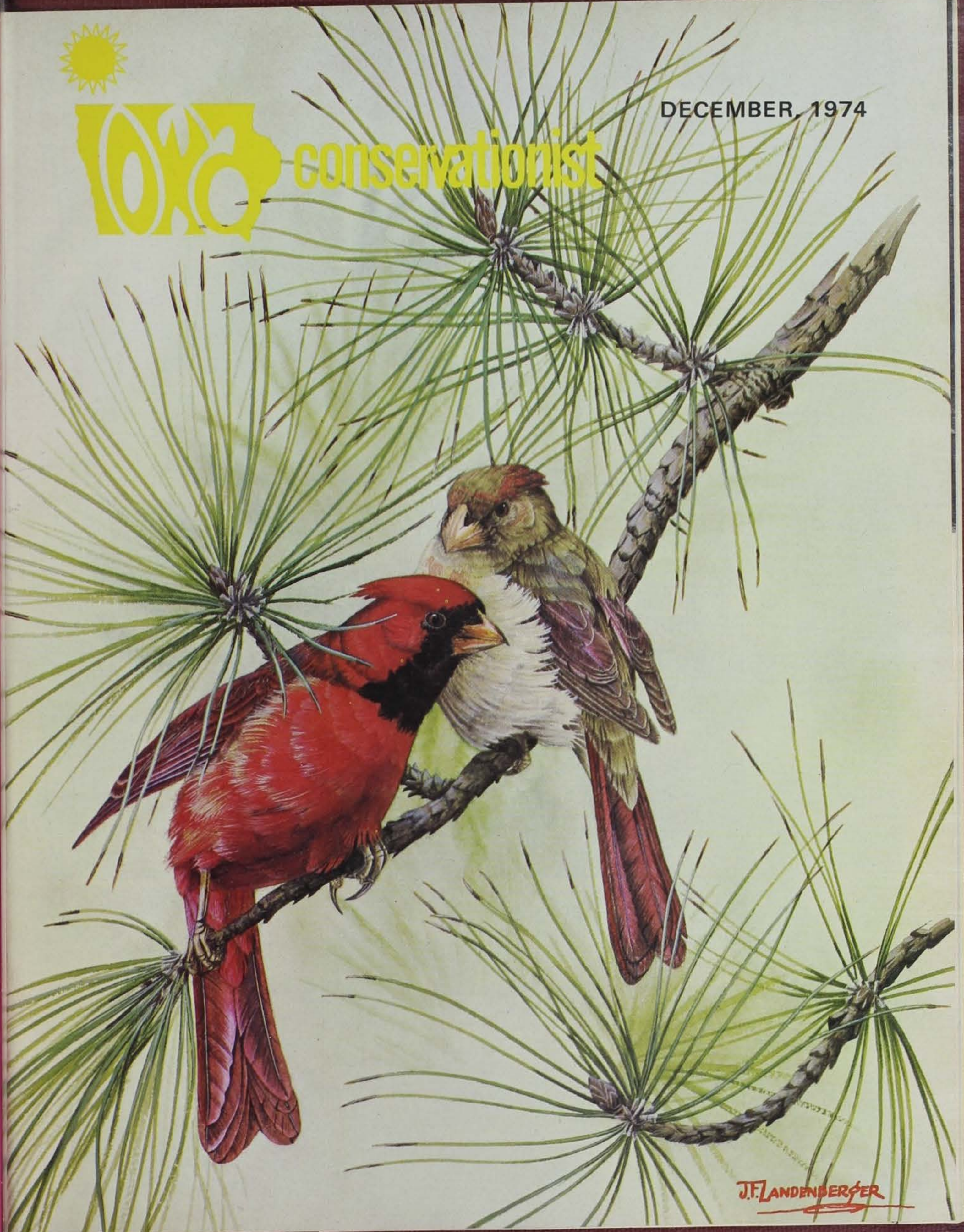




DECEMBER, 1974

OKO conservationist



J.F. LANDENBERGER



IO conservationist

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Cardinals

This month's cover is a detail from a painting by wildlife artist Jim Landenberger, 2031 Northgate Drive, Cedar Rapids, whose art for the 1974 Migratory Duck Stamp used on the August cover of this magazine received much favorable comment.



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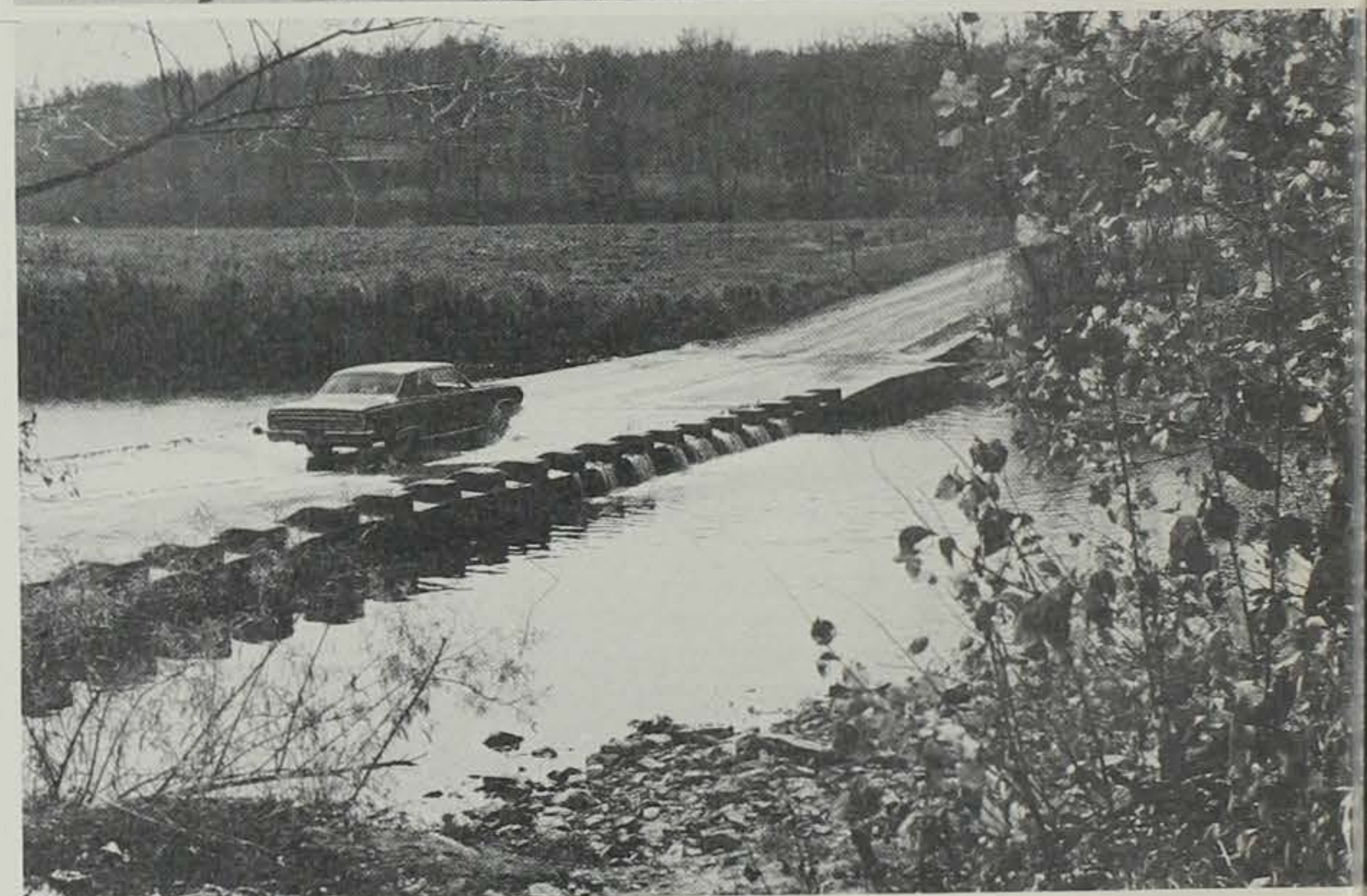
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Photos By Wayne Lanning

