge of a brood pond. Each pen contains a trash can, 10 gallon cream can or flu liner. The male catfish builds a nest in the sand bottom of the container, then herds the female inside and fertilizes the eggs as she lays them. A three pound female catfish will lay approximately 6,000 eggs. Usually, 70 to 80 percent of the paired catfish spawn.

Once the glutinous mass of eggs is deposited and fertilized, the larger protective male drives his mate off the nest and begins fanning the eggs vigorously with his pelvic fins. But here the natural course of events is interrupted. Daily checks are made to see if each pair of catfish has successfully completed its spawning activity. If so, the eggs, over the striking protests of the male fish, are plucked from the nest, dipped into a mercurochrome solution to prevent a parasitic infestation, then placed in wire baskets in special indoor hatching troughs.

For seven days, mechanical paddles simulate the male catfish's

beating pelvic fins and circulate 78 degree water over the eggs. Several times each day during incubation, the eggs are checked for a deadly fungus growth, which, if found, is picked off the egg mass with tweezers.

Slowly the pale yellow eggs take on a pinkish color. As hatching nears, they "eye out," so termed because the small black eyes of the unborn fish are visible through the transparent egg wall. Then the hatch comes off. The newborn catfish fall through the sides and bottoms of the wire baskets and for the first time swim freely in a new environment.

Following the hatch, the quarter-inch fry are syphoned off the hatching unit into a graduated cylinder to be counted. Each liquid ounce of fry represents 1,300

handled it would not bite again. This allegation has little credence, since fish have no memory and could not recall being handled five minutes after they were released. Fishermen themselves have poured cold water on this theory by mailing tags to the Conservation Commission that had been recovered from catfish taken on hook and line.

Later, the charge was levied that the Conservation Commission was not returning brood fish to the river. No fisherman likes to see several hundred keeper-sized fish hauled out of his favorite fishing hole, and if they are not returned, well, he has reason to be irritated.

To satisfy disgruntled fishermen, hatchery personnel now contact the area Conservation Officer who, in turn, contacts a local interested



Dinner time for the young catfish comes six times a day at two hour intervals.

young catfish. The fry are then transferred to rearing troughs—25,000 per trough—and, after four days, begin feeding on a finely ground fish meal placed in the troughs six times each day.

When the catfish reach three-quarters of an inch in length, they are classed as fingerlings, and the fish in each rearing trough are divided to prevent over-crowding.

In the meantime, the brood catfish are removed from the spawning pens and returned to the river where they were netted—a fact doubted by some fishermen on the Little Sioux River. A controversy, spawned by tavern talk, arose this spring over the use of brood fish from this river.

Irate fishermen, probably looking for a reason to explain why catfishing wasn't as good as they thought it ought to be, condemned the taking of brood fish from the river saying that netting operations were upsetting the catfish's habits and had made the fish quit biting. They alleged that once a fish was netted and

person and asks him to accompany the distribution truck and witness the return of the fish to the water.

By the middle of July, brood fish are returned to the rivers and hatchery personnel focus their attention on caring for the young catfish. A day and night vigil is maintained to insure that the fish remain healthy. Leftover food is removed from the rearing troughs daily. Troughs are scrubbed down once a week to remove algae and chemically treated to kill any parasites present in the water. In August the fish are stocked in selected waters throughout the state where hopefully they will provide many hours of angling pleasure for Iowans. One may even grow to lunker proportions and fulfill the boyhood dreams of some lucky angler.

The insect's heart lies as a tube along the back of the abdomen.

Many polar bears never see a blade of grass during their entire lifetime.



Periodically throughout the day the eggs are checked for a deadly fungus growth, which, if present, is picked off with tweezers.



Square the corners of the press, and glue each strip before nailing.



Cardboard, 15 thicknesses of newspaper, a plant, 15 thicknesses of newspaper, cardboard, etc., etc., etc.

BETTER THAN A BIBLE

Story by Jack Higgins

Photos by Jim Sherman

Ancient man literally feared those who held in trust the accumulated knowledge of preceding generations. As modern men we have freed ourselves from the fear of "things scientific." In gaining this freedom, however, we have turned away from our natural environment and are now confronted with new ignorance and fears. Whereas our grandparents could rattle off the common names of the plants and animals in the world around them, we cannot. More and more we find ourselves looking out at a sea of green that contains life forms that overwhelm us with strangeness.

The only way to remedy this situation is to accept the natural world as a challenge to be met. The question is, naturally enough, where does one begin? The easy way is to seek formal instruction in plant taxonomy, or identification. An alternate, and a more pleasant route, would be to look upon plant study as a challenging hobby.

