

IOWA CONSERVATIONIST

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BOWHUNTING FOR IOWA DEER

30 YEARS OF PHEASANT SEASONS

It started back in 1900 on a private game farm near Cedar Falls. Owner William Benton was holding over 2,000 ringneck pheasants when a violent windstorm blew down some fence, liberating the birds. Rumor has it that the wind may have been helped by neighbors who believed pheasant stocking was a good idea.

This lucky accident was reinforced by several years of stocking, primarily of eggs sent to farmers. In 1904 an unsuccessful attempt was made to establish birds in Keokuk county, but in 1907 and 1908 successful stocking was made in Kossuth and O'Brien counties. All early stockings were by private persons.

Strangely enough, much of this stocking effort was in southern Iowa and no one was concerned with finding the most suitable pheasant range before stocking. It was not until 1932 that serious thought was given to maintaining pheasants in northern Iowa.

Until just before World War I, pheasant stocking was a hit-or-miss proposition and the birds were slow in becoming established. State Game Warden Henshaw refused to become discouraged, and urged hunters not to shoot lone birds simply because they thought the program had failed. But just after the first war it became evident that pheasants were making progress, and their numbers began to rise.

By 1923 the old fish and game department was considering an open season in counties where birds were most numerous, but the legislature didn't think the time was right.

The first pheasant season was opened in October, 1925; three half-days with a bag limit (and evidently a possession limit) of 3 cock birds. About 75,000 hunters were estimated to be in the field. Thirteen counties were open in northern Iowa and a Hawkeye tradition had begun.

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Iowa bowhunters are getting set for the 1955 deer season, and Bud Austin and Chuck Miller of Des Moines practice on a life-sized deer target. Austin's glass and maple recurved bow draws about 54 pounds; can drive an arrow completely through a deer.

Part II

AN EVALUATION OF THE RED FOX

By Dr. Thomas G. Scott
Illinois Natural History Survey

It seems likely that several million dollars may have been expended on fox bounties in the United States during the past 20 years. Perhaps the exact amount is not important to this discussion, for our concern is largely with economic policy.

The bounty system has been carefully reviewed and found wanting by a number of workers. Bounty payments have been collected regularly on foxes that have been shot or trapped for fur, for sport, or for local control. Most of these foxes would have been killed anyway, and payment of the bounty has constituted a kind of deficit spending because it has meant payment on something for which value had already been received. Experience in Pennsylvania indicated that probably 50 per cent or more of the mammalian predators (red fox, gray fox and weasel) would . . .

have been killed regardless of the bounty.

The bounty system cannot be directed efficiently toward the reduction of specific, excessive fox populations because the administrative areas in which funds are approved for bounties seldom conform with the areas needing attention. Any control technique must be considered wasteful of time and money if it cannot be directed against specific trouble spots.

Fraud

Fraud takes many forms in a bounty system. The collection of bounties on foxes taken outside the area in which a bounty law applies is not an uncommon practice. Also, it is evident that bounties may be repeatedly paid on the same animal where evidence of the dead fox is not collected or marked in some effective manner. It is not unusual for some hunters or trappers who find the bounty profitable to release pregnant females in order to make

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John Madson
Education Assistant

October 29 marks the beginning of the 1955 deer season with the start of a 21-day bow and arrow only season in all Iowa counties.

There are a few bowhunters in the state who have killed deer, but only a few. Other Iowa hunters, although interested in the prospect of taking venison with the bow, are in the dark about it. For these, the experts have some tips.

Fast Bows

Two Des Moines archers, Bud Austin and Francis Melton, have hunted deer for several seasons in Wisconsin, and have scored three times. They claim that a deer can be killed by a fine archer at 100 yards, and that a hunting arrow has plenty of punch far beyond that. Melton killed his first buck with a 70-yard chest shot, and the animal traveled only 35 yards before folding up. Both archers use bows that draw slightly over 50 pounds.

They believe that many beginners choose a hunting bow that is too heavy for them. It's more than a matter of brute strength. A novice learning with a 70-pound bow is using strange new muscles, will have little control, and may tire and become discouraged easily. Start with a lighter bow and work up. A man of average strength can easily draw and shoot a 45 or 50 pound bow, both of which are legal for hunting deer in Iowa, and both of which are perfectly capable of killing a deer cleanly.

Many modern bows are laminated, made up of layers of fiberglass, wood or plastic and cemented together under great pressure. Such bows are considered by most to be vastly superior to the old wooden bows of osage orange, lemonwood, yew and hickory. The new bows are quite durable and extremely "fast". When bent they recover with great speed and snap, and comparing a lemonwood bow with one of glass and maple is like comparing a willow flyrod with one of the finest split bamboo.

Only broadhead hunting arrows

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1955 IOWA HUNTING AND TRAPPING SEASONS

The 1955-56 Iowa hunting and trapping regulations have been announced by the State Conservation Commission.

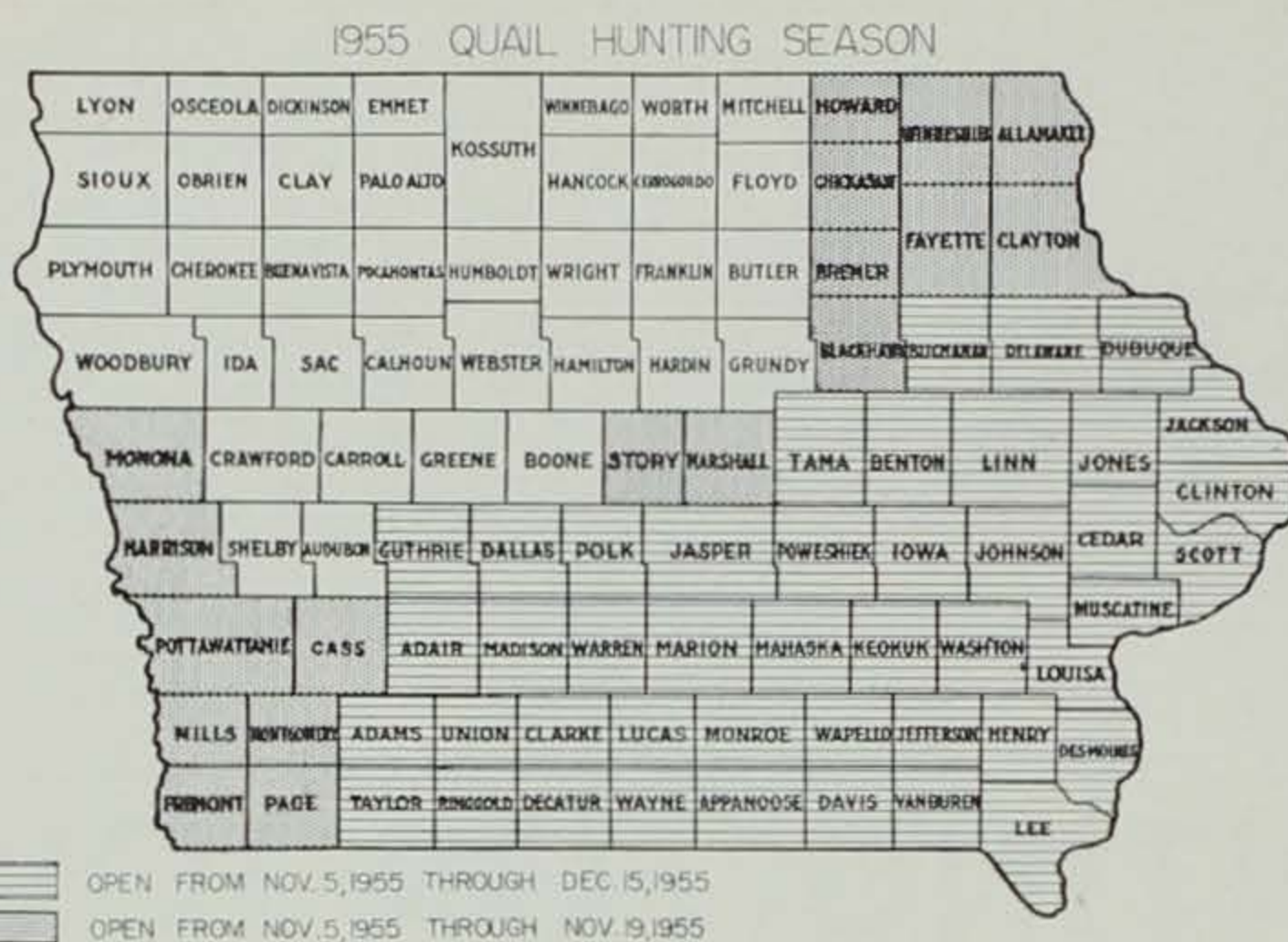
Squirrel season extends from September 17, 1955 to November 15, 1955, both dates inclusive. The entire state will be open to both gray and fox squirrel hunting, with a daily bag limit of 6 and a possession limit of 12.

