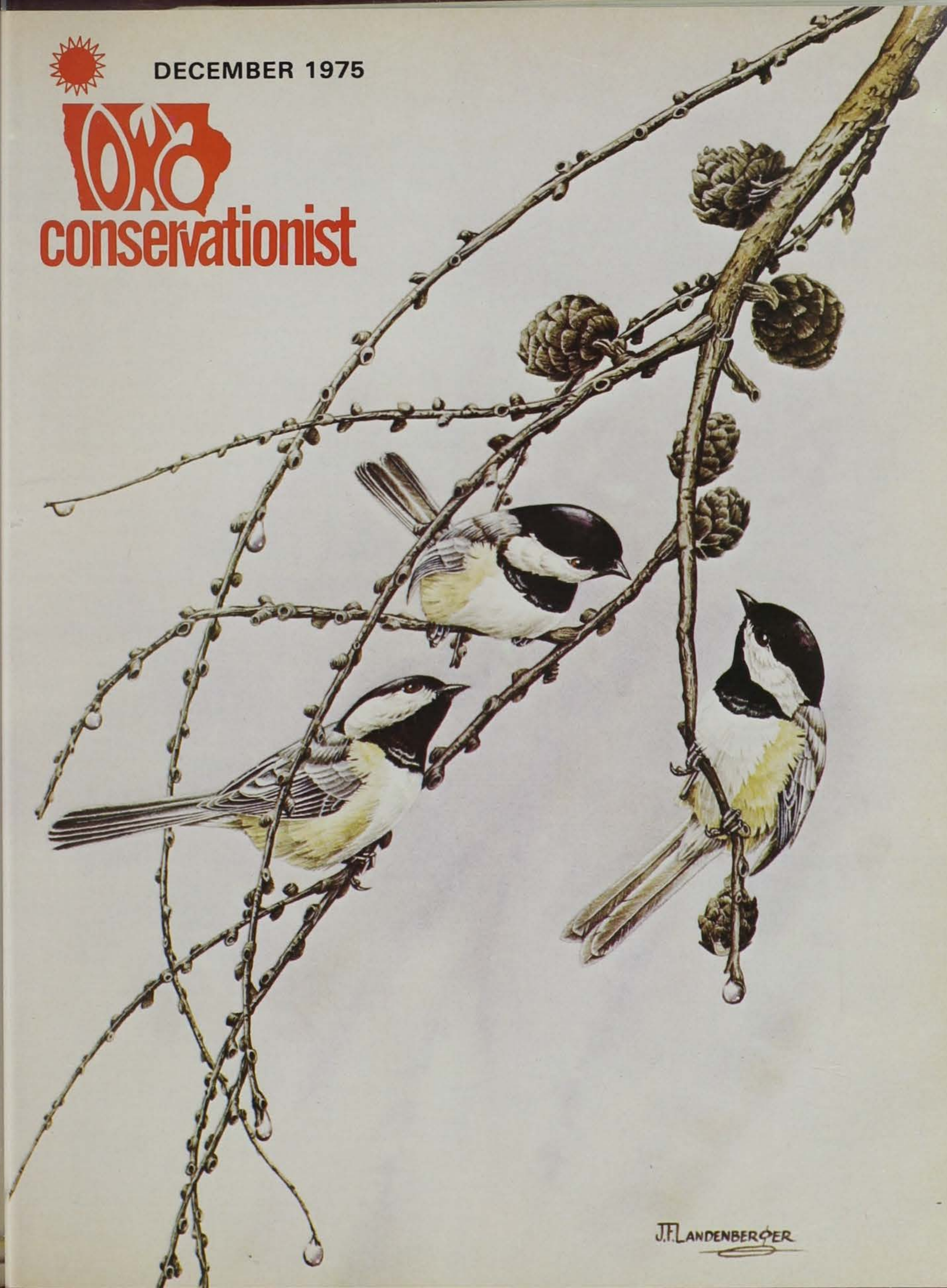




DECEMBER 1975

WISCONSIN
conservationist



J.F. LANDENBERGER



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Artist James F. Landenberger contributed the fine painting on this month's cover. The black-capped chickadee print is entitled "January Thaw". In August this magazine featured a print of goldfinches entitled "Summer Gold". Reproductions of these works are available. For information write to Pawnee Creek Press, P. O. Box 633, Cedar Rapids, Iowa 52406.

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COYOTE~ BIG GAME OR 'VERMIN'?

By Tom Berkley
Wildlife Management Supervisor

OPINIONS VARY among the citizens of the country as to the coyote. These opinions vary from that of the preservationist who might be inclined to recommend complete protection to that of a sheep raiser who might honestly believe that any and all coyotes should be destroyed by any methods available.

The feeling of people with opinions somewhere in between these two extremes represent the larger segment of the population and would include the following groups: (1) Those with no interest in coyotes whatsoever. (2) Small game hunters concerned with the predation of coyotes upon the species which the hunter desires to hunt himself. (3) The sportsman who spends much time and effort in enjoying the pursuit of the wily coyote with steel traps, gun and at times with hounds. (4) Cattle and hog raisers who have suffered minor losses from coyote depredation.

Research done recently by Iowa Conservation Commission personnel indicates that coyotes are indeed predators of livestock (see Iowa Conservationist Dec. 1974). Studies show that in Iowa 3.1% of the total annual sheep production is lost to dogs and coyotes, of which 52.9 percent was attributed to dogs. The proportion of cattle, pigs and poultry lost to dogs was also higher than those losses blamed on the coyote. Rabbits continue to be the most important single food item in the coyotes diet during both summer and winter periods. Livestock, much of which was believed to be carrion, made up nearly one-fourth of the winter diet. This information has been obtained from studies of stomach contents of coyotes harvested by hunters and trappers. The high reproductive potential of the cottontail rabbit probably prevents the coyote predation from being a limiting factor in the rabbit population.

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All available data indicates that bounties apparently are ineffective in the control of coyotes or other wildlife populations, but are more or less a subsidy to hunters, trappers and farmers who would harvest about the same number of the species involved with or without bounty payments.

Current information indicates that it would be infeasible and biologically unsound to attempt to control coyote damage to livestock by general population reduction. At present there is a continuous open season on coyotes, which has not resulted in any apparent reduction in the overall coyote population, while permitting the elimination of problem coyotes at any time when required by livestock raisers. Coyote damage to livestock can be controlled most effectively through good animal husbandry and by selectively controlling problem coyotes when necessary.

Several methods are utilized to harvest and/or control coyote populations at the present time. These methods vary greatly in the quality of the sport involved, in the selectivity of the kill to the coyotes which were preying on livestock, and in the efficiency of the hunting operations.

The most effective method for a livestock raiser to use in controlling individual coyotes which are killing livestock is through the use of steel traps. Suitable sets located at strategic locations such as travel lanes, or adjacent to lots or pastures where depredations have occurred will often catch individual animals responsible for losses after which the landowner probably would no longer desire to remove any additional animals. (Many coyotes do not kill sheep, pigs or calves during their entire lifetimes).

A second method much less effective but which provides a real challenge and perhaps the utmost in sport is for an individual hunter to track down and kill a coyote when snow cover permits. This type of hunting is not selective toward stock killing animals unless the tracks of the coyote are followed from the scene of a fresh kill. Coyotes are much smarter and harder to approach than foxes. This fact will soon be learned by the newcomer in coyote hunting, but perseverance will pay off, if care is used in reading the wind, avoiding noise, wearing white clothing for hunting in the snow and the use of an accurate flat shooting rifle equipped with a good telescope sight. The range at which coyotes are often killed when hunted this way is sometimes distant. Coyotes are tough animals and hard to kill so a rifle of adequate horsepower should be used. Generally cartridges in the .222 and smaller classes are prone to cripple coyotes and are not recommended. Such calibers as the 22/250, the 220 swift, and the 6 mm's are excellent choices. The larger calibers such as the .270 and the 30/06 are also good when loaded with light bullets at high velocities. Suitable bullets at the velocities mentioned will usually break up on impact and reduce the danger from ricochets. Care should be used at all times with these "varmint" rifles, particularly when shooting at any coyote silhouette on the skyline.