Pammel State Park

by DON BLASKY

Assistant Superintendent of Parks

ANYONE KNOW where you can stand in one spot and see an Iowa river run in all four directions at the same time? The place is on top of the "backbone" in Pammel State Park, five miles southwest of Winterset. From this limestone ridge, the river flows to it from the east, turns and flows south by it on one side around the end and turns back and flows north on the other side; then swings gently and flows on to the west.

An early settler to this area noted this and reasoned that there must be enough difference in elevation of the river on the lower side to divert the stream through the limestone ridge and use it for water power. Thus the first opening was made through the ridge. It proved successful and a mill was operated for a number of years using this man-made tunnel for water power. Later years the tunnel was enlarged with the use of prison labor so that vehicles could pass through it. This tunnel later was again enlarged and is the only road tunnel in the state. Another feature of the area is the bridge that crosses the river as you

enter the park. This was the first monolithic continuous poured concrete bridge in the state of Iowa. Speaking of bridges, several of the remaining covered bridges in Iowa are within a few miles of the park, the closest being Roseman Bridge west of the park. It was built by H. P. Jones in 1883.

Legend has it that this bridge is haunted. This story got its beginning many years ago when two posses were chasing an escaped prisoner from the county jail. The two posses saw the escapee enter the bridge and raced to the bridge from opposite ends. Shortly after trapping the man inside, they heard a wild cry and looking to the top of the bridge, they saw the man rise through the air and disappear. Fishermen fishing near the bridge on misty nights say they can still hear the laughter of this man and hear him running on top of the bridge.

Pammel State Park has a popular camp area within its 225 acres. A rustic enclosed shelter is the favorite of many for family reunions and company picnics. □

T IRED OF STAYING INDOORS on these winter weekends? Are you itching for warm spring weather so you can begin fishing again. Well, there is absolutely no reason to wait for spring. Some of the best fishing can be experienced during the winter months.

Many people don't realize fish can be caught from under the thick sheet of ice that annually covers Iowa's lakes and streams. An afternoon's fishing can produce a five-gallon bucket full of tasty bluegills and crappies with an

occasional bass for added excitement. Lakes that produced good fishing for you during warm weather months can provide even better fishing during the cold months of winter.

Several basic fundamentals are important if your ice fishing is to be a success. First, and of prime importance, is safety. Never venture out on the ice if you are not 100% certain it is thick enough to support your weight. Check with an ice auger or spud on new areas. Always take a

buddy when you fish and it's a good idea to carry a 50-foot length of strong rope early and late in the season. Always take plenty of warm clothing—those warm rubber boots are a necessity.

Equipment can be simple or complex. Basically all you need is something to cut a hole through the ice, a line, lure and bait. However, as with other fishing, good equipment improves both the catch and the fun. A serviceable rod can be purchased for

CONSERVATION COMMISSION PHOTO



The Perfect Remedy

by **JOE SCHWARTZ**
Fisheries Management Biologist

\$2.00 or less at bait dealers selling ice fishing equipment. More expensive rods are also available. You can make a good rod by using a 12-inch length of 1-inch dowel and a piece of broken rod. Drill a hole in the end of the dowel, glue and insert a 2-foot section of rod tip, tape on your favorite reel (an ultralight spinning reel is ideal) and you're in business. If you plan to ice fish a lot and prefer to get fancy, you can purchase all the parts necessary to build a first-class rod or one can be made using parts from a broken rod you have on hand.

Now that you have your rod you will need line, lure and float to complete the outfit. It is very important to use the lightest gear practical. Line should be 2- or 4-pound test. Lures should be tiny spinners, tear drop lures or flies. A float just large enough to suspend your bait will help. Some sort of live bait must be attached to the lure's hook. Wax worms, meal worms, corn borers or the larvae found in goldenrod galls all work well, although wax worms seem best. These baits, along with other equipment, can be purchased from your local bait dealer or from companies which advertise in outdoor sporting magazines. Check the classified ad section.

You will need several other items to complete your equipment. Have an ice auger or spud bar to cut a hole through the ice. A small dipper is needed to remove chunks of ice from the hole. Take a bucket to hold equipment, sit on and hopefully, to carry home the fish.

It's a calm, sunny, thirty-degree day and you and a friend are ready to go fishing but the question "where to go" remains. Table I lists the lakes found in southern Iowa which are proven good ice fishing lakes. If your favorite panfish is not listed this does not mean you can't catch fish through the ice, but so far, few people have tried winter fishing at that particular lake. Lake Easter (Polk County), Bays Branch (Guthrie County), Walnut Creek Marsh (Ringgold County) and Green Valley (Union County) will not have good fishing because they are undergoing renovation and the newly stocked fish are small. Keep these lakes in mind, however, because the fishing should be excellent in two or three years.



Photo By Wayne Lanning

Not to be discounted are farm ponds. Despite their small size these tiny reservoirs can provide excellent ice fishing. Try ponds where you caught big bluegills during the summer.

Another lake with the potential to provide fantastic ice fishing is Lake

Rathbun. To date, ice fishing in this 11,000-acre reservoir has been poor, primarily because locating fish on a lake this size is a difficult and frustrating job. The Honey Creek arm of the lake provides spectacular spring crappie fishing and would be a likely spot to try fishing through the ice.

Electric knife speeds panfish fileting.