Rabbit season extends from September 17, 1955 to January 31, 1956, both dates inclusive. Shooting hours are from 6 a.m. to 6 p.m. daily, and the entire state is open to jackrabbit and cottontail hunting. The bag limit is 10 per day and there is no possession limit.

Pheasant hunting in the long season zone will extend from November 12, 1955 to December 5, 1955, both dates inclusive. Daily shooting hours will be from 12 o'clock noon to 4:30 p.m. on each open day. The bag limit and possession limit will be 3 cock birds.

Counties in the long season zone include: Lyon, Osceola, Dickinson, Emmet, Kossuth, Winnebago, Worth, Mitchell, Howard, Winnesaukee, Allamakee, Fayette, Clayton, Chickasaw, Floyd, Cerro Gordo, Hancock, Palo Alto, Clay, O'Brien, Sioux, Plymouth, Cherokee, Buena Vista, Pocahontas, Humboldt, Wright, Franklin, Butler, Bremer, Woodbury, Ida, Sac, Calhoun, Webster, Hamilton, Hardin, Grundy, Black Hawk, Buchanan, Delaware, Dubuque, Jackson, Clinton, Scott, Jones, Linn, Benton, Tama, Marshall, Story, Boone, Greene, Carroll, Crawford, Monona, Shelby, Audubon, Guthrie, Jasper, Poweshiek, Iowa, Johnson, Cedar, Muscatine, Cass, Adair, Adams, Union, and Taylor.

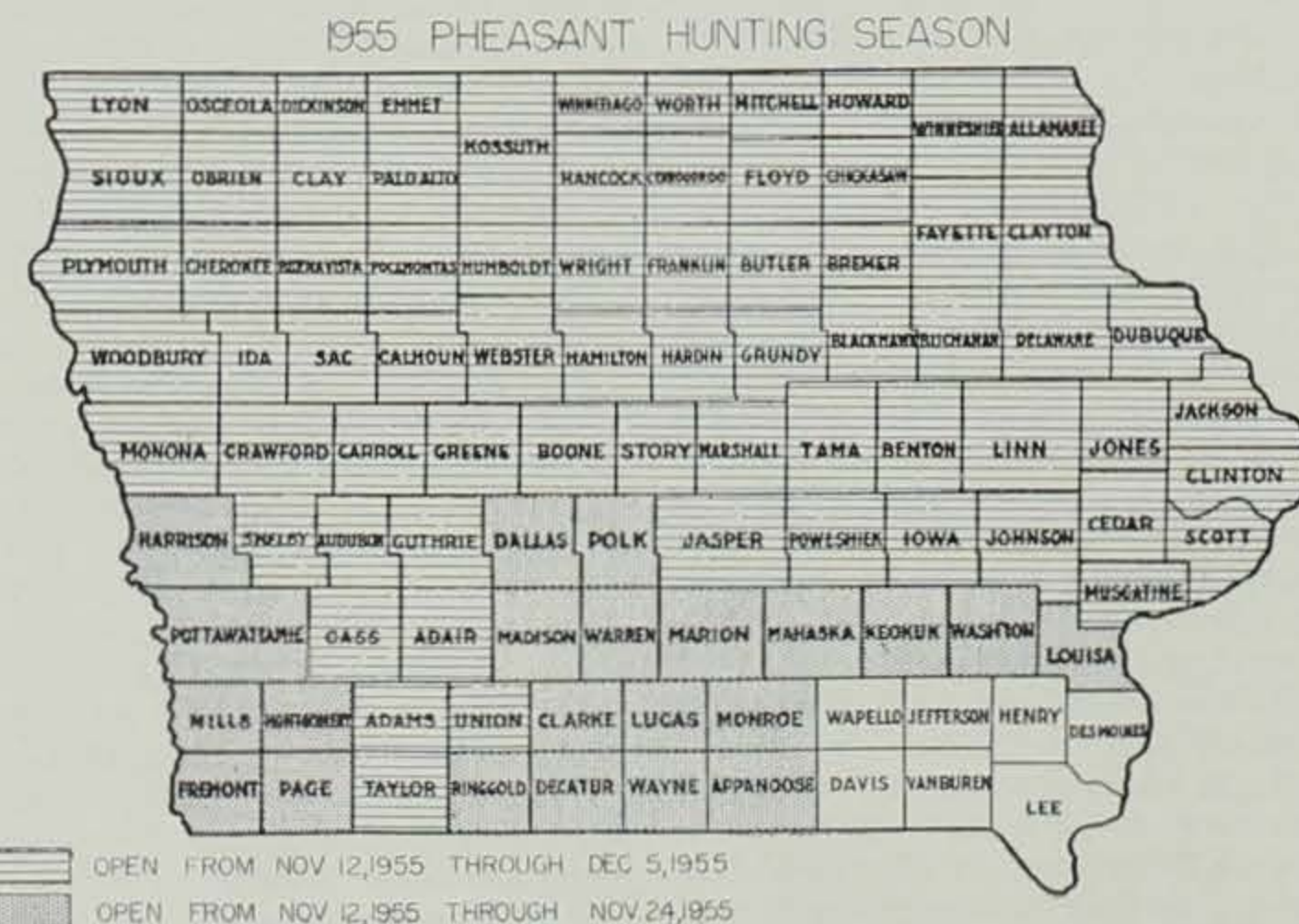
Pheasant season in the short season zone will extend from November 12 to November 24, both dates inclusive. Shooting hours in this zone are also from 12 o'clock noon to 4:30 p.m. daily, with a bag and



possession limit of 3 cock birds. Counties in the short pheasant season zone include: Harrison, Pottawattamie, Madison, Clarke, Lucas, Ringgold, Decatur, Wayne, Louisa, Washington, Keokuk, Mahaska, Dallas, Mills, Montgomery, Fremont, Page, Monroe, Appanoose, Polk, Warren and Marion.

Quail hunting in the long quail season zone will extend from November 5 to December 15, both dates inclusive, with daily shooting hours from 8:30 a.m. to 4:30 p.m. each open day. Bag and possession limit of quail is 6 birds. Counties in the long quail season zone are: Tama, Benton, Linn, Jones, Jackson, Jasper, Poweshiek, Iowa, Johnson, Cedar, Clinton, Scott, Madison, Warren, Marion, Mahaska, Keokuk, Washington, Muscatine, Louisa, Adair, Union, Clarke, Lucas, Monroe, Wapello, Jefferson, Henry, Des Moines, Taylor, Ringgold, Decatur, Wayne, Appanoose, Davis, Van Buren, Lee, Buchanan, Delaware, Dubuque, Guthrie, Dallas, Polk and Adams.