The use of hounds adds greatly to the sport of coyote hunting for many Iowans. This type of hunting is not very selective in removing outlaw coyotes, but is an extremely interesting high class sport. The key to success with dogs is to have a good knowledge of the areas hunted as well as the travel lanes used by the coyotes when pushed by the hounds. This knowledge permits one or more of the hunters to go on a stand ahead of the coyote, and with reasonable luck to get an open shot as the animal lopes by. Sight running dogs are occasionally used by a few coyote hunters. These dogs are usually crosses of perhaps greyhounds and Russian wolfhounds, and are capable of overtaking and killing an adult coyote very effectively.

Coyotes are also vulnerable to predator calling. This technique can be a very effective tool for the coyote and fox hunters, but strangely enough has not been used by Iowa hunters to any great extent. Calling is done with the use of commercial or hand-made calls which when properly blown closely imitate the squeal of an injured rabbit. The high pitched sound of this call will carry over considerable distances if the wind is not excessive. Several factors must be considered when planning a hunt with a call. First of all the hunter must have a coyote within hearing distance of the call. To determine whether a coyote is present can be difficult without snow cover on the ground. This is where a basic knowledge of the area to be hunted and of the habits of the coyote are important, as coyotes will use certain areas in preference to others. Resident and migrant coyotes will use the same preferred areas, so it is wise to approach these areas carefully, locate a spot from which to call that will provide both concealment and the visibility

needed. The calling should start with several squeals loud enough to be heard some distance, then toned down so that an approaching animal would not be spooked by loud calling. Do not overcall, allow several minutes between each series of calls, keeping alert to observe any approaching animal. Some successful callers use a hand squeaker taken from a child's toy for close-up calling. These toy calls imitate the squealing of a mouse quite accurately. Second, the hunter must locate himself in a spot which provides adequate concealment from the sharp eye of the coyote, yet which will offer the hunter enough open area to spot the predator and to permit an open shot. Camouflage clothing during the early fall season and white garments for hunting on snow are nearly essential.

Another effective method of coyote hunting quite popular in many areas is that of hunting in large groups utilizing 4 wheel drive vehicles and two-way radios. Groups who have hunted together over a long period of time know how to work together, and usually know the crossings and travel lanes used by the coyotes. It is a simple matter to keep hunters ahead of the running coyote through radio contact and sooner or later one group of hunters usually administer the coup-de-grace to another coyote. Well organized groups of hunters usually have close contact with many area farmers who keep close watch of coyote movements and who will report the presence of coyotes on their farms to the hunters who, during the winter months at least, are ready to hunt at a moments notice. The sophisticated equipment used by this type hunter gives him considerable advantage over the prey animal, the use of the 4-wheel-all-terrain vehicle adds to his mobility, and the size of many of the hunting parties with radio communications adds to the advantage. However, many hunters are quite gregarious, and enjoy the company of numerous other hunters as much as the hunt itself.

Wildlife management experts generally recognize the coyote for what he actually is, a predator with a definite plan in nature's scheme of checks and balances. He is a true predator and preys upon other living creatures, but not to the extent that prey species are endangered by his depredations. Individual coyotes sometimes will cause damage to livestock, and should be removed from the environment. The coyote is a furbearer and during the 1974-75 season averaged just under \$10.00 per pelt, adding to the bankroll of hunters and trappers. He also affords many man days of recreation to these same people annually. He has been able to meet the challenge of survival placed upon him by man who has attempted to eradicate him by the use of guns, traps, poisons, and bounties and has not only survived, but has multiplied and extended his range. Therefore, it would seem that the wildlife habitat of this state can support reasonable populations of coyotes without excessive damage to domestic livestock or to resident wildlife populations. Few of us fail to be thrilled at the sight of old coyote, or to be impressed by the call of this critter at night. Our environment would be a little less complete without the presence of this crafty predator - the coyote. □

Photos by Jerry Leonard



By Ron Johnston Hatchery Manager

"What a beautiful place to live!" "Man, would I like to live there." "What a wonderful place to raise a boy." "Those son of a guns living in a place like that really have it made."

These are a few of the quotes I've heard from individuals who did and did not know I lived at a fish hatchery.

My answers to those quotes are: Most fish hatcheries are situated in a spacious outdoor setting. To me, they are beautiful. I enjoy living at a fish hatchery. I have since 1958. My wife and I have felt it's been a wonderful place to raise two boys. Lastly, there are a few things related to a state residence some people don't realize.

Let's take a quick look at a part of that life.

There are hunting and fishing license sales. Hey - wait! That's work. Remember, I live where I work. A record check reveals almost 400 sales at my station during 1974. The valuation was over two thousand dollars. This is a "drop in the bucket" compared to total Commission sales. But, over 70% of the hatchery's sales were made evenings, Saturdays and Sundays.

Years ago, I was awakened one Sunday between 4 and 5 A.M. Sleepy-eyed, I stumbled around the house wondering "how". Dressed in "T" shirt and boxer shorts, I happened to open the front door. A fellow standing there said "Aw - come on, wake up and sell me a fishing license." I shook my head, grinned and I think I did. There is also the telephone. The hatchery number rings the residence phone. You wouldn't believe the number of business calls received on the home phone. Hatchery phone numbers are printed in Commission literature and newspapers for the fisherman's benefit. I heartily agree. Fisherman's luck is one thing; poor conditions are quite another. That trip is time consuming and can be expensive. Generally, the calls are friendly, at a decent hour and requesting a service I'm there for. The calls can be otherwise. This spring, another hatchery manager received a call requesting stream conditions at 3 A.M.

I am responsible for the hatchery. I have checked fish, buildings and equipment at all hours of the night. It might be during or after a heavy rainfall to check hatchery water clarity and turn the aerators on. Many times, the car that pulls in by the raceways or brood fish pond at night contains two people of opposite sex with amorous ideas. The car has also contained those who were fish hungry. Last February, I rolled out at 1 A.M. when the temperature was 5 below. The two young men at the raceways in hip boots were "just looking at the trout".

There have been two separate man-hunts in the immediate vicinity of my station. Both hunted men were armed and both were

Life at a Fish Hatchery

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apprehended without incident. Unaware of the situation, I refused assistance to one of the hunted. Something seemed amiss.

We have given lots of other people assistance from that state residence. It's the logical place to go when you need help. It's been the loan of a skillet to fry fish because one was forgotten. A spare tire was also flat; or the keys were locked in the trunk with the fishing gear. A radiator hose blew or the car just wouldn't start. A fisherman friend drove into a tree while looking back for our houselight. There were just minor cuts, but I drove him to the hospital faster when he told me of his heart condition. I have freed many stuck cars. Due to legal liabilities, we now call a wrecker.

What about the work that accompanies that residence? Let's take a short glance that way.

A statement I've heard from many a young man is "I'd like to go to work at a fish hatchery I like to fish." It turns me off.