Photos By Wayne Lanning



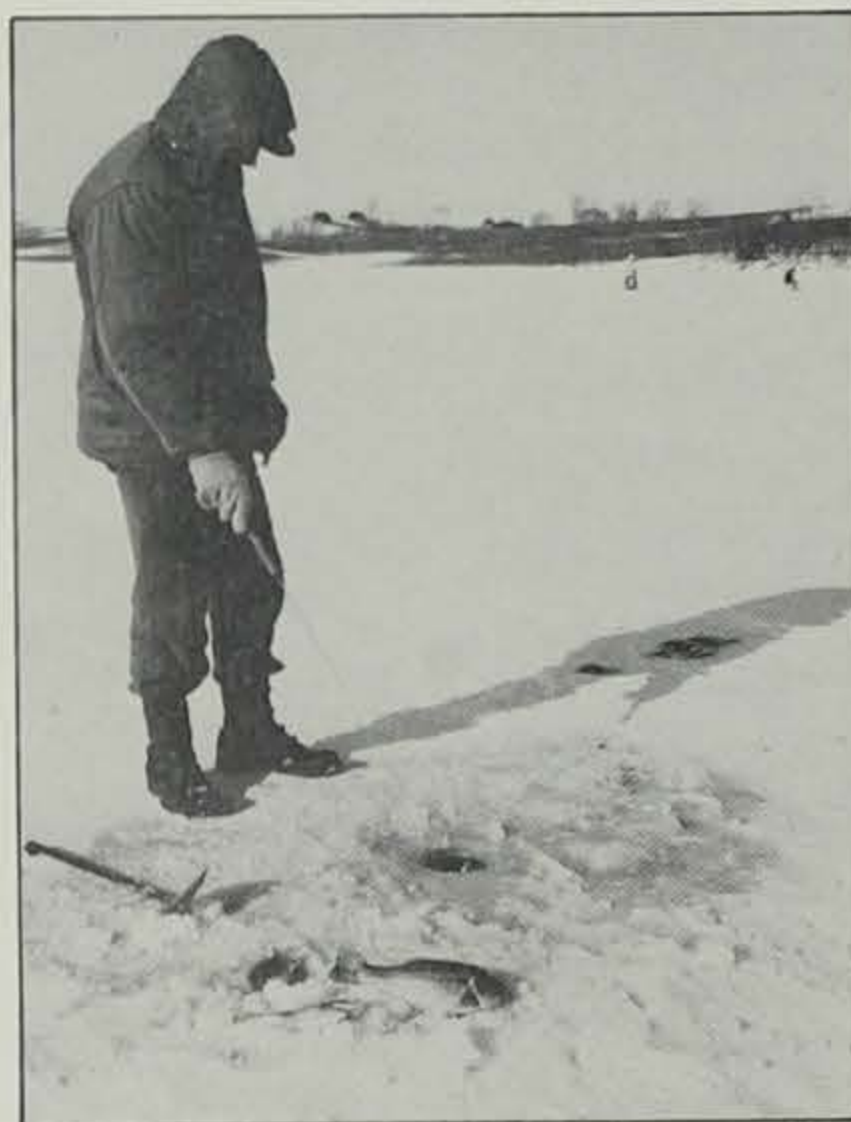
Conservation Commission Photo

Winter panfishing at Lake Ahquabi

YMCA Lake 3 miles north of Burlington

After you get to the lake just how do you go about locating the fish? Generally, fish are in deep water during winter — start fishing just off the dam. Should you be unable to find fish there, look for ridges that run down into the lake. Fish along the crown of a ridge until you catch a fish. Try another area if the fish are not along a ridge. The important thing is to keep moving until a school of fish is located. Fish in one spot no longer than 10 minutes if none are caught. Ask other fishermen where they have their best luck if you are unfamiliar with a lake. Also, good fishing spots tend to be good in succeeding years.

Drill a hole in a likely looking spot, lower the lure to the bottom, raise it one foot and you're in business. Cold weather fish bite lightly but willingly, so be prepared. Remember, good management on southern Iowa lakes includes removal of large numbers of



Conservation Commission Photo

panfish, so don't be afraid to take home plenty of fish.

When ice fishing, don't forget these basic rules: (1) Be safe. (2) Dress



Photo By G. L. Marzeck

warmly. (3) Use small diameter line and tiny lures. (4) Change location often. □

Table 1. Good ice fishing lakes located in southern Iowa.



Photo By G. L. Marzeck

Lake	County
Morman Trail	Adair
Hannen	Benton
Lake Anita	Cass
Cold Springs	Cass
Lake Wapello	Davis
Springbrook	Guthrie
Lake Iowa	Iowa
Mariposa	Jasper
Lake MacBride	Johnson
Amber Lake	Jones
Lake Odessa	Louisa
Red Haw	Lucas
Lake Keomah	Mahaska
Viking Lake	Montgomery
Prairie Rose	Shelby
Hickory Grove	Story
Lake of Three Fires	Taylor

Are you one of those people who have asked, "Why should any of my hunting license money be used for research?" One answer is that much of our current management is based on knowledge gained from past research. The next question is: What research projects are being conducted in Iowa and how do they relate to the future of hunting in Iowa.

Much of the current research is designed to increase the distribution of game species within the state. First we must determine the requirements of the species with which we are working. Then we must find where these conditions exist in the state. The question must then be answered as to why this species does not occur in the area now. If the species was eliminated by overhunting or habitat changes, then a reintroduction program might be justified if conditions can be or have been reversed. Another instance where a stocking program might be justified would be when an area has suitable habitat for an exotic species. A situation that may also exist is that a species may have been limited by the

lack of habitat under natural conditions, but this habitat may have been modified to the point where a species can extend its range. Many professional wildlife biologists contend that a species will spread into any area that is suitable for it if the species exists in other nearby areas. While this is often true, the rate of spread of a species can be greatly increased by an intelligent stocking program.

The best example of the successful spread of a once native species is the white-tailed deer. In the 1930's deer were restricted to a few herds scattered throughout Iowa. A combination of trapping and releasing in other areas and natural dispersal has provided us with a huntable deer population in every county of the state.

In the early 1960's biologists with the Conservation Commission realized that good pheasant habitat existed on uplands between the major river valleys in southeastern Iowa. The pheasant was slowly invading these upland areas. The Commission caught wild pheasants in southern Iowa and

took them to the Wildlife Research Station where thousands of young pheasants were raised. These young pheasants were released in what appeared to be good habitat. We now have huntable populations of pheasants in areas where none existed ten years ago. An important point to note here is that wild birds from a similar area were used as the parental stock. In conjunction with the work to extend the range of the pheasant the Conservation Commission supported a project to measure the influence of temperature and other environmental variables on pheasant nests. We also supported some studies to measure how much the stress of transporting pheasant actually hurt them. Both of the projects were conducted by students in the Wildlife Research Unit at Iowa State University.