In the short season quail zone, shooting will extend from November 5 to November 19, both dates inclusive, with daily shooting hours from 8:30 a.m. to 4:30 p.m. Bag and possession limit is 6 birds, and short season counties include: Winnesaukee, Allamakee, Fayette, Clayton, Chickasaw, Floyd, Cerro Gordo, Hancock, Palo Alto, Clay, O'Brien, Sioux, Plymouth, Cherokee, Buena Vista, Pocahontas, Humboldt, Wright, Franklin, Butler, Bremer, Woodbury, Ida, Sac, Calhoun, Webster, Hamilton, Hardin, Grundy, Black Hawk, Buchanan, Delaware, Dubuque, Jackson, Clinton, Scott, Jones, Linn, Benton, Tama, Marshall, Story, Boone, Greene, Carroll, Crawford, Monona, Shelby, Audubon, Guthrie, Jasper, Poweshiek, Iowa, Johnson, Cedar, Muscatine, Cass, Adair, Adams, Union, and Taylor.



or possession limit. No more than 1 Canada goose and 1 white-front may be held in any bag or possession limit. The bag and possession limit of geese may be comprised entirely of snow geese, blue geese, or any combination thereof.

The bag and possession limits of coot is 10.

The season for jacksnipe or Wilson's snipe will be 15 days, extending from October 8 to October 22, both dates inclusive, with a bag of 8 and a possession limit of 8. Daily shooting hours for snipe are the same as for other waterfowl.

The open season for raccoon will begin at 12 o'clock noon, October 22, and extend to midnight, February 10, 1956. This is the season for raccoon hunting only. There is no bag or possession limit on raccoons.

Hungarian partridge may be hunted this year in Lyon, Sioux, Osceola, O'Brien, Dickinson, Clay, Emmet, Palo Alto, Kossuth, Winnebago and Hancock counties from November 12 to November 20, both dates inclusive. Shooting hours are from 12 o'clock noon to 4:30 p.m. daily with a bag and possession limit of 2 birds. All other counties are closed to "Hun" shooting.

1955-56 Trapping Seasons

The trapping season for mink and muskrat for the entire state will be from 12 o'clock noon, November 20, until midnight, December 4, 1955.

Beaver may be trapped from 12 o'clock noon, November 10, 1955 until midnight, March 1, 1956.

Badger, raccoon, skunk, opossum and civet cat may be trapped from 12 o'clock noon, November 10, until midnight, January 10, 1956. Raccoon may be taken by hunting from noon, October 22, until midnight, February 10, 1956.

There is a continuous open season on red fox, gray fox, ground hog, weasel, and coyote.

There is a continuous closed season on otter over the entire state.

PREVENT FOREST AND GRASS FIRES



KEEP HUNTING A SAFE SPORT



Mink often use little streams as travel lanes, and many trappers take them near drain tile outlets and springs. But cagey as he is, the mink may be a sucker for a dry land set.

HINTS ON MINK TRAPPING

Tom Berkley
Area Game Manager

Mink are fairly difficult to trap, and great care must be taken in keeping traps clean, well concealed, leaving as little human sign as possible in the vicinity of the traps.

When tracks indicate that mink are traveling on land or across a sand bar, regular dirt hole bait sets are very effective. These are made by digging a small hole for a bait, simulating a morsel hidden by another animal, and placing the trap directly in front of this bait hole.

When the exact place to set the trap is located, spread a ground cloth and with a trowel dig a hole 2 inches wide and 5 inches deep at a 45 degree angle. Now dig a shallow hole directly in front of the bait hole large enough to take the trap and stake or trap and drag. Only one trap is used. Secure the stake in the center of the trap hole, and set the trap so that the pan will be 6 inches from the bait hole. The jaws are placed so that the animal will step over the hinge of the jaws and not over the outside of the jaw which would be likely to throw his foot from the trap. The ground under the trap should be firm and level and about flush with the surrounding ground. A pan cover of waxed paper should be used under the trap and jaws and over the pan in freezing weather. Cover the trap with ½ inch of fine, dry dirt.

Unlike foxes, mink are not often attracted by rotten baits. Fresh bloody meat baits such as fresh muskrat, rabbit or fish are used. Mink scents are available from commercial scent companies and may be used with this bait hole set.

The baits used in trapping mink should be replaced every three days.

Mink are often found near springs or farm tile outlets. They often use small streams as travel lanes. Traps should be placed in these small streams in such a way that mink will be forced to travel across the trap pan. It may be possible to find a spot where the stream narrows down or sticks may be placed in the stream to create a rather narrow passage through which the animal must travel. The trap is staked down in one or two inches of water in the center of the mink's travel lane. Traps used for this set should be dyed and hidden by moss or other natural cover.

One of the most effective sets for mink is a bait set made along a bank where there is a shelf covered by two or three inches of water. A bait hole with the entrance half above and half below the waterline is dug slanting uphill into the bank for about 6 inches. A fresh bait of either meat or fish is placed back in the hole. A trap is concealed under water in front of the entrance to the hole.

Other sets are the blind trail sets made in travel lanes. Small cubbys made from rocks with the bait placed in the center and a trap set at each end. Sets may be worked out for brush piles and log piles. Number 2 traps are recommended as they usually kill a mink and reduce losses from "wringoffs".

"White animal" is the meaning of the opossum's name. It comes from either "wabassin", an Ojibway word, or "apasum", an Algonquin word. Some authorities claim the name comes from the fact that the opossum has opposable first hind toes, meaning that these toes work very much like human thumbs.

THE MUDHEN—CHILD OF ADVERSITY

There's not much you can say about the coot. Everyone knows what he looks like, but no one knows much about him. He's just that kind of bird. You'd meet him on a marsh and never give him a second look.

Hunters who care enough to find out probably know that the mudhen or coot isn't a duck, but a member of the rail family and closely related to the kind, sora and clapper rails. You might say that he's a shore bird that's taken up swimming.

The coot is bigger than some ducks, but smaller than most. He has a blackish plumage, a white, hen-like bill, and green feet that are all out of proportion. Big feet, they are, with long toes that are lobed and not webbed like a duck's. As the bird swims through the water his head and neck pump in unison with the strokes of his long, green legs.

He doesn't explode from the water like a teal or mallard, but sort of trots along the surface until he gets flying speed, leaving a long trail of splashes to mark his strides. When he's tearing along at about 10 miles per hour—and if a hunter hasn't gunned him—he rises into the air in low, clumsy flight.

Coots are everywhere during the duck season. Novice hunters may shoot them for "black mallards" and veteran hunters either ignore them completely or cut them down for practice. They never seem to really get gunwise, but poke around the marsh in a futile sort of way, galloping from one duck blind to another.

They feed on some insects and small mollusks, but their main foods are succulent plant stems.

There's a strange thing about mudhens. We've never known any-

one who has seen them actually migrate. Even Jack Musgrove of the State Historical Building, one of Iowa's best waterfowl men, has never met a firsthand witness to a mudhen migration. There may be rafts of coot on a lake at evening, but they're gone by morning. They move out at night at low altitudes, flying at good speeds with those green legs trailing out behind them and occasionally clipping a highline or telephone wire.

A few waterfowlers eat mudhens and like them. When they've been feeding on wild celery or similar aquatic plants, they can be very good. They're certainly as good as some ducks. Many hunters will eat bluebills and ignore coots, but certain bluebills will drive a cook out of a kitchen. If you're interested in eating coot, skin it. Its full of pinfeathers. And, if you like gizzards, the coot is your dish—he's almost all gizzard and it's good.

It's hard to say why a distaste for certain creatures arises in some areas. Maybe it's the law of supply and demand. In Europe the carp is a highly prized food fish, and in many eastern states the woodchuck is a game animal. In some parts of the country the coot is called a "whitebill" or "rice hen", and is an important part of the bag. But here in Iowa the name "mudhen" doesn't do much to stimulate the appetite.

Many old hunters use coot decoys, and welcome the strange black birds on a marsh. Wary ducks sometimes use mudhens as trouble-shooters and if mudhens congregated near the shore haven't been shot up, the unscrupulous ducks will swim in.

The presence of coots on a marsh certainly doesn't hurt anything, yet some hunters use them for target practice and leave them dead or crippled. It's a pathetic thing to see a small cluster of mudhens

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What a coot lacks in grace, he makes up in feet. And when you consider his flying ability, maybe he'd be better off to walk all the time.



Walnut, our most valuable wood, has dwindled rapidly in recent years. In an effort to maintain it, the Conservation Commission gathers nuts each fall and plants about 1,000,000 on state lands.