How would you like to run an early morning check and find your year's production of trout "popping the top". A pond of catfish could look and act sick and not be feeding normally. Do I have an oxygen depletion in the water supply? Is it stress from handling, crowding or a combination? You bet I've had diseases at my hatchery. Most are caused by the problems mentioned. Yes, there are treatments and new ones coming along. That six inch fish I cut up for a microscopic search for the "bug" that is doing the "job" can't be the five pounder that got away. But, it may save the rest in the pond. I have won and I have lost. There is challenge.

Many people spend time at hatcheries just because of the scenic beauty. I have my concept of how a state facility should look. It involves time and money.

I have a chauffeur's license and distribute some fish. My longest "haul" with accompaniment was direct from Kentucky. State distribution units weren't equipped for stopping overnight.

I have had the opportunity to work with warm and cold water fish. I have had up to eight ponds of channel catfish in a season.



A stocking truck is filled with cold, clean water before starting out with another load of fish.



Over a ton of fish came up from several of those mud bottom ponds. Last year, my station produced and distributed over 19 tons of trout. For growth, it takes up to twice that

poundage in feed.

Several years ago, I met another fisheries employee halfway across the state. I received over a million northern pike fry for Red Rock Reservoir. Alone, I tempered the fish into various calm waters over vegetation infested with daphne and plankton. Iowa's "instant lake" provided habitat for phenomenal growth. Research teams verified 4 to 5 pounds growth in 18 to 20 months. I had lent a helping hand in this story. I saw several pictures of fishermen with those fish in different newspapers. Besides the fish, I look at the fisherman's expression. You beat that for job satisfaction.

These incidents are a few in our lives at a fish hatchery. We have lived at two different facilities and I have worked at three during the last twenty plus years. Thanks to that life, I believe we've made many friends around Iowa and surrounding states. Given the chance, we'd do it all again. □

All ponds containing trout must be carefully maintained.

Raceways hold hungry trout the year around.

Photos by Wayne Lonning



FROM THE

Warden's diary

By Rex Emerson,
Law Enforcement Supervisor

WE CAUGHT a deer poacher tonight. Prior to this, I had spent a most enjoyable evening as a guest of the Cass County Game Club's annual supper. This is one of the best game clubs that we have in the state. We had discussed the coming deer season and how good the hunting prospects were. The poacher seldom attends, or helps support, a wildlife club such as this. If he did, the club members would convince him to change his way of thinking and he would soon become a good sportsman.

Going across the state on I-80 can be a monotonous drive at night. My mind was wandering a bit on such subjects as hunting laws, Supreme Court decisions, attorney general rulings, and the soon to come deer season. About the time I entered Iowa County I was brought back to reality when I heard a familiar number being called on the two-way radio. It was Conservation Officer Ralph Leigh calling in to find out who owned a certain vehicle. The time was 1:00 a.m. I don't think he ever sleeps.

After checking with him over the radio he directed me on how to get to his location. It was a nice night, but very dark. The temperature was about 40°, and we hadn't gotten our first snow of the year yet. He was on a dirt road, and in front of his car was a pickup truck parked right in the middle of the road with the door on the driver's side open. At this time we didn't know just what we had. There was a loaded and assembled .22 cal. rifle in the vehicle and a hand spotlight on the seat. On the dash was a box of high powered rifle shells. Someone out there in the darkness might have that big rifle.

The Conservation Officer from Tama County called on the radio and said, "Do you guys want some help over there?" We answered in the affirmative and told him, "We may have a deer poacher here some place."

On one side of the road was some timber, on the other side some kind of vegetation that was knee high and to the edge of that was a little patch of woods. The open field would be a good place to spotlight a deer. We hollered for whoever was out there to come to the road, and we identified ourselves as Conservation Officers. There was no response from anyone. Only an owl answered with a "Whooo, Whooo". I told Ralph, "That old owl wants to know your name".

A report came back on the radio that the owner of the pickup lived in a small town about three miles away. Thinking he might have taken off

crosscountry and walked home, we had the town policeman check at his house, but he wasn't there. That meant he was still out there some place. It also made us wonder if that high powered rifle was pointed in our direction.

The pickup truck was illegally parked on the road, so we called the sheriff's office and asked for a wrecker to be sent out. About the time the wrecker got there the Conservation Officer from Tama County also arrived. We told the wrecker driver to tow the pickup into his garage and lock it up inside the building. We would want to talk to the owner of it about the loaded .22 cal. rifle that was in it. The big wrecker, with flashing lights on top of it, hooked onto the pickup truck and slowly went down the road. Still not a sound from anyone.

The officer from Tama County was out in the tall grass looking around with a flashlight. When he was about 50 yards from the road he called to us and said, "Come and see what I found". There were two field dressed deer and a high powered rifle. We picked up the rifle and started dragging the two deer toward the road. On the way we were talking about how nice the guy was to leave us this good rifle. It looked like it was a new gun. About halfway to the road we heard a voice from the darkness say, "Hey fellows, wait a minute. That's my rifle". He hadn't said a word when he saw his pickup going down the road behind the wrecker. But when he thought his rifle was leaving, he came out of his hiding place in the tall grass.

The gentleman was quickly searched and relieved of a hunting knife that had blood on it. He was told that he was under arrest and was also told what his constitutional rights were. The two deer were tied on top of the trunk of one of the cars and the violator placed inside the car. Sometimes you feel like doing it the other way around. We took him to town and put him in jail so we would know where he was when the judge was ready to hold court the next day. Oh, sure, he got to make his one phone call. I'll bet his wife was unhappy when she answered the phone at 3:00 a.m. and found out where her husband was.

He will get his guns and knife back after court is over and his pickup will be released when he pays the tow bill on it, plus the illegal parking fine. The County Home gets the deer meat.

Ralph Leigh's wife got out of bed and made some coffee for us. It was 4:30 a.m. when I got home. Our wives get accustomed over the years to the kind of hours that we work. But I am sure it takes a very special kind of person to be a game warden's wife. □

Rathbun Wildlife Unit

By Jack Coffey
Wildlife Biologist

THE FOUR COUNTIES of Appanoose, Lucas, Monroe and Wayne surrounding Rathbun Reservoir comprise the Rathbun Wildlife Unit. Appanoose and Wayne Counties form the southern half; each encompasses 520 square miles. Lucas and Monroe comprise the northern half; each contains 432 square miles. These counties, lying on the Missouri border in south central Iowa, are blessed with a good diversity of wildlife species and habitat.

The Rathbun Unit is located on the eastern slope of a deeply eroded drift plain which forms the divide between the Missouri and Mississippi Rivers. The once flat and level surface has been cut by broad stream valleys with a network of smaller tributaries. This region is drained by the Chariton and Des Moines Rivers. The Chariton River meanders through the southern portion of Lucas County and diagonally through Appanoose County, forming a wide, deep valley. Major tributaries of the Chariton River originate in Wayne, Lucas and Appanoose Counties. The Des Moines River drains the northern portion of Lucas County and Monroe County indirectly via Whitebreast, Coal and Cedar Creeks.

Photo by Jerry Leonard



Agriculture has been a basic component of the economy in the past. Approximately 50 percent of the land is planted to row crops with most of the remainder devoted to pasture for livestock.

Streams in the area are bounded by timbered land. Appanoose, Lucas and Monroe Counties contain large portions of Stephens State Forest. This area of approximately 9,000 acres provides for Iowa large amounts of forest game habitat.

Iowa's largest lake, Lake Rathbun, is located in the middle of the Rathbun Unit. Constructed by the U.S. Army Corps of Engineers and covering approximately 11,000 acres, it has provided many recreational activities not available in this region until its formation. This area also contains approximately 23,000 acres of land managed for such recreational uses as fishing, hunting, and camping. Other water areas in the region include Lake Miami - 144 acres, Colyn Area - 270 acres, Brown's Slough - 200 acres, Bobwhite State Park - 115 acres and thousands of smaller lakes and farm ponds.