The wild turkey was abundant throughout much of Iowa when the pioneers first settled. Indiscriminate shooting and habitat destruction eliminated this species by 1920. Wild turkeys from Texas were released in northeast Iowa in 1960 but have not

WILDLIFE RESEARCH IN IOWA

By Dr. Vern Wright
Wildlife Biometrician

(Part I)

Commission Photo

In the early 60's, pheasants were released into good habitat areas that now produce good hunting.



done well. A few years later, birds from Nebraska were released in several parts of Iowa and some of their descendents are still surviving. In 1966, wild turkeys from the Ozark Mountains of Missouri were released in Shimek State Forest in southeastern Iowa. In 1968 similar birds were released in Stephens State Forest in south central Iowa. Both of these populations boomed and these two sites and northeast Iowa, which has received additional birds from other areas, have been opened to the first turkey hunting in Iowa in more than 50 years. An important point to note is that only wild trapped turkeys have been used in our releases. I know of no population of wild turkeys that has been established from pen reared birds any place in the United States. The next question is: Will we be releasing turkeys into other areas? The answer is yes. In the last two years we have stocked several areas in Iowa with birds trapped in Stephens and Shimek State Forests. We will continue this program and bring in more birds from Missouri in the next few years. Commission personnel are currently developing a list of the best places in Iowa to stock turkeys. One of the critical questions which arises is how small an area can be expected to furnish a huntable population of turkeys. One of our research projects will be to place radios on turkeys and follow the birds after they are released in a relatively small river valley. We will also be watching closely the results of our other turkey stockings.

Our only other unqualified success on trying to increase the range of a wild game animal in Iowa is the re-establishment of breeding populations of Giant Canada Geese in northern Iowa. These birds were once native across most of the northern half of the state, but disappeared completely from this area a number of years ago. We obtained a few pair of big geese, permanently clipped a wing, and released them in a large pen in northern Iowa. Young from these birds were allowed to fly freely and are now nesting in many areas of northern Iowa.

In addition to these successful projects to increase the distribution of game animals in Iowa, we are currently involved in some other projects. One of

these is an attempt to reintroduce ruffed grouse into unoccupied areas of its former range. Ruffed Grouse were common in Iowa during the 1800's but the only remaining populations are in northeastern Iowa. This species disappeared from its range in most of Iowa following the intensive timber harvest of the early 1900's. We believe that regrowth of forests in parts of southern Iowa may now furnish suitable habitat. About 40 grouse were released into Shimek State Forest in southeastern Iowa in 1971 and into Stephens State Forest in south-central Iowa in 1972. We do not know if these reintroductions were successful or not, but the Shimek release shows promise. All of the grouse released in these areas were trapped in northeastern Iowa.

The Iowa Conservation Commission has also been trying to



Stocking may expand ruffed grouse range.

introduce the Hungarian Partridge into intensively farmed areas in southwestern Iowa. The Wildlife Research Station at Boone has been one of the few places in the United States that has been able to raise this sporty game bird in captivity. One problem that may occur with Hungarian Partridge is that they are susceptible to a disease carried by pheasants. The susceptibility to this disease was first documented at the Wildlife Research Station in 1973 and biologists have designed some experiments to estimate how important it may be under natural conditions. If the experiments show that the disease is important in the wild then we will not release Hungarian Partridge in areas with good pheasant populations. Another project associated with our attempts to spread Hungarian Partridge into southern Iowa will be conducted by a graduate

student with the Cooperative Wildlife Research Unit at Iowa State University. This student will use radios to help him find the partridge after they are released and thus evaluate the success of the release.

Under primitive conditions mallards nested extensively in the prairie pothole region of north central Iowa, but were not common nesters in southern Iowa. We believe that the lack of suitable natural ponds and marshes in southern Iowa was the reason no mallards nested there. A student with the Cooperative Wildlife Research Unit at Iowa State will be cooperating on a project to introduce mallards onto farm ponds. He will be trying to determine what types of farm ponds, if any, can be expected to produce wild mallards in southern Iowa.

Photo By Wayne Lanning

The Iowa Conservation Commission has attempted to establish Reeves Pheasants in Stephens State Forest of south-central Iowa. Several thousand of these woodland pheasants were raised at the Wildlife Research Station and released in the mid-1960's. We do not know of any Reeves Pheasants in this area now.

Another major type of research activity being conducted by the Wildlife Research Section of the Iowa Conservation Commission is to find better ways to manipulate habitat to increase the populations of game animals already existing in an area. One of our projects is concerned with how and when to burn an area to increase its value for wildlife. If we can find out when to burn an area to obtain desired results, then our wildlife management section will be able to use this information to improve our state

(Continued Page 15)

Boat Registration

by JAMES E. HORAN

Boating Safety Coordinator

THE END of the current two-year boat registration period is in sight again. Actually, May 1, 1975 will start another two-year period, but you can renew your current boat registration after December 1 if you want to beat the rush.

Boat registration may often seem a little confusing although it is really a simple procedure. If you can't remember exactly what information is required, or just exactly what you are supposed to do, always remember one thing—call the county recorder in the county of your residence and ask for assistance or check with the nearest water station.

If it is a new boat, you will need to fill out an application for boat registration and you must have proof of payment of sales tax. The application for registration can be obtained from the county recorder's office and will include questions concerning such information as name, hull material, type of propulsion, length, width, etc. Once this card has been completely filled out, return it to your county recorder and you may then obtain your boat registration.

In order to renew the registration on a previously registered boat, the county recorder must have your present registration certificate. This certificate not only shows that the boat is still in your name, but contains all the information needed to obtain a new registration certificate. Although you may be able to fill out the application without your present registration certificate, the county recorder still must check to see if the vessel is legally registered to you. When renewing a registration, please present your current boat registration certificate—it helps make the process work much easier and faster for you and the county recorder.

If you neglect to renew your registration by May 1 of each odd numbered year, you will then be assessed a penalty of one dollar for each additional six months (up to four years) that the registration is delinquent. This is because the

numbers on your boat have been assigned to your boat only and are not reassigned to any other vessel until and unless you so notify the county recorder that you have either sold the boat out of state or it was destroyed. In case of a destroyed or abandoned vessel, the county recorder must be notified within ten days of the destruction or abandonment.

Whenever you purchase a previously registered vessel from a friend or dealer, or your name or address is changed, you must notify the county recorder within ten days of the change. In addition to a penalty for not filing this information, violation is a misdemeanor under the Code of Iowa.

Lost, mutilated, or illegible registrations are invalid and you should immediately obtain a duplicate (fee \$1.25) from the county recorder.

These boat registration procedures are very valuable to Iowa's boating program. If they are accurate and up to date, we can identify lost or stolen boats, total number and type of boats presently in use, and be aware of the distribution of vessels within Iowa.

Federal funding of the boating safety program which also includes access areas (boat ramps) is dependent in part on this information. For the boater, fast and accurate service depends on timely and reliable information.

The county recorders need your cooperation in making renewals, transfers, duplicates, and reassigning boat numbers in order to maintain an efficient program.

The boat registration fee schedules are also listed here for your convenience:

- (1) Motor and sail: \$8.00 + .50 writing fee 2 years
- (2) All other non-powered, non-sail vessels: \$4.00 + .50 writing fee 2 years

Field Glances

By Larry Pool

Snowmobile Preparation

Part of safe snowmobile operation is preventive maintenance. Here are a few tips to help you enjoy a safe and fun snow season. Check the steering connections and skis for proper alignment. The throttle and brake lever should be operating freely—depress several times. Check the headlight and taillight for burned out bulbs. Battery water level is important on electric start machines. Inspect the drive belt for wear and tension. Tighten all loose bolts and nuts.