It's one that differs from other outdoor hobbies in that you need to collect the specimen, "key it

out," and then preserve it in some manner. A birder, on the other hand, needs only to see a bird, not its markings and environment and then identify it with the help of a bird book or key. The reason for the extra steps in plant identification is the vast number of flowering plants and grasses that abound along roadsides and fence rows, to say nothing of those in the fields and forests.

The equipment needed is simple and inexpensive—white pine lattice strips, ten of which will be 12 1/4 inches by 3/4 inch by 1/4 inch and eight strips 18 inches by 3/4 inch by 1/4 inch. Wire nails and waterproof glue will be needed to construct two lattice grids 12 inches long by 12 1/4 inches wide.

First, place two 12 1/4 inch strips parallel to each other and 1 inch apart. Smear a little glue on each end of the 12 1/4 inch strip before completing the rectangle with two 18 inch strips. Fasten these to the glued corners with two nails. Make sure that each corner is square. Add two more 18 inch strips about 3 inches apart. Be sure to smear on some glue before nailing them on.

Turn the rectangle over and glue

(Continued on page 61)



Compress the stack firmly, then tie the press together with rope.

BETTER THAN A BIBLE—

(Continued from page 60)

nd nail three additional 12 1/4 inch strips to the 18 inch strips. These will need to be spaced about 3 1/2 inches apart. Again, remember to blue before nailing, and use two nails, diagonally spaced, at each joint. Repeat the entire process to complete the second half of the press.

You will also need 20 or more pieces of corrugated cardboard, each cut to 12 inches by 18 inches. Obtain a stack of newspapers and fold them to the approximate size of the press. Now, you're ready to collect specimens to be pressed. The beginner will of necessity be selective and choose plants from family groups that he may know. For instance, if you see a flowering plant that you can't identify, if you think it looks something like a daisy, then choose it as a specimen. This will aid you in learning how to use a "key" in making a positive identification. Perhaps the best book for use in identifying Iowa wildflowers is paperback book called "Weeds of the North Central States," Circular No. 36, published by the University of Illinois Agriculture Experiment Station, Urbana, Illinois. Another easy key for beginners is "Wild Flowers of Missouri," University of Missouri Press, Columbia, Missouri. A real pro might be more interested in the rather advanced text called "Plants of Iowa" and published by Grinnell College, Grinnell, Iowa.

At first it may seem odd that most of our many beautiful wildflowers are considered to be worthless weeds, yet when we consider weed to be "a plant out of place," we can appreciate both their nuisance and aesthetic values.

One word of caution to collectors: state law prohibits collection of wildflowers, plants, shrubs, and trees from within state parks and preserves. But since most wildflower-weeds are abundant in Iowa, collectors should have no trouble.

After collecting the specimen and identifying it, you are ready to press it. First, lay one frame of the press in front of you. The press is properly positioned if the piece containing the long pieces is on the ground. On top of the press lay one piece of corrugated cardboard. Follow this with about 15 thicknesses of newspaper. Under the upper sheet and place the specimen on the paper.

To properly preserve it for later study or display, you must take the care in spreading the specimen. Above all, avoid overlapping parts of the plant. And be

sure that some of the leaves are turned over so that you can view both sides at a glance. If more than one flower is available, turn it over also. Since one of the keys to plant identification is the way it looks when growing, try to have it in a lifelike position. If roots have been included, and it's often a good idea to collect the roots to insure positive identification, wash the soil from them before pressing.

When you're satisfied with the arrangement, fold the paper over the plant. Now add 15 thicknesses of newspaper on top of it. Put a piece of cardboard on top of the stack and you're ready to collect another specimen for pressing.

When the pile of plants, newspapers and cardboard is about 12 inches or so high, add the second frame and begin the pressing period. (Be sure that the side with the long pieces faces you.) Compress the stack firmly—if you can get someone to stand on the frame it will help—then tie the press together with two straps or ropes wrapped around the narrow portion of the frame.

Plant specimens will dry in three to six days. But since Iowa weather is generally humid, it will be necessary to check the specimens at least once a day. If the plants were of a succulent type, it will be mandatory that you change the newspapers each day.

You have succeeded if, after a suitable time, the plants are bone dry, yet vivid in color. That is, the leaves and flowers will have retained the exact shades of color that they had when picked. If you have neglected them, fungus and decay will have blackened their color and hence made them worthless as specimens.

The dried and pressed plants may then be mounted on regular mounting paper. This is accomplished with the aid of small drops of clear glue.