Upland wildlife species are usually found near the abundant crop fields in the area. Forest game species frequent both the large timbered tracts and numerous small woodlots. Waterfowl species can be found on the water areas of the unit. Most of the land in these four counties is privately owned and this is where most of the upland game hunting occurs. Quail populations are good over most of the area. However, intensive row cropping and pasturing have reduced the habitat considerably in some areas. Cottontail rabbit populations are good where there is adequate habitat. Pheasant populations could be described as fair in most of the unit. However, areas in Monroe and Appanoose Counties east of U.S. Highway 5 have very limited populations. Whitetail deer numbers are good in most areas of the four counties. Hunting pressure in these areas is usually heavy. Waterfowl hunting is limited mainly to Lake Rathbun, Brown's Slough and Colyn. During migrations, good numbers of both ducks and geese use the area and hunters experience fairly good success. Some waterfowl hunting occurs by local residents on farm ponds and can be fairly successful.

The Rathbun Wildlife Unit provides one of three turkey hunting zones in the state. Turkeys, stocked in 1968, have reproduced well and the first turkey season of modern times was held in 1974. This year 450 permits were issued for this zone. Conservation Commission personnel have recently stocked five other suitable areas in the unit with turkeys.

Predator hunting, both for fox and coyote, provide recreation for large numbers of local residents during the winter months. On any suitable hunting day several groups of "wolf" hunters can be found chasing their elusive quarry.

Public hunting and fishing areas located in the Rathbun Unit include 7 areas totaling 15,600 acres. These areas provide recreational opportunities as well as 9,000 acres in Stephens State forest and an additional 20,000 acres on Rathbun Reservoir managed by the U.S. Army Corps of Engineers.

Rathbun Wildlife Area is located on the upper reaches of Chariton and South Chariton Rivers. The area is approximately 22 miles long and contains 13,729 acres. It provides hunting opportunities for quail, pheasant, deer, rabbit, squirrel, waterfowl and furbearers.

Miami Lake located 5 miles north of Albia contains 761 acres including a 144 acre artificial lake. Hunting is provided for waterfowl, squirrel, quail, pheasant, rabbit and deer.

Also located in Monroe County is the LaHart Area of 166 acres. A 50 acre artificial marsh provides some hunting for waterfowl. Quail, pheasant, deer, squirrel and rabbit may also be taken on the area.

Cottonwood Pits is a 55 acre area located 3 miles southeast of Albia. Due to its size hunting is limited to rabbit and quail.

The Colyn Area (770 acres), located 5 miles south of Russell in Lucas County, contains two artificial marsh impoundments (270

acres). One area is managed as a waterfowl refuge and hunting is permitted on the other. Other species hunted on the area include rabbit, quail, pheasant, deer, squirrel and furbearers.

Williamson Pond in northern Lucas County provides limited hunting for rabbit, squirrel and quail. Approximately 30 of the 126 acres is covered by an artificial lake.

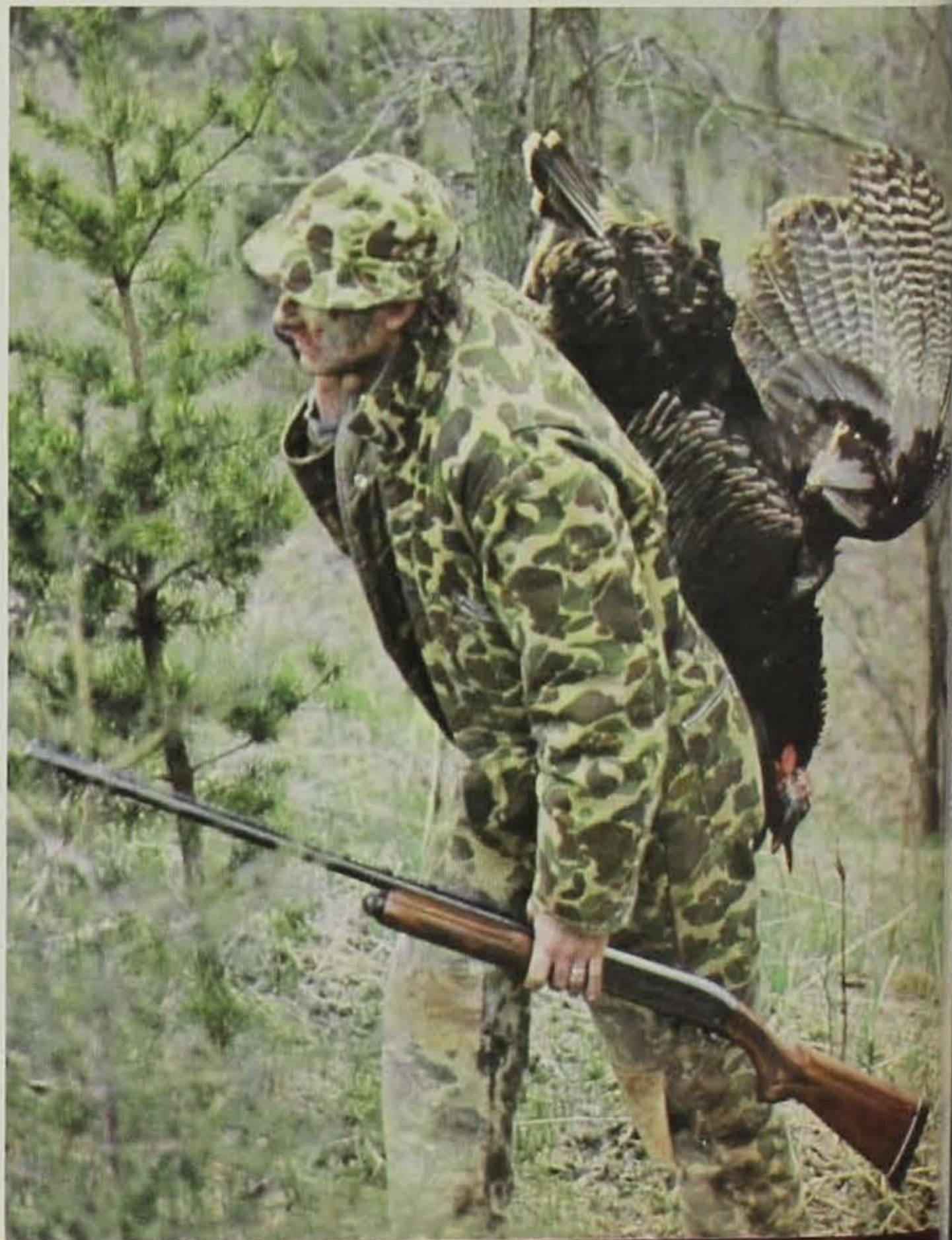
Brown's Slough Area (150 acres) is also located in Lucas County and lies adjacent to the Rathbun Area. Habitat on the area provides populations of pheasant, quail, squirrel, rabbit and deer.

All of these areas are managed to provide maximum habitat for fish and wildlife, both game and non-game species. These areas also are developed to provide facilities for fishermen and hunters to pursue their sport. Because many of the wildlife species are associated with cropland approximately 4,000 acres is farmed by cooperators. Other land areas are managed to provide nesting, roosting and cover requirements. Timbered areas are managed for wood production as well as wildlife.