WALNUTS

Roberts Mann
Superintendent of Conservation

This has been a fruitful year for the red oaks and our native walnuts. Following the first hard frost, the walnut trees dropped their leaves and many were discovered to be loaded with nuts dangling from their twigs, singly and in clusters of two or three. Many more had dropped and lay upon the ground beneath. This winter the squirrels will be well fed.

Each walnut is enclosed in a round thick pulpy juicy hull, light green and smooth on the outside, yellowish-green within. This hull is difficult to remove when green and leaves an indelible brown stain upon a person's skin, so that it is customary to gather the nuts and spread them upon an exposed flat surface, such as a shed roof, until the hull has become black and mushy. The nut within, almost spherical but slightly flattened, from 1 to 1½ inches in diameter, has a very rough, thick hard shell. The kernel is very sweet and edible, with a rich oily flavor which makes it desirable for candies, ice cream and cakes.

Of the several species of native walnuts in North America, the most important is the Eastern Black Walnut, largest of them all and one of the noblest of all hardwoods. It grows throughout most of the United States east of the Rockies. It may live for centuries and, in the rich bottomlands of stream valleys, may grow to be 150 feet tall with a diameter from 4 to 6 feet. Its wood is rich dark brown in color, notable for its lasting qualities and freedom from warp-

ing or checking. In pioneer days, log cabins and even rail fences were built of black walnut. Its beauty of grain and ability to take a high polish have made it always a favorite for carving interior finishing, furniture, pianos, caskets, and especially gunstocks. The demand for the latter in two world wars has resulted in a serious scarcity of trees of commercial size.

A close relative of the black walnut is our White Walnut, also called the Butternut because of the richer buttery flavor of the kernel. It is a smaller, less common tree, with smoother, lighter colored bark, and its wood, though beautifully grained, is less durable than that of the black walnut. The nuts are about twice as long as they are wide, in a thin pulpy hull that is covered with a sticky fuzz when green. These hulls yield a yellowish-brown dye commonly used in pioneer days to dye clothing, uniforms, blankets, carpets and rugs. The beauties of autumn mean nutting to boys and squirrels.

ANOTHER USE FOR SCOTCH TAPE

That stuff of a thousand uses—Scotch Tape—has entered the zoology field, according to word from the Michigan Conservation Department.

A mowing machine partially destroyed a wild turkey nest in that state recently, and four eggs were badly crushed. A game manager taped the crushed eggs back together and began incubation.

Two of the eggs hatched into healthy, wild poultts which will be released to the wild in the near future.

TIMBER PHEASANTS MAKE COMEBACK

Elden Stempel, Conservation Commission biologist, reports that ruffed grouse in northeastern Iowa are making a comeback. From his own research, and from reports from farmers and State Conservation officers, Stempel concludes that the "timber pheasants" have been increasing for several years.

According to Stempel, Allamakee County has the highest number of ruffed grouse, followed by Winneshiek, Fayette, Clayton, Dubuque and Howard counties. Good fall populations of the birds are about one bird per 80 acres.

Ruffed grouse were last reported in Keosauqua Park in about 1921, in the vicinity of Fort Dodge in 1920, and in southwestern Iowa in the early 1900's. An open season on the grouse was held as late as 1914, when the birds began to slowly decrease. Iowa populations of ruffed grouse declined steadily until about the past five years, when the birds began to be fairly common in the northeastern part of the state.

Prairie dogs and woodchucks belong to the squirrel family.—H.H.

CARP PICKLES

Here's a recipe for pickled fish that was sent in recently by Clair Rausch, conservation officer for Linn County. A method of preparing carp, quillback or any rough fish, it was donated to Rausch by Detective Captain John Kuba of Cedar Rapids.

First, skin fish and cut into serving pieces. Sprinkle salt directly on layers of fish and let set for one hour.

To prepare pickling brine:

1 quart of vinegar (red wine or white vinegar)

¾ cup of sugar

½ teaspoon whole peppercorns

1 teaspoon of pickling spices

2 medium sliced onions

Bring the pickling brine to a boil, add fish and simmer for 10 or 15 minutes. Then place fish in jars and place in refrigerator for 24 hours. The fish are then ready to serve.

This recipe will prepare two quarts of pickled fish.

Rarely does the work of the earthworm cause damage; the loosening of soil in the walls of irrigation ditches, however, has given some trouble in some parts of the west.—H.H.

HUNTER'S BULLETIN

Remember, You Are The Landowner's Guest



Hunt only where you have permission.



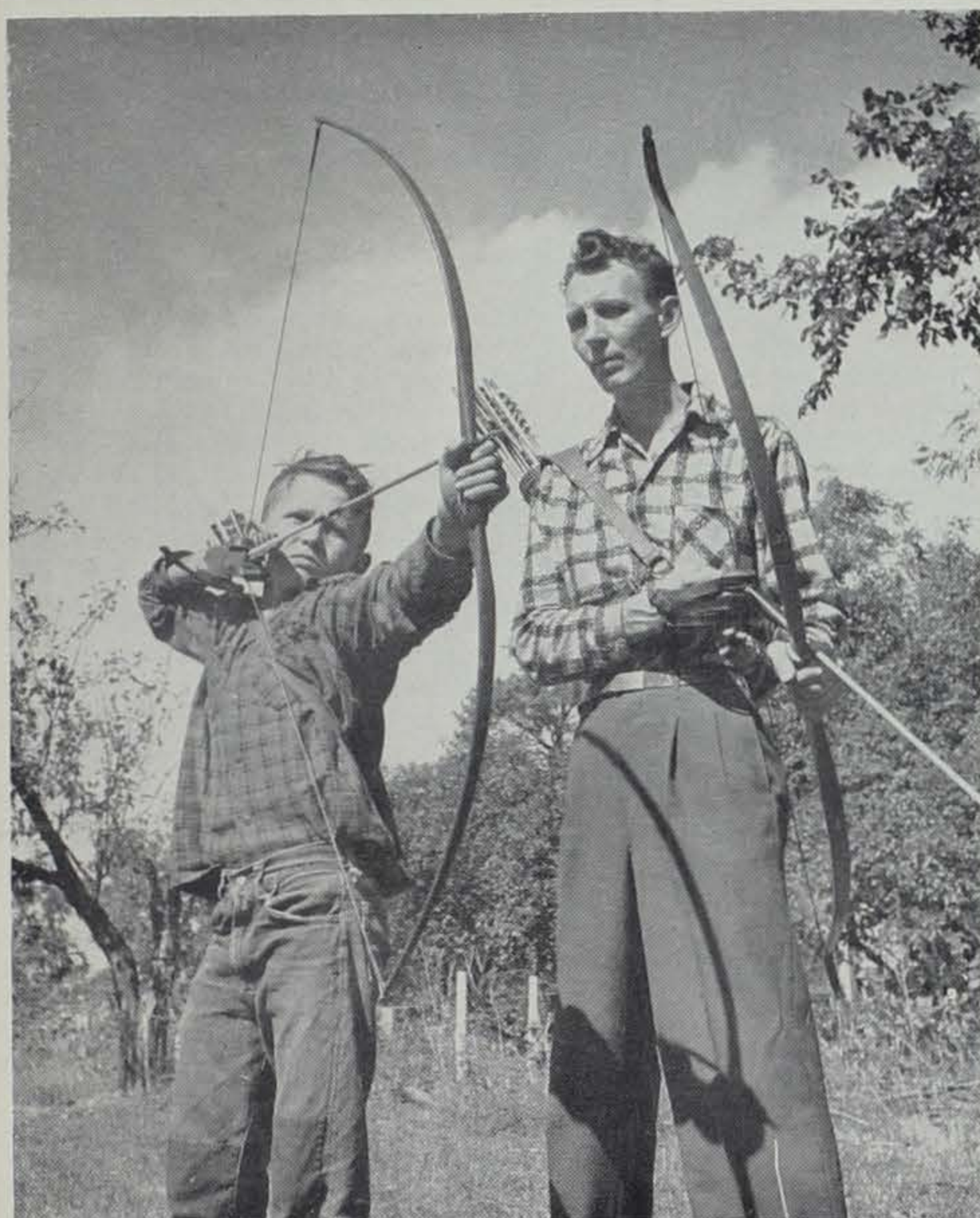
Close gates. Don't damage fences.