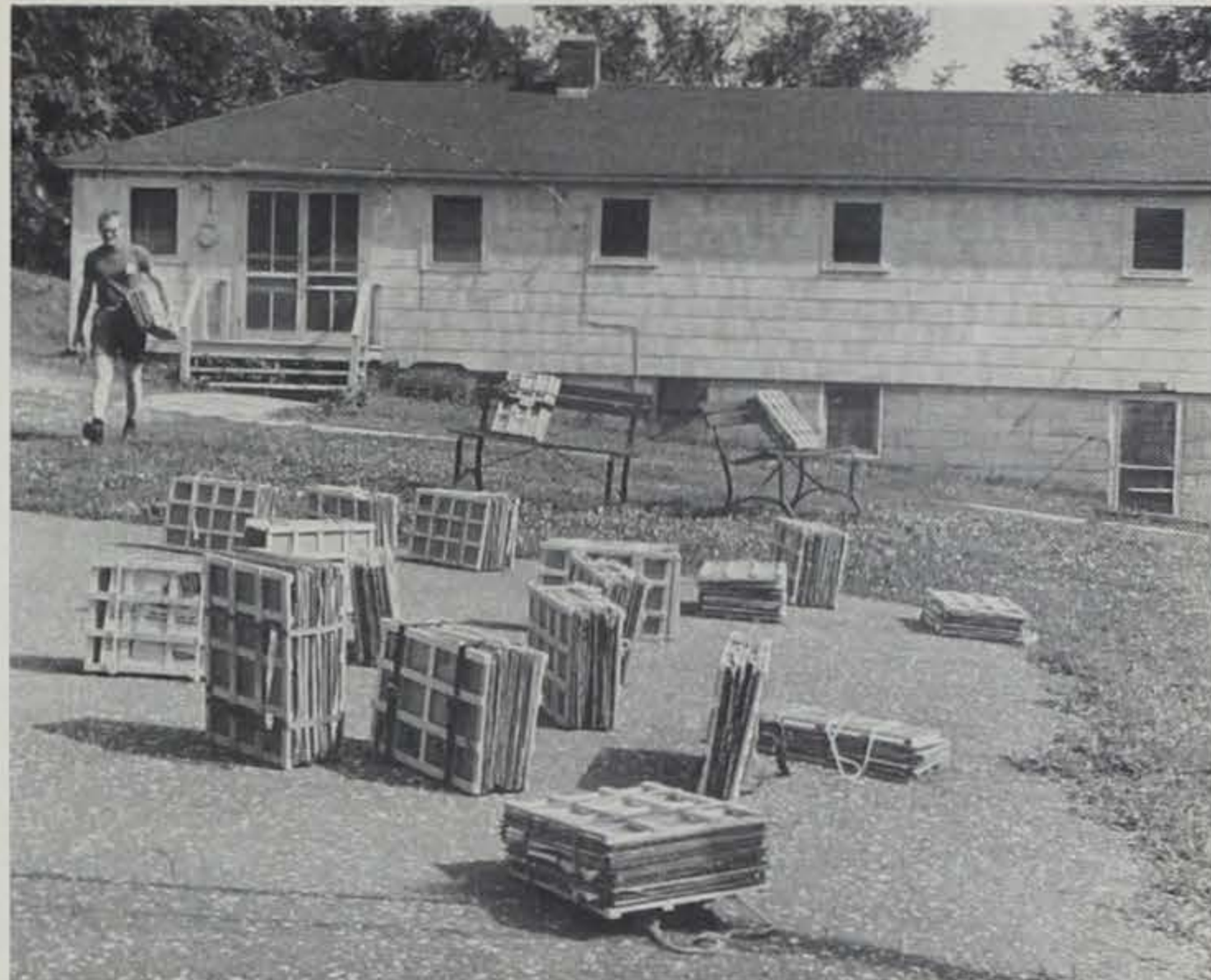
Incidentally, the press may also be used to collect and identify tree leaves. The only change in method is the collection of a small bit of bark to aid you in learning winter-time identification.

Properly mounted and identified specimens have many uses. Teachers find them invaluable in teaching natural values to young students, or biology to older ones. Mounted plants and leaves make excellent program topics for club meetings, and some people like to display them on the walls of family rooms during long winter months when the longing for the beauty that was summer is great.