Always carry your owners manual plus extra emergency equipment such as: tools, spare sparkplugs, extra light bulbs and fuses, extra starting rope and ignition key, flashlight and first-aid kit. Be sure your machine is registered and always carry the snowmobile registration certificate with you. In addition, a flag or pennant is required on a public road or street. Don't forget to check your trailer license, lights, wheel bearings and hitch.

A copy of Iowa's snowmobile regulations may be obtained from your local conservation officer, county recorder or the Iowa Conservation Commission
300-4th Street, Des Moines, Iowa
50319

One of the most controversial animals in Iowa the past few years has been the coyote. Even on the national level this animal has been attracting a lot of attention. Shepherders in the western states have been engaged in a running battle with environmentalists and other groups including

governmental agencies, on the question of coyote poisoning and its effects upon other animals.

Although Iowans are not involved to that great extent, there is controversy concerning the "prairie wolf" within our own state. Some feel that this animal should be protected from the hunter, while others would

have the coyote eradicated to protect their livestock and domestic fowl. The Iowa Conservation Commission presently allows a continuous open hunting and trapping season on the coyote. In addition, some counties pay a bounty on coyotes and even this is sometimes supplemented by local sheepherding organizations.

COYOTE

By **BOB RUNGE**, *Contributing Editor*



In the southwestern part of the state, coyote hunting has reached the level of militaristic organization and ability. Groups of hunters in radio equipped pickups often stalk sections with dogs and fieldglasses. When a coyote is sighted the groups surround the animal as it attempts to elude the dogs. Highpowered rifles and even handguns are used and very seldom does the animal escape. To the casual observer it may seem that the coyote would soon be killed off in an area hunted in this manner. Strange as it seems, these hunters may kill three or four a day all winter long and the coyotes still hold their own. Those who would have this animal completely protected are probably not aware how many of these animals exist in Iowa.

On the other hand, the groups who would unleash unlimited poisoning are either ignoring the environmental impact of these chemicals or choose just to ignore it. As in many such cases, the middle ground seems to leave both sides unhappy and, presto!, we have a controversy.

Herb J. Mathwig, now a biology instructor at Morine Valley Community College in Illinois, while a student at Iowa State University completed a study on the food habits of Iowa coyotes. This information may help our readers in making up their minds on this subject. At very least, it is quite informative.

It was found by Mr. Mathwig and associates that during their two year study the cottontail rabbit was the most important food for the coyote. The rabbit represented 70.6 percent by volume and 59.6 percent by occurrence in all coyote stomachs they examined. Mathwig obtained the stomachs from trapped and shot coyotes in several southwestern counties. Second in importance was livestock. These animals occurred in 31.1 percent of the stomachs and comprised 14.0 percent of the volume for both years combined. Pigs accounted for most of the occurrence and volume but cows and sheep were also present. The only other important mammal was the meadow mouse although a variety of other mammals were found in trace

amounts. It is important to note here that livestock included both fresh-killed and carrion.

Collectively, birds were the fourth most important food group by volume. A variety of birds occurred in 21.2 percent of the stomachs and amounted to 4.2 percent by volume. The most important bird was the pheasant. Chickens, quail, starlings and owls were also eaten. Plant foods occurred in nearly two-thirds of the stomachs but only totaled 0.3 percent by volume. Grass was by far the most common plant eaten.

It was found that birds, rabbits and livestock were predominant in the winter. The summer months showed a marked increase in rodents, invertebrates and plant food. This of course is natural considering the effects of snow cover limiting the availability of these foods in the winter.

Mr. Mathwig also included scat (droppings) analysis in his study. It was found that the volume of plant foods in scats was much more than in the stomachs. This is probably a result of the fact that the scats were obtained only in spring, summer and fall when the vegetable matter would be at its high. In addition, the coyote probably takes in grass while capturing mice and also while eating carrion.

The other food groups held fairly consistent in percentages between stomach and scats. Any variance could be explained by the fact that no scats were collected in the winter.

It is obvious from the facts of this study that coyotes are a definite threat to livestock. But how much of a threat? Mathwig found that pigs and cattle constituted most of the 14.0 percent volume in the stomachs. Coyote predation on sheep and poultry was not as high overall as first believed. Interpretation of Mathwig's data is further complicated by natural livestock losses, unretrieved or crippled game animals, discarded livestock and poultry as well as highway killed animals. All domestic animals were grouped as livestock not as carrion. However, cases were noted where the flesh was dried and hard,

rotten, infested with flesh fly pupae, contained lead shot or occurred as refuse from butchering. Increased costs for rendering service have caused many farmers to discard dead livestock on their own land. This may also influence the data.

There is no question that coyotes kill some livestock, especially new born or very young animals. Considering the investment the farmer has both in time and money, he has every right to protect his livestock from coyotes. Some sheep losses are definitely the result of coyote predation. Mathwig discovered that coyotes in certain local situations have developed sheep-killing techniques which provide them a steady diet of mutton. There is no question that these specialized animals should be eliminated as quickly as possible.

Coyotes undoubtedly save Iowa landowners money by elimination of many rabbits and rodents. These animals eat great quantities of grass that otherwise would be available to livestock. This grass, of course, is not easily missed and most farmers would overlook this loss. Rodents are also known to damage stored grain during the winter. The coyote also provides money to hunters and trappers through bounties and fur value. Hunters spend a good deal of money on guns, ammunition, gas, radios and other equipment as well.

The coyote provides a great deal of recreation to sportsmen, a certain amount of harm to farmers and aesthetic pleasure to those who enjoy the mystique of the world of wild animals. The Iowa Conservation Commission is charged with the management of this resource and will continue to study the coyote, its habits and habitat in an effort to protect the interests, as nearly as possible, of all Iowans both now and in the future. □

Since 1972, nearly 130 coyotes have been ear tagged and released at natal den sites. Hunters, trappers and other people taking a tagged animal are encouraged to send the tag numbers to the Conservation Commission's Des Moines address.



New Laws for Snowmobilers

IOWA'S NEW SNOWMOBILE REGULATIONS will help improve the individual snowmobiler's safety and may eventually add many more miles to our snowmobile areas.

The County Board of Supervisors in each of the counties may evaluate their county road system and designate certain roads (which meet all safety requirements) as snowmobile use roads. Motor vehicle traffic will, of

course, be a major consideration. Because these changes are so new, budgetary restrictions may not initially allow for the personnel and equipment necessary to post the proper signs required by law. Every possible effort will be made, however, to post these new areas.

For those highway right-of-ways already open to snowmobile use, you must now travel in the same direction as traffic in the nearest lane between sunset and sunrise. At night the lights of a snowmobile bobbing up and down and coming directly at an automobile is unnerving to the driver and could cause an accident. Bridges and other such obstructions may now be circumvented. You can cross over a bridge or go around a similar obstruction by approaching the roadway, stopping and after giving the right-of-way to all oncoming traffic, driving down the roadway or shoulder

as far as necessary and returning to the right-of-way.