Don't trample growing crops.



Don't endanger his family, home or stock.



Francis Melton has killed two deer with bow and arrow in Wisconsin and is planning an Iowa hunt. His son Terry, 9, is also a good shot. At 25 yards he can consistently put arrows in the "lights" of a deer target.

Bowhunting . . .

(Continued from page 169)

may be used for Iowa deer hunting, and these may be purchased at most major sporting goods stores. A universal favorite is the arrow made of Port Orford cedar, and should be bought according to the arm length of the man shooting it. For the average man of 6 feet or slightly under, a 28-inch arrow is sufficient. If you're over 6 feet tall, you may need a 30-inch arrow.

Most expert bowhunters prefer 2-edged broadheads of fine, hard steel. They believe that these are superior to 3-edged or 4-edged arrows and will penetrate more deeply. The cutting edges of these arrows must be extremely sharp with a fine wire edge. They are seldom used as they come from the store, but are touched up with a flat, fine mill file that is also carried into the field. Practice with the cheaper field arrows, which come at about \$8 a dozen. Broadhead arrows run from \$12 a dozen up. Save them for hunting.

Low Hills and Rising Air

According to Austin and Melton, deer hunting with a bow is somewhat similar to squirrel hunting, and consists mainly of still-hunting and "roving", or walk-hunting.

For still-hunting you must know your deer range intimately, and simply sit quietly near a deer crossing, a stream, or under a ridge frequented by the animals. Infinite patience is needed. Smoking is out, as is any unnecessary movement.

It's best to sit beside a bush or stump; slightly screened in some way with your body outline broken. Austin likes to sit just over the crest of a low hill where he can still see up over the top. In this way he can see any approaching deer and show no more than his hat and eyes. At the same time, he can cover the valley below without being skylined. Some hunters also believe that air currents during the day will travel uphill as a result of heated, rising air, and that hunters in valleys can be easily scented by game on the ridges.

Other hunters like to get in woods near the edge of cornfields or other croplands used by deer. Regular travel routes of the deer can be determined by tracks and fresh manure. They are creatures of habit and will sometimes travel the same general routes for long periods. Find these natural highways and you're in business.

Roving and Driving

Roving or walk-hunting is usually best when alone, for two hunters are twice as noisy as one and may be distracted by each other. Austin and Melton recommend crepe-soled shoes or boots and clothing that fit the landscape. Deer are color-blind, and can't tell red from gray. However, don't wear dark clothing against snow, or light clothing against dark backgrounds.

While roving, carry the bow at ready with the arrow nocked. Walk slowly and cautiously, pausing at

short intervals for a few minutes to inspect the area. Don't make these stops at regular intervals, for this is unnatural and may draw attention to you. Cover no more than a mile in an hour and even this may be hunting too fast. Walking along the edges of old, abandoned roads or firelanes is often good, or just below the crests of ridges. Legal hours for bowhunting will be from 6:30 a.m. to 4 p.m. and the morning and evening hours are the best hunting periods.

Deer usually rest during midday, and this is the time for driving them. A small area is chosen and several bow-men are stationed at 50-yard intervals on one edge, partially hidden and motionless. Beaters (2 or 3 men) then advance through the timber talking loudly and beating on trees. These men are in little danger from the archers since the deer will be moving far ahead, but the bowmen should carefully identify their targets before shooting. The deer will be hard to hit, for they'll probably be under a full head of steam.

Bud Austin killed such a deer a few years ago. The buck was at a dead run. Austin gave him a generous lead and shot the deer broadside at about 30 yards. The arrow took the animal in the heart, cut through the shoulder bone on the other side, and passed completely through the deer. The buck dropped within 60 yards, carried on partly by its momentum. That's not bad. Deer may travel several hundred yards after being shot through the heart with a rifle.

"Sick Calf" Brings Deer

Most misses are caused by overshooting deer, which are not as big as they look and not as far away as they seem. Experienced bowmen follow the policy of shooting at some specific part of the deer, rather than at the entire animal. They usually prefer lung shots that cause severe internal hemorrhage and kill almost instantly. Don't try to "scattergun" a deer, either with

a gun or an arrow. You'll probably have a cripple on your hands if you hit it at all.

Every animal has a weakness. With waterfowl it's appetite and the desire to join feeding brethren. With the deer, it's curiosity. Whitetails will often pause in full flight, just as they top a ridge or hill, to look back at their pursuer. For the same reason, they may answer a deer call.

Melton had little faith in such calls, but tried one out in Wisconsin with good results. "I sounded like a sick calf," he recalls, "and I wasn't very confident. But within an hour I brought two deer right up to me. The second buck came to within 15 yards and stood watching me. Just as I loosed the arrow he reared, and the shaft passed just under his belly. I didn't get another chance."

Hunt Near Home?

Where to bowhunt for deer is a problem. It might be a good idea to stick around your home county, or hunt in a county you know extremely well. Near home you can hunt many times during the season, while you may get in only a couple of hunts in distant "deer counties". Those counties may also have a lot of deer, but if it's strange territory you're under a handicap.

Before hunting anywhere, get the lay of the land. Check with local farmers, sportsmen and your conservation officers. Plan to walk through the country you plan to hunt beforehand. Investigate little used back roads, sandbars, river bottoms, and small cropfields in heavily timbered areas and near major rivers. A few days spent in laying the groundwork for a hunt will be well invested. A light, fresh snow will solve a lot of problems, and there'll probably be one by late in the bow season.

The bow and arrow season for deer will be open in all Iowa counties from October 29 through November 20. The 1955 deer hunt-

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Some hunters use bow-sights, but most shoot "instinctively" with remarkable accuracy. Note arrow rest and laminations in this fine bow.



This Illinois hunter killed his seven reynards the hard way. Trailing foxes with a gun is rough, demanding and wholly satisfying sport that is becoming more popular each winter. Pekin, Illinois, Daily Times Photo

Red Fox . . .

(Continued from page 169)

certain that seed stock remains on the range.

Even if fraud is eliminated, the fox bounty promises to be one of the most costly means of controlling a fox population. The taking of foxes requires considerable time and effort; thus, the bounty must be attractive enough financially to provide sustained incentive for hunters and trappers. It is obvious that large sums of money must be expended to effect a significant reduction in a sizable fox population.

The bounty system is undesirable also in that it encourages killing during times of the year when the fur is unprime. Further, it is difficult even for the expert to trap in such a way as to avoid taking some animals other than foxes.

Bounty Benefits Fox

The bounty system has rarely accomplished the population control expected from it. In Michigan, it has been reported that more bounties were being paid on foxes in 1951, the fourth year of the fox bounty, than in the first year, 1948. In Wisconsin, Richards & Hine have reported, "At the present time, if we judge the value of the bounty system on its 'predator control' feature, we must conclude that there is more evidence which indicates that the present bounty system is *not* controlling the fox populations than there is evidence that fox bounties are accomplish-

ing their purpose."

While control programs commenced after populations have been permitted to reach extremely high levels seem less desirable than methods which anticipate and prevent build-ups to excessive fox populations, the most suitable methods for use against high populations appear to be those that involve a carefully organized program of trapping and den hunting by paid employees. Den hunting, as practiced by the unskilled, is often undesirable because it usually means destruction of underground habitat and sometimes, directly or indirectly, of inoffensive wildlife species. It is highly desirable that control programs utilize the assistance of trained state and federal officials.

If the bounty system could be properly administered, if its costs were not prohibitive, and if it were an effective method of population control, *one of the chief results would be maintenance of a healthy fox population.* It would seem less wasteful of public funds and more in keeping with the wise-use philosophy of conservation to stimulate the harvest of surplus foxes for sport and fur rather than for bounty payments.