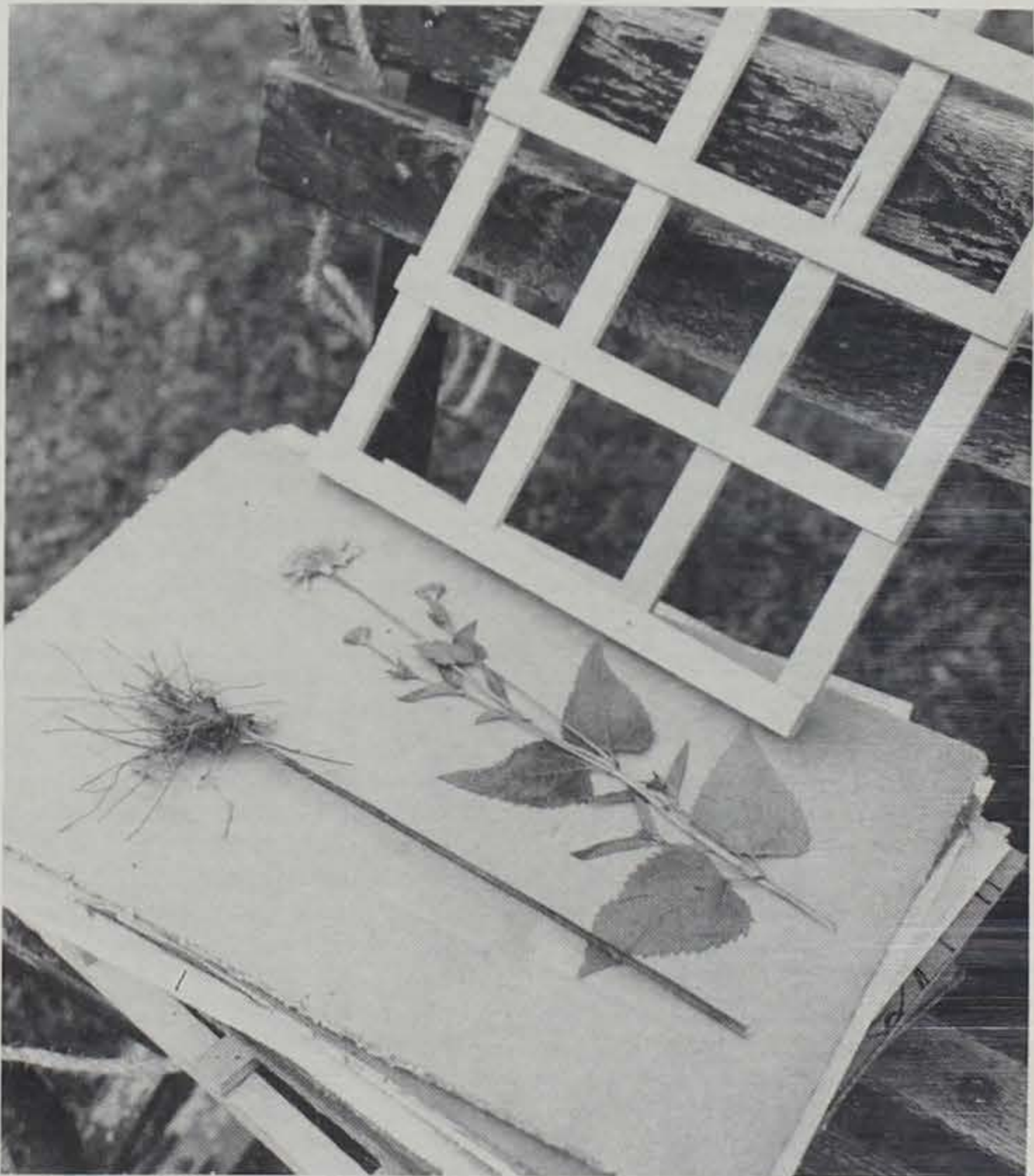
Whatever use you might make of your plant press and specimens, you can be sure of one thing—it will do a lot better job than the family BIBLE ever did!

Male pheasants weigh an average of three pounds and hens two pounds.

The small armored armadillo is a "fire eater." It devours fire ants, scorpions, tarantulas and roaches.



Newspaper may have to be changed daily during the drying process if humidity is high and plants are wet.



A successfully pressed plant should be bone dry yet exhibit its original color.

BEGINNER'S BASIC

A patched, or full patched, bullet is one that is completely encased within a metal jacket. Today this is more commonly referred to as a full metal case.

With smokeless powder, bullets are made with a lead or lead alloy core that is surrounded by a metal jacket. With some metal jacketed types, which do not expand upon impact, there can be an opening at the base. In any event, the "FMC" nose is always completely encased. (In contrast, the jacket is open at the nose of an expanding bullet.)

In the days of black powder, a

full patched bullet also was used; the lead bullet was frequently wrapped with a lubricated manila paper. This was done to prevent undue coating and barrel fouling.

The ringneck is only one of many members of the pheasant family.

The North American Antelope is the only animal in the world that annually sheds the horny coverings of the permanent horn cores.

The bobcat and lynx are this country's only bobtailed native cats.

A cat's jaw, unlike that of a dog, moves only up and down not sideways.

Migrations of American lemmings are smaller and occur less regularly than in Scandinavia.

Principles of Game Management: Part Two

PREDATOR CONTROL

John Madson and Ed Kozicky

A predator's character is painted with a broad brush.

Most hunters paint it black; naturalists may paint it white. In reality, the predator character is shades of mottled gray. Under some conditions predators can destroy a game population, but they usually co-exist with game and prey on surpluses without reducing breeding stock.