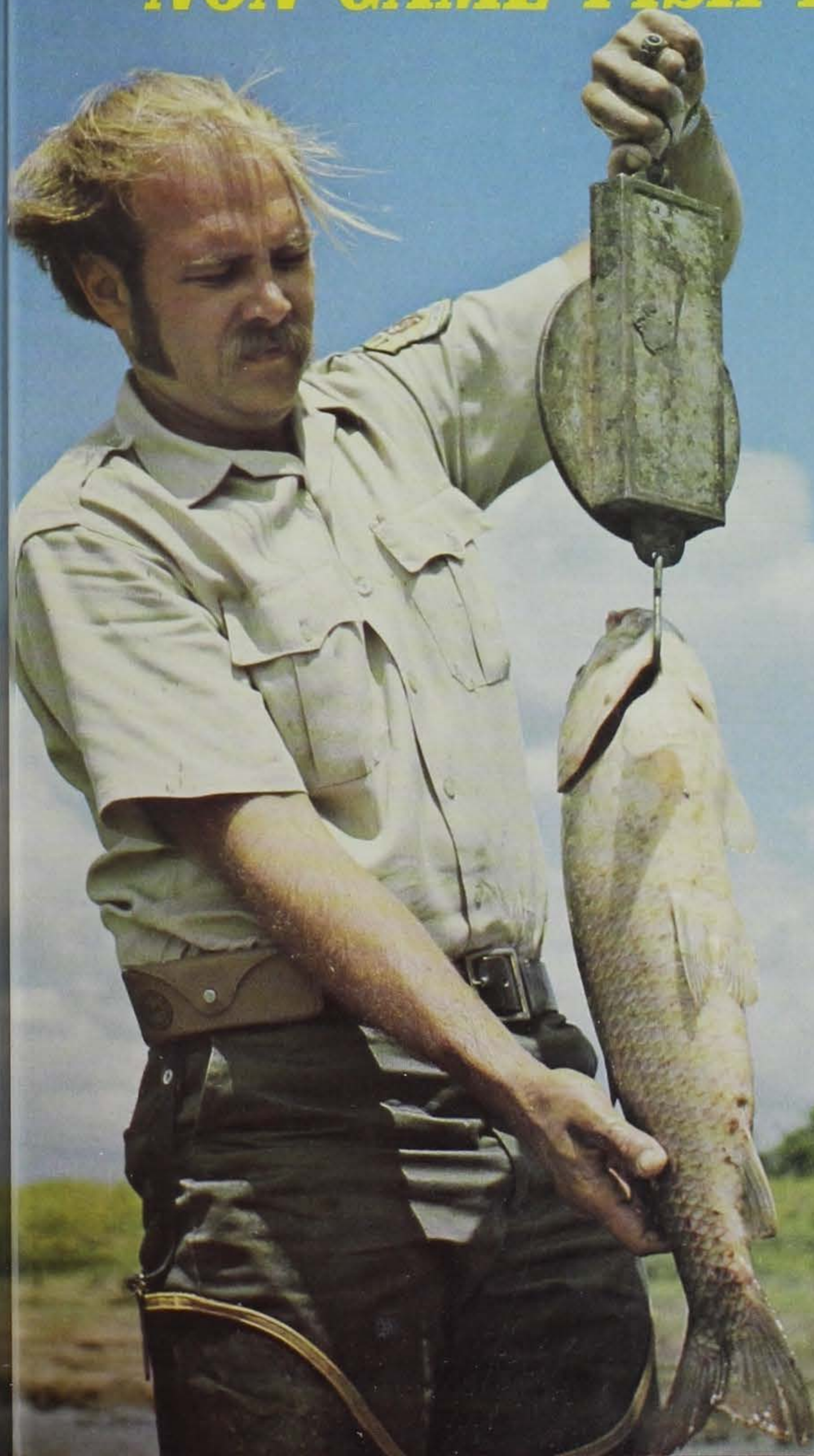
The unit headquarters is located on the Colyn Area approximately 5 miles south of Russell in Lucas County. Unit personnel are available to answer questions concerning the areas and their management.

The Wildlife Biologist maintains an office in the Agriculture Building in Chairton. He not only forms management plans for the areas but works with other government agencies and private landowners relating to wildlife management in the four counties of the Rathbun Wildlife Unit. □

Photo by Roger Sparks



NON-GAME FISH TABLE USES



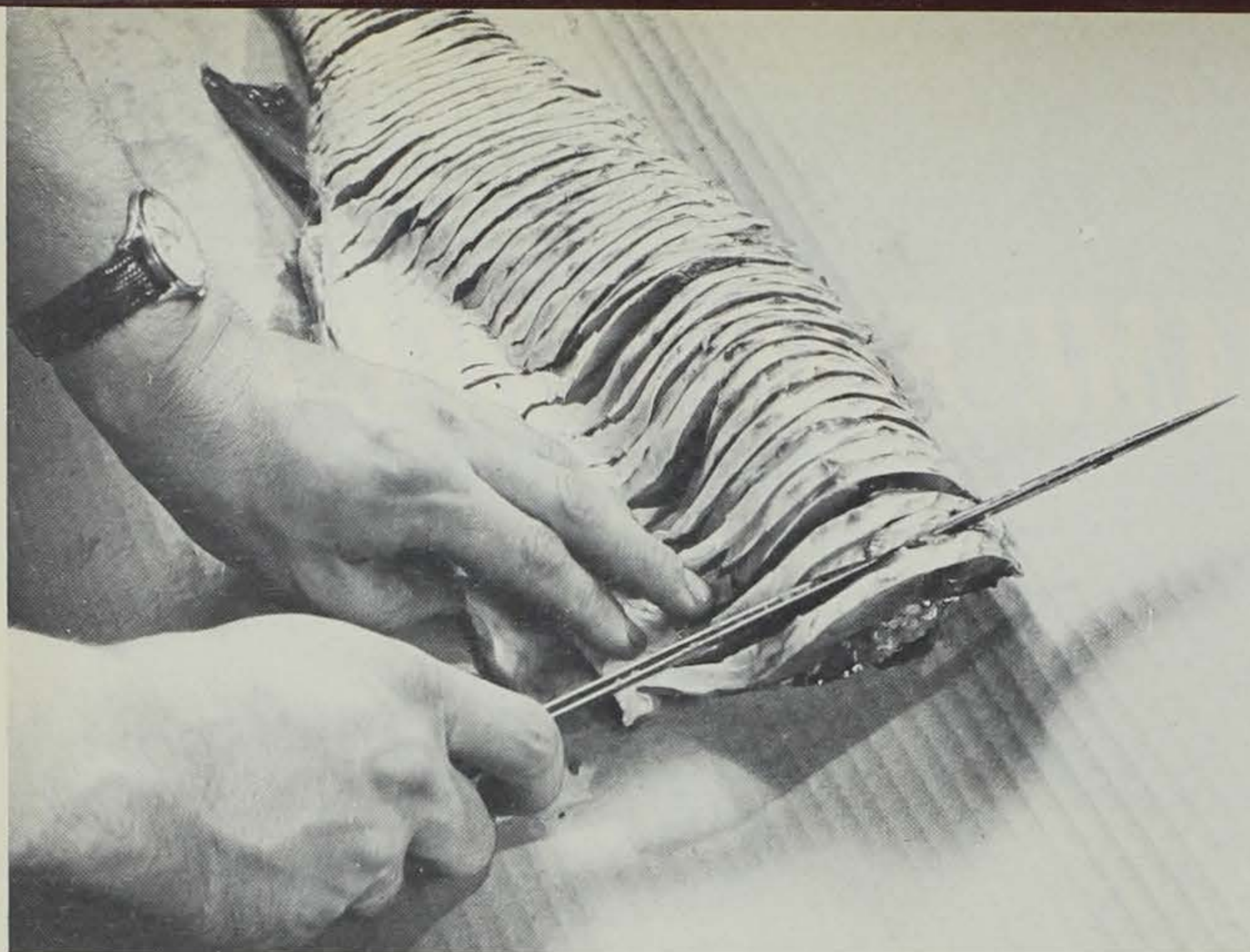
By Robert Middendorf

Conservation Commission Photos

"Carp", "buffalo", "carpsucker", are nothing more than bony trash fish, not fit to take home. Those comments are made by many Iowa anglers when non-game fish species are mentioned.