Many communities and towns have already required a flag or pennant to be attached to machines when used in town. All snowmobilers will now be required, however, to display a flag when operating on any public street or highway including the right-of-way. The flag must be at least 60 inches off of the ground, a minimum of 6" x 9" in size, and made of iridescent orange material. Because snowmobiles have such a low profile, the flag allows motor vehicles to see and therefore avoid hitting the snowmobile as it operates on roads. The flag also allows other snowmobilers to spot one another more easily, again averting a possible accident.

These changes will facilitate greater safety and solve some access problems for the Iowa snowmobilers' in the future. □

Photos By Wayne Laning



FROM THE IOWA STATE FOREST NURSERY, STATE CONSERVATION COMMISSION
IN COOPERATION WITH THE U.S. FOREST SERVICE

APPLICATION FOR OBTAINING TREES FOR ESTABLISHING OR IMPROVING EXISTING
FORESTS, EROSION CONTROL OR WILDLIFE COVER
1975

ORDER NO.	

INSTRUCTIONS FOR COMPLETION OF ORDER

1. Mail your application and remittance to:
Nursery Forester
State Forest Nursery
P.O. Box 823
Ames, Iowa 50010
2. Payment or purchase order for the entire amount must accompany order blank. Make a check or money order payable to the Iowa Conservation Commission. (Cash will not be accepted.) Your cancelled check will be your receipt.
3. Claims for adjustment due to shortage or delay in shipment must be made within 20 days from receipt of shipping notice.
4. No order will be processed for less than 500 plants except:
 - a) One wild life packet

DO NOT ORDER LESS THAN 500 IN MULTIPLES OF 100

GENERAL SHIPPING INFORMATION

(Please Print)

Name _____

Address _____


City _____ State _____ Zip _____

Phone _____

Ship prepaid

When notified, I will call for stock at Nursery.

PLEASE PRINT

Kind of Trees or Shrubs Wanted	Age Class	No. Wanted	Cost	Application Information
				Order submitted by: PLEASE CHECK BOX <input type="checkbox"/> Landowner <input type="checkbox"/> Soil Conservation Service <input type="checkbox"/> ASCS Office <input type="checkbox"/> Co. Extension Director <input type="checkbox"/> District Forester <input type="checkbox"/> Conservation Officer <input type="checkbox"/> Wildlife Biologist _____ <input type="checkbox"/> Other _____ Purchase Order <input type="checkbox"/> YES <input type="checkbox"/> NO 
			Subtotal _____	
			3% Sales Tax _____	
			Prepaid Shipping Charges _____	
			(See Special Note on Reverse side)	
			TOTAL COST: _____	

Please indicate an alternate choice of species if your 1st choice is unavailable.

THE LEGAL PLANTING LOCATION AND YOUR SIGNATURE IS REQUIRED

These trees are to be planted in _____ Quarter, Section _____, Township _____
Range _____, in _____ County, Iowa.

I agree to plant and use the trees ordered upon the described property for establishing or improving existing forests, erosion control, game or water conservation according to restrictions noted below. I agree NOT to re-sell or give these trees away with roots attached to any person, firm, corporation or agency nor to plant any of them as windbreak, shade, ornamental, or street trees. All areas planted with state stock must be protected from fire and domestic live stock grazing. I agree to forfeit for destruction any trees planted or used in violation of the above restrictions.

Signed: _____

Mail Address - RFD: _____

City: _____

State: _____

Zip Code: _____ Phone No.: _____

SPECIAL INFORMATION (Please complete)

To help us better meet your planting stock requirements, please check (X) one space in each of the following:

1. MAIN PURPOSE OF PLANTING: () General Forestry;
() Wildlife; () Educational Planting; () Erosion Control;
() Others _____
2. METHOD OF PLANTING: () Machine; () Hand
3. PLANTING SITE: () Sod field; () Brush; () In existing timber; () Crop field; () Sandy field;
() Other _____
4. ARE YOU PARTICIPATING IN A FEDERAL COST-SHARING PROGRAM? () Yes; () No
5. I am a (or my land is): () Farmer; () Suburban; () Industrial (except mining); () Mining; () Institution;
() Municipality; () Other _____

SEEDLING TREES AND SHRUBS AVAILABLE FOR DISTRIBUTION DURING SPRING OF 1975

Species	Class Age	Avg. Ht. in INCHES	100	500	1,000
Austrian Pine	2-0	6-12	\$ 2.50	\$ 12.50	\$ 25.00
Ponderosa Pine	2-0	6-10	2.50	12.50	25.00
Red Pine	3-0	6-12	2.50	12.50	25.00
Scotch Pine	2-0	6-12	2.50	12.50	25.00
White Pine	3-0	6-10	2.50	12.50	25.00
White Spruce	3-0	6-12	2.50	12.50	25.00
Red Oak	1-0	6-12	2.00	10.00	20.00
Black Walnut	Seed		1.00	5.00	10.00
Hickory	1-0	6-12	2.00	10.00	20.00
Multiflora Rose	1-0	6-12	2.00	10.00	20.00
Dogwood	1-0	6-12	2.00	10.00	20.00
Amur Honeysuckle	1-0	6-12	2.00	10.00	20.00
Tatarian Honeysuckle	1-0	6-12	2.00	10.00	20.00
Ninebark	1-0	6-12	2.00	10.00	20.00