The predator is an animal that lives by killing all or part of its food. By this definition, man is the greatest predator of all. He is certainly the one that most resents competition. But in spite of man's resentment, most predators compete successfully with him and defy human efforts to exterminate them.

There are four basic factors that control the extent of predation on a game species:

1. The quality, quantity and distribution of available escape cover.
2. Abundance of the game species.
3. Abundance of predators that prey on that game species.
4. Other food available to predators.

Lack of escape cover is the biggest factor in excessive predation. Healthy game usually exists in adequate game habitat which—by definition—also includes adequate escape cover. In good habitat, predators rarely depress game supplies.

Both predation and predator control are spectacular, and capture the imagination of the average sportsman as the obvious problem and solution of dwindling game supplies. The quiet removal of an osage hedgerow or brush patch is not spectacular, but its effect on game population, like death, is final. Game cannot exist without adequate escape cover, and if such cover is present there can be a co-existence of prey and predator.

Most game populations greatly outnumber their predators. Nature creates prey surpluses that are expendable, and only a relatively small number of breeders need to survive. The surpluses are doomed to die under beak, claw or gun, or by disease, weather and starvation. For this reason, predation on high game densities—which have larger surpluses—has little net effect on the game population.

It is possible for a large number of predators to be harmful to a small number of game animals. In some cases with big game—such as a remnant antelope population and a large number of coyotes—control of the coyotes may be necessary. However, coyote predation is rarely a factor in determining survival of normal, established antelope herds. Most predators are opportunists that take the most available prey, and predation tends to be in proportion to the amount of available game. If the density of a prey species is light in relation to the density of its predators, those predators usually turn to more easily-caught food.

Alternative or "buffer" foods may distract a predator from the game supply most desired by man. A classic example of this is the predation of skunks on snapping turtle eggs around a marsh. Skunks prey on the turtle eggs and ignore the eggs of ground-nesting ducks. But if skunks are removed, the increased population of snapping turtles may begin preying on ducklings. Rabbits are a famous buffer food; they may protect pheasants from foxes and antelope kids from coyotes. Here again, adequate cover is important in producing more game and also more buffer foods to protect that game.

The basic premise of predator control is: predators kill game; therefore, if predators are killed there will be more game.

If cost is no object, it may be possible to control predators on a limited area for a time. But does the control warrant the cost, and is hunting benefited? In New York State, two areas were selected for a predator control study. One was heavily-trapped for 20 months; the other was not trapped. At the end of the study, foxes had been reduced by at least 75 percent on the trapped area. Yet, there was little change in pheasant numbers on either area, and hunting was no better on the trapped area than on the tract that had four times as many foxes.

The best predator control is good game habitat which may rear more predators. But even though predators increase with the rising game supply, their net effect on that game supply will decrease and there will be more prey surpluses for more predators, including man. To many hunters, such an increase in predators is desirable. Species such as fox, raccoon, bear, cougar, bobcat, lynx, coyote and wolf provide excellent sport and are considered game in many areas.

Both the benefits and detriments of predators have been over-emphasized. There are instances where predators have nearly wrecked a game population, and other cases in which they have benefited game by preventing overstocking of the available habitat. Normally, predation is a healthy function of nature and if it is suppressed other natural functions will act to control surplus game animals.

While predator control may be the most spectacular game management tool, there are few good examples of such control leading to sub-



Jim Sherman Photo

Sawfly larvae attack the leader or growth branch of pine trees.

BEWARE OF SAWFLIES

John Stokes
State Forester

A forest pest is once again making itself known in Iowa this year. Less given to publicity than the famous Dutch Elm Disease and Oak Wilt, the European sawfly poses a serious threat to Iowa's pine plantations. At present Scotch and red pines seem to be most infected, but the sawfly isn't snobbish and will attack all varieties of needled trees.

The first serious attacks of the European pine sawfly were found in the late 1950's on the Shimek State Forest near Farmington. The sawfly is now fairly well under control in the Shimek Forest, although new attacks do keep popping up from time to time. So far, its activity has been limited primarily to pine concentrations, such as found in plantations.

A sawfly attacks the old needles of previous years' growth, consequently, the tree seldom dies the first season. The focal point of their damage is the leader for the current year. When this is defoliated, they move from one branch to another, stripping the tree.

Caterpillar like larvae about one-half inch long are the needle-eating destructors. They are gray-green with black heads and black or deep green stripes down the middle of the back and on either side.

After feeding, the larvae drop to the ground and make a tough yellow-brown cocoon, usually some time in June. They emerge as

adults in September and October. The same fall, the sawflies mate and the females lay their eggs in slits in pine needles. Nearly 10 eggs are deposited by each female though only one to ten in each needle. Hatching occurs the following May, completing the cycle.

The most effective measures of control are DDT or similar chemicals and an unnamed virus disease of the sawfly. The only time for application, however, is when all larvae have hatched and are feeding. Timing is very important. Leaders on red pines should be between three and five inches long and scotch pine about the same at the time of treatment.