On the other hand few fishermen or fish consumers appreciate the excellent main dishes and snacks that can be prepared from the so-called "rough fish". Methods of preparation of these fish are as numerous as those used on the most prized game fish. Frying, pickling, smoking, canning, baking, and grinding for shallow fat frying and chowders, are only a few examples. So the next time you catch or are offered rough fish, try one of the above methods.

For each of the methods of preparing the fish there are many different recipes. Outdoor cookbooks have been published on ways of preparation and individuals have their own special recipes. To help in your utilization of the fish, following are some recipes taken from outdoor cookbooks and some received from individuals. Try them and you might well develop a taste for the non-game species.



Scoring reduces bone problem. Fish should be "halved" before baking (see oven smoked recipe.)

Fish Burgers

Put through a meat grinder 2 lbs. of fish fillets, 1 lb. raw potatoes and ½ lb. raw onions. Add 1 egg and some flour, season with salt and pepper to taste. Thoroughly mix all ingredients together. Then make into patties, fry, and eat like hamburgers.

Fish Sausage

Put 2 lbs. of fillets through meat grinder. Add 1 medium onion chopped fine, ½ tsp. sage, ¼ tsp. garlic salt, ¼ tsp. celery salt, 1 tsp. lemon juice, 20 saltine crackers crushed, salt and pepper to taste. Mix all ingredients together, make into patties and fry like hamburgers.

Canned Carp

Dissolve 1 cup salt in 1 gallon water. Cut cleaned fish into jar length pieces and put in brine for 1 hour. Drain for 10 minutes and pack into hot pint jars, skin side next to glass. Leave 1 inch head space. Adjust caps. Process for one hour and 40 minutes at 10 pounds in pressure cooker.

To make burgers that taste like salmon, use the canned fish. Debone 1 pint jar of carp and mash with potatoe masher. Add 1 beaten egg, 1 small onion chopped fine, 1 tbsp. A-1 sauce, 1 tsp. Realemon, a few crushed saltine crackers and flour. Then mix all ingredients and flatten into patties. Fry in oil at medium heat until golden brown on both sides.

Another fish canning method is to pack fish into jars, add 1 tsp. salt, 1 tbsp. vinegar and 1 tbsp. catsup. Adjust lids and process in pressure cooker for 90 minutes at 15 pounds. Then they can also be used in any way salmon are prepared.

Pickled Fish

Clean and cut fish into 2 or 3 inch square pieces. Salt both sides of fish and place in bake pan, then set in refrigerator for 12 hours or more. Boil for 3 minutes a mixture of 3 cups vinegar, 2 cups water, 6 tbsp. sugar, 2 tbsp. pickling spices, ½ tsp. pepper. Add fish and onion slices, return to boil, reduce heat and simmer until fish is done (about 10 minutes). Put fish into small crock or bowl and cover with pickling solution. Mix 1 package of Knox gelatin in a little cold water and pour into bowl of fish, stirring gently. Set to cool at room temperature, then put in refrigerator, covered, for 2-3 days before eating.

Fried Fish

Fillet or cut skinned fish crosswise in slices 2/3 inch thick. Dip fish into beaten egg and milk mixture. Then roll fish in an equal parts mixture of cornmeal, flour and instant potato buds seasoned to taste with salt and pepper. Fish then can be shallow fat or deep fat fried.

Baked Stuffed Fillets

Fillet fish, leaving each side in one piece; season both sides with salt, pepper and paprika. Prepare and mix a dressing of 2 cups bread cubes, 1½ tbsp. chopped onions, 1/3 cup chopped celery, ½ tsp. minced parsley, 2 tbsp. fat, ½ tsp. salt and pepper, ½ tsp. savory seasoning. Put dressing on one fillet and cover with other fillet. Fasten together with toothpicks or small skewers. Place in well greased shallow baking pan. Brush with mixture of grease and lemon juice. Bake uncovered at 350-375° for 40 to 50 minutes. Place strips of bacon over top the last 15 minutes of cooking time. Serve hot, plain or with tartar sauce.

Fish Chowder

Fry ¾ cup cubed salt park to golden yellow, add ½ cup sliced onion and cook until pork is crisp and onion light yellow, stirring occasionally. Add 4 cups water and 1 tsp. salt, bring to boil and pour into saucepan. Add 2 cups cubed potatoes, cover and cook 20 minutes. Add 4 cups flaked, cube cooked or canned fish that has had bones removed, simmer 5 minutes to heat thoroughly. Just before serving add 4 cups hot milk, 1 sliced lemon, ½ tsp. pepper and sprinkle with paprika and chives.

Smoked Fish

When cleaning, cut off head and then split fish in half lengthwise. Fish can be scaled but do not remove skin. Thoroughly clean body cavity and wash. Soak fish for 18 to 24 hours in either brown sugar cured salt brine or plain slat brine that will float an egg. Or dry salt inside of cleaned fish with coarse stock salt for 18 to 24 hours. Wash off excess salt before smoking. In smokehouse use ash, hickory, apple or cherry wood (no pine) for smoking. Start fire and then place fish in smoker. Do not get fire too hot as fish will burn, but have lots of smoke. If smoking several trays of fish rotate trays once each hour. Smoke for 8 hours, or until fish are golden brown and surface moisture disappears. When done, rib bones will break away from flesh easily.

Oven Smoked Fish

Clean fish and cut in half lengthwise or fillet. Preheat oven to 375°. Lay fish in a single layer on large loaf cake pan. Brush both sides of fish with equal parts of soy sauce and liquid smoke. Sprinkle with garlic salt, paprika, salt and coarse pepper. Bake 20 minutes, then brush with soy sauce and liquid smoke again, turn and brush other side of fish. Return to oven and bake 20 minutes, then shut off oven and leave fish in until oven has cooled to normal.

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Photo by Roger Sp

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It has been estimated that 80% of Iowa's woodlands are pastured. Native oak-hickory timber can adequately reseed itself despite harvest, insects, disease or fire, if it is protected from destructive grazing.

Livestock & Timber

By Robert Hibbs
District Forester, Marshalltown

Photo by Roger Sparks



One animal eating one seedling per hour while stepping on 4 others each hour can denude one acre containing 1200 tree seedlings, 6 feet apart in every direction, in 10 days. All livestock, despite different weights, exert about the same number of pounds pressure per square inch when calculated

according to hoof size. Weight per square inch for livestock is about the same as weight per square inch of an automobile. Number of animals per acre or number of years in a pastured condition is all that stands between good forest land and land abuse seen in this picture.