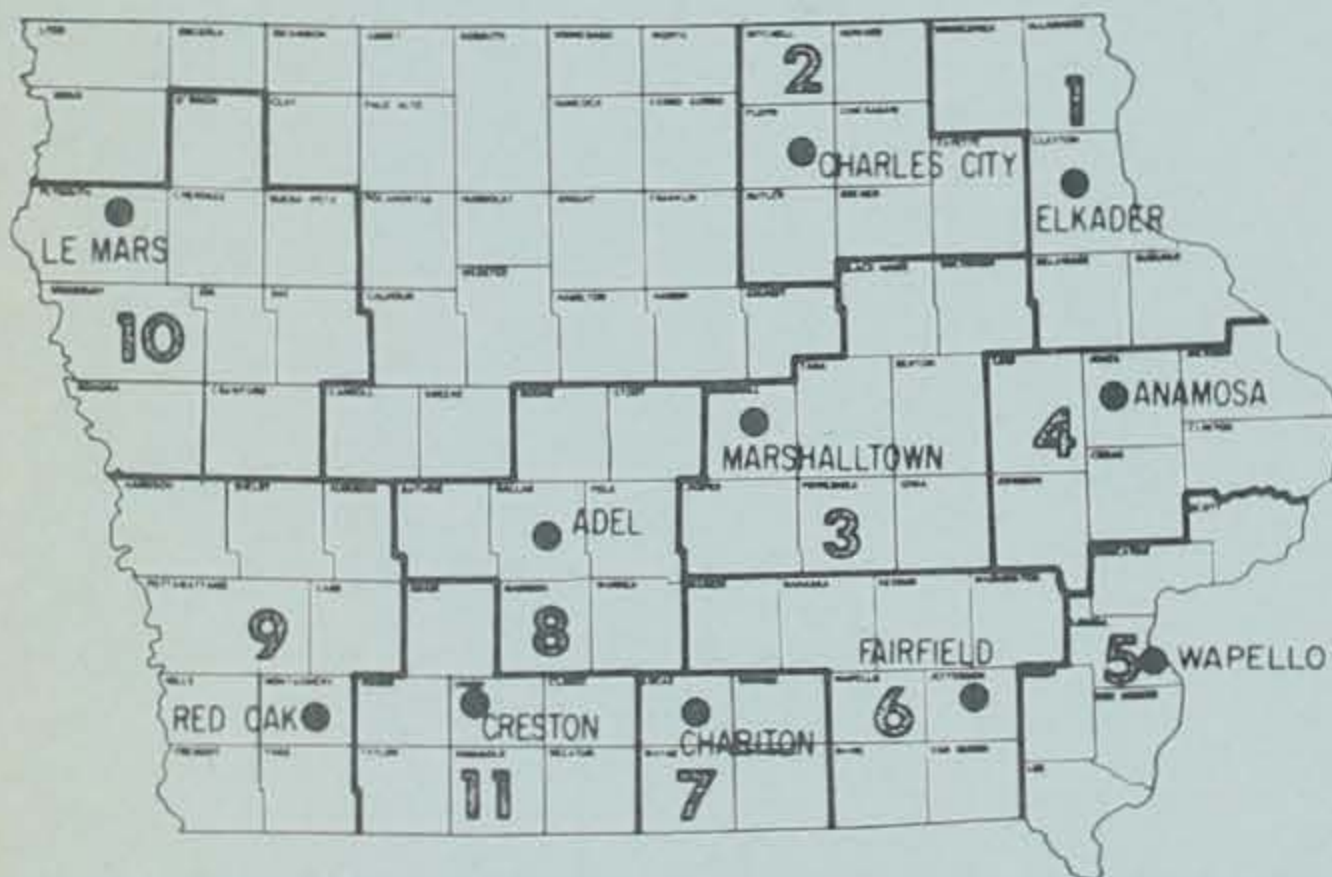
SPECIAL WILDLIFE PACKET \$5.00

The SPECIAL WILDLIFE PACKET contains 200 plants including 50 evergreens, 25 honeysuckle, 25 dogwood, 25 multiflora rose, 25 ninebark, and 50 other plants beneficial to wildlife.

SPECIAL NOTE: ONE (1) Shipping Point for each county has been designated. Your notification of the Shipping Point in your county will be on your Order Acknowledgement! Shipping charges of \$1.00 per 500 plants up to the first 2,000 plants ordered. After the first 2,000 plants, \$.50 per 500 plants ordered.

Note: The Nursery reserves the right to substitute species of a suitable type if a shortage occurs.

TO OBTAIN FURTHER INFORMATION, CONTACT YOUR NEAREST DISTRICT FORESTER OR WILDLIFE MANAGEMENT BIOLOGIST



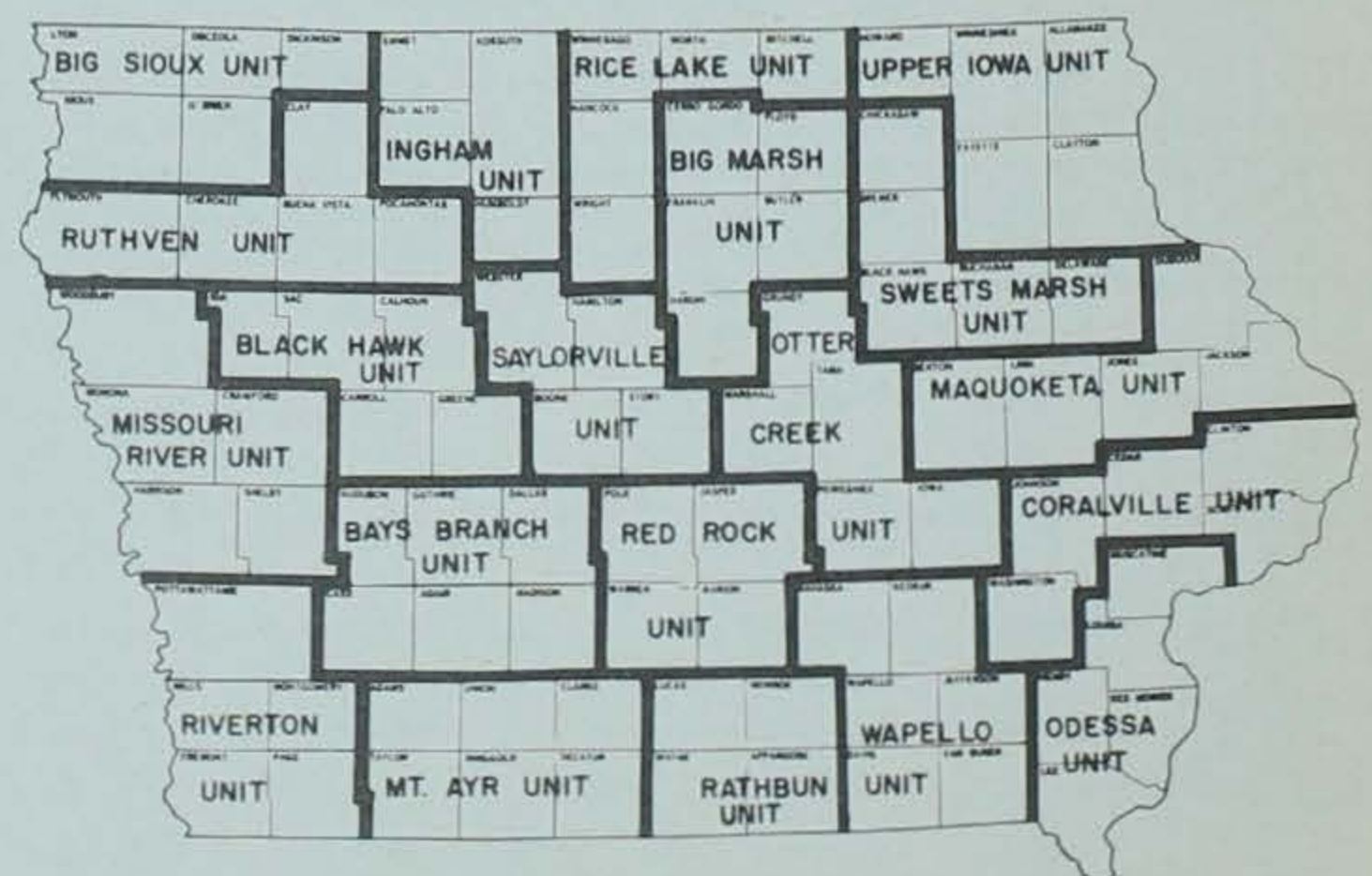
DISTRICT FORESTER ADDRESSES:

- 1. ELKADER Box 662, 52043
- 2. CHARLES CITY Box 4, 50616
- 3. MARSHALLTOWN Box 681, 50158
- 4. ANAMOSA Box 46, 52205
- 5. WAPELLO Box 62, 52653
- 6. FAIRFIELD Box 568, 52556
- 7. CHARITON Route No. 3, 50049
- 8. ADEL Box 175, 50003
- 9. RED OAK Box 152, 51566
- 10. LE MARS Box 65, 51031
- 11. CRESTON Box 2, 50801

WILDLIFE MANAGEMENT BIOLOGIST ADDRESSES:

- 1. Bays Branch Wildlife Unit ASCS Office Bldg., Box 247, Guthrie Center, 50115
- 2. Big Marsh Wildlife Unit Fish Hatchery, Clear Lake, 50428
- 3. Big Sioux Wildlife Unit SCS Office Bldg., Rock Rapids, 51246
- 4. Black Hawk Wildlife Unit SCS Office Bldg., 406 Main St., Rockwell City, 50579
- 5. Coralville Wildlife Unit ASCS Office Bldg., Box 312, Iowa City, 52240
- 6. Ingham Wildlife Unit SCS Office Bldg., 20 S. 17th St., Estherville, 51334
- 7. Maquoketa Wildlife Unit Box 68, Anamosa, 52205
- 8. Missouri River Wildlife Unit SCS Office Bldg., Lindley Bldg., Onawa, 51040
- 9. Mt. Ayr Wildlife Unit SCS Office Bldg., RR 3m Nt, Ayr, 50854
- 10. Odessa Wildlife Unit ASCS Office Bldg., 220 N. 2nd St., Wapello, 52653
- 11. Otter Creek Wildlife Unit USDA Office Bldg., 203 W. High St., Toledo, 52342
- 12. Rathbun Wildlife Unit Agriculture Bldg., Hiway 34, By Pass, Chariton, 50049
- 13. Red Rock Wildlife Unit Box 423, Indianola, 50125
- 14. Rice Lake Wildlife Unit SCS Office Bldg., 706 - 1st Ave. N., Northwood, 50459
- 15. Riverton Wildlife Unit SCS Office Bldg., Malvern, 51551
- 16. Ruthven Wildlife Unit SCS Office Bldg., Cherokee, 51012
- 17. Saylorville Wildlife Unit Wildlife Research Station, Boone, 50036
- 18. Sweet Marsh Wildlife Unit ASCS Office Bldg., 911 E. Bremer, Waverly, 50677
- 19. Upper Iowa Wildlife Unit ASCS Office Bldg., 911 So. Mill St., Decorah, 52101
- 20. Wapello Wildlife Unit ASCS Office Bldg., 1309 E. Mary, Ottumwa, 52501

WILDLIFE MANAGEMENT UNITS



ORDER TREES AND SHRUBS NOW - TAKE ADVANTAGE OF COST SHARING PROGRAM

ON NEARLY every farm there are "waste areas." Planting trees and wildlife cover around ponds, along fence rows, in areas of poor soil conditions and odd corners can make these waste areas productive. They can result in reduced soil erosion, as well as provide esthetic and recreation value.

By using the Federal Assistance Program the cost is very low — a "dirt cheap" price to pay for soil protection. The program pays at least 50 percent of the total cost of establishing trees and wildlife cover. Cost sharing information can be obtained through the Agricultural Stabilization and Conservation Service (ASCS). Contact your district forester or wildlife biologist (see order blank). They can give you advice and assistance on what and where to plant. This nursery stock may be used for erosion control and wildlife cover, but not for windbreak, ornamental use or city planting.

Fill out the order blank on the preceding page and send it with proper payment to the State Forest Nursery at Ames. Remember, Old Man Winter is entering the backstretch now, and by the time the orders are processed and handled Spring will be here. Many late orders do not get filled, so hurry! Get those orders in now. □

WILDLIFE RESEARCH (Continued from Page 8)

wildlife areas. The Conservation Commission has a policy of not allowing hayfields on our state-game areas to be mowed until after July 1. A recently completed study showed that many nests have not hatched by this date and the mowing date should be further delayed. Another current project will determine how valuable native prairie grass pastures would be as a pheasant nesting cover. Native grasses are being encouraged by the Soil Conservation Service as an economical method of furnishing grazing for cattle during July and August. If this practice can produce good summer grazing and nesting for game birds, we will work closely with

CLASSROOM CORNER

By CURT POWELL

Administrator,
Conservation Education Center



HAVE YOU EVER HEARD someone say that certain things will harm the "ecology" of an area? Do you know the difference between ecology, environment, biosphere, and lithosphere? These are words commonly used, but little understood. However, they are important to all of us who are interested in conservation.

No person can live apart from the rest of the world and not be affected by it. If man is to live he must depend upon plants and animals for food, shelter, and clothing. Each living thing depends upon its environment. The environment is made up of all living and non-living things that affect an organism's way of life. Ecology is the **study** of the relationships between organisms and their environment.

Really what is meant by "harming the ecology" is harming the environment of certain organisms. Is your environment the same as a pheasant's? Are there similarities in your environment and the pheasant's? All of the environments on earth which satisfy the organisms need for food, shelter, and water make up the biosphere. Thus, the biosphere is really the planet earth.

The lithosphere is the soil on the earth. There are many small organisms, and some large, that live on and in the soil. Our game birds,

deer, rabbits, and others live on the lithosphere. Worms, moles and many small creatures live in the lithosphere. Have you ever examined the soil with a hand lense to observe the small creatures living in it? It can be fascinating. Dig down about two inches into the soil and look closely for evidence of organisms that have lived or still live in the soil. How many do you find?

What then is an ecosystem? The organisms or creatures in a certain part of the biosphere and the physical factors which effect them is called an ecosystem. Ecosystems may be large or small. Forests could be an example of a large ecosystem. We could also call this a habitat. When the habitat or ecosystem is destroyed, animals will have to find another or disappear altogether. This is why management techniques are so important. If it were not for management techniques and study of these habitats, we would not have the abundance of game, song birds, and other wildlife that we do have in Iowa.

Do we have more deer in Iowa now than 30 years ago? The answer is *yes!* Why do you suppose that is so? Would you like to assist in conservation and improve your environment? If so, let the Iowa Conservation Commission help you help all of us.

the Soil Conservation Service and other governmental agencies to encourage the proper use of these native grasses.

Pheasant population studies have been conducted to find out how important roadsides along the interstate are to pheasant nesting. We found that the interstates contain about one nest per acre, but some vegetation like crown vetch was not used by pheasants for nesting cover.

Many ducks nest on muskrat houses and other sites surrounded by water in

Iowa marshes. The Conservation Commission has tried to increase the number of nesting ducks by building metal structures on poles in our marshes. The success to date has been mixed, with more ducks using these structures some times than at others. A related project has combined information on vegetation, water levels, muskrat usage and duck populations from a number of marshes in northern Iowa.

To be concluded in the January issue.



Photograph by Ken Formanek

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