The Esthetic Value

A few outdoorsmen, some who hunt and some who do not, enjoy an appreciation of the esthetic values of the red fox. The simple act of observing a red fox in the field is a notable event. And the

observation of a red fox hunting mice in a meadow or of a litter of pups playing at a den adds something very special to a day in the field. The tracery of tracks marking the doings of this fox in the winter snow is intriguing in itself and leaves a feeling of well-being with those who sense that something is lacking in a nature without foxes.

The secretive nature of the red fox tends to make realization of its esthetic values difficult. It seems certain, however, that esthetic appreciation will come to anyone who is enough of an outdoorsman to make an effort to observe and become familiar with the animal.

Fox Hunting

The economic value of fox hunting involves a consideration of the various forms in which it is practiced. In general, there are two schools of thought on fox hunting: (1) that in which the fox is pursued by hounds principally for the thrill of the chase and (2) that in which the primary goal is the death of the fox.

Fox hunting for the chase is one of the oldest forms of sport hunting in America. Early records indicate that it was commonly practiced by the gentlemen farmers of colonial times. History records that George Washington maintained hunters and a pack of fox hounds. Washington's diary contains somewhat detailed accounts of his fox hunts.

Through the years, several breeds of fox hounds have been painstakingly developed for the chase. Walker, July, Trumbo, Trigg, and Birdsong have become familiar names to the American fox hunter.

While estimates of the monetary worth of hunting are exasperating in their lack of preciseness, such estimates may aid in measuring the importance of fox hunting for the chase. L. F. Gingery, editor of the *Red Ranger*, a journal for fox hunters, estimates that approximately 200,000 people and 800,000

hounds are engaged in this sport. The average value of a fox hound on the currently advertised market is about \$40. Thus, estimates indicate that fox hounds valued at about \$32,000,000 are now being used in this sport.

Killing the fox by the hunter is considered unethical in parts of the country inhabited by those who believe in running foxes for the chase simply as a test of stamina, speed, and ability of the hounds to follow the trail. The hunt is terminated when the trail is lost, or the fox is "marked to earth" or killed by the hounds. It is widely recognized that the red fox runs before the hounds better than the gray fox, and, in areas where both foxes occur, the killing of the grays may be practiced in the belief that when the reds are displaced by grays the quality of the chase deteriorates. Thus some areas have, in the red fox, a resource that may be utilized without removal of the annual surplus.

Wonderful Sport

Hunting for which the death of the fox is the primary objective is carried on largely in the northern states. It may be practiced in a wide variety of forms. The fox is sometimes trailed by two or three hounds while the hunter, with a gun, conceals himself on a likely crossing. Also the red fox may be decoyed within shooting range with a call which simulates the squeal of a rabbit in distress. Seagers has described a novel method of hunting called "belling" or "tolling". One hunter moves through good fox territory following a fox trail and ringing a dinner bell. He is accompanied at a distance by another hunter who attempts to shoot any fox curious enough to come within range.

Perhaps the greatest degree of stamina and woodsmanship is required by those who trail foxes on a good tracking snow with the objective of maneuvering within shooting range of the animals. Sometimes fox drives are conducted

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This fall about 800,000 fox hounds will voice their "dog music" in the nation's back country. To many hound owners, killing the fox is unethical. W. E. Clark Photo



S. W. Lock Photo

The 1940 Armistice Day blizzard was thought to be a severe blow to northern Iowa pheasants and worried hunters curtailed their hunting that year. But only 10 per cent of the pheasants had been lost to the storm; a tribute to the Chink's hardiness.

Pheasant Seasons . . .

(Continued from page 169)

The Seasons

- 1926:** 18 counties open for 3 half-days. Three cock bag limit.
- 1927:** 17 counties open for 5 half-days. Three cock bag limit.
- In the 1927-28 Biennial Report, State Game Warden W. E. Albert stated that the pheasant was being successfully reared in Iowa, and that its establishment was a success.
- No pheasant hunting was allowed in 1928, but there is no reason given in the records.
- 1929:** 24 counties open for 3 half-days; Oct. 30, Nov. 1-2. Three cock bag limit.
- 1930:** 33 counties open for 5 half-days. 3 birds, any sex.
- 1931:** 24 counties open for 2 half-days. 3 birds, any sex.
- 1932:** 20 counties open for 3 half-days. 2 cocks, 1 hen limit.
- 1933:** 25 counties open, some for 6 days; others for 4 days. 3 cock bag limit.
- 1934:** 27 counties open. 3 days from noon to 5 p.m. Season dates Nov. 24, 27-28. 3 cock bag limit.
- 1935:** 38 counties open from Nov. 20-26, noon to 5 p.m. 2 cocks, 1 hen bag limit.

During this period it was believed that the pheasant population had reached a peak in 1929, and had diminished yearly up to the 1935 season. A dry 1934 season reduced hatching and rearing of pheasants.

Some northern farmers in the early 1930's were bitterly opposed to pheasants and alleged crop destruction. Some communities declared open war on the birds, killing hundreds and destroying every nest found. The severe winter of 1936 changed this somewhat. Pheasants were hard hit and a highly publicized feeding program awakened interest and sympathy. Farmers were also realizing that pheasants might be beneficial, and feelings toward ringnecks warmed slightly. As a result of severe winters and droughts there were no open seasons in 1936 and 1937.

The 1937 season was closed just

as it was about to open, and the new Conservation Commission was flooded with protest. But since severe weather had cut down the pheasant crop, the Commission held that it was better to preserve seed stock than to chance wiping out the birds with an open season.

- 1938:** 42 counties open for 3 half-days. 3 cock bag limit.
- 1939:** 40 counties open for 3 half-days. 3 cock bird limit.
- 1940:** 46 counties open for 7 half-days; Nov. 12-18. 3 cock bag limit.
- 1941:** 53 counties open from Nov. 12-18. Daily shooting from noon to 5 p.m., with 3 cock bag limit.

In 1942, gun pressure was heavy in northern Iowa, but not sufficient to harvest the large surplus. About 684,000 pheasants were harvested

from an estimated population of 2 million. With a mild winter, the birds continued to prosper. A 1943 spring season was opened and about 70,000 birds taken. Even so, it was estimated that 1¼ million birds remained as seed stock.

- 1942:** 59 counties open. 20 from Nov. 12-18; 39 from Nov. 12-Dec. 2. Shooting from noon to 5 p.m. with a 3 cock bag limit.
- 1943:** (Spring season). 11 counties open from March 12-22. Daily shooting from 9 a.m. to 5 p.m. with a 5 bird limit. Two of these could be hens.
- 1943:** (Fall season). 65 counties open. 38 from Oct. 28-Dec. 2; 27 open from Oct. 28-Nov. 7. Daily shooting hours from 9 to 5. Long zone bag limit was 6 birds that could include 1 hen. Short zone bag limit was 3 cocks with a possession limit of 18.
- 1944:** 64 counties open. 37 from Oct. 28-Dec. 8 with bag limit of 6 cocks. 27 open from Oct. 28-Nov. 6 with 3 cock bag limit; 18 possession limit.
- 1945:** 66 counties open. 36 from Oct. 28-Nov. 30; 30 open from Oct. 28-Nov. 6. Daily shooting from 9 to 5, with a 4 cock bag limit.
- 1946:** 59 counties open from Oct. 28-Nov. 17. Daily shooting 10 to 4. 3 cock bag limit.
- 1947:** 64 counties open. Nov. 11-20. Shooting from noon to 4 p.m. Bag limit 2 cocks; possession limit 2 cocks.
- 1948:** 70 counties open. Nov. 11-30. Noon to 4 p.m. Bag limit 2 cocks; possession limit 4 cocks.
- 1949:** 79 counties open. 69 from Nov. 11-Dec. 5; 10 from Nov. 11-17. 2 cock bag limit; 4 possession.
- 1950:** 83 counties open. 70 from Nov. 11-Dec. 5; 13 from Nov. 11-Nov. 20. Shooting from noon to 4:30; 3 cock birds bag and possession.
- 1951:** 92 counties open. 65 from Nov. 11-Dec. 5; 27 from Nov. 11-Nov. 22. Daily shooting from noon to 4:30; bag and possession limit 3 cock birds.
- 1952:** 93 counties open. 65 from Nov. 18-Dec. 12. 28 from Nov. 18-29. Shooting hours and limits unchanged. Season opening postponed because of fire hazard in fields.
- 1953:** 92 counties open. 69 from Nov. 11-Dec. 5; 23 from Nov. 11-22. Limits and shooting hours unchanged.
- 1954:** 92 counties open. 70 from Nov. 11-Dec. 5; 22 from Nov.