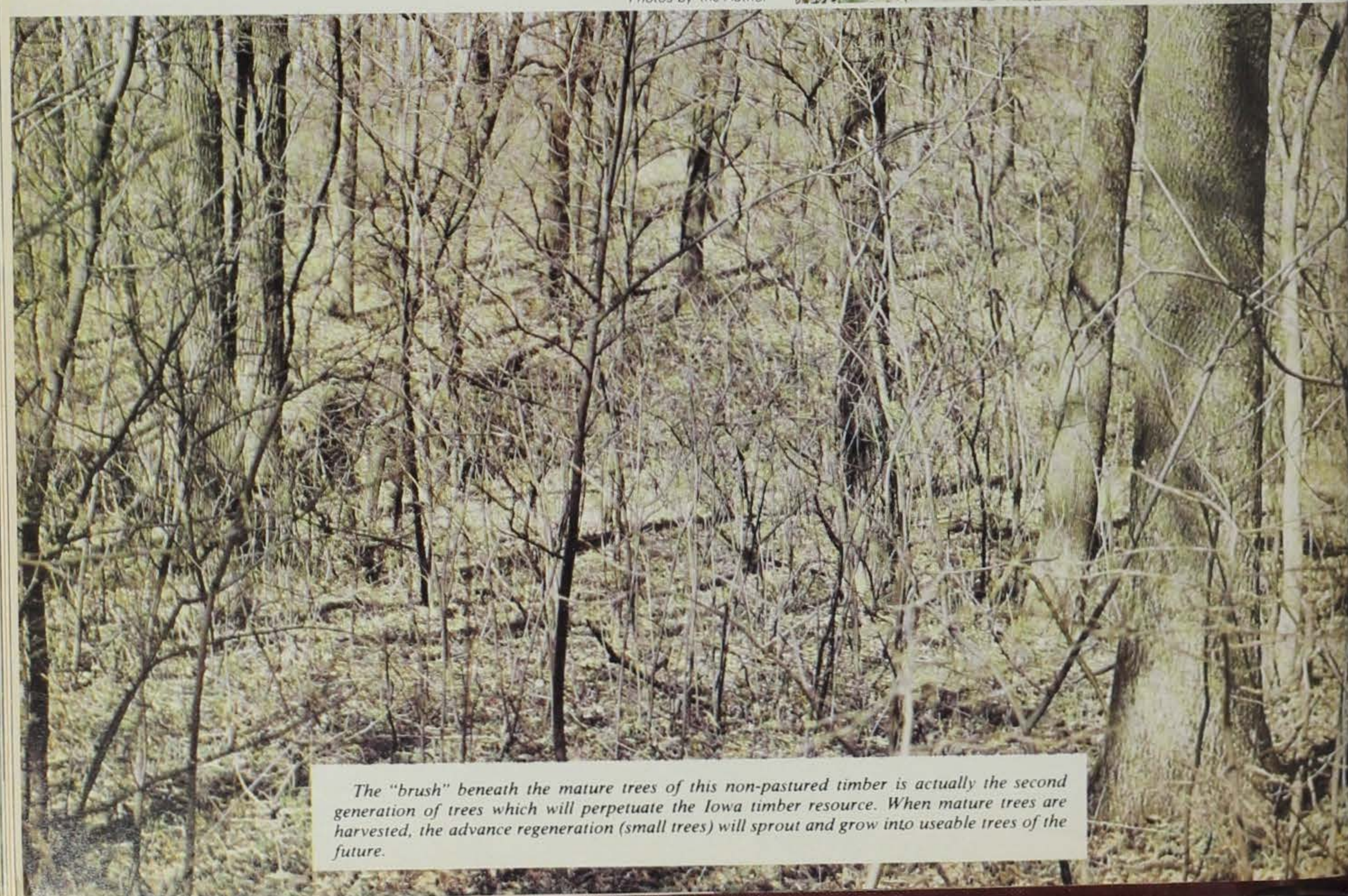
This pastured stand of walnut (above) is growing only one-tenth as fast as it should due to livestock soil compaction. In addition, there are no seedlings present to take over when the walnut is harvested. Timber of this type is of little value to wildlife or forestry production. It will most likely revert to pasture or highly erodable cropland when the mature trees are harvested.

Photos by the Author



The base of a pastured tree (above) on a 5% slope shows damage due to the livestock. Protective leaf cover is destroyed and soil is compacted and washed away. As this becomes pronounced, tree roots and the underside of the trunk become exposed to termites and wood-chewing carpenter ants. This is why pastured trees are more apt to be hollow than are non-pastured trees.

The base of a non-pastured tree (below) on a 5% slope is well protected by last year's leaves, decaying humus, and fertile forest soil.



The "brush" beneath the mature trees of this non-pastured timber is actually the second generation of trees which will perpetuate the Iowa timber resource. When mature trees are harvested, the advance regeneration (small trees) will sprout and grow into useable trees of the future.

APPLICATION

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Signed:

Mail Address-R.F.

City:

State:

Phone No.:

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. You will receive a confirmation of order.
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:
One (1) wildlife packet

DO NOT ORDER LESS THAN 500 IN MULTIPLES OF 100

GENERAL SHIPPING INFORMATION

(Please Print)

- ☐ **Ship prepaid via United Parcel to:**
(Only up to 100 lbs. [This is approximately 1,500 - 2,000 plants, depending upon species.] allowed to be shipped to one customer at one location in a given day.) If you live in country, give clear direction for reaching your home.

SHIP TO: _____
(name)


(address)

_____ (city) _____ (phone)


(IMPORTANT to have NAME, ADDRESS and PHONE of person at home during daytime to accept this order.)

- ☐ When notified, I will pick-up stock at Nursery.

PLEASE PRINT

Kind of Trees or Shrubs Wanted	Age Class	No. Wanted	Cost	Application Information
<div></div>				Order Assistance Received From: 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 _____

<i>Please indicate an alternate choice of species if your 1st choice is unavailable</i>	(Min. Order 500 Plants Except Packet)			<div></div>
	Subtotal			
	3% Sales Tax			
	Prepaid Shipping Charges (\$.50 per 100 plants)			
	TOTAL COST			

THE LEGAL PLANTING LOCATION AND YOUR SIGNATURE IS REQUIRED

These trees are to be planted in _____ Quarter, Section _____, Township _____, Range _____, in _____ County, Iowa. (Information found on tax assessment)

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 livestock grazing. I agree to forfeit for destruction any trees planted or used in violation of the above restrictions.

Signed: _____

Mail Address-R.F.D.: _____

City: _____

State: _____ Zip Code: _____

Phone No.: _____

GENERAL INFORMATION

(Please mark "X" in appropriate space)

1. MAIN PURPOSE OF PLANTING: ☐ General Forestry;
☐ Wildlife; ☐ Educational Planting; ☐ Erosion Control;
☐ Other, _____
2. METHOD OF PLANTING: ☐ Machine; ☐ Hand
3. PLANTING SITE: ☐ Sod Field; ☐ Brush; ☐ Sandy Field;
☐ In Existing Timber; ☐ Crop Field ☐ Other, _____
4. ARE YOU PARTICIPATING IN A FEDERAL COST SHARING PROGRAM? ☐ Yes; ☐ No
5. HAVE YOU PURCHASED PLANTS FROM THIS NURSERY BEFORE? ☐ Yes; ☐ No

FOR OFFICE USE ONLY

DO NOT ORDER LESS THAN 500

SEEDLING TREES AND SHRUBS AVAILABLE FOR DISTRIBUTION DURING SPRING OF 1976

Species	Age Class	Avg. Ht. in INCHES	Cost Per 100 Plants	Cost Per 500 Plants	<p>*SPECIAL WILDLIFE PACKET</p> <p>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.</p> <p>SPECIAL NOTE: SHIPPING CHARGES United Parcel Shipping: \$.50 per 100 plants ordered.</p> <p>PLANT A TREE NOW FOR THE TRI-CENTENNIAL</p>
Austrian Pine	2-0	5-12	\$2.50	\$12.50	
Jack Pine	2-0	6-12	2.50	12.50	
Ponderosa Pine	2-0	5-12	2.50	12.50	
Red Pine	3-0	6-12	2.50	12.50	
Scotch Pine	2-0	5-12	2.50	12.50	
White Pine	3-0	6-12	2.50	12.50	
Red Oak	2-0	6-14	2.00	10.00	
Black Walnut	1-0	10-15	2.50	12.50	
Silver Maple	1-0	5-12	2.00	10.00	
Wild Plum	1-0	6-12	2.00	10.00	
Autumn Olive	1-0	6-12	2.00	10.00	
Multiflora Rose	1-0	6-12	2.00	10.00	
Dogwood	1-0	6-12	2.00	10.00	
Amur Honeysuckle	1-0	6-12	2.00	10.00	
Tatarian Honeysuckle	1-0	6-12	2.00	10.00	
Ninebark	1-0	6-12	2.00	10.00	
*Special Wildlife Packet (one)			5.00		

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

TREES ARE AMERICA'S ONLY RENEWABLE RESOURCE!