The virus is extremely effective. Only one teaspoonful to a gallon of water is necessary. It should be applied to the foliage at the rate of one gallon per acre of ten foot trees.

If unchecked, sawflies will stunt and kill trees. Furthermore, the defoliation of mature trees makes them an easy victim of the bark beetle and also susceptible to drought.

Further information may be obtained from the Entomology Department Extension Service, Iowa State University, Ames, Iowa, or State Conservation Commission District Foresters located at Elkader, Charles City, Anamosa, Muscatine, Fairfield, Chariton, Adel, LeMars and Red Oak.

The woodcock seldom sees what it eats. By driving a three inch bill into the mud, its highly sensitive tip feels earthworms, the principal food of the woodcock.

stantial increase in game. There are countless examples of predator control wasting money with no apparent change in the game supply. As a practical game management technique, predator control is seldom effective.—Olin Mathieson Chemical Corporation.

NIGHTTIME DUCK HUNTING

Ron Schara

"There's one!" A blue-winged teal slipped past the search lights and hurried into the tall marsh vegetation. The lights, powered by a portable generator, tracked the duck's path as the three-horse outboard roared and the boat trudged through a maze of cattails. A netter, in the bow, reached out with a long-handled net. He scooped and missed, scooped again and lifted the teal into the boat.

In a short while, the teal was banded and returned to the water, not realizing he was no longer leading a private life. The little metal band on his leg would tell his story and his movements and fate would be recorded in history.

Spending the night in search of ducks is a Conservation Commission project which began six years ago. First as an experiment, now as part of the state's duck banding program.

Ron Hoving, Game Manager at the Ingham-High Game Unit near Estherville, heads one of the two night lighting crews that work the state's marshes. Earlier in the evening, Ron had warned that ducks wouldn't be easy to catch. "They move into the thick stands of cattails as soon as it gets dark," he said, and he was right! An hour before sunset, the marsh was alive with broods of blue-winged teal, wood ducks, mallards and redheads. But later, as the boat plowed through the marsh, with two sealed beams lighting the way, it was like the ducks had disappeared. As the night wore on, however, ducks were caught, and a representative sample of the waterfowl in the marsh was banded.

About 3 a.m., a brood of teal was spotted in relatively open water. The engine sped off, and the boat circled part of the brood. A duck, regardless of size, definitely has the advantage in water. It took a five-minute chase to nab four of the young teal. Within minutes, the ducklings were banded, sexed and released to paddle back to the hen clucking in the darkness. "She'll have them together before morning," Ron said as he flipped the last duckling back into the water.

As the sun again peeked over the cattails to begin another day, the night lighting had to stop, and the last duck was banded. However, as the duck waddled away, one couldn't help but think that perhaps the next man to see the small aluminum band would be a hunter somewhere in a marsh, somewhere in the world. And when the band is returned, a storybook tale will begin to unfold.

TEAL TRAVEL FAR

Iowa's home-grown teal have been taken by hunters from almost all over the nation and in parts of Central and South America. Texas, Florida, Minnesota, Louisiana, Mexico, British Guiana, Cuba and Venezuela are a few of the states and countries that have returned Iowa bands. A large number of band returns have come from Venezuela, indicating that many Iowa teal spend their winters in this warm South American country.

In one instance, a teal banded near Keokuk, Iowa, was shot 33 days later in British Guiana, South America. Total miles traveled? Approximately 3,000!

Data such as this are obtained from band returns. Each band is stamped with a number and the return address of the Fish and Wildlife Service. The Iowa Conservation Commission, or whoever does the banding, records which band numbers are used, the sex and species of the duck, location of banding and other pertinent information. These data are relayed to the Federal Bird Banding Laboratory in Laurel, Maryland, where the data for each duck are entered on punch cards and filed.

BAND TELLS BIRD'S HISTORY

When the band is returned, either from a hunter or another source, the final chapter in the life of that particular duck is written. Information as to where, how and when the duck was taken is entered on the card. The result is a complete history of each bird. The next step is to combine the data from each duck of one species. This gives biologists an overall picture of the population and migratory routes of the species and is ultimately used by the Fish and Wildlife Service and states within the Flyways to set seasons, limits and other regulations.

Banding data from each duck are also relayed to the state in which the duck was banded and to the hunter who shot the duck. In Iowa, approximately 65 per cent of the band returns are from blue-winged teal since he is the most abundant nesting duck in the state.

Waterfowl and their management is "big business" at both the state and Federal level. In Iowa, thousands of ducks are banded each year using the night lighting, drive banding or bait trapping techniques. Much money and many man hours are involved. Why? Because the duck, the cattails, and the life, sounds and environment of a marsh are a heritage which Iowa and Iowans enjoy. To many, there's nothing more beautiful in the world!