11-Nov. 22. Limits and shooting hours unchanged.

1955: 92 counties open. 70 from Nov. 12-Dec. 5; 22 from Nov. 12-Nov. 22. Limits and shooting hours unchanged.

After 30 years of intense gun pressure, old John Ringneck is unscathed. He has taken shotguns, droughts and blizzards in his stride. Given some good habitat, and some protection and nesting cover for his drab little hens, he can provide sport for generations.

NATURE'S CHILDREN SET FOREST FIRES

Last year a moose and a mouse collaborated to start a forest fire in Ontario. This year a woodpecker and a snake got together to start one near Birmingham, Alabama. So reports a U. S. Forest Service representative.

A timber cutting crew spotted smoke and investigated. The men found a fire spreading from a power line right-of-way. After the ground blaze was controlled they noticed sparks and burning embers dropping from a cross-arm on a utility pole.

Examination revealed that a woodpecker had hollowed out a hole near the top of the pole, built a nest and started a brood of young. A snake had climbed the pole and devoured one of the young woodpeckers. In doing so its tail contacted two wires. The resulting electric shock killed the snake and sparked a fire in the partly rotten cross-arm. Result: a forest fire.—*Pennsylvania Game Commission.*

Mudhen . . .

(Continued from page 171)

around the last open water of late winter. Crippled and unable to flap southward, they must simply wait for foxes, mink or winter to finish them off.

A coot isn't much of a water-fowl as ducks and geese go. He's unlovely, a clown, and nobody pays much attention to him. There's not much else you can say about him, but most hunters and outdoorsmen would miss him if he were gone.—*J.M.*



During 1927-28, over 3,000 wild pheasants were trapped and sent to the old Clive Game Farm to "cool off" before stocking. These wild birds, held by game farm employees, were probably stocked in southern Iowa.

CAREFUL!

CROSS THAT
FENCE SAFELY



KEEP HUNTING A SAFE SPORT

Bowhunting . . .

(Continued from page 173)

ing license required for bowhunters not hunting on their own land is also valid for the gun season, December 3-5. Deer of any age or sex may be taken.

Deer hunt report cards from 1954 show that 10 deer were killed by bowhunters last season; most of them with single arrows. This was during only 12 days of open season,

and in one case the archer killed his buck in competition with gun hunters. With 21 full days of bowhunting allowed this year, results should be mighty interesting.

Red Fox . . .

(Continued from page 174)

which involve the participation of large numbers of hunters. The group participation made possible in such fox drives is enjoyed by

many hunters, but this kind of hunting is not always accepted by landowners.

There are many interesting and novel ways in which foxes may be hunted. However, the sport of fox hunting obviously needs more participants if the annual surplus is to be removed. Fox management should include a program for the encouragement of this sport. It is a kind of hunting which, if prac-

ticed in a sportsmanlike manner, tests skill and stamina to a high degree and provides opportunities for outdoor activity over a long season. It also directs the attention of sportsmen away from the false hopes of larger game populations through fox destruction to the more wholesome attitude of a new opportunity for expanding the hunting recreation through utilization of the fox resource.