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



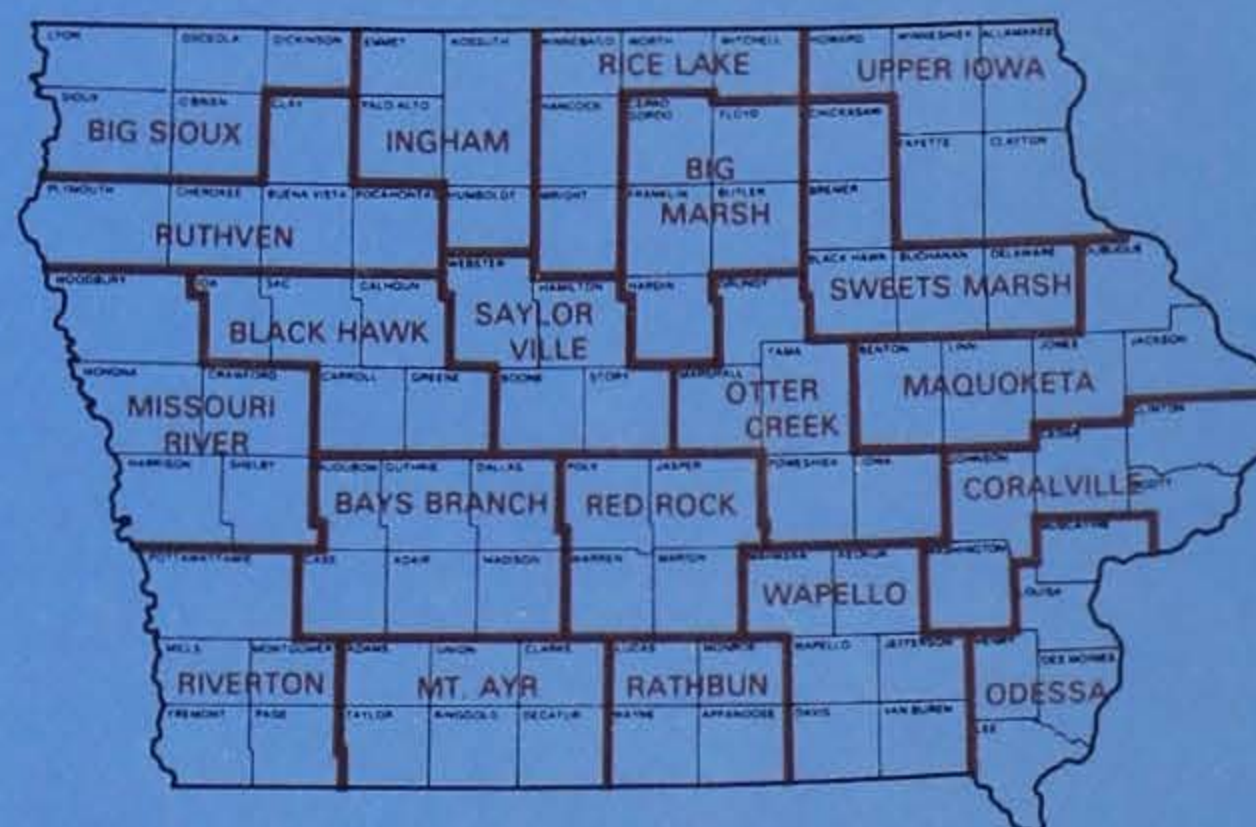
DISTRICT FORESTER ADDRESSES

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
12. HUMBOLDT 102-8th St., 50548

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 ASCS Office Bldg., 718 8th St., Boone, Iowa 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



CLASSROOM CORNER

by Robert Rye

Administrator, Conservation Education Center

THINGS CHANGE throughout the year. This goes for plants, animals, and thoughts. December isn't thought of as a month of the year; most people call it "Chrstitmas time".

Martin Luther is credited with using the first Christmas tree late in the 15th century. Many of the first trees in this country were trimmed with strings of pop-corn, berries, and pieces of cotton.

Articles of and for nature can be used on today's trees. As in colonial times, foods (berries, nuts, popcorn, seeds) can be strung on strings for decorations. Then when you're through with the tree after Christmas, you can place the tree outside completely decked in its "nature decorations" for the birds and other animals.

You can make animal shape decorations (dogs, reindeer, birds, people) with pipe cleaners, glue and natural materials. Nuts, stones, wood, parts of plants and animals or other things can easily be transferred into a variety of beautiful and relatively free decorations. Natural dyes can be made from grasses, seeds, nuts and flowers to add color to your creations. A final thought, use conservation in collecting objects for your nature decorations. Collect only those things you find in abundance.

Look at the butt (the cut end) of your tree. Can you count the rings? To the number of rings, add 5 years for the core in the center. How old your tree? When was your tree planted? Count the number of rings of a branch. Does this equal its age? It shouldn't, because many times limbs fall off and are covered by bark. By the way, a tree gains its height by growing at its top.

Look at the distance between the rings of branches. Is there any similarity between the distance and the size of the rings of the butt end? Can you tell what years were good growing years and which were poor ones? You can subtract back and possibly determine if a year had a wet or dry growing season.

This indoor part of nature as well as the out-of-doors provides opportunities for creative thinking and various forms of language arts experiences.

Have several persons, with their eyes covered, use descriptive terms to tell what the object (the trees and your nature decorations) feel like. You can use other senses in similar activities. Get short verbal reactions to common and uncommon objects and surroundings — for instance, look through your tree and describe what you see. This will depend on whether you focus on the branches or on an object behind the tree.

There are some safety rules for all to observe to insure a beautiful tree and a happy season. Trees begin to lose moisture soon after they are cut. Fresh green trees reduce the fire hazard. As soon as you buy or cut your tree, store it in a cool, shady place. Put the butt in water, and sprinkle the branches and needles with water daily. The butt should be cut diagonally. This will aid in the absorption of water because there is more open surface to absorb water. Finally keep your tree standing in water at all times when it is the house.

The wise use of nature can lead to both an increase in knowledge and many hours of enjoyment.

It's too late.....

...to think of another excuse for not subscribing to the Iowa Conservationist. Just think of how much enjoyment you can provide someone by giving them a Conservationist subscription for Christmas. Every month of the year your Christmas present will arrive again. How about sending one back home to the folks? Wouldn't your children enjoy learning the real story behind wildlife conservation?

You now have the opportunity to subscribe at the low rate of \$1.00 - 1 year, \$2.00 - 2 years, \$3.50 - 4 years. After January 1 our rates will increase. Don't miss this chance.

HAVE A

Merry Christmas!

STATE CONSERVATION COMMISSION
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Photo by Ken Formanek