CONSERVATION FORUM—

(Continued from page 58)

Dear Sirs:

In the June issue of the Iowa Conservationist, I read (Getting to Know the Channel Catfish) by Mr. Harry Harrison, Superintendent of Biology.

Well, I just had to try my luck so I picked up an 85 year old kid friend of mine and drove out a couple of miles to the Garretson Ditch to fish off the bridge. Neither one of us could get down to the water (we could get down to the water O.K. but couldn't get out. Not as spry as we used to be.) Well, we didn't catch anything from that bridge so we drove to the Rodney Bridge which is over the Little Sioux drainage ditch about a mile and a half from Rodney. Conditions were ideal. There is a gravel pit on both sides of the ditch and trucks were crossing the bridge every ten or fifteen minutes, but we stayed with it. In about an hour, I hooked one. My baited hook was down the river about 100 yards so it took some time to reel her up to the bridge. She put up a good fight all the way but was pooped when I got her to the bridge. I had a 6-lb. test line on with a short light leader and a very small gold colored hook that I had used for perch. Well, when I lifted her out of the water and about 3 or 4 feet high, she gave a flop and away went the fish with the hook and leader. The knot in that monofilament line was defective. Well, so much for that fish story. Oh, guess I forgot to tell you the fish was 14½ inches long. Well, I tried on a little larger hook and a better knot and went at it again. In about one-half hour I hooked another; this one I thought was smaller than the one I lost. Anyway, I got her up on the bridge, and there was my little gold colored hook and leader in her mouth so I know it was the same one that I lost about one-half hour before.

Now what you want to know is, how long, 14½ inches, caught June 16, 1965, tag number A 3628. I know it was a she because she was full of eggs. Caught in the Little Sioux drainage ditch about one mile from Rodney, Iowa. Tag enclosed.

D. A. Cleveland
Hornick, Iowa

P.S.: Please do something about that dam in this ditch about east of Onawa, Iowa. It has nearly spoiled our fishing and must be fixed.

Following receipt of Mr. Cleveland's letter, we obtained the tag history of the catfish. The fish was tagged and released on May 18, 1964, in the Little Sioux River, one-half mile north of Turin, Iowa. It was a female as Mr. Cleveland indicated in his letter and was 11.4 inches long when tagged. The catfish moved upstream 10.2 miles in the 394 days between the tagging date and the date (June 16, 1965) Mr. Cleveland caught it.—Ed.



"That's the way I like books—in trees!"

1965 CONSERVATION LEGISLATION

Following is a partial list of legislation pertaining to conservation that was enacted by the 61st General Assembly and signed by the Governor of Iowa.

HOUSE BILLS

- H.F. 86** **An Act to Increase the Amount of Road Use Tax Funds Allocated for Construction and Maintenance of State Institutional Roads and State Park Roads.**
Increases the annual allocation for this purpose from \$500,000.00 to \$1,000,000.00 to be divided between the State Conservation Commission, Board of Control and Board of Regents.
- H.F. 162** (Senate Companion Bill 156) **An Act to Authorize the Board of Control of State Institutions to Permit Trustworthy Boys to Be Assigned to State Parks, Forest Areas, Game Preserves, and other State-owned Lands Under the Jurisdiction of the Conservation Commission for Work Programs Therein Having Inculcation of Attitudes, Skills, and Habit Patterns, and to Provide Facilities Therefor.**
Allows boys from the Eldora Training School to be assigned to Conservation Commission work programs in hopes of aiding their rehabilitation.
- H.F. 249** **An Act Relating to the Bonding Authority of the County Conservation Boards.**
Gives bonding authority to all County Conservation Boards, regardless of county size (population).
- H.F. 256** **An Act Relating to the Spearing of Fish by Scuba Divers.**
Makes spearing of fish by scuba divers and skin divers legal and provides the State Conservation Commission with authority to regulate the activity.
- H.F. 371** **An Act to Authorize the State Highway Commission to Enter into Agreements for Removal and Preservation of Historical, Archeological, and Paleontological Remains Disturbed or to be Disturbed by Highway Construction.**
Will provide for the preservation of historical sites that might otherwise be disturbed or destroyed by highway construction.
- H.F. 412** **An Act Relating to Water Pollution Control, to Establish the Iowa Water Pollution Control Commission, and to Make an Appropriation therefor.**
Provides for the prevention, abatement and control of potential or existing water pollution.
- H.F. 567** **An Act to Amend Section 106.12, Code of 1962, Relating to Littering of Public Waters, Ice and Land.**
Makes littering illegal on all lands and waters under the jurisdiction of the State Conservation Commission. (Penalty)
- H.F. 575** **An Act Authorizing Participation by this State and its Subdivisions in Programs of Federal Assistance Relating to the Planning and Development of Outdoor Recreation Resources and Facilities, and for Related Purposes.**
Allows the State of Iowa and its subdivisions to participate in Federal recreation and conservation projects if and when Federal funds are made available for such projects. Insures legal participation in The Bureau of Outdoor Recreation Land and Water Conservation Fund program.
- H.F. 633** **An Act Granting the Board of Curators of the State Historical Society the Authority to Establish a Uniform Official Historical Marker System, and to Provide an Appropriation Therefor.**
Provides for the establishment of an historical marker commission which shall have as its purpose the establishment of a uniform identification and marking system of Iowa's historical sites.