DUCK HUNTING HOURS

1955 IOWA CONSERVATION COMMISSION

STATE OF IOWA — 30 MINUTES BEFORE SUNRISE AND 30 MINUTES BEFORE SUNSET SCHEDULE
CENTRAL STANDARD TIME

		DAVENPORT		BURLINGTON		DUBUQUE		KEOKUK		WATERLOO		DES MOINES		OMAHA, NEBR.		SIOUX CITY	
		30 Min. Before Sunrise	30 Min. Before Sunset	30 Min. Before Sunrise	30 Min. Before Sunset	30 Min. Before Sunrise	30 Min. Before Sunset	30 Min. Before Sunrise	30 Min. Before Sunset	30 Min. Before Sunrise	30 Min. Before Sunset	30 Min. Before Sunrise	30 Min. Before Sunset	30 Min. Before Sunrise	30 Min. Before Sunset	30 Min. Before Sunrise	30 Min. Before Sunset
Oct.	8	5:37	5:04	5:38	5:05	5:38	5:03	5:39	5:08	5:44	5:09	5:49	5:15	5:58	5:25	6:00	5:26
	9	5:38	5:02	5:39	5:03	5:39	5:02	5:40	5:06	5:45	5:07	5:49	5:13	5:59	5:23	6:01	5:25
	10	5:39	5:00	5:40	5:02	5:40	5:00	5:41	5:05	5:46	5:05	5:51	5:12	6:00	5:22	6:02	5:23
	11	5:40	4:58	5:41	5:00	5:41	4:59	5:42	5:03	5:47	5:04	5:52	5:10	6:01	5:20	6:04	5:21
	12	5:41	4:57	5:42	4:59	5:42	4:57	5:44	5:01	5:49	5:02	5:53	5:09	6:02	5:19	6:05	5:20
	13	5:42	4:55	5:43	4:57	5:43	4:55	5:45	5:00	5:50	5:00	5:54	5:07	6:03	5:17	6:06	5:18
	14	5:43	4:53	5:44	4:56	5:45	4:54	5:46	4:58	5:51	4:59	5:55	5:06	6:04	5:16	6:07	5:17
	15	5:44	4:52	5:45	4:54	5:46	4:52	5:47	4:57	5:52	4:57	5:56	5:04	6:05	5:14	6:08	5:15
	16	5:45	4:51	5:46	4:53	5:47	4:50	5:48	4:55	5:53	4:55	5:58	5:02	6:07	5:12	6:09	5:13
	17	5:46	4:49	5:47	4:51	5:48	4:49	5:49	4:54	5:54	4:54	5:58	5:01	6:07	5:11	6:10	5:12
	18	5:48	4:48	5:48	4:50	5:49	4:47	5:50	4:52	5:56	4:52	6:00	4:59	6:09	5:09	6:12	5:10
	19	5:50	4:47	5:50	4:48	5:50	4:46	5:51	4:51	5:57	4:51	6:01	4:58	6:10	5:08	6:13	5:09
	20	5:51	4:45	5:51	4:47	5:51	4:44	5:52	4:50	5:58	4:49	6:03	4:56	6:12	5:06	6:14	5:07
	21	5:52	4:44	5:52	4:45	5:53	4:43	5:53	4:48	5:59	4:47	6:03	4:55	6:12	5:05	6:16	5:05
	22	5:53	4:43	5:53	4:44	5:54	4:41	5:54	4:47	6:00	4:46	6:05	4:53	6:14	5:03	6:16	5:04
	23	5:54	4:41	5:54	4:42	5:55	4:40	5:55	4:46	6:01	4:45	6:05	4:52	6:14	5:02	6:18	5:02
	24	5:55	4:40	5:55	4:41	5:56	4:38	5:56	4:44	6:03	4:43	6:07	4:50	6:16	5:00	6:19	5:01
	25	5:56	4:39	5:56	4:39	5:57	4:37	5:58	4:43	6:04	4:42	6:07	4:49	6:16	4:59	6:21	4:59
	26	5:57	4:37	5:57	4:38	5:59	4:35	5:59	4:42	6:05	4:41	6:08	4:48	6:17	4:58	6:22	4:58
	27	5:59	4:35	5:59	4:37	6:00	4:34	6:00	4:40	6:06	4:39	6:11	4:46	6:20	4:56	6:23	4:56
	28	6:00	4:34	6:00	4:35	6:01	4:33	6:01	4:39	6:07	4:38	6:11	4:45	6:20	4:55	6:24	4:55
	29	6:01	4:32	6:01	4:34	6:02	4:31	6:02	4:38	6:09	4:36	6:13	4:43	6:22	4:53	6:25	4:54
	30	6:02	4:31	6:02	4:33	6:03	4:30	6:03	4:36	6:10	4:35	6:14	4:42	6:23	4:52	6:27	4:52
	31	6:03	4:30	6:03	4:31	6:05	4:29	6:04	4:35	6:11	4:34	6:14	4:41	6:23	4:51	6:28	4:51
Nov.	1	6:04	4:28	6:05	4:30	6:06	4:27	6:05	4:34	6:12	4:32	6:17	4:39	6:26	4:49	6:28	4:50
	2	6:06	4:27	6:06	4:29	6:07	4:26	6:06	4:33	6:14	4:31	6:18	4:38	6:27	4:48	6:31	4:48
	3	6:07	4:26	6:07	4:28	6:09	4:25	6:08	4:32	6:15	4:30	6:19	4:37	6:28	4:47	6:32	4:47
	4	6:08	4:25	6:08	4:27	6:10	4:24	6:09	4:30	6:16	4:29	6:20	4:36	6:29	4:46	6:33	4:46
	5	6:09	4:24	6:09	4:26	6:11	4:22	6:10	4:29	6:17	4:28	6:21	4:35	6:30	4:45	6:34	4:45
	6	6:11	4:23	6:11	4:25	6:12	4:21	6:11	4:28	6:19	4:26	6:23	4:34	6:32	4:44	6:36	4:43
	7	6:12	4:21	6:12	4:23	6:13	4:20	6:12	4:28	6:20	4:25	6:24	4:32	6:33	4:42	6:37	4:42
	8	6:13	4:20	6:13	4:22	6:15	4:19	6:13	4:26	6:21	4:24	6:25	4:31	6:34	4:41	6:38	4:41
	9	6:14	4:19	6:14	4:21	6:16	4:18	6:15	4:25	6:22	4:23	6:26	4:30	6:35	4:40	6:39	4:40
	10	6:15	4:18	6:15	4:20	6:17	4:17	6:16	4:24	6:24	4:22	6:27	4:29	6:36	4:39	6:40	4:39
	11	6:16	4:17	6:16	4:20	6:19	4:16	6:17	4:23	6:25	4:21	6:28	4:28	6:37	4:38	6:42	4:38
	12	6:18	4:16	6:17	4:19	6:20	4:15	6:18	4:23	6:26	4:20	6:30	4:27	6:39	4:37	6:43	4:37
	13	6:19	4:15	6:19	4:18	6:21	4:14	6:19	4:22	6:28	4:19	6:31	4:26	6:40	4:36	6:44	4:36
	14	6:20	4:14	6:20	4:17	6:22	4:13	6:20	4:21	6:29	4:18	6:32	4:25	6:41	4:36	6:45	4:35
	15	6:21	4:13	6:21	4:16	6:23	4:12	6:21	4:20	6:30	4:17	6:33	4:25	6:42	4:35	6:47	4:34
	16	6:22	4:12	6:22	4:15	6:24	4:11	6:23	4:19	6:31	4:16	6:34	4:24	6:43	4:34	6:48	4:33
	17	6:24	4:12	6:23	4:14	6:25	4:11	6:24	4:18	6:33	4:15	6:36	4:23	6:45	4:33	6:50	4:32
	18	6:25	4:11	6:24	4:14	6:27	4:10	6:25	4:18	6:34	4:14	6:37	4:22	6:46	4:32	6:51	4:31
	19	6:26	4:10	6:26	4:13	6:28	4:09	6:26	4:17	6:35	4:13	6:38	4:22	6:47	4:32	6:53	4:30
	20	6:27	4:10	6:27	4:12	6:29	4:08	6:27	4:16	6:36	4:13	6:39	4:21	6:48	4:31	6:53	4:30
	21	6:28	4:09	6:28	4:12	6:30	4:08	6:28	4:16	6:38	4:12	6:40	4:20	6:49	4:30	6:55	4:29
	22	6:29	4:08	6:29	4:11	6:32	4:07	6:29	4:15	6:39	4:11	6:41	4:20	6:50	4:30	6:56	4:28
	23	6:31	4:08	6:30	4:11	6:33	4:06	6:30	4:15	6:40	4:11	6:43	4:19	6:52	4:29	6:56	4:28
	24	6:32	4:07	6:31	4:10	6:34	4:06	6:32	4:14	6:41	4:10	6:44	4:19	6:53	4:29	6:58	4:27
	25	6:33	4:06	6:32	4:10	6:35	4:05	6:33	4:14	6:42	4:09	6:45	4:18	6:54	4:28	7:00	4:26
	26	6:34	4:06	6:33	4:09	6:36	4:05	6:34	4:13	6:44	4:09	6:46	4:18	6:55	4:28	7:01	4:26
	27	6:35	4:05	6:34	4:09	6:37	4:04	6:35	4:13	6:45	4:08	6:47	4:17	6:56	4:27	7:02	4:25
	28	6:36	4:05	6:35	4:08	6:38	4:04	6:36	4:12	6:46	4:08	6:48	4:17	6:57	4:27	7:03	4:25
	29	6:37	4:04	6:36	4:08	6:39	4:04	6:37	4:12	6:47	4:07	6:49	4:16	6:58	4:26	7:04	4:24
	30	6:38	4:04	6:37	4:08	6:41	4:03	6:38	4:12	6:48	4:07	6:50	4:16	6:59	4:26	7:05	4:24
Dec.	1	6:39	4:04	6:38	4:07	6:42	4:03	6:39	4:11	6:49	4:07	6:51	4:16	7:00	4:26	7:06	4:24
	2	6:40	4:03	6:39	4:07	6:43	4:03	6:40	4:11	6:50	4:06	6:52	4:15	7:01	4:25	7:07	4:23
	3	6:41	4:03	6:40	4:07	6:44	4:02	6:41	4:11	6:51	4:06	6:53	4:15	7:02	4:25	7:08	4:23
	4	6:42	4:03	6:41	4:07	6:45	4:02	6:42	4:11	6:52	4:06	6:54	4:15	7:03	4:25	7:09	4:23
	5	6:43	4:03	6:42	4:07	6:46	4:02	6:43	4:11	6:53	4:06	6:55	4:15	7:04	4:25	7:10	4:23
	6	6:44	4:03	6:43	4:07	6:47	4:02	6:44	4:11	6:54	4:06	6:56	4:15	7:05	4:25	7:11	4:23
	7	6:45	4:03	6:44	4:07	6:48	4:02	6:45	4:11	6:55	4:06	6:57	4:15	7:06	4:25	7:12	4:23
	8	6:46	4:03	6:45	4:07	6:49	4:02	6:46	4:11	6:56	4:06	6:58	4:15	7:07	4:25	7:13	4:23
	9	6:47	4:03	6:46	4:07	6:49	4:02	6:46	4:11	6:57	4:06	6:59	4:15	7:08	4:25	7:14	4:23
	10	6:48	4:03	6:47	4:07	6:50	4:02	6:47	4:11	6:58	4:06	7:00	4:15	7:09	4:25	7:15	4:23
	11	6:49	4:03	6:48	4:07	6:51	4:02	6:48	4:11	6:59	4:06	7:01	4:15	7:10	4:25	7:16	4:23
	12	6:50	4:03	6:48	4:07	6:52	4:02	6:49	4:11	7:00	4:06	7:01	4:15	7:10	4:25	7:17	4:23
	13	6:50	4:03	6:49	4:07	6:53	4:02	6:50	4:11	7:00	4:06	7:02	4:15	7:11	4:25	7:17	4:23
	14	6:51	4:03	6:50	4:07	6:53	4:02	6:50	4:11	7:01	4:06	7:03	4:15	7:12	4:25	7:18	4:23
	15	6:52	4:04	6:51	4:08	6:54	4:03	6:51	4:12	7:02	4:06	7:03	4:15	7:13	4:26	7:19	4:2