SENATE BILLS

- S.F. 245** **An Act Relating to Fishing with Bow and Arrow in State Parks and Preserves.**
Marks bow fishing legal in state parks and preserves and provides the State Conservation Commission with authority to regulate the activity.
- S.F. 249** **To Permit Use of Box Traps in Trapping Cottontail Rabbits and Squirrels.**
Makes box trapping of cottontail rabbits and squirrels legal providing the trap cannot take more than one rabbit or squirrel at each setting and the trap is tagged with a metal

tag plainly labeled with the owner's name and address. valid hunting license is required for box trapping except otherwise provided by the Code of Iowa.

- S.F. 293** **An Act to Amend the Fees Charged for Hunting and Fishing Licenses and Trout Stamps as Set Out in Chapter 1 Code 1962.**
Beginning January 1, 1966, a resident Fishing license will cost \$3.00, a resident Hunting license will cost \$3.00, combination Hunting and Fishing license will cost \$5. and a Trout Stamp will cost \$3.00.
- S.F. 348** **An Act to Amend Section 109.73, Code 1962, Relating Use of Throw or Trot Lines in Fishing.**
Allows use of one trot or throw line, with up to 15 hook in waters south of U. S. Highway 30. A trot or throw line must have a tag attached plainly labeled with the owner's name and address and must be checked at least once every 24 hours.
- S.F. 397** **An Act Relating to the Training of Dogs for Hunting.**
Allows the training of dogs on game birds and furbearing animals at any time during the year except during the open gun season for hunting deer. Also contains restriction on use of pen raised game birds for training dogs, use of call pens and conducting field and retriever trials.
- S.F. 475** **An Act to Establish a System of State Preserves and Provide for the Control and Management of Same.**
Provides for establishment of a seven-member board whose purpose will be designation, control and management of areas which have unusual flora, fauna, geological, archeological, scenic or historical features of scientific or educational value.
- S.F. 540** **An Act Authorizing the Governor to Accept Federal Funds**
Authorizes the Governor to accept for the state, funds provided by any act of Congress for the benefit of the State of Iowa or its political subdivisions, provided there is an agency to accept and administer such funds. Also authorizes the Governor to administer or designate an agency to administer any such funds until an agency of the state is established for that purpose.
- S.F. 543** **An Act Relating to Comprehensive Planning of Water Resources of the State and Matters Associated Therewith.**
Provides for a comprehensive state-wide plan for the proper utilization and protection of the water resources of the state.
- S.F. 566** **An Act to Appropriate Funds from the General Fund of the State of Iowa to the Conservation Commission for Construction, Replacement, Repairs, Development and Alteration to State Parks and Reserves, State Forests and State Waters, for Dredging, Artificial Lake Development, Erosion Control, Stream and Lake Access, Land Acquisition, for Siltation Control, for Boundary Surveys, Engineering Services and Authorizing the Obtaining and Acceptance of Federal Funds to the State to Be Used in Connection with This Appropriation and Federal Funds in Addition Thereto.**
Appropriates \$2,745,230.00 for capital improvements and maintenance.

WATER SAFETY PAYS!—

(Continued from page 57)

6. Muscle cramps are warning signs. Don't ignore them. Leave the water immediately.
7. Night bathing is dangerous except in supervised areas.
8. Special caution must be taken when water temperatures are low.
9. Swimming from boats in deep water is unsafe, even for accomplished swimmers.
10. River currents are dangerous and river depths are unpredictable.
11. Don't take chances.

SAFETY RULES FOR BOATERS

1. If your boat capsizes, stay with the boat. Hold on until rescued.
2. Don't overload your boat. Know its capacity.
3. Never stand up in a boat or canoe and stay seated to raise anchor.
4. When changing positions only one person move at a time. Hang on and keep weight low.
5. Storms develop fast—strike for shore when storm clouds gather.
6. Don't overpower your boat.
7. Is your boat seaworthy? Will it float if upset?
8. Non-swimmers may safely use small craft only when in shallow water reasonably close to shore.
9. Know and observe navigation laws. Operate carefully and cautiously.
10. Always wear life jackets in small craft.
11. Don't take